A. Introduction

Selecting the correct Air Cap and Fluid Nozzle combination for your spray gun application can be a confusing and uncertain time. Some of the DeVilbiss spray guns available have a vast range of options available. This guide is intended to show that this process is logical and far easier than you might think. There are a few simple rules to follow when choosing which set-up to use, the most important of which is...

‘An Air Cap use is not limited to its original design application’

In other words, just because a certain Air Cap and Fluid Nozzle combination was designed for use, for example, with Waterbased coating materials in the Plastics market it does not mean to say that you might find it will work very well with your Solventbased wood application. The uses for a particular Air Cap and Fluid Nozzle combination are only limited by its users imagination.

The Air Caps covered in this book are for the following spray guns...
B. How an Air Cap Works

1. Air trapped between the outside edge of the Fluid Nozzle and the inside of the Air Cap retaining ring feeds air to the two holes on the back of the Air Cap that take air to the horn holes.

2. The amount of air going to the horn holes is controlled by the control valve on the top back of the gun.

3. Air from the ring of holes in the Fluid Nozzle feeds air to the Air Cap centre annulus and Air Cap face holes.

4. All of the air entering a hand gun is controlled by the rotary valve located on the base of the gun handle. This affects atomizing and fan air as it is opened and closed.

5. The spray pattern size and shape is a result of the influence of all of the air jets from the Air Cap and the quantity and speed of the fluid jet from the Fluid Nozzle. If the flow from any of these jets is uneven or distorted by dirt or damage to the holes then a bad pattern shape will be the result.

6. Air is forced out of the central annular air ring and is projected forward in a cylinder around the fluid jet (coming out of the Fluid Nozzle hole). The speed of the air shears and atomises the liquid into droplets which creates a cylindrical cloud moving towards the target.

7. The air jets exiting the ‘Horn’ holes squeeze the cylindrical cloud of droplets to form a spray ‘fan’ or ‘pattern’. The more squeezing air, the longer the spray fan becomes.

8. Additional air from the ‘face’ holes in the Air Cap aid the stability of the spray pattern and help to keep the front of the Air Cap clean.

9. The size of the hole in the centre of the Fluid Nozzle directly controls the amount of fluid exiting a Suction or Gravity feed gun. On a Pressure feed spray gun the fluid Pressure is the primary control of fluid flow so the Fluid Nozzle hole becomes a secondary control.

10. The Fluid needle movement is controlled by the control knob on the back of the gun. This is the secondary fluid control method on a Suction or Gravity gun and the tertiary method on a Pressure fed gun.
11. On the Cobra and Viper automatic spray guns the horn air is controlled by the FAN valve located on the top of the gun body.

12. The atomizing air is controlled by the second ATOM valve.

13. The fluid needle control knob is located at the rear of the gun body. However, like a Pressure fed hand gun the main fluid control should be carried out by the fluid Pressure and the Fluid Nozzle diameter.

3. What is the difference?

Conventional, HVLP and Trans-Tech are all members of the Air Atomisation family, but each has slightly different operating parameters. Here is a very quick explanation of the differences.

**Conventional Air Atomising**

The most established method of air atomizing, used on spray guns for decades. It uses high velocity air jets to produce a very high atomization power. However this speed results in a low efficiency due to the considerable ‘bounce-back’ and ‘spray-fog’ caused. Air Pressure inside the Air Cap during use is typically 2 to 4 bar (30 to 60 psi) with an air volume consumption of 170 to 700 l/min (6 to 25 cfm).

**High Volume Low Pressure (HVLP)**

Although not a new, this method first became important in the early 1990’s when Environmental Legislation started to be introduced. It uses larger air volumes (300 to 840 l/min or 11 to 30 cfm) at low Pressure to atomise the coating. It has a much higher Transfer Efficiency than Conventional Air Atomizing due to the lower Pressure air. However the droplet sizes produced tend to be slightly larger, sometimes resulting in a lower quality finish. Officially HVLP is limited by Government Environmental legislation to a maximum of 0.7 bar (10 psi) atomising Pressure.

**Trans-Tech (Compliant)**

This equipment type was first seen in the mid 1990’s and is a mixture of Conventional and HVLP atomization methods. Trans-Tech makes more energy available for the atomization process but gives a higher Transfer Efficiency of coating material than the Conventional Air Atomizing method. Like HVLP, this ‘complies’ with Government legislation by being able to transfer at least 65% of the sprayed material to the sprayed component (BSEN 13966 ‘Determination of Transfer Efficiency of atomising and spraying equipment for liquid coating materials). Air Cap Pressure is typically in the region of 1.3 to 3 bar (20 to 45 psi) while using 250 to 560 l/min (9 to 20 cfm) to carry out its work. HVLP has been replaced by Trans-Tech (Compliant) Atomisation in most applications due to its better performance.
D. Air Cap and Fluid Nozzle Selection

You must answer the following 7 questions during your selection process. There is no beginning or end question as which one is the most important will vary from process to process. However all 7 questions must be answered before you can proceed successfully.

**QUESTION 1. WHAT SPRAY GUN IS TO BE USED?**

Is your process hand or automatic? Do you spray the same coating all day or rapidly change types and colour? Are your components simple or complex in shape?

**QUESTION 2. HOW MUCH FLUID IS NEEDED?**

Air Caps are designed to handle a certain fluid flow range. What is the flow in ml/min you want it to atomise? In the same way the size of hole in the Fluid Nozzle should be matched to the gun type and its fluid flow.

**QUESTION 3. WHAT SIZE SPRAY FAN IS NEEDED?**

The Air Cap is designed to produce a design maximum size spray fan, but only if you provide it with sufficient fluid flow.

**QUESTION 4. WHAT SHAPE SPRAY FAN?**

Is there a special reason that you need a particular shape of spray fan?

**QUESTION 5. WHAT IS THE VISCOSITY & SOLIDS CONTENT?**

As the viscosity and Solids Content of a fluid increases, so does the energy needed to atomise it.

**QUESTION 6. HOW MUCH COMPRESSED AIR IS AVAILABLE?**

Its no good choosing an Air Cap if it can’t be used on your compressed air system.

**QUESTION 7. CONVENTIONAL, HVLP OR TRANS-TECH?**

Efficiency, Atomisation power or Environmental Legislation – all of these issues will influence the final decision of the Air Cap type chosen.

Depending upon the process some guns are better suited than others. If you have an existing gun you wish to use it may limit the effectiveness of the process that you wish to carry out. Maybe you may be better leaving this question until you have selected the best Air Cap and tip combination for your work and then purchasing the best gun type to carry out the work.

Fluid flow can be measured using a suitable volume measuring container or by weight. Suction feed guns have the lowest fluid delivery. Gravity guns can achieve slightly higher. Pressure fed guns can achieve the highest fluid flows. The larger the hole in the Fluid Nozzle, the larger the fluid flow. See Table 1 on page 6 for a guide to which tip you need.

Pattern size required will depend upon the type of work being undertaken. Large components normally require large spray fans so that the sprayer can move around them quickly. Conversely small work will require a small spray fan. It is not possible to produce a large fan with a small fluid flow.

Most Industrial coating applications do not require a particular shape spray pattern. Other coating types, particularly low viscosity or special effects may be applied more easily and with less difficulty using long elliptical spray patterns.

This energy is provided by the compressed air exiting the Air Cap. Therefore higher viscosity and Solids Content coatings normally need higher consumption Air Caps to spray them.

Check the air consumption figures of the Air Cap against the output of your compressor. Don’t forget that air fed masks and other equipment will also demand air from your supply.
Table 1. Theoretical Fluid Nozzle diameter recommendations

<table>
<thead>
<tr>
<th>Application Size</th>
<th>Typical Applications</th>
<th>Fluid Flow ml/min</th>
<th>Suction Gun Hole dia mm</th>
<th>Gravity Gun Hole dia mm</th>
<th>Pressure Gun Hole dia mm</th>
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<tbody>
<tr>
<td>Small</td>
<td>Adhesive</td>
<td>10 to 100</td>
<td>0.85 to 1.2</td>
<td>0.7 to 1.0</td>
<td>0.5 to 0.7</td>
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<td>Mobile Telephones</td>
<td>50 to 150</td>
<td>1.0 to 1.4</td>
<td>0.85 to 1.2</td>
<td>0.7 to 1.0</td>
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<td>Cosmetics Containers</td>
<td>100 to 200</td>
<td>1.2 to 1.6</td>
<td>1.0 to 1.4</td>
<td>0.85 to 1.2</td>
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<td></td>
<td>General Industrial Finishing</td>
<td>150 to 250</td>
<td>1.4 to 1.8</td>
<td>1.2 to 1.6</td>
<td>1.0 to 1.4</td>
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<td>Wooden Furniture</td>
<td>200 to 300</td>
<td>1.6 to 2.0</td>
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<td>1.2 to 1.4</td>
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<td>Aerospace, Tableware Ceramic</td>
<td>250 to 350</td>
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<td>Rolling Stock,</td>
<td>300 to 400</td>
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<td>1.8 to 2.2</td>
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<td>Leather Finishing</td>
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<td>Protective Wax</td>
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<td>Lubrication Oil</td>
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<td>Sanitaryware Ceramic</td>
<td>700 to 1000</td>
<td>Not possible</td>
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<td>1.8 to 2.0</td>
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</table>

The above chart is based solely upon the theoretical Fluid Nozzle diameter needed for an average coating fluid type 15 to 25 seconds Din 4 viscosity. In the real world the selection must also take into account the viscosity of the material. As the viscosity of the coating increases the Fluid Nozzle required will generally increase as well. Likewise, as the viscosity decreases, the Fluid Nozzle diameter needed for a given fluid flow will decrease as well. Not all Fluid Nozzle hole sizes will be available for all gun types.

