

Air Cap and Fluid Nozzle Selection Guide

 **Finishing Brands®**

DeVILBISS Ransburg BGK BINKS

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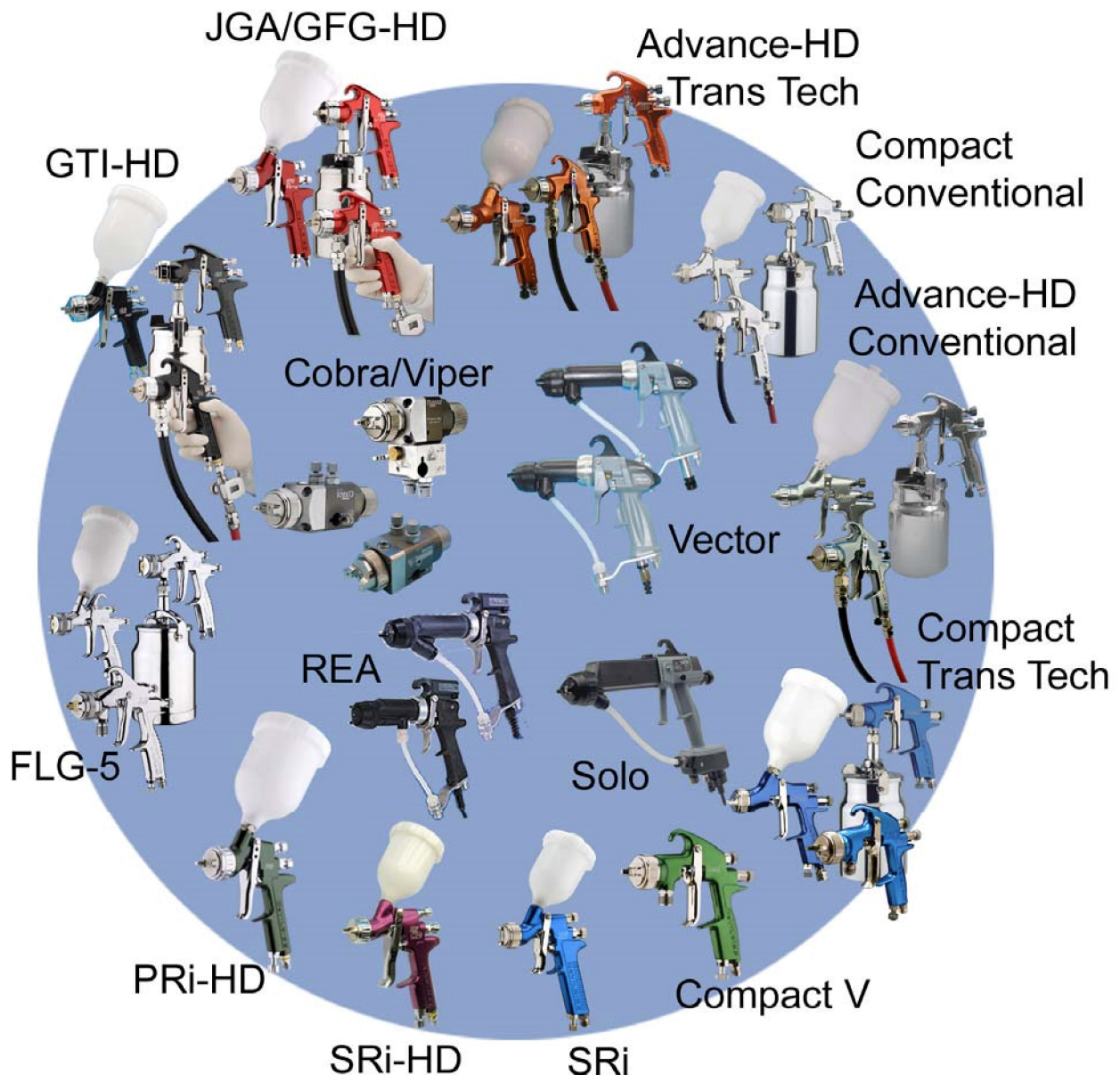
A. Introduction

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

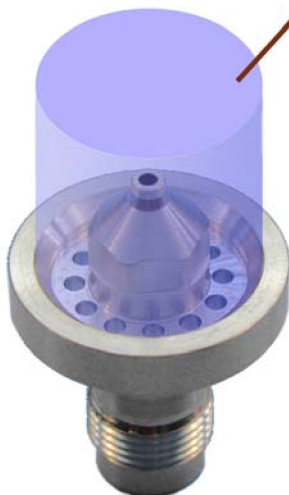
1. Air trapped between the outside edge of the Fluid Nozzle and the inside of the Air Cap retaining ring feeds air to the two holes on the back of the Air Cap that take air to the horn holes.



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 Pressure fed gun.



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?

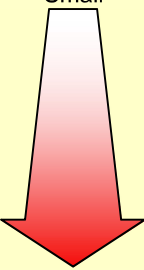
Its no good choosing an Air Cap if it can't be used on your compressed air system

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?


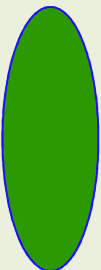



Efficiency, Atomisation power or Environmental Legislation – all of these issues will influence the final decision of the Air Cap type chosen

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 1.4
	Aerospace, Tableware Ceramic	250 to 350	1.8 to 2.2	1.6 to 2.0	1.2 to 1.6
	Rolling Stock,	300 to 400	Not possible	1.8 to 2.2	1.4 to 1.6
	Leather Finishing	350 to 500	Not possible	Not possible	1.4 to 1.6
	Protective Wax	400 to 600	Not possible	Not possible	1.4 to 1.8
	Lubrication Oil	600 to 800	Not possible	Not possible	1.6 to 1.8
Very Large	Sanitaryware Ceramic	700 to 1000	Not possible	Not possible	1.8 to 2.0

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	Straight Side/Taper End	Round
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.	Large Spray fan Non-perpendicular spraying. Metallic content	Precise application
Bad For	Soft Touch coatings & some Waterbase. Sprayed area sharp cut-off.	Metallic & special effect. Large surfaces. Low Viscosity. Low film weight.	Angled Surface Spraying	Sprayed area sharp cut-off.	Large area spraying

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

Air Cap type and atomization method

On which spray guns this Air Cap is used

Fluid Nozzles and needles available for use with this Air Cap

How much compressed air is used at a certain gun dynamic Inlet Pressure

Pattern size and shape

Typical market sectors where the Air Cap is used.

The original design specification of the Air Cap.

Fluid handling capabilities

What material is the Air Cap and made from?

Part numbers for the Air Cap

Notes about upgrades and design changes

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:	Compact Fluid Needle	Advance-HD Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
0.85mm				
1.0mm				
1.2mm				
1.3mm				
1.4mm				
1.6mm				
1.8mm				
2.0mm				
2.2mm				

MAKE REFERENCE TO CHART ON PAGE 28

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

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 Hard Brass Air Cap

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

Notes:
The original 510 air cap was modified and re-launched in March 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.

Table 3A. Air Caps included in this Guide Pt A

Air Cap #	FLG5	Ransburg REA	Ransburg Vector	Ransburg Solo	SRI	Compact	Advance	JGA-HD	GFG-HD	Scorpion	Viper	GTI-HD	SRI-HD	PRI-HD	Cobra 1	Cobra 2	Conventional	HVLP	Trans-Tech	Fluid Feed method	Pattern Size mm @ 200mm Target	Max Fluid ml/min	Page #
5																				SGP	280	250	10
65R																				P	300	600	11
65V																				P	300	600	12
98V																				P	320	600	13
200																				G	50 ¹	150	14
205																				G	150 ²	150	15
210																				G	150 ²	150	16
430																				SGP	200	300	17
443																				SGP	300	300	18
462																				P	450 ⁵	3000	19
470																				P	250 ³	2000	20
477																				P	430	800	21
497																				P	350 ³	800	22
500R																				SGP	15 ²	150	23
505																				SGP	270	250	24
510																				SGP	270	250	25
513																				P	230	800	26
515																				P	320	800	27
520																				SGP	280	250	28
522																				P	230	800	29
523																				P	310	400	27
590																				P	150 ⁴	150	28
590HV																				P	150 ²	150	29
591																				P	200 ⁴	150	30

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

Air Cap #	FLG5	Ransburg REA	Ransburg Vector	Ransburg Solo	SRI	Compact	Advance	JGA-HD	GFG-HD	Scorpion	Viper	GTI-HD	SRI-HD	PRI-HD	Cobra 1	Cobra 2	Conventional	HVLP	Trans-Tech	Fluid Feed method	Pattern Size mm @ 200mm Target	Max Fluid ml/min	Page #
622																				P	265	300	32
C1																				SGP	270	250	33
C2																				SGP	250	350	34
C3																				P	360	600	35
E22																				P	410 ³	300	36
E31																				P	400 ³	300	37
E63																				P	360 ³	900	38
E70																				P	600 ³	1800	39
H1																				SGP	315	200	40
HS1																				G	210	190	41
P1																				G	270	350	42
RS1																				G	30 ⁴	100	43
T1																				SGP	300	200	44
T2																				SGP	290	200	45
T3																				P	300	300	46
T4																				P	380 ¹	400	47
TS1																				G	205	200	48

