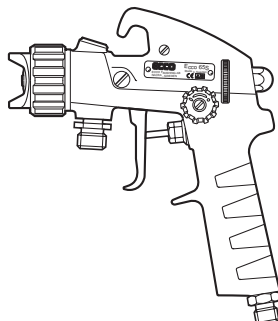


**Ecco 65S**  
Pressure feed

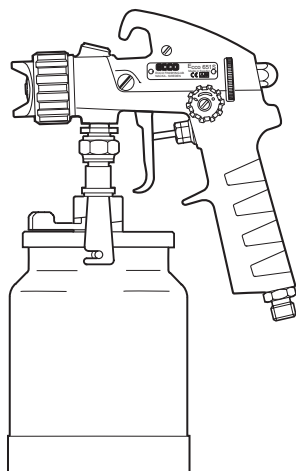


65130 F230

**Pressure feed guns**

Type of gun	Paint nozzle Orifice diam., mm	Air cap	Prod. No.	
			With paint needle of nylon	With paint needle of stainless steel
Ecco 65S	0.9	6509	8611 6540 09	8611 6548 09
Ecco 65S	1.1	6511	8611 6540 11	8611 6548 11
Ecco 65S	1.4	6514	8611 6540 14	8611 6548 14
Ecco 65S	1.8	6518	8611 6540 18	8611 6548 18
Ecco 65S	2.1	6521	8611 6540 21	8611 6548 21
Ecco 65S	2.7	6527	8611 6540 27	

**Ecco 651S**  
Suction feed

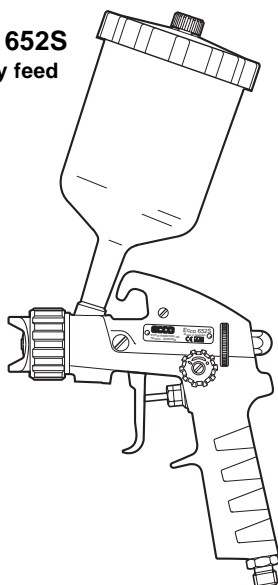


65130 F233

**Suction feed guns**

Type of gun	Paint nozzle Orifice diam., mm	Air cap	Prod. No.	
			With paint needle of nylon	With paint needle of stainless steel
Ecco 651S	1.4	6514	8611 6541 14	8611 6543 14
Ecco 651S	1.8	6518	8611 6541 18	8611 6543 18
Ecco 651S	2.1	6521	8611 6541 21	8611 6543 21
Ecco 651S	2.7	6527	8611 6541 27	

