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Read first!

Read these operating instructions thoroughly and carefully before commissioning and use. Comply with the safety instructions and danger warnings!

Always make sure that these operating instructions and the operating instructions for the spray gun are kept with the product or keep them easily accessible for everyone at any time!

1. General information

1.1. Introduction

These operating instructions contain important information for operating the SATAjet 100 B F RP/SATAjet 100 B F HVLP/SATAjet 100 B P, referred to hereinafter as spray gun. They also describe commissioning, maintenance and servicing, care and storage as well as troubleshooting.

1.2. Target group

This operating manual is intended for

- Painting and varnishing professionals.
- Trained personnel for varnishing work in industrial and craftman's workshops.

1.3. Accident prevention

As a basic principle, the general and specific national accident prevention regulations must be heeded, together with corresponding workshop and industrial safety instructions.

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1.4. Accessories, spare and wear parts

Always only use original SATA accessories, spare parts and wear parts. Accessories not supplied by SATA have not been tested and approved. SATA assumes no liability for damage caused by the use of non-approved spare parts, accessories and wear parts.

1.5. Warranty and liability

The SATA General Conditions of Sale and Delivery and further contractual agreements, if applicable, as well as the valid legislation at the time apply.

SATA is not liable in case of

- When the operating instructions are disregarded.
- When the product is used in other than the intended ways of use.
- When untrained staff is employed.
- When no personal protection equipment is worn.
- Failure to use original accessories, spare parts and wear parts
- When the product is manipulated, tampered with or technically modified.
- Natural wear/and tear
- In case when the product has been exposed to untypical shockloads and impacts during usage.
- Assembly and disassembly
- Clean the cover plate with pointed, sharp-edged or abrasive objects

2. Safety Instructions

Read and comply with all directions listed in the following. Non-compliance or incorrect compliance can lead to malfunctions or severe injuries and even death.

2.1. Requirements regarding personnel

The spray gun may only be used by experienced skilled workers and instructed persons who have thoroughly read and understood these operating instructions. People whose reactions have been adversely affected by drugs, alcohol, medication or by any other means are prohibited from handling the spray gun.

2.2. Personal Protection Equipment

Always use approved breathing, hearing and eye protection, suitable protective gloves, workwear and safety boots when using the spray gun and during cleaning and maintenance work.

2.3. Use in explosive atmospheres



Warning! Risk of explosion!

Danger to life from exploding spray gun

When using the spray gun in potentially explosive atmospheres of exzone 0, it is possible for an explosion to occur.

 \rightarrow Never bring the spray gun into potentially explosive atmospheres of ex-zone 0.

The spray gun is permitted for use / storage in explosion hazard areas of ex-zone 1 and 2. The product labelling must be adhered to.

2.4. Safety Instructions

Technical status

- Never start using the spray gun when damaged or when parts are missing.
- If the spray gun is damaged, stop working with it immediately, disconnect it from the compressed air supply system and vent the unit completely.
- Never make any unauthorised modifications or technical changes to the spray gun.
- Every time before using the spray gun, check the unit with all connected components for any signs of damage and ensure it is fitted firmly; carry out any necessary repairs.

Materials

- Processing acidic or alkaline materials is prohibited.
- The processing of solvents with halogenated hydrocarbons, petrol, kerosene, herbicides, pesticides and radioactive substances is prohibited. Halogenated solvents can result in explosive and corrosive chemical compounds.
- The processing of aggressive substances containing sharp, abrasive

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pigments is prohibited. This includes for example various kinds of adhesives, contact and dispersion adhesives, chlorinated rubber, materials resembling plaster and paints filled with coarse fibres.

Never bring more solvent, paint, varnish or other dangerous materials into the working environment of the spray gun than you need continue working. Always move these materials to correct storage rooms after work has finished.

Operating parameters

Only operate the spray gun within the parameters stated on the nameplate.

Connected components

- Only use original SATA accessories and spare parts.
- The connected hoses and lines must reliably withstand the thermal, chemical and mechanical loads expected during operation.
- When pressurised hoses work loose, their whip-like movements can cause injuries. Always vent the hoses completely before they are loosened.

