SERVICE MANUAL
EN

CE Ex II 2 G X

ADVANCED-CONVENTIONAL PRESSURE FEED / SUCTION FEED SPRAYGUN

IMPORTANT! DO NOT DESTROY

It is the Customer's responsibility to have all operators and service personnel read and understand this manual. Contact your local DeVilbiss representative for additional copies of this manual.

READ ALL INSTRUCTIONS BEFORE OPERATING THIS DEVILBISS PRODUCT.

IMPORTANT: Read and follow all instructions and SAFETY PRECAUTIONS before using this equipment.

DESCRIPTION

The Compact Gravity feed Spraygun Kit complies to ATEX regulations 94/9/EC, protection level; **II 2 G X, Suitable for use in Zones 1 and 2**.

IMPORTANT: These Sprayguns are suitable for use with solvent and water based materials. If there is any doubt regarding the suitability of a specific material contact your local Distributor or DeVilbiss direct.

EC DECLARATION OF CONFORMITY

We: **DeVilbiss Finishing UK, Ringwood Rd, Bournemouth, Dorset, BH11 9LH, UK**, as the manufacturer of the **Spraygun model Compact**, declare, under our sole responsibility, that the equipment to which this document relates is in conformity with the following standards or other normative documents:

BS EN 292-1 PARTS 1 & 2: 1991, BS EN 1953: 1999; and thereby conform to the protection requirements of Council Directive **98/37/EC** relating to ***Machinery Safety Directive***, and; **EN 13463-1:2001**, council Directive **94/9/EC** relating to ***Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres*** protection level ***II 2 G X***.

B. Holt, General Manager
30th June 2003

DeVilbiss reserve the right to modify equipment specification without prior notice.

CA PROP 65

PROP 65 WARNING
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SAFETY WARNINGS

FIRE AND EXPLOSION

Solvents and coating materials can be highly flammable or combustible when sprayed. **ALWAYS refer to the coating material suppliers instructions and COSHH sheets before using this equipment.**

Users must comply with all local and national codes of practice and insurance company requirements governing ventilation, fire precautions, operation and house-keeping of working areas.

This equipment, as supplied, is <u>NOT</u> suitable for use with <u>Halogenated Hydrocarbons</u>.

Static Electricity can be generated by fluid and/or air passing through hoses, by the spraying process and by cleaning non- conductive parts with cloths. To prevent ignition sources from static discharges, earth continuity must be maintained to the spraygun and other metallic equipment used.

PERSONAL PROTECTIVE EQUIPMENT

Toxic vapors – When sprayed, certain materials may be poisonous, create irritation or be otherwise harmful to health. Always read all labels and safety data sheets for the material before spraying and follow any recommendations. **If In Doubt, Contact Your Material Supplier.**

The use of respiratory protective equipment is recommended at all times. The type of equipment must be compatible with the material being sprayed.

Always wear eye protection when spraying or cleaning the spraygun

Gloves must be worn when spraying or cleaning the equipment.

Training – Personnel should be given adequate training in the safe use of spraying equipment.

MISUSE

Never aim a spraygun at any part of the body.

Never exceed the max. recommended safe working pressure for the equipment.

The fitting of non-recommended or non-original spares may create hazards.

Before cleaning or maintenance, all pressure must be isolated and relieved from the equipment.

The product should be cleaned using a gun washing machine. However, this equipment should not be left inside gun washing machines for prolonged periods of time.