Table 2. Pattern Shape

<table>
<thead>
<tr>
<th>Type</th>
<th>Long Ellipse</th>
<th>Short Ellipse</th>
<th>Straight Side/Round End</th>
<th>Straight Side/Taper End</th>
<th>Round</th>
</tr>
</thead>
</table>

Remember: FAN and ATOM air Pressures, fluid flow and fluid viscosity can alter the spray fan shape from its original design specification.
E. How to use these Data sheets

- Air Cap Part Number
- On which spray guns this Air Cap is used
- Fluid Nozzles and needles available for use with this Air Cap
- Pattern size and shape
- Fluid handling capabilities
- Typical market sectors where the Air Cap is used.
- What material is the Air Cap and made from?
- The original design specification of the Air Cap.
- Part numbers for the Air Cap
- Notes about upgrades and design changes
Table 3A. Air Caps included in this Guide Pt A

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<tr>
<th>Air Cap #</th>
<th>FLG5</th>
<th>Ransburg REA</th>
<th>Ransburg Vector</th>
<th>SRI</th>
<th>Compact</th>
<th>Advance</th>
<th>JGA-HD</th>
<th>GFG-HD</th>
<th>Scorpion</th>
<th>Viper</th>
<th>GTI-HD</th>
<th>SRI-HD</th>
<th>PRL-HD</th>
<th>Cobra 1</th>
<th>Cobra 2</th>
<th>Conventional</th>
<th>HVLP</th>
<th>Trans-Tech</th>
<th>Fluid Feed method</th>
<th>Pattern Size mm @ 200mm Target</th>
<th>Max Fluid ml/min</th>
<th>Page #</th>
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Notes:  
¹ at 10" (20 cm) target distance,  
² at 6" (15 cm) target distance,  
³ at 12" (30 cm) target distance,  
⁴ at 4" (10 cm) target distance,  
⁵ at 18" (45 cm) target distance
### Table 3B. Air Caps included in this Guide Pt B

<table>
<thead>
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<th>FLG5</th>
<th>Ransburg REA</th>
<th>Ransburg Vector</th>
<th>SRI</th>
<th>Compact</th>
<th>Advance</th>
<th>JGA-HD</th>
<th>GFG-HD</th>
<th>Scorpion</th>
<th>Viper</th>
<th>GT-HD</th>
<th>SRI-HD</th>
<th>PRL-HD</th>
<th>Cobra 1</th>
<th>Cobra 2</th>
<th>Conventional</th>
<th>HVLP</th>
<th>Trans-Tech</th>
<th>Fluid Feed method</th>
<th>Pattern Size mm</th>
<th>@ 200mm Target</th>
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</tbody>
</table>

Notes: 1 at 10” (20cm) target Distance, 2 at 6” (15cm) target distance, 3 at 12” (30cm) target distance, 4 at 4” (10cm) target Distance
#5 Air Cap:

**Type:**
Trans-Tech Compliant
External Mix

## Used on Gun Type:
FLG-5 Suction, Pressure and Gravity Feed Spray Guns

## Used over Fluid Nozzles:

<table>
<thead>
<tr>
<th>Fluid Nozzles</th>
<th>Hole Size (mm)</th>
<th>Gravity Fluid Needle</th>
<th>Suction Fluid Needle</th>
<th>Pressure Fluid Needle</th>
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<tbody>
<tr>
<td>SGK-0012-14</td>
<td>1.4mm</td>
<td>SGK-0414</td>
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<td>2.0mm</td>
<td>SGK-0420</td>
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</tbody>
</table>

## Air Consumption Graph
(measured using FLG-G gun with 1.6mm fluid nozzle)

## Spray Pattern

**Pattern Shape:**
Short Ellipse

**Design Target Distance:**
200mm (8"")

**Approximate Fan Size:**
280mm long x 70mm wide @ 170 ml/min using 25 sec Din4 @ 200mm (8") Target Distance

## Typical Applications:
Wood, General Industrial, Lubricants, Adhesive, Decorative, Release Agent

## Typical Fluid Flow Specification:
Small to Medium scale application Air Cap.
50-250 ml/min

**Viscosity Range Sprayed:**
15 to 30 sec Din 4

**Material Supply:**
Suction, Gravity & Pressure Feed

## Original design specification:
General Purpose Application Air Cap

## Materials of Construction:
Electroless Nickel Plated Hard Brass Air Cap

## Part Numbers:
FLG-0001-5 Air Cap (only)

## Notes:
FLG-5 Guns fitted with #5 Air Cap require different internal Air Baffle to guns fitted with #622 Air Cap
**#65R Air Cap:**

**Type:**
- Conventional
- External Mix

**Used on Gun Type:**
- Ransburg REA Electrostatic Hand Guns

<table>
<thead>
<tr>
<th>Used over Fluid Nozzles</th>
<th>Hole Size</th>
<th>Nozzle Material</th>
<th>Fluid Needle Electrode End</th>
<th>Electrode Material</th>
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</thead>
<tbody>
<tr>
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<td>Acetal</td>
<td>70430-00</td>
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<tr>
<td>4907-48</td>
<td>1.2mm</td>
<td>Acetal</td>
<td>70430-00</td>
<td>Acetal</td>
</tr>
</tbody>
</table>

**Air Consumption Graph**
(measured using REA90 gun with 1.8mm Fluid Nozzle)

**Spray Pattern**
- Pattern Shape: Long Ellipse
- Design Target Distance: 305mm (12")
- Approximate Fan Size:
  - 300mm long x 70mm wide @ 280 ml/min using 25 sec Din 4 @ 200mm (8") Target Distance
  - 400mm long x 100 wide @ 280 ml/min using 25 sec Din 4 @ 305mm (12") Target Distance

**Typical Applications:**

**Typical Fluid Flow Specification:**
- Medium to Large scale application Air Cap.
- 200-600 ml/min
- Viscosity Range Sprayed: 12 to 40 Din 4
- Fluid Supply: Pressure Feed

**Original design specification:**
- General purpose medium to high production applications
- 3.0-4.0 Bar Dynamic Air Inlet Pressure

**Materials of Construction**
- Machined Acetal

**Part Number:** 4904-65R Air Cap (only).

**Notes:**
#65V Air Cap:

**Type:** Conventional
**Gun Type:** Ransburg Vector and Solo Electrostatic Hand Guns

<table>
<thead>
<tr>
<th>Fluid Nozzles</th>
<th>Hole Size</th>
<th>Nozzle Material</th>
<th>Fluid Needle Electrode End</th>
<th>Electrode Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>79377-44</td>
<td>1.4mm</td>
<td>Standard Wear Acetal</td>
<td>70430-01</td>
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<td>1.2mm</td>
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</tbody>
</table>

**Air Consumption Graph**
(measured using R90 gun with 1.4mm Fluid Nozzle)

**Spray Pattern**
Pattern Shape: Straight Side/Round End
**Design Target Distance:** 305mm (12’’)
**Approximate Fan Size:**
300mm long x 60mm wide @ 300 ml/min using 25 sec Din4 @ 200mm (8’’) Target Distance

**Typical Applications:**

**Original design specification:**
General purpose medium to high production applications
3 to 4 Bar Dynamic air input pressure

**Materials of Construction**
Molded & Machined Acetal

**Part Number:** 79374-65 (Air Cap only).

**Notes:**
98V

**#98V Air Cap:**

**Type:**
- Conventional
- External Mix

**Used on Gun Type:**
- Ransburg Vector and Solo Electrostatic Hand Guns

**Used over Fluid Nozzles:**

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<thead>
<tr>
<th>Hole Size</th>
<th>Nozzle Material</th>
<th>Fluid Needle Electrode End</th>
<th>Electrode Material</th>
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</thead>
<tbody>
<tr>
<td>1.4mm</td>
<td>Standard Wear</td>
<td>70430-01</td>
<td>Acetal</td>
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<tr>
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<td>0.7mm</td>
<td>Extended Wear</td>
<td>70430-01</td>
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<tr>
<td>1.2mm</td>
<td>Standard Wear</td>
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<td>Acetal</td>
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**Air Consumption Graph**
(measured using Vector R90 gun with 1.4mm fluid nozzle)

![Air Consumption Graph](image)

**Spray Pattern**

<table>
<thead>
<tr>
<th>Pattern Shape:</th>
<th>Design Target Distance:</th>
<th>Approximate Fan Size:</th>
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</thead>
<tbody>
<tr>
<td>Straight Side/Round End</td>
<td>305mm (12&quot;)</td>
<td>320mm long x 70mm wide @ 300 ml/min using 25 sec Din4 @ 200mm (8&quot;) Target Distance</td>
</tr>
</tbody>
</table>

**Typical Applications:**
- Wood
- General Industrial
- Metal
- Lubricants
- NDT Crack Detection
- Plastic
- Aerospace
- Military
- Decorative
- Construction
- Light Marine
- Release Agent

**Typical Fluid Flow Specification:**
- Medium to Large scale application Air Cap.
- 200-600 ml/min

**Viscosity Range Sprayed:**
- 20 to 40 Din4

**Material Supply:**
- Pressure Feed

**Original design specification:**
- General purpose medium to high production applications
- 3.25 to 4 bar dynamic air input pressure

**Materials of Construction**
- Molded & machined Acetal

**Part Number:** 79374-98 (Air Cap only)

**Notes:**
Air Cap Type: High Volume Low Pressure (HVLP) External Mix

**Used on Gun Type:** SRI Gravity Hand Gun

**Used over Fluid Nozzles:**
- SRI-2-07-K
- SRI-2-08-K
- SRI-2-10-K
- SRI-2-12-K

**Hole Size:**
- 0.7mm
- 0.8mm
- 1.0mm
- 1.2mm

**SRI Fluid Needle:**
- SRI-37-K
- SRI-3-K

---

**Air Consumption Graph**
(Measured using SRI with 0.7mm Fluid Nozzle)

**Spray Pattern**

**Pattern Shape:** Round

**Design Target Distance:** 150mm (6”)

**Approximate Fan Size:**
- 5mm dia @ 25mm target distance 5ml/min up to
- 50mm dia @ 250mm target distance 40ml/min 18 sec

**Din 4**

---

**Typical Applications:**
Wood, Metal, Adhesive, Plastic, Aerospace, Decorative, Release Agent

**Typical Fluid Flow Specification:**
Small scale application Air Cap.
0 – 150 ml/min
**Viscosity Range Sprayed:**
15 to 30 sec Din4

**Material Supply:** Gravity Feed

**Originally designed for:** Solventbased & Waterbased coatings, Small repair, Wooden furniture, adhesive

**Materials of Construction**
Electroless Nickel Plated Hard Brass Air Cap

**Part Number:** SRI-407-200 (Air Cap & Retaining ring)

**Notes:**

---

Page 14 July 12
### Air Cap Type:
- High Volume Low Pressure (HVLP)
- External Mix

### Used on
- Gun Type: SRI Gravity Hand Gun

### Used over Fluid Nozzles:
- SRI-2-07-K
- SRI-2-08-K
- SRI-2-10-K
- SRI-2-12-K
- SRI-37-K
- SRI-3-K

### Hole Size:
- 0.7mm
- 0.8mm
- 1.0mm
- 1.2mm

### SRI Fluid Needle
- SRI-37-K
- SRI-3-K

### Air Consumption Graph
(Measured using SRI with 0.7mm Fluid Nozzle)

### Spray Pattern
- Pattern Shape: Long Ellipse
- Design Target Distance: 150mm (6’)
- Approximate Fan Size: 150mm long x 30mm wide @ 100 ml/min 20 sec Din 4

