



Innovative Engineered Solutions

SUPERSCREW DRY SCREW VACUUM PUMPS

HYBRID COMBINED VARIABLE PITCH

EverestVacuum a brand of Everest Blower Systems Private Limited brings to its customers, hybrid combined variable pitch Dry Screw Vacuum Pumps | **SuperScrew**.

These are widely used in chemical, pharmaceutical, petrochemical, food processing, plastics, CD-DVD manufacturing, thin-film & wiped film evaporation and many other applications which require a clean and stable vacuum in general and central vacuum industry.

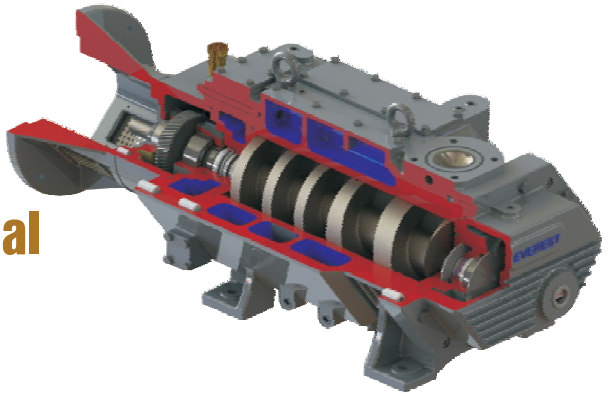
SuperScrew is the newest development in the vacuum pump industry. They offer a number of advantages over traditional vacuum pump design. There is No Oil / No Water in contact with the process vapours, therefore they are considered extremely environment-friendly.

As these pumps are completely dry, the process vapour can pass through the pump without any contamination and be collected at the discharge of the system by a vent condenser. This offers the customer a very efficient vapour recovery management system and an environment-friendly vacuum ecosystem.

ENGINEERING | EVALUATION | DESIGNING | **EverestVacuum**
MANUFACTURING | TESTING | EXECUTION | POST SALES AND SERVICE

ESPH 400
HYBRID COMBINED VARIABLE PITCH

**A Pump
designed to
perform in
harsh tropical
conditions**



EverestVacUum

**SuperScrew
Dry Screw
Vacuum
Pump**

SALIENT FEATURES

- 100% Oil-Free Dry Pumping
- Hybrid Combined Variable Pitch Screw
- Faster Pump Down Time
- Superior Ultimate Vacuum
- Low Discharge Gas Temperature
- Low Power Consumption
- Low Noise and Vibration
- Special Alloy Casting for Durability

OPERATING PRINCIPLE

The EVEREST ESPH Dry Screw Vacuum Pump is a hybrid variable pitch screw, dry running non-contact type vacuum pump. Two parallel screws, operate rotating in the opposite direction, having a highly sophisticated surface profile consisting of an Archimedean, Quimby and an Arc curve. These rotate in the opposite direction; driveshaft rotation is clockwise (CW) when viewed from the motor end (Drive End) of the pump. Helical timing gears position these screws relative to each other. The pumped gas is compressed into the discharged port by the rotation of the screws. The advanced screw design results in lower energy consumption compared to standard screw design. This also results in lower heat generation because of the high compression of the gas/vapours.

