

Spare parts list and
Operator's Instructions for
Automatic spray guns

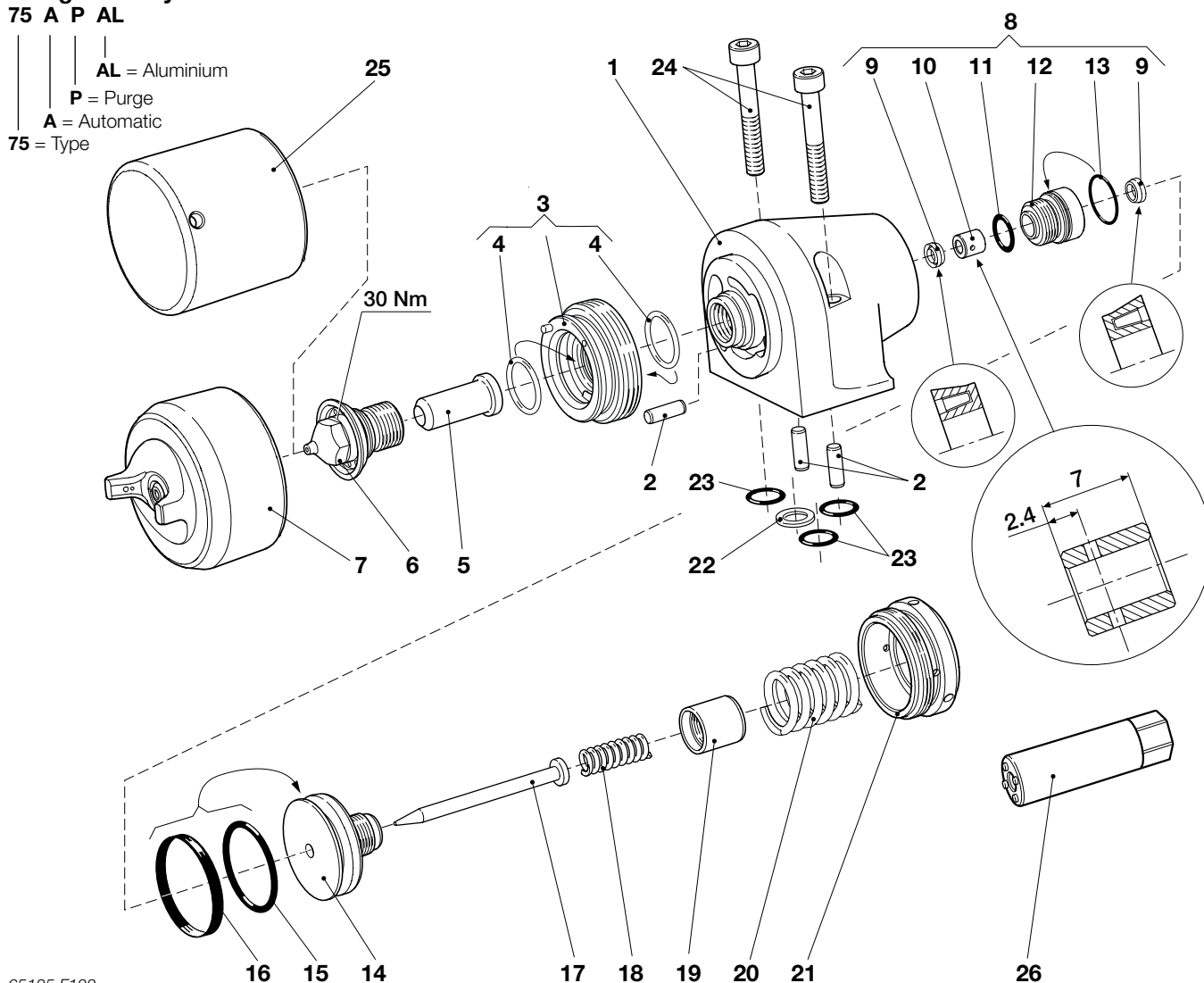
Ecco 75AP
Ecco 75AP-AL

ECCO
ECCO FINISHING
ESL 12/03-19

Designation system:

75 A P AL

75 = Type
A = Automatic
P = Purge
AL = Aluminium



65135 F122

Service set 6004 0176 19 Consisting of parts with ref. Nos:
2 (Qty 1), 4 (Qty2), 9 Qty 2), 10, 11 (Qty 1), 13, 15, 16.

