

Installation and Setting-Up Instructions

Spare Parts List



Contents:

- 1 Purpose of Use**
- 2 Types and Applications**
- 3 Installation**
 - 3.1 Choosing the mounting location
 - 3.2 Installing the process coupling
 - 3.3 Save H installation
- 4 Sampling**
- 5 Maintenance**
- 6 Spare parts list**

Appendix:
Technical Specifications G810

WARNING!

-Disconnect the air supply before any maintenance or disassembly of the sampler. Moving parts can cause severe injury!

-Make sure that the process is depressurized when removing Save H from process coupling or flange.

DOCUMENTS

Technical Specifications: G810

Installation and Setting-Up Instructions: G810AV

We reserve the right for technical modifications without prior notice.
Hastelloy® is the registered trademark of Haynes International.
Teflon® E.I. is the registered trademark du Pont de Nemours & Co.
Viton® is the registered trademark DuPont Down Elastomer.



Satron Instruments Inc.
P.O.Box 22, FIN-33901 Tampere, Finland
TEL.INT. +358 207 464 800
Telefax +358 207 464 801
www.satron.com, info@satron.com

1. Purpose of use:

SAVE H is designed for sampling pulp slurry directly from a process pipe. SAVE H is suitable for all chemical and mechanical pulps and recycled fibre pulps. Pulp can contain shives and knots that will be cut by the samplers closing mechanism to ensure that the sampling channel is fully sealed.

2. Types and applications

Refer to the selection chart in Technical Specifications. The construction of different types is shown in the last pages of the manual.

SAVE H is available in clamp- or flange-mounted types. Figure 6-1 show clamp-mounted SAH type with NS 70 process coupling. Figure 6-3 shows FAH with DN80 PN40 flange.

Save H is pneumatically operated and is controlled by a manually operated compressed air valve. Sampling can be easily automated by pneumatic control. A manually operated air valve is included.

Material options for parts in constant contact with process medium include AISI316L (EN 1.4404) and Titanium (EN 3.7035). The flange-mounted SAVE H FAH can be mounted also with a fibreglass-reinforced plastic process coupling.

AISI316L suits a majority of applications. Titanium is recommended for bleaching stages that use chlorine or chlorine compounds.

3. Installation

3.1 Choosing the mounting location

SAVE H's mounting location is selected as shown in Figures 3-1a and b. When installed in this way, the delay between consistency transmitter and sampling point will be as small as possible and a representative sample will be obtained from the pipe.

When SAVE H is installed immediately after stock pump, it should be mounted on a relative to the position of the pump. There should be a 45° - degree angle from the pump shaft on the side where the pulp rushes from the pump.

Vertical pipe installation requires rotating of the Save H piston by 90° so that the piston hole is pointing perpendicular of the flow. This is done by loosening the set screw inside the Save H, rotating the axle by 90° and retightening the set screw.

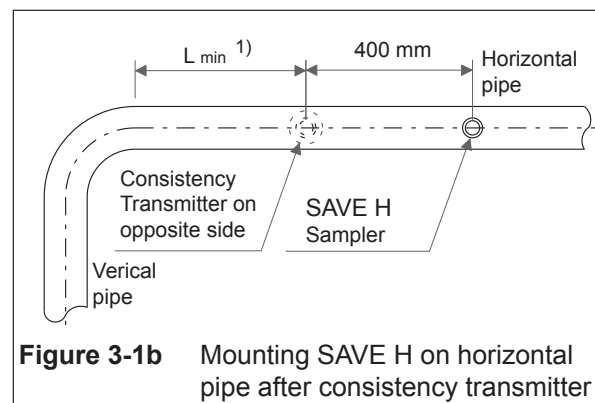


Figure 3-1b Mounting SAVE H on horizontal pipe after consistency transmitter

- 1) Refer to consistency transmitter's installation instructions.

