OFC 04
VAD CORE DEPOSITION SYSTEM

For Low and Zero Water Peak Fiber (LWPF/ZWPF) Production
Nextrom VAD Core Deposition System is designed to meet the needs of mass production of Optical Fiber at low production costs.

The novel, Nextrom developed, VAD process using metallic aperture burners and a large forced air flow deposition chamber enables a precisely repeatable process with short downtimes.

The design is based on a separate rigid preform feeding and deposition chamber which ensures all movements are kept outside the harsh environment and allows for easy cleaning and fast start-ups.
The gas and vapour delivery system is made by using ultra-high purity components, welded/vcr-connections, assembled in a clean room and helium leak-tested.

Accurate gas and chemical flow control is achieved by using digital MFCs and flash evaporators with continuous automatic filling for chemicals.

The velocity controlled air inlet and pressure controlled, separate exhaust for both core and clad enable excellent flame stability and chamber cleanliness.

The chamber has a double wall construction with titanium inner plates.

Precision machined metal burners with independent control of flow & velocity allow short downtimes during burner changes.

Separate flame detectors for both burners allow maximum safety. Only one double-flame clad burner is needed to achieve to desired B/A, resulting in short end losses.
## MACHINE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height x Width x Depth</td>
<td>9 x 4.2 x 5.7 meters</td>
</tr>
<tr>
<td>Required Floor Space</td>
<td>7 x 5 meters</td>
</tr>
<tr>
<td>Soot Preform, max.</td>
<td>Ø 250 mm x 2,000 mm</td>
</tr>
<tr>
<td>Number of Burners per Machine</td>
<td>2</td>
</tr>
<tr>
<td>Flame Gases</td>
<td>$H_2$ &amp; $O_2$</td>
</tr>
<tr>
<td>Ambient Cleanliness Requirement, min.</td>
<td>Class 10,000</td>
</tr>
<tr>
<td>Cleanliness Inside the Chamber</td>
<td>Class 100</td>
</tr>
</tbody>
</table>

## PROCESS SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soot Preform</td>
<td>Ø 200 mm x 1,400 mm</td>
</tr>
<tr>
<td>Sintered Preform</td>
<td>Ø 100 mm x 700 mm</td>
</tr>
<tr>
<td>Typical Machine Capacity/Year</td>
<td>about 7,500 fkm ZWPF / Core Preform</td>
</tr>
<tr>
<td></td>
<td>about 1,900,000 fkm/machine</td>
</tr>
<tr>
<td>Yielded Fiber Capacity/Year</td>
<td>about 1,200,000 fkm/machine</td>
</tr>
<tr>
<td></td>
<td>(assuming downstream yield of 70 %)</td>
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</tbody>
</table>

Advanced Control System
- User friendly graphical user interface
- Based on plc and PC user interface
- Excel based recipe system
- Data logging, trend graphs, etc.

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