



DRY SCREW VACUUM PUMPS

NSP SERIES

Pumps. Systems. Service. Support. — One Source.

DRY SCREW VACUUM PUMP

MODELS: NSP-150, NSP-300, NSP-400, NSP-600, NSP-800, NSP-1000, NSP-1500, NSP-2500, NSP-3000



Dry screw vacuum pumps reaching 7.5×10^{-3} torr at up to 1,766 CFM — a clean process with oil kept in the gearbox.

— VACUUM

Deep vacuum down to 7.5×10^{-3} torr with variable pitch screw rotors.

— CLEAN PROCESS

Gearbox oil lubrication keeps process gas and lubrication apart.

— SERVICE

Easy internal access for quick maintenance; internal coatings extend service life.

— WARRANTY

1-year factory warranty against manufacturer's defects.

Tight tolerances. Deep vacuum for a myriad of applications.

NES Company is proud to offer our NSP Series Dry Screw Vacuum Pumps, factory performance tested with a 1-year warranty against manufacturer's defects.

MAX FLOW RATE

Up to 1,766
CFM

POWER RANGE

5–75 HP
Motor power range

ULTIMATE VACUUM

7.5×10^{-3} torr
Deepest model rating

MODELS

9 Models
NSP-150 to NSP-3000

SPECIFICATION SUMMARY

Type	Dry Screw Vacuum Pump
Models	NSP-150, NSP-300, NSP-400, NSP-600, NSP-800, NSP-1000, NSP-1500, NSP-2500, NSP-3000
Power Range	5 – 75 HP
Max Flow Rate	Up to 1,766 CFM
Model Range	9 Models, NSP-150 to NSP-3000
Max Rotation Speed	3600 RPM
Ultimate Vacuum Pressure Range	5×10^{-2} – 7.5×10^{-3} torr
Factory Warranty	1-Year

DESCRIPTION

NES Company Inc. introduces our latest line of vacuum pumps, the NSP Series. The NSP dry screw vacuum pump series is able to generate up to 7.5×10^{-3} torr at flow rate up to 1766 CFM. The NSP Series is meticulously machined and carefully crafted for tight tolerances with quality material, resulting in deep vacuum levels for a myriad of applications. The sum of these features makes for a versatile and reliable vacuum pump.

FEATURES

- ▶ Easy internal access for quick maintenance.
- ▶ Oil lubrication within gearbox results in minimal contact between process gas and lubrication, making a clean process.
- ▶ Variable pitch screw rotors create amplified compression effect.
- ▶ Internal coating prevents excessive condensation, extending the service life of the product. Various coatings are available depending on the application.
- ▶ Large number of available accessories that improve performance and extend pump life, such as gas ballast kits and inlet purge kits.
- ▶ 1-year factory warranty against manufacturer’s defects.

NOTES

NES Company is proud to offer our NSP Series Dry Screw Vacuum Pump. These new pumps are factory performance tested and include a 1-year warranty against manufacturer’s defects.

ULTIMATE VACUUM PRESSURE BY MODEL

- ▶ NSP-150, 300, 1500, 2500, 3000 — 5×10^{-2} torr
- ▶ NSP-600, 1000 — 1×10^{-2} torr
- ▶ NSP-400, 800 — 7.5×10^{-3} torr

As stated on the source specification sheet. Note: the General Technical Data table (next page) lists NSP-150 at 0.01 torr and NSP-300 at 7.5×10^{-3} torr per-model — both source figures are preserved here as printed, without reconciling the discrepancy.

FULL TECHNICAL DATA

The following pages cover technical data for every model, variation and application tables, four assembly drawings, and bare shaft dimensions and weights. **Contact NES** at info@nescompany.com or 800-297-3550 for application support.