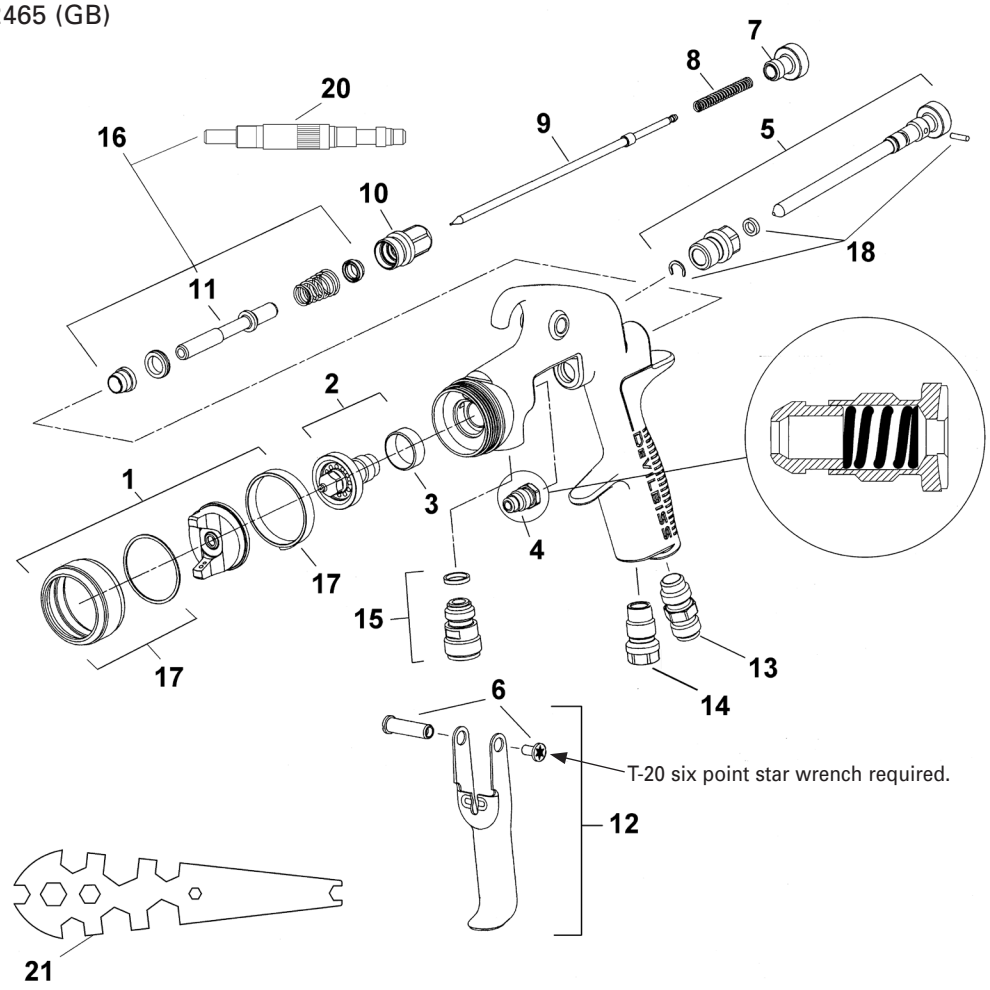
NOISE LEVELS

The A-weighted sound level of sprayguns may exceed 85 dB (A) depending on the set-up being used. It is recommended that ear protection is worn at all times when spraying.

OPERATING

Spray Equipment using high pressures may be subject to recoil forces. Under certain circumstances, such forces could result in repetitive strain injury to the operator.

Patent No. 2372465 (GB)



MODEL PART NUMBER

Example: **COM-PS430-14-00**

Stainless Steel Fluid Passage

Aircap

Fluid nozzle size (14 = 1.4 mm)

00 = No cup
01 = Siphon cup
03 = TSC-591 1 qt. SS cup with KK-4980 regulator
04 = TLC-576 1 qt. aluminum cup with KK-4980 regulator

