THE NEW R4i-LATERAL CONCEPT

A NEW APPROACH FOR SEMICONDUCTOR INSTALLATIONS
ENSURING THE HIGHEST QUALITY SURFACE AVAILABLE

THE R4i-LATERAL
READY FOR INSTALLATION

has been designed to meet all UHP specifications for the semiconductor industry.

Prefabricated laterals are fabricated using a pulled-tee method then welded, tested and packaged in a Class 10 cleanroom environment. Because of the cooperation with Carten Controls, Dockweiler and Evans Components are able to offer four locations across the globe for fabrication which ensures fast, cost effective delivery of products to site. R4i laterals deliver reduce overall UHP qualification times through improved dry down and reduced particle.
THE NEW R4i-LATERAL CONCEPT

PYRAMID COOPERATION
VALUE FOR CUSTOMERS

• Industry approved Carten high quality valves
• All R4i laterals are 100% Helium leak tested (1x10^{-9} scc/sec)
• Highest quality welds due to decades of experience in orbital welding
• 3D CAD data for BIM modeling available
• Fast delivery due to manufacturing locations worldwide
• Full UHP certification package provided
The R4i-Lateral is used for UHP bulk gas piping systems. Prefabricated Laterals are also available for CFOS related gas systems. Custom lengths and number of valves are available based on the design criteria. Typical spool lengths are 24 feet with valve spacing to match all equipment hook up needs.

• Improved Dry-down times
• Overhead reductions in QA/QC, cutting, facing, prep activities
• Pre-assembled /Tested and (R4i) ready for installation in controlled Class 10 clean room conditions
• SEMI specification (UHP ) compliant
• Fewer welds (up to 65%) and lower valve costs (up to 80% in comparison integrated block valves)
• Reduced overall cost (20-30%)
• Reduced weight and overall foot print

DATA SHEET

TUBE

Material
UNS S31603 (316L)/ 1.4404 / 1.4435

Dimensions
1/2” up to 6” Further dimensions on request

Surface options
DOCKWEILER ULTRON TUBE
Inner surface: ≤1” Ra 7 µin ; Ra≤ 7 µin and 5 µin on request

ULTRON >1” Ra≤ 7 µin and 5 µin on request

Inner surface: ≤1” Ra 16 µin; Ra≤ 19 µin
TCC >1” Ra 30 µin; Ra≤ 36 µin
VALVES

Type
CARTEN DIAPHRAGM VALVE
Type SPDS250, SPDS375, SPDS500, SPDS755, SPDS751, SPDS1000
Multiple configurations and orientations available

Dimensions
'1/4" up to 1"

Handle color
White (standard), color handles are available

Air operated valves available upon request

LATERAL

Maximum length
24 ft./7.3 m

Welding
• SEMI F78-0611
• SEMI F81-0611

Tests/Documentation
Leak test:
100 % Helium Leak Tested to $1 \times 10^{-9}$ scc/sec

Weld Logs
Material Certifications
## HOW TO ORDER

### PART-NO.-GENERATOR

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>VALVE BRANCH SIZE</th>
<th>MAIN TUBE SIZE</th>
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<tbody>
<tr>
<td><strong>P/N</strong></td>
<td><strong>Size</strong></td>
<td><strong>P/N</strong></td>
</tr>
<tr>
<td>UL</td>
<td>316L EP</td>
<td>04 1/4&quot;</td>
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<tr>
<td>TC</td>
<td>316L Non EP</td>
<td>08 1/2&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 3/8&quot;</td>
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<td></td>
<td></td>
<td>16 1&quot;</td>
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<table>
<thead>
<tr>
<th>CARTEN DIAPHRAGM VALVE TYPE</th>
<th>NUMBER OF POC CONNECTIONS</th>
<th>VALVE OUTLET CONNECTION</th>
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<tr>
<td><strong>P/N</strong></td>
<td><strong>Valve</strong></td>
<td><strong>CV</strong></td>
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<tr>
<td>SP250</td>
<td>SPDS250</td>
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<td>SPDS375</td>
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<td>SP755</td>
<td>SPDS755</td>
<td>3.15</td>
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<td>SP751</td>
<td>SPDS751</td>
<td>7.00</td>
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<td>SP1000</td>
<td>SPDS1000</td>
<td>9.00</td>
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<table>
<thead>
<tr>
<th>PURGE PORT OPTION</th>
<th>LENGTH OF MANIFOLD/LATERAL</th>
<th>OPTIONS</th>
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<tbody>
<tr>
<td><strong>P/N</strong></td>
<td><strong>Option</strong></td>
<td><strong>Overall Length in Inches</strong></td>
</tr>
<tr>
<td>XX</td>
<td>No Purge Port</td>
<td>Example: 72 would indicate 6 ft (1.83 m)</td>
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<tr>
<td>PC1</td>
<td>Downstream Purge Port</td>
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<tbody>
<tr>
<td>UL</td>
<td>8</td>
<td>12</td>
<td>SP375</td>
<td>8</td>
<td>MV</td>
<td>XX</td>
<td>60</td>
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<td></td>
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FOR HIGHEST DEMANDS ON PURITY AND CLEANLINESS.

The German company Dockweiler AG and the American companies Carten Factories (USA & Ireland) together with Evans Components Inc. are four leading global suppliers for the semiconductor industry, the pharmaceutical industry, and other High-Tech industries. They have developed industry leading diaphragm valves, integrated tube and valve systems to serve a wide range of specifications: from e-polished stainless steel tube systems; to high purity ball valves; and a complete line of UHP valves. By working together this group continues to manufacture products which fulfill the highest demands on purity and cleanliness.

Carten Controls, Dockweiler AG, and Evans Components Inc. have extended their product range under the PYRAMID cooperation by offering prefabricated UHP laterals with diaphragm valves.

CARTEN®
High Performance Valves & Flow Solutions

UHP Valve Manufacturing Company
for Semiconductor and FPD Industries

D-OCKWEILER
TUBE SYSTEMS IN STAINLESS STEEL

UHP Tube and Fitting Supplier
and Specialty Welding

EVANS COMPONENTS, INC®

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