### Typical Applications:
- Wood, Metal, Adhesive, Plastic, Aerospace, Decorative, Light Marine, Release Agent

### Typical Fluid Flow Specification:
- Small scale application Air Cap.
- 0 – 150 ml/min
- Viscosity Range Sprayed:
  - 15 to 30 sec Din 4
- Material Supply: Gravity Feed

### Originally designed for:
- Waterbased coatings, Small repair, Wooden furniture, adhesive

### Materials of Construction
- Electroless Nickel Plated Hard Brass Air Cap

### Part Number:
- SRI-407-210 (Air Cap & Retaining ring)

### Notes:
#210 Air Cap:

**Type:**
Trans-Tech
External Mix

**Used on Gun Type:**
SRI Gravity Hand Gun

**Used over Fluid Nozzles:**
- SRI-2-07-K
- SRI-2-08-K
- SRI-2-10-K
- SRI-2-12-K

**Hole Size:**
- 0.7mm
- 0.8mm
- 1.0mm
- 1.2mm

**SRI Fluid Needle:**
- SRI-37-K
- SRI-3-K

**Air Consumption Graph**
(Measured using SRI with 0.7mm Fluid nozzle)

**Spray Pattern**

**Pattern Shape:**
Long Ellipse

**Design Target Distance:**
150mm (6”)

**Approximate Fan Size:**
150mm long x 30mm wide @ 100 ml/min 20 sec Din 4

**Typical Applications:**
Wood, Metal, Adhesive, Plastic, Aerospace, Decorative, Light Marine, Release Agent

**Typical Fluid Flow Specification:**
Small scale application Air Cap.
0 – 150 ml/min

**Viscosity Range Sprayed:**
15 to 30 sec Din4

**Material Supply:**
Gravity Feed

**Originally designed for:**
Solventbased materials, Small repair, Wooden furniture, adhesive

**Materials of Construction**
Electroless Nickel Plated Hard Brass Air Cap

**Part Number:**
SRI-407-210 (Air Cap & Retaining ring)

**Notes:**
**430**

**#430 Air Cap**

**Type:** Advanced Conventional. External Mix

**Used on Gun Type:**
- Compact Suction, Gravity & Pressure Hand Guns
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

<table>
<thead>
<tr>
<th>Fluid Nozzle Size:</th>
<th>Compact Fluid Needle</th>
<th>Advance-HD Fluid Needle</th>
<th>Cobra 1 Fluid Needle</th>
<th>Cobra 2 Fluid Needle</th>
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**Air Consumption Graph** (Measured using Cobra 1 Gun and 1.6mm fluid nozzle)

**Spray Pattern**
- **Pattern Shape:** Short Ellipse
- **Design Target Distance:** 200mm (8”)
- **Approximate Fan Size:** 200mm long x 80mm wide @ 280 ml/min 20 sec Din4

**Typical Applications:**
- Wood, Metal, Adhesive, Aerospace, Military, Decorative, Construction, Light Marine, Release Agent

**Typical Fluid Flow Specification:**
- Small to Medium scale application Air Cap.
- 150 – 300 ml/min
- **Viscosity Range Sprayed:** 15 to 40 sec Din 4
- **Fluid Supply:** Suction/Gravity/Pressure Feed

**Original design specification:**
- General purpose Solventbased coatings. 3bar dynamic inlet Pressure.

**Materials of Construction**
- Electroless Nickel Plated Hard Brass Air Cap

**Part Number:** SP-100-430-K (Cap & Retaining Ring)

**Notes:**
#443 Air Cap

**Type:**
Advanced Conventional. External Mix

**Used on Gun Type:**
- Compact Suction, Gravity & Pressure Hand Guns
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

**Fluid Nozzle Size:**
- 0.85mm
- 1.0mm
- 1.2mm
- 1.3mm
- 1.4mm
- 1.6mm
- 1.8mm
- 2.0mm
- 2.2mm

**Spray Pattern**

- **Pattern Shape:** Long Ellipse
- **Design Target Distance:** 200mm (8”)
- **Approximate Fan Size:** 300mm long x 60mm wide @ 240 ml/min 20 sec Din 4

**Air Consumption Graph**
(measured using Cobra 1 gun and 1.6mm fluid nozzle)

**Spray Pattern**

**Typical Applications:**
Wood, Metal, Adhesive, Plastic, Aerospace, Military, Decorative, Construction, Light Marine, Release Agent

**Typical Fluid Flow Specification:**
- Small to Medium scale application Air Cap.
- 200 – 300 ml/min

**Viscosity Range Sprayed:**
- 15 to 35 sec Din4

**Fluid Supply:**
- Suction, Gravity & Pressure Feed

**Original design specification:**
Solvent based coatings, 3 bar (45 psi) dynamic inlet Pressure

**Materials of Construction**
Electroless Nickel Plated Hard Brass Air Cap

**Part Number:** SP-100-443-K (Air Cap & Retaining Ring)

**Notes:**
**#462 Air Cap:**

**Type:**
- Conventional
- External Mix

**Used on Gun Type:**
- Compact Pressure Hand Gun
- Advance-HD Pressure Hand Gun

<table>
<thead>
<tr>
<th>Fluid Nozzle Size:</th>
<th>Compact Fluid Needle</th>
<th>Advance-HD Fluid Needle</th>
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**MAKE REFERENCE TO CHART ON PAGE 34**

**Air Consumption Graph**
(measured using Advance-P gun with 2.8mm Fluid Nozzle)

**Spray Pattern**
- Pattern Shape: Elliptical
- Design Target Distance: 450mm (18”)
- Approximate Fan Size: 450mm long x 170mm wide @ 2800 ml/min using 1.6 kg/Lt Ceramic Glaze @ 450mm (18") Target Distance

**Typical Applications:**
- Ceramic, Vitreous Enamel, lubricants and release agents, mastics, wax, sound deadeners

**Typical Fluid Flow Specification:**
- Medium to Large scale application Air Cap.
- 500-3000 ml/min
- Viscosity Range Sprayed: 1.5 – 2.0 kg/Lt
- Fluid Supply: Pressure Feed

**Original design specification:**
- Ceramic & Vitreous Enamel, Sanitaryware

**Materials of Construction**
- Electroless Nickel Plated Hard Brass Air Cap

**Part Number:** SP-100-462-K (Cap & Retaining Ring)

**Notes:**
**470**

**#470 Air Cap:**

Type:  
Conventional  
External Mix

**Used on Gun Type:**  
Compact Pressure Hand Gun

<table>
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<th>Fluid Nozzle Size:</th>
<th>Compact Fluid Needle</th>
<th>Advance-HD Fluid Needle</th>
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**Air Consumption Graph**  
(measured using Compact gun with 2.8mm Fluid Nozzle)

**Spray Pattern**

Pattern Shape:  
Straight Side/Round End

Design Target Distance:  
305mm (12”)

Approximate Fan Size:  
250mm long x 50mm wide @ 2000 ml/min using 2.0 kg/Lt Ceramic Glaze @ 200mm (8”) Target Distance

380mm long x 75mm wide @ 2000 ml/min using 2.0 kg/Lt Ceramic Glaze @ 305mm (12”) Target Distance

**Typical Applications:**

Ceramic, Vitreous Enamel, lubricants and release agents, mastics, wax, sound deadeners

**Typical Fluid Flow Specification:**

Medium to Large scale application Air Cap.  
500-2000 ml/min

**Viscosity Range Sprayed:**  
1.5 – 2.0 kg/Lt

**Fluid Supply:** Pressure Feed

**Original design specification:**

Ceramic & Vitreous Enamel, Sanitaryware

**Materials of Construction**

Electroless Nickel Plated Hard Brass Air Cap

**Part Number:** SP-100-470-K (Cap & Retaining Ring)

**Notes:**
**CONVENTIONAL**

## #477 Air Cap

Advanced Conventional. External Mix

### Used on Gun Type:
- Compact Pressure Hand Gun
- Advance-HD Pressure Hand Gun
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

### Fluid Nozzle Size:

<table>
<thead>
<tr>
<th>Size</th>
<th>Compact Fluid Needle</th>
<th>Advance-HD Fluid Needle</th>
<th>Cobra 1 Fluid Needle</th>
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**MAKE REFERENCE TO CHART ON PAGE 34**

### Air Consumption Graph
(measured using Advance-HD P and 1.0mm Fluid Nozzle)

![Air Consumption Graph](image)

### Spray Pattern

- **Pattern Shape:** Straight Side/Round End
- **Design Target Distance:** 200mm (8”)
- **Approximate Fan Size:** 430mm long x 75mm wide @ 320 ml/min 25 sec Din 4 @ 200mm (8”) Target Distance

### Typical Applications:
Ceramic, Vitreous Enamel, lubricants and release agents, Wood, Metal, Adhesive, Plastic, Aerospace, Military, Construction, Release Agent

### Typical Fluid Flow Specification:
Medium to Large production Air Cap.
200 – 800 ml/min

### Viscosity Range Sprayed:
15 to 40 sec Din 4

### Fluid Supply:
Pressure Feed

### Original design specification:
Solventbased coatings. 3bar dynamic inlet Pressure.

### Materials of Construction
Electroless Nickel Plated Hard Brass Air Cap

### Part Number:
SP-100-477-K (Cap & Retaining Ring)

### Notes:
**#497 Air Cap**

**Advanced Conventional. External Mix**

**CONVENTIONAL**

### Used on Gun Type:
- Compact Pressure Hand Gun
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

### Fluid Nozzle Size:
- 0.85mm
- 1.0mm
- 1.2mm
- 1.3mm
- 1.4mm
- 1.6mm
- 1.8mm
- 2.0mm
- 2.2mm

#### Fluid Needle

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**MAKE REFERENCE TO CHART ON PAGE 34**

### Air Consumption Graph

*Measured using Cobra 1 gun and 1.6mm Fluid Nozzle*

### Spray Pattern

- **Pattern Shape:** Straight Side/Tapered End
- **Design Target Distance:** 305mm (12")
- **Approximate Fan Size:**
  - 230mm long x 45mm wide @ 350 ml/min 20 sec Din 4 @ 200mm (8") Target Distance
  - 350mm long x 80mm wide @ 350 ml/min 20 sec Din 4 @ 305mm (12") Target Distance

### Typical Applications:
- Wood, Metal, Adhesive, Plastic, Aerospace, Military, Construction, Light Marine, Release Agent

