

*Compact*

**COBRA 1**

**SRI**

# Air Cap and Fluid Nozzle Selection Guide

*Viper*

*Scorpion*

**COBRA 2**

**ITW Industrial Finishing**

Binks • DeVilbiss • Gema • Ransburg

## 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 ITW 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 range of Air Caps covered in this booklet are for the following ITW DeVilbiss spray guns.



*Scorpion*

**Type** Automatic  
**Coatings Applied** Waterbased Ceramic & Vitreous Enamel  
**Gun Features** Quick ¼ turn removable Air Cap and Fluid Nozzle. Abrasion resistant Fluid Nozzles. Needleless design. Pistonless design, Stainless Steel fluid passageways



*Viper*

**Type** Automatic  
**Coatings Applied** Waterbased Ceramic & Vitreous Enamel  
**Gun Features** Quick ¼ turn removable Air Cap and Fluid Nozzle. Fully Automatic needle and piston design, Stainless Steel fluid passageways



*Compact*

**Type** Manual  
**Coatings Applied** Most Waterborne & Solventborne coatings  
**Gun Features** Mid-size design & lightweight construction. Anodized Aluminium & Stainless Steel fluid passageway versions



*COBRA 1*

**Type** Automatic  
**Coatings Applied** Most Waterborne & Solventborne coatings  
**Gun Features** Modular construction, Independent Fan, Atomising and triggering air, Fully Automatic needle and piston design, Stainless Steel fluid passageways



*COBRA 2*

**Type** Automatic  
**Coatings Applied** Most Waterborne & Solventborne coatings  
**Gun Features** Modular construction, Fully Automatic needle and piston design, Removable Baseplate mounting, Stainless Steel fluid passageways



*SRI*

**Type** Manual  
**Coatings Applied** Most Waterborne & Solventborne coatings  
**Gun Features** Small Gravity gun with precision control for detailed work Anodized Aluminium fluid passageways

## B. How an Air Cap Works

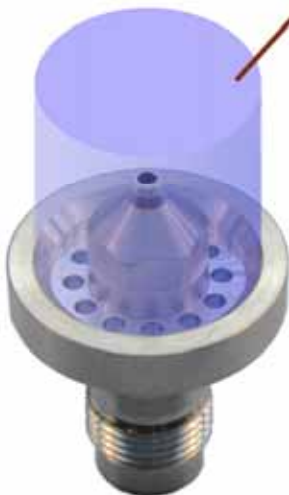
**1.** Air trapped between the outside edge of the Fluid Nozzle and the inside of the Air Cap retaining ring feeds air to the two holes on the back of the Air Cap that take air to the horn holes.



**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 spray gun. On a Pressure fed 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.



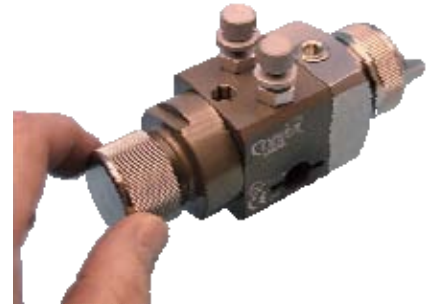
**11.** On the Cobra and Viper automatic spray guns the horn air is controlled by the FAN valve located on the top of the gun body.



**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?



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.



### 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



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.



### 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.



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.

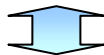


### QUESTION 4. WHAT SHAPE SPRAY FAN?

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



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.



### 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.



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



### 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



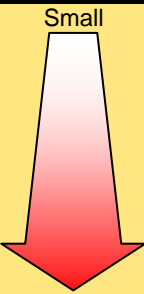
Check the air consumption figures of the Air Cap against the output of your compressor. Don't forget that air fed masks and other equipment will also demand air from your supply.



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


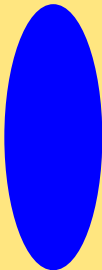

Efficiency, Atomisation power or Environmental Legislation – all of these issues will influence the final decision of the Air Cap type chosen

**Table 1. Theoretical Fluid Nozzle diameter recommendations**

Application Size	Typical Applications	Fluid Flow ml/min	Suction Gun Hole dia mm	Gravity Gun Hole dia mm	Pressure Gun Hole dia mm
	Adhesive	10 to 100	0.85 to 1.2	0.7 to 1.0	0.5 to 0.7
	Mobile Telephones	50 to 150	1.0 to 1.4	0.85 to 1.2	0.7 to 1.0
	Cosmetics Containers	100 to 200	1.2 to 1.6	1.0 to 1.4	0.85 to 1.2
	General Industrial Finishing	150 to 250	1.4 to 1.8	1.2 to 1.6	1.0 to 1.4
	Wooden Furniture	200 to 300	1.6 to 2.0	1.4 to 1.8	1.2 to 1.6
	Aerospace, Tableware Ceramic	250 to 350	1.8 to 2.2	1.6 to 2.0	1.4 to 1.8
	Rolling Stock,	300 to 400	Not possible	1.8 to 2.2	1.6 to 2.0
	Leather Finishing	350 to 500	Not possible	Not possible	1.8 to 2.2
	Protective Wax	400 to 600	Not possible	Not possible	2.0 to 2.4
	Lubrication Oil	600 to 800	Not possible	Not possible	2.2 to 2.6
	Sanitaryware Ceramic	700 to 1000	Not possible	Not possible	2.4 to 2.8

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**

Type	Long Ellipse	Short Ellipse	Straight Side/Round End
Good For	 Non-perpendicular spraying. Metallic content & special effect. Low Viscosity. Low coating thickness Multiple overlapping Auto guns.	 Solid Colour Primers	 Perpendicular spraying Solid Colours & some metallic. Soft Touch coatings & some Waterbase. Sprayed area sharp cut-off.
Bad For	Soft Touch coatings & some Waterbase. Sprayed area sharp cut-off.	Metallic & special effect. Large surfaces. Low Viscosity. Low film weight.	