**Ecco 652S**  
Gravity feed

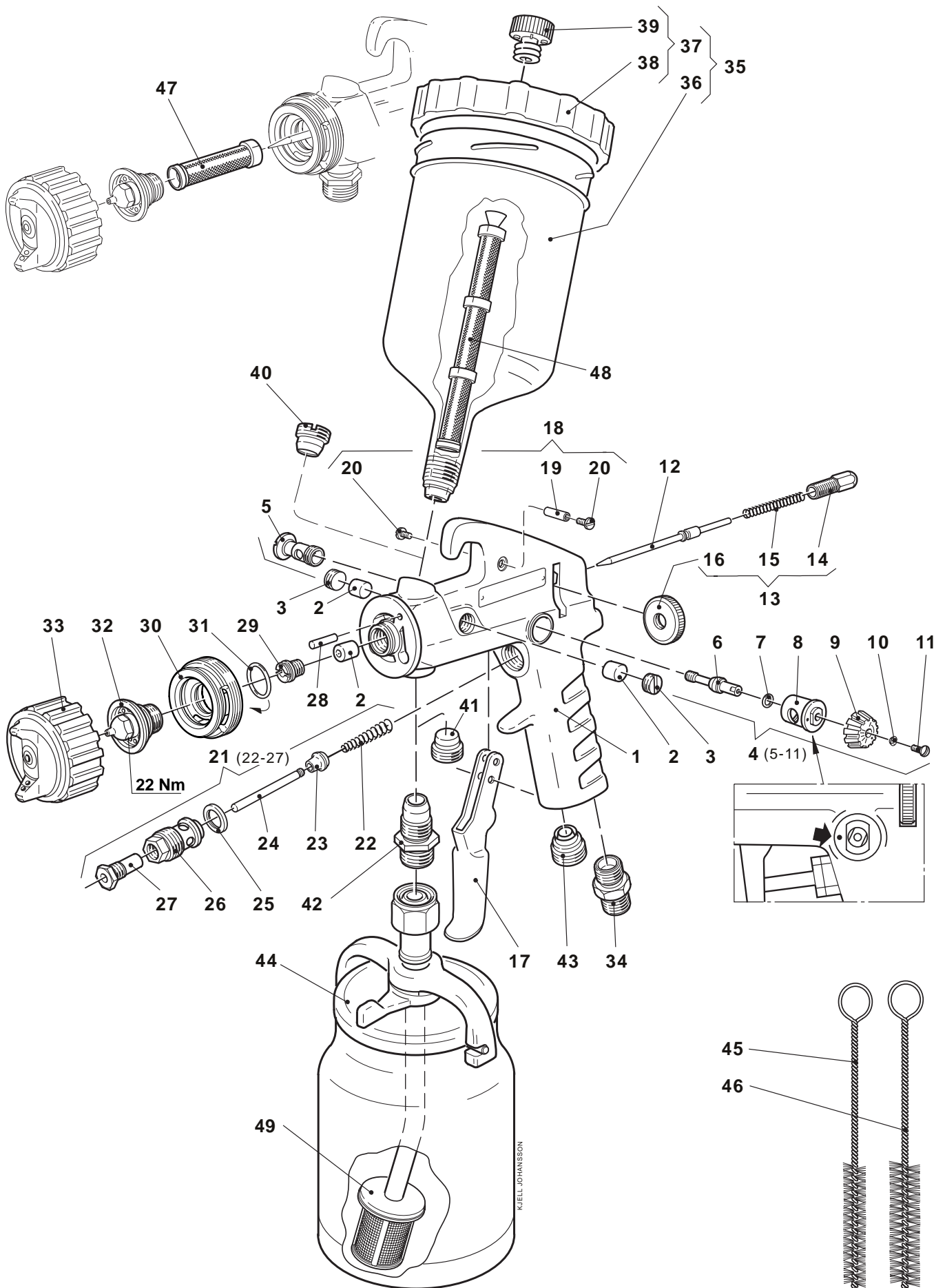


65130 F232

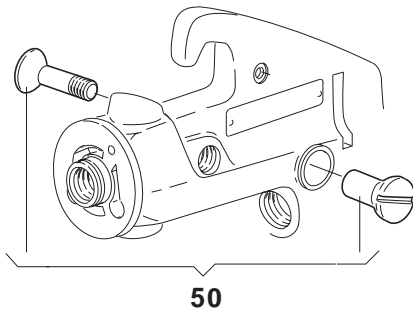
**Gravity feed guns with gravity cup 0.5 lit.**

Type of gun	Paint nozzle Orifice diam., mm	Air cap	Prod. No.	
			With paint needle of nylon	With paint needle of stainless steel
Ecco 652S	0.9	6509	8611 6542 09	8611 6544 09
Ecco 652S	1.1	6511	8611 6542 11	8611 6544 11
Ecco 652S	1.4	6514	8611 6542 14	8611 6544 14
Ecco 652S	1.8	6518	8611 6542 18	8611 6544 18
Ecco 652S	2.1	6521	8611 6542 21	8611 6544 21
Ecco 652S	2.7	6527	8611 6542 27	8611 6544 27