### Typical Fluid Flow Specification:
- Medium to Large production Air Cap.
- 200 – 800 ml/min
- **Viscosity Range Sprayed:** 15 to 40 sec Din 4
- **Fluid Supply:** Pressure Feed

### Original design specification:
- Solventbased coatings. 3bar dynamic inlet Pressure.

### Materials of Construction
- Electroless Nickel Plated Hard Brass Air Cap

### Part Number:
- SP-100-497-K (Cap & Retaining Ring)

### Notes:
500R

Used on Gun Type: Compact Suction, Gravity & Pressure Hand Guns
Cobra 1 Automatic Gun
Cobra 2 Automatic Gun

Type: High Volume Low Pressure. External Mix

Fluid Nozzle Size:
- 0.85mm
- 1.0mm
- 1.2mm
- 1.3mm
- 1.4mm
- 1.6mm
- 1.8mm
- 2.0mm
- 2.2mm

Fluid Needle Size:
- Compact Fluid Needle
- Advance-HD Fluid Needle
- Cobra 1 Fluid Needle
- Cobra 2 Fluid Needle

Air Consumption Graph
(Measured using Compact-P with 1.6mm Fluid nozzle)

Spray Pattern
- Pattern Shape: Round
- Design Target Distance: 50mm (2") to 450mm (18")
- Approximate Fan Size:
  - 15mm diameter @ 150mm/6" target distance & 20 ml/min up to
  - 70mm dia @ 450mm/18" target distance & 80ml/min (18 sec Din 4)

Typical Applications:
- Wood, Ceramic, Adhesive

Typical Fluid Flow Specification:
- Small to Medium scale application Air Cap. 50 – 150 ml/min
- Viscosity Range Sprayed: 15 to 25 sec Din 4
- Fluid Supply: Suction, Gravity & Pressure Feed

Original design specification:
- Ceramic Tableware application. Small to medium production.
- 2bar dynamic inlet Pressure

Materials of Construction
- Electroless Nickel Plated Hard Brass Air Cap

Part Number: SP-100-500R-K (Cap & Retaining Ring).

Notes:

MAKE REFERENCE TO CHART ON PAGE 34
**HVLP #505 Air Cap**

**Type:**
High Volume Low Pressure, External Mix

**Air Consumption Graph**
(Measured using Cobra 1 with 1.6mm Fluid nozzle)

**Fluid Nozzle Size:**
- 0.85mm
- 1.0mm
- 1.2mm
- 1.3mm
- 1.4mm
- 1.6mm
- 1.8mm
- 2.0mm
- 2.2mm

**Used on Gun Type:**
- Compact Suction, Gravity & Pressure Hand Guns
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

**Spray Pattern**

- **Pattern Shape:** Long Ellipse
- **Design Target Distance:** 200mm (8”)
- **Approximate Fan Size:** 270mm long x 60mm wide @ 200 ml/min 20 sec Din 4

**Typical Applications:**
Wood, Ceramic, Adhesive Plastic, Aerospace, Decorative, Release Agent

**Typical Fluid Flow Specification:**
Small to Medium scale application Air Cap.
150 – 250 ml/min

**Viscosity Range Sprayed:**
15 to 25 sec Din 4

**Fluid Supply:** Suction, Gravity & Pressure Feed

**Original design specification:**
Solventbased & Waterbased coatings. Long Elliptical pattern, Small to medium production. 2bar dynamic inlet Pressure

**Materials of Construction**
Electroless Nickel Plated Hard Brass Air Cap

**Part Number:** SP-100-505-K (Cap & Retaining Ring)

**Notes:**

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**MAKE REFERENCE TO CHART ON PAGE 34**

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![Air Consumption Graph](chart.png)

![Spray Pattern](pattern.png)
**510+**

**Used on Gun Type:**
- Advance-HD Suction, Gravity & Pressure Hand Guns
- Compact Suction, Gravity & Pressure Hand Guns
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

**Fluid Nozzle Size:**
- 0.85mm
- 1.0mm
- 1.2mm
- 1.3mm
- 1.4mm
- 1.6mm
- 1.8mm
- 2.0mm
- 2.2mm

**Air Consumption Graph**
(Measured using Cobra 1 with 1.6mm Fluid nozzle)

**Spray Pattern**
- **Pattern Shape:** Long Ellipse
- **Design Target Distance:** 200mm (8”)
- **Approximate Fan Size:** 270mm long x 60mm wide @ 200 ml/min 20 sec Din 4

**Typical Applications:**
- Wood, Metal, Ceramic, Adhesive, Plastic, Aerospace, Military, Decorative, Construction, Light Marine, Release Agent

**Typical Fluid Flow Specification:**
- Small to Medium scale application Air Cap.
- 150 – 250 ml/min
- **Viscosity Range Sprayed:** 15 to 30 sec Din 4
- **Fluid Supply:** Suction, Gravity & Pressure Feed

**Original design Specification:**
- Solventbased coatings. Long Elliptical pattern, Small to medium production 2bar dynamic inlet Pressure

**Materials of Construction**
- Electroless Nickel Plated Hard Brass Air Cap

**Part Number:** SP-100-510-K (Cap & Retaining Ring)

**Notes:**
The original October 2003 510 air cap was modified and re-launched in April 2008 as the 510+ for manufacturing and production changes. No changes in atomization or general performance will be experienced between the two air caps. All part numbers and references remain the same as the original 510.
**#513 Air Cap**

**Type:** Compliant/Trans-Tech.  
External Mix

**Used on Gun Type:**  
- Compact Pressure Hand Gun  
- Cobra 1 Automatic Gun  
- Cobra 2 Automatic Gun

<table>
<thead>
<tr>
<th>Fluid Nozzle Size:</th>
<th>Compact Fluid Needle</th>
<th>Advance-HD Fluid Needle</th>
<th>Cobra 1 Fluid Needle</th>
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**Air Consumption Graph**  
(Measured using Cobra 1 with 1.6mm Fluid nozzle)

- **Spray Pattern**
  - **Pattern Shape:** Straight Side/Round End
  - **Design Target Distance:** 305mm (12")
  - **Approximate Fan Size:**  
    - @ 230mm long x 45mm wide:  
      - 350 ml/min 20 sec Din 4 @ 200mm (8") Target Distance  
      - 350mm long x 80mm wide:  
        - @ 350 ml/min 20 sec Din 4 @ 305mm (12") Target Distance

**Typical Applications:**  
Wood, Metal, Plastic, Leather, Release Agent

**Typical Fluid Flow Specification:**  
Medium to Large production Air Cap.  
200 – 800 ml/min  
**Viscosity Range Sprayed:**  
15 to 40 sec Din 4  
**Fluid Supply:** Pressure Feed

**Original design specification:**  
Waterbased coatings – Leather & Soft Touch. Medium to Large production Air Cap. 3bar dynamic inlet Pressure

**Materials of Construction**  
Electroless Nickel Plated Brass Air Cap and Retaining Ring, Polyethylene air seal, Acetal anti-friction seal.

**Part Number:** SP-100-510-K (Cap & Retaining Ring/Seals).  
SPK-102-K Spare Retaining Ring and seals.

**Notes:**
**Air Cap Type:**
Compliant/Trans-Tech. External Mix

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<th>Fluid Nozzle Size</th>
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<th>Advance-HD Fluid Needle</th>
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**MAKE REFERENCE TO CHART ON PAGE 34**

**Air Consumption Graph**
(Measured on Advance-HD P with 1.2mm Fluid Nozzle)

**Spray Pattern**
- **Pattern Shape:** Long Ellipse
- **Design Target Distance:** 200mm (8”)
- **Approximate Fan Size:** 320mm long x 90mm wide @ 250 ml/min 20 sec Din 4

**Typical Applications:**
Wood, Metal, Ceramic, Plastic, Aerospace, Military, Construction, Light Marine, Release Agent

**Typical Fluid Flow Specification:**
Medium scale application Air Cap. 200 – 400 ml/min

**Viscosity Range Sprayed:**
15 to 30 sec Din 4

**Fluid Supply:** Pressure Feed

**Original design Specification:**
Solvent-based coatings. Long Elliptical pattern. Medium production Air Cap. 2bar dynamic inlet Pressure

**Materials of Construction**
Electroless Nickel Plated Brass Air Cap and Retaining Ring, Polyethylene air seal, Acetal anti-friction seal.

**Part Number:** SP-100-515-K (Cap & Retaining Ring).

**Notes:**
**#520 Air Cap**

**Type:**
Compliant/Trans-Tech. External Mix

**Used on Gun Type:**
- Advance-HD Suction, Gravity & Pressure Hand Guns
- Compact Suction, Gravity & Pressure Hand Guns
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

**Fluid Nozzle Size:**
- 0.85mm
- 1.0mm
- 1.2mm
- 1.3mm
- 1.4mm
- 1.6mm
- 1.8mm
- 2.0mm
- 2.2mm

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**Air Consumption Graph**
(Measured using Advance-HD G with 1.4mm Fluid nozzle)

**Spray Pattern**
- **Pattern Shape:** Long Ellipse
- **Design Target Distance:** 200mm (8”)
- **Approximate Fan Size:** 280mm long x 70mm wide @ 200 ml/min 20 sec Din 4

**Typical Applications:**
Wood, Metal, Ceramic, Adhesive, Plastic, Aerospace, Military, Decorative, Construction, Light Marine, Release Agent

**Typical Fluid Flow Specification:**
Small to Medium scale application Air Cap.
150 – 250 ml/min
**Viscosity Range Sprayed:**
15 to 20 sec Din 4

**Fluid Supply:**
Suction, Gravity & Pressure Feed

**Original design Specification:**
Solvent based coatings. Long Elliptical pattern, Small to medium production 2bar dynamic inlet Pressure, Lower viscosity coatings

**Materials of Construction**
Electroless Nickel Plated Hard Brass Air Cap

**Part Number:** SP-100-520-K (Cap & Retaining Ring)

**Notes:**
A modification of the 510 air cap. A change of hole diameters increased the stability and shape of the fan shape when using lower viscosity coatings.
## 522 Air Cap

**Type:** Compliant/Trans-Tech. External Mix

**Used on Gun Type:**
- Compact Pressure Hand Gun
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

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<th>Advance-HD Fluid Needle</th>
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**MAKE REFERENCE TO CHART ON PAGE 34**

**Air Consumption Graph**
(Measured using Cobra 1 with 1.6mm Fluid nozzle)

**Spray Pattern**

- **Pattern Shape:** Straight Side/Tapered End
- **Design Target Distance:**
  - 305mm (12”)
- **Approximate Fan Size:**
  - 350mm long x 45mm wide @ 350 ml/min 20 sec Din 4 @
  - 200mm (8”) Target Distance
  - 350mm long x 80mm wide @ 350 ml/min 20 sec Din 4 @
  - 305mm (12”) Target Distance

**Typical Applications:**

**Typical Fluid Flow Specification:**
Medium to Large production Air Cap.
200 – 800 ml/min

**Viscosity Range Sprayed:**
15 to 40 sec Din 4

**Fluid Supply:** Pressure Feed

**Original design specification:**
Solventbased coatings. Long Elliptical pattern. Medium to Large production Air Cap 3bar dynamic inlet Pressure

**Materials of Construction**
Electroless Nickel Plated Brass Air Cap and Retaining Ring, Polyethylene air seal, Acetal anti-friction seal.