Cleaning

- Never use acidic or alkaline cleaning agents to clean the spray gun.
- Never use cleaning agents based on halogenated hydrocarbons.

Point of use

- Never use the spray gun in the vicinity of ignition sources, such as naked flames, burning cigarettes or non-explosion-proof electrical equipment.
- Only use the spray gun in well ventilated rooms.

General

- Never point the spray gun at human beings.
- Comply with the local regulations for safety, accident prevention, occupational health and safety and environmental protection.
- Heed the accident prevention regulations.

3. Intended Use

The spray gun is used to apply paints, lacquers and other sprayable media on suitable substrates.

4. Description

The compressed air required for spraying is supplied at the compressed air connection. Pull the trigger to the first pressure point to activate the pre-air control. Continue pulling the trigger to pull the paint needle out of the fluid tip: the material flows without pressure out of the fluid tip and is atomised by the compressed air flowing out of the air cap.

5. Scope of Delivery

- Spray gun with nozzle set B F RP/B F HVLP/B P and gravity flow cup
- Tool kit
- CCS clips
- Operating Instructions

Alternative version

Gravity flow cups made of PVC or aluminium with different capacities

After unpacking, check:

- Spray gun damaged
- Complete scope of supply

6. Technical Design

- [1-1] Anti-drip device
- [1-2] Round/flat fan control
- [1-3] Material flow control
- [1-4] Counter nut material flow control
- [1-5] Air micrometer (aif flow control knob)
- [1-6] Air micrometer (air flow control) locking screw
- [1-7] Air piston (not visible)
- [1-8] Compressed air connection G¹/₄, (male thread)
- [1-9] ColorCode-System (CCS)
- 6.1. Air micrometer (aif flow control knob)
- [3-25] SATA adam 2 (see chapter 14)
- [3-26] Separate pressure gauge with control device (see chapter 14)

- [1-10] Paint spray gun handle
- [1-11] Trigger
- [1-12] Nozzle set consisting of air cap, fluid tip (not visible), paint needle (not visible)
- [1-13] Paint spray gun connection with QCC
- [1-14] Gravity flow cup connection with QCC
- [1-15] Paint strainer (not visible)
- [1-16] Gravity flow cup
- [1-17] Gravity flow cup lid
- [3-27] Separate pressure gauge without control device (see chapter 14)
- [3-28] Pressure measurement in compressed air circuit

7. Technic	al Data			
Gun inlet pressure				
RP	Operating range (Field of applica- tion)	1,5 bar - 2,0 bar	22 psi - 29 psi	
HVLP	Operating range (Field of applica- tion)	2,0 bar	29 psi	
	Compliant	> 2,0 bar (air cap pressure > 0,7 bar)	> 29 psi (air cap pressure > 10 psi)	
	Compliant legisla- tion Lombardy/Italy	< 2,5 bar air cap pressure < 1,0 bar)	< 35 psi (air cap pressure < 15 psi)	
Polyester	Operating range (Field of applica- tion)	1,5 bar - 2,0 bar	22 psi - 29 psi	
Spray dist	ance			
RP	recommended	17 cm - 21 cm	6.7" - 8.3"	
HVLP	recommended	10 cm - 15 cm	3.9" - 5.9"	
	recommended Lombardei/Italien	13 cm - 21 cm	5.1" - 8.3"	
Polyester	recommended	17 cm - 21 cm	6.7" - 8.3"	
Max. spra	y gun inlet pressu	re		
		10,0 bar	145 psi	
Air consu	mption at 2,0 bar / 2	9 psi spray gun inlet	pressure	
RP		290 NI/min	10.2 cfm	
HVL	P	350 NI/min	12.4 cfm	
polyester		245 NI/min	8.7 cfm	
Max temperature of the spray modium				

Max. temperature of the spray medium		
	50 °C	122 °F

Weight Version	RP/ HVLP	Polyester	RP/ HVLP	Polyester
Weight (without material) plastic flow cup 600 ml	601 g	612 g	21.2 oz.	21.6 oz.
Weight (without material) RPS cup 600 ml	478 g	489 g	16.9 oz.	17.2 oz.
Weight (without material) aluminium flow cup 1000 ml	610 g	621 g	21.5 oz.	21.9 oz.