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



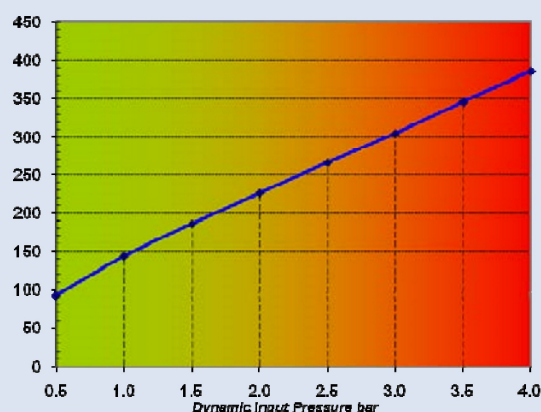
#5 Air Cap:

Type:Trans-Tech Compliant
External Mix**Used on
Gun Type:**FLG-5 Suction, Pressure and Gravity Feed Spray
Guns**Used over
Fluid
Nozzles:**SGK-0012-14
SGK-0014-18
SGK-0012-20**Hole
Size:**1.4mm
1.8mm
2.0mm**Gravity
Fluid
Needle**SGK-0414
SGK-0418
SGK-0420**Suction
Fluid Needle**Not Available
SGK-0430-18
Not Available**Pressure Fluid
Needle**SGK-0402-14
Not Available
Not Available**Air Consumption Graph**

(measured using FLG-G gun with 1.6mm fluid nozzle)

L/min Air Flow

FLG5 Air Cap Air Flow

**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



#65R Air Cap:

Type:
Conventional
External Mix

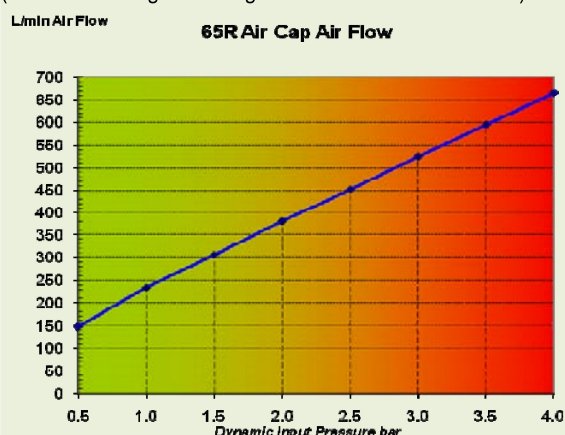
Used on Gun Type: Ransburg REA Electrostatic Hand Guns

Used over Fluid Nozzles:	Hole Size:	Nozzle Material	Fluid Needle Electrode End	Electrode Material
4907-44	1.4mm	Acetal	70430-00	Acetal
4907-45	1.8mm	Acetal	70430-00	Acetal
4907-46	1.0mm	Acetal	70430-00	Acetal
4907-47	0.7mm	Acetal	70430-00	Acetal
4907-48	1.2mm	Acetal	70430-00	Acetal

CONVENTIONAL

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:

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:

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

CONVENTIONAL



#65V Air Cap:

Type:
Conventional
External Mix

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

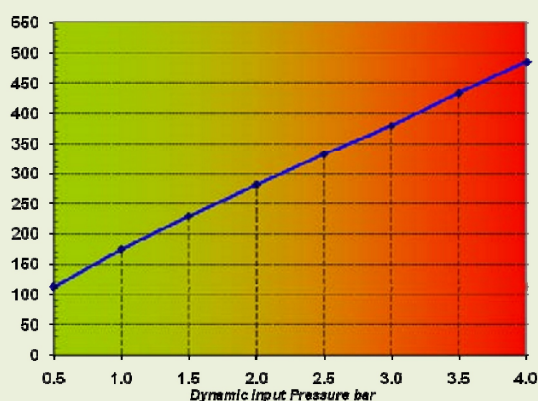
Used over Fluid Nozzles:	Hole Size:	Nozzle Material	Fluid Needle Electrode End	Electrode Material
79377-44	1.4mm	Standard Wear Acetal	70430-01	Acetal
79377-144	1.4mm	Extended Wear PEEK	70430-01	Acetal
79377-45	1.8mm	Standard Wear Acetal	70430-01	Acetal
79377-145	1.8mm	Extended Wear PEEK	70430-01	Acetal
79377-46	1.0mm	Standard Wear Acetal	70430-01	Acetal
79377-146	1.0mm	Extended Wear PEEK	70430-01	Acetal
79377-47	0.7mm	Standard Wear Acetal	70430-01	Acetal
79377-147	0.7mm	Extended Wear PEEK	70430-01	Acetal
79377-48	1.2mm	Standard Wear Acetal	70430-01	Acetal

Air Consumption Graph

(measured using R90 gun with 1.4mm Fluid Nozzle)

L/min Air Flow

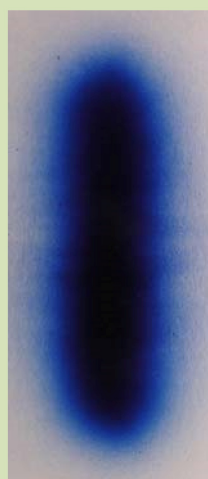
65V Air Cap Air Flow



Typical Applications:

Wood, General Industrial, Metal, Lubricants, NDT Crack Detection, Plastic, Aerospace, Military, Decorative, Construction, Light Marine, Release Agent

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 Fluid Flow Specification:

Medium to Large scale application Air Cap.
200-600 ml/min

Viscosity Range Sprayed:

15 to 40 Din4

Fluid Supply: Pressure Feed

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:	Hole Size:	Nozzle Material	Fluid Needle Electrode End	Electrode Material
79377-44	1.4mm	Standard Wear	70430-01	Acetal
79377-144	1.4mm	Extended Wear	70430-01	Acetal
79377-45	1.8mm	Standard Wear	70430-01	Acetal
79377-145	1.8mm	Extended Wear	70430-01	Acetal
79377-46	1.0mm	Standard Wear	70430-01	Acetal
79377-146	1.0mm	Extended Wear	70430-01	Acetal
79377-47	0.7mm	Standard Wear	70430-01	Acetal
79377-147	0.7mm	Extended Wear	70430-01	Acetal
79377-48	1.2mm	Standard Wear	70430-01	Acetal

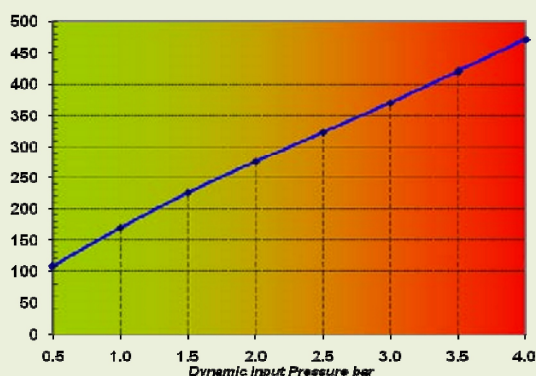
CONVENTIONAL

Air Consumption Graph

(measured using Vector R90 gun with 1.4mm fluid nozzle)

L/min Air Flow

98V Air Cap Air Flow



Spray Pattern



Pattern Shape:

Straight Side/Round End

Design Target Distance:
305mm (12")

Approximate Fan Size:

320mm long x 70mm wide @
300 ml/min using 25 sec Din4
@ 200mm (8") Target
Distance

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:

200

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

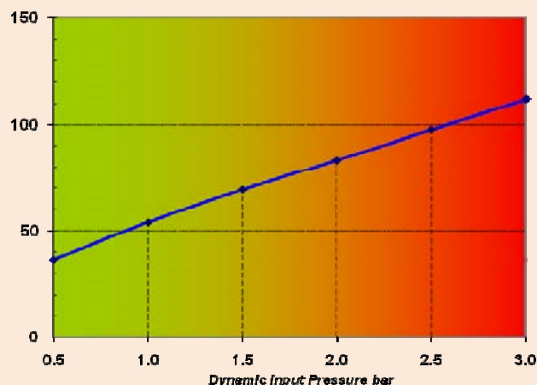
SRI-37-K
SRI-37-K
SRI-3-K
SRI-3-K

Air Consumption Graph

(Measured using Sri with 0.7mm Fluid Nozzle)

L/min Air Flow

200 Air Cap Air Flow



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:

205



Air Cap Type:

High Volume Low Pressure (HVLP)
External Mix

Used on Gun Type:

SRI Gravity Hand Gun

HVLP

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

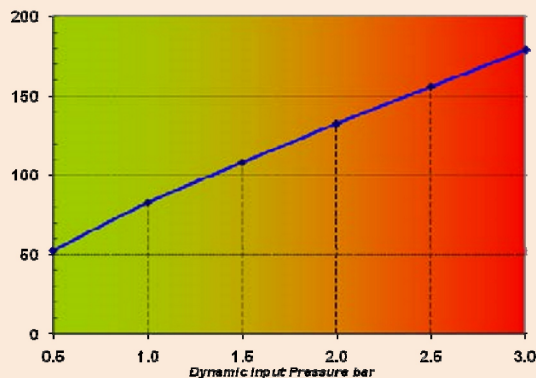
SRI-37-K
SRI-37-K
SRI-3-K
SRI-3-K

Air Consumption Graph

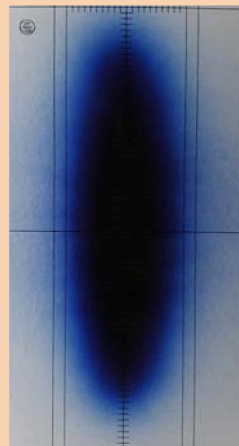
(Measured using Sri with 0.7mm Fluid Nozzle)

L/min Air Flow

205 Air Cap Air Flow



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 Hard Brass Air Cap

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

Notes:

210

TRANS-TECH



#210 Air Cap:

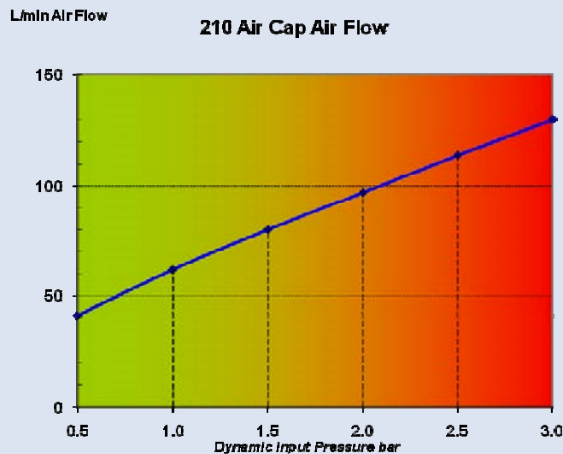
Type:
Trans-Tech
External Mix

Used on SRI Gravity Hand Gun
Gun Type:

Used over Fluid Nozzles:	Hole Size:	SRI Fluid Needle
SRI-2-07-K	0.7mm	SRI-37-K
SRI-2-08-K	0.8mm	SRI-37-K
SRI-2-10-K	1.0mm	SRI-3-K
SRI-2-12-K	1.2mm	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

Fluid Nozzle Size:

0.85mm
1.0mm
1.2mm
1.3mm
1.4mm
1.6mm
1.8mm
2.0mm
2.2mm

Compact Fluid Needle

Advance- HD Fluid Needle

Cobra 1 Fluid Needle

Cobra 2 Fluid Needle

CONVENTIONAL

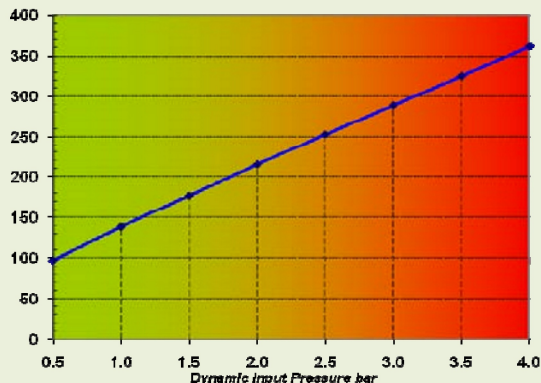
**MAKE REFERENCE TO
CHART ON PAGE 34**

Air Consumption Graph

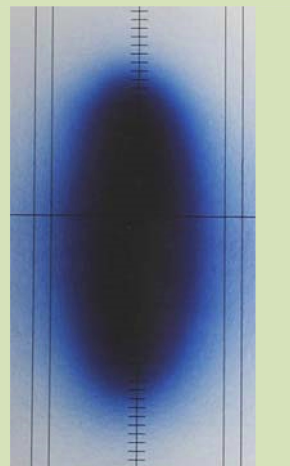
(Measured using Cobra 1 Gun and 1.6mm fluid nozzle)

L/min AIR FLOW

430 Air Cap Air Flow



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 deign 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

CONVENTIONAL



#443 Air Cap

Type:
Advanced Conventional.
External Mix

Used on Compact Suction, Gravity & Pressure Hand Guns
Gun Type: 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

Compact Fluid Needle

Advance-HD Fluid Needle

Cobra 1 Fluid Needle

Cobra 2 Fluid Needle

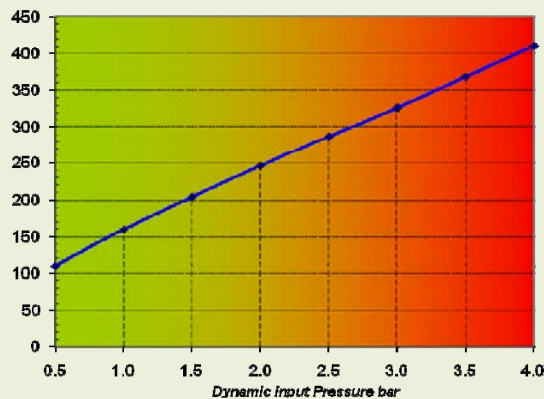
MAKE REFERENCE TO CHART ON PAGE 34

Air Consumption Graph

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

L/min Air Flow

443 Air Cap Air Flow



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 Hard Brass Air Cap

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

Notes:

462

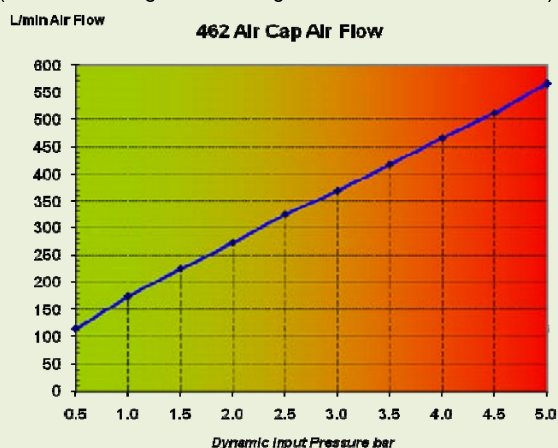


#462 Air Cap:

Type:
Conventional
External Mix

Air Consumption Graph

(measured using Advance-P gun with 2.8mm Fluid Nozzle)



Typical Applications:

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

Original design specification:

Materials of Construction

Ceramic & Vitreous Enamel, Sanitaryware

Electroless Nickel Plated Hard Brass Air Cap

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

Notes:

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

Fluid Nozzle Size:

2.2mm
2.8mm

Compact Fluid Needle

Advance-HD Fluid Needle

Cobra 1 Fluid Needle

Cobra 2 Fluid Needle

MAKE REFERENCE TO CHART ON PAGE 34

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 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

CONVENTIONAL

470



#470 Air Cap:

Type:

Conventional
External Mix

**Used on
Gun Type:**

Compact Pressure Hand Gun

**Fluid
Nozzle
Size:**

2.2mm
2.8mm

**Compact
Fluid
Needle**

**Advance-HD
Fluid Needle**

**Cobra 1
Fluid Needle**

**Cobra 2
Fluid
Needle**

CONVENTIONAL

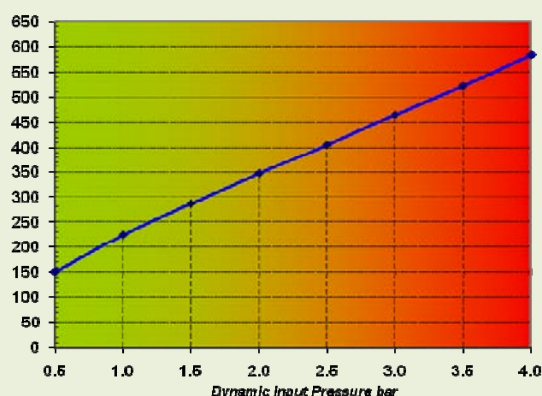
**MAKE REFERENCE TO
CHART ON PAGE 34**

Air Consumption Graph

(measured using Compact gun with 2.8mm Fluid Nozzle)

L/min Air Flow

470 Air Cap Air Flow



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:

477

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

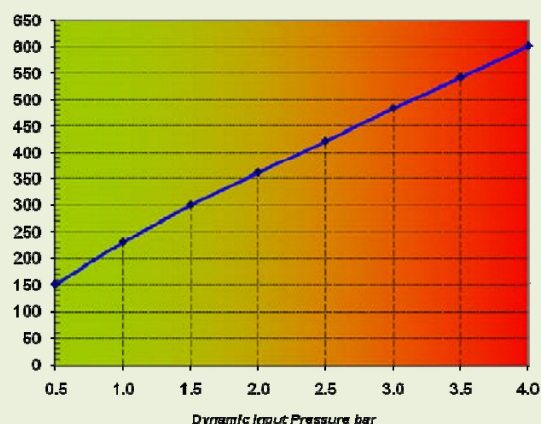
Fluid Nozzle Size:	Compact Fluid Needle	Advance-HD Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
0.85mm 1.0mm 1.2mm 1.3mm 1.4mm 1.6mm 1.8mm 2.0mm 2.2mm	<p>MAKE REFERENCE TO CHART ON PAGE 34</p>			

Air Consumption Graph

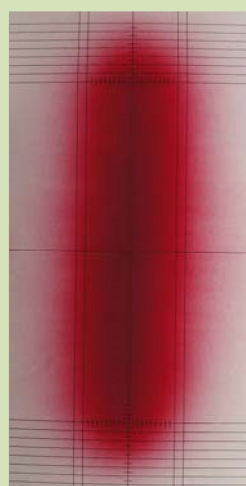
(measured using Advance-HD P and 1.0mm Fluid Nozzle)

L/min Air Flow

477 Air Cap Air Flow



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:

CONVENTIONAL



#497 Air Cap

Advanced Conventional.
External Mix

Used on Compact Pressure Hand Gun
Gun Type: 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

Compact Fluid Needle

Advance-HD Fluid Needle

Cobra 1 Fluid Needle

Cobra 2 Fluid Needle

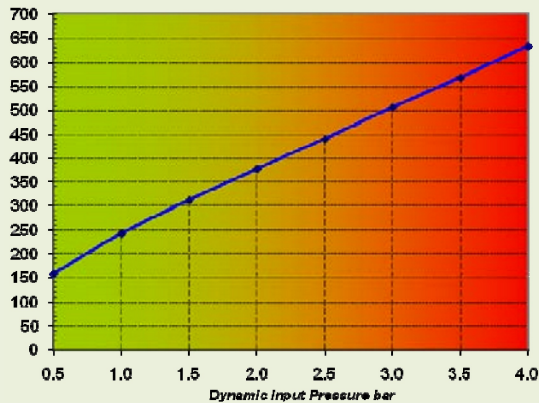
MAKE REFERENCE TO CHART ON PAGE 34

Air Consumption Graph

(measured using Cobra 1 gun and 1.6mm Fluid Nozzle)