**Part Number:** SP-100-522-K (Cap & Retaining Ring).

**Notes:**
Air Cap Type: Compliant/Trans-Tech. External Mix

Used on Gun Type:
- Compact Pressure Hand Gun
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

Fluid Nozzle Size:
- 0.85mm
- 1.0mm
- 1.2mm
- 1.3mm
- 1.4mm
- 1.6mm
- 1.8mm
- 2.0mm
- 2.2mm

Make reference to chart on page 34

Air Consumption Graph
(Measured on Cobra 1 with 1.6mm Fluid Nozzle)

Spray Pattern
Pattern Shape: Long Ellipse
Design Target Distance: 200mm (8”)
Approximate Fan Size: 310mm long x 80mm wide @ 250 ml/min 20 sec Din 4

Typical Applications:
Wood, Metal, Ceramic, Plastic, Aerospace, Military, Construction, Light Marine, Release Agent

Typical Fluid Flow Specification:
Medium scale application Air Cap. 200 – 400 ml/min
Viscosity Range Sprayed: 15 to 30 sec Din 4
Fluid Supply: Pressure Feed

Original design Specification:
Solventbased coatings. Long Elliptical pattern. Medium production Air Cap. 3bar dynamic inlet Pressure

Materials of Construction: Electroless Nickel Plated Brass Air Cap and Retaining Ring, Polyethylene air seal, Acetal anti-friction seal.

Part Number: SP-100-523-K (Cap & Retaining Ring).

Notes:
#590 Air Cap:

Type: Trans-Tech
External Mix

**Used on Gun Type:**
- Compact Pressure Hand Gun
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

**Fluid Nozzle Size:**
1.0mm
0.7mm
0.5mm

**Spray Pattern**

- **Pattern Shape:** Straight Side/Round End
- **Design Target Distance:** 100mm (4")
- **Approximate Fan Size:** 150mm long x 30mm wide @ 100 ml/min 20 sec Din 4

**Air Consumption Graph**

(Measured using Compact-G with 0.7mm Fluid nozzle)

**Typical Applications:**
Wood, Metal, Adhesive, Plastic, Aerospace

**Typical Fluid Flow Specification:**
- Small scale application Air Cap.
- 0 – 150 ml/min

**Viscosity Range Sprayed:**
- 20 to 30 sec Din 4

**Material Supply:** Pressure Feed

**Original design specification:**
Cosmetic containers. Straight side/round end pattern, automatic machines, 1.5bar dynamic inlet Pressure

**Materials of Construction**
Electroless Nickel Plated Hard Brass Air Cap

**Part Number:** SP-100-590-K (Cap & Retaining Ring).

**Notes:**
## #590HV Air Cap:

**Type:**
- HVLP
- External Mix

### Used on Gun Type:
- Compact Pressure Hand Gun
- Advance Pressure Hand Gun
- Cobra 1 Automatic Gun
- Cobra 2 Automatic Gun

<table>
<thead>
<tr>
<th>Fluid Nozzle Size</th>
<th>Compact Fluid Needle</th>
<th>Advance-HD Fluid Needle</th>
<th>Cobra 1 Fluid Needle</th>
<th>Cobra 2 Fluid Needle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.7mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MAKE REFERENCE TO CHART ON PAGE 34**

### Air Consumption Graph

(Measured using Advance-G with 1.0mm Fluid nozzle)

### Spray Pattern

- **Pattern Shape:** Straight Side/Round End
- **Design Target Distance:** 150mm (6”)
- **Approximate Fan Size:**
  - 120mm long x 30mm wide @ 80 ml/min 16 sec Din 4 @ 2bar inlet pressure
  - 150mm long x 40mm wide @ 140 ml/min 16 sec Din 4 @ 3 bar inlet pressure

### Typical Applications:
- Wood, Metal, Adhesive, Plastic, Aerospace

### Typical Fluid Flow Specification:
- Very small scale application Air Cap.
- 0 – 150 ml/min
- **Viscosity Range Sprayed:** 14 to 18 sec Din4
- **Material Supply:** Pressure Feed

### Original design specification:
- Cosmetic containers. Straight side/round end pattern, automatic machines, Very low viscosity, high sparkle metallics

### Materials of Construction
- Electroless Nickel Plated Hard Brass Air Cap

### Part Number:
- SP-100-590HV-K (Cap & Retaining Ring)

### Notes:
- Designed as an HVLP air cap but normally to be used >0.7bar (10psi) air cap pressure for normal applications. 0.9bar dynamic inlet Pressure = 10psi
591+

#591 Air Cap:
Type: Compliant/Trans-Tech
External Mix

<table>
<thead>
<tr>
<th>Used on Gun Type:</th>
<th>Compact Pressure Hand Gun</th>
<th>Advance Pressure Hand Gun</th>
<th>Cobra 1 Automatic Gun</th>
<th>Cobra 2 Automatic Gun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid Nozzle Size:</td>
<td>1.0mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.7mm</td>
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<tr>
<td></td>
<td>0.5mm</td>
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</tr>
<tr>
<td>Compact Fluid Needle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advance-HD Fluid Needle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobra 1 Fluid Needle</td>
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<td></td>
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</tr>
<tr>
<td>Cobra 2 Fluid Needle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MAKE REFERENCE TO CHART ON PAGE 34

Air Consumption Graph
(Measured using Compact-G with 0.7mm Fluid nozzle)

[Graph showing air consumption]

Spray Pattern
Pattern Shape: Straight Side/Round End
Design Target Distance: 100mm (4”)
Approximate Fan Size: 200mm long x 50mm wide @ 100 ml/min 20 sec Din 4

Typical Applications:
Wood, Metal, Adhesive, Plastic, Aerospace

Typical Fluid Flow Specification:
Small scale application Air Cap.
0 – 150 ml/min
Viscosity Range Sprayed: 15 to 20 sec Din4
Material Supply: Pressure Feed

Original design specification:
Cosmetic containers. Straight side/round end pattern, automatic machines, 1.5bar dynamic inlet Pressure

Materials of Construction
Electroless Nickel Plated Hard Brass Air Cap

Part Number: SP-100-590-K (Cap & Retaining Ring).

Notes:
Original 591 Air Cap launched in March 2007. Fan stability improved and relaunched in April 2008 as 591+. All part numbers and references remain the same as the original 591.
THE COMPACT AND ADVANCE-HD SPRAY GUNS UTILISE COMMON AIR CAPS AND FLUID NOZZLES. HOWEVER THE FLUID NEEDLES ARE INDIVIDUAL TO EACH SPECIFIC GUN BODY DESIGN.

USE THE FOLLOWING TABLE TO DOUBLE CHECK THAT PART NUMBERS FOR THESE COMPONENTS ARE CORRECT.

<table>
<thead>
<tr>
<th>Air Cap Part Number</th>
<th>Used over Fluid Nozzles:</th>
<th>Hole Size:</th>
<th>Compact Fluid Needle</th>
<th>Advance-HD Fluid Needle</th>
<th>Cobra 1 Fluid Needle</th>
<th>Cobra 2 Fluid Needle</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP-100-590</td>
<td>SP-259S-05</td>
<td>0.5mm</td>
<td>SP-300S-05</td>
<td>ADV-310-05</td>
<td>SPA-310-05</td>
<td>SPA-320-05</td>
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<tr>
<td>SP-100-591</td>
<td>SP-259S-07</td>
<td>0.7mm</td>
<td>SP-300S-07</td>
<td>ADV-310-07</td>
<td>SPA-310-07</td>
<td>SPA-320-07</td>
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<tr>
<td>SP-100-430</td>
<td>SP-259S-10</td>
<td>1.0mm</td>
<td>SP-300S-10</td>
<td>ADV-310-10</td>
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<td>SPA-320-10</td>
</tr>
<tr>
<td>SP-100-443</td>
<td>SP-200S-085</td>
<td>0.85mm</td>
<td>SP-300S-085</td>
<td>ADV-310-085</td>
<td>SPA-310-085</td>
<td>SPA-320-085</td>
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<tr>
<td>SP-100-497</td>
<td>SP-200S-10</td>
<td>1.0mm</td>
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<td>ADV-310-10</td>
<td>SPA-310-10</td>
<td>SPA-320-10</td>
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<tr>
<td>SP-100-505</td>
<td>SP-200S-11</td>
<td>1.1mm</td>
<td>SP-300S-11</td>
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<td>Not Available</td>
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<tr>
<td>SP-100-500</td>
<td>SP-200S-12</td>
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<td>SP-300S-12</td>
<td>ADV-310-12</td>
<td>SPA-310-12</td>
<td>SPA-320-12</td>
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<tr>
<td>SP-100-510</td>
<td>SP-200S-13</td>
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<td>Not Available</td>
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<tr>
<td>SP-100-522</td>
<td>SP-200S-14</td>
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<td>SP-300S-14</td>
<td>ADV-310-14</td>
<td>SPA-310-14</td>
<td>SPA-320-14</td>
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<tr>
<td>SP-100-523</td>
<td>SP-200N-14</td>
<td>1.4mm</td>
<td>SP-300N-14</td>
<td>ADV-310-14</td>
<td>SPA-310-14</td>
<td>SPA-320-14</td>
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<tr>
<td>SP-100-513</td>
<td>SP-200S-16</td>
<td>1.6mm</td>
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<td>ADV-310-16</td>
<td>SPA-310-16</td>
<td>SPA-320-16</td>
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<tr>
<td>SP-100-470</td>
<td>SP-200S-18</td>
<td>1.8mm</td>
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<td>SPA-320-18</td>
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<tr>
<td>SP-100-462</td>
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<td>SPA-320-18</td>
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<tr>
<td>SP-247S-22</td>
<td>SP-200S-20</td>
<td>2.0mm</td>
<td>SP-300S-20</td>
<td>ADV-310-20</td>
<td>SPA-310-20</td>
<td>SPA-320-20</td>
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<tr>
<td>SP-247C-22</td>
<td>SP-200N-22</td>
<td>2.2mm</td>
<td>SP-300N-22</td>
<td>ADV-310-22</td>
<td>SPA-310-22</td>
<td>SPA-320-22</td>
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<tr>
<td>SP-247S-28</td>
<td>SP-247S-22</td>
<td>2.2mm</td>
<td>SP-300S-22</td>
<td>ADV-310-22</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>SP-247C-28</td>
<td>SP-247C-22</td>
<td>2.2mm</td>
<td>SP-300C-22</td>
<td>ADV-310-22</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>SP-247S-28</td>
<td>SP-247N-28</td>
<td>2.8mm</td>
<td>SP-300S-28</td>
<td>ADV-310-28</td>
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<tr>
<td>SP-247C-28</td>
<td>SP-247C-28</td>
<td>2.8mm</td>
<td>SP-300C-28</td>
<td>ADV-310-28</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Notes:
S designation denotes High Grade Stainless Steel profile
P designation denotes Delrin profile
N designation denotes Nitralloy profile
C designation denotes Tungsten carbide (Carballoy) profile