PARTS LIST

Ref. No.	Description	Part Number	Qty.	Options
1	Air Cap/Retaining ring COM-430, COM-443 or COM-497	SP-100-***-K	1	430, 443, 497 e.g *** = 430
2	Nozzle	SP-200S-**-K	1	10, 14, 18, 22 e.g ** =14 =1.4 mm
+3	Separator (Pack of 5)	SP-623-K5	1	
+4	Packing (Pack of 2)	GTI-445-K2	1	
5	Spreader Valve	SP-401-K	1	
6	Stud and Screw		1	
7	Needle Adjusting Screw	SP-614-K	1	
+8	Spring	SP-622-K5	1	
9	Needle	SP-300S-**-K	1	10, 14, 18, 22 e.g ** =14 =1.4 mm
10	Airvalve housing & seal	SP-612-K	1	
11	Spindle		1	
12	Trigger, Stud and Screw	SP-617-CR-K	1	
13	Connector Air	SP-611-K	1	
14	Plug	—	1	
15	Fluid Inlet Connector and seal	SP-636-K	1	
17	Retaining Ring and Seals	SPK-102-K	1	
+18	Clip, Seal and Pin Kit (Pack of 5)	GTI-428-K5	1	
20	Air Valve Assembly Tool		1	
21	Wrench	SPN-5	1	
	Spraygun Service Kit (parts included marked +)	SPK-402-K	1	
16	Air Valve Service Kit	SPK-101-K	1	

SPECIFICATION

Air supply connection:
Universal 1/4" BSP and NPS

Fluid supply connection:
Universal 3/8" BSP and NPS

Maximum static Air inlet pressure:
P_1 = 12 bar (175 psi)

Maximum static Fluid inlet pressure:
P_2 = 15 bar (218 psi)

Nominal gun Air inlet pressure with gun triggered:
3.5 bar (50 psi)

Maximum Service temperature: 104°F

Gun Weight: 14.5 oz.

MATERIALS OF CONSTRUCTION

Gun body: Anodized Aluminum

Nozzle: Stainless Steel

Needle: Stainless Steel

Fluid Inlet / Fluid Passages:
Stainless Steel / PTFE

Trigger: Nickel Plated Steel

INSTALLATION

Important: To ensure that this equipment reaches you in first class condition, protective coatings have been used. Flush the equipment through with a suitable solvent before use.

1. Attach air hose to connector (13). Recommended hose size 5/16" ID.
2. Attach fluid supply hose to Fluid Inlet (15).

OPERATION

1. Mix coating material to manufacturers instructions
2. Turn needle adjusting screw (7) clockwise to prevent movement.
3. Turn spreader valve (5) counterclockwise to fully open.
4. Adjust inlet air pressure (For recommended figures see Specifications) at the gun inlet with the gun triggered. (pressure gauge attachment shown under Accessories is recommended for this).
5. Turn needle adjusting screw counter clockwise until first thread shows or full needle travel is achieved.
6. Test spray. If the finish is too dry reduce airflow by reducing air inlet pressure or by the Airflow Valve (14). Screw the Adjusting Knob (14) in to reduce pressure.
7. If finish is too wet reduce fluid flow by turning needle screw (7) clockwise or reducing the fluid pressure. If atomization is too coarse, increase inlet air pressure. If too fine reduce inlet pressure.
8. The pattern size can be reduced by turning spreader valve (5) clockwise.
9. Hold gun perpendicular to surface being sprayed. Arcing or tilting may result in uneven coating.
10. The recommended spray distance is 150-200 mm (6"-8").
11. Spray edges first. Overlap each stroke a minimum of 50%. Move gun at a constant speed.
12. Always turn off air and fluid supply and relieve pressure when gun is not in use.

PREVENTATIVE MAINTENANCE

1. Turn off air and coating supply and relieve pressure in the supply lines, or if using QD system, disconnect from airline and fluid line.
2. Remove air cap (1) and clean. If any of the holes in the cap are blocked with coating material use a toothpick to clean. Never use metal wire which could damage the cap and produce distorted spray patterns
3. Ensure the tip of the nozzle (2) is clean and free from damage. Build up of dried paint can distort the spray pattern.
4. Lubrication – stud/screw (6), packing (4) and air valve (11) should be oiled each day.