Service set 6004 0019 20 Consisting of parts with ref. Nos:
2 (Qty 2), 22, 23 (Qty 3).

Parts without **bold** designate part number are not supplied separately.

Ref. No.	Part number	Qty 75AP	Qty 75AP-AL	Description	Ref. No.	Part number	Qty 75AP	Qty 75AP-AL	Description
1	6004 0176 05	1	—	Body SS	15	0663 2102 88 ^b	1	1	O-ring (21.82 x 3.53)
1	6004 0176 35	—	1	Body Al	16	6003 5795 00 ^b	1	1	Glyd ring
2	0101 4131 00 ^{b c}	3	3	Pin (CP 4 x 10 h6)	17	(see page 3)	1	1	Paint needle
3	6102 1215 91	1	1	Distribution ring H	18	6003 5789 00	1	1	Spring (S.S)
4	6101 1724 00 ^b	2	2	— O-ring	19	6004 0176 02	1	1	Cap
3	6102 1215 92	1	1	Distribution ring V	20	6003 5794 46	1	1	Spring
4	6101 1724 00	2	2	— O-ring	21	6004 0176 01	1	—	Cap SS
5	(see page 3)	1	1	Purge insert	21	6004 0176 31	—	1	Cap Al
6	(see page 3) ^a	1	1	Paint nozzle	22	0663 9051 48 ^c	1	1	Ring (4.8/9.0 x 2 PF128)
7	(see page 3)	1	1	Air cap	23	0663 9051 70 ^c	3	3	O-ring (7,66 x 1.78)
8	6004 0176 15	1	1	Packing screw, compl.	24	0211 1205 35	2	2	Screw (MC6S M5 x 35 A4)
9	0663 9051 12 ^b	2	2	— Sealing ring	25	6101 6065 99	1	1	Protection
10	6004 0176 08 ^b	1	1	— Spacer ring	26	6004 0159 28	1	1	Tools (for packing screw 12)
11	0663 9051 70 ^b	1	1	— O-ring (7,66 x 1.78)	Optional equipment				
12	—	1	4	— Packing screw	8	6004 0176 16	11	1	Packing screw, compl. (see page 3)
13	0663 9051 20 ^b	1	1	— O-ring (13 x 1)					
14	6004 0176 04	1	1	Piston					

^a Torque 22 Nm / ^bIncluding in service set 6004 0176 20. / ^c Including in service set 6004 0019 20.

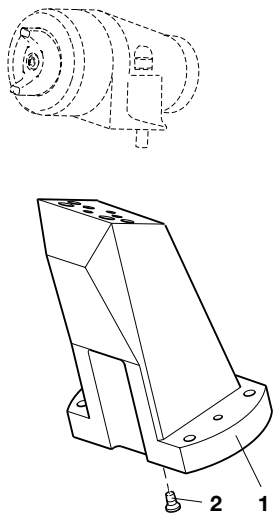
ECCO FINISHING AB, Box 93, SE-532 22 SKARA, Sweden
Tel: +46 (0)511-134 45, Fax: +46 (0)511-180 13
E-mail: info@eccofinishing.com • www.eccofinishing.com



9836 3961 01
2015-07

Optional equipment

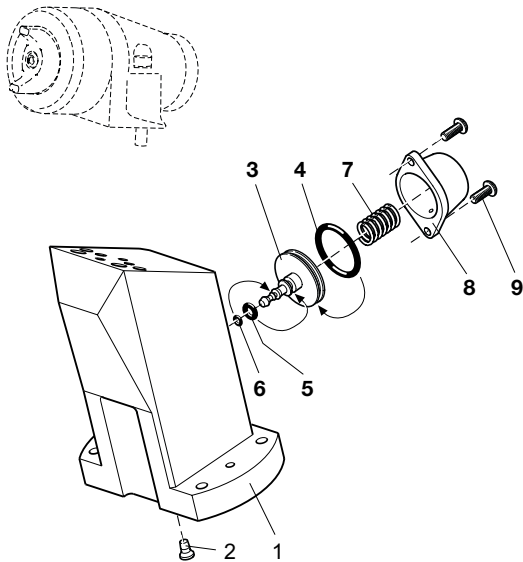
6004 0099 00 Gunadapter for Robot



65135 F124

Ref. No.	Part number	Qty	Description
1	6004 0099 00	1	Adapter
2	6004 0099 54	1	– Plug