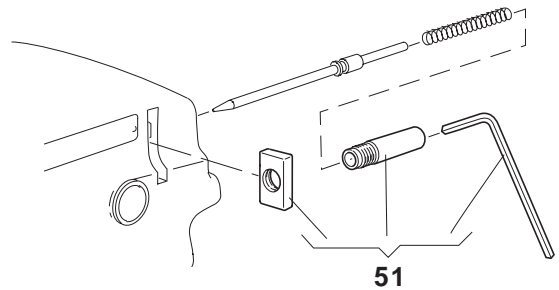
Ecco 65S, -651S, -652S



KJELL JOHANSSON



65130 F287



65130 F288

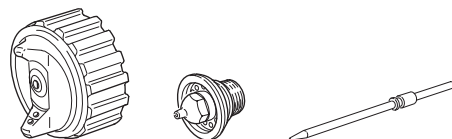
**Service set 6003 9095 00** for Ecco 65S, -651S, -652S  
 Consists of parts with ref. Nos. 2, 3 (Qty 1), 7, 10, 11, 19, 20, 22, 23, 25, 27, 29 and 31.

Part numbers **in bold type** designate consumption parts.

Ref. No.	Part number	Qty -65S	Qty -651S	Qty -652S	Description	Ref. No.	Part number	Qty -65S	Qty -651S	Qty -652S	Description
1	-	1	1	1	Gun body	<b>Optional Equipment</b>					
2	<b>6102 2401 00<sup>g</sup></b>	1	1	1	Packing set	-	6101 6065 00	1	1	1	Retaining ring, acetal plastic (for air cap)
3	<b>6000 8369 00<sup>g</sup></b>	2	2	2	Packing screw (stainless steel)	4	6101 9230 00	1	1	1	Fan width control for left handed
4	<b>6101 5100 00</b>	1	1	1	Fan width control, compl.	4	6003 9602 00	1	1	1	Quick fan width control
5	6101 3788 00	1	1	1	- Valve screw	15	6101 2582 65	1	1	1	Spring, soft (2.7 kg)
6	6101 3790 00	1	1	1	- Valve pin	15	6001 2036 00	1	-	-	Spring, stiff (6.4 kg)
7	6101 3796 00 <sup>g</sup>	1	1	1	- O-ring	30	6102 1215 00	1	1	1	Distribution ring, compl. (stainless steel threads)
8	6101 3789 00	1	1	1	- Valve housing	34	6000 1877 00	1	1	1	Air inlet nipple (9/16" 20G)
9	6101 3648 00	1	1	1	- Wheel	34	6002 0233 00	1	1	1	Air inlet nipple (1/4" 18 NPSM)
10	0333 5109 00 <sup>g</sup>	1	1	1	- Lock washer (V 3.2)	35	6101 5560 95	-	-	1	Paint cup Ecco G 1.25, volume 0.125 l
11	0164 5013 00 <sup>g</sup>	1	1	1	- Screw (MKFS 3 x 6 SS A2)	42	6003 7393 00	1	-	-	Paint inlet nipple (9/16" 20G stainless steel)
12	(see page 4)	1	1	1	Paint needle	44	6003 9714 00	1	-	-	Suction cup Ecco SD 15, volume 1 l
13	6000 9191 80	1	1	1	Back head, compl.	44	6003 9676 00	1	1	-	Suction cup Ecco SD 15T, volume 1 l (inside coated with teflon)
14	6000 9191 00	1	1	1	- Back head	44	6803 4867 00	1	1	-	Suction cup Ecco SD 10, volume 1 l
15	6101 2582 00	1	1	1	- Spring (3.4 kg)	47	<b>6103 3200 00<sup>c</sup></b>	1	1	1	Strainer set <sup>d</sup> 60 mesh (white)
16	6000 7764 00	1	1	1	- Wheel	47	<b>6103 3201 00<sup>c</sup></b>	1	1	1	Strainer set <sup>d</sup> 100 mesh (yellow)
17	6101 2796 00	1	1	1	Trigger (stainless steel)	47	<b>6103 3202 00<sup>c</sup></b>	1	1	1	Strainer set <sup>d</sup> 200 mesh (black)
18	6101 2990 80	1	1	1	Shaft, compl.	47	<b>6103 1088 00<sup>c</sup></b>	1	1	1	Strainer <sup>e</sup> 300 mesh (red)
19	6101 2990 00 <sup>g</sup>	1	1	1	- Shaft (stainless steel)	48	<b>6003 9754 05</b>	-	-	1	Strainer set <sup>f</sup> 60 mesh (white)