REPLACEMENT OF PARTS

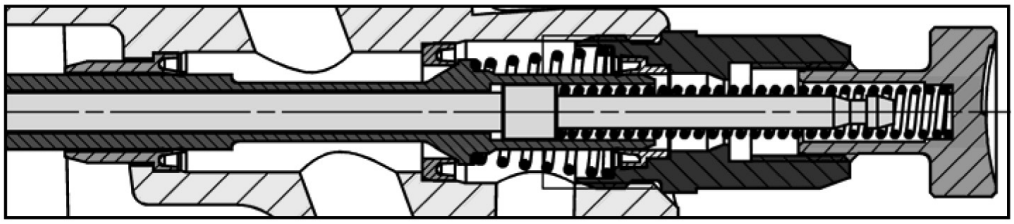
Nozzle (2) and Needle (9) – Remove parts in the following order: 7, 8, 9, 1 and 2. Replace any worn or damaged parts and re-assemble in reverse order. Recommended tightening torque for nozzle (2) 9.5-12 Nm (80-100 lbf in).

Packing – Remove parts 7, 8, 9. Unscrew cartridge (4). Fit new cartridge finger tight. Re-assemble parts 9, 8, and 7 and tighten cartridge (4) with spanner sufficient to seal but to allow free movement of needle. Lubricate with gun oil.

Air Valve Seal Kit (16) – (Refer to photos 1 to 28 and fig 2)

Spreader valve (5) – Caution: always ensure that the valve is in the fully open position by turning screw fully counterclockwise before fitting to body.

FIG 2



1. Remove Adjusting Knob (7), Spring (8), and Needle (9).

2. Loosen Housing (10).

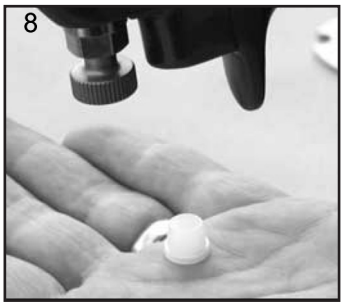
3. Remove Housing (10) and Airvalve Spring.

4. Remove Valve (11).

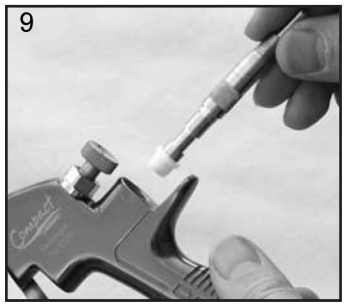
5. Using Service Tool SPN-7, engage groove behind the Valve Seat.

6. Remove Valve Seat.

7. Push out the Front Airvalve Seal with a finger.

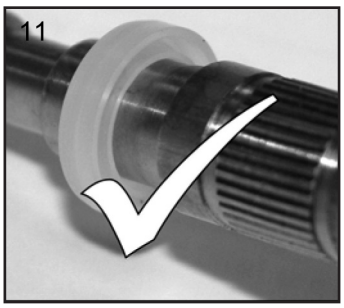


8. Turn the Gun upside down and let the Seal fall out.

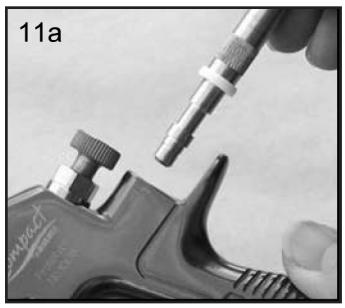


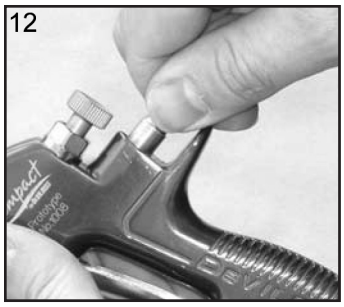
9. Fit New Front Seal to Service Tool.