*1.0mm Plastic Tip Needle is suitable for 0.85 & 1.0 fluid nozzles
1.2mm Plastic Tip Needle is suitable for 1.1 & 1.2 fluid nozzles
1.4mm Plastic Tip Needle is suitable for 1.3 & 1.4 fluid nozzles
#622 Air Cap:

**Type:** Compliant/Trans-Tech

**External Mix**

**Used on Gun Type:** FLG Pressure Feed Spray Gun

<table>
<thead>
<tr>
<th>Used over Fluid Nozzles:</th>
<th>Hole Size:</th>
<th>Pressure Fluid Needle</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGK-0012-14</td>
<td>1.4mm</td>
<td>SGK-0402-14</td>
</tr>
</tbody>
</table>

## Air Consumption Graph

(measured using FLG-P gun with 1.4mm fluid nozzle)

### Spray Pattern

**Pattern Shape:** Long Ellipse

**Design Target Distance:** 200mm (8”)

**Approximate Fan Size:**
265mm long x 60mm wide @ 260 ml/min using 25 sed Din4 @ 200mm (8”) Target Distance

### Typical Applications:

Wood, General Industrial, Lubricants, Adhesive, Decorative, Release Agent

### Typical Fluid Flow Specification:

Small to Medium scale application Air Cap.
50-300 ml/min

**Viscosity Range Sprayed:**
15 to 35 sec Din 4

**Material Supply:**
Pressure Feed

### Original design specification:

General Purpose application Air Cap
2 bar nominal handle inlet pressure

**Materials of Construction:**
Electroless Nickel Plated Brass Air Cap

**Part Number:** FLG-0001-622 Air Cap (only).

**Notes:**

FLG-5 Guns fitted with #5 Air Cap require different internal Air Baffle to guns fitted with #622 Air Cap
#C1 Air Cap:  
**Type:**  
Conventional 
External Mix  

**Air Consumption Graph**  
(measured using JGA-HD gun with 1.4mm fluid nozzle)

**Spray Pattern**  
**Pattern Shape:**  
Long Ellipse  
**Design Target Distance:**  
200mm (8")  
**Approximate Fan Size:**  
270mm long x 65mm wide @ 220 cc/min using 25 sec Din4 @ 200mm (8") Target Distance

Typical Applications:
Wood, General Industrial, Metal, Adhesive, Plastic, Aerospace, Leather, Military, Decorative, Construction, Light Marine

Typical Fluid Flow Specification:
Small to Medium scale application Air Cap.  
150-250 ml/min  
**Viscosity Range Sprayed:**  
15 to 30 sec Din4  
**Material Supply:**  
Suction, Gravity or Pressure Feed

Original design specification:  
High Quality metallic Topcoats, Suction/Gravity application  
2.5 to 3.0 bar nominal handle inlet pressure

Materials of Construction  
Electroless Nickel Plated Brass Air Cap

Part Number: PROC-120-C1-K Air Cap & Retaining Ring

Notes:  
*Originally designed for pressure feed applications
C2 Air Cap: 

**Type:** Conventional

**External Mix**

**Used on Gun Type:** JGA-HD & GFG-HD Suction, Pressure & Gravity Feed Spray Guns

<table>
<thead>
<tr>
<th>Used over Fluid Nozzles:</th>
<th>GFG-HD Fluid Needle</th>
<th>JGA-HD Suction Fluid Needle</th>
<th>JGA-HD Pressure Fluid Needle</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROC-230-085*</td>
<td>Not Available</td>
<td>Not Available</td>
<td>PRO-305-085-10*</td>
</tr>
<tr>
<td>PROC-230-10*</td>
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<td>PRO-305-085-10*</td>
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<tr>
<td>PROC-230-12*</td>
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<td>Not Available</td>
<td>PRO-305-12-14*</td>
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<td>PROC-230-14*</td>
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<td>PRO-305-12-14*</td>
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<tr>
<td>PROC-220-14</td>
<td>GFGPRO-320</td>
<td>JGAPRO-330</td>
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<td>PROC-220-18</td>
<td>GFGPRO-320</td>
<td>JGAPRO-330</td>
<td>JGAPRO-330</td>
</tr>
</tbody>
</table>

**Air Consumption Graph**

(measured using JGA-HD gun with 1.8mm fluid nozzle)

![Air Consumption Graph](image)

**Spray Pattern**

*Pattern Shape:* Short Ellipse

*Design Target Distance:* 200mm (8”)

*Approximate Fan Size:* 250mm long x 70mm wide @ 220 cc/min using 25 sec Din4 @ 200mm (8”) Target Distance

**Typical Applications:**


**Typical Fluid Flow Specification:**

Small to Medium scale application Air Cap. 100-350 ml/min

*Viscosity Range Sprayed:* 15 to 30 sec Din4

*Material Supply:* Suction, Gravity or Pressure Feed

**Original design specification:** General Purpose Top coat and Primer Applications 2.5 – 4.0 bar nominal handle inlet pressure

**Materials of Construction**

Electroless Nickel Plated Brass Air Cap

**Part Number:** PROC-120-C2-K Air Cap & Retaining Ring

**Notes:**

*Originally designed for pressure feed applications
### C3 Air Cap:

**Type:**
- Conventional
- External Mix

**Used on Gun Type:**
- JGA-HD Pressure Feed Spray Guns

**Used over Fluid Nozzles:**
- JGA-HD Pressure Fluid Needle

<table>
<thead>
<tr>
<th>Nozzle Code</th>
<th>Fluid Nozzle Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROC-230-085*</td>
<td>0.85mm</td>
</tr>
<tr>
<td>PROC-230-10*</td>
<td>1.0mm</td>
</tr>
<tr>
<td>PROC-230-12*</td>
<td>1.2mm</td>
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<tr>
<td>PROC-230-14*</td>
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<tr>
<td>PROC-220-14</td>
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<td>PROC-220-16</td>
<td>1.5mm</td>
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<td>PROC-220-18</td>
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<td>PROC-305-085-10*</td>
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<tr>
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<td>PROC-305-12-14*</td>
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<td>JGAPRO-330</td>
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<tr>
<td>JGAPRO-330</td>
<td>1.6mm</td>
</tr>
</tbody>
</table>

**Original design specification:**
- Solventbased coatings

**Materials of Construction:**
- Electroless Nickel Plated Brass Air Cap

**Part Number:** PROC-120-C3-K Air Cap and retaining ring

**Notes:**
- Originally designed for pressure feed applications

**Air Consumption Graph**
(measured using JGA-HD gun with 1.4mm fluid nozzle)

**Spray Pattern**
- Pattern Shape: Straight Side/Tapered Ends
- Design Target Distance: 250mm (10"")
- Approximate Fan Size:
  - 360mm long x 70mm wide @ 400 ml/min using 25 sec Din4 @ 200mm (8'') Target Distance
  - 290mm long x 65mm wide @ 240 ml/min using 25 sec Din4 @ 200mm (8'') Target Distance

**Typical Applications:**

**Typical Fluid Flow Specification:**
- Medium to Large scale application Air Cap.
- 250-600 ml/min
- Viscosity Range Sprayed: 15 to 40 sec Din4
- Material Supply: Pressure Feed
#E22 Air Cap:

**Type:** Conventional External Mix

**Used on Gun Type:** Scorpion Needle-less Automatic Gun

**GUN NOW DISCONTINUED MODEL**

**Used over Fluid Nozzles:**
- SPA-255-14
- SPA-255-16
- SPA-255-18

**Hole Size:**
- 1.4mm
- 1.6mm
- 1.8mm

**Construction Material:**
- Nickel Plated Hard Stainless
- Nickel Plated Hard Stainless
- Nickel Plated Hard Stainless

**Fluid Needle:**
- Not Required
- Not Required
- Not Required

### Air Consumption Graph
(measured using Scorpion gun with 1.6mm fluid nozzle)

![Air Consumption Graph](image)

### Spray Pattern

**Pattern Shape:** Straight Side/Round End

**Design Target Distance:**
- 305mm (12’)

**Approximate Fan Size:**
- 270mm long x 40mm wide @ 220 ml/min using 1.6 kg/Lt Ceramic Glaze @ 200mm (8’)
- Target Distance
- 410mm long x 60mm wide @ 220 ml/min using 1.6 kg/Lt Ceramic Glaze @ 305mm (12’ Target Distance

### Typical Applications:
Ceramic, Vitreous Enamel, solvent free coatings, lubricants and release agents

### Typical Fluid Flow Specification:
Medium scale application Air Cap.
50-300 ml/min

**Viscosity Range Sprayed:**
1.5 – 2.0 kg/L glaze

**Material Supply:** Pressure Feed

### Original design specification:
Ceramic & Vitreous Enamel, Tiles and Tableware

### Materials of Construction
Electroless Nickel Plated Brass Air Cap and Retaining Ring, Viton fluid seal.

### Part Number:
SPA-100-E22 (Air Cap only)

### Notes:
**#E31 Air Cap:**
Type: Trans-Tech
External Mix

**Used on Gun Type:** Viper Automatic Gun

<table>
<thead>
<tr>
<th>Hole Size</th>
<th>Fluid Nozzle</th>
<th>Nozzle Notes</th>
<th>Fluid Needle Used</th>
<th>Needle Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2mm</td>
<td>SPA-250H-12</td>
<td>SS Profile</td>
<td>SPA-350-DE</td>
<td>PU Profile</td>
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<td>1.2mm</td>
<td>SPA-250-12</td>
<td>Hard SS Profile</td>
<td>SPA-351-DEH</td>
<td>SS Profile</td>
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<td>1.4mm</td>
<td>SPA-250H-14</td>
<td>SS Profile</td>
<td>SPA-351-DE</td>
<td>Hard SS Profile</td>
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<td>SPA-250-14</td>
<td>Hard SS Profile</td>
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<td>SS Profile</td>
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<td></td>
</tr>
<tr>
<td>1.6mm</td>
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</tbody>
</table>