20	0164 5013 91 <sup>g</sup>	2	2	2	- Screw (MSCS A4-70 3 x 6 stainless steel)	48	<b>6003 9752 05</b>	-	-	1	Strainer set <sup>f</sup> 100 mesh (yellow)
21	<b>6101 5730 00</b>	1	1	1	Air valve, compl.	49	<b>6003 7886 00</b>	-	1	-	Strainer set <sup>d</sup> 80 mesh
22	6101 2111 00 <sup>g</sup>	1	1	1	- Spring	50	6101 5247 80	1	1	1	Plug set, for gun is not fitted with fan width control
23	6101 5008 00 <sup>g</sup>	1	1	1	- Air valve	51	6102 1203 80	1	1	1	Back head, lockable fluid volume control
24	6101 3631 00	1	1	1	- Valve pin	-	6003 9249 00	1	1	1	Testing air pressure gauge (incl. connection parts, excl. testing air cap)
25	6001 1008 00 <sup>g</sup>	1	1	1	- Packing	-	6003 9249 09	1	1	1	Testing air cap 6509
26	6003 2167 00	1	1	1	- Valve housing	-	6003 9249 11	1	1	1	Testing air cap 6511
27	6101 5716 00 <sup>g</sup>	1	1	1	- Bushing	-	6003 9249 14	1	1	1	Testing air cap 6514
28	0101 4131 00 <sup>b</sup>	1	1	1	Pin (CP 4h6 x 10 S)	-	6003 9249 18	1	1	1	Testing air cap 6518
29	6103 3112 00 <sup>g</sup>	1	1	1	Screw (stainless steel)	-	6003 9249 21	1	1	1	Testing air cap 6521
30	<b>6102 1214 00</b>	1	1	1	Distribution ring with O-ring						
31	6101 1724 00 <sup>g</sup>	1	1	1	- O-ring						
32	(see page 4)	1	1	1	Paint nozzle						
33	(see page 4)	1	1	1	Air cap						
34	6001 2619 00 <sup>a</sup>	1	1	1	Nipple (G 1/4)						
35	6101 5560 00	-	-	1	Paint cup Ecco G 5, compl.						
36	6101 5561 00	-	-	1	- Paint cup (G 3/8) volume 0.5 l						
37	6101 5559 00	-	-	1	- Cover, compl.						
38	6003 9094 00	-	-	1	-- Cover						
39	<b>6003 9068 00</b>	-	-	1	-- Plug (Drip guard)						
40	6003 9974 00	1	1	-	Plug (G 3/8)						
41	6101 3742 00	-	-	1	Plug (M14 x1)						
42	6101 5021 00	1	1	-	Nipple (G 3/8 stainless steel)						
43	6101 5626 00	1	1	1	Plug (G 3/8)						
44	6003 9714 00	-	1	-	Suction cup Ecco SD 15, volume 1 l (see spare parts list No. 9836 3175, ESL 12/04-20)						
45	6000 8004 00	1	1	1	Cleaning brush (ø10 mm)						
46	6000 8001 00	1	1	1	Cleaning brush (ø17 mm)						
47	(see optional equipment)	3	3	-	Strainer 100 mesh						
48	(see optional equipment)	-	-	1	Strainer 100 mesh (yellow)						

<sup>a</sup> Loctite No. 225. <sup>b</sup> Loctite No. 243. <sup>c</sup> Not for plastic paint nozzle. <sup>d</sup> Set of 10. <sup>e</sup> Sold singly. <sup>f</sup> Set of 5. <sup>g</sup> Including in service set.



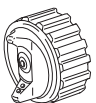
## Nozzle sets



Consists of air cap, paint nozzle of stainless steel and paint needle of nylon.