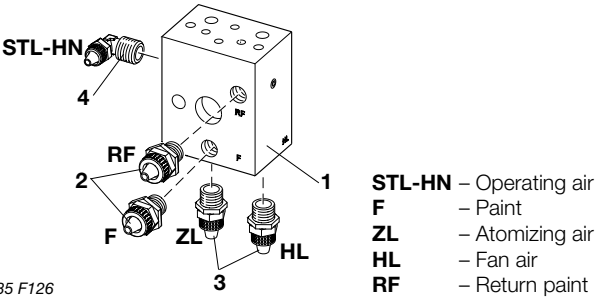
6004 0099 50 Gunadapter with flush valve, compl. for Robot



65135 F125

Ref. No.	Part number	Qty	Description
1	6004 0099 55	1	Adapter
2	6004 0099 54	1	– Plug
3	6004 0099 53	1	Piston
4	0663 9051 99	1	O-ring (23.0 x 2)
5	0663 9051 98	1	O-ring (4.0 x 2)
6	0663 9051 97	1	O-ring (1.78 x 1.78)
7	6004 0099 59	1	Spring
8	6004 0099 51	1	Cover
9	6803 9944 00	2	Screw (M4 x 8)

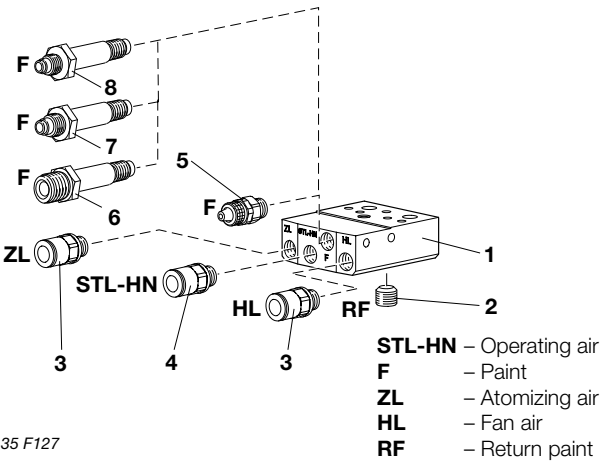
6003 9770 00 Mounting plate, compl. for Spraymate



65135 F126

Ref. No.	Part number	Qty	Description
1	–	1	Mounting plate
2	6003 9820 31	3	Coupling (G 1/8-6 mm)
3	6003 9827 93	1	Coupling (G 1/8-8 mm)
4	6003 9827 41	1	Elbow (G 1/8-8 mm)

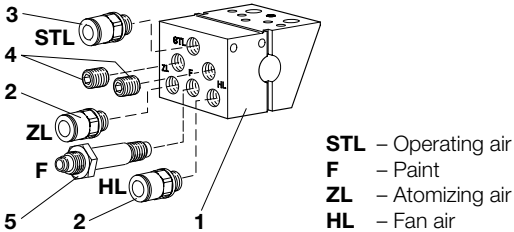
6003 9770 20 Mounting plate, compl. for Robot



65135 F127

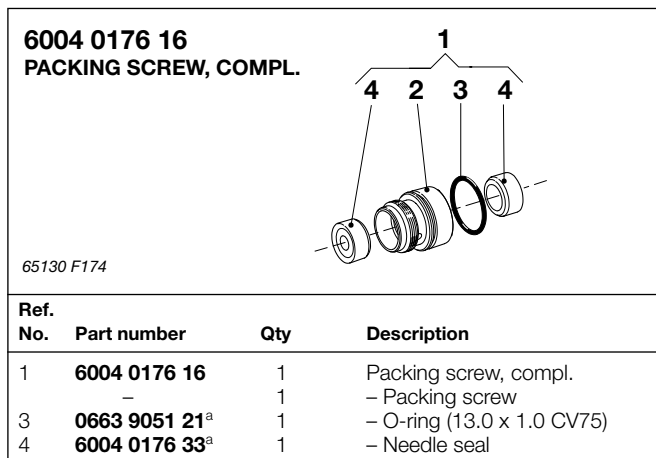
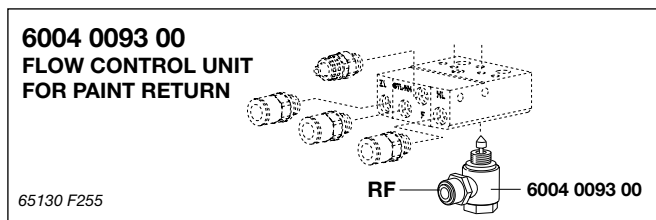
Ref. No.	Part number	Qty	Description
1	–	1	Mounting plate
2	0686 6101 47	1	Plug (G 1/8 SS)
3	6003 9820 41	2	Coupling (G 1/8-8 mm)
4	6003 9820 31	1	Coupling (G 1/8-6 mm)
5	6003 9827 95	1	Coupling (G 1/8-6 mm)
Optional equipment			
6	6003 9770 51	1	Nipple (G 1/8 x G 3/8 SS)
7	6003 9770 52	1	Nipple (G 1/8 ø 8-6 mm SS)
8	6003 9770 53	1	Nipple (G 1/8 ø 10-8 mm SS)