**Air Consumption Graph**
(measured using Viper gun with 1.4mm fluid nozzle)

**Spray Pattern**
*Pattern Shape: Straight Side/Round End*

**Design Target Distance:**
305mm (12”)

**Approximate Fan Size:**
265mm long x 45mm wide @ 160 ml/min using 1.6 kg/Lt
Ceramic Glaze @ 200mm (8”) Target Distance

400mm long x 70mm wide @ 160 ml/min using 1.6 kg/Lt
Ceramic Glaze @ 305mm (12”) Target Distance

**Typical Applications:**
Ceramic, Vitreous Enamel, solvent free coatings, lubricants and release agents

**Typical Fluid Flow Specification:**
Small to Medium scale application Air Cap.
100 – 300 ml/min

**Viscosity Range Sprayed:**
1.5 – 2.0 kg/L glaze

**Material Supply:** Pressure Feed

**Original design specification:**
Ceramic & Vitreous Enamel, Tableware and Giftware

**Materials of Construction**
Electroless Nickel Plated Brass Air Cap and Retaining Ring, Polyurethane seal.

**Part Number:** SPA-100-E31 (Air Cap only).

**Notes:**
*The DE Needle Profile is suitable for all nozzle diameters shown*
**E63**

**Used on Gun Type:** Viper Automatic Gun

**Type:** Conventional External Mix

**#E63 Air Cap:**

<table>
<thead>
<tr>
<th>Hole Size</th>
<th>Fluid Nozzle</th>
<th>Nozzle Notes</th>
<th>Fluid Needle Used</th>
<th>Needle Notes</th>
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**Air Consumption Graph**
(measured using Viper Gun and 1.8mm fluid nozzle)

**Spray Pattern**

**Pattern Shape:** Straight Side/Round End

**Design Target Distance:** 305mm (12”)

**Approximate Fan Size:**
- 240mm long x 40mm wide @ 1000 ml/min using 2.0 kg/Lt Ceramic Glaze @ 200mm (8”) Target Distance
- 360mm long x 70mm wide @ 1000 ml/min using 2.0 kg/Lt Ceramic Glaze @ 305mm (12”) Target Distance

**Typical Applications:**
Ceramic, Vitreous Enamel, solvent free coatings, lubricants and release agents

**Typical Fluid Flow Specification:**
Medium scale application Air Cap.
300 – 900 ml/min

**Viscosity Range Sprayed:**
1.5 – 2.0 Kg/L

**Material Supply:** Pressure Feed

**Original design specification:**
Ceramic & Vitreous Enamel, Tableware

**Materials of Construction**
Electroless Nickel Plated Brass Air Cap and Retaining Ring, Polyurethane Seal

**Part Numbers:** SPA-100-E63 (Air Cap only).

**Notes:**
#E70 Air Cap:

**Type:** Conventional

**External Mix**

### Used on Gun Type:

- **Viper Automatic Gun**

### Hole Size:

<table>
<thead>
<tr>
<th>Fluid Nozzle</th>
<th>Nozzle Notes</th>
<th>Fluid Needle Used</th>
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### Air Consumption Graph

(measured using Viper gun with 2.8mm fluid nozzle)

- **Pattern Shape:** Straight Side/Round End
- **Design Target Distance:** 305mm (12”)
- **Approximate Fan Size:**
  - 400mm long x 70mm wide @ 1500 ml/min using 2.0 kg/Lt Ceramic Glaze @ 200mm (8”) Target Distance
  - 600mm long x 105mm wide @ 1500 ml/min using 2.0 kg/Lt Ceramic Glaze @ 305mm (12”) Target Distance

### Typical Applications:

- Ceramic, Vitreous Enamel, solvent free coatings, lubricants and release agents

### Typical Fluid Flow Specification:

- Medium to large scale application Air Cap.
- 500 – 1800 ml/min
- Viscosity Range Sprayed: 1.5 – 2.0 Kg/Lt
- Material Supply: Pressure Feed

### Original design specification:

- Ceramic & Vitreous Enamel, Sanitaryware

### Materials of Construction:

- Electroless Nickel Plated Brass Air Cap and Retaining Ring, Polyurethane seal.

### Part Numbers:

- SPA-100-E70 (Air Cap only)

### Notes:
#H1 Air Cap

**Type:**
High Volume Low Pressure,
External Mix

<table>
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<th>Used on Gun Type:</th>
<th>GTI-HD Suction, Gravity &amp; Pressure Hand Guns</th>
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<tr>
<td>Used over Fluid Nozzles:</td>
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**Air Consumption Graph**
(Measured using GTI-HD-G with 1.3mm Fluid nozzle)

**Spray Pattern**

- **Pattern Shape:** Long Ellipse
- **Design Target Distance:** 200mm (8")
- **Approximate Fan Size:** 315mm long x 70mm wide @ 200 ml/min 25 sec Din 4

**Typical Applications:**
Wood, General Industrial, Metal, Plastic, Aerospace, Leather, Military, Decorative, Construction, Light Marine

**Typical Fluid Flow Specification:**
Small to Medium scale application Air Cap.
160 – 200 ml/min
**Viscosity Range Sprayed:**
15 to 25 sec Din 4
**Fluid Supply:** Suction, Gravity & Pressure Feed

**Original design specification:**
Solventbased & Waterbased coatings. Long Elliptical pattern, Small to medium production. 2bar dynamic inlet Pressure

**Materials of Construction**
Electroless Nickel Plated Brass Air Cap and Retaining Ring

**Part Number:** PRO-100-H1-K (Cap & Retaining Ring).

**Notes:**
*Internal profile originally designed for Pressure Feed Applications
#HS1 Air Cap:

**Type:**
High Volume Low Pressure
External Mix

**Used on Gun Type:**
SRI-HD Gravity Hand Gun

**Used over Fluid Nozzles:**

| SRIPRO-200-08-K | SRIPRO-300-08-10-K |
| SRIPRO-200-10-K | SRIPRO-300-08-10-K |
| SRIPRO-200-12-K | SRIPRO-300-12-14-K |
| SRIPRO-200-14-K | SRIPRO-300-12-14-K |

**Air Consumption Graph**
(measured using SRI-HD gun with 1.4mm fluid nozzle)

**Spray Pattern**

| Pattern Shape: | Long Ellipse |
| Design Target Distance: | 200mm (8") |
| Approximate Fan Size: | 210mm long x 50mm wide @ 95 ml/min using 20 sec Din 4 @ 200mm (8") Target Distance |
| | 115mm long x 25mm wide @ 95 ml/min using 20 sec Din 4 @ 100mm (4") Target Distance |

**Typical Applications:**
Wood, General Industrial, Metal, Lubricants, Adhesive, Plastic, Aerospace, Leather, Military, Decorative, Construction, Light Marine

**Typical Fluid Flow Specification:**
Small scale application Air Cap.
0-190 ml/min
Viscosity Range Sprayed:
15 to 30 sec Din 4
Material Supply: Gravity Feed

**Original design specification:**
Small components, repair & highlighting
2.0 bar (=0.7 bar/10psi) nominal handle inlet pressure

**Materials of Construction**
Electroless Nickel Plated Brass Air Cap and Retaining Ring,

**Part Number:**
SRIPRO-100-HS1-K Air Cap and Retaining Ring

**Notes:**
#P1 Air Cap:

**Type:** Compliant/Trans-Tech External Mix

**Used on Gun Type:** PRI-HD Gravity Hand Gun

**Used over Fluid Nozzles:**
- PRIPRO-210-14
- PRIPRO-210-16
- PRIPRO-210-18
- PRIPRO-210-20
- PRIPRO-210-25
- PRIPRO-310-K

**PRIPRO-210-K**
- 1.3mm
- 1.5mm
- 1.7mm
- 1.85mm
- 2.4mm

**Air Consumption Graph**
(measured using PRI-HD gun with 1.8mm fluid nozzle)

**Spray Pattern**

**Pattern Shape:** Long Ellipse

**Design Target Distance:** 200mm (8")

**Approximate Fan Size:**
- 270mm long x 60mm wide @ 185 cc/min using 25 sec Din 4 @ 200mm (8") Target Distance

**Typical Applications:**

**Typical Fluid Flow Specification:**
- Small to Medium scale application Air Cap.
- 100-350 ml/min

**Viscosity Range Sprayed:**
- 20 to 40 sec Din4

**Material Supply:**
- Gravity Feed

**Original design specification:**
- Heavy bodied coatings & primers
- 2.0 to 3.0 bar bar nominal handle inlet pressure

**Materials of Construction**
- Electroless Nickel Plated Brass Air Cap and Retaining Ring

**Part Number:** PRIPRO-100-P1-K Air Cap and Retaining Ring

**Notes:**
**#RS1 Air Cap:**

- **Type:** High Volume Low Pressure External Mix

---

**Used on Gun:** SRI-HD Gravity Hand Gun

**Type:**

- SRI-HD Fluid Needle

**Used over Fluid Nozzles:**

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<thead>
<tr>
<th>Fluid Needle</th>
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**Air Consumption Graph:**

(measured using SRI-HD gun with 1.4mm fluid nozzle)

**Spray Pattern:**

- **Pattern Shape:** Round
- **Design Target Distance:** 200mm (8")
- **Approximate Fan Size:**
  - 40mm diameter @ 70 ml/min using 20 sec Din 4 @ 200mm (8") Target Distance
  - 30mm diameter @ 70 ml/min using 20 sec Din 4 @ 100mm (4") Target Distance

**Typical Applications:**


**Typical Fluid Flow Specification:**

- Very small scale application Air Cap.
- 0-100 ml/min
- **Viscosity Range Sprayed:**
  - 15 to 25 sec Din 4
- **Material Supply:** Gravity Feed

