

# SATA filter 500








Betriebsanleitung | Упътване за работа | 使用说明书 | Návod k použití |  
Betjeningsvejledning | Kasutusjuhend | Operating Instructions | Instruc-  
ciones de servicio | Käyttöohje | Mode d'emploi | Οδηγίες λειτουργίας  
| Üzemeltetési utasítás | Istruzione d'uso | Naudojimo instrukcija |  
Lietošanas instrukcija | Gebruikershandleiding | Bruksveiledning |  
Instrukcja obsługi | Instruções de funcionamento | Manual de utilizare |  
Руководство по эксплуатации | Bruksanvisning | Navodilo za obrato-  
vanje | Návod na použitie | Kullanım talimatı



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## 1. Symbols

	<b>Warning!</b> Risk which could cause heavy injuries or death.
	
	<b>Warning!</b> Risk which could cause damage.
	
	<b>Notice!</b> Useful tips and recommendations

## 2. Technical Data

Air inlet	G 1/2" (internal thread)	
Air outlet	1/4" (external thread)	G 1/2" (internal thread) (during line installation)
Max. inlet operating pressure	15.0 bar	218 psi
Max. outlet operating pressure	15.0 bar	218 psi
Max. ambient temperature	120 °C or 60 °C, resp. with activated charcoal	248 °F or 140 °F, resp. with activated charcoal
Air flow at 6.0 bar	approx. 3800 NI/min	

Air flow at 87 psi	approx. 134.2 cfm
<b>Weight</b>	
<b>SATA filter 520</b>	1523 g
<b>SATA filter 524</b>	3400 g
<b>SATA filter 524L</b>	3159 g
<b>SATA filter 544</b>	4689 g
<b>SATA filter 564</b>	1246 g
<b>SATA filter 584</b>	6048 g
<b>SATA filter 584L</b>	4184 g

### 3. Scope of Delivery

#### **SATA filter 544:**

- Sintered filter
- Fine filter
- Pressure gauge, regulation and 2 ball valves
- 3-stage wall-mounting kit including screws and wall plugs
- Condensate discharge hose
- SATA filter timer
- Operating Instructions

#### **SATA filter 584:**

- Sintered filter
- Fine filter
- Activated charcoal filter
- Pressure gauge, regulation and 2 ball valves
- 4-stage wall-mounting kit including screws and wall plugs
- Condensate discharge hose
- SATA filter timer
- Operating Instructions

#### **SATA filter 564**

- Activated charcoal filter to retrofit a SATA filter 544
- 4-stage wall-mounting kit
- Connecting sleeve
- 2 screws
- SATA filter timer
- Operating Instructions

## 4. Technical Design of the Filters [1]





- |  |  |
|--|--|
| [1-1] Air inlet G ½" (internal thread)             | [1-9] Filter housing, filter stage A               |
| [1-2] Air outlet G ½" (female thread)              | [1-10] Integrated automatic condensate drain valve |
| [1-3] Ball valves with air outlet ¼" (male thread) | [1-11] Filter housing, filter stage B              |
| [1-4] CO monitor connector G ¼" (female thread)    | [1-12] Filter housing, filter stage C              |
| [1-5] SATA filter timer 6 months                   | [1-13] Mounting bracket                            |
| [1-6] Pressure gauge 0 - 15 bar                    | [1-14] Condensate outlet hose (not visible)        |
| [1-7] Pressure control valve (not visible)         | [1-15] Filter head                                 |
| [1-8] Regulation knob                              | [1-16] Special seal (not visible)                  |

## 5. Intended Use





The SATA filters 500 have been developed to purify technical compressed air. They separate solid, liquid and partly gaseous particles from the compressed air flowing through the filter.

## 6. Safety Instructions

### 6.1. General Safety Instructions

 	<b>Warning! Attention!</b>
 	
<ul style="list-style-type: none"> <li>• Before using the filters, please read the safety and operating instructions completely and carefully. Safety instructions and specified steps are mandatory.</li> <li>• Keep all the enclosed documents and always only pass on the filter together with these documents.</li> </ul>	

## 6.2. Filter Specific Safety Instructions

 	<b>Warning! Attention!</b>
 <b>DANGER</b>  <b>NOTICE</b>	
<ul style="list-style-type: none"> <li>• Local safety, accident prevention, work and environment protection regulations are mandatory!</li> <li>• Use, cleaning and maintenance by skilled personnel only!</li> <li>• Never use the filter when it is damaged or when components are missing!</li> <li>• Check and, if necessary, repair the filter on a regular basis!</li> <li>• Put filter out of operation immediately when it is damaged!</li> <li>• Never carry out unauthorised or technical modifications on the filter!</li> <li>• Use original SATA spare parts and accessories only!</li> </ul>	

## 6.3. Use in explosive atmospheres

The filter is approved for use in potentially explosive atmospheres of ex-zone 1 and 2. Heed the product ID.