**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** (points to model number)

**Air Cap type and atomization method** (points to Air Cap Type section)

**On which spray guns this Air Cap is used** (points to Used on Gun Type section)

**Fluid Nozzles and needles available for use with this Air Cap** (points to table of nozzle and needle specifications)

**Pattern size and shape** (points to Spray Pattern image)

**How much compressed air is used at a certain gun dynamic Inlet Pressure** (points to Air Consumption Graph)

**Typical market sectors where the Air Cap is used.** (points to Typical Applications section)

**Fluid handling capabilities** (points to Typical Fluid Flow Specification section)

**The original design specification of the Air Cap.** (points to Original design Specification section)

**What materials the Air Cap and associated items are made from** (points to Materials of Construction section)

**Part numbers for the main Air Cap components** (points to Part Numbers section)

**Space for any notes you want to make about your particular application** (points to Notes section)

Table 3. Air Cap Options																				
Air Cap #	505	500	590	510	523	522	513	205	200	210	E22	E31	E63	E70	430	443	465	497	470	
<b>Atomisation Type</b> TT = Trans-Tech HVLP = High Volume Low Pressure CONV = Conventional	HVLP	HVLP	TT	TT	TT	TT	TT	HVLP	HVLP	TT	CONV	TT	CONV	CONV	CONV	CONV	CONV	CONV	CONV	CONV
Compact Pressure Conventional															X	X	X	X	X	
Compact Suction Conventional															X	X				
Compact Gravity Conventional															X	X				
Compact Pressure Trans-Tech	X	X	X	X	X	X	X													
Compact Suction Trans-Tech	X	X	X	X	X	X	X													
Compact Gravity Trans-Tech	X	X	X	X	X	X	X													
Sri								X	X	X										
Cobra 1	X	X	X	X	X	X	X								X	X	X	X	X	
Cobra 2	X	X	X	X	X	X	X								X	X	X	X	X	
Scorpion												X								
Viper												X	X	X						

# SP-100-522-K

TRANS-TECH

TRANS-TECH



**#522 Air Cap**

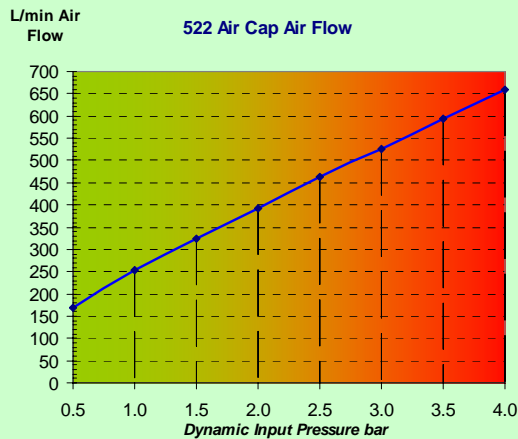
**Type:**  
Compliant/Trans-Tech.  
External Mix

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

Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-200S-085	0.85mm	SP-300S-085	SPA-310-85	SPA-320-85
SP-200S-10	1.0mm	SP-300S-10	SPA-310-10	SPA-320-10
SP-200S-12	1.2mm	SP-300S-12	SPA-310-12	SPA-320-12
SP-200S-13	1.3mm	SP-300S-13		
SP-200S-14	1.4mm	SP-300S-14	SPA-310-14	SPA-320-14
SP-200S-16	1.6mm	SP-300S-16	SPA-310-16	SPA-320-16
SP-200S-18	1.8mm	SP-300S-18	SPA-310-18	
SP-200S-20	2.0mm	SP-300S-20		
SP-200S-22	2.2mm	SP-300S-22		

## Air Consumption Graph

(Measured using Cobra 1 with 1.6mm Fluid nozzle)



## Spray Pattern



**Pattern Shape:**  
Long Ellipse/Straight Side

**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, General Industrial, Metal, Plastic, Adhesive, Aerospace, Leather, Military, Construction, Light Marine, Release Agents.

## 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, Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SP-100-522-K (Cap & Retaining Ring/Seals).  
SPK-102-K Spare Retaining Ring and seals.

## Notes:



# SP-100-523-K

TRANS-TECH

TRANS-TECH



**Air Cap Type:**

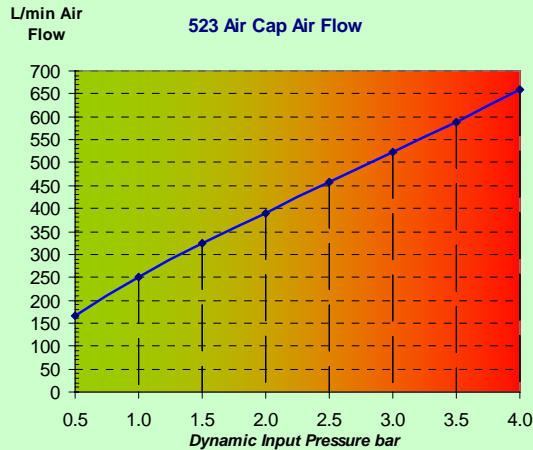
Compliant/Trans-Tech.  
External Mix

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

Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-200S-085	0.85mm	SP-300S-085	SPA-310-85	SPA-320-85
SP-200S-10	1.0mm	SP-300S-10	SPA-310-10	SPA-320-10
SP-200S-12	1.2mm	SP-300S-12	SPA-310-12	
SP-200S-13	1.3mm	SP-300S-13		SPA-320-12
SP-200S-14	1.4mm	SP-300S-14	SPA-310-14	
SP-200S-16	1.6mm	SP-300S-16	SPA-310-16	SPA-320-14
SP-200S-18	1.8mm	SP-300S-18	SPA-310-18	SPA-320-16
SP-200S-20	2.0mm	SP-300S-20		
SP-200S-22	2.2mm	SP-300S-22		

**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 Ford 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, Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SP-100-523-K (Cap & Retaining Ring/Seals).  
SPK-102-K Spare Retaining Ring and seals.