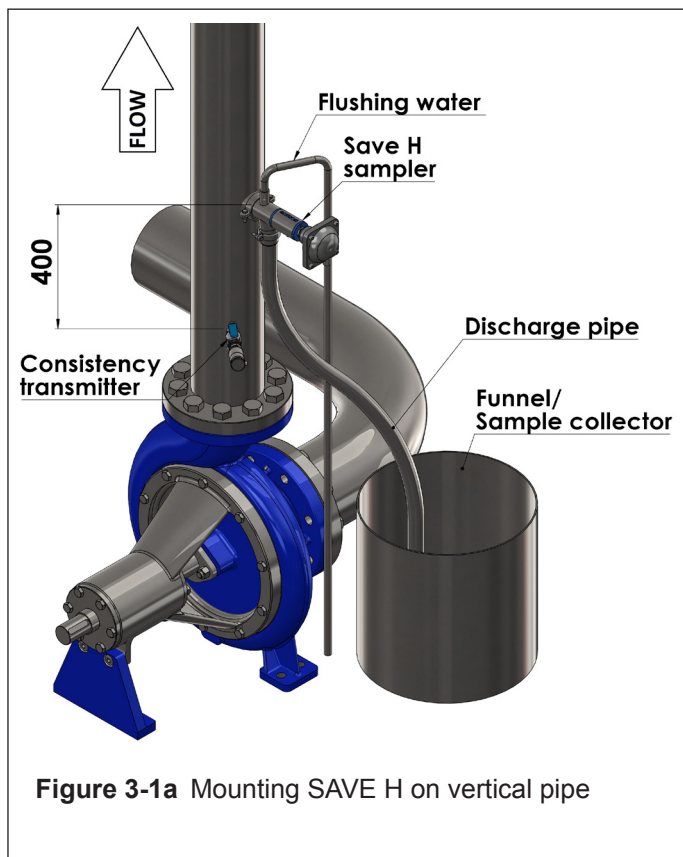


Figure 3-1a Mounting SAVE H on vertical pipe

3.2 Installing the process coupling

The safety requirements should be observed when installing process couplings. Welding should only be done by a skilled welder.

3.2.1 Coupling for clamp mounting, Figure 3-2a

Make a 92 mm hole with V-bevelling on the process pipe. Place the coupling in the hole so that edges A are on a level with the pipe's inner surface (Note: the process coupling's straight edge needs not to be machined to curve shape). Weld the coupling as shown in Figure 3-2a.

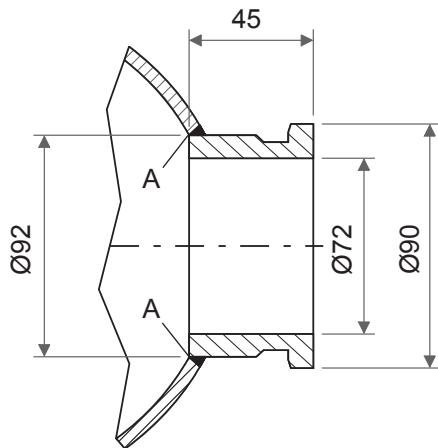


Figure 3-2a Installation drawing for process coupling, SAVE H SAH

3.2.2 Fibreglass-reinforced plastic flanged coupling, Figure 3-2b

Make a hole in the fibreglass-reinforced plastic process pipe to suit the coupling. Laminate the coupling in position as shown in Figure 3-2c.

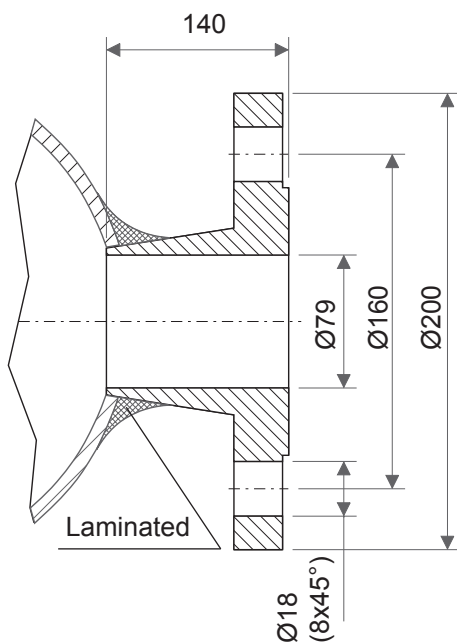
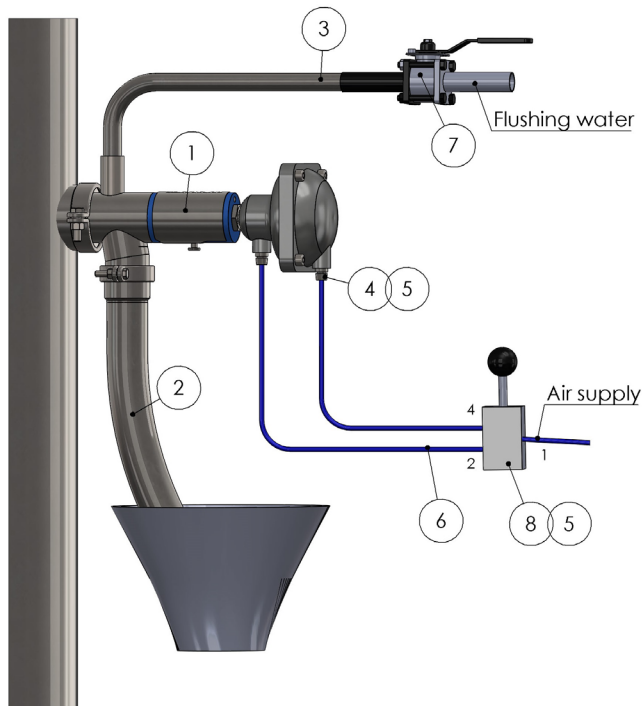