# 7. Assembly

## 7.1. SATA filter 500

- Drill holes in wall as illustrated for SATA filter 584 [2-1], SATA filter 544 [2-2] or SATA filter 524 [2-3]
- Remove filter housings [1-9] [1-11] and [1-12]
- Firmly fasten filter to wall in a horizontal position, using enclosed screws
- Connect air inlet G ½" (internal thread) to compressed air line with detachable bolted connection
- Mount the filter housings on [1-9], [1-11] and [1-12] on the filters (**Caution!** Filter housings are only correctly fitted after an audible "click"!) and then attach the SATA filter timer [1-5] and press to activate
- Slide condensate drain hose [1-14] over the drain valve [1-10]; put the end of the hose in a suitable collecting tank (not included in delivery).

**Notice!**

Mount shut-off tap in front of the filter, e.g. **Art. No. 10934** (not included in delivery), allowing easy and safe filter maintenance.

## 7.2. Retrofit SATA filter 544 to SATA filter 584

A SATA filter 564 [C ](**Art. No. 1101005**) is needed for retrofitting with an activated charcoal filter:





1. Depressurise filter (close shut-off tap)
2. Remove filter housings **[3-1]** by turning clockwise
3. Take out the filter cartridges **[3-2]**, check and clean or replace if necessary
4. Take SATA filter 544 from the wall
5. Remove screws **[3-3]** (**Caution!** Filter heads **[1-15]** loose)
6. Remove 3-stage wall-mounting kit **[3-4]**
7. Pull off the pressure reducer **[D]** **[3-5]**
8. Attach filter bodies **[3-6]** (**Caution!** Heed installation position!)
9. Insert connecting sleeve **[3-7]**
10. Attach pressure reducer **[3-8]** and slide filter stages onto block
11. Hold 4-stage wall-mounting kit **[3-9]** in position and fasten with screws **[3-10]**
12. Firmly fasten SATA filter 584 to wall in a horizontal position, using the existing holes
13. Insert filter cartridges **[3-11]** in filter housings **[3-12]** and mount on the filters (**Caution!** Filter housings are only correctly fitted after an audible “click”!), and attach the new SATA filter timer **[1-5]** and press to activate
14. Slowly open upstream shut-off tap (not included in delivery)


## 7.3. Change air flow for SATA filter 584 from right to left

1. Depressurise filter (close shut-off tap)
2. Remove filter housings **[4-1]** by turning clockwise
3. Loosen cover unit screws and remove unit **[4-2]**
4. Loosen screws of wall-mounting kit and remove wall-mounting kit **[4-3]**  
(**Caution!** Filter heads **[1-15]** loose)
5. Loosen and remove **[4-4]** dummy plug

6. Heat pressure gauge [4-5] with hot air gun to soften glued bond. Pressure gauge can be unscrewed by hand.  
(**Caution!** Only unscrew pressure gauge by hand)
7. Glue pressure gauge to other side with Loctite 276 and align the display [4-6] (**Caution!** Glue is hard after approx. 5 minutes)
8. Screw dummy plug [4-7] to block
9. Fasten wall-mounting kit with 8 screws [4-8]  
(**Caution!** Push filter heads [1-15] together)
10. Fix cover unit with 3 screws [4-9]  
(**Caution!** Note orientation)
11. Insert filter housings [4-10] and mount on the filters  
(**Caution!** Filter housings are only correctly fitted after an audible "click"!) )
12. Slowly open upstream shut-off tap  
(not included in delivery)

## 8. Use

 	<b>Warning! Attention!</b>
 <b>DANGER</b>  <b>NOTICE</b>	
<p>Risk to life and limb when filter housings have not been fitted correctly! Only use solvent-resistant, antistatic, undamaged, technically flawless compressed air hoses with a permanent pressure resistance of minimum 10 bar, e.g. <b>Art. No. 53090!</b></p>	

	<b>Notice!</b>
<ul style="list-style-type: none"> <li>• Mount compressed air connector G<math>\frac{1}{4}</math>" (female thread) or suitable SATA quick coupling G<math>\frac{1}{4}</math>" (female thread) (Art. No. 13599, not included in delivery) on the ball valve [1-3].</li> <li>• For regular filter maintenance, replace and activate the SATA filter timer of the respective filter stage (sintered filters, fine filters and activated charcoal filters every 6 months).</li> </ul>	

1. Connect suitable compressed air hose.
2. Turn the regulating cap [1-8] counterclockwise as far as it will go; state = closed.
3. Fully open the ball valve [1-3].

4. Check that the bayonet of the filter housings has engaged (**Caution!** Filter housings are only correctly fitted after an audible “click”!)
5. Slowly open upstream shut-off tap (not included in delivery)
6. Turn regulating cap [1-8] clockwise until required pressure is displayed in the pressure gauge [1-6].
7. Check pressure when operating the spray gun (trigger fully pulled) and re-adjust if necessary.

