Dispensing Components by S.E.T.

S.E.T. dispensing components, precision molded and easy to use, for the most accurate dispensing result with high product quality

**Syringes**

Precision fit between engineered O’ taper syringe and double-wiper piston ensures consistent fluid deposits.

<table>
<thead>
<tr>
<th>Size</th>
<th>clear*1 (double wiper)</th>
<th>UV-block</th>
<th>sets per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>3cc</td>
<td>SH09SPEP-B</td>
<td>SH09SPEY-B</td>
<td>50</td>
</tr>
<tr>
<td>5cc</td>
<td>SH10SPEP-B</td>
<td>SH10SPEY-B</td>
<td>40</td>
</tr>
<tr>
<td>10cc</td>
<td>SH11SPEP-B</td>
<td>SH11SPEY-B</td>
<td>30</td>
</tr>
<tr>
<td>30cc</td>
<td>SH12SPEP-B</td>
<td>SH12SPEY-B</td>
<td>20</td>
</tr>
<tr>
<td>55cc</td>
<td>SH13SPEP-B</td>
<td>SH13SPEY-B</td>
<td>15</td>
</tr>
</tbody>
</table>

*Clear syringe for most fluids
*220-600nm UV block for light sensitive fluids

**Pistons**

Low-friction PE piston prevents drip or oozes.

<table>
<thead>
<tr>
<th>Size</th>
<th>pink*1 (double wiper)</th>
<th>yellow*1 (flat seal)</th>
<th>sets per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>3cc</td>
<td>SH09SPEP-B</td>
<td>SH09SPEY-B</td>
<td>50</td>
</tr>
<tr>
<td>5cc</td>
<td>SH10SPEP-B</td>
<td>SH10SPEY-B</td>
<td>40</td>
</tr>
<tr>
<td>10cc</td>
<td>SH11SPEP-B</td>
<td>SH11SPEY-B</td>
<td>30</td>
</tr>
<tr>
<td>30cc</td>
<td>SH12SPEP-B</td>
<td>SH12SPEY-B</td>
<td>20</td>
</tr>
</tbody>
</table>

*Material: polypropylene

**Tip cap**

Luer lock thread ensures safe, positive attachment keeping from leaking or slipping off.

<table>
<thead>
<tr>
<th>Size</th>
<th>part number</th>
<th>sets per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>one size</td>
<td>SH13G-B</td>
<td>50</td>
</tr>
</tbody>
</table>

*Material: polypropylene

**Syringe / Piston sets**

Both syringes and pistons are packed as a set.

<table>
<thead>
<tr>
<th>Size</th>
<th>clear</th>
<th>UV-block</th>
<th>sets per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>3cc</td>
<td>SH09CPP-B</td>
<td>SH09LBPP-B</td>
<td>50</td>
</tr>
<tr>
<td>5cc</td>
<td>SH10CPP-B</td>
<td>SH10LBPP-B</td>
<td>40</td>
</tr>
<tr>
<td>10cc</td>
<td>SH11CPP-B</td>
<td>SH11LBPP-B</td>
<td>30</td>
</tr>
<tr>
<td>30cc</td>
<td>SH12CPP-B</td>
<td>SH12LBPP-B</td>
<td>20</td>
</tr>
<tr>
<td>55cc</td>
<td>SH13CPP-B</td>
<td>SH13LBPP-B</td>
<td>15</td>
</tr>
</tbody>
</table>

*Syringes and pistons (pink) are packed as a set.

**End caps**

Unique snap-on design ensures easy, secure attachment.

<table>
<thead>
<tr>
<th>Size</th>
<th>part number</th>
<th>sets per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>3cc</td>
<td>SH09ECG-B</td>
<td>50</td>
</tr>
<tr>
<td>5cc</td>
<td>SH10ECG-B</td>
<td>40</td>
</tr>
<tr>
<td>10cc</td>
<td>SH11ECG-B</td>
<td>30</td>
</tr>
<tr>
<td>30cc/55cc</td>
<td>SH12ECG-B</td>
<td>20</td>
</tr>
</tbody>
</table>

*Material: polyethylene
Adaptar assemblies
One-piece, molded adapter (polyacetal) with O-ring attached.
Assembly includes polyurethane tubing, BUNA O-ring and quick connect.