8. Operation

A	Morning
A DANGER	Warning!

Risk of injury from bursting compressed air hose

If an unsuitable compressed air hose is use, it can be damaged by too much pressure and explode.

 \rightarrow Only use solvent-resistant, antistatic and technically flawless hose for compressed air with permanent pressure resistance of min. 10 bar, bleeder resistance of < 1 MOhm and min. inner diameter of 9 mm (# 53090).

Damage from dirty compressed air

Using soiled compressed air can cause malfunctions

 \rightarrow Use clean compressed air. For example with SATA filter 100 (# 148247) outside the spray booth or SATA filter 484 (# 92320) inside the spray booth.

Before using the spray gun, heed/check the following points to warrant safe working:

- Screws [2-1], [2-2], [2-3], [2-4] and [2-5] fit firmly. Tighten screws if necessary.
- Fluid tip [2-2] tightened with a torque of 14 Nm [7-5].
- Locking screw [10-1] tightened.
- Technically clean compressed air is being used.

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8.1. First Use

- Blow through the compressed air pipe thoroughly before installation.
- Purge paint channel with suitable cleaning solution [2-6].
- Screw connection nipple [2-10] to air connection [1-8].
- Align the air cap. Horizontal spray [2-8] Vertical spray [2-7]
- Fit paint sieve [2-12] and gravity flow cup [2-13].

8.2. Normal Operation

Connect spray gun

Connect compressed air hose [2-11].

Fill with material

Note! i

When painting, only use as much material as is required for the specific procedure.

When painting, maintain the necessary spray distance. After painting, store or dispose of the material correctly.

- Unscrew screw-on lid [2-14] from gravity flow cup [2-13].
- Press drip-stop [2-9] into screw-on lid.
- Fill gravity flow cup (maximum 20 mm below top edge).
- Screw the screw-on lid onto the gravity flow cup.

Adjust gun inner pressure

i Note!

The air micrometer [1-5] must be fully opened (vertical position) in the settings [3-2], [3-3] and [3-4].



Note!

The most precise way to adjust the gun inner pressure is with SATA adam 2 [3-1].

🚺 Note!

If the gun input pressure does not reach the necessary level, increase the pressure in the compressed air circuit.

Too much input pressure results in high trigger forces.

- Pull trigger guard [1-11] right back.
- Adjust the gun input pressure to one of the following settings [3-1],
 [3-2], [3-3] to [3-4]. Note the maximum gun inlet pressure (see chapter 7).
- Bring the trigger guard to the starting position.

Adjust the material flow

II Note!

Wear at the fluid tip and paint needle is lowest when the material flow control is wide open. Select fluid tip size according to the material and working speed.

Fully variable adjustment of the material flow and thus the needle stroke is possible with the adjusting screw as shown in Figs. [4-1], [4-2], [4-3] and [4-4].

- Loosen counter nut [1-4].
- Pull trigger guard [1-11] right back.
- Adjust material flow at the adjusting screw [1-3].
- Tighten counter nut by hand.

Adjust spray fan pattern

Fully variable adjustment of the spray fan pattern is possible using the round/flat fan control **[1-2]** to achieve a round fan.

- Adjust the spray fan pattern by regulating the round and flat fan control [1-2].
 - Turn to the right [5-2] for a round fan
 - Turn to the left [5-1] for a flat fan

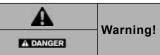
Start spraying process

- Observe correct spray distance (see chapter 7).
- Pull trigger guard right back [6-2] and hold spray gun at 90° to the surface being sprayed [6-1].
- Ensure there is sufficient spraying air feed and material supply.
- Pull trigger guard [1-11] back and start spraying process. Adjust material flow and spray fan pattern if necessary.

End the spraying process

- Bring the trigger guard [1-11] to the starting position.
- At the end of the spraying process, interrupt the spraying air and empty the gravity flow cup [1-16]. Comply with the instructions for care and storage (see chapter 10).

9. Maintenance and repairs



Risk of injuries from components coming loose or leaking material.

If maintenance work is performed while still connected to the compressed air circuit, components can unexpectedly work loose and material can leak.

 \rightarrow Always disconnect the spray gun from the compressed air circuit before performing any maintenance work.