**THE ADVANCED SCREW DESIGN
RESULTS IN LOWER ENERGY
CONSUMPTION COMPARED TO
STANDARD SCREW DESIGN**

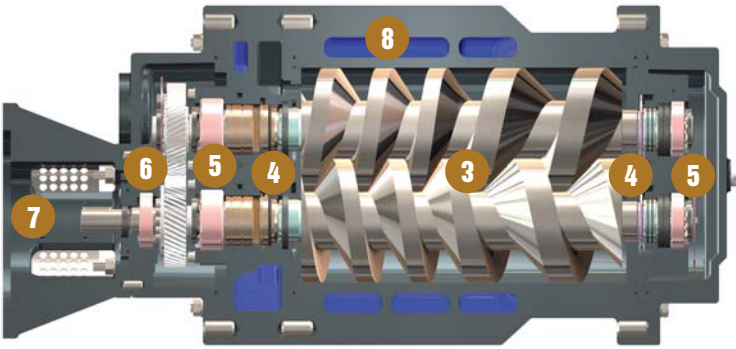
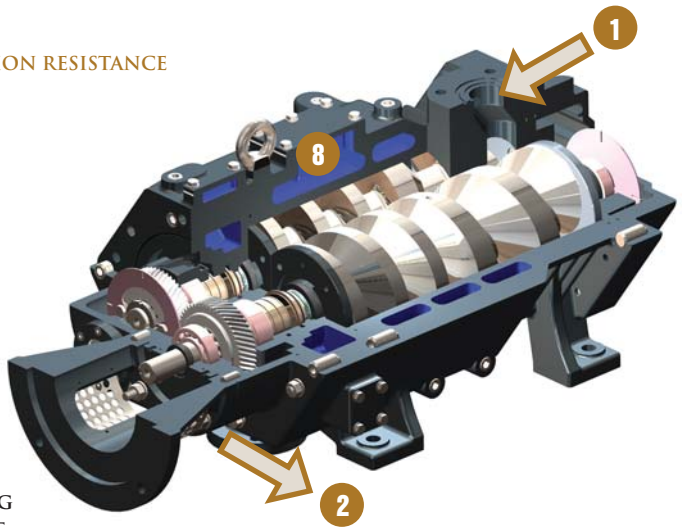
KEY FEATURES

Reduced Power consumption as opposed to the standard screw design pump by up to 30%.
Low discharge gas temperature and high volumetric efficiency resulting in lower pump down with the higher ultimate process vacuum.

SPECIAL
for BETTER CORROSION RESISTANCE
COATING
ALL WETTED PARTS

SECTIONAL VIEW
OF SUPERSCREW
DRY SCREW
VACUUM PUMP

- 1 SUCTION
- 2 DISCHARGE
- 3 SCREWS
- 4 SEALS
- 5 BEARINGS
- 6 TIMING GEARS
- 7 SHAFT/COUPLING
- 8 COOLING JACKET



SUPERSCREW DRY SCREW VACUUM PUMP

SPECIFICATIONS

Model	Nominal Displacement (50/60 Hz)		Ultimate Vacuum		Power (KW)		Rotation (RPM)		Cooling Water Flow	Gear Oil (Mineral)	Approx Weight (Bare Shaft)
	m ³ /hr	CFM	Torr	Pa	50 Hz	60 Hz	50 Hz	60 Hz	Lts./Min	Lts.	Kgs.
ESPH 150	120/150	70/90	0.75	100	3.7	3.7	2900	3480	5~10	1.2	200
ESPH 300	250/300	150/180	0.075	10	7.5	7.5	2900	3480	10~15	1.8	300
ESPH 400	330/400	195/235	0.075	10	7.5	11	2900	3480	10~15	2.2	380
ESPH 800	660/800	390/470	0.05	6.66	11	15	2900	3480	15~20	3	500
ESPH 1500	1250/1500	735/885	0.05	6.66	30	37	1470	1750	30~40	8	1200
ESPH 3000	2250/2700	1325/1590	0.05	6.66	45	55	1470	1750	40~50	10	1500

	STD Standard Application	CX Corrosive Application	CL Clean Application
SEAL TYPE	HV (Suction) Double Lip (PTFE+PTFE) Seal	HV (Suction) Double Lip (PTFE+PTFE) Seal on Alloy Steel Sleeve (H&G)	HV (Suction) Double Lip (PTFE+PTFE)
	LV (Discharge) Double Lip (PTFE+PTFE) and Mechanical Bellow Seal (AM350+Viton), N2 Purged	LV (Discharge) Double Lip (PTFE+PTFE) and Mechanical Bellow Seal (HAST-C+Kalrez), N2 Purged	LV (Discharge) Double Lip (PTFE+PTFE)
MOC	BODY C.I FG 260 with PEEK coating	Alloy Cast Iron with ENP+PEEK coating	C.I FG 260 with ENP
	SCREW Ductile Iron with PEEK coating	Alloy Ductile Iron with ENP+PEEK coating	Ductile Iron with ENP
	CP PLATE C.I FG 260 with PEEK coating	Alloy Cast Iron with ENP+PEEK coating	C.I FG 260
	GP PLATE C.I FG 260 with PEEK coating	Alloy Cast Iron with ENP+PEEK coating	C.I FG 260