**Notes:**

# SP-100-510-K

TRANS-TECH

TRANS-TECH



**#510 Air Cap**

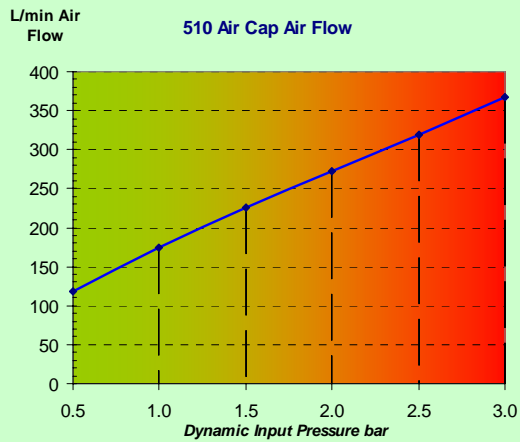
Type :  
Compliant/Trans-Tech.  
External Mix

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

Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-200S-085	0.85mm	SP-300S-085	SPA-310-85	SPA-320-85
SP-200S-10	1.0mm	SP-300S-10	SPA-310-10	SPA-320-10
SP-200S-12	1.2mm	SP-300S-12	SPA-310-12	SPA-320-12
SP-200S-13	1.3mm	SP-300S-13		
SP-200S-14	1.4mm	SP-300S-14	SPA-310-14	SPA-320-14
SP-200S-16	1.6mm	SP-300S-16	SPA-310-16	SPA-320-16
SP-200S-18	1.8mm	SP-300S-18	SPA-310-18	
SP-200S-20	2.0mm	SP-300S-20		
SP-200S-22	2.2mm	SP-300S-22		

### 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 Ford 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 Brass Air Cap and Retaining Ring, Acetal air seal, Teflon anti-friction seal.

### Part Numbers:

SP-100-510-K (Cap & Retaining Ring/Seals).

SPK-102-K Spare Retaining Ring and seals.

### Notes:

# SP-100-513-K

TRANS-TECH

TRANS-TECH

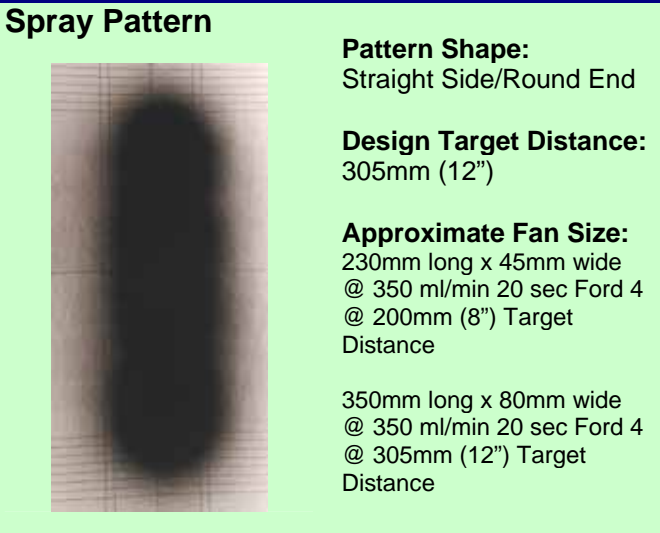
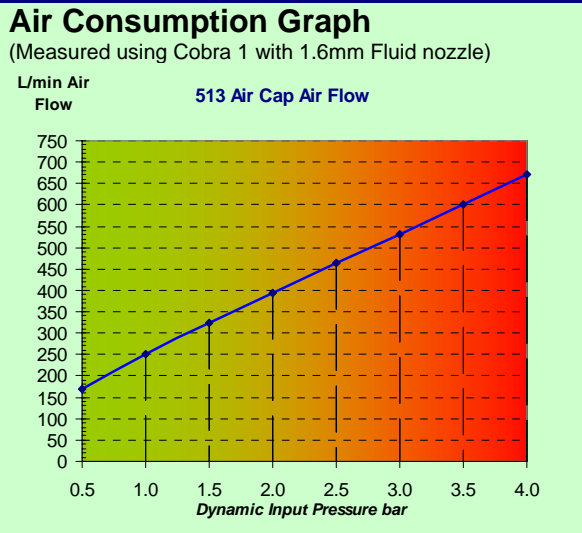


**#513 Air Cap**

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

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

Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-200S-085	0.85mm	SP-300S-085	SPA-310-85	SPA-320-85
SP-200S-10	1.0mm	SP-300S-10	SPA-310-10	SPA-320-10
SP-200S-12	1.2mm	SP-300S-12	SPA-310-12	SPA-320-12
SP-200S-13	1.3mm	SP-300S-13		
SP-200S-14	1.4mm	SP-300S-14	SPA-310-14	SPA-320-14
SP-200S-16	1.6mm	SP-300S-16	SPA-310-16	SPA-320-16
SP-200S-18	1.8mm	SP-300S-18	SPA-310-18	
SP-200S-20	2.0mm	SP-300S-20		
SP-200S-22	2.2mm	SP-300S-22		



**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, Acetal air seal, Teflon anti-friction seal.

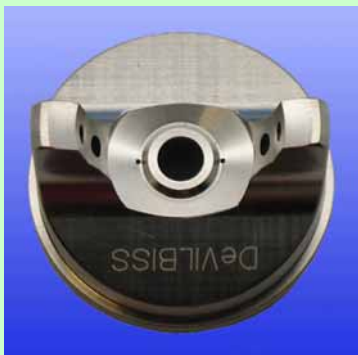
**Part Numbers:** SP-100-510-K (Cap & Retaining Ring/Seals).  
SPK-102-K Spare Retaining Ring and seals.