10. Fit new Seal to gunbody and press firmly to ensure Seal is engaged.

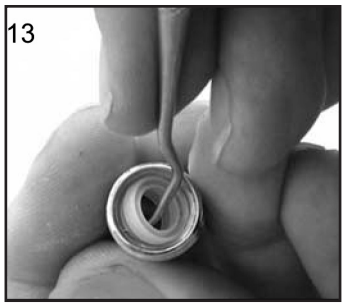


11. Fit New Valve Seat to Service Tool. Groove must face outwards.

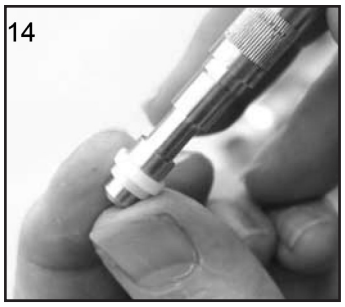




12. Fit Valve Seat to Gunbody.



13. Remove Rear Airvalve Seal from housing (10) with a hooked instrument.



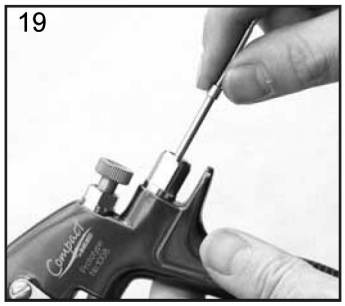
14. Fit new Seal to Service Tool.

15. Fit Seal to Housing (10).

16. Replace Valve (11).

17. Replace Valve Spring and screw in Housing (10).

18. Tighten Housing.



19. Fit Needle (9).

20. Fit Spring (8) and Knob (7).

21. Adjust Needle Packing (4) with wrench sufficient to seal but to allow free movement of needle. Lubricate with gun oil.

TROUBLESHOOTING

CONDITION	CAUSE	CORRECTION
Heavy top or bottom pattern 	Horn holes plugged. Obstruction on top or bottom of fluid tip. Cap and/or tip seat dirty.	Clean. Ream with non-metallic point. Clean. Clean.
Heavy right or left side pattern 	Left or right side horn holes plugged. Dirt on left or right side of fluid tip. Remedies for the top-heavy, bottom-heavy, right-heavy and left-heavy patterns: 1) Determine if the obstruction is on the air cap or the fluid tip. Do this by making a test spray pattern. Then, rotate the cap one-half turn and spray another pattern. If the defect is inverted, obstruction is on the air cap. Clean the air cap as previously instructed. 2) If the defect is not inverted, it is on the fluid tip. Check for a fine burr on the edge of the fluid tip. Remove with #600 wet or dry sand paper. 3) Check for dried paint just inside the opening. Remove paint by washing with solvent.	Clean. Ream with non-metallic point. Clean.
Heavy center pattern 	Fluid pressure too high for atomization air (pressure feed). Material flow exceeds air cap's capacity. Spreader adjustment valve set too low. Atomizing pressure too low. Material too thick.	Balance air and fluid pressure. Increase spray pattern width with spreader adjustment valve. Thin or lower fluid flow. Adjust. Increase pressure. Thin to proper consistency.
Split spray pattern 	Atomization air pressure too high. Fluid pressure too low (pressure feed only). Spreader adjusting valve set too high.	Reduce at transformer or gun. Increase fluid pressure (increases gun handling speed). Adjust.
Jerky or fluttering spray 	*Loose or damaged fluid tip/seat. Material level too low. Container tipped too far. Obstruction in fluid passage. Loose or broken fluid tube or fluid inlet nipple. Dry or loose fluid needle packing nut.	Tighten or replace. Refill. Hold more upright. Backflush with solvent. Tighten or replace. Lubricate or tighten.
Unable to get round spray	Spreader adjustment screw not seating properly. Air cap retaining ring loose.	Clean or replace. Tighten.
Will not spray	No air pressure at gun. Internal mix or pressure feed air cap and tip used with suction feed. Fluid pressure too low with internal mix cap and pressure tank. Fluid needle adjusting screw not open enough. Fluid too heavy for suction feed.	Check air supply and air lines. Change to proper suction feed air cap and tip. Increase fluid pressure at tank. Open fluid needle adjusting screw. Thin material or change to pressure feed.
Excessive overspray	Too much atomization air pressure Gun too far from work surface. Improper stroking (arcing, gun motion too fast).	Reduce pressure. Adjust to proper distance. Move at moderate pace, parallel towork surface.
Excessive fog	Too much, or too fast-drying thinner. Too much atomization air pressure.	Remix properly. Reduce pressure.
Dry Spray	Air pressure too high. Gun tip too far from work surface. Gun motion too fast. Gun out of adjustment	Reduce air pressure. Adjust to proper distance. Slow down. Adjust.
Fluid leaking from packing nut	Packing nut loose. Packing worn or dry	Tighten, do not bind needle. Replace or lubricate.
Fluid leaking or dripping from front of pressure feed gun	Packing nut too tight. Dry packing. Fluid tip or needle worn or damaged. Foreign matter in tip. Fluid needle spring broken. Wrong size needle or tip.	Adjust. Lubricate. Replace tip & needle with lapped sets. Clean. Replace. Replace.
Runs and sags	Too much material flow. Material too thin. Gun tilted on an angle, or gun motion too slow.	Adjust gun or reduce fluid pressure. Mix properly or apply light coats. Hold gun at right angle to work and adapt to proper gun technique
Thin, sandy coarse finish drying before it flows out	Gun too far from surface. Too much air pressure. Improper thinner being used.	Check distance. Normally approx. 8". Reduce air pressure and check spray pattern. Follow paint manufacturer's mixing instructions.

