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
IMPROVED PUMPING CAPACITY BY MULTISTAGING

- Liquid Ring Pump (400 m³/hr)
- Liquid Ring Pump + Mechanical Vacuum Booster
- Liquid Ring Pump + 2 No. Mechanical Vacuum Boosters
- Piston Pump (400 m³/hr)
- Piston Pump + Mechanical Vacuum Booster
- Piston Pump + 2 No. Mechanical Vacuum Boosters
- Superscrew Screw Pump (400 m³/hr - Vacuum of 0.1 Torr)
- Superscrew Screw Pump + Mechanical Vacuum Booster
- 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: SOLVENT TANK
MODULE-2: NITROGEN INLET PURGE
MODULE-3: COOLING WATER MODULE (TCV)
MODULE-4: INLET FILTER MODULE
MODULE-5: CONDENSER RECEIVER MODULE
MODULE-6: MECHANICAL VACUUM BOOSTER
MODULE-7: GAS BALLAST MODULE

STANDARD SUPPLY:
SCREW PUMP, MOTOR, VFD, SEAL PURGE,
COOLING WATER MODULE (STANDARD),
NON-RETURN VALVE, MAIN ISOLATION VALVE

LINE DESCRIPTION
---: INSTRUMENT AIR
---: NITROGEN PURGING LINE
---: ELECTRICAL WIRE
### 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>
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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>
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<tr>
<td>Supervac 1000</td>
<td>1000</td>
<td>10⁻²</td>
<td>9</td>
<td>5.9</td>
<td>80</td>
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<tr>
<td>Supervac 1200</td>
<td>1200</td>
<td>10⁻²</td>
<td>11</td>
<td>7.2</td>
<td>80</td>
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<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>
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<tr>
<td>Supervac 3500</td>
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<td>16</td>
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<tr>
<td>Supervac 5000</td>
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<td>10⁻³</td>
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<td>18.2</td>
<td>150</td>
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<tr>
<td>Supervac 10000</td>
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<td>10⁻³</td>
<td>37</td>
<td>24.0</td>
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</tbody>
</table>

Note: Power consumption may vary as per individual system design/customization. Specifications 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.

### 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
- PEEK Coated

Superscrew hybrid combined variable pitch Dry Screw Vacuum Pumps are widely used world wide 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.
### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>ESPH150</th>
<th>ESPH300</th>
<th>ESPH400</th>
<th>ESPH800</th>
<th>ESPH1500</th>
<th>ESPH3000</th>
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<tbody>
<tr>
<td>Normal Displacement (50/60Hz)</td>
<td>m³/hr</td>
<td>CFM</td>
<td>Ultimate Pressure Torr</td>
<td>Pa</td>
<td>Power Kw</td>
<td>Rotation (50Hz/60Hz) RPM</td>
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<td></td>
<td>125/150</td>
<td>250/300</td>
<td>660/800</td>
<td>1250/1500</td>
<td>2250/2700</td>
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<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>
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<td>Torr</td>
<td>7.5x10⁻¹</td>
<td>7.5x10⁻¹</td>
<td>7.5x10⁻¹</td>
<td>7.5x10⁻¹</td>
<td>1.5x10⁻¹</td>
<td>1.5x10⁻¹</td>
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<tr>
<td>Pa</td>
<td>100</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>2</td>
<td>2</td>
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<tr>
<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>
<td>37/55</td>
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<td>2,900/3,500</td>
<td>2,900/3,500</td>
<td>2,900/3,500</td>
<td>1,450/1,750</td>
<td>1,450/1,750</td>
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<td>40</td>
<td>50</td>
<td>65</td>
<td>100</td>
<td>125</td>
<td>150</td>
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<tr>
<td>Discharge</td>
<td>40</td>
<td>50</td>
<td>50</td>
<td>65</td>
<td>80</td>
<td>100</td>
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<tr>
<td>L/min</td>
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<td>10 ~ 15</td>
<td>10 ~ 15</td>
<td>15 ~ 20</td>
<td>30 ~ 40</td>
<td>40 ~ 50</td>
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<td>2.5</td>
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<td>10</td>
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<tr>
<td>Kg</td>
<td>200</td>
<td>300</td>
<td>380</td>
<td>600</td>
<td>1200</td>
<td>1500</td>
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</table>