6003 9770 43 Mounting plate, compl. for Robot with 13 mm guide pin

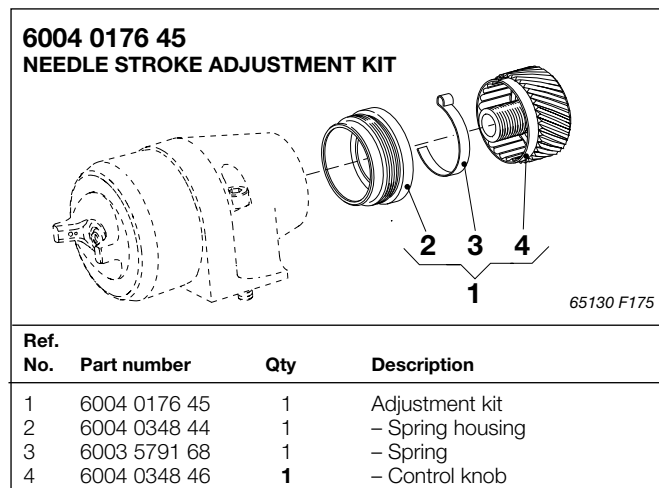


65130 F309-1

Ref. No.	Part number	Qty	Description
1	–	1	Mounting plate
2	6003 9820 41	2	Coupling (G 1/8-8 mm)
3	6003 9820 31	1	Coupling (G 1/8-6 mm)
4	0194 1319 00	2	Set screw (SK6SS 8 x 10)
5	6003 9770 52	1	Nipple (G 1/8 8-mm SS)



^a Including in service set 6004 0176 12



Nozzle combinations

Paint nozzle			Purge insert		Paint needle		Air cap					
Orifice diameter mm	Designation	Part number	Part number	Designation	Part number	Designation	Part number					
0.3	0.3 C	6001 1711 70	6004 0176 11	HA00475	6004 0176 88	T297 Fix 2 T297 Fix 4 T278 Fix 2 T278 Fix 4	6004 0297 72 6004 0297 74 6102 3991 72 6102 3991 74					
0.5	0.5 C	6001 1295 70		A00475	6004 0176 98							
0.8	B0.8 C	6001 0966 70										
1.1	01.1 C	6001 1068 70	6004 0176 11	HA00475	6004 0176 88			T297 Fix 2 T297 Fix 4 T278 Fix 2 T278 Fix 4	6004 0297 72 6004 0297 74 6102 3991 72 6102 3991 74			
1.1	F1.1 C	6004 0111 70		A00475	6004 0176 98							
1.1	1.1 C	6003 9211 70		A10 00475	6004 0176 80							
1.2	F1.2 C	6004 0112 70	6004 0176 18	A0475	6004 0176 96					T372 Fix 2 T372 Fix 4 T374 Fix 2 T374 Fix 4 T378 Fix 2 T378 Fix 4	6101 3168 72 6101 3168 74 6101 2603 72 6101 2603 74 6103 3316 72 6103 3316 74	
1.3	H1.3	6001 1092 00		HA0475	6004 0176 86							
1.4	F1.4 C	6004 0114 70		HA0475FP	6004 0176 90							
1.2	1.2 C	6003 9212 70		A0475FP	6004 0176 46							
1.4	1.4 C	6003 9214 70										
1.6	1.6 C	6003 9216 70										
1.8	H1.8	6001 0768 00										
2.1	H2.1	6000 9876 00		6004 0176 18	A0475	6004 0176 96	T372 Fix 2 T372 Fix 4 T374 Fix 2 T374 Fix 4 T378 Fix 2 T378 Fix 4					6101 3168 72 6101 3168 74 6101 2603 72 6101 2603 74 6103 3316 72 6103 3316 74
					HA0475	6004 0176 86						
					HA0475FP	6004 0176 90						
			A0475FP	6004 0176 46								
2.7	H2.7	6000 9877 00	6004 0176 18	A0475	6004 0176 96	T474 Fix 2 T474 Fix 4		6101 2604 72 6101 2604 74				
				HA0475	6004 0176 86							
				HA0475FP	6004 0176 90							
			A0475FP	6004 0176 46								
1.4	F1.4 C	6004 0114 70	6004 0176 18	HA13 0475	6004 0176 75				T297 Fix 2 T297 Fix 4 T278 Fix 2 T278 Fix 4	6004 0297 72 6004 0297 74 6102 3991 72 6102 3991 74		
1.4	1.4 C	6003 9214 70										
1.8	1.8 C	6003 9218 70		A17 0475	6004 0176 72							

