SUPERVAC DRY SCREW VACUUM PUMPING SYSTEMS

SUPERSCREW (HYBRID COMBINED VARIABLE PITCH)
DRY SCREW VACUUM PUMPS

EVEREST BLOWER SYSTEMS
Innovative Engineering Solutions
Everest, Leaders in Vacuum Technology, offer Dry Vacuum Pumping Systems developed using diverse designs and cross links to suit individual process requirements and act as import substitutes.

Everest supplies a diverse range of vacuum systems from standard compact units to complex purpose built systems with integrated instrumentation and control panels for local or remote operation. These systems are supplied as skid mounted ready to connect units.

Everest Vacuum Pumping Systems are known for their reliability and innovative design, offer unmatched quality, value & performance and are easy to use and maintain.

Everest has been closely associated with various scientific and research organizations for research and development projects related to medium and high vacuum, some of them being first time of the world.

Our mission has always been to continually offer new and superior industrial vacuum designs to the world market, for all industries and applications.

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**EVEREST ADVANTAGE**

- High Volumetric Efficiency
- Low Energy Consumption
- Package Supply
- Plug & Play Concept

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**SUPERVAC DRY SCREW VACUUM PUMPING SYSTEMS**

Environment Friendly Dry Screw Vacuum Pumping Systems for Chemical, Pharmaceutical & Other Process Industries

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Highly recommended for solvent recovery, vacuum drying, freeze drying & low pressure distillation.
LIQUID RING PUMP  |  PISTON PUMP  |  DRY SCREW PUMP  |  VACUUM BOOSTER

1. Liquid Ring Pump (400 m³/hr)
2. Liquid Ring Pump + Mechanical Vacuum Booster
3. Liquid Ring Pump + 2 No. Mechanical Vacuum Boosters
4. Piston Pump (400 m³/hr)
5. Piston Pump + Mechanical Vacuum Booster
6. Piston Pump + 2 No. Mechanical Vacuum Boosters
7. Superscrew Screw Pump (400 m³/hr - Vacuum of 0.1 Torr)
8. Superscrew Screw Pump + Mechanical Vacuum Booster
9. Superscrew Screw Pump + 2 No. Mechanical Vacuum Boosters
SUPervac Dry Screw Vacuum Pumping Systems

P&I Diagram of a Typical Supervac System with Optional Modules

Module - 1 ESP Pump with Purge, Inlet Valve, Inverter and Safety Interlocks.
Module - 2 Solvent Flushing Package - Basic
Module - 3 Solvent Flushing Package - Auto
Module - 4 Inlet KOP
Module - 5 Post Condenser & Receiver
Module - 6 Evb Mechanical Booster

Additional Modules / Accessories:
1) Gas Blast / Inlet Purge
2) Nitrogen
3) Re-circulation Inter Cooler
4) Re-circulation Post Condenser
5) Additional Mechanical Vacuum Booster
6) System Skid
7) Discharge Temperature Monitoring System
8) Vacuum Monitoring System
9) Pressure Control Valve
10) Flame Arrestors
11) Dust Filters
12) Exhaust Silencer
13) FTc - Ptc Embedded Motors for Hazardous Areas
**Supervac Dry Screw Vacuum Pumping Systems**

### Specifications | Everest Supervac Vacuum Pumping System

<table>
<thead>
<tr>
<th>Model</th>
<th>Inlet Displacement Speed (m³/hr)</th>
<th>Ultimate Vacuum (Torr)</th>
<th>Power Consumption (KW)</th>
<th>Inlet Flange mm NB</th>
<th>No. of Stages</th>
</tr>
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<tbody>
<tr>
<td>Supervac 600</td>
<td>600</td>
<td>$10^{-1}$</td>
<td>6</td>
<td>3.9</td>
<td>65</td>
</tr>
<tr>
<td>Supervac 1000</td>
<td>1000</td>
<td>$10^{-2}$</td>
<td>9</td>
<td>5.9</td>
<td>80</td>
</tr>
<tr>
<td>Supervac 1200</td>
<td>1200</td>
<td>$10^{-2}$</td>
<td>11</td>
<td>7.2</td>
<td>80</td>
</tr>
<tr>
<td>Supervac 1600</td>
<td>1600</td>
<td>$10^{-3}$</td>
<td>13</td>
<td>8.5</td>
<td>100</td>
</tr>
<tr>
<td>Supervac 2000</td>
<td>2000</td>
<td>$10^{-3}$</td>
<td>17</td>
<td>11.0</td>
<td>125</td>
</tr>
<tr>
<td>Supervac 3500</td>
<td>3500</td>
<td>$10^{-3}$</td>
<td>25</td>
<td>16</td>
<td>150</td>
</tr>
<tr>
<td>Supervac 5000</td>
<td>5000</td>
<td>$10^{-3}$</td>
<td>28</td>
<td>18.2</td>
<td>150</td>
</tr>
<tr>
<td>Supervac 10000</td>
<td>10000</td>
<td>$10^{-3}$</td>
<td>37</td>
<td>24.0</td>
<td>200</td>
</tr>
</tbody>
</table>