<table>
<thead>
<tr>
<th>Size</th>
<th>BUNA nitrile rubber</th>
<th>VITON fluorocarboid rubber</th>
<th>EPR ethylene-propylene rubber</th>
<th>sets per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>3cc</td>
<td>SH48R-B</td>
<td>SH48RV-B</td>
<td>SH48RE-B</td>
<td>10</td>
</tr>
<tr>
<td>5cc</td>
<td>SH49R-B</td>
<td>SH49RV-B</td>
<td>SH49RE-B</td>
<td>10</td>
</tr>
<tr>
<td>10cc</td>
<td>SH50R-B</td>
<td>SH50RV-B</td>
<td>SH50RE-B</td>
<td>10</td>
</tr>
<tr>
<td>30cc &amp; 55cc</td>
<td>SH52R-B</td>
<td>SH52RV-B</td>
<td>SH52RE-B</td>
<td>10</td>
</tr>
</tbody>
</table>

Material: polyacetal (adapter), polyurethane (tubing), BUNA (O-ring)

O-ring for replacement (for adapters)
Standard BUNA O-ring is suitable for a wide range of fluids and applications.
VITON or EPR O-ring may be selected for use with solvents or other reactive fluids.

Lab Kit SH100-SK
Lab Kit SH100-SK is the assorted dispensing components specifically aimed for an entry-level user who is beginning to use a dispenser or those who would like to find the component most suited to their application.
It includes *Nozzle Kit in which each nozzle with the size ranging from 14G for general purpose to 30G for small amount dispensing is widely assorted.

Contents
- Nozzle Kit … 1 set
- 3cc/5cc/10cc/30cc/55cc syringe (clear · UV block) … 4 for each
- 3cc/5cc/10cc piston … 8 for each
- 30cc & 55cc piston … 16 for each
- 3cc/5cc/10cc/30cc & 55cc syringe adapter … one for each
GP needle tips
A wide variety of needle lengths and orifice sizes can be selected for general application. Burr-free, polished tip provides consistent fluid flow.

<table>
<thead>
<tr>
<th>gauge</th>
<th>ID size (mm)</th>
<th>OD size (mm)</th>
<th>needle length</th>
<th>hub color</th>
<th>sets per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>1.55 (.061)</td>
<td>1.83 (.072)</td>
<td>SH14-B</td>
<td>olive</td>
<td>50</td>
</tr>
<tr>
<td>15</td>
<td>1.37 (.054)</td>
<td>1.65 (.065)</td>
<td>SH15-B</td>
<td>amber</td>
<td>50</td>
</tr>
<tr>
<td>18</td>
<td>1.31 (.051)</td>
<td>1.57 (.062)</td>
<td>SH18-B</td>
<td>green</td>
<td>50</td>
</tr>
<tr>
<td>20</td>
<td>0.61 (.024)</td>
<td>0.91 (.035)</td>
<td>SH20-B</td>
<td>pink</td>
<td>50</td>
</tr>
<tr>
<td>21</td>
<td>0.51 (.020)</td>
<td>0.81 (.032)</td>
<td>SH21-B</td>
<td>purple</td>
<td>50</td>
</tr>
<tr>
<td>22</td>
<td>0.41 (.016)</td>
<td>0.71 (.028)</td>
<td>SH22-B</td>
<td>blue</td>
<td>50</td>
</tr>
<tr>
<td>23</td>
<td>0.33 (.013)</td>
<td>0.64 (.025)</td>
<td>SH23-B</td>
<td>orange</td>
<td>50</td>
</tr>
<tr>
<td>25</td>
<td>0.25 (.010)</td>
<td>0.51 (.020)</td>
<td>SH25-B</td>
<td>red</td>
<td>50</td>
</tr>
<tr>
<td>27</td>
<td>0.21 (.008)</td>
<td>0.41 (.016)</td>
<td>SH27-B</td>
<td>clear</td>
<td>50</td>
</tr>
<tr>
<td>30</td>
<td>0.16 (.006)</td>
<td>0.31 (.012)</td>
<td>SH30-B</td>
<td>purple</td>
<td>50</td>
</tr>
<tr>
<td>32</td>
<td>0.11 (.004)</td>
<td>0.23 (.009)</td>
<td>SH32-B</td>
<td>yellow</td>
<td>25</td>
</tr>
</tbody>
</table>

Angle tips
Angleshft allows you to reach underneath or inside the work. Available with 45° and 90° bends and 10 different tip diameters ranging from 30-14 gauge.

