

NVE

HEAVY-DUTY **866 Challenger**

Distributed by:

TSI TANK SERVICES, INC.

Heavy-Duty Vacuum Pumps & Packages

Designed and Manufactured for Extended Operations in Severe Conditions | Fan or Liquid-Cooled



Convenient and Ready to Install Vacuum Pump Packages!

National Vacuum Equipment

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TSI Tank Services Inc.

PO Box 8136
Cranston, RI 02920 USA
866-720-4999 | tankservicesinc.com

natvac.com

866 Challenger Series - Fan Cooled or Liquid Cooled

Our Challenger Series pumps are designed and built with the customer in mind – resulting in dependable, high performing pumps that are easy to install, operate and service. As the only industrial grade rotary vane vacuum pump designed, built and supported in the USA we are committed to also being the best pump period. Therefore each Challenger series vacuum pump features:

- Superior cooling for extended operations in severe conditions.
- Proven crash protection allowing all major components to survive a catastrophic failure.
- Oversized heavy duty roller bearings allowing more drive options.
- Precision pinned endplates for exact reassembly alignment.
- High strength castings poured in the USA.
- High temp Teflon oil lines allowing visual oil flow inspection.
- Remote mount 5 quart see through oil tank for constant oil level monitoring.
- Four point automatic lubrication system.
- Liquid or fan cooled versions of each model.
- Multiple drive options (gearbox, belt, hydraulic, direct).
- Integral, easily accessible final filter.
- Vane flush port with valve.
- Vane wear inspection port.
- Thermometer to monitor exhaust temperature.
- Vacuum/pressure change over valve.
- Flanged vacuum/pressure ports.
- Available in right hand or left hand rotation.
- Built in one way flow valve eliminates back spin.
- **Replacement parts always available.**

Challenger Series

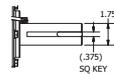
VACUUM PUMPS & BLOWERS

866 Challenger Fan Cooled

Dimensions: 20.25" W x 29.42" L x 27.39" H

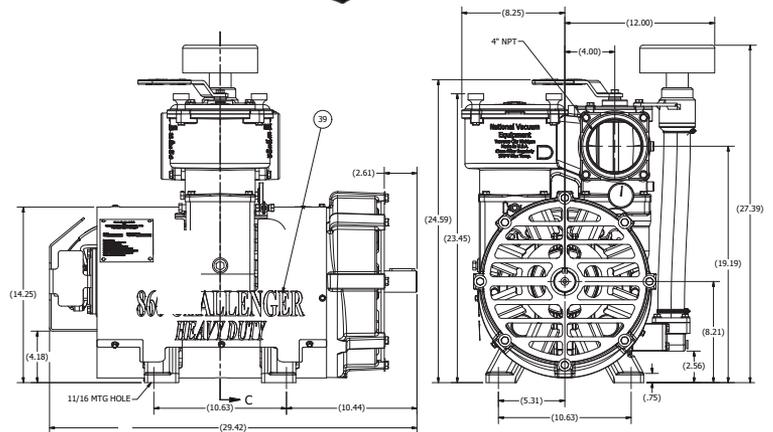


Shaft Dimension



866 Challenger Liquid Cooled

Dimensions: 20.25" W x 29.42" L x 27.39" H



866 Challenger Specifications

Porting Size Flanged NPT	4"
Maximum Air Flow-CFM	519
Maximum Intermittent Vacuum	27" hg
Maximum Intermittent Pressure	20 psi

Maximum
1150 RPM
Intermittent
operation only

RPM		Pressure (PSI)				Free flow	Vacuum (inches of Mercury)					
		20	15	10	5	0	6	12	15	18	21	27
1150	Hp.	NA	36	27	25	18	21	23	23	24	26	29
	CFM	NA	438	447	457	506	470	543	440	438	425	351
1000	Hp.	38	32	24	20	15	18	20	21	22	23	25
	CFM	375	381	389	398	452	409	394	390	381	370	306
800	Hp.	32	25	19	15	13	14	16	17	18	19	21
	CFM	319	324	331	342	385	348	333	331	324	315	242

The maximum allowable operating vacuum will vary depending on R.P.M., ambient temperature, altitude and time running. The basic principle to keep in mind is - faster R.P.M., higher air temperature and longer run time all equal more heat in the pump. When installing an NVE 866 we recommend a normal R.P.M. of 900. Exhaust gas temperatures read on the supplied thermometer **must not** exceed 375 degrees F.