L/min Air Flow

497 Air Cap Air Flow



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

HVLP



#500 Air Cap

Type :
High Volume Low Pressure.
External Mix

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

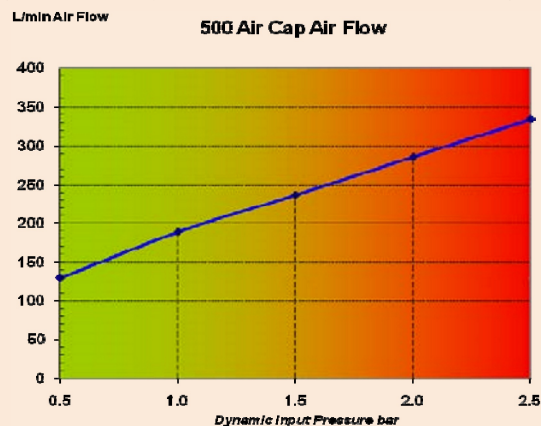
Fluid Nozzle Size:	Compact Fluid Needle	Advance-HD Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
--------------------	----------------------	-------------------------	----------------------	----------------------

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 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:

505

HVLP

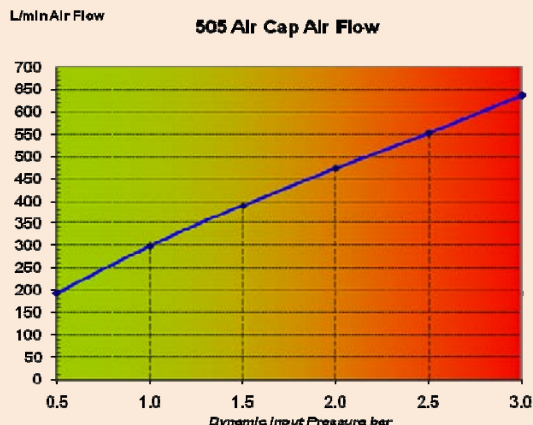


#505 Air Cap

Type :
High Volume Low
Pressure.
External Mix

Air Consumption Graph

(Measured using Cobra 1 with 1.6mm Fluid nozzle)



Typical Applications:

Wood, Ceramic, Adhesive Plastic, Aerospace,
Decorative, Release Agent

Original design specification:

Materials of Construction

Used on Compact Suction, Gravity & Pressure Hand Guns
Gun Type: 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

Compact Fluid Needle

Advance- HD Fluid Needle

Cobra 1 Fluid Needle

Cobra 2 Fluid Needle

**MAKE REFERENCE TO
CHART ON PAGE 34**

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 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
Solventbased & Waterbased coatings. Long Elliptical pattern,
Small to medium production. 2bar dynamic inlet Pressure

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

Notes:

510+



#510+ 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:	Compact Fluid Needle	Advance-HD Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
--------------------	----------------------	-------------------------	----------------------	----------------------

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**

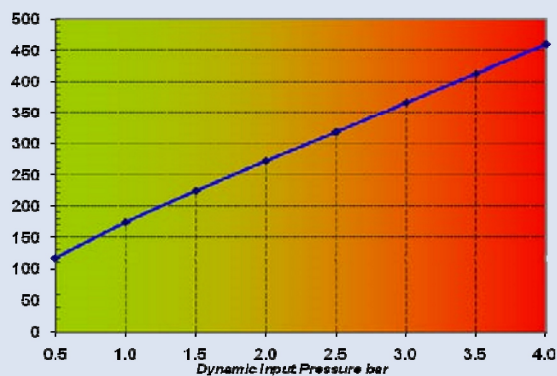
TRANS-TECH

Air Consumption Graph

(Measured using Cobra 1 with 1.6mm Fluid nozzle)

L/min Air Flow

510+ Air Cap Air Flow



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

TRANS-TECH



#513 Air Cap

Type :
Compliant/Trans-Tech.
External Mix

Used on Compact Pressure Hand Gun
Gun Type: 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

Compact Fluid Needle **Advance- HD Fluid Needle**

Cobra 1 Fluid Needle

Cobra 2 Fluid Needle

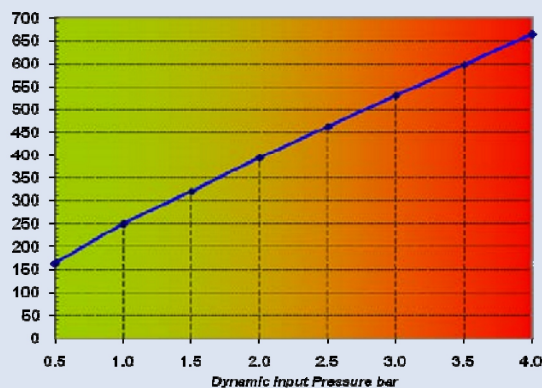
MAKE REFERENCE TO CHART ON PAGE 34

Air Consumption Graph

(Measured using Cobra 1 with 1.6mm Fluid nozzle)

L/min Air Flow

513 Air Cap Air Flow



Typical Applications:

Wood, Metal, Plastic, Leather, Release Agent

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 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:

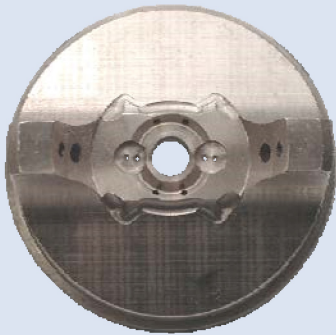
Waterbased coatings – Leather & Soft Touch. Medium to Large production Air Cap. 3bar dynamic inlet Pressure

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

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

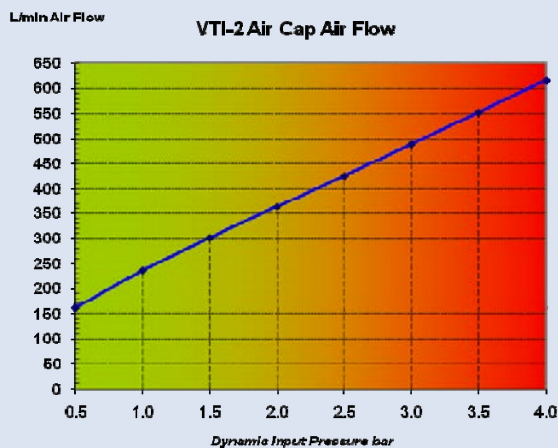
Fluid Nozzle Size:	Compact Fluid Needle	Advance-HD Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
--------------------	----------------------	-------------------------	----------------------	----------------------

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 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:

Solventbased 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

TRANS-TECH



#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

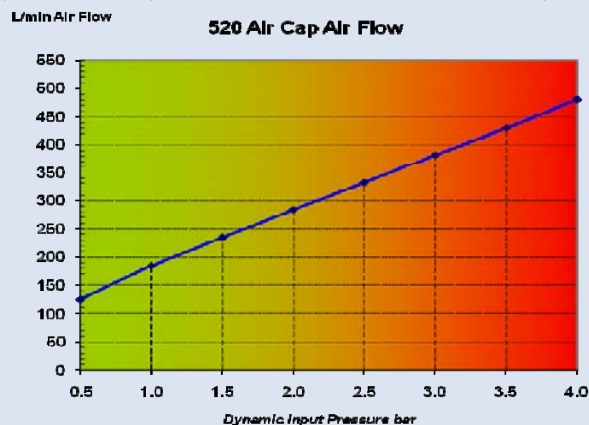
Fluid Nozzle Size:	Compact Fluid Needle	Advance-HD Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
--------------------	----------------------	-------------------------	----------------------	----------------------

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 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:

Solventbased 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

**Fluid
Nozzle
Size:**

0.85mm
1.0mm
1.2mm
1.3mm
1.4mm
1.6mm
1.8mm
2.0mm
2.2mm

**Compact
Fluid Needle****Advance-
HD Fluid
Needle****Cobra 1
Fluid Needle****Cobra 2
Fluid Needle**

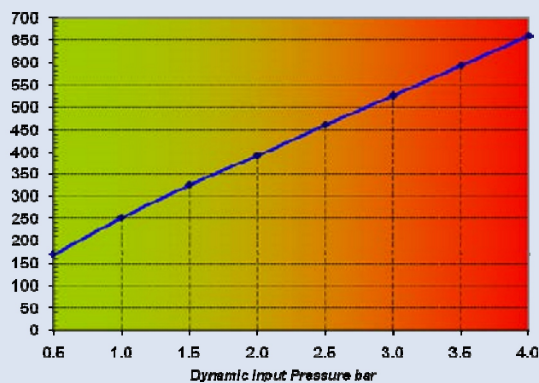
**MAKE REFERENCE TO
CHART ON PAGE 34**

Air Consumption Graph

(Measured using Cobra 1 with 1.6mm Fluid nozzle)

L/min Air Flow

522 Air Cap Air Flow

**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, 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,
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 Compact Pressure Hand Gun
Gun Type: 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