## 9. Function

### 9.1. Filter stage [A]:

The first filtering stage separates particles  $> 5 \mu$  as well as condensed water and oil. A sinter filter (**Art. No. 22160**) is integrated in the filter.



#### Notice!

##### Sintered filter:

- Fineness  $5 \mu\text{m}$

If a certain condensate level is exceeded, the automatic condensate drain valve [1-10] opens under pressure. Apart from a small residual quantity, the condensate is drained through the condensate drain hose [1-14] into the container (not included in delivery).

### 9.2. Filter stage [B]:

The fine filter cartridge (**Art. No. 1097999**) in the second filter stage separates smallest particles together with aerosols.



#### Notice!

##### Fine filter cartridge:

- Special micro fibre fleece
- Fineness  $0.01 \mu\text{m}$ , separation degree 99.998 % related to a particle size  $> 0.01 \mu\text{m}$

### 9.3. Filter stage [C]:

The activated charcoal cartridge (**Art. No. 1098004**) in the third filter stage absorbs aerosols. Filter stages [A] and [B] must always be fitted upstream from an activated charcoal filter.



**Notice!****Activated charcoal filter cartridge:**

- Sintered activated charcoal

**9.4. Pressure reducer unit [D]:**

The standard pressure reducer unit is equipped with 2 ball valves [1-3] connecting thread ¼" (male thread) and can be extended with an outlet module. The required outlet pressure can be finely adjusted at the pressure reducing valve [1-7] using the regulating cap [1-8] and pressure gauge [1-6].

**10. Maintenance****Warning! Attention!****⚠ DANGER    ⚠ NOTICE**

- Filters can only be maintained and serviced when depressurised!
- Sintered filter [A]/Art. No. 22160, filter housings [1-9], [1-11], [1-12] and special seal [1-16] must be cleaned at the latest after 6 months; replace sintered filter if necessary!
- Replace the fine filter cartridge [B]/Art. No. 1097999 at the latest after 6 months!
- Replace the activated charcoal cartridge [C]/Art. No. 1098004 at the latest after 6 months!
- **When the compressed air is heavily contaminated, the filter cartridges have to be exchanged in shorter intervals!**
- Saturated filter cartridges may cause malfunctions during paint jobs. Furthermore, the use of air-fed breathing protection equipment could be harmful, causing permanent health damage and even death!
- **Always make sure that the filter housings are fitted correctly!** Filter housings are only correctly fitted after an audible "click"!

**Notice!**

Please observe local regulations for the disposal of filter cartridges!

## 11. Troubleshooting

Malfunction	Cause	Corrective action
Pressure cannot be properly adjusted	Insufficient inlet pressure	Increase inlet pressure
	Pressure regulation valve is defective	Replace membranes
Traces of compressor oil in the compressed air	Too much oil in the compressed air	Control compressor, refrigerated dryer
		Drain condensate (open manually)
	Saturated filter	Filter maintenance required, chapter 10
No or insufficient condensate drainage (a minimum condensate level is required as it serves to lift the floater and, thus, to open the drain valve)	Floater stuck on the drain valve	Disassemble drain valve by removing the safety disc, then clean or exchange drain valve
	Damaged drain valve	Exchange drain valve Art. No. 15511
Drain valve blows permanently (never disassemble the drain valve itself, risk of damage)	Filter is not installed vertically	Install filter vertically
	Brass piece not visible on the bottom	Pressurise filter and pull brass piece downwards
	Floater stuck on the drain valve	Remove drain valve and clean or exchange it
	Damaged drain valve	Exchange drain valve Art. No. 15511
	Internal filter pressure < 1 bar	Increase inlet pressure

## 12. Disposal

The oil and condensate free filter has to be disposed of as recyclable waste. Please observe local regulations!



## 13. After Sale Service

For accessories, spare parts and technical support, contact your SATA dealer.

## 14. Warranty / 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 cannot be held responsible especially in the following cases:**

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

## 15. Spare Parts [6]

Art. No.	Description
22160	Sintered filter
1097486	Pressure reducer
1097999	Fine filter cartridge
1098004	Activated charcoal cartridge
1098054	Set of cartridges
1101089	Membrane incl. spring and spindle
1101097	Pressure control unit
1101104	Pressure gauge 0-15 bar

Art. No.	Description
1101112	Cover unit compl. with ball valves
15511	Condensate drain valve
24521	Cyclone separator with O-ring
1101162	Filter housing cpl. with condensate drain valve
1101154	Filter housing compl.

•	Sealing elements ( <b>Art. No. 1101518</b> )
<input type="checkbox"/>	Included in the service set ( <b>Art. No. 1102087</b> )

## 16. EC Declaration of Conformity

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



[www.sata.com/downloads](http://www.sata.com/downloads)