**Notes:**

# SP-100-505-K

HVLP

HVLP



**#505 Air Cap**

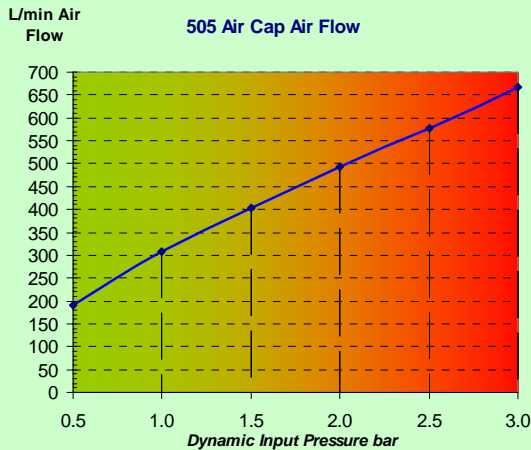
**Type :**  
High Volume Low Pressure.  
External Mix

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

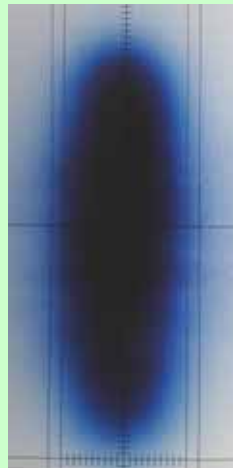
Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-200S-085	0.85mm	SP-300S-085	SPA-310-85	SPA-320-85
SP-200S-10	1.0mm	SP-300S-10	SPA-310-10	SPA-320-10
SP-200S-12	1.2mm	SP-300S-12	SPA-310-12	SPA-320-12
SP-200S-13	1.3mm	SP-300S-13		
SP-200S-14	1.4mm	SP-300S-14	SPA-310-14	SPA-320-14
SP-200S-16	1.6mm	SP-300S-16	SPA-310-16	SPA-320-16
SP-200S-18	1.8mm	SP-300S-18	SPA-310-18	
SP-200S-20	2.0mm	SP-300S-20		
SP-200S-22	2.2mm	SP-300S-22		

### 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, 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 Brass Air Cap and Retaining Ring, Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SP-100-505-K (Cap & Retaining Ring/Seals).  
SPK-102-K Spare Retaining Ring and seals.

### Notes:



# SP-100-430-K

CONVENTIONAL

CONVENTIONAL



**#430 Air Cap**

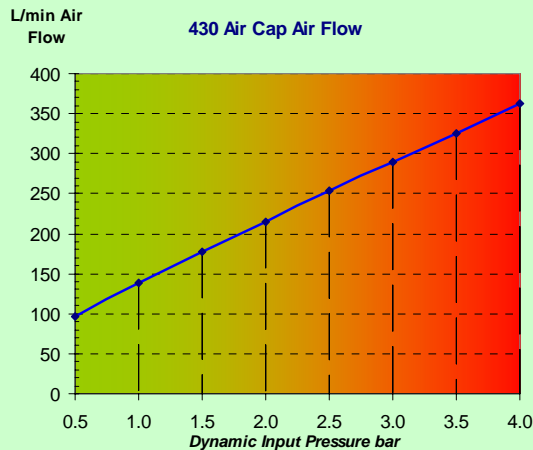
Type :  
Advanced Conventional.  
External Mix

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

Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-200S-085	0.85mm	SP-300S-085	SPA-310-85	SPA-320-85
SP-200S-10	1.0mm	SP-300S-10	SPA-310-10	SPA-320-10
SP-200S-12	1.2mm	SP-300S-12	SPA-310-12	SPA-320-12
SP-200S-13	1.3mm	SP-300S-13		
SP-200S-14	1.4mm	SP-300S-14	SPA-310-14	SPA-320-14
SP-200S-16	1.6mm	SP-300S-16	SPA-310-16	SPA-320-16
SP-200S-18	1.8mm	SP-300S-18	SPA-310-18	
SP-200S-20	2.0mm	SP-300S-20		
SP-200S-22	2.2mm	SP-300S-22		

### 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 Brass Air Cap and Retaining Ring, Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SP-100-430-K (Cap & Retaining Ring/Seals).  
SPK-102-K Spare Retaining Ring and seals.

### Notes:

# SP-100-497-K

CONVENTIONAL

CONVENTIONAL



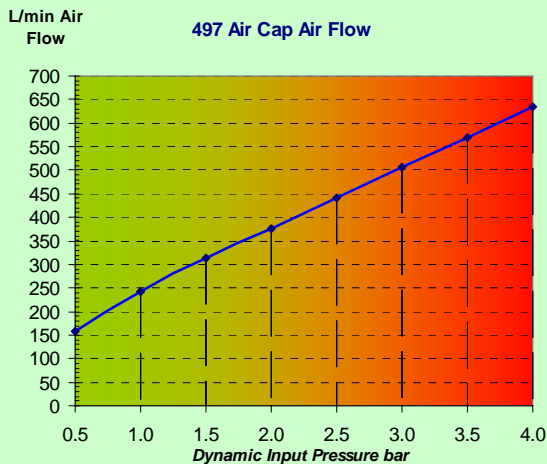
**#497 Air Cap**

Advanced Conventional.  
External Mix

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

Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-200S-085	0.85mm	SP-300S-085	SPA-310-85	SPA-320-85
SP-200S-10	1.0mm	SP-300S-10	SPA-310-10	SPA-320-10
SP-200S-12	1.2mm	SP-300S-12	SPA-310-12	SPA-320-12
SP-200S-13	1.3mm	SP-300S-13		
SP-200S-14	1.4mm	SP-300S-14	SPA-310-14	SPA-320-14
SP-200S-16	1.6mm	SP-300S-16	SPA-310-16	SPA-320-16
SP-200S-18	1.8mm	SP-300S-18	SPA-310-18	
SP-200S-20	2.0mm	SP-300S-20		
SP-200S-22	2.2mm	SP-300S-22		