Nozzle set Part number	Designation	Air cap Designation	Paint nozzle Designation	Orifice dia mm	Capacity ml/min	Paint needle Designation
<b>6003 9232 09</b>	6509-01	6509	G 0.9	0.9	90–200	P007
<b>6003 9235 11</b>	6511-01	6511	HVLP 11	1.1	150–225	P007
<b>6003 9237 14</b>	6514-01	6514	HVLP 14	1.4	200–270	P07
<b>6003 9239 18</b>	6518-01	6518	HVLP 18	1.8	200–350	P07
<b>6003 9242 21</b>	6521-01	6521	HVLP 21	2.1	250–400	P07
<b>6003 9246 27</b>	6527-01	6527	HVLP 27	2.7	250–400	P07

## Nozzle combinations

Paint nozzle 			Paint needle 				Air cap 	
Orifice diameter mm	Designation	Part number	Stainless steel		Nylon		Designation	Part number
			Designation	Part number	Designation (a)	Part number		
0.6	G0.6	<b>6003 9206 00</b>	007	<b>6001 0548 00</b>	P007	<b>6101 5747 00</b>	6509	<b>6003 9232 00</b>
0.8	G0.8	<b>6003 9208 00</b>						
0.9	G0.9	<b>6003 9209 00</b>						
1.1	G1.1	<b>6003 9211 00</b>	007	<b>6001 0548 00</b>	P007	<b>6101 5747 00</b>	6511	<b>6003 9235 00</b>
1.2	G1.2	<b>6003 9212 00</b>	07 H07 <sup>c</sup>	<b>6000 9275 00</b> <b>6000 9881 00</b>	P07	<b>6001 1471 00</b>	6518	<b>6003 9239 00</b>
1.4	G1.4	<b>6003 9214 00</b>						
1.4	G1.4 <sup>d</sup>	<b>6003 9650 14</b>						
1.6	G1.6	<b>6003 9216 00</b>	07 H07 <sup>c</sup>	<b>6000 9275 00</b> <b>6000 9881 00</b>	P07	<b>6001 1471 00</b>	6514 T6578 T6578	<b>6003 9237 00</b> <b>6003 9578 00</b> <b>6003 9579 00<sup>e</sup></b>
1.8	G1.8	<b>6003 9218 00</b>	07 H07 <sup>c</sup> 1807 <sup>b</sup>	<b>6000 9275 00</b> <b>6000 9881 00</b> <b>6101 3848 80</b>	P07 P1807 <sup>b</sup>	<b>6001 1471 00</b> <b>6101 3844 00</b>	6518	<b>6003 9239 00</b>
1.8	G1.8 <sup>d</sup>	<b>6003 9650 18</b>						
2.1	G2.1	<b>6003 9221 00</b>	07 H07 <sup>c</sup>	<b>6000 9275 00</b> <b>6000 9881 00</b>	P07 P2107 <sup>b</sup>	<b>6001 1471 00</b> <b>6003 9366 00</b>	6521	<b>6003 9242 00</b>
2.1	G2.1 <sup>d</sup>	<b>6003 9650 21</b>						
2.7	G2.7	<b>6003 9227 00</b>	07 H07 <sup>c</sup>	<b>6000 9275 00</b> <b>6000 9881 00</b>	P07	<b>6001 1471 00</b>	6527	<b>6003 9246 00</b>

<sup>a</sup>The letter "P" before the designation denotes nylon design.

<sup>b</sup>Fluid needle with cylindrical point (self-cleaning tip).

<sup>c</sup>The letter "H" before the designation denotes tungsten-carbide design tip.

<sup>d</sup>The letter "H" before the figures (e.g., H1.4) denotes tungsten-carbide design.

<sup>e</sup>Acetal plastic retaining ring.

## Operator's Instructions

- Use Ecco genuine parts and accessories only for best function and safety.
- Before starting, read through **all instructions** carefully.