### Seal Type

- **Standard**
  - HV (Suction): Double Lip Seal + Double Lip Seal
  - LV (Discharge): Double Lip Seal & Mechanical Seal (With Gas Purge)
  - Drive end: Oil Seal

- **Option**
  - HV (Suction): Double Lip Seal + Double Lip Seal
  - LV (Discharge): Double Lip Seal & Mechanical Seal (With Gas Purge)
  - Drive end: Oil Seal

Specifications are subject to change without notice.
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>
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<tr>
<td>A</td>
<td>262</td>
<td>367</td>
<td>416</td>
<td>493</td>
<td>694</td>
<td>728</td>
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<tr>
<td>B</td>
<td>210</td>
<td>290</td>
<td>310</td>
<td>348</td>
<td>440</td>
<td>444</td>
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<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>
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<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>
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<tr>
<td>F</td>
<td>170</td>
<td>222</td>
<td>260</td>
<td>295</td>
<td>400</td>
<td>446</td>
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<tr>
<td>G</td>
<td>421</td>
<td>552</td>
<td>626</td>
<td>704</td>
<td>1,037</td>
<td>1,074</td>
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<tr>
<td>H</td>
<td>316</td>
<td>432</td>
<td>483</td>
<td>544</td>
<td>717</td>
<td>820</td>
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<tr>
<td>I</td>
<td>124</td>
<td>148</td>
<td>161</td>
<td>193</td>
<td>248</td>
<td>348</td>
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<tr>
<td>J</td>
<td>74</td>
<td>109</td>
<td>106</td>
<td>116</td>
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<td>210</td>
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<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>
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<td>50</td>
<td>65</td>
<td>100</td>
<td>125</td>
<td>150</td>
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<tr>
<td>Discharge Port</td>
<td>40</td>
<td>50</td>
<td>50</td>
<td>65</td>
<td>80</td>
<td>100</td>
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</tbody>
</table>
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

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>
<td>250/300</td>
<td>330/400</td>
</tr>
<tr>
<td>CFM</td>
<td></td>
<td>74/89</td>
<td>148/177</td>
<td>195/236</td>
</tr>
<tr>
<td>Ultimate Pressure</td>
<td>Torr</td>
<td>7.5x10⁻¹</td>
<td>7.5x10⁻²</td>
<td>7.5x10⁻²</td>
</tr>
<tr>
<td>Pa</td>
<td>100</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Power</td>
<td>Kw</td>
<td>2.2/3.7</td>
<td>5.5/7.5</td>
<td>7.5/11</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>
</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 ESH-E 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.

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
ANTI CORROSIVE DRY SCREW VACUUM PUMPS

SALIENT FEATURES

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

2. Complete HAST ALLOY ‘C’ 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 Valve (TCV) To Maintain high operating temperature of the pump - thereby limiting any vapour condensation.

4. Top Suction & Bottom Discharge To ensure ease of vapour / solvent flushing through the Dry Screw Vacuum Pump.

5. Synthetic/Non Reactive Lubricating Oil & Grease Top quality synthetic oil & grease to avoid contamination due to process vapours.

6. Inlet & Seal N₂ 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. PTFE/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 SOCl₂, Phosphoryl Chloride POCl₃ & Wet HCl shall haunt you no more.
EVEREST HAS THE SOLUTION!!
SUPERVAC DRY SCREW VACUUM PUMPING SYSTEMS
SUPERSCREW (HYBRID COMBINED VARIABLE PITCH)
DRY SCREW VACUUM PUMPS

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
- 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

National Award Winner

For Energy Efficient Pumps and Research & Development

We don’t just offer Blowers, Boosters and Systems we offer SOLUTIONS!!

EVEREST
PRESSURE & VACUUM SYSTEMS

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