<table>
<thead>
<tr>
<th>gauge</th>
<th>ID size (mm)</th>
<th>OD size (mm)</th>
<th>needle length</th>
<th>hub color</th>
<th>sets per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>1.55 (.061)</td>
<td>1.83 (.072)</td>
<td>SH14-B</td>
<td>olive</td>
<td>50</td>
</tr>
<tr>
<td>15</td>
<td>1.37 (.054)</td>
<td>1.65 (.065)</td>
<td>SH15-B</td>
<td>amber</td>
<td>50</td>
</tr>
<tr>
<td>18</td>
<td>1.31 (.051)</td>
<td>1.57 (.062)</td>
<td>SH18-B</td>
<td>green</td>
<td>50</td>
</tr>
<tr>
<td>20</td>
<td>0.61 (.024)</td>
<td>0.91 (.035)</td>
<td>SH20-B</td>
<td>pink</td>
<td>50</td>
</tr>
<tr>
<td>21</td>
<td>0.51 (.020)</td>
<td>0.81 (.032)</td>
<td>SH21-B</td>
<td>purple</td>
<td>50</td>
</tr>
<tr>
<td>22</td>
<td>0.41 (.016)</td>
<td>0.71 (.028)</td>
<td>SH22-B</td>
<td>blue</td>
<td>50</td>
</tr>
<tr>
<td>23</td>
<td>0.33 (.013)</td>
<td>0.64 (.025)</td>
<td>SH23-B</td>
<td>orange</td>
<td>50</td>
</tr>
<tr>
<td>25</td>
<td>0.25 (.010)</td>
<td>0.51 (.020)</td>
<td>SH25-B</td>
<td>red</td>
<td>50</td>
</tr>
<tr>
<td>27</td>
<td>0.21 (.008)</td>
<td>0.41 (.016)</td>
<td>SH27-B</td>
<td>clear</td>
<td>50</td>
</tr>
<tr>
<td>30</td>
<td>0.16 (.006)</td>
<td>0.31 (.012)</td>
<td>SH30-B</td>
<td>purple</td>
<td>50</td>
</tr>
</tbody>
</table>

PP flexible tips
Polypropylene shaft reaches into hard-to-access areas and will not scratch delicate surfaces.

<table>
<thead>
<tr>
<th>gauge</th>
<th>ID size (mm)</th>
<th>OD size (mm)</th>
<th>needle length</th>
<th>hub color</th>
<th>sets per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>1.35 (.053)</td>
<td>1.65 (.065)</td>
<td>SH15PPS-B</td>
<td>amber</td>
<td>50</td>
</tr>
<tr>
<td>18</td>
<td>0.80 (.032)</td>
<td>1.21 (.048)</td>
<td>SH18PPS-B</td>
<td>green</td>
<td>50</td>
</tr>
<tr>
<td>20</td>
<td>0.47 (.019)</td>
<td>0.85 (.033)</td>
<td>SH20PPS-B</td>
<td>pink</td>
<td>50</td>
</tr>
<tr>
<td>25</td>
<td>0.40 (.016)</td>
<td>0.80 (.032)</td>
<td>SH25PPS-B</td>
<td>red</td>
<td>50</td>
</tr>
</tbody>
</table>

Chamfered tips
Precision, wedge-shaped tip minimizes the wetted area as small as possible and smaller sizes are useful when making microdots of low-viscosity fluids.

<table>
<thead>
<tr>
<th>gauge</th>
<th>ID size (mm)</th>
<th>OD size (mm)</th>
<th>needle length</th>
<th>hub color</th>
<th>sets per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>0.34 (.013)</td>
<td>0.64 (.025)</td>
<td>SH23CH-B</td>
<td>orange</td>
<td>50</td>
</tr>
<tr>
<td>25</td>
<td>0.26 (.010)</td>
<td>0.51 (.020)</td>
<td>SH25CH-B</td>
<td>red</td>
<td>50</td>
</tr>
<tr>
<td>27</td>
<td>0.21 (.008)</td>
<td>0.41 (.016)</td>
<td>SH27CH-0.25-B</td>
<td>clear</td>
<td>25</td>
</tr>
<tr>
<td>30</td>
<td>0.17 (.007)</td>
<td>0.51 (.020)</td>
<td>SH30CH-B</td>
<td>red</td>
<td>25</td>
</tr>
<tr>
<td>33</td>
<td>0.11 (.004)</td>
<td>0.41 (.016)</td>
<td>SH33CH-B</td>
<td>clear</td>
<td>25</td>
</tr>
</tbody>
</table>
SET Dispensing Components

TLC Teflon-lined tips
Teflon line resists clogging of cyanocrylates.

<table>
<thead>
<tr>
<th>gauge</th>
<th>Tip teflon OD size (mm)</th>
<th>Tip teflon ID size (mm)</th>
<th>needle OD size (mm)</th>
<th>needle length</th>
<th>hub color</th>
<th>pcs per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>1.18 (.046&quot;)</td>
<td>0.68 (.027&quot;)</td>
<td>1.65 (.065&quot;)</td>
<td>SH21TLC-B</td>
<td>gray</td>
<td>50</td>
</tr>
<tr>
<td>25</td>
<td>0.76 (.030&quot;)</td>
<td>0.30 (.012&quot;)</td>
<td>1.27 (.050&quot;)</td>
<td>SH25TLC-B</td>
<td>pink</td>
<td>50</td>
</tr>
</tbody>
</table>

hub: Polypropylene
shaft: 304 stainless steel
inner line: Teflon (nonstick)

Brush tips
Nylon bristles will not damage the work surfaces and are suited for spreading glues and greases. Soft or stiff bristles are available.