**Air Consumption Graph**  
(measured using Cobra 1 gun and 1.6mm Fluid Nozzle)



**Spray Pattern**



**Pattern Shape:**  
Long Ellipse/Straight Side

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

**Approximate Fan Size:**  
230mm long x 45mm wide  
@ 350 ml/min 20 sec Ford 4  
@ 200mm (8") Target Distance

350mm long x 80mm wide  
@ 350 ml/min 20 sec Ford 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 Brass Air Cap and Retaining Ring, Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SP-100-497-K (Cap & Retaining Ring/Seals)  
SPK-102-K Spare Retaining Ring and seals.

**Notes:**

# SP-100-443-K

CONVENTIONAL

CONVENTIONAL



**#443 Air Cap**

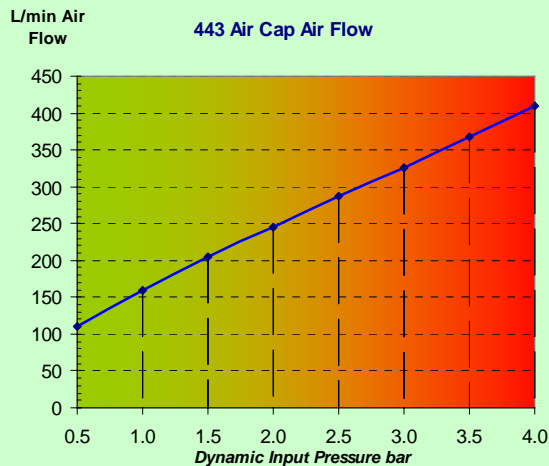
**Type:**  
Advanced Conventional.  
External Mix

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

Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-200S-085	0.85mm	SP-300S-085	SPA-310-85	SPA-320-85
SP-200S-10	1.0mm	SP-300S-10	SPA-310-10	SPA-320-10
SP-200S-12	1.2mm	SP-300S-12	SPA-310-12	SPA-320-12
SP-200S-13	1.3mm	SP-300S-13		
SP-200S-14	1.4mm	SP-300S-14	SPA-310-14	SPA-320-14
SP-200S-16	1.6mm	SP-300S-16	SPA-310-16	SPA-320-16
SP-200S-18	1.8mm	SP-300S-18	SPA-310-18	
SP-200S-20	2.0mm	SP-300S-20		
SP-200S-22	2.2mm	SP-300S-22		

### Air Consumption Graph

(measured using Cobra 1 gun and 1.6mm fluid nozzle)



### 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

### 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:

Solventbased coatings, 3 bar (45 psi) dynamic inlet Pressure

### Materials of Construction

Electroless Nickel Plated Brass Air Cap and Retaining Ring, Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SP-100-443-K (Cap & Retaining Ring/Seals).  
SPK-102-K Spare Retaining Ring and seals.

### Notes:

# SPA-100-E63

CONVENTIONAL

CONVENTIONAL



**#E63 Air Cap:**

**Type:**  
Conventional  
External Mix

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

**Used over Fluid Nozzles:**

**Hole Size:**

**Viper Fluid Needle**

SPA-250-18K  
SPA-250-18K  
SPA-250-20K  
SPA-250-20K

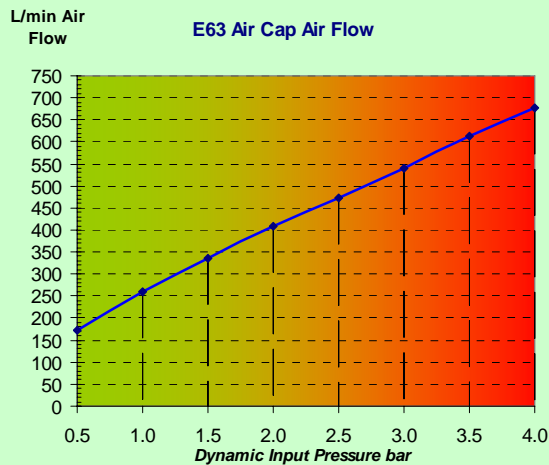
1.8mm  
1.8mm  
2.0mm  
2.0mm

SPA-350-DE  
SPA-351-DE  
SPA-350-DE  
SPA-351-DE

PU needle End  
All Stainless needle  
PU needle End  
All Stainless needle

## 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 (Cap only).

SPA-36 Spare Retaining Ring

SPA-17-K5 Polyurethane Seal

## Notes:



# SPA-100-E70

CONVENTIONAL

CONVENTIONAL



**#E70 Air Cap:**

**Type:**  
Conventional  
External Mix

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

**Used over Fluid Nozzles:**

**Hole Size:**

**Viper Fluid Needle**

SPA-250-22K  
SPA-250-28K

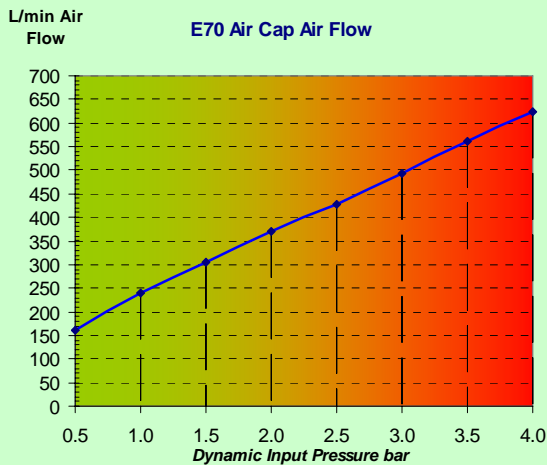
2.2mm  
2.8mm

SPA-350-DE  
SPA-351-DE

PU needle End  
All Stainless needle

### Air Consumption Graph

(measured using Viper gun with 2.8mm fluid nozzle)