Paint nozzle designation

The letter "C" after the designation denotes certified and controlled nozzle.

The letter "H" before the designation denotes tungsten-carbide design.

Paint needle designation

The letter "A10" "A13" and "A17" before the designation denotes cylindrical point (self cleaning tip).

The letter "FP" after the designation denotes double cut tip.

The letter "H" before the designation denotes tungsten-carbide design.

Air cap designation

The letter "Fix 2" after the denotes rotary air cap 2 x 180° vertical or horizontal spray pattern.

The letter "Fix 4" after the designation denotes rotary air cap 4 x 90°.

Spray guns		Air cap	Paint nozzle		Paint needle
Type	Ordering No.	Type	Stainless steel	Orifice diam.	Stainless steel
			Type	mm	Type
Ecco 75AP T297Fix4 B0.8C A00475	8611 6175 08	T297Fix4	B0.8C	0.8	A00475
Ecco 75AP T278Fix4 B0.8C A00475	8611 6175 09	T278Fix4	B0.8C	0.8	A00475
Ecco 75AP T278Fix4 1.1C A10 00475	8611 6175 11	T278Fix4	1.1C	1.1	A10 00475
Ecco 75AP T278Fix4 1.3C A0475	8611 6175 13	T278Fix4	1.3C	1.3	A0475
Ecco 75AP T278Fix4 1.4C A0475FP	8611 6175 00	T278Fix4	G 1.4C	1.4	A0475FP
Ecco 75AP T297Fix4 F1.4C A0475 FP	8611 6175 02	T297Fix4	F 1.4C	1.4	A0475FP
Ecco 75AP T278Fix4 1.8C A0475	8611 6175 12	T278Fix4	G1.8C	1.8	A0475
Ecco 75AP-AL T297Fix4 B0.8C A00475	8611 6179 08	T297Fix4	B0.8C	0.8	A00475
Ecco 75AP-AL T278Fix4 B0.8C A00475	8611 6179 09	T278Fix4	B0.8C	0.8	A00475
Ecco 75AP-AL T278Fix4 1.1C A10 00475	8611 6179 11	T278Fix4	1.1C	1.1	A10 00475
Ecco 75AP-AL T278Fix4 1.3C A0475	8611 6179 13	T278Fix4	1.1C	1.3	A0475
Ecco 75AP-AL T278Fix4 1.4C A0475FP	8611 6179 00	T278Fix4	G 1.4C	1.4	A0475FP
Ecco 75AP-AL T297Fix4 F1.4C A0475 FP	8611 6179 02	T297Fix4	F 1.4C	1.4	A0475FP
Ecco 75AP-AL T278Fix4 1.8C A0475	8611 6179 12	T278Fix4	1.8C	1.8	A0475

[illegible]

Type	Max. working fluid pressure bar	Max. flushing pressure bar	Min./max. air operation pressure bar
Ecco			
75AP, 75AP-AL	10	20	6/10

The high velocity flow of air and liquids through hoses and nozzles may develop static electricity. Be sure that the equipment, object being sprayed, spraybooth, paint and waste container are properly grounded to prevent static discharge or sparks.



WARNING

As the equipment works under pressure the utmost care must be observed during the work. Bearing this in mind, never aim the spray gun at a person or towards any part of the body. In the event of personal injury caused by the spraying pressure, immediate medical attention is essential. Before carrying out any adjustment or repair, the equipment must be switched off and the paint pressure relieved.