EVEREST ADVANTAGE HIGH VOLUMETRIC EFFICIENCY
LOW ENERGY CONSUMPTION | PACKAGE SUPPLY | PLUG AND PLAY CONCEPT

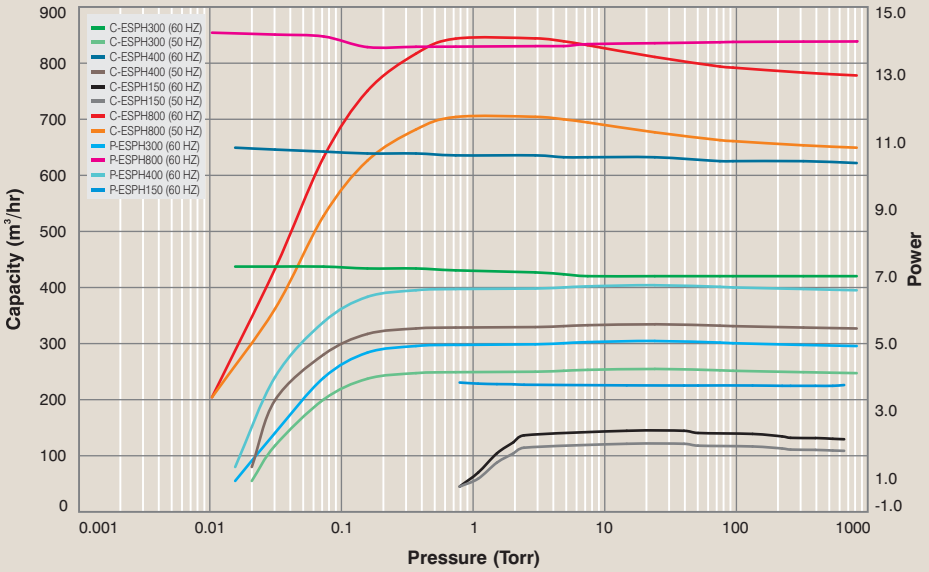
ANTI CORROSIVE DRY SCREW VACUUM PUMP | CX

SALIENT FEATURES

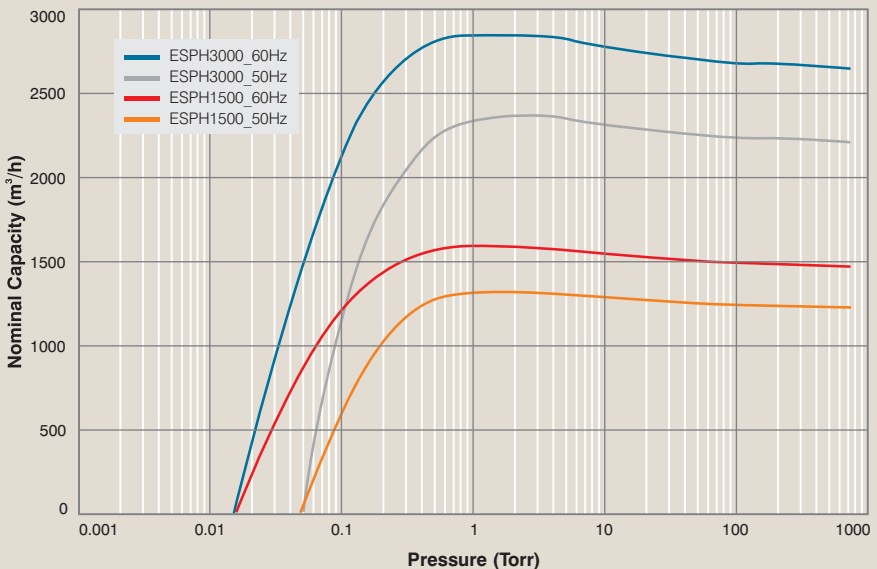
- ENP coating on Alloy Cast Iron Casing
- ENP coating on Alloy Ductile Iron Screws
- Hast-C Bellow M/Seal with Kalrez O-ring
- PTFE Double Lip seal on SS 410 Hardened and Ground Bush
- Synthetic Lubrication Oil
- N₂ Inlet and N₂ Seal Purge
- PLC Controlled Logic of all instrumentation
- PEEK/HALAR coated internals of all pipelines (opt.)
- PTFE lined SS 304/316 Valves
- Thermostatic Control Valve (TCV): To maintain optimum operating temperature of the pump thereby limiting any vapour condensation
- Top Suction/Bottom Discharge: To ensure the free gravity flow of any condensate/solvent getting condensed within the pump