**HVLP** High Volume Low Pressure.

**Air spray guns used for spraying of liquids under low pressure and low atomizing air pressure.**

## Principal data

Type	Max. working pressure <sup>a</sup> bar	Min./Max. control air pressure bar	Paint cup volume l
Ecco			
65S	7	-	-
651S	7	-	1
652S	7	-	0.5

<sup>a</sup> HVLP = atomizing air pressure 0.7 bar is obtained with an air inlet pressure of 3 bar.



### WARNING

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.

## Important



### WARNING

Do not use halogenated hydrocarbons in coating application equipment where aluminium or galvanized parts come in contact with the solvent or coating material. Halogenated hydrocarbons e.g. 1,1,1-trichloroethane and methylene chloride react, violently with such parts, causing corrosion and danger for explosion.



### 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.

## Disassembly-Reassembly (see Fig. page 1) (see also Fig. 2)



### VARNING

Before any intervention on the spray gun, shot off and relieved the compressed air supply and paint pressure to the gun.

## Operation

- Install and operate the spray gun according to Fig. 1.
- Blow the paint and air hoses clean before connection.
- Check that all connections are tight (pay particular attention to the connection between paint cup and spray gun).
- Keep the spray gun clean and lubricate moving parts at regular intervals.
- Lubricants for surface-treatment equipment must **not** contain silicon.
- In the event of leakage around the paint needle, tightening the packing screws (3) from both sides. After tightening, check that fluid needle is pushed forward by the spring force.
- 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 or rag dipped in 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.

## Connections and controls (see Fig. 1)

- 3** Paint needle packing adjusting screws.
- 4** Fan width adjusting. If the knob is screwed all the way in a round fan will be obtained other positions give broad fans.
- 16** Paint flow adjusting. Clockwise turning result in a smaller paint flow and counter-clockwise turning increases the flow. The fluid flow is regulated in the first instance by the choice of paint nozzle and paint pressure.
- 34** Atomizing air hose connection G 1/4.  
Hose: Inside dia. 6.3 mm (1/4").
- 42** Paint hose connection G 3/8.  
Hose: Inside dia. 6.3 mm (1/4") or 9.5 mm (3/8").

## How to operate

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 to far.

Set the spray distance from the gun to the work piece as near as possible within the range of 150-200 mm.

## Air caps

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 capcleaner is used.

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

## 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.

## Needle packing and needle

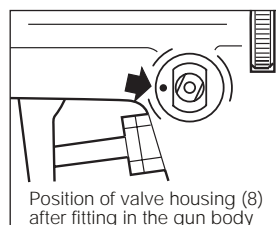
1. Remove the air cap (33), and the paint nozzle (32).
2. Unscrew the back head (14) by screwing the wheel (16) counter-clockwise.
3. Remove the spring (15) and the paint needle (12).
4. Dismantle the front packing screw (29).
5. Dismantle the packing screws (3).
6. Pry out the the packing set (2). Clear out any remains of the packings .
7. Clean everything well with cleaning agent and then blow out with air.
8. Assembly the packing (2) with holes and the packing screw (29) on the paint needle (12), tightening with a screwdriver.
9. Assembly the side packings (2) in the gun body. Advance the packing screws (3) with a screwdriver from both sides until good friction is obtained between the paint needle (12) and the packings (2).
10. Re-fit the paint nozzle (32) (screwing torque 22 Nm), squeeze the trigger (17) to avoid damaging the tip of the paint needle, and refit the air cap (33) by hand.