Paint spraying



CAUTION

Inhalation of paint, paint dust and solvent is not healthy. Make sure an approved spraybooth is used. The operator must use personal protection-breathing mask or fresh air hood.

Operation

- Install and operate the spray gun according to Fig.1, 2 and 3.
- Blow the paint and air hoses clean before connection.
- Check that all connections are tight .
- Keep the spray gun clean and lubricate (waterfree vaseline) moving parts at regular intervals.
- Lubricants for surface-treatment equipment must not contain silicon.
- For short standstill periods, for instance over a night, it will suffice to clean the air and paint nozzles on the outside. If a two-component paint is used, however, the gun **must be flushed through immediately** with solvent. This must also be done if the gun is to remain unused for a longer period of time.
- When cleaning the air cap and the paint nozzle, use a soft brush dipped in clean solvent. Do not place the entire gun in solvent, as the oil on the lubricated parts would be dissolved. Blow the air cap dry with compressed air from both sides.
- Never use iron or steel wire to clean air holes and ducts in the nozzles.
- When assessing the reaction time of the connected spray gun (the time from the start impulse until spraying commences) the reaction time of the control valve must be taken into consideration.
- Recommend size for control valve:
 - Control valve, 3-way, G 1/4. Min. flow area 28 mm². Mechanically, pneumatically or electrically actuated.

Connections (See Fig.1, 2, and 3)

STL-HN (Fig.1) Operation air.
Coupling for tube ø 6/8 mm.

STL-HN (Fig.2) Operation air.
Coupling for tube ø 4/6 mm.

STL (Fig.3) Operation air.
Coupling for tube ø 4/6 mm.

F Paint.
Coupling for tube ø 6/8 mm

ZL Atomizing air.
Coupling for tube ø 6/8 mm.

HL Fan air.
Coupling for tube ø 6/8 mm.

Connections

For gun with mounting plate 6003 9770 00 for Spraymate

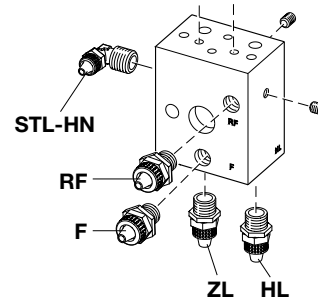


Fig. 1

65135 F129

Connections

For gun with mounting plate 6003 9770 20 for Robot

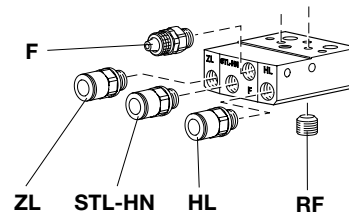


Fig. 2

65135 F130

Connections

For gun with mounting plate 6003 9770 43 for Robot with 13 mm guide pin

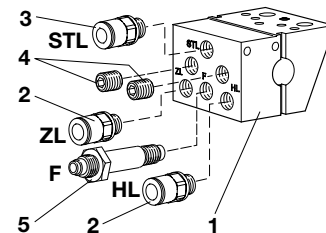


Fig. 3

65130 F309-1

How to operate

Note:

Valve orifice inside three-way solenoid valve should be minimum $\varnothing 4$ mm and also operating air hose length should be within 10m with the inner diameter more than $\varnothing 6$ mm to avoid delayed operation and any kind of failure.

Recommended paint viscosity differs according to paint properties and painting conditions. 15 to 23 sec./Ford cup 4 is recommendable.

The gun is operate at low air pressure, high transfer efficiency will not be obtained if the spray distance is too far.

Set the spray distance from the gun to the work piece as near as possible within the range of 150-300 mm.

Air caps (See Fig. 4 and 5)

The air caps are tested and certified according to the SEAVA method. This gives a "finger print" of the spray pattern on each air cap. For further information please contact your supplier.

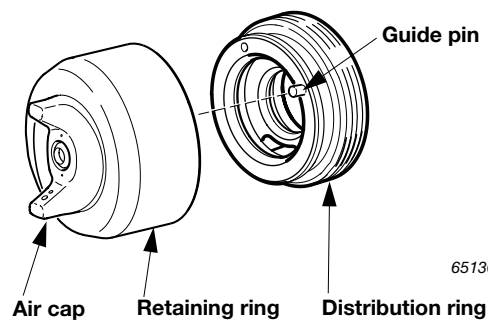
The retaining ring for the air cap shall only be tightened with hand force. No tools are required. Especially important when a cap cleaner is used.