Risk of injury from sharp edges

There is a risk of injury from sharp edges when fitting the nozzle set. \rightarrow Wear protective gloves.

 \rightarrow Always use the SATA extraction tool pointing away from your body.

The following chapter describes the procedures involved for maintaining and repairing the

spray gun. Maintenance and repair work may only be carried out by trained skilled workers.

Always interrupt the compressed air supply to the compressed air connection [1-8] before performing any maintenance and repair work.

Spare parts are available for carrying out repairs (see chapter 15).

9.1. Replace nozzle set



Damage from incorrect installation

The fluid tip and paint needle can be damaged if assembled in the wrong order.

 \rightarrow Always comply with the assembly sequence. Never screw the fluid tip against an energised paint needle.

The nozzle set consists of a tested combination of air cap [7-1], fluid tip [7-2] and paint needle [7-3]. Always replace the complete nozzle set.

Dismantle the nozzle set

- Loosen counter nut [1-4].
- Screw adjusting screw [1-3] with counter nut out of the gun body.
- Remove spring and paint needle [7-3].
- Unscrew the air cap [7-1].
- Screw fluid tip [7-2] out of the gun body using the universal spanner.

Mount the nozzle set

- Screw fluid tip [7-5] into gun body using universal spanner and tighten with a torque of 14 Nm.
- Screw air cap [7-4] onto gun body.
- Insert paint needle and spring [7-6].

■ Screw adjusting screw [1-3] with counter nut [1-4] into the gun body. After installation, adjust the material flow according to chapter 8.2.

9.2. Replacing the air distribution ring

II Note!

After removing the air distribution ring, check the sealing surface in the spray gun. If damaged, please contact the SATA customer service department (address see chapter 16).

Dismantle the air distribution ring

- Dismantle nozzle set (see chapter 9.1).
- Remove the air distribution ring using the SATA extraction tool [8-1].
- Check sealing surface [8-2] for soiling, clean if necessary.

Mount the air distribution ring

Insert air distribution ring. The pin [8-3] of the air distribution ring must

be aligned accordingly.

- Press the air distribution ring in evenly.
- Mount nozzle set (see chapter 9.1).

After installation, adjust the material flow according to chapter 8.2.

9.3. Replace paint needle seal

This must be replaced when material leaks from the self-adjusting paint needle packing.

Dismantle paint needle seal

- Loosen counter nut [1-4].
- Screw adjusting screw [1-3] with counter nut out of the gun body.
- Remove spring and paint needle [9-1].
- Remove the trigger guard [9-2].
- Screw the paint needle seal [9-3] out of the gun body.

Mount paint needle seal

- Screw the paint needle seal [9-3] into the gun body.
- Mount the trigger guard [9-2].
- Insert spring and paint needle [9-1].
- Screw adjusting screw [1-3] with counter nut [1-4] into the gun body.

After installation, adjust the material flow according to chapter 8.2.

9.4. Replace air piston, air piston spring and air micrometer



When the locking screw is not screwed tight, the air micrometer can shoot uncontrolled out of the spray gun.

 \rightarrow Check that the locking screw of the air micrometer fits firmly and tighten if necessary.

Replacement is necessary if

air escapes at the air cap or air micrometer without actuating the trigger guard.

Dismantle air piston, air piston spring and air micrometer

- Screw the locking screw [10-1] out of the gun body.
- Pull the air micrometer [10-4] out of the gun body.
- Remove the air piston with air piston spring [10-5].
- Remove the air piston rod [10-3].

Mount air piston, air piston spring and air micrometer

- Insert the air piston rod [10-3] in the correct position.
- Insert air piston with air piston spring [10-5] and air micrometer [10-4] and grease with SATA high performance grease (# 48173).
- Press the air micrometer [10-4] into the gun body.
- Screw the locking screw [10-1] into the gun body.

After installation, adjust the material flow according to chapter 8.2.

9.5. Replace self-adjusting seal (air side)

Replacement is necessary if air escapes under the trigger guard.

