

# NTRV Series

## Two-Stage Oil-Flooded Rotary Vane Vacuum Pumps

Models: NTRV05, NTRV10, NTRV20, NTRV40, NTRV60,  
NTRV80, NTRV100, NTRV180



### OVERVIEW

Introducing the NES Company Inc. NTRV series of rotary vane vacuum pumps. These compact two-stage vacuum pumps are capable of achieving up to  $1 \times 10^{-3}$  torr, with flow rates ranging from 2 to 64 CFM and power ratings between 0.16 and 5 HP. Crafted with precision machining and stringent tolerances, the NTRV Series ensures minimal noise and vibration, prioritizing both operator safety and comfort during operation.

### UNIQUE FEATURES

- The NTRV Series offers a **maximum vacuum pressure of  $1 \times 10^{-3}$  torr**.
- Its emphasis on **low noise and minimal vibration** enhances operational stability and operator comfort.
- The pump features a **simple design** with sparse parts, facilitating internal access and maintenance procedures.
- The inclusion of an **inlet port wire mesh dirt trap** sieves coarse particles for the cleanliness and efficiency of the system.
- Constructed with either cast iron or die-cast aluminum, the pump boasts a **robust and compact build**, ideal for settings where durability and space efficiency are paramount considerations.
- The **oil lubrication mechanism** acts as a protective barrier, safeguarding the chamber and vanes against friction and the adverse effects of harsh process gases, thereby prolonging the lifespan and reliability of the equipment in demanding operating environments.

### BASIC SPECIFICATION

MODELS	NTRV 05, 10, 20, 40, 60, 80, 100, 150, 180
CAPACITY RANGE	1.76 – 63.6 CFM
POWER	0.16 – 5 HP
ULTIMATE VACUUM LEVEL	NTRV 05: $3 \times 10^{-3}$ torr NTRV 10-180: $1 \times 10^{-3}$ torr



### COMMON APPLICATION

Our NTRV Two-Stage Oil-Flooded Rotary Vane vacuum pumps find widespread application in Anesthetic Gas Extraction, Distillation & Fractionation, Gel Drying, Lab Top Bench, Vacuum Ovens & Furnaces, Prosthetic Raw Material Degassing, Resin Degassing, Sputter & Deposition Systems, Thin Film Coating, and Turbo Pump Backing to meet the demanding needs of industrial processes across the globe.

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### GENERAL PERFORMANCE PARAMETER

		NTRV05	NTRV10	NTRV20	NTRV40
Pumping Speed [CFM]		1.8	3.5	7.1	14.1
Ultimate Pressure [Torr]	Gas Ballast Closed	$\leq 3 \times 10^{-3}$	$\leq 1 \times 10^{-3}$		
	Gas Ballast Open	$5 \times 10^{-2}$			
Power Input [ $\phi$ /Hz/VAC]	Standard	1/60/220			
	Options	1/60/110	3/60/220,380		
Full Load Power [hp]		0.16	0.5	0.5	1
Motor Speed [rpm]		1700			
Inlet & Outlet Connection Size	Standard	NW16 (NW25 available)	NW25	NW25	NW25
	<i>For more information on available inlet/outlet connection sizing options, please contact an NES representative.</i>				
Oil Capacity (qts.)		0.21	0.52	0.64	1.59
Weight ( $\phi$ /lbs.)		1/31.3	1/50 3/42.4	1/51 3/44	1/77 3/70
Ambient Temperature [°F]		45-104			
Length (inch)		15.4	16.6	16.6	19
Width (inch)		4.7	5.9	5.9	6.7
Height (inch)		7.9	9.8	9.8	11.3

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		NTRV60	NTRV80	NTRV100	NTRV180
Pumping Speed [CFM]		21.2	28.3	35.3	63.6
Ultimate Pressure [Torr]	Gas Ballast Closed	$\leq 1 \times 10^{-3}$			
	Gas Ballast Open	$5 \times 10^{-2}$			
Power Input [ $\phi$ /Hz/VAC]	Standard	3/60/220,380			
	Options	1/60/220			
Full Load Power [hp]		2	2	2	5
Motor Speed [rpm]		1700			
Inlet & Outlet	Standard	NW40 (NW25 available)	NW40 (NW25 available)	NW40 (NW25 available)	NW40
	<i>For more information on available inlet/outlet connection sizing options, please contact an NES representative.</i>				
Oil Capacity (qts.)		2.43	2.85	4.76	6.55
Weight (lbs.)		1/118 3/110.5	1/150 3/143.5	1/180 3/174	3/235
Ambient Temperature		45-104			
Length (inch)		24	24.6	26.1	30.6
Width (inch)		8.1	8.9	10.4	10.4
Height (inch)		12.3	13.6	7.9	17.4

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