Figure 3-2b Installation of a fibreglass-reinforced plastic process coupling for SAVE H FAH.



8	Pneumatic valve	82920008 (included with Save H)	1
7	1/2" or 3/4" ball valve	82500003 (manual 1/2")	1
6	6/4mm nylon pneumatic tube	82920202	M
5	1/8" to 6/4mm adaptor	82920203	5
4	1/4" to 1/8" adaptor	82400030 (included with Save H)	2
3	Flushing pipe		1
2	Discharge pipe		1
1	Save H	MSAH221AD0	1
Osa Item	Nimitys Description	Nimike/Part code	Kpl Qty

Figure 3-3 Save H Installation and accessories

3.3 Save H Installation

SAVE H SAH

First place the PTFE coupling seal in its groove. Then mount SAVE SAH with clamp and apply 6,5Nm force to tighten the clamp bolts and nuts.

SAVE H FAH (with plastic process coupling)

First place the PTFE coupling seal in its groove. Use eight M16 bolts and nuts to mount SAVE FAH. Be careful not to tighten the screws excessively.

Installing sample discharge tube (or pipe)

Discharge port has a threaded adapter for R2" pipe. Adapter can also be directly welded to a pipe and connected to Save H with the NS50 clamp. The sample can be taken without splashing even from a hard to access installation point. (Figure 3-3, 3-1).

Install a funnel below the sampling point. To prevent overflowing, use a pipe having at least 60 mm diameter from the funnel to sewer.

3.3.1 Pneumatic installations (function AD)

Pneumatic connections are made as shown in Figure 3-3, connections R1/8".

The manually operated pneumatic valve (8) should be mounted on a wall or a mounting bracket.

3.3.2 Connection for water flushing

SAVE has an R3/4" flushing water inlet that has an integrated no-return valve.

Flushing should be used to ensure a representative sample and to prevent clogging and corrosion.

4 Sampling

4.1 Preparing SAVE

You can adjust the piston travel from a grooved nut inside the Save H. This allows the control of the sampling flow by restricting the sample channel to the process.

4.2 General instructions

Use atleast 1-litre sample container equipped with cover. Transport the rcontainers in a basket suitable for the purpose. Before beginning to take consistency samples, make sure that consistency level stays as stable as possible.

To get a representative average consistency sample from the process, we recommend that you take 3 to 5 samples at e.g. 30 second intervals. The laboratory will then analyze the consistency of each sample separately. Another method to obtain a good average consistency sample is to run out 5 to 10 litres of pulp at a time and take a sample from this amount for laboratory analysis in accordance with the TAPPI, T240 standard. (The pulp should be well mixed when taking the sample).

4.3 Sampling procedure

- Write down the consistency transmitter's output.
- First allow some of the sample to run past the container.
- Take a suitable portion of sample flow into the receptacle, so that the container is filled in a controlled manner without overflowing. Do not pour out any pulp from the container, because that can change the sample's consistency. If any overflowing occurs, pour out the entire sample and take a new sample.
- Flush SAVE H
- Put cover on the sample containers and take the them to laboratory for consistency analysis.
- Perform consistency analysis in accordance with mill-specific instructions or general standard (e.g. TAPPI, T240) . If the pulp contains fillers, also perform ash analysis e.g. in accordance with TAPPI T211.

5. Maintenance

SAVE H does not require regular servicing.

Replacing seals

- Remove the Save H from the process connection and reinstall the PTFE process connection seal (**T1036213**).