*Most common problem.

TROUBLESHOOTING (continued)

CONDITION	CAUSE	CORRECTION
Thick, dimpled finish "orange peel".	Gun too close to surface. Too much material coarsely atomized. Air pressure too low. Improper thinner being used. Material not properly mixed. Surface rough, oily, dirty.	Check distance. Normally approx. 8". Increase air pressure or decrease fluid pressure. Increase air pressure or reduce fluid pressure. Follow paint manufacturer's mixing instructions. Follow paint manufacturer's mixing instructions. Properly clean and prepare.

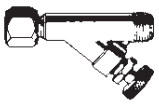
AVAILABLE OUTFITS

COM-PS430-18-01..... Siphon Feed Gun with TGC-545 1qt Aluminum Cup

98-3151 ..... 1/2" Diaphragm Pump Outfit / 5 gal Pail Mount with Advanced Conventional Compact Gun

ACCESSORIES

P-H-5516 Air Adjusting Valve

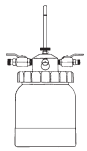


Enables user to control and reduce air usage at the gun. Ideal for low pressure spraying.

HAV-500 or HAV-501 Adjusting Valve
(HAV-501 SHOWN)

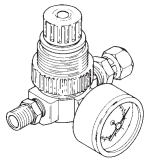
HAV-500 does not have pressure gage. Use to control air usage at gun.

HD-503 SolventSaver™ Hose/Gun Cleaner



2 Qt Hose/Gun Cleaner used to clean the inside of hose, fluid passageways of gun & other paint equipment.

HARG-510 Air Regulator



Use to maintain nearly constant outlet pressure despite changes in inlet pressure and downstream flow.

29-3100 Scrubs® Hand Cleaner Towels

Scrubs® are a pre-moistened hand cleaner towel for painters. No water is needed.

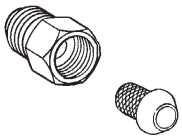
SPN-5 Wrench

Contains all necessary tip, hose and nut sizes used on or with gun.

42884-214-K5 3/8"
42884-215-K10 5/8"
Cleaning Brushes

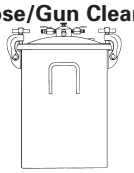
These brushes are helpful in cleaning threads and recesses of gun body.

PLH-MF-6-100 Mini-Strainer (100 mesh)



For trapping foreign particles in the paint supply.

183GZ-5200 SolventSaver™ Hose/Gun Cleaner



2 Gallon galvanized tank used to clean the inside of hose and material passages of the gun.

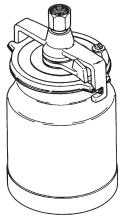
SP-402-K Air Adjusting Valve

Installs into gun to enable user to control and reduce air usage at the gun. Replaces SP-637 plug.