Fix 2 on the air cap, denotes that the air cap can be installed in vertical or horizontal position, depending on the position of the pin in the distribution ring (See Fig. 4 and 5).

Fix 4 on the air cap, denotes that the air cap can be installed in vertical or horizontal position, regardless of the position of the pin in the distribution ring.

Air caps can be sent back for checking and comparing the performance. For further further interesting please contact your supplier.

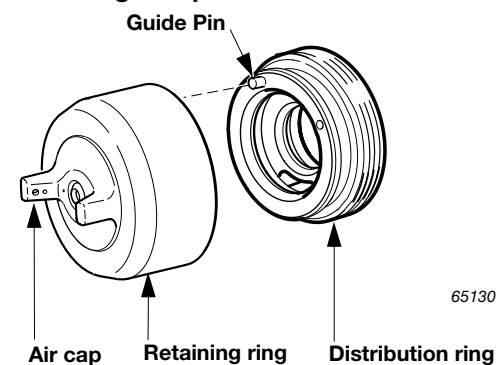
The position of guide pin for Horizontal Pattern



65130 F257

Fig. 4

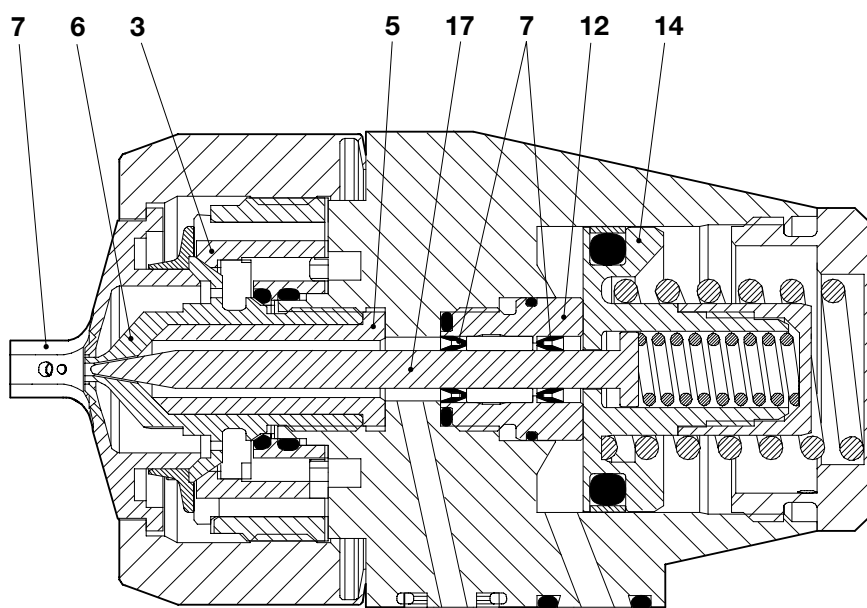
The position of guide pin for Vertical Pattern



65130 F258

Fig.5

Automatic spray guns Ecco 75AP



65135 F158

Fig. 6

- | | | |
|----------------------|-------------------|------------------|
| 3. Distribution ring | 7. Air cap | 14. Piston. |
| 5. Purge insert | 9. Sealing ring | 17. Paint needle |
| 6. Paint nozzle | 12. Packing screw | |

Disassembly - Reassembly (See Fig. page 1)



WARNING

Before any intervention on the spray gun, shot off the compressed air supply and depressurize the by controlling the opening of the spray gun.

Changing the spray gun

1. Shut off the air and material feeds to the gun.
2. Depressurize the circuits.
3. Remove the 2 screws (24).
4. Take out the gun.
5. Fit the replacement gun and change the seals (11 and 22).
6. Re-fit the 2 screws (24).

Needle packing and needle

1. Unscrew the cap (21) and remove the spring (20).
2. Hold the entire needle and piston (14-19) and pull it towards the back.
3. Unscrew the cap (19) from the piston (14) and remove the spring (18) and paint needle (17).
4. Remove the air cap (7), the paint nozzle (6) and the insert (5).
5. Remove the packing screws (12), compl. with the parts (9-13). Use the tools (26).
6. Press out the sealing rings (9) and the spacer ring (10) with a screwdriver, use compressed air to blow out any pieces.
7. Clean everything well with cleaning agent and then blow out with air.
8. Fit the new sealing rings (9) and the spacer ring (10) into the packing screw (12).
9. Re-fit the packing screw (12) with the tools (26).
10. Re-fit the needle and piston assembly (14-19).
11. Re-fit the spring (20) and the cap (21).
12. Re-fit the insert (5), the paint nozzle (6) (screwing torque 30 Nm) and the air cap (7) by hand.