Series Name	Flow Rate [CFM]	Motor Power [HP]	Ultimate Vacuum Pressure (Torr)	Rotation Speed [RPM]	Exhaust Method	Cooling Water Flow [GPM]	Cooling Water Connection Size [Inch]
NSP-150	77	5	0.01	3600	Side	1.32-3.96	3/8 NPT
NSP-300	177	10	7.5×10^{-3}	3600	*	2.64-3.96	1/2 NPT
NSP-400	235	15	7.5×10^{-3}	3600	*	2.64-3.96	1/2 NPT
NSP-600	353	20	0.01	3600	Bottom	3.96-5.28	1/2 NPT
NSP-800	412	20	7.5×10^{-3}	3600	*	3.96-5.28	1/2 NPT
NSP-1000	589	25	0.01	3600	Side	5.28-6.60	1/2 NPT
NSP-1500	883	50	0.05	1800	Side	7.93-10.57	1 NPT
NSP-2500	1471	75	0.05	1800	Side	13.21-14.53	1 NPT
NSP-3000	1766	75	0.05	1800	Side	10.57-13.21	1 NPT

*Side and Bottom Configurations are available

Dimensions / Weight

BARE SHAFT LENGTH, HEIGHT, WIDTH & WEIGHT

Series Name	Length (Inches)	Height (Inches)	Width (Inches)	Weight (Lbs.)
NSP-150	27	12	14	419
NSP-300	37	13	15	750
NSP-400	39	15	16	993
NSP-600	47	18	42	1059
NSP-800	49	20	21	1323
NSP-1000	46	20	20	1500
NSP-1500	65	21	26	3528
NSP-2500	59	27	27	2977
NSP-3000	73	27	30	4675

Variation / Application Tables

VARIATION TABLE

Variations	Particulars
Metallurgy	Standard Cast Iron
Discharge Position*	Side
	Bottom
Coating	PFA
	PEEK
	NIFA (Nickel-Plated Teflon)
Elastomer*	Viton
	Kalrez
Accessories*	Suction Port (304SS)
	Suction Port (316SS)
	Suction Port – PFA Coating
	Vacuum Gauge & Needle Valve
	Inlet Non-Return Valve (304SS)
	Inlet Temporary Strainer (304SS)
	Coupling
	Base Plate
	Exhaust Silencer (304SS)
	Exhaust Silencer (316SS)
	Jacket-type Exhaust Silencer (304SS)
	Jacket-type Exhaust Silencer (316SS)
	Exhaust Silencer – PFA Coating
	Jacket-type Exhaust Silencer – PFA Coating
	Inlet Filter Casing (304SS)
	Inlet Filter Element (200 mesh)
	Seal Purge Kit
	Gas Ballast Kit
	Inlet Purge Kit
	Solvent Flushing Kit
	Service Panel for Purge & Flushing

*For accessories, variations in configuration, and pricing inquiries, please contact an NES representative.