866 Challenger Series Packages

Check out our competent design and engineering staff, our state of the art fabrication facility and quality powder coat painting capabilities all wrapped up in our unique pump packages. Each package is built around our quality Challenger vacuum pumps. These rugged and functional packages are designed to reduce installation time, ensure appropriate sized drive systems and vacuum system components, and provide accessible maintenance points. If you don't see what you are looking for, be sure to contact your NVE representative... *We Can Do That!*

Packages are available in a variety of different setups including clockwise (CW) and counter-clockwise (CCW) rotations. See the package selection guide in the pump section of our catalog. **Vacuum pump sold separately.**

Hydraulic Motor Drive

- Heavy-duty automatic alignment bracket
- SAE 2 and 4 bolt flange
- Coupler set
- Properly sized hydraulic motor



Standard Mounting Pak

- 400 series three-shaft gearbox accommodates CW and CCW rotation
- Coupler set with shear protection
- Rugged 3/8" construction, powder coat painted pump bracket
- Easy-align, adjustable gearbox bracket



866 Muffler Pak

All features included in the Standard Mounting Pak plus:

- Compact design square oil catch muffler
 - Effective baffle system
 - Stainless steel mesh filter
 - Drain valve
 - Exhaust deflector (other exhaust fittings available)
- All elbows, fittings and high temp hoses are factory connected
- Right-hand or left-hand muffler location available



866 Max Pak

All features included in the Muffler Pak plus:

- High efficiency aluminum moisture trap
 - Accessible 6" stainless steel float ball
 - BUNA positive shut-off ball seat
 - 2" lever drain valve
 - Blind intake flange standard (other fittings available)
- Vacuum/pressure relief valve and gauge



Side Frame Mount Belt and Pulley Drive Package

- Rugged, 3/8" steel construction mounting frame with powder coat finish
- Robust 1 3/4" CNC machined jack shaft
- Belt guard with expanded metal window to allow fan cooled pump some breathing room
- Intuitive belt tensioning system decreases installation time
- 3" of adjustable in slot travel for pump and jack shaft mount
- Heavy duty 1 3/4" pillow block bearings, 4 BX belts and 6" pulleys provided in an easy to service configuration
- Auxiliary gravity fed 5 quart oil tank provided to allow for a visual indication of oil tank level



Top Frame Mount Belt and Pulley Drive Package

All the features of the Side Mount Belt Drive plus:

- U-bolts and mounting brackets provided for custom fit to your truck
- Mounting bracket that includes 12" oil catch muffler with drain valve and remote oil tank



866 Belt Drive Deutz Engine Package

- Rugged, low-profile frame for belly-mount applications
- 47HP Deutz power unit with tachometer and LOFA control panel
- 23 gallon fuel tank
- High efficiency oil catch muffler
- Vacuum pressure relief manifold and gauge
- Powder coat painted and factory assembled



System Requirements

Moisture Trap - Minimum 10 gallon capacity Moisture Trap (a larger trap may be required depending on volatility of product being pumped) which we provide in carbon steel, stainless steel or aluminum, and either horizontal or vertical orientation.

Oil Catch Muffler - 12" Diameter vertical. Our muffler features a serviceable pleated stainless steel filter element to protect the pump during pressure cycles.

Final Filter - 12" in line filter or integral final filter.

Primary Shutoff - Minimum 8" cage with 6" ball.

The 866 is also available with a self contained power unit and ready-to-install mounting bracket.

Challenger Series

VACUUM PUMPS & BLOWERS

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For over 25 years NVE has been providing quality vacuum system components to the liquid waste markets. From design, to development to product support, NVE IS the industry leader.

In addition to our team of engineers and highly qualified support staff, NVE has a state of the art machine shop, fabrication shop, and powder coat paint facility housed in two plants in Traverse City, Michigan. We also have a warehouse and sales support facility in Fayetteville Arkansas.

For questions and additional information please contact your dealer or NVE direct at 800.253.5500.

Thank you,

NVE