## Distributor ring

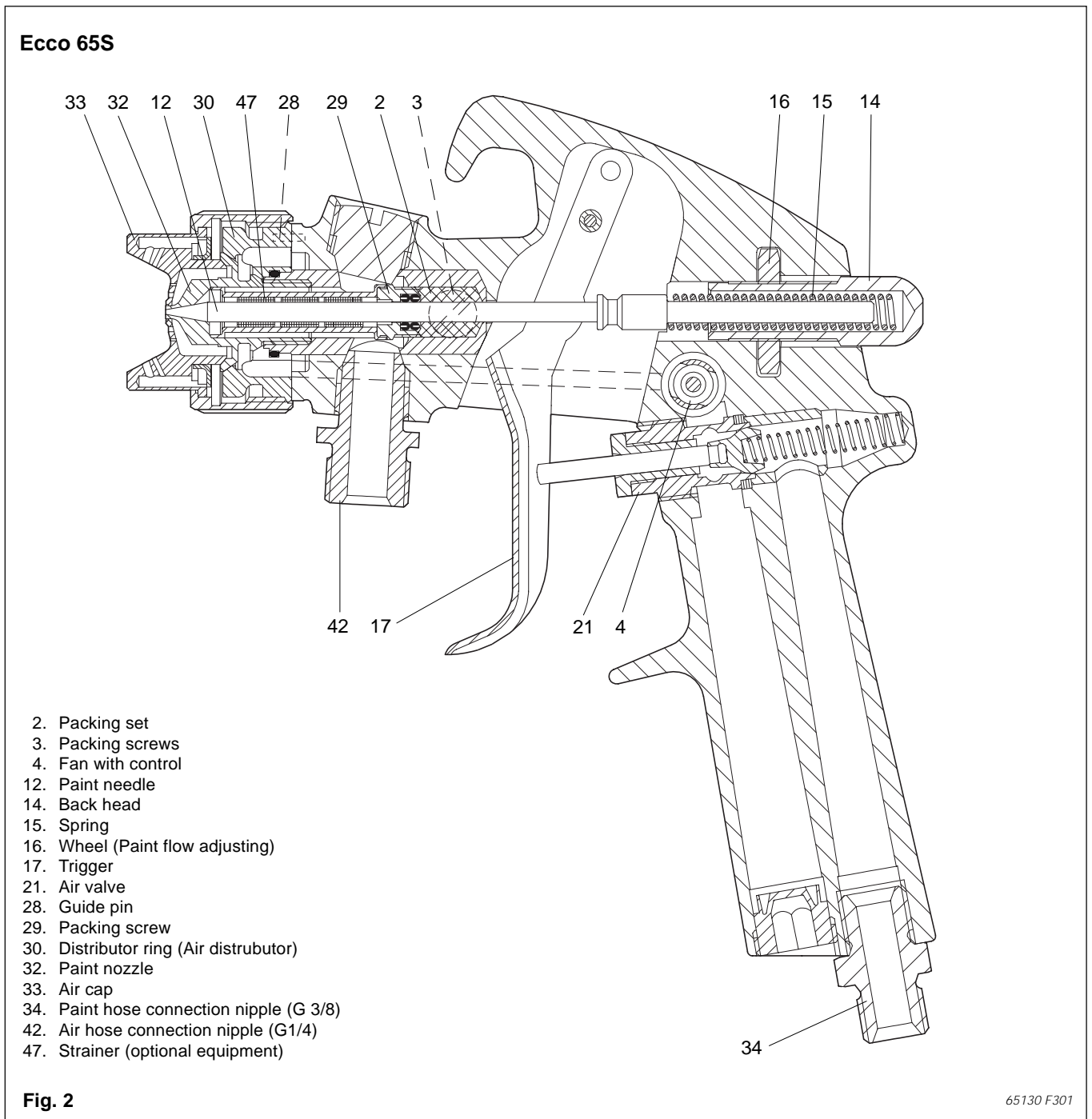
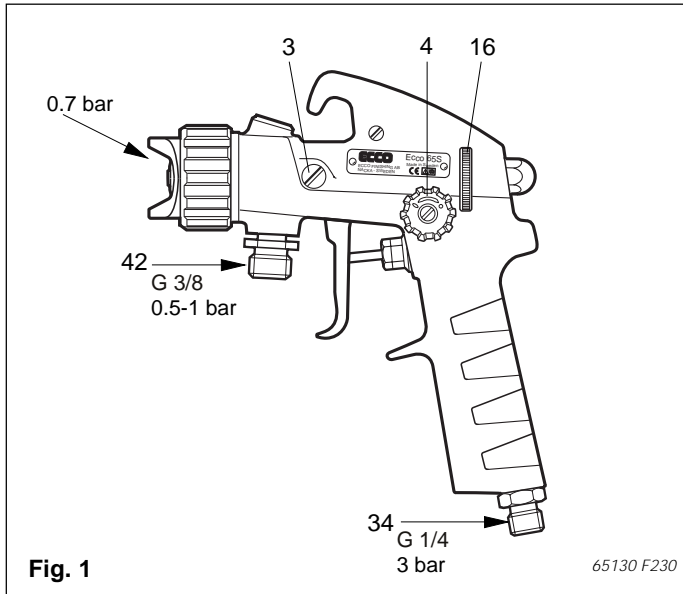
1. Dismantle the distributor ring (30) by screwing on the air cap (33) a few turns. Withdraw the distributor ring axially from the gun body.
2. Assembly the distributor ring (30) by mating it with a pin (28) in the gun body.