Note: Power consumption may vary as per individual system design/customization. Specification are subject to change without notice.

Our experts can help you in process optimization through customization resulting in high vacuum and high pumping capacities with varied combinations of different capacity Dry Screw Vacuum Pumps and Dry Mechanical Vacuum Boosters.

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**Applications**

Vacuum Drying | Solvent Recovery | Vacuum Distillation | Vacuum Degassing | Vacuum Impregnation | Space Research and Development Applications

**Everest Advantage**

Everest has the skill, experience and capability to custom design vacuum systems for specific requirements and deliver guaranteed results.
Dry vacuum pumps are the newest development in the vacuum pump industry. They offer a number of advantages over the traditional vacuum pump designs. There is “NO OIL / NO WATER” in contact with the process vapours, therefore they are considered extremely environment friendly.

**SALIENT FEATURES**

- 100% Oil Free Dry Pumping
- Hybrid combined variable pitch screw
- Faster pump down time
- Superior ultimate vacuum
- Lower discharge temperature
- Lower power consumption
- Lower noise & vibration
- PFA Coated

Superscrew hybrid combined variable pitch Dry Screw Vacuum Pumps are widely used worldwide in various chemical, pharmaceutical, petrochemical, food processing, plastic, CD-DVD manufacturing, thin film/wiped film evaporation & many other applications in general & central vacuum industry.

Everest offers solutions for process applications operating under vacuum conditions since 1980, for biodiesel, chemical, environmental, food, pharmaceutical and plastic industries.
SUPERSCREW (HYBRID COMBINED VARIABLE PITCH) DRY SCREW VACUUM PUMPS

Specifications are subject to change without notice.

SECTIONAL VIEW OF EVEREST SUPERSCREW SERIES DRY SCREW VACUUM PUMP

<table>
<thead>
<tr>
<th>MODEL</th>
<th>ESPH150</th>
<th>ESPH300</th>
<th>ESPH400</th>
<th>ESPH800</th>
<th>ESPH1500</th>
<th>ESPH3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Displacement (50/60Hz)</td>
<td>m³/hr</td>
<td>125/150</td>
<td>250/300</td>
<td>330/400</td>
<td>660/800</td>
<td>1250/1500</td>
</tr>
<tr>
<td>CFM</td>
<td>74/89</td>
<td>148/177</td>
<td>195/236</td>
<td>390/472</td>
<td>738/885</td>
<td>1328/1593</td>
</tr>
<tr>
<td>Ultimate Pressure</td>
<td>Torr</td>
<td>7.5x10⁻²</td>
<td>7.5x10⁻²</td>
<td>7.5x10⁻²</td>
<td>7.5x10⁻²</td>
<td>1.5x10⁻²</td>
</tr>
<tr>
<td></td>
<td>Pa</td>
<td>100</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Power (50Hz/60Hz)</td>
<td>Kw</td>
<td>2.2/3.7</td>
<td>5.5/7.5</td>
<td>7.5/11</td>
<td>11/15</td>
<td>30/37</td>
</tr>
<tr>
<td>Rotation (50Hz/60Hz)</td>
<td>RPM</td>
<td>2,900/3,500</td>
<td>2,900/3,500</td>
<td>2,900/3,500</td>
<td>2,900/3,500</td>
<td>1,450/1,750</td>
</tr>
<tr>
<td>Port Size</td>
<td>Suction</td>
<td>40</td>
<td>50</td>
<td>65</td>
<td>100</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>Discharge</td>
<td>40</td>
<td>40</td>
<td>50</td>
<td>65</td>
<td>80</td>
</tr>
<tr>
<td>Cooling Water Flow</td>
<td>L/Min</td>
<td>5 ~ 10</td>
<td>10 ~ 15</td>
<td>10 ~ 15</td>
<td>15 ~ 20</td>
<td>30 ~ 40</td>
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<tr>
<td>Gear Oil Capacity</td>
<td>Lts</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2.5</td>
<td>8</td>
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<tr>
<td>Approx. Weight (Bare Shaft)</td>
<td>Kg</td>
<td>200</td>
<td>300</td>
<td>380</td>
<td>600</td>
<td>1200</td>
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</tbody>
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Seal Type