Compact Fluid Needle

Advance-HD Fluid Needle

Cobra 1 Fluid Needle

Cobra 2 Fluid Needle

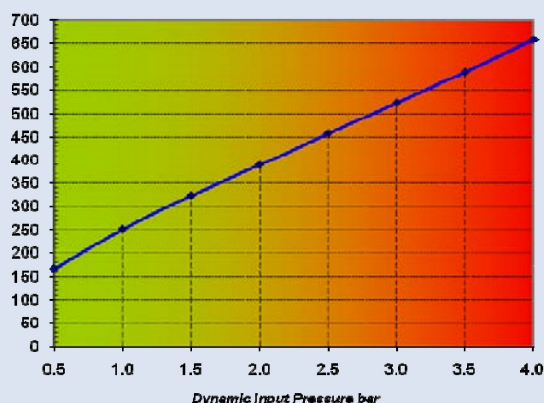
**MAKE REFERENCE TO
CHART ON PAGE 34**

Air Consumption Graph

(Measured on Cobra 1 with 1.6mm Fluid Nozzle)

L/min Air Flow

523 Air Cap Air Flow

**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



#590 Air Cap:

Type:
Trans-Tech
External Mix

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

Fluid Nozzle Size:

1.0mm
0.7mm
0.5mm

Compact Fluid Needle

Advance-HD Fluid Needle

Cobra 1 Fluid Needle

Cobra 2 Fluid Needle

MAKE REFERENCE TO CHART ON PAGE 34

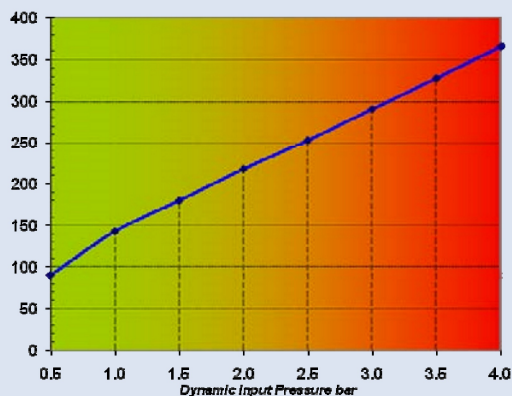
TRANS-TECH

Air Consumption Graph

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

L/min Air Flow

590 Air Cap Air Flow



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:

20 to 30 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:

590HV

HVLP



#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

**Fluid
Nozzle
Size:**

1.0mm
0.7mm
0.5mm

**Compact
Fluid
Needle**

**Advance-HD
Fluid Needle**

**Cobra 1
Fluid
Needle**

**Cobra 2 Fluid
Needle**

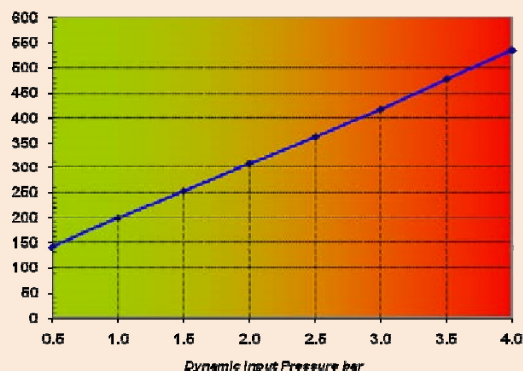
**MAKE REFERENCE TO
CHART ON PAGE 34**

Air Consumption Graph

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

L/min Air Flow

590HV Air Cap Air Flow



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
@ 140ml/min 16 sec Din4
@ 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+

TRANS-TECH



#591 Air Cap:

Type:
Compliant/Trans-Tech
External Mix

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

Fluid Nozzle Size:

1.0mm
0.7mm
0.5mm

Compact Fluid Needle

Advance-HD Fluid Needle

Cobra 1 Fluid Needle

Cobra 2 Fluid Needle

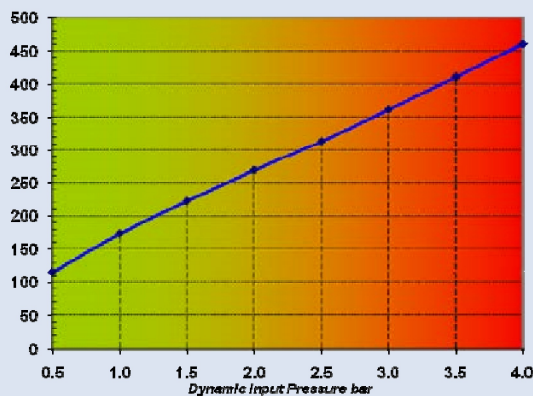
MAKE REFERENCE TO CHART ON PAGE 34

Air Consumption Graph

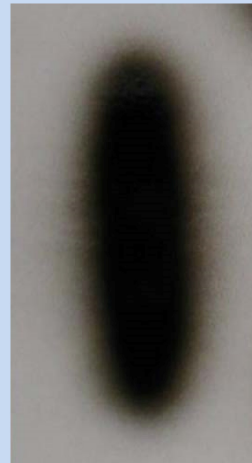
(Measured using Compact-G with 0.7mm Fluid nozzle)

L/min Air Flow

591 Air Cap Air Flow



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.

COMPACT, ADVANCE-HD, COBRA 1 & COBRA 2 FLUID NEEDLES & NOZZLES

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.

Air Cap Part Number	Used over Fluid Nozzles:	Hole Size:	Compact Fluid Needle	Advance-HD Fluid Needle	Cobra 1 Fluid Needle	Cobra 2 Fluid Needle
SP-100-590 SP-100-591	SP-259S-05 SP-259S-07 SP-259S-10	0.5mm 0.7mm 1.0mm	SP-300S-05 SP-300S-07 SP-300S-10	ADV-310-05 ADV-310-07 ADV-310-10	SPA-310-05 SPA-310-07 SPA-310-10	SPA-320-05 SPA-320-07 SPA-320-10
SP-100-430 SP-100-443 SP-100-497 SP-100-505 SP-100-500 SP-100-510 SP-100-522 SP-100-523 SP-100-513	SP-200S-085 SP-200S-10 SP-200S-11 SP-200S-12 SP-200S-13 SP-200S-14 SP-200N-14 SP-200S-16 SP-200S-18 SP-200N-18 SP-200S-20 SP-200S-22 SP-200N-22	0.85mm 1.0mm 1.1mm 1.2mm 1.3mm 1.4mm 1.4mm 1.6mm 1.8mm 1.8mm 2.0mm 2.2mm 2.2mm	SP-300S-085 SP-300P-10* SP-300S-10 SP-300P-10* SP-300S-11 SP-300P-12* SP-300S-12 SP-300P-12* SP-300S-13 SP-300P-14* SP-300S-14 SP-300P-14* SP-300N-14 SP-300S-16 SP-300S-18 SP-300N-18 SP-300S-20 SP-300S-22 SP-300N-22	ADV-310-085 ADV-310P-10* ADV-310-10 ADV-310P-10* Not Available ADV-310P-12* ADV-310-12 ADV-310P-12* Not Available ADV-310P-14* ADV-310-14 ADV-310P-14* ADV-310N-14 ADV-310-16 ADV-310-18 ADV-310N-18 ADV-310-20 ADV-310-22 ADV-310N-22	SPA-310-85 SPA-310P-10* SPA-310-10 SPA-310P-10* Not Available Not Available SPA-310-12 Not Available Not Available SPA-310P-14* SPA-310-14 SPA-310P-14* Not Available SPA-310-16 SPA-310-18 Not Available Not Available SPA-310-22 Not Available	SPA-320-85 SPA-320P-10* SPA-320-10 SPA-320P-10* Not Available Not Available SPA-320-12 Not Available Not Available SPA_320P-14* SPA-320-14 SPA_320P-14* Not Available SPA-320-16 SPA-320-18 Not Available Not Available SPA-320-22 Not Available
SP-100-470 SP-100-462	SP-247S-22 SP-247N-22 SP-247C-22 SP-247S-28 SP-247N-28 SP-247C-28	2.2mm 2.2mm 2.2mm 2.8mm 2.8mm 2.8mm	SP-300S-22 SP-300N-22 SP-300C-22 SP-300S-28 SP-300N-28 SP-300C-28	ADV-310-22 ADV-310N-22 ADV-310C-22 ADV-310-28 ADV-310N-28 ADV-310C-28	Not Available Not Available Not Available Not Available Not Available Not Available	Not Available Not Available Not Available Not Available Not Available Not Available

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

TRANS-TECH



#622 Air Cap:

Type:

Compliant/Trans-Tech
External Mix

Used on FLG Pressure Feed Spray Gun
Gun Type:

Used over Fluid Nozzles:

SGK-0012-14

Hole Size:

1.4mm

Pressure Fluid Needle

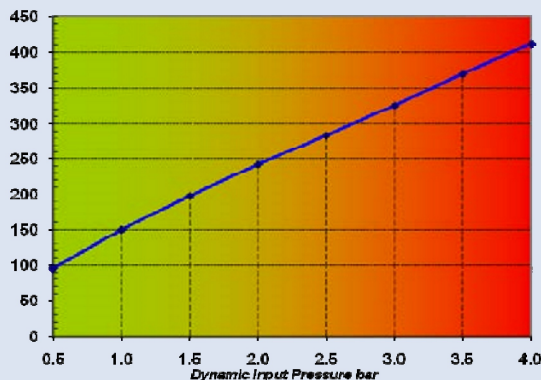
SGK-0402-14

Air Consumption Graph

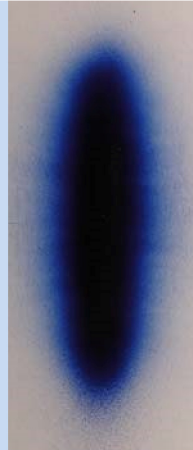
(measured using FLG-P gun with 1.4mm fluid nozzle)

