

YAMIT FILTRATION

F-700TS HYDROCYCLON

Installation & Operation Manual

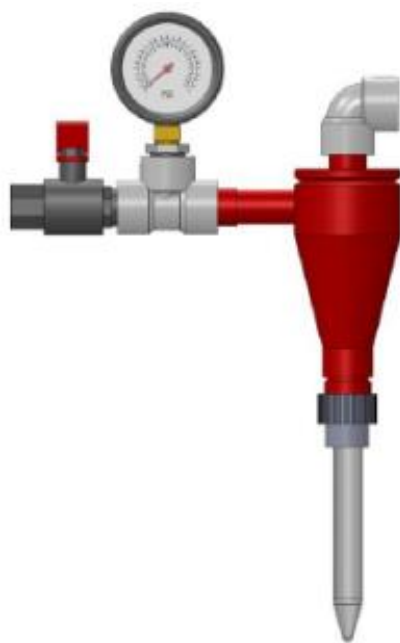


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1. Description

The suspended solids sampler allows testing the quantities of suspended solids in water, as a step in a procedure of choosing appropriate filter for the application.

Suspended solids are an important indicator of water quality. Knowing the amount of suspended solids in untreated water allows choosing the right filtration grade and screen area of the filter which will effectively treat the water, and will not require prolonged maintenance. Taking a well mixed sample is important for getting accurate results.

The sampler is designed for use at the filtration site, not in laboratory. It is connected to the supply line of unfiltered water, and small part of the supply stream passes through it during the sampling time. Suspended solids are separated from the supply water and accumulated in a sample tube. The parameters of the filter are calculated using the amount of the suspended solids accumulated in the sample tube during the sampling time.

2. Application

The suspended solids sampler is designed for use in:

- Filtration systems.
- Agricultural systems.
- Supply pipes.
- Water reservoirs.

3. Features

- Not affected by color of fluid or particulates.
- Measures suspended solids to thick for optical methods.
- Easy set-up and calibration.
- Non-clogging, smooth-bore, non-intrusive sensor, low maintenance due to absence of moving parts.

4. Technical Specifications

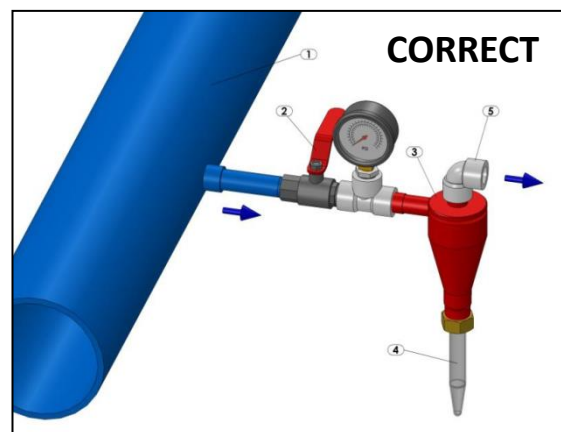
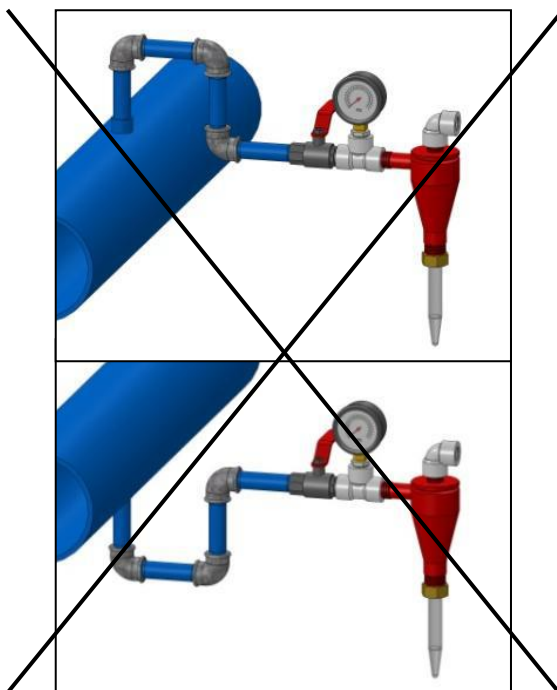
- Operating pressure: 2.5–5 bar [36.2-72.5 PSI].
- Flow rate – 1 m³/hr [4.4 U.S.GPM] (at operating pressure range).
- Sampling time – 6 min. periods.
- Inlet /outlet connector – 15 cm. [$\frac{1}{2}$ "].