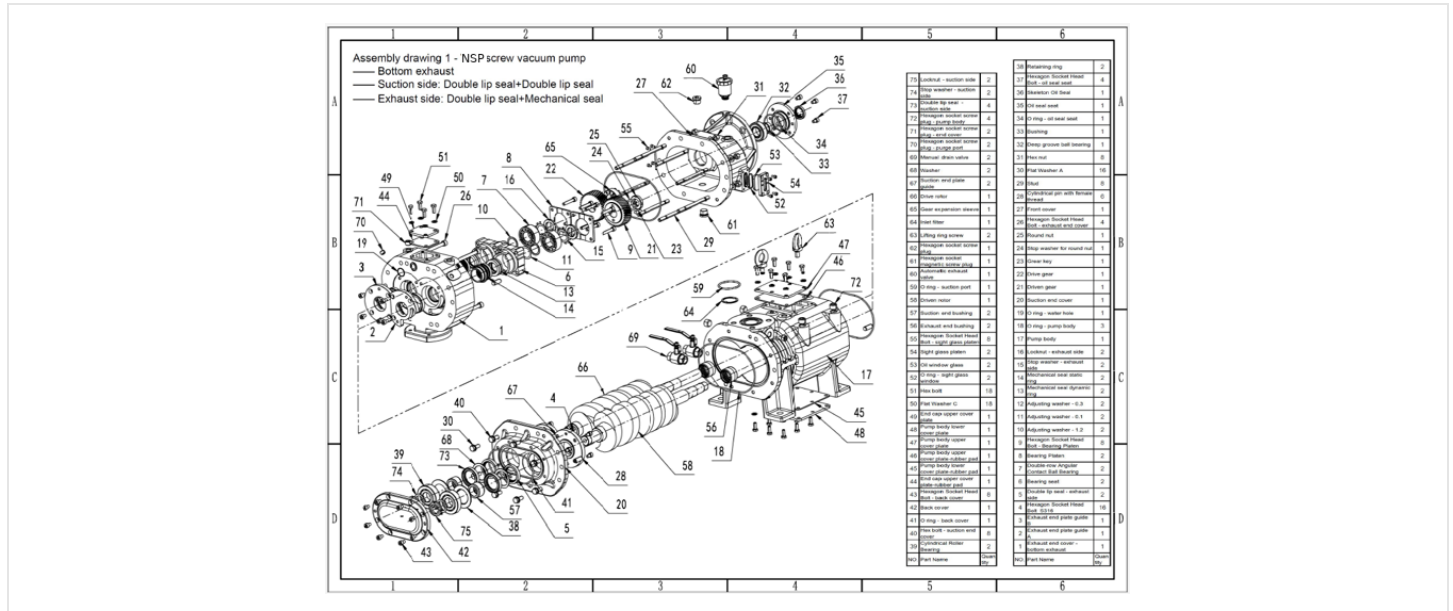
APPLICATION TABLE

Applications	
Vapor Recovery	Freeze Drying
Furnaces & Ovens	Filtration
Steel Degassing	Evaporation
Refrigeration	Drying
Chemical Reactions	Distillation & Fractionation
Membrane Pervaporation	Degassing
Impregnation	Central Vacuum System

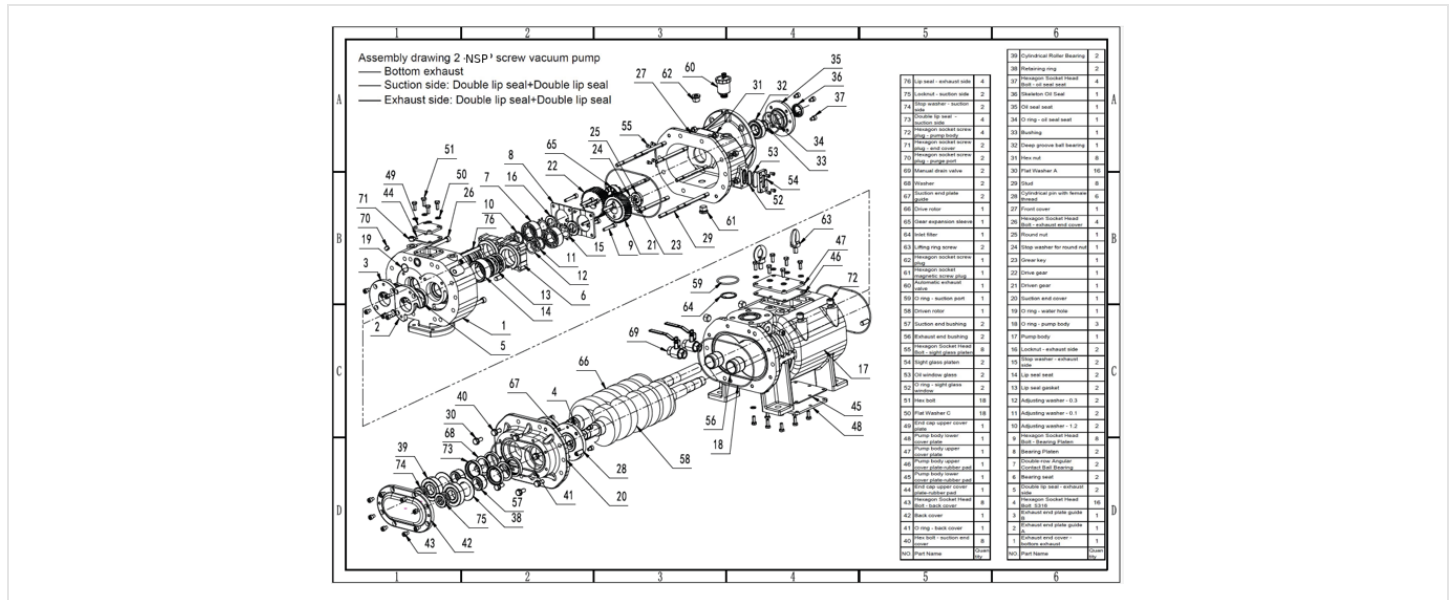
Exploded Views / Assembly Drawings

EXPLODED VIEW — NSP SCREW VACUUM PUMP

ASSEMBLY DRAWING 1 — BOTTOM EXHAUST (SUCTION SIDE: DOUBLE LIP SEAL + DOUBLE LIP SEAL · EXHAUST SIDE: DOUBLE LIP SEAL + MECHANICAL SEAL)