<table>
<thead>
<tr>
<th>Style</th>
<th>standard</th>
<th>high flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>soft</td>
<td>SH40A</td>
<td>SH41HF</td>
</tr>
<tr>
<td>stiff</td>
<td>SH41A</td>
<td>SH441HF</td>
</tr>
</tbody>
</table>

bristle: nylon

Metal needle tips
13mm tip long as a standard and other length can be customized.

<table>
<thead>
<tr>
<th>part number</th>
<th>OD size(mm)</th>
<th>OD size(mm)</th>
<th>pcs per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSN-20</td>
<td>0.63 (.025&quot;)</td>
<td>0.90 (.035&quot;)</td>
<td>12</td>
</tr>
<tr>
<td>SSN-21</td>
<td>0.53 (.021&quot;)</td>
<td>0.81 (.032&quot;)</td>
<td>12</td>
</tr>
<tr>
<td>SSN-22</td>
<td>0.47 (.018&quot;)</td>
<td>0.71 (.028&quot;)</td>
<td>12</td>
</tr>
<tr>
<td>SSN-23</td>
<td>0.37 (.015&quot;)</td>
<td>0.63 (.025&quot;)</td>
<td>12</td>
</tr>
<tr>
<td>SSN-24</td>
<td>0.33 (.013&quot;)</td>
<td>0.55 (.022&quot;)</td>
<td>12</td>
</tr>
<tr>
<td>SSN-25</td>
<td>0.32 (.013&quot;)</td>
<td>0.51 (.020&quot;)</td>
<td>12</td>
</tr>
<tr>
<td>SSN-26</td>
<td>0.25 (.010&quot;)</td>
<td>0.45 (.018&quot;)</td>
<td>12</td>
</tr>
<tr>
<td>SSN-27</td>
<td>0.20 (.008&quot;)</td>
<td>0.41 (.016&quot;)</td>
<td>12</td>
</tr>
<tr>
<td>SSN-28</td>
<td>0.15 (.006&quot;)</td>
<td>0.38 (.015&quot;)</td>
<td>12</td>
</tr>
</tbody>
</table>

shaft neck: Ni plate
shaft: 304 stainless steel

Super-Fine ceramic nozzles (one per unit)
Double-thread-screw type nozzle ensures positive attachment to a syringe retaining excellent air tightness
Each size of nozzles by 5μm larger than 0.005mmφ can be available

shaft neck: 303 stainless steel
spacer (between shaft neck and shaft): 303 stainless steel
shaft: ceramic (pinconia)
shaft neck: double-thread screw

Metal nozzles (one per unit)
High precision nozzle shaped as one piece provides smooth fluid flow.

<table>
<thead>
<tr>
<th>part number</th>
<th>OD size(mm)</th>
<th>OD size(mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN-40</td>
<td>0.40 (.016&quot;)</td>
<td>0.50 (.020&quot;)</td>
</tr>
<tr>
<td>SPN-35</td>
<td>0.35 (.014&quot;)</td>
<td>0.45 (.018&quot;)</td>
</tr>
<tr>
<td>SPN-30</td>
<td>0.30 (.012&quot;)</td>
<td>0.40 (.016&quot;)</td>
</tr>
<tr>
<td>SPN-25</td>
<td>0.25 (.010&quot;)</td>
<td>0.35 (.014&quot;)</td>
</tr>
<tr>
<td>SPN-20</td>
<td>0.20 (.008&quot;)</td>
<td>0.30 (.012&quot;)</td>
</tr>
<tr>
<td>SPN-15</td>
<td>0.15 (.006&quot;)</td>
<td>0.25 (.010&quot;)</td>
</tr>
<tr>
<td>SPN-10</td>
<td>0.10 (.004&quot;)</td>
<td>0.20 (.008&quot;)</td>
</tr>
</tbody>
</table>

Material: 303 stainless steel
shaft neck: double-thread screw
Minimum orifice needs to be 0.10mm.

Multiple nozzles
Suited for the application of medium to high viscosity fluids. Different numbers of nozzle and length are available. Multiple chamfered nozzles with taper shaped tips are also available.

Smooth inner surface prevents clogging and retains fluidity.