L/min Air Flow

622 Air Cap Air Flow



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

CONVENTIONAL

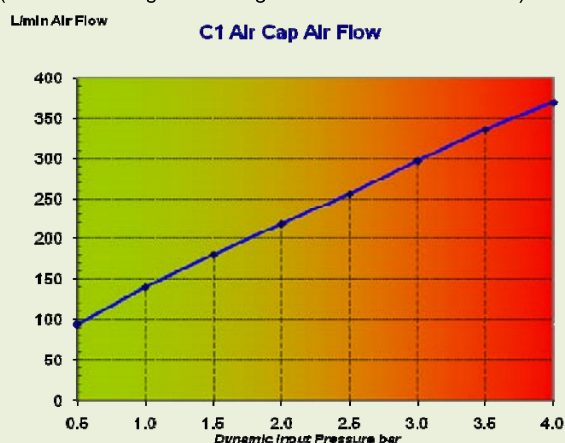


#C1 Air Cap:

Type:
Conventional
External Mix

Air Consumption Graph

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



Typical Applications:

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

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

Used on Gun Type:

JGA-HD & GFG-HD Suction, Pressure & Gravity Feed Spray Guns

Used over Fluid Nozzles:

PROC-230-085*
PROC-230-10*
PROC-230-12*
PROC-230-14*
PROC-220-14
PROC-220-16
PROC-220-18

GFG-HD Fluid Needle

Not Available
Not Available
Not Available
Not Available
GFGPRO-320
GFGPRO-320
GFGPRO-320

JGA-HD Suction Fluid Needle

Not Available
Not Available
Not Available
Not Available
JGAPRO-330
JGAPRO-330
JGAPRO-330

JGA-HD Pressure Fluid Needle

PRO-305-085-10*
PRO-305-085-10*
PRO-305-12-14*
PRO-305-12-14*
JGAPRO-330
JGAPRO-330
JGAPRO-330

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 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

C2

CONVENTIONAL



#C2 Air Cap:

Type:
Conventional
External Mix

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

Used over Fluid Nozzles:

PROC-230-085*
PROC-230-10*
PROC-230-12*
PROC-230-14*
PROC-220-14
PROC-220-16
PROC-220-18

GFG-HD Fluid Needle

Not Available
Not Available
Not Available
Not Available
GFGPRO-320
GFGPRO-320
GFGPRO-320

JGA-HD Suction Fluid Needle

Not Available
Not Available
Not Available
Not Available
JGAPRO-330
JGAPRO-330
JGAPRO-330

JGA-HD Pressure Fluid Needle

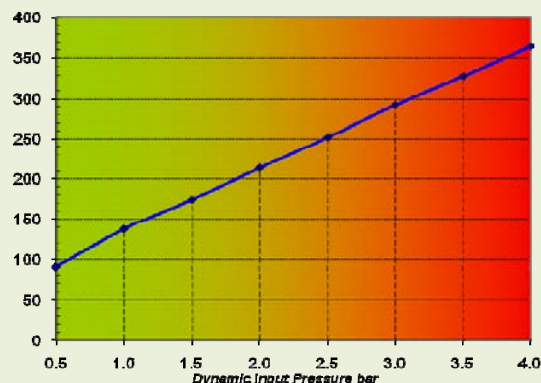
PRO-305-085-10*
PRO-305-085-10*
PRO-305-12-14*
PRO-305-12-14*
JGAPRO-330
JGAPRO-330
JGAPRO-330

Air Consumption Graph

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

L/min Air Flow

C2 Air Cap Air Flow



Typical Applications:

Wood, General Industrial, Metal, Ceramic, Vitreous Enamel, Lubricants, Adhesive, Plastic, Aerospace, Leather, Military, Decorative, Construction, Light Marine, Release Agent, Wax

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 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

CONVENTIONAL



#C3 Air Cap:

Type:

Conventional

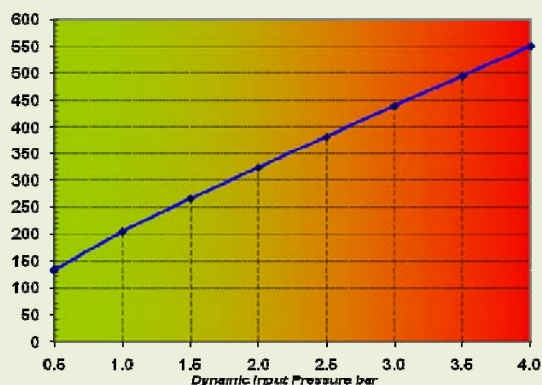
External Mix

Air Consumption Graph

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

L/min Air Flow

C3 Air Cap Air Flow



Typical Applications:

Wood, General Industrial, Metal, Ceramic, Vitreous Enamel, Lubricants, Adhesive, Plastic, Aerospace, Military, Decorative, Construction, Light Marine, Release Agent, Wax

Original design specification:

Solventbased coatings

2.5 – 4.0 bar nominal air inlet pressure

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

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

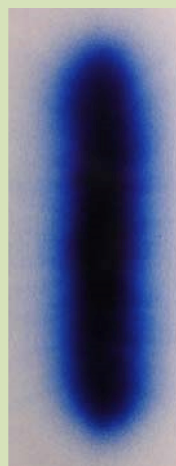
Used over Fluid Nozzles:

PROC-230-085*
PROC-230-10*
PROC-230-12*
PROC-230-14*
PROC-220-14
PROC-220-16
PROC-220-18

JGA-HD Pressure Fluid Needle

PRO-305-085-10*
PRO-305-085-10*
PRO-305-12-14*
PRO-305-12-14*
JGAPRO-330
JGAPRO-330
JGAPRO-330

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 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

CONVENTIONAL



#E22 Air Cap:

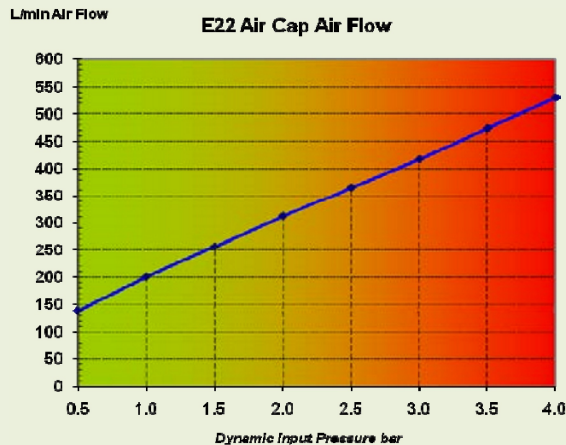
Type:
Conventional
External Mix

Used on Gun Type: Scorpion Needle-less Automatic Gun
GUN NOW DISCONTINUED MODEL

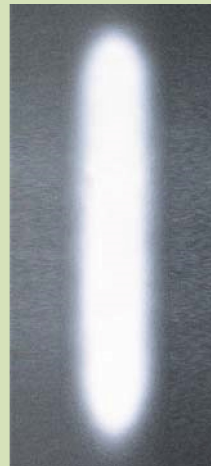
Used over Fluid Nozzles:	Hole Size:	Construction Material	Fluid Needle
SPA-255-14	1.4mm	Nickel Plated Hard Stainless	Not Required
SPA-255-16	1.6mm	Nickel Plated Hard Stainless	Not Required
SPA-255-18	1.8mm	Nickel Plated Hard Stainless	Not Required

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

Notes:

E31

TRANS-TECH



#E31 Air Cap:

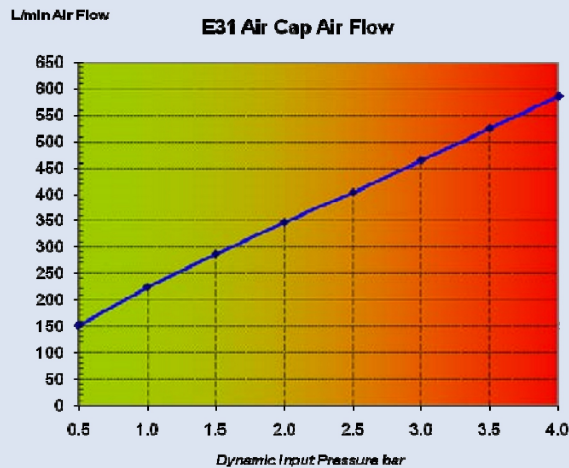
Type: Trans-Tech
External Mix

Used on Viper Automatic Gun
Gun Type:

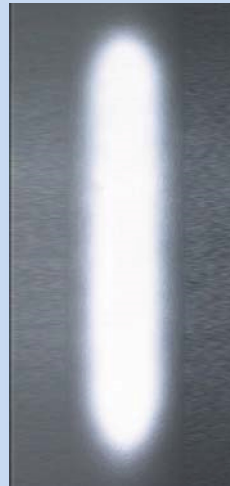
Hole Size:	Fluid Nozzle:	Nozzle Notes:	Fluid Needle Used:	Needle Notes:
1.2mm	SPA-250H-12	SS Profile	SPA-350-DE	PU Profile
1.2mm	SPA-250-12	Hard SS Profile	SPA-351-DEH	SS Profile
1.4mm	SPA-250H-14	SS Profile	SPA-351-DE	Hard SS Profile
1.4mm	SPA-250-14	Hard SS Profile	*See note below	
1.6mm	SPA-250H-16	SS Profile		
1.6mm	SPA-250-16	Hard SS Profile		
1.8mm	SPA-250H-18	SS Profile		
1.8mm	SPA-250-18	Hard SS Profile		
2.0mm	SPA-250H-20	SS Profile		
2.0mm	SPA-250-20	Hard SS Profile		