ESPH CAPACITY AND POWER CURVE | ESPH 150|300|400|800

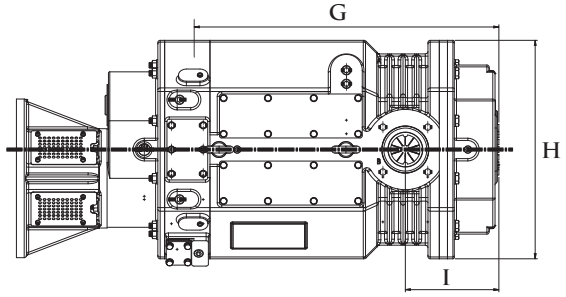


PUMPING SPEED CURVE | ESPH 1500 / 3000

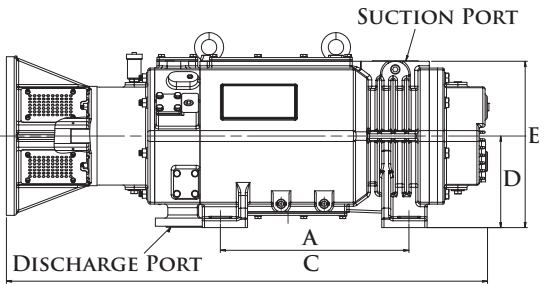
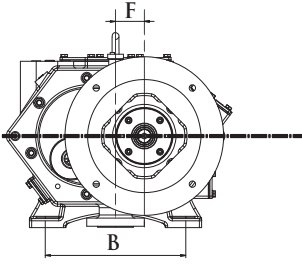


THIONYL CHLORIDE $SOCl_2$, PHOSPHORYL CHLORIDE $POCl_3$ AND HCL SHALL HAUNT YOU NO MORE.