Spray Gun Lube SSL-10-K12 (2 oz. bottle)

Compatible with all paint materials: contains no silicone or petroleum distillates to contaminate paint. SDS sheet available upon request.

TGC-545 Aluminum Siphon Cups

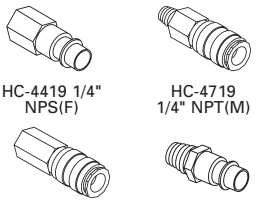


Millennium 3000
Twin Cartridge Paint Spray Respirator

40-141 Small
40-128 Medium
40-143 Large

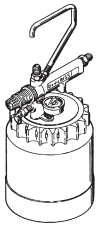
NIOSH-Certified, for respiratory protection in atmospheres not immediately dangerous to life.

Quick Disconnect Approved for HVLP Guns (Air)
High Flow Ball and Ring Type



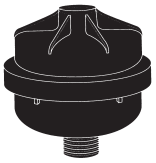
HC-4419 1/4" NPS(F)
HC-4719 1/4" NPT(M)
HC-4720 1/4" NPT(F)
HC-1166 1/4" NPT(M)

KB-555 (Aluminum) & KB-545-SS (S/S) 2 qt. Pressure Feed Cup With Regulator



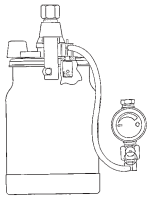
Provides greater degree of control over cup fluid pressure.

HAF-507-K12 Whirlwind™ In-Line Air Filter



Removes water, oil, and debris from the air line.

TLC-576 Aluminum Cup (Non-stick Lined) & TSC-591Stainless Steel Cup

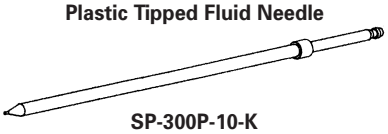


1 Qt. pressure feed cups. 3/8" NPS (F), cam lock lid. Requires KK-4980 air regulator kit.

MPV-60-K3 Air Inlet Swivel (Pack of 3)

Fits Compact gun only. Compatible with DeVilbiss high flow quick disconnects.

Plastic Tipped Fluid Needle



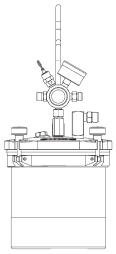
SP-300P-10-K
Compatible with SP-200S-08-K (0.55 mm) and SP-200S-10-K (1.0 mm) fluid tips

SP-300P-14-K
Compatible with SP-200S-14-K fluid tips

83C-220
2 Gallon Tank

Zinc plated tank.

80-600
SG2 Plus Cup



2 qt. cup. Waterborne compatible when 80-356 liner is used.

80-295 Cup

2 qt. aluminum cup with regulator.

DISTRIBUTED BY COATING EQUIPTMENT TECHNOLOGY,INC

WARRANTY POLICY

This product is covered by Carlisle Fluid Technologies' materials and workmanship limited warranty. The use of any parts or accessories, from a source other than Carlisle Fluid Technologies, will void all warranties. Failure to reasonably follow any maintenance guidance provided may invalidate any warranty.

For specific warranty information please contact Carlisle Fluid Technologies.

Carlisle Fluid Technologies is a global leader in innovative finishing technologies.
Carlisle Fluid Technologies reserves the right to modify equipment specifications without prior notice.

For technical assistance or to locate an authorized distributor, contact one of our international sales and customer support locations.

Region	Industrial / Automotive	Automotive Refinishing
Americas	Tel: 1-800-992-4657 Fax: 1-888-246-5732	Tel: 1-800-445-3988 Fax: 1-800-445-6643
Europe, Africa, Middle East, India	Tel: +44 (0)1202 571 111 Fax: +44 (0)1202 573 488	
China	Tel: +8621-3373 0108 Fax: +8621-3373 0308	
Japan	Tel: +81 45 785 6421 Fax: +81 45 785 6517	
Australia	Tel: +61 (0) 2 8525 7555 Fax: +61 (0) 2 8525 7575	

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