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

CONVENTIONAL



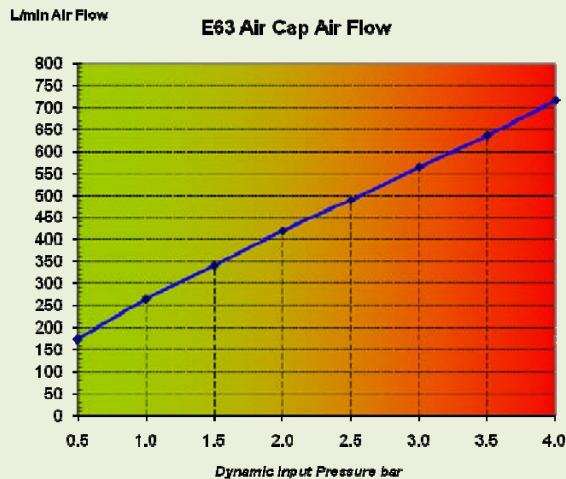
#E63 Air Cap:

Type:

Conventional
External Mix

Air Consumption Graph

(measured using Viper Gun and 1.8mm fluid nozzle)



Typical Applications:

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

Original design specification:

Materials of Construction

Ceramic & Vitreous Enamel, Tableware

Electroless Nickel Plated Brass Air Cap and Retaining Ring, Polyurethane Seal

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

Notes:

Used on Viper Automatic Gun
Gun Type:

Hole Size:	Fluid Nozzle:	Nozzle Notes:	Fluid Needle Used:	Needle Notes:
1.8mm 1.8mm	SPA-250H-18 SPA-250-18	SS Profile Hard SS Profile	SPA-350-DE SPA-351-DEH SPA-351-DE	PU Profile SS Profile Hard SS Profile
2.0mm 2.0mm	SPA-250H-20 SPA-250-20	SS Profile Hard SS Profile	SPA-350-DE SPA-351-DEH SPA-351-DE	PU Profile SS Profile Hard SS Profile

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 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

E70

CONVENTIONAL



#E70 Air Cap:

Type:

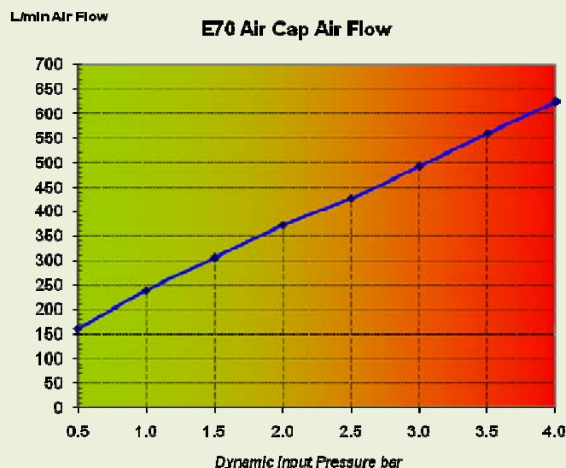
Conventional
External Mix

Used on Viper Automatic Gun
Gun Type:

Hole Size:	Fluid Nozzle:	Nozzle Notes:	Fluid Needle Used:	Needle Notes:
2.2mm 2.2mm	SPA-250-22 SPA-254-22	Hard SS Profile Carbide Profile	SPA-351-22 SPA-352-K	Hard SS Profile Carbide Profile
2.8mm 2.8mm	SPA-250-28B SPA-254-28	Hard SS Profile Carbide Profile	SPA-351-28B SPA-352-K	Hard SS Profile Carbide Profile

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 (Air Cap only)

Notes:

H1

HVLP



#H1 Air Cap

Type :
High Volume Low Pressure.
External Mix

**Used on
Gun Type:**

GTI-HD Suction, Gravity & Pressure Hand Guns

**Used over
Fluid
Nozzles:**

PRO-205-085*
PRO-205-10*
PRO-205-12*
PRO-205-14*
PRO-200-12
PRO-200-13
PRO-200-14
PRO-200-16
PRO-200-18
PRO-200-20

**GTI-HD
Suction
Fluid Needle**

Not Available
Not Available
Not Available
Not Available
Not Available
Not Available
Not Available
PRO-315
PRO-315
PRO-315

**GTI-HD
Gravity
Fluid Needle**

Not Available
Not Available
Not Available
Not Available
PRO-300
PRO-300
PRO-300
Not Available
Not Available
Not Available
Not Available

**GTI-HD
Pressure
Fluid Needle**

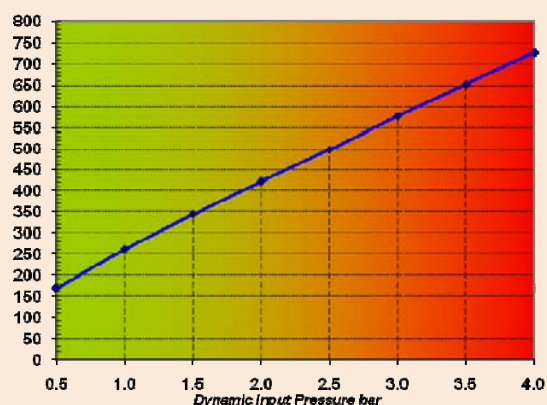
PRO-305-085-10
PRO-305-085-10
PRO-305-12-14
PRO-305-12-14
Not Available
Not Available
Not Available
PRO-315
PRO-315
PRO-315

Air Consumption Graph

(Measured using GTI-HD-G with 1.3mm Fluid nozzle)

L/min Air Flow

H1 Air Cap Air Flow



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

HVLP



#HS1 Air Cap:

Type:

High Volume Low Pressure
External Mix

Used on Gun SRI-HD Gravity Hand Gun
Type:

Used over Fluid Nozzles:

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

SRI-HD Fluid Needle

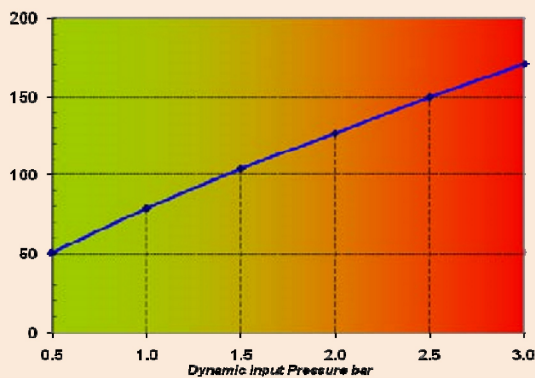
SRIPRO-300-08-10-K
SRIPRO-300-08-10-K
SRIPRO-300-12-14-K
SRIPRO-300-12-14-K

Air Consumption Graph

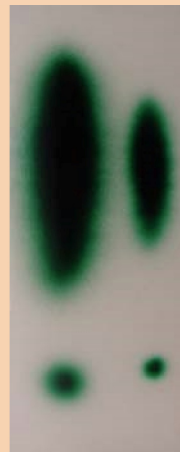
(measured using SRI-HD gun with 1.4mm fluid nozzle)

L/min Air Flow

HS1 Air Cap Air Flow



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

TRANS-TECH



#P1 Air Cap:

Type:

Compliant/Trans-Tech
External Mix

Used on Gun PRI-HD Gravity Hand Gun
Type:

Used over Fluid Nozzles:

PRIPRO-210-14
PRIPRO-210-16
PRIPRO-210-18
PRIPRO-210-20
PRIPRO-210-25

PRI-HD Fluid Needle

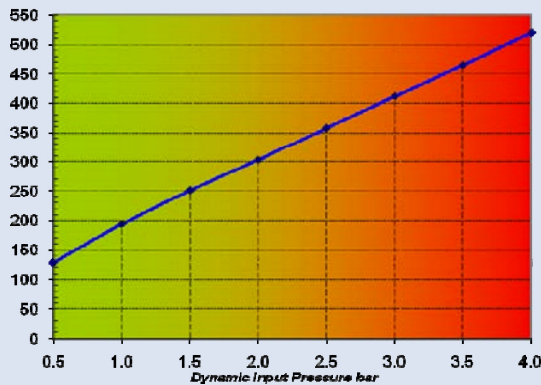
PRIPRO-310-K
PRIPRO-310-K
PRIPRO-310-K
PRIPRO-310-K
PRIPRO-310-K

Air Consumption Graph

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

L/min Air Flow

P1 Air Cap Air Flow



Typical Applications:

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

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 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 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

HVLP



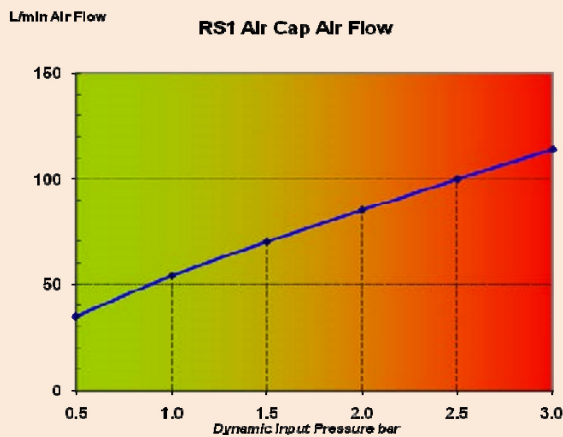
#RS1 Air Cap:

Type:

High Volume Low Pressure
External Mix

Air Consumption Graph

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



Typical Applications:

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

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:

Used on Gun SRI-HD Gravity Hand Gun
Type:

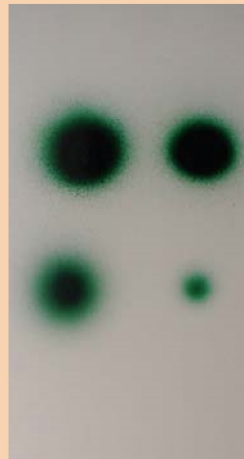
Used over Fluid Nozzles:

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

SRI-HD Fluid Needle

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

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 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

T1

TRANS-TECH



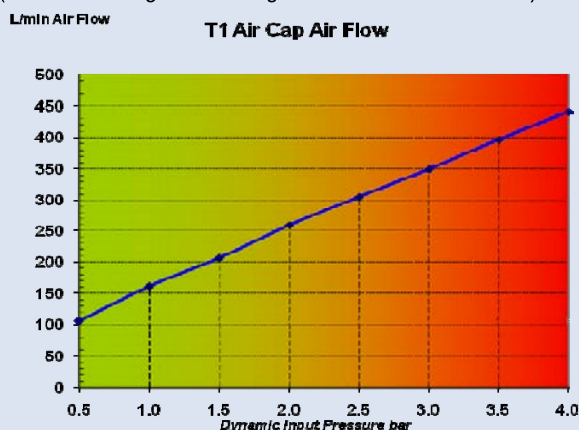
#T1 Air Cap:
Type:
Trans-Tech Compliant
External Mix

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

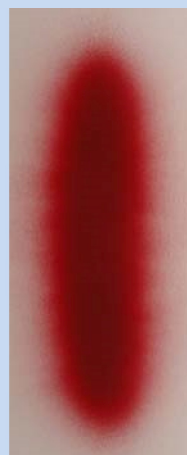
Used over Fluid Nozzles:	GTI-HD Suction Fluid Needle	GTI-HD Gravity Fluid Needle	GTI-HD Pressure Fluid Needle
PRO-205-085*	Not Available	Not Available	PRO-305-085-10
PRO-205-10*	Not Available	Not Available	PRO-305-085-10
PRO-205-12*	Not Available	Not Available	PRO-305-12-14
PRO-205-14*	Not Available	Not Available	PRO-305-12-14
PRO-200-12	Not Available	PRO-300	Not Available
PRO-200-13	Not Available	PRO-300	Not Available
PRO-200-14	Not Available	PRO-300	Not Available
PRO-200-16	PRO-315	Not Available	PRO-315
PRO-200-18	PRO-315	Not Available	PRO-315
PRO-200-20	PRO-315	Not Available	PRO-315

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
Solventbased & Waterbased coatings. Long Elliptical pattern, Small to medium production 2bar dynamic inlet Pressure

Original design specification:

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

TRANS-TECH



#T2 Air Cap:

Type:

Trans-Tech Compliant
External Mix

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

Used over Fluid Nozzles:

PRO-205-085*
PRO-205-10*
PRO-205-12*
PRO-205-14*
PRO-200-12
PRO-200-13
PRO-200-14
PRO-200-16
PRO-200-18
PRO-200-20

GTI-HD Suction Fluid Needle

Not Available
Not Available
Not Available
Not Available
Not Available
Not Available
Not Available
PRO-315
PRO-315
PRO-315

GTI-HD Gravity Fluid Needle

Not Available
Not Available
Not Available
Not Available
PRO-300
PRO-300
PRO-300
Not Available
Not Available
Not Available

GTI-HD Pressure Fluid Needle

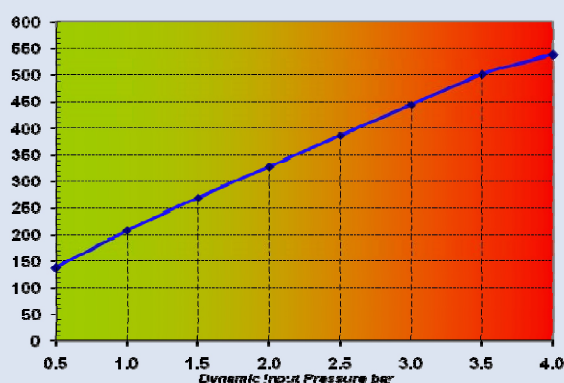
PRO-305-085-10
PRO-305-085-10
PRO-305-12-14
PRO-305-12-14
Not Available
Not Available
Not Available
PRO-315
PRO-315
PRO-315

Air Consumption Graph

(measured using GTI-HD-G gun with 1.3mm fluid nozzle)

L/min Air Flow

T2 Air Cap Air Flow



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

TRANS-TECH



#T3 Air Cap:

Type:

Trans-Tech Compliant
External Mix

Used on Gun Type:

GTI-HD Pressure Hand Guns

Used over Fluid Nozzles:

PRO-205-085
PRO-205-10
PRO-205-12
PRO-205-14
PRO-200-16*
PRO-200-18*
PRO-200-20*

GTI-HD Pressure Fluid Needle

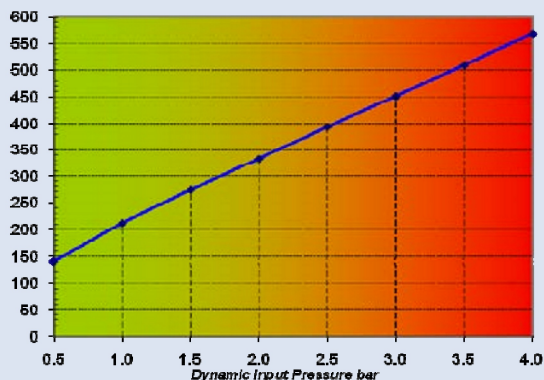
PRO-305-085-10
PRO-305-085-10
PRO-305-12-14
PRO-305-12-14
PRO-315
PRO-315
PRO-315

Air Consumption Graph

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

L/min Air Flow

T3 Air Cap Air Flow



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:

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.
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

T4

TRANS-TECH



#T4 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 Pressure Fluid Needle

PRO-205-085
PRO-205-10
PRO-205-12
PRO-205-14
PRO-200-16*
PRO-200-18*
PRO-200-20*

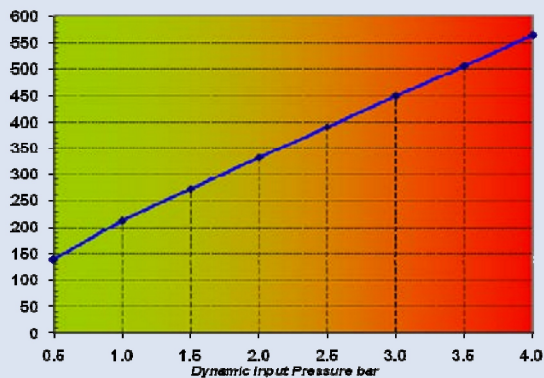
PRO-305-085-10
PRO-305-085-10
PRO-305-12-14
PRO-305-12-14
PRO-315
PRO-315
PRO-315

Air Consumption Graph

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

L/min Air Flow

T4 Air Cap Air Flow



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

TRANS-TECH



#TS1 Air Cap:

Type:

Compliant/Trans-Tech
External Mix

Used on Gun SRI-HD Gravity Hand Gun
Type:

Used over Fluid Nozzles:

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

SRI-HD Fluid Needle

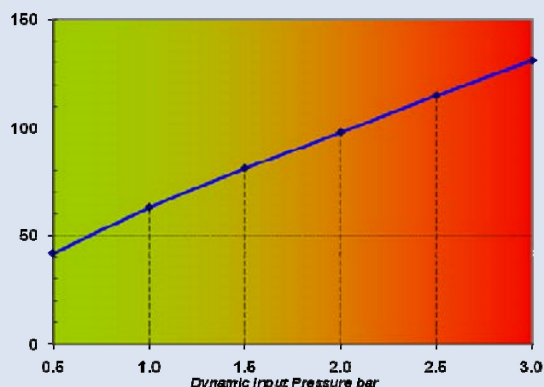
SRIPRO-300-08-10-K
SRIPRO-300-08-10-K
SRIPRO-300-12-14-K
SRIPRO-300-12-14-K

Air Consumption Graph

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

L/min Air Flow

TS1 Air Cap Air Flow



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
2.0 to 3.0 bar nominal handle inlet pressure

Materials of Construction

Electroless Nickel Plated Brass Air Cap

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

Notes:

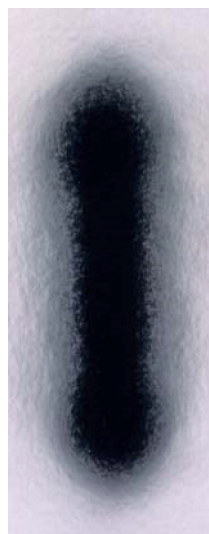
F. Spray Pattern Faults and Troubleshooting



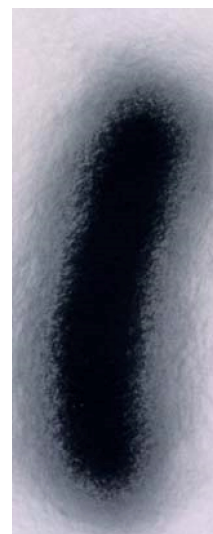
Split Spray Pattern
A C E H J



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

- | | |
|--|--|
| 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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