<table>
<thead>
<tr>
<th>Standard</th>
<th>HV (Suction) : Double Lip Seal + Double Lip Seal</th>
<th>LV (Discharge) : Only Lip Seal &amp; Mechanical Seal (With Gas Purge)</th>
<th>Drive end : Oil Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option</td>
<td>HV (Suction) : Double Lip Seal + Double Lip Seal</td>
<td>LV (Discharge) : Only Lip Seal &amp; Mechanical Seal (With Gas Purge)</td>
<td>Drive end : Oil Seal</td>
</tr>
</tbody>
</table>
SUPERSCREW (HYBRID COMBINED VARIABLE PITCH) DRY SCREW VACUUM PUMPS

DIMENSION DIAGRAM DRY SCREW VACUUM PUMP

<table>
<thead>
<tr>
<th>Model Side</th>
<th>ESPH150</th>
<th>ESPH300</th>
<th>ESPH400</th>
<th>ESPH800</th>
<th>ESPH1500</th>
<th>ESPH3000</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>262</td>
<td>367</td>
<td>416</td>
<td>493</td>
<td>694</td>
<td>728</td>
</tr>
<tr>
<td>B</td>
<td>210</td>
<td>290</td>
<td>310</td>
<td>348</td>
<td>440</td>
<td>444</td>
</tr>
<tr>
<td>C</td>
<td>723</td>
<td>893</td>
<td>1,015</td>
<td>1,140</td>
<td>1,592</td>
<td>1,757</td>
</tr>
<tr>
<td>D</td>
<td>144</td>
<td>190</td>
<td>202</td>
<td>212</td>
<td>290</td>
<td>320</td>
</tr>
<tr>
<td>E</td>
<td>260</td>
<td>342</td>
<td>367</td>
<td>391</td>
<td>538</td>
<td>585</td>
</tr>
<tr>
<td>F</td>
<td>170</td>
<td>222</td>
<td>260</td>
<td>295</td>
<td>400</td>
<td>446</td>
</tr>
<tr>
<td>G</td>
<td>421</td>
<td>552</td>
<td>626</td>
<td>704</td>
<td>1,037</td>
<td>1,074</td>
</tr>
<tr>
<td>H</td>
<td>316</td>
<td>432</td>
<td>483</td>
<td>544</td>
<td>717</td>
<td>820</td>
</tr>
<tr>
<td>I</td>
<td>124</td>
<td>148</td>
<td>161</td>
<td>193</td>
<td>248</td>
<td>348</td>
</tr>
<tr>
<td>J</td>
<td>74</td>
<td>109</td>
<td>106</td>
<td>116</td>
<td>180</td>
<td>210</td>
</tr>
<tr>
<td>K</td>
<td>42.5</td>
<td>58</td>
<td>63.5</td>
<td>73</td>
<td>110</td>
<td>125</td>
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<tr>
<td>Suction Port</td>
<td>40</td>
<td>50</td>
<td>65</td>
<td>100</td>
<td>125</td>
<td>150</td>
</tr>
<tr>
<td>Discharge Port</td>
<td>40</td>
<td>40</td>
<td>50</td>
<td>65</td>
<td>80</td>
<td>100</td>
</tr>
</tbody>
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SUPERSCREW (HYBRID COMBINED VARIABLE PITCH)
DRY SCREW VACUUM PUMPS

PUMPING SPEED CURVE - ESPH 150 / 300 / 400 / 800

PUMPING SPEED CURVE - ESPH 1500 / 3000

EVEREST ADVANTAGE
AN EXCLUSIVE ONE-STOP FACILITY FOR GUARANTEED SOLUTIONS RELATED TO VACUUM PROCESSES.
EHS-CX Series: Everest Hybrid Screw - Anti Corrosive Dry Screw Vacuum Pumps.