Before reassembling the different components:

- Clean the parts with the appropriate cleaning agent by means of brush.
- Install new seals after having lubricated them with PTFE grease.
- Install new parts if necessary.

Distribution ring

1. **Remove** the air cap (7) and the paint nozzle (6).
2. **Remove** the distribution ring (3) by screwing on the air cap (7) a few turns. Withdraw the distribution ring axially from the body (1).
3. **Re-fit** the distribution ring (3) by mating it with a guide pin in the body (1).
4. **Re-fit** the paint nozzle (6) (with torque 30 Nm) and re-fit the air cap (7) (tighten by hand).

Troubleshooting

Introduction

Always commence troubleshooting by checking the general condition of the spray gun. This can most easily be determined by test spraying, which provides an opportunity for checking the spray pattern and capacity, air leakage and gasket leakage.

Types of problems

Collection of information which makes it possible to identify the error symptoms applicable to the spray gun in the event of malfunctioning is a matter of vital importance. Identification of symptoms makes it possible to decide whether the spray gun itself is the direct cause of the malfunctioning or if this may have been caused by an external factor.

The following external factors can cause malfunctioning and should be thoroughly checked:





1. The quality of the air, i.e. content of moisture, dirt particles and oil.
2. The quality of the paint, i.e. its viscosity, purity, etc.
3. The air and paint pressure in relation to viscosity of the paint and nozzle combination used.
4. The size of the air/paint hoses.

Troubleshooting chart (See page 8)

Troubleshooting chart



Correct Spray Pattern

Spray Pattern	Cause	Remedy
 <p>Asymmetrical to the left or to the right</p>	a) Dried paint on holes for atomizing air. b) Damage to holes for atomizing air. c) Air cap not sufficiently tightened.	a) Dried paint on holes for atomizing air. Clean the air holes, use appropriate cleaning agent and a soft brush. b) Damage to holes for atomizing air. Replace the air cap with a new one. c) Air cap not sufficiently tightened. Tighten the air cap properly by hand.
 <p>Distorted in the middle</p>	a) Damage to the tip of the paint nozzle. b) The pressure of the atomizing air in relation to the viscosity of the paint.	a) Fit a new paint nozzle. b) Adjust the air pressure of the atomizing air.
 <p>Narrowing off in the middle</p>	a) Wrong nozzle combination. b) Fan air pressure too high. c) Paint viscosity unsuitable. d) Incorrect spray angle.	a) Select a new nozzle combination suitable for the viscosity of paint. b) Reduce the pressure of the fan air. c) Adjust the viscosity of the paint. d) Adjust the angle with the fan width control.
 <p>Irregular spray (spitting)</p>	a) Paint needle gasket leaky. b) Damaged O-ring in distributor ring. c) Paint nozzle not tightened. d) Dirt on sealing surfaces of paint nozzle and distributor ring. e) Paint hose connection not tightened. f) Paint hose defective.	a) Change the paint needle gaskets. b) Change the O-ring in the distributor ring. c) Tighten the paint nozzle. d) Clean the sealing surfaces of the paint nozzle and distributor ring with solvent and blow clean. e) Tighten the paint hose connection. f) Change the paint hose.

Paint leaking - Air leaking	Cause	Remedy
Paint leaking through the draining hole (See Fig 7 below).	Worn needle packings and/or needle.	Replace damaged parts with new ones.
Air leaking through the draining hole when the piston (8) is operating.	Worn or damaged sealing rings (9).	Replace sealing rings with new one.
Paint leaking through the paint nozzle when the gun is closed.	Pollution between the needle and the nozzle or needle and nozzle worn or damaged.	Unscrew air cap (7) and nozzle (6). Clean carefully and check for any sign of damages or wear.

Draining hole

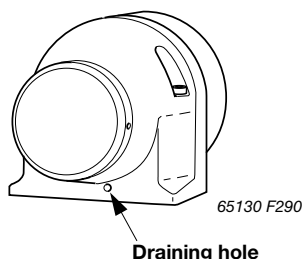


Fig.7