### Spray Pattern



**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 (Cap only)  
SPA-36 Spare Retaining Ring  
SPA-17-K5 Polyurethane anti-friction seal.

### Notes:

# SPA-100-E31

TRANS-TECH

TRANS-TECH



### #E31 Air Cap:

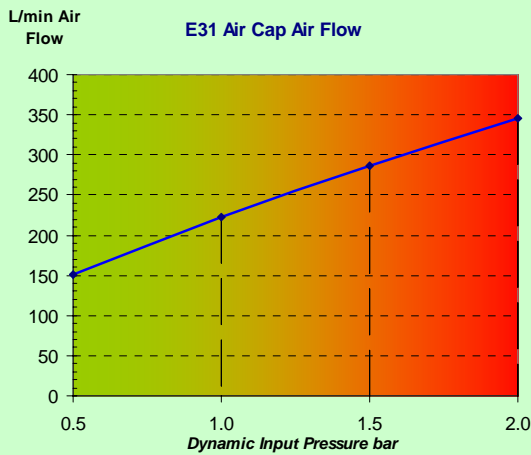
Type: Trans-Tech  
External Mix

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

Used over Fluid Nozzles:	Hole Size:	Viper Fluid Needle:	Notes:
SPA-250-12K	1.2mm	SPA-350-DE	PU needle End
SPA-250-12K	1.2mm	SPA-351-DE	All Stainless needle
SPA-250-14K	1.4mm	SPA-350-DE	PU needle End
SPA-250-14K	1.4mm	SPA-351-DE	All Stainless needle
SPA-250-16K	1.6mm	SPA-350-DE	PU needle End
SPA-250-16K	1.6mm	SPA-351-DE	All Stainless needle
SPA-250-18K	1.8mm	SPA-350-DE	PU needle End
SPA-250-18K	1.8mm	SPA-351-DE	All Stainless needle
SPA-250-20K	2.0mm	SPA-350-DE	PU needle End
SPA-250-20K	2.0mm	SPA-351-DE	All Stainless needle

### 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 Numbers:

SPA-100-E31 (Cap only).  
SPA-36 Spare Retaining Ring  
SPA-17-K5 Polyurethane anti-friction seal.

### Notes:

# SPA-100-E22

CONVENTIONAL

CONVENTIONAL



**#E22 Air Cap:**

**Type:**  
Conventional  
External Mix

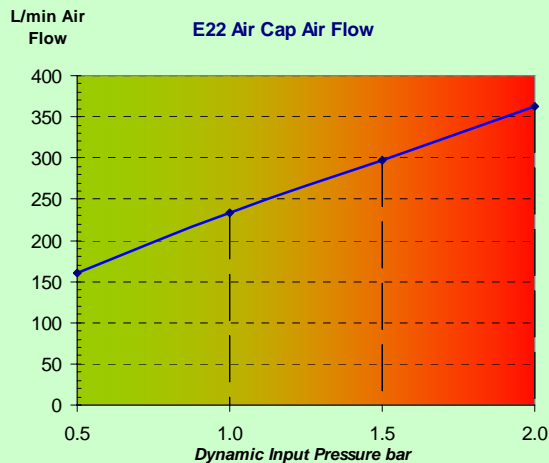
**Used on Gun Type:** Scorpion Needle-less Automatic Gun

Used over Fluid Nozzles:	Hole Size:	Viper Fluid Needle
SPA-255-14K	1.4mm	NA
SPA-255-16K	1.6mm	NA
SPA-255-18K	1.8mm	NA

Used over Fluid Nozzles:	Hole Size:	Viper Fluid Needle
SPA-255-14K	1.4mm	NA
SPA-255-16K	1.6mm	NA
SPA-255-18K	1.8mm	NA

### Air Consumption Graph

(measured using Scorpion gun with 1.6mm fluid nozzle)



### 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 Numbers:** SPA-100-E22 (Cap only). SPA-36 Spare Retaining Ring  
S-28218-K5 Viton fluid seal.

### Notes:

# SP-100-470-K

CONVENTIONAL

CONVENTIONAL



**#470 Air Cap:**

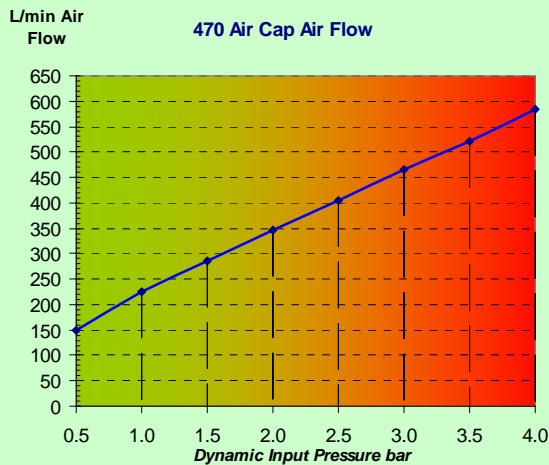
**Type:**  
Conventional  
External Mix

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

Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-247-22-K SP-247-28-K	2.2mm 2.8mm	SP-300S-22-K SP-300S-28-K	Not Available	Not Available

### 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 Brass Air Cap and Retaining Ring, Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SP-100-470-K (Cap & Retaining Ring/Seals).  
SPK-102-K Spare Retaining Ring and seals.

