SD 7200
Solvent Dispenser

Solvent Dispensing:
A vast number of medical and non-medical products are assembled using plastics joining solvents. Traditionally, these assemblies have been made by dipping the components into a small container of solvent and then blotting away the excess. This method although effective, presents a number of issues:
• The operator is exposed to high levels of solvent vapor.
• The wetting of the component is inconsistent as the depth of solvent in the container is constantly varying.
• The operator is less efficient due to the wasted motion of blotting.
• Solvent usage is increased due to blotting.
• There is a fire hazard associated with solvent in an open container.

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Product Features and Benefits:
• Pneumatically powered, no explosion risk, no electricity required, adaptable worldwide
• Completely sealed, minimal exposure to fumes
• Solvent applied only where you want it, providing accurate consistent bonds with no solvent waste
• O.D., I.D. bonding or both simultaneously, for improved operator efficiency
• Non-clogging design for minimal downtime
Solvent Dispensing

After years of using the dip and blot method and struggling with the few commercially available dispensers, we designed the SD7200. Since its introduction, the SD7200 has become the product of choice for many of the world’s largest medical device manufacturers. Due to the value engineered design it is also selected by much smaller firms as well. The product is so versatile, it is used by several companies to apply other fluids such as silicone lubricants to components.

The Parker SD7200 Solvent Dispenser represents a break though in solvent dispensing technology. From the ground up, this dispenser has been engineered with diverse medical bonding in mind. Designed for the operator, the technician, the manufacturing/process engineer and the safety manager, the model SD7200 is unsurpassed in performance, reliability and safety.

PRINCIPLE OF OPERATION

The SD7200 consists of two primary subsystems: A pump drive module and a fluid delivery module.

The fluid delivery module consists of a primary reservoir, a positive displacement pump, a secondary reservoir and a solvent applicator. Solvent is transported from the primary reservoir to the secondary reservoir by a fully submerged piston pump. This pump is actuated by the pump drive module described above. The solvent is then gravity fed from the secondary reservoir into the application area. A solvent film is uniformly applied to the desired component by transfer from non clogging porous materials contained in the applicator.

DESIGN CRITERIA

The Parker SD7200 is designed and manufactured to provide highly accurate uniform dispensing with a minimum of effort and a maximum of operator safety. The product will perform reliably on a wide range of external diameters, internal diameters, and both simultaneously.

PERFORMANCE

Accurate Uniform Wetting:
Uniform and consistent wetting is a primary objective in achieving reliable repeatable solvent bonds. Using the integral regulator, the Parker SD7200 is adjustable over a broad range of solvent delivery rates. The right amount of solvent is applied to the desired component without the need for part rotation. As part diameters vary, solvent delivery can be adjusted to match. The regulator is supplied with an adjustment guard to prevent unauthorized changes once the optimal setting is made. Uniform wetting is assured by using porous application materials in a size and shape specific to your parts. Porous materials have been proven to apply highly consistent films of solvent when the surface is continually fed under slight positive pressure.

I.D. and O.D. Bonding, or Both Simultaneously:
Parker supplies applicators to apply solvent on internal surfaces, external surfaces, or both simultaneously. All applicators are interchangeable making the SD7200 extremely versatile. The ability to apply solvent to I.D. and O.D. surfaces simultaneously saves the operator time while facilitating a more consistent bond than can be obtained from a two step application process.

Anti-Capillary Action: With traditional solvent application methods, small inside diameter components are prone to undesirable capillary filling. When this happens, the operator must take extra steps to remove the excess solvent. The removal process not only subjects the operator to additional vapors or solvent mist, but also increases solvent consumption by as much as 80%. The Parker SD7200 can be regulated so that capillary action is eliminated simply by adjusting the solvent delivery rate with the integral precision regulator. The use of porous application materials also helps assure an optimal volume of solvent is present at all times. The net effect is shortened assembly time, reduced solvent usage and minimized scrap.
Drip Stop Applicators: The unique design of the applicator prevents solvent droplets from pooling on the end of the component and then being inadvertently withdrawn into the work area. This feature keeps the work area clean, minimizes solvent waste, and controls vapors.

SAFETY

Vapor Control: The generation of potentially harmful vapors is an undesirable side effect of solvent dispensing. The Parker SD7200 dispenser has been specifically designed to minimize solvent vapor exposure without the use of cumbersome and expensive vapor removal systems. The pump shaft incorporates a PTFE spring loaded seal to prevent solvent in the primary reservoir from entering the pump drive module. The fluid path is integrated into the pump housing to eliminate tubing, connections, and potential leaks. Finally, solvent inert gaskets have been provided at all fluid interfaces, leaving only the immediate application opening in contact with the room atmosphere.

100% Pneumatically Operated: Since many common bonding solvents are flammable, the Parker SD7200 has been engineered to use only pneumatically driven powertrain components. There are no electrical power requirements. Air logic circuitry provides precise dispensing volume control while minimizing the potential for explosions.