5. Installation

The suspended solids sampler requires a well mixed sample of untreated water, and unrestricted flow through the sampler. The sampler should be installed with the body (3) oriented in vertical direction (the sample tube (4) is oriented downwards), while the inlet (2) is horizontal and located at the level of the supply line (1).

A 15 cm. [$\frac{1}{2}$ "] hose, 120 cm. [47"] long should be connected to the outlet (5) of the sampler.

The opposite end of the hose should be open to the atmosphere, in a place that splashing water would not cause any damage or danger. In this setup the water that will flow through the sampler is restricted to approximately 1 m³/hr, and a sampler collects well mixed sample of the untreated water. It is recommended to install a valve at the outlet of the sampler.



6. Sampling

1. Verify correct installation of the sampler, according to instructions in previous chapter.
2. Verify that the sample tube is clean.
3. Verify that the supply line operates at desired conditions, i.e. there is an average amount of suspended solids for the application and the flow through the supply line is developed.
4. Open the inlet valve of the sampler. Verify that the sampler operates in the recommended pressure range. Keep the inlet valve open for a sampling period of time. Close the inlet valve at the end of the sampling.
5. When a sufficient amount of suspended solids has accumulated in test tube register its quantity (in ml.) and the time required for the sample collection (in min).

The required amount of test periods is determined a time required for a collection of at least 1 ml. of suspended solids in the sample tube. The process of determining the right amount of test periods may require multiple initial sampling attempts, before taking the sample used for the calculations.

6. Disconnect the sample tube and identify the size suspended solid particles.
7. Clean the sample tube and connect it to the sampler.

7. Calculating the quantity of suspended solids

The quantity of suspended solids is calculated using the following formula:

Suspended solids concentration (ppm) =	Amount of accumulated suspended solids (ml)
	Volume of water passed through the sampler (m ³)

Notes:

1. Volumes of water passing through the sampler for given time periods at a flow rate of 1 m³/h:

Sampling time (min)	Water passed through the sampler in sampling time (m ³)	Recommended conditions
3	0.05	Very contaminated supply water
6	0.1	Normal supply
9	0.15	Normal supply
12	0.2	Clean water

2. The desired filtration grade of filter in the current application can be defined (if needed) by a measurement of the suspended solids size from the taken sample.
3. If a test of filtration system is performed, the size of the suspended solids should be compared to the filtration degree, in order to verify that no particle greater than the filtration grade has passed through the filter.