Dismantle self-adjusting seal

- Loosen counter nut [1-4].
- Screw adjusting screw [1-3] with counter nut out of the gun body.
- Remove spring and paint needle [9-1].
- Remove the trigger guard [9-2].
- Screw the locking screw [10-1] out of the gun body.
- Pull the air micrometer [10-4] out of the gun body.
- Remove the air piston with air piston spring [10-5].
- Remove the air piston rod [10-3].
- Screw the self-adjusting seal [10-2] out of the gun body.

Mount self-adjusting seal

- Screw in the self-adjusting seal [10-2].
- Insert the air piston rod [10-3] in the correct position.
- Insert air piston with air piston spring [10-5] and air micrometer [10-4] and grease with SATA high performance grease (# 48173).
- Press the air micrometer [10-4] into the gun body.
- Screw in the locking screw [10-1].
- Mount the trigger guard [9-2].
- Insert spring and paint needle [9-1].

Screw adjusting screw [1-3] with counter nut [1-4] into the gun body.

After installation, adjust the material flow according to chapter 8.2.

9.6. Replace spindle of round / flat fan control

Replacement is necessary if air escapes from the round / flat fan control or if it is no longer possible to adjust the spray fan pattern.

Dismantle spindle

- Unscrew the countersunk screw [11-2].
- Remove the control knob [11-3].
- Screw spindle [11-4] out of the gun body using the SATA universal

spanner.

Mount the spindle

- Screw the spindle [11-4] into the gun body using the SATA universal spanner.
- Position the control knob [11-3].
- Coat the countersunk screw [11-2] with Loctite 242 [11-1] and screw handtight.

10. Care and storage

Careful handling together with constant care of the product is necessary to ensure that the spray gun functions properly.

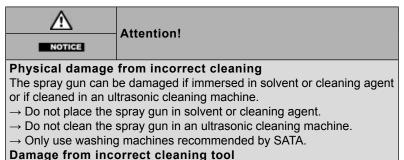
- Store the spray gun in a dry place.
- Clean the spray gun thoroughly every time after it has been used and every time before changing the material.



Damage from wrong cleaning agents

The spray gun can be damaged by using aggressive cleaning agents to clean it.

- \rightarrow Do not use aggressive cleaning agents.
- \rightarrow Use neutral cleaning agents with a pH of 6–8.
- \rightarrow Do not use acids, caustic solutions, bases, paint strippers, unsuitable regenerates or other aggressive cleaning agents.



Never use unsuitable objects to clean clogged holes. Even the tiniest damage can influence the spray pattern.

 \rightarrow Use SATA nozzle cleaning needles (# 62174) or (# 9894).

i Note!

In rare cases, it may be necessary to dismantle some parts of the spray gun to clean them thoroughly. If dismantling should be necessary, this should be limited just to the parts whose function brings them in contact with the material.

- Purge spray gun thoroughly with thinner.
- Clean air cap with a paint brush or brush.
- Lightly grease moving parts with high performance grease.

11. Malfunctions

The malfunctions described below may only be remedied by trained personnel.

If it is not possible to remedy a malfunction with the described corrective actions, send the spray gun to the SATA customer service department (address see chapter 16).

Malfunction	Cause	Corrective Action
Jerky spray fan pat- tern (wobbling/splut-	Fluid tip not tightened.	Tighten fluid tip with universal spanner.
tering) or air bubbles in the gravity flow cup.	Air distribution ring damaged or clogged.	Replace air distribution ring (see chapter 9.2).
Air bubbles in gravity flow cup.	Loose air cap.	Tighten the air cap hand-tight.
	Gap between air cap and fluid tip (air circuit) is clogged.	Clean air circuit. Heed cleaning instructions (see chapter 10).
	Nozzle set is soiled.	Clean nozzle set. Heed cleaning instructions (see chapter 10).
	Damaged nozzle set.	Replace nozzle set (see chapter 9.1).
	Not enough material in gravity flow cup.	Fill gravity flow cup (see chapter 8.2).
	Defective paint needle seal.	Replace paint needle seal (see chapter 9.3).