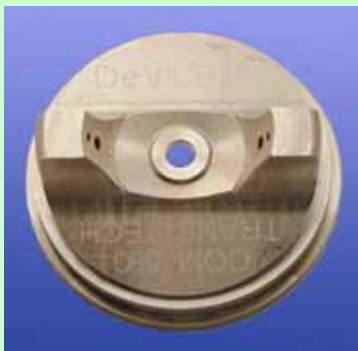
### Notes:



# SP-100-590-K

TRANS-TECH

TRANS-TECH



**#590 Air Cap:**

**Type:**  
Trans-Tech  
External Mix

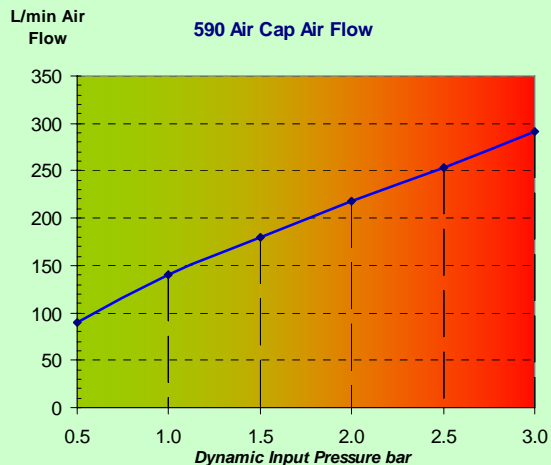
**Used on Gun Type:** Compact Pressure Hand Gun  
Cobra 1 Automatic Gun  
Cobra 2 Automatic Gun

Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
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SP-259S-07 SP-259S-05	0.7mm 0.5mm	Not Available	Not Available	SPA-320-07 SPA-320-05
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### Air Consumption Graph

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



### 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

### 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 30 sec Din4

**Material Supply:** Suction, Gravity & 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 Brass Air Cap and Retaining Ring, Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SP-100-590-K (Cap & Retaining Ring/Seals).

SPK-102-K Spare Retaining Ring and seals.

### Notes:

# SRI-407-210

TRANS-TECH

TRANS-TECH



**#210 Air Cap:**

**Type:**  
Trans-Tech  
External Mix

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

**Used over Fluid Nozzles:**

**Hole Size:**

**SRI Fluid Needle**

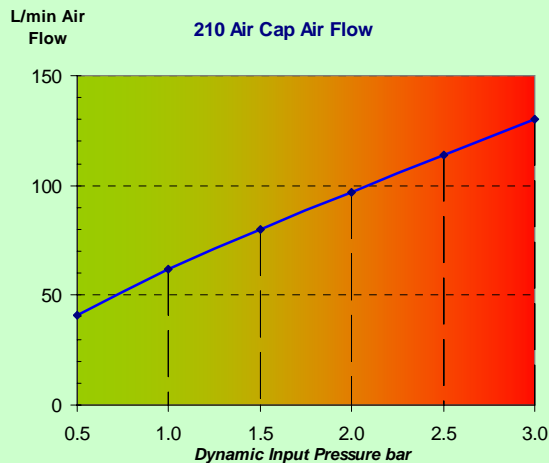
SRI-2-07-K  
SRI-2-08-K  
SRI-2-10-K  
SRI-2-12-K

0.7mm  
0.8mm  
1.0mm  
1.2mm

SRI-37-K  
SRI-37-K  
SRI-3-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 Brass Air Cap and Retaining Ring, Acetal air seal, Teflon anti-friction seal.

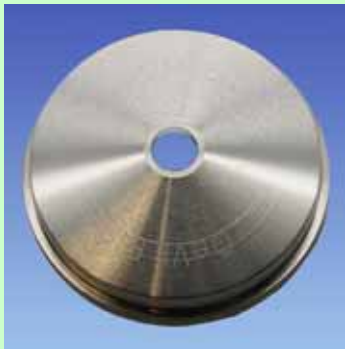
**Part Numbers:** SRI-407-210 (Cap & Retaining ring/seal).  
SRI-35-K5 Retaining Ring seal

## Notes:

# SP-100-500R-K

HVLP

HVLP



#500 Air Cap

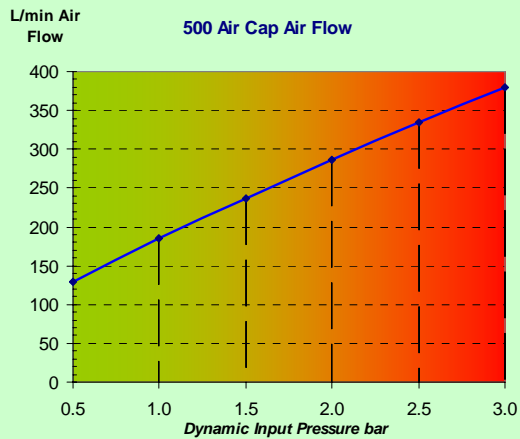
**Type :**  
High Volume Low  
Pressure.  
External Mix

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

Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-200S-085	0.85mm	SP-300S-085	SPA-310-85	SPA-320-85
SP-200S-10	1.0mm	SP-300S-10	SPA-310-10	SPA-320-10
SP-200S-12	1.2mm	SP-300S-12	SPA-310-12	SPA-320-12
SP-200S-13	1.3mm	SP-300S-13		
SP-200S-14	1.4mm	SP-300S-14	SPA-310-14	SPA-320-14
SP-200S-16	1.6mm	SP-300S-16	SPA-310-16	SPA-320-16
SP-200S-18	1.8mm	SP-300S-18	SPA-310-18	
SP-200S-20	2.0mm	SP-300S-20		
SP-200S-22	2.2mm	SP-300S-22		

### 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 Brass Air Cap and Retaining Ring,  
Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SP-100-500R-K (Cap & Retaining Ring/Seals).