Especially designed to handle harsh process vapours having low pH values. These pumps have modified designs to meet our customer’s needs.

ECONOMICAL | RELIABLE | MAINTENANCE FREE | DURABLE | INDIGENOUS

ANTI CORROSIVE DRY SCREW VACUUM PUMPS

FIRST TIME IN INDIA
ANTI CORROSIVE
DRY SCREW
VACUUM PUMPS

APPLICATIONS
Vacuum Drying | Solvent Recovery | Vacuum Distillation | Vacuum Degassing | Vacuum Impregnation | Space Research and Development Applications

SPECIFICATION

<table>
<thead>
<tr>
<th>MODEL</th>
<th>EHS-CX150</th>
<th>EHS-CX300</th>
<th>EHS-CX400</th>
<th>EHS-CX800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Displacement (50/60Hz)</td>
<td>m³/hr</td>
<td>125/150</td>
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<td>Rotation (50Hz/60Hz)</td>
<td>RPM</td>
<td>2,900/3,500</td>
<td>2,900/3,500</td>
<td>2,900/3,500</td>
</tr>
</tbody>
</table>

Specifications are subject to change without notice. Port size, Cooling water flow, Gear oil capacity & Approximate weight (Bare Shaft) for EHS - CX Series Pumps is same as that for ESD-H series pumps as given on page 7.

Our experts can help you in process optimization through customization resulting in high vacuum and high pumping capacities with varied combinations of different capacity Dry Screw Pumps and Dry Mechanical Vacuum Boosters.

EVEREST ADVANTAGE
EVEREST HAS THE SKILL, EXPERIENCE AND CAPABILITY TO CUSTOM DESIGN VACUUM SYSTEMS FOR SPECIFIC REQUIREMENTS AND DELIVER GUARANTEED RESULTS
**ANTI CORROSIVE DRY SCREW VACUUM PUMPS**

**SALIENT FEATURES**

1. **Layer of electroless nickle on base metal with PFA coating (Ni-PFA)** Extremely special coat designed to withstand the effect of corrosive vapours.

2. **Complete “HAST ALLOY” Mechanical Seal with Kalrez oring** To withstand the effect of corrosive solvents and enhance seal & pump life thereby reducing maintenance and down time.

3. **Temperature Control Value (TCV)** To maintain high operating temperature of the pump thereby limiting any vapour condensation.

4. **Top Suction & Bottom Discharge** (Constructional change in EHS - CX Series) To ensure ease of vapour / solvent flushing through the Dry Screw Vacuum Pump.

5. **Synthetic/Non Reacative Lubricating Oil & Grease (Fomblin / Equiv.)** Top quality synthetic oil & grease to avoid contamination due to process vapours.

6. **Inlet & Seal N\textsubscript{2} purge system** To flush off all uncondensed vapours & condensed liquid through the vacuum pump.

7. **PLC control of all instrumentation** For complete automation & minimizing human dependency.

8. **Halar coated internal pipelines** To avoid corrosion of SS pipes.

9. **PTFE lined valves** To ensure longer valve service life.

**EVEREST EHS-CX SERIES (HYBRID SCREW) ANTI CORROSIVE DRY SCREW VACUUM PUMPS**

**STANDARD ARRANGEMENT**

Thionyl Chloride, SOCl\textsubscript{2}, Phosphoryl Chloride POCl\textsubscript{3}, & Wet HCl shall haunt you no more.

**EVEREST HAS THE SOLUTION !!**
We don’t just offer **Blowers, Boosters and Systems** we offer **SOLUTIONS!!**

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**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
- Vapor 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

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**SUPERCHEMICAL DRY SCREW VACUUM PUMPING SYSTEMS**
**SUPERSCREW (HYBRID COMBINED VARIABLE PITCH)**
**DRY SCREW VACUUM PUMPS**

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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.

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**EVEREST PRODUCT RANGE** Roots Blowers | Mechanical Vacuum Boosters | Dry Screw Vacuum Pumps | Acoustic Hoods | Industrial Vacuum Systems

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**EVEREST PRESSURE & VACUUM SYSTEMS**
Corporate Office: B-44, Mayapuri Industrial Area, Phase1, New Delhi 110064, India | Tf: +91 11 4545 7777 | E: vacuum@everestblowers.com

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**www.everestblowers.com**

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