Calculation examples

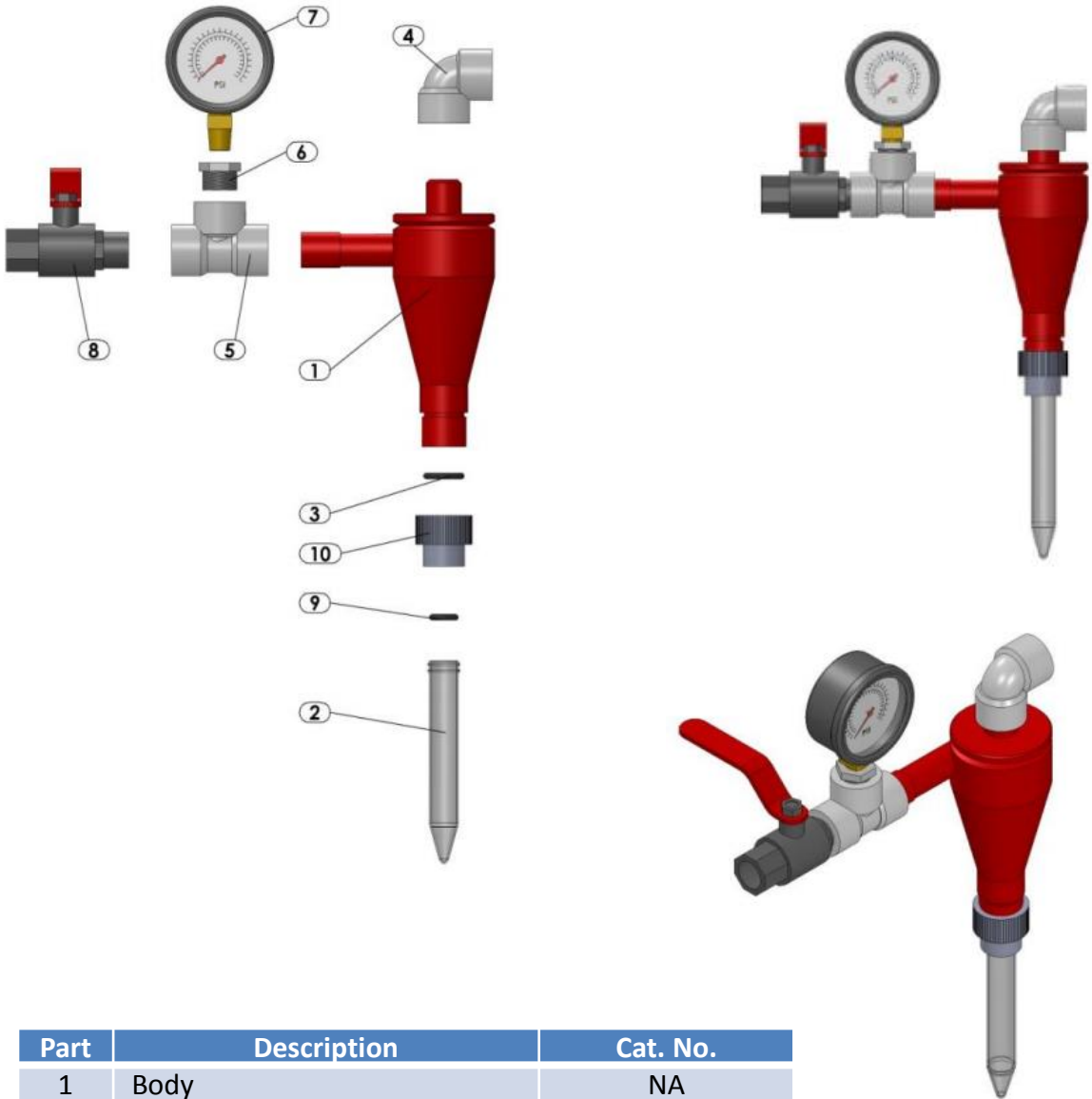
1. For 2 ml. of suspended solids collected during 6 min. the suspended solids quantity of the supply lines is:

$$\text{TSS} = \frac{2 \text{ (c.c.)}}{0.1 \text{ (m}^3\text{)}} = 20 \text{ (ppm)}$$

2. For 6 ml. of suspended solids collected during 3 min. the suspended solids quantity of the supply lines is:

$$\text{TSS} = \frac{6 \text{ (c.c.)}}{0.05 \text{ (m}^3\text{)}} = 120 \text{ (ppm)}$$

8. IPB



Part	Description	Cat. No.
1	Body	NA
2	Test tube	4820000010
3	O-Ring	4081020110
4	Elbow ½" BSP	4170056501
5	Connector "T" ½" BSP	4190056500
6	Bushing ½" *¼" BSP	4640112141
7	Pressure gauge	4400102502
8	Ball valve	4504005100-01
9	O-Ring	4081012100-112
10	Bushing ¾" BSP for Test tube	6126300701

9. International Warranty

Yamit Filtration & Water Treatment Ltd. (hereinafter -" **YAMIT**") guarantees to the customers who purchased **YAMIT** 's products directly from E.L.I or through its authorized distributors, that such products will be free from defect in material and/or workmanship for the term set forth below, when such products are properly installed, used and maintained in accordance with **YAMIT** instructions, written or verbal.

Should such products prove defective within one year as of the day it left **YAMIT** 's premises, and subject to receipt by **YAMIT** or its authorized representative, of written notice thereof from the purchaser within 30 days of discovery of such defect or failure - **YAMIT** will repair or replace or refund the purchase price, at its sole option, any item proven defective in workmanship or material.

YAMIT will not be responsible, nor does this warranty extend to any consequential or incidental damages or expenses of any kind or nature, regardless of the nature thereof, including without limitation, injury to persons or property, loss of use of the products, loss of goodwill, loss of profits or any other contingent liabilities of any kind or character alleged to be the cause of loss or damage to the purchaser.

This warranty does not cover damage or failure caused by misuse, abuse or negligence, nor shall it apply to such products upon which repairs or alterations have been made by other than an authorized **YAMIT** representative.

This warranty does not extend to components, parts or raw materials used by **YAMIT** but manufactured by others, which shall be only to the extent warranted by the manufacturer's warranty.

No agents or representatives shall have the authority to alter the terms of this warranty nor to add any provisions to it not contained herein or to extend this warranty to anyone other than **YAMIT** customers.

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