EVEREST HAS THE SOLUTION

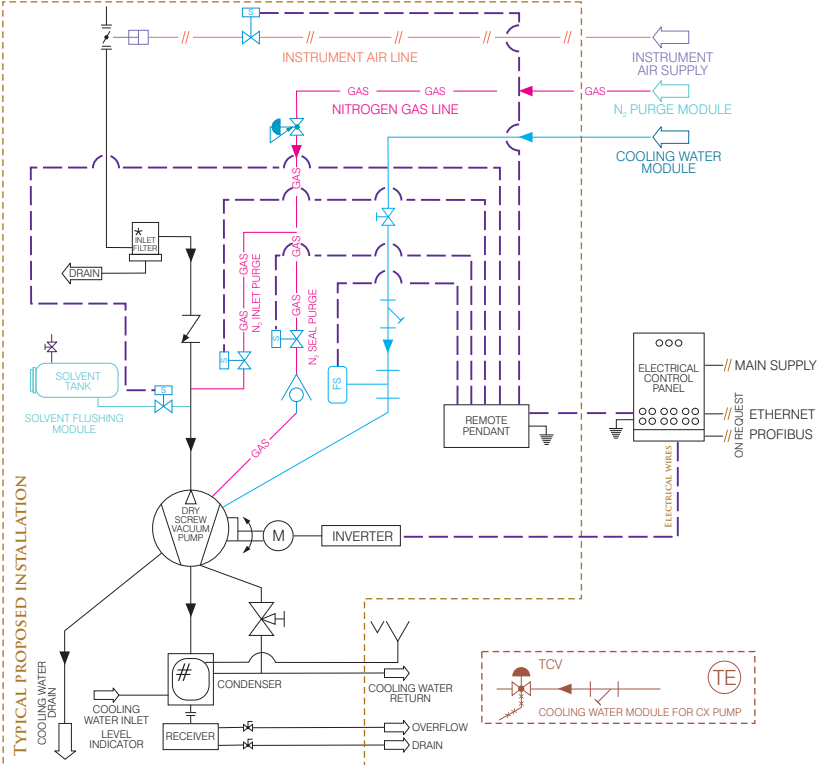


DIMENSION DIAGRAM



Model	Side	A	B	C	D	E	F	G	H	I	Suction Port	Discharge Port
ESPH 150		260	210	775	145	260	45	475	320	175	40	50
ESPH 300		370	290	935	190	345	60	595	435	195	50	50
ESPH 400		415	310	1060	200	365	65	675	480	205	65	50
ESPH 800		440	360	1195	220	400	75	775	480	245	100	65

P&I DIAGRAM OF A TYPICAL SUPERSCREW SYSTEM



STANDARD SUPPLY | Screw Pump, Motor, VFD, Seal-Purge, Cooling Water Module (Standard), Non-Return Valve, Main Isolation Valve
 * Contact Everest for more details
 # Can be placed Upstream/Downstream as per requirement

EVEREST ADVANTAGE

EVEREST HAS THE SKILL, EXPERTISE, KNOWLEDGE AND CAPABILITY THAT IT HAS ACQUIRED OVER THE YEARS TO CUSTOM DESIGN VACUUM SYSTEMS FOR SPECIFIC CUSTOMER REQUIREMENTS AND DELIVER GUARANTEED RESULTS

EVEREST PRODUCT RANGE

VACUUM

MECHANICAL VACUUM BOOSTERS
 DRY SCREW VACUUM PUMPS
 SUPERVAC
 ROTARY VANE VACUUM PUMP
 SUPERVANE
 VACUUM SYSTEMS (WET)
 ENGINEERED VACUUM SYSTEMS
 MECHANICAL VAPOUR RECOMPRESSOR (MVR|MVC)

PRESSURE

TWIN LOBE ROOTS BLOWERS
 TRI LOBE ROOTS BLOWERS
 CENTRIFUGAL BLOWERS
 TURBO BLOWERS
 BLOWER PACKAGES

INDUSTRIES SERVED

CHEMICAL & PHARMACEUTICAL

Degassers
 Vacuum Distillation
 Evaporators
 Crystallizers
 Vacuum Filters
 Vacuum Dryers

VACUUM FURNACE INDUSTRY

Heat Treatment
 Hardening
 Optical Coating
 Metallizing
 Degreasers in Furnace

ELECTRICAL INDUSTRY

Transformer Vacuum Impregnation
 Transformer Oil Purifier
 Vapour Phase Drying

INDUSTRIAL PROCESSING

Impregnating Windings
 Drying Textiles Mills
 Sterilizing re-circulation through Ethylene Dioxide
 Incandescent CFL and Tube Light Manufacturing
 TV Tubes Manufacture

FOOD PROCESSING INDUSTRY

Vacuum Packaging-Fresh & Cooked Meats
 Freeze Drying
 Deodorization of Vegetable Oil (FFA Distillation)
 Sugar Refining
 Vacuum Evaporative Cooling
 Vacuum Tray Drying
 Flash Drying

Our technology is so flexible, we can custom manufacture **Special Blowers, Vacuum Pumps & Systems** by alloying and cross linking diverse designs to suit individual requirements and import substitutes.



EVEREST
 PRESSURE & VACUUM SYSTEMS

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