SPA-36 Spare Retaining Ring

SPA-17-K5 Polyurethane anti-friction seal.

### Notes:

# SRI-407-205

HVLP

HVLP



**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:**

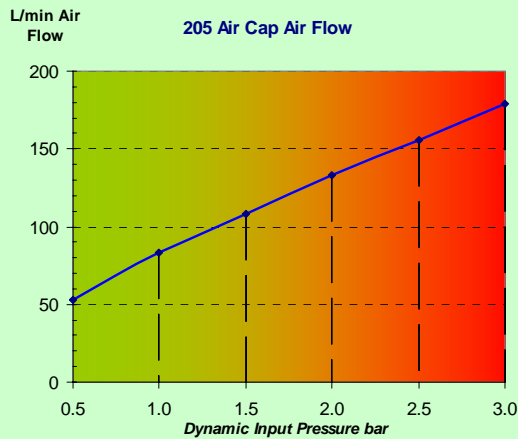
0.7mm  
0.8mm  
1.0mm  
1.2mm

**SRI Fluid Needle**

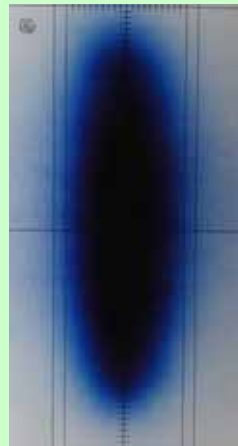
SRI-37-K  
SRI-37-K  
SRI-3-K  
SRI-3-K

## 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:

Waterbased coatings, Small repair, Wooden furniture, adhesive

## Materials of Construction

Electroless Nickel Plated Brass Air Cap and Retaining Ring, Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SRI-407-210 (Cap & Retaining ring/seal).  
SRI-35-K5 Retaining Ring seal

## Notes:



# SRI-407-200

HVLP

HVLP



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

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

**Used over Fluid Nozzles:**

**Hole Size:**

**SRI Fluid Needle**

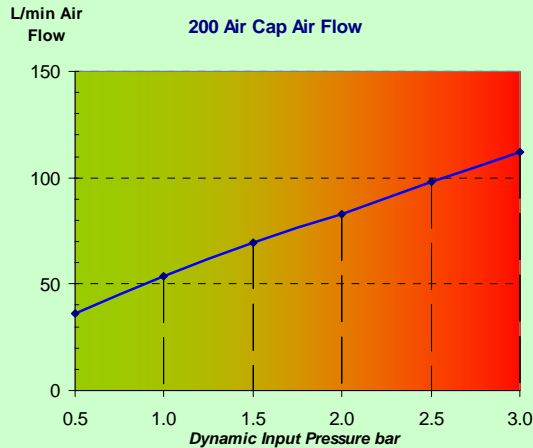
SRI-2-07-K  
SRI-2-08-K  
SRI-2-10-K  
SRI-2-12-K

0.7mm  
0.8mm  
1.0mm  
1.2mm

SRI-37-K  
SRI-37-K  
SRI-3-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 Brass Air Cap and Retaining Ring, Acetal air seal, Teflon anti-friction seal.

**Part Numbers:** SRI-407-200 (Cap & Retaining ring/seal).  
SRI-35-K5 Retaining Ring seal

## Notes:

## F. Spray Pattern Faults and Troubleshooting



**Split Spray Pattern**  
A C E H J



**Split Spray Pattern**  
A C E H J



**Burst Pattern**  
F K



**Banana**  
L M



**Centre Heavy**  
B D F I K



**Centre Heavy**  
F G



**One end heavy**  
L M

- |  |  |
|--|--|
| <b>A.</b> Horn Air Pressure too high                                   | Decrease using control knob                              |
| <b>B.</b> Horn air Pressure too low                                    | Increase using control knob or regulator Pressure        |
| <b>C.</b> Air Input Pressure to gun too high                           | Decrease regulator Pressure                              |
| <b>D.</b> Air Input Pressure to gun too low                            | Increase   |
| <b>E.</b> Fluid flow too low   | Increase fluid flow – larger Nozzle or increase Pressure |
| <b>F.</b> Fluid flow too high  | Decrease fluid flow – smaller Nozzle decrease Pressure   |
| <b>G.</b> Fluid flow too high for Fluid Nozzle size used               | Decrease fluid flow or increase Fluid Nozzle size        |
| <b>H.</b> Fluid Viscosity too low for air Pressure used                | Increase viscosity or decrease air Pressure              |
| <b>I.</b> Fluid Viscosity too high                                     | Decrease viscosity or increase air Pressure              |
| <b>J.</b> Wrong Air Cap selected – lower fluid flow version required   | Select alternative Air Cap                               |
| <b>K.</b> Wrong Air Cap Selected – Higher fluid flow version required  | Select alternative Air Cap                               |
| <b>L.</b> Hole in Air Cap partially blocked or damaged                 | Clean or replace Air Cap                                 |
| <b>M.</b> Fluid Nozzle hole or front face partially blocked or damaged | Clean or replace Fluid Nozzle                            |

AIR CAP SELECTION GUIDE

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