Replacing the axle bushing and O-ring

- Disassemble the actuator and remove the piston.
- Remove the locking C-spring from the axle hole.
- Replace the bushing and O-ring.
- Reassemble the sampler.

No.	Name	Order number (AISI316L)
1	Coupling SAH	T1036222
2	PTFE seal Ø86	T1036213
3	NS70 clamp assembly	T1036040
4	NS50 clamp assembly	T1036041
5	PTFE seal Ø64	T1036220
6	Discharge coupling	T1036203
7	Axle O-ring	80011830
8	PTFE axle bushing	T1036205

Note!

Parts listed above are compatible for SAH -type Save H with AISI316L wetted parts



WARNING!

- Disconnect the air supply before any maintenance or disassembly of the sampler. Moving parts can cause severe injury!
- Make sure that the process is depressurized when removing Save H from process coupling or flange.

Satron Instruments Inc.
P.O.Box 22, FIN-33901 Tampere, Finland
TEL.INT. +358 207 464 800
Telefax +358 207 464 801
www.satron.com, info@satron.com



Satron SAVE H is a pneumatically actuated sampling valve designed for high-consistency wood pulps and/or pulp containing shives and knots.

The sampler is suitable for all pulp sampling applications in the pulp and paper industry.



TECHNICAL SPECIFICATIONS

Applicability

- Consistency range 0...18 % Cs

Process pressure

- Minimum process pressure for different consistencies: refer to Fig 1
- Maximum process pressure:
2,5 MPa (25 bar), fiberglass-reinforced plastic process coupling 1MPa(10 bar)

Supply air pressure p_s (AD actuator)

- $0,5\text{MPa} < p_s < 0,8\text{MPa}$, ($5\text{ bar} < p_s < 8\text{ bar}$)
- $p_s = 0,6\text{MPa}$ recommended
- Pneumatic actuator has a return spring that shuts the valve when pressure is lost.

Connectors

- Water flushing connector:
R3/4
- Pneumatic connectors for cylinder:
R1/4 (R1/8 adapters included)
- Pneumatic connectors for regulating valve:
R1/8

Materials

- Parts in constant contact with process medium: EN 1.4404 (AISI316L) + UNS S21800 (Nitronic 60) or EN 3.7035(Ti-II)
- Other parts: EN 1.4404 (AISI316L), aluminium alloy

Couplings

- Normal coupling is a clamp mounted standard coupling for the valve.
- Blow line coupling is suited for abrasive applications for example digester blow line.

European Directive Information

Machinery Directive 2006/42/EC

- Assessment of conformity with internal checks on the manufacture of machinery.

Pressure Equipment Directive (PED) (97/23/EC)

- Sound Engineering Practice

Weight

SAVE H SA 7 kg
SAVE H FA 13 kg

Selection Chart		SAVE H					
Mounting types							
SAH	Clamp						
FAH	Flange DN80 PN40						
Material for sampler							
2	EN 1.4404 (AISI316L)						
6	EN 3.7035 (Titaani Ti-II)						
Material for process coupling							
0	No process coupling						
2	EN 1.4404 (AISI316L)						
6	EN 3.7035 (Titanium Ti-II)						
9	Fibreglass-reinforced plastic						
Coupling type							
0	No process coupling	1	Normal				
2	Blow line DN150	3	Blow line DN200-250				
4	Blow line DN300-400	5	Blow line DN500-700				
Function							
AD	Pneumatic						
Open / closed detector							
0	None						
1	Yes (for pneumatic actuator only)						

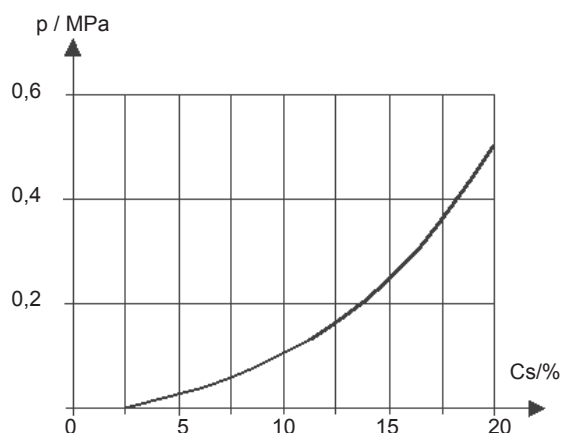


Figure 1 Minimum process pressure at different consistencies

Dimensions