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Malfunction	Cause	Corrective Action
Spray pattern too small, slanted, one-sided or split.	Air cap holes clogged with paint.	Clean air cap. Heed cleaning instructions (see chapter 10).
	Damaged fluid tip (fluid tip aperture).	Check fluid tip for dam- age and replace nozzle set if necessary (see chapter 9.1).
Round/flat fan control not working – control can be regulated.	Air distribution ring not correctly positioned (pin not in hole) or damaged.	Replace air distribution ring (see chapter 9.2).
Round / flat fan control cannot be regulated.	Round/flat fan control has been turned coun- terclockwise over the limit; spindle loose in gun thread.	Unscrew round/flat fan control using the universal spanner and make it work again or replace it completely (see chapter 9.6).
Spray gun does not shut air off.	Air piston seat clogged.	Clean air piston seat. Heed cleaning instruc- tions (see chapter 10).
	Air piston worn.	Replace air piston and air piston packing (see chapter 9.4).
Material splutters in gravity flow cup.	Atomising air gets into gravity flow cup via paint channel. Fluid tip not tightened suf- ficiently. Air cap not screwed on complete- ly, air circuit clogged, seat defective or noz- zle set damaged.	Tighten, clean or re- place parts.

Malfunction	Cause	Corrective Action
Corrosion on air cap thread, material passages (cup con- nection) or spray gun	Cleaning solution (wa- tery) remains in the gun for too long. Unsuitable cleaning	Have gun body re- placed. Heed cleaning instructions (see chap- ter 10).
body.	solutions used.	
Material leaks from behind the paint nee-	Paint needle seal de- fective or missing.	Replace paint needle seal (see chapter 9.3).
dle seal.	Paint needle dam- aged.	Replace nozzle set (see chapter 9.1).
	Paint needle clogged.	Clean paint needle. Heed cleaning instruc- tions (see chapter 10).
Spray gun drips at flu- id tip ("fluid tip cone").	Contamination be- tween paint needle tip and fluid tip.	Clean fluid tip and paint needle. Heed cleaning instructions (see chap- ter 10).
	Damaged nozzle set.	Replace nozzle set (see chapter 9.1).

12. Disposal

Dispose of the completely emptied spray gun as a recyclable material. To avoid damage to the environment, dispose of the spray material and release agent separately from the spray gun in an appropriate manner. Comply with local regulations!

13. After Sale Service

Please refer to your local SATA dealer for accessories, spare parts and technical support.

14. Accessories

Art. No.	Description	Num-
		ber
6981	Quick coupling nipple G1/4 IG	5 ea.
27771	Air micrometer 0–845 with pressure gauge	1 ea.
64030	SATA cleaning set	1 set
53090	Air hose	1 ea.
48173	High performance grease	1 ea.

15. Spare Parts

Art. No.	Description	Num- ber
1826	Drip-stop for 0.6 I plastic cup	4 units
3988	Paint strainer	10 pcs.
6395	CCS clip (green, blue, red, black)	4 units
9050	Tool kit	1 set
15438	Paint needle sealing	1 ea.
25874*	O-ring 9 x 1.5	1 ea.
27243	0.6 I QCC quick-change gravity flow cup (plastic)	1 ea.
49395	Screw-on lid for 0.6 I plastic cup	1 ea.
76018	Paint strainer	100 units
76026	Paint strainer	500 units
78154*	Closing cap	1 ea.
89771	Spindle for round/flat fan control	1 ea.
91959	Air piston rod	1 ea.
130492	Trigger kit SATAjet 100	1 ea.
133926	Trigger spigot kit	1 set
133934	Seal for spindle round/flat fan control	3 units
133942	Seal retainer (air side)	1 ea.
133959	Paint needle and air piston spring	3 units
133967	Locking screw for SATA air micrometer	3 units
133983	Air connection	1 ea.
133991	Air piston head	3 units
139188	Material flow control with counter nut	1 ea.
139964	Air micrometer (aif flow control knob)	1 ea.
140574	Control knob and screw	1 ea.
140582	Sealing elements for fluid tip	5 ea.
143230	Air distribution ring	3 units
*	only for SATAjet 100 B P	

•	contained in air piston service unit (# 92759)
	contained in repair set (# 130542)
*	only for SATAjet 100 B P

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0 contained in seal set (# 183780)

16. EU Declaration of Conformity The latest version of the Declaration of Conformity can be found at:



www.sata.com/downloads