**Original design specification:**

- Very precise touch-up & repair
- 1.0 to 2.0 bar bar dynamic inlet pressure

**Materials of Construction:**

- Electroless Nickel Plated Brass Air Cap

**Part Number:** SRIPRO-100-RS1-K Air Cap & retaining ring

**Notes:**
**#T1 Air Cap:**

**Type:**
Trans-Tech Compliant
External Mix

**Used on Gun Type:**
GTI-HD Suction, Gravity & Pressure Hand Guns

**Used over Fluid Nozzles:**
GTI-HD Suction Fluid Needle
GTI-HD Gravity Fluid Needle
GTI-HD Pressure Fluid Needle

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<tr>
<th>Fluid Nozzles</th>
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**Hole Size:**
- PRO-205-085*: 0.85mm
- PRO-205-10*: 1.0mm
- PRO-205-12*: 1.2mm
- PRO-205-14*: 1.4mm
- PRO-200-12: 1.1mm
- PRO-200-13: 1.2mm
- PRO-200-14: 1.3mm
- PRO-200-16: 1.5mm
- PRO-200-18: 1.7mm
- PRO-200-20: 1.9mm
- PRO-305-085-10: 0.85mm
- PRO-305-085-10: 1.0mm
- PRO-305-12-14: 1.2mm
- PRO-305-12-14: 1.4mm
- PRO-315: 1.1mm
- PRO-300: 1.2mm
- PRO-305: 1.3mm
- PRO-300: 1.5mm
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- PRO-315: Not Available

**Air Consumption Graph:**
(measured using GTI-HD-G gun with 1.3mm fluid nozzle)

**Spray Pattern**

**Pattern Shape:**
Long Ellipse

**Design Target Distance:**
200mm (8”)

**Approximate Fan Size:**
300mm long x 70mm wide @ 200cc/min 25sec Din 4

**Typical Applications:**
Wood, General Industrial, Metal, Plastic, Aerospace, Leather, Military, Decorative, Construction, Light Marine

**Typical Fluid Flow Specification:**
Small to Medium scale application Air Cap.
150 – 200 ml/min

**Viscosity Range Sprayed:**
15 to 30 sec Din 4

**Fluid Supply:**
Suction, Gravity & Pressure Feed

**Original design specification:**
Solventbased & Waterbased coatings. Long Elliptical pattern, Small to medium production 2bar dynamic inlet Pressure

**Materials of Construction**
Electroless Nickel Plated Brass Air Cap and Retaining Ring

**Part Number:**
PRO-100-T1-K (Cap & Retaining Ring).

**Notes:**
*Internal profile originally designed for Pressure Feed Applications
**T2 Air Cap:**

**Type:**
- Trans-Tech Compliant
- External Mix

**Used on Gun Type:**
- GTI-HD Suction, Gravity & Pressure Hand Guns

**Used over Fluid Nozzles:**

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<tr>
<th>Fluid Nozzle</th>
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**Hole Size:**
- 0.85mm
- 1.0mm
- 1.2mm
- 1.4mm
- 1.1mm
- 1.2mm
- 1.3mm
- 1.5mm
- 1.7mm
- 1.9mm

**Air Consumption Graph**
(measured using GTI-HD-G gun with 1.3mm fluid nozzle)

**Spray Pattern**

- **Pattern Shape:** Long Ellipse
- **Design Target Distance:** 200mm (8")
- **Approximate Fan Size:** 290mm long x 60mm wide @ 200 ml/min 25 sec Din 4

**Typical Applications:**
- Wood, General Industrial, Metal, Plastic, Aerospace, Leather, Military, Decorative, Construction, Light Marine

**Typical Fluid Flow Specification:**
- Small to Medium scale application Air Cap.
- 150 – 200 ml/min

**Viscosity Range Sprayed:**
- 15 to 30 sec Din 4

**Fluid Supply:**
- Suction, Gravity & Pressure Feed

**Original design specification:**
- Solventbased & Waterbased coatings. Long Elliptical pattern, Small to medium production 2bar dynamic inlet Pressure

**Materials of Construction**
- Electroless Nickel Plated Brass Air Cap and Retaining Ring

**Part Number:**
- PRO-100-T2-K (Cap & Retaining Ring).

**Notes:**
- *Internal profile originally designed for Pressure Feed Applications
#T3 Air Cap:

**Type:**
- Trans-Tech Compliant
- External Mix

**Used on Gun Type:**
- GTI-HD Pressure Hand Guns

**Used over Fluid Nozzles:**
- GTI-HD Pressure Fluid Needle
  - PRO-205-085
  - PRO-205-10
  - PRO-205-12
  - PRO-205-14
  - PRO-200-16*
  - PRO-200-18*
  - PRO-200-20*
  - PRO-305-085-10
  - PRO-305-085-10
  - PRO-305-12-14
  - PRO-305-12-14
  - PRO-315
  - PRO-315
  - PRO-315

**Air Consumption Graph**
(measured using GTI-HD-P gun with 1.4mm fluid nozzle)

**Spray Pattern**
- **Pattern Shape:** Short Ellipse
- **Design Target Distance:** 200mm (8”)
- **Approximate Fan Size:** 300mm long x 80mm wide @ 280 ml/min 20 sec Din 4

**Typical Applications:**

**Typical Fluid Flow Specification:**
- Small to Medium scale application Air Cap.
- 200 – 300 ml/min
- **Viscosity Range Sprayed:** 15 to 30 sec Din 4
- **Fluid Supply:** Pressure Feed

**Original design specification:**
- Solventbased & Waterbased coatings. Long Elliptical pattern, Small to medium production 2 to 3 bar dynamic inlet Pressure

**Materials of Construction**
- Electroless Nickel Plated Brass Air Cap and Retaining Ring

**Part Number:**
- PRO-100-T3-K (Cap & Retaining Ring).

**Notes:**
*Internal profile originally designed for Suction/Gravity Feed Applications
Trans-Tech Compliant
External Mix

**Used on Gun Type:**
GTI-HD Suction, Gravity & Pressure Hand Guns

**Used over Fluid Nozzles:**

<table>
<thead>
<tr>
<th>Fluid Nozzle</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRO-205-085</td>
<td>PRO-305-085-10</td>
</tr>
<tr>
<td>PRO-205-10</td>
<td>PRO-305-085-10</td>
</tr>
<tr>
<td>PRO-205-12</td>
<td>PRO-305-12-14</td>
</tr>
<tr>
<td>PRO-205-14</td>
<td>PRO-305-12-14</td>
</tr>
<tr>
<td>PRO-200-16*</td>
<td>PRO-315</td>
</tr>
<tr>
<td>PRO-200-18*</td>
<td>PRO-315</td>
</tr>
<tr>
<td>PRO-200-20*</td>
<td>PRO-315</td>
</tr>
</tbody>
</table>

**Air Consumption Graph**
(measured using GTI-HD-P gun with 1.4mm fluid nozzle)

**Spray Pattern**

- **Pattern Shape:** Straight sides/tapered ends
- **Design Target Distance:** 250mm (10")
- **Approximate Fan Size:** 380mm long x 80mm wide @ 320 ml/min 20 sec Din 4

**Typical Applications:**
Wood, General Industrial, Metal, Ceramic, Vitreous Enamel, Lubricants, Adhesive, Plastic, Aerospace, Military, Decorative, Construction, Light Marine, Release Agent,

**Typical Fluid Flow Specification:**
Small to Medium scale application Air Cap. 250 – 400 ml/min

**Viscosity Range Sprayed:**
15 to 35 sec Din 4

**Fluid Supply:** Pressure Feed

**Original design specification:**
Solventbased & Waterbased coatings. Small to medium production. 2 to 4 bar dynamic inlet Pressure

**Materials of Construction**
Electroless Nickel Plated Brass Air Cap and Retaining Ring

**Part Number:** PRO-100-T4-K (Cap & Retaining Ring).

**Notes:**
*Internal profile originally designed for Suction/Gravity Feed Applications
#TS1 Air Cap:

Type: Compliant/Trans-Tech
External Mix

Used on Gun
Type: SRI-HD Gravity Hand Gun

Used over Fluid Nozzles:

<table>
<thead>
<tr>
<th>Fluid Nozzles</th>
<th>SRIPRO-200-08-K</th>
<th>SRIPRO-300-08-10-K</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SRIPRO-200-10-K</td>
<td>SRIPRO-300-08-10-K</td>
</tr>
<tr>
<td></td>
<td>SRIPRO-200-12-K</td>
<td>SRIPRO-300-12-14-K</td>
</tr>
<tr>
<td></td>
<td>SRIPRO-200-14-K</td>
<td>SRIPRO-300-12-14-K</td>
</tr>
</tbody>
</table>

Air Consumption Graph
(measured using SRI-HD gun with 1.4mm fluid nozzle)

Spray Pattern

Pattern Shape: Straight sides/Tapered Ends

Design Target Distance: 200mm (8”)

Approximate Fan Size:
205mm long x 45mm wide @ 100 ml/min using 20 sec Din 4 @ 200mm (8”) Target Distance
130mm long x 30mm wide @ 100 ml/min using 20 sec Din 4 @ 100mm (4”) Target Distance

Typical Applications:
Wood, General Industrial, Metal, Lubricants, Adhesive, Plastic, Aerospace, Leather, Military, Decorative, Construction, Light Marine

Typical Fluid Flow Specification:
Small scale application Air Cap.
0-200 ml/min

Viscosity Range Sprayed:
15 to 30 sec Din 4

Material Supply: Gravity Feed

Original design specification:
Small components, repair & highlighting

Materials of Construction:
Electroless Nickel Plated Brass Air Cap

Part Number: SRIPRO-100-TS1-K Air Cap and retaining ring

Notes:
F. Spray Pattern Faults and Troubleshooting

A. Horn Air Pressure too high
   - Decrease using control knob

B. Horn air Pressure too low
   - Increase using control knob or regulator Pressure

C. Air Input Pressure to gun too high
   - Decrease regulator Pressure

D. Air Input Pressure to gun too low
   - Increase

E. Fluid flow too low
   - Increase fluid flow – larger Nozzle or increase Pressure

F. Fluid flow too high
   - Decrease fluid flow – smaller Nozzle decrease Pressure

G. Fluid flow too high for Fluid Nozzle size used
   - Decrease fluid flow or increase Fluid Nozzle size

H. Fluid Viscosity too low for air Pressure used
   - Increase viscosity or decrease air Pressure

I. Fluid Viscosity too high
   - Decrease viscosity or increase air Pressure

J. Wrong Air Cap selected – lower fluid flow version required
   - Select alternative Air Cap

K. Wrong Air Cap Selected – Higher fluid flow version required
   - Select alternative Air Cap

L. Hole in Air Cap partially blocked or damaged
   - Clean or replace Air Cap

M. Fluid Nozzle hole or front face partially blocked or damaged
   - Clean or replace Fluid Nozzle
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