Large Stable Base: The SD7200 has a low center of gravity to prevent accidental tipping. This further protects the operator from accidental solvent exposure and vapors.

Safe Refilling: The SD7200 can be easily and safely refilled at the work station. The filler cap provides a positive seal and yet is easy to open. The filler hole is level with the top of the primary reservoir which assures the solvent head height is never above the pump drive module. A high quality sight gauge is built into the reservoir to provide continuous indication of the fill level. The high volume primary reservoir minimizes the frequency of refilling and resulting solvent and vapor exposure.

CONVENIENCE

Non-Clogging Design: The porous materials used in the applicator area are continuously flushed by the gravity fed solvent. Unlike porous materials fed by wicking action, clogging is virtually eliminated. The unique porous materials self clean each time a component is inserted. Although the use of clean solvents is recommended, a pump inlet screen is provided to prevent possible contaminates from entering the fluid path.

High Capacity Primary Reservoir: The Parker SD7200 holds one liter of solvent. This will typically allow uninterrupted bonding for one week or more between refills. This minimizes down time and increases throughput. In addition, many solvents are supplied in one liter bottles. By using the entire bottle, time is saved in material transport and partially filled bottles are eliminated from the production floor.

Easy Component Insertion: Applicators are available with a variety of tapered lead-ins to make positioning components into the applicator easier. This allows the operator to perform multiple tasks simultaneously.

Rugged and Stable: The size of the model SD7200 provides a stable base thus preventing it from sliding even if the operator aggressively pushes a large component into the applicator. This allows the dispenser to be located in a variety of work areas without requiring special mounting.

Quick Applicator Exchanges: If a line changeover is required the dispenser applicator can be quickly exchanged. The applicators are keyed to make alignment positive and easy.

Universal Power Requirements: The SD7200 can be used wherever compressed air is available. A simple change of the quick disconnect coupling will allow operation anywhere around the globe without the concern for voltage variations associated with electrically powered dispensing systems.

CONFIGURATION

Applicators are custom made to your components. Each Parker Model SD7200 comes with one applicator of your choice. Applicators can also be ordered with large tapered lead-ins to facilitate easier component location. All configurations are interchangeable.
## SD7200 Specifications

<table>
<thead>
<tr>
<th>Power Requirements</th>
<th>60-90 PSI (4.2-6.3 kgf/c M2) regulated clean, dry air supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic Coupling Supplied</td>
<td>Quick disconnect male plug, 1/8” male NPT standard (ISO 1/8 28 7/1)</td>
</tr>
<tr>
<td>Air Consumption</td>
<td>7.2 cc (.44 cu. in) /stroke : .0125 cu meters (.46 cu. ft) /hr @ maximum recommended speed</td>
</tr>
<tr>
<td>Compatible Solvents</td>
<td>Cyclohexanone, Dichloroethane, Dichloromethane, Dimethylformamide (DMF), Dimethyl sulfoxide, Ethylacetate, Isopropyl Alcohol, Methyllethyl ketone(MEK), Tetrahydrofuran (THF), Trichloroethane</td>
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### Dispensing Surface Range diameter

<table>
<thead>
<tr>
<th>External Surface</th>
<th>Internal Surface</th>
<th>External/Internal Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 mm to 22.4 mm</td>
<td>2.0 mm to 31.8 mm</td>
<td>3.1 mm/2.0 mm to 22.4 mm/19.0 mm</td>
</tr>
<tr>
<td>.060” to .880”</td>
<td>.080” to 1.25”</td>
<td>.120”/.080” to .880”/.750”</td>
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<table>
<thead>
<tr>
<th>Operating Temperature Range</th>
<th>10°C to 46°C (50°F to 115°F)</th>
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</thead>
<tbody>
<tr>
<td>Dispensing Length Range</td>
<td>Up to 25.4 mm (1”)</td>
</tr>
<tr>
<td>Pump Displacement</td>
<td>.85 cc</td>
</tr>
<tr>
<td>Maximum Recommended Speed</td>
<td>30 strokes per minute</td>
</tr>
<tr>
<td>Minimum Recommended Speed</td>
<td>2 strokes per minute</td>
</tr>
<tr>
<td>Solvent Volume Applied</td>
<td>Dependent on component size, length of dispensing and pump speed</td>
</tr>
<tr>
<td>Size</td>
<td>26.0 cm high x 19.7 cm diameter</td>
</tr>
<tr>
<td>Weight (dry)</td>
<td>3.7 kg : 8.2 lbs.</td>
</tr>
<tr>
<td>Maximum Solvent Capacity (Usable Volume)</td>
<td>1.0 liters</td>
</tr>
<tr>
<td>Construction</td>
<td>Anodized aluminum, stainless steel, PTFE, DELRIN®, UHMW polyethylene</td>
</tr>
<tr>
<td>National Electrical Code Conformance</td>
<td>Not applicable</td>
</tr>
</tbody>
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