ASSEMBLY DRAWING 2 — BOTTOM EXHAUST (SUCTION SIDE: DOUBLE LIP SEAL + DOUBLE LIP SEAL · EXHAUST SIDE: DOUBLE LIP SEAL + DOUBLE LIP SEAL)



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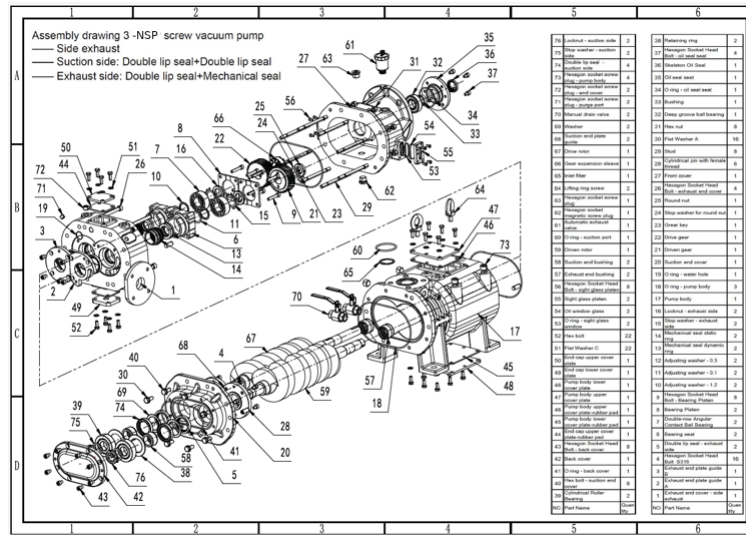
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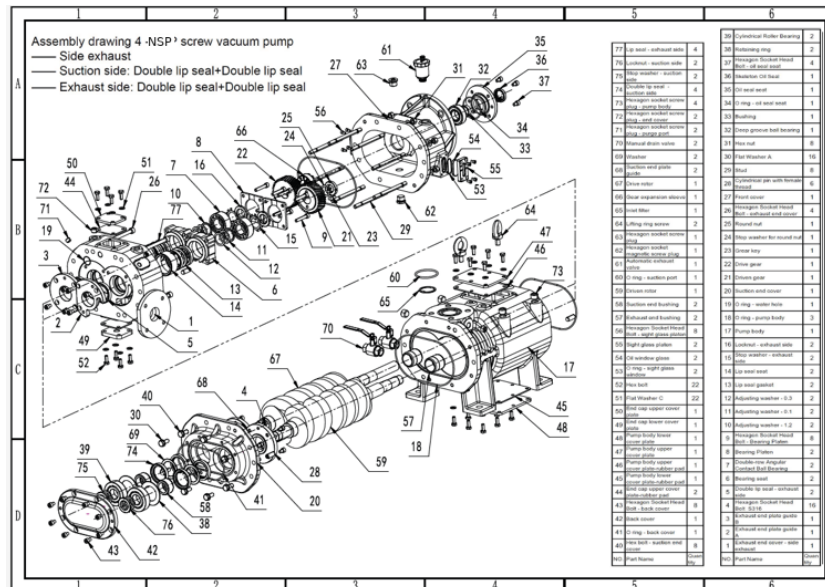
Exploded Views / Assembly Drawings (continued)

EXPLODED VIEW — NSP SCREW VACUUM PUMP (CONTINUED)

ASSEMBLY DRAWING 3 — SIDE EXHAUST (SUCTION SIDE: DOUBLE LIP SEAL + DOUBLE LIP SEAL · EXHAUST SIDE: DOUBLE LIP SEAL + MECHANICAL SEAL)



ASSEMBLY DRAWING 4 — SIDE EXHAUST (SUCTION SIDE: DOUBLE LIP SEAL + DOUBLE LIP SEAL · EXHAUST SIDE: DOUBLE LIP SEAL + DOUBLE LIP SEAL)



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