Vacuum pumps for extruder calibration tables

SIHI extruvac

Compact, robust, low maintenance and able to handle water carry over

New vacuum pump from Sterling SIHI

SIHI extruvac ... innovative vacuum pumps for the use in calibration tables

In the plastic extrusion process, mouldable plastics, often in the form of pellets are heated and forced into moulds of the desired shape. In a subsequent process, the extruded profile passes to a calibration table where vacuum is used to remove air and to ensure the final profile matches the desired shape and dimensions. Water is used continuously during the calibration process to permit controlled cooling of the profile. The vacuum pump must therefore be capable of handling air/water mixtures.

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An Innovative Solutions for Calibration Tables

The technical and commercial demands on calibration tables have increased significantly in recent years. Nowadays robustness, extended meantime between maintenance, absence of vibration and ease of service are key requirements. These also apply to the pumps installed on the calibration tables. The demands on the vacuum pump vary depending on the particular stage of the extrusion process.

Water / Air Separation

In this process, water used for cooling is removed with a liquid pump. For vacuum calibration a monobloc one stage vacuum pump is used which cannot handle additional water.

Combined Water / Air Process

In this process, cooling water together with any remaining air is extracted by means of a pump. The pump must therefore be able to generate a stable operating vacuum whilst, at the same time, removing the water. SIHI extruvac fulfils both these requirements with its innovative design.

SIHI extruvac Pump range

<table>
<thead>
<tr>
<th>Type</th>
<th>Water capacity</th>
<th>Suction volume</th>
<th>Suction pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEME 130</td>
<td>up to 7 m³/h</td>
<td>50 Hz - max. 105 m³/h</td>
<td>50 Hz - min. 100 mbar</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60 Hz - max. 125 m³/h</td>
<td>60 Hz - min. 100 mbar</td>
</tr>
<tr>
<td>LEME 155</td>
<td>up to 7 m³/h</td>
<td>50 Hz - max. 140 m³/h</td>
<td>50 Hz - min. 100 mbar</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60 Hz - max. 170 m³/h</td>
<td>60 Hz - min. 100 mbar</td>
</tr>
</tbody>
</table>
Overview of SIHI\textsuperscript{extruvac} Advantages

✓ **Water handling capability**
With its new hydraulics SIHI\textsuperscript{extruvac} can handle up to 7 m\textsuperscript{3}/hr, whilst maintaining a stable vacuum of up to 100 mbar.

✓ **Compact design**
SIHI\textsuperscript{extruvac}, with its water handling capabilities, has identical dimensions to pumps that were formerly used that were unable to handle water.

✓ **Low noise levels**
The noise level of SIHI\textsuperscript{extruvac} is below 65 dB(A).

✓ **Robust and reliable**
Variations in operating requirements and fluctuating water flows do not effect SIHI\textsuperscript{extruvac}.

✓ **Maintenance friendly**
The materials used in the components (stainless steel for the guide disc, bronze for the impeller) ensure that SIHI\textsuperscript{extruvac} is low maintenance. In addition, assembly and disassembly does not require special tools.

✓ **Interchangeable**
Existing installations used for water / air separation can be replaced without modification by SIHI\textsuperscript{extruvac} with its water / air handling capabilities.

✓ **Simple installation**
Because of the water handling capabilities of the SIHI\textsuperscript{extruvac}, the pipework associated with the additional liquid pump is not required. The dual frequency motor is suitable for either 50Hz or 60 Hz operation.

Performance data

![Graph showing performance data for LEME 130 and LEME 155 with suction pressures ranging from 100 to 1000 mbar and suction capacities ranging from 0 to 180 m\textsuperscript{3}/hr at 1450 and 1750 rpm.]
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