## Fan width control

Check when fitting the valve housing (8) that the marking on the body agrees with fig. below.



65130 F302



# 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



**Correct Spray Pattern**

Spray Pattern	Cause	Remedy
<p><b>Asymmetrical to the left or to the right</b></p>	<ol style="list-style-type: none"> <li>a) Dried paint on holes for atomizing air.</li> <li>b) Damage to holes for atomizing air.</li> <li>c) Air cap not sufficiently tightened.</li> </ol>	<ol style="list-style-type: none"> <li>a) Dried paint on holes for atomizing air. Clean the air holes, use appropriate cleaning agent and a soft brush.</li> <li>b) Damage to holes for atomizing air. Replace the air cap with a new one.</li> <li>c) Air cap not sufficiently tightened. Tighten the air cap properly by hand.</li> </ol>
<p><b>Distorted in the middle</b></p>	<ol style="list-style-type: none"> <li>a) Damage to the tip of the paint nozzle.</li> <li>b) The pressure of the atomizing air in relation to the viscosity of the paint.</li> </ol>	<ol style="list-style-type: none"> <li>a) Fit a new paint nozzle.</li> <li>b) Adjust the air pressure of the atomizing air.</li> </ol>
<p><b>Narrowing off in the middle</b></p>	<ol style="list-style-type: none"> <li>a) Wrong nozzle combination.</li> <li>b) Fan air pressure too high.</li> <li>c) Paint viscosity unsuitable.</li> <li>d) Incorrect spray angle.</li> </ol>	<ol style="list-style-type: none"> <li>a) Select a new nozzle combination suitable for the viscosity of paint.</li> <li>b) Reduce the pressure of the fan air.</li> <li>c) Adjust the viscosity of the paint.</li> <li>d) Adjust the angle with the fan width control.</li> </ol>
<p><b>Irregular spray (spitting)</b></p>	<ol style="list-style-type: none"> <li>a) Paint needle gasket leaky.</li> <li>b) Damaged O-ring in distributor ring.</li> <li>c) Paint nozzle not tightened.</li> <li>d) Dirt on sealing surfaces of paint nozzle and distributor ring.</li> <li>e) Paint hose connection not tightened.</li> <li>f) Paint hose defective.</li> </ol>	<ol style="list-style-type: none"> <li>a) Adjust the packing screws. If this does not suffice, change the paint needle gaskets.</li> <li>b) Change the O-ring in the distributor ring.</li> <li>c) Tighten the paint nozzle.</li> <li>d) Clean the sealing surfaces of the paint nozzle and distributor ring with solvent and blow clean.</li> <li>e) Tighten the paint hose connection.</li> <li>f) Change the paint hose.</li> </ol>

Paint leaking - Air leaking	Cause	Remedy
Paint leaking	Worn needle packings and/or needle.	Replace damaged parts with new ones.
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 (33) and nozzle (32). Clean carefully and check for any sign of damages or wear.