Operation and Service Manual
for HERMetic Sampler A.2 ≈ 0.5 liter

Portable Restricted Sampling Device

Note: before using the instrument please read this book.

This document is subject to changes without notice.
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2. Recommendation for safe use

1. This Operation and Service Manual is a guide in order to help the user to operate the instrument to our best knowledge.

2. Nevertheless the maker disclaims all responsibility and liability for damage resulting from the use of the equipment regardless of the cause of the damage.

3. **Attention is drawn to the possible hazard due to electrostatic charges which may be present in the tank.** This may happen in particular with static accumulator liquids, i.e. liquids which have low conductivity of 50 picoSiemens/metre (pS/m) or less.

4. **It is very important that the instrument is grounded to the tank before the probe is introduced into the tank and remains grounded until after complete withdrawal from the tank.**

   4.1. If the instrument is installed with the quick connect coupler, grounding is effected through the quick connect coupler and the mating nipple of the valve provided that these parts are kept clean and free from corrosion in order to guarantee electrical conductivity. If a grease is used for this purpose, it must be one which contains graphite.

   4.2. If the instrument is not connected to the mating deck valve, the instrument has to be also earthed by means of the grounding cable and clamp.

5. **It is anticipated that the user will have specific operating methods laid down to ensure safety when using this type of apparatus. In this case the user's instructions shall be strictly observed.**

6. **In the absence of such instructions the following should be noted:**

   6.1. If a metal sounding pipe is fitted beneath the deck valve or tank is inerted, then ullaging, etc. is permissible at any time with no restriction.

   6.2. If there is no sounding tube or tank is not inerted, the following precautions shall be taken:

       6.2.1. If the cargo is not a static accumulator liquid, i.e. its conductivity is more than 50 pS/m, then ullaging is permitted provided that the instrument is properly grounded and earthed before the probe is inserted into the tank and remains earthed until the probe has been removed from the tank.

       6.2.2. If the cargo is a static accumulator liquid, i.e. its conductivity is less than 50 pS/m, then ullaging is permitted provided that:

           6.2.2.1. The instrument is properly grounded and earthed before the probe is inserted into the tank and remains earthed until the probe has been removed from the tank.

           6.2.2.2. The apparatus is not introduced into a tank until at least 30 minutes have elapsed after completion of any loading operation or stopping the injection of inert gas.

6.3. **For further guidance refer to International Safety Guide for Oil Tankers and Terminals (ISGOTT), ISBN 1-85609-291-7, Fifth Edition 2006, or consult the appropriate Legislative Authority for the installation.**

7. **This product and his use is / may be related to international, national, local or company regulations or standards. It is the customer / user responsibility to ensure that the way to use the device complies with such applicable regulations or standards.**

8. **This device is a protable product. It must not be permanently installed on the tank and must be disconnected after use and stored in a safe and dry area.**
3. General information

3.1 Shipment note

The following parts should be included in the shipment:

- 1 instrument;
- One or more bottles as ordered;
- 1 Allen key 5mm
- 1 Operation and Service Manual.

3.2 Initial inspection

Check the contents of the shipment for completeness and note whether any damage has occurred during transport. Carry out the "Initial test before installing the instrument" to verify the good functioning. If the contents are incomplete, or if there is damage, do not use the device. A claim should be filled with the carrier immediately, and Enraf Tanksystem SA Sales or Service organization should be notified in order to facilitate the repair or replacement of the instrument.

3.3 Documentation discrepancies

The design of the instrument is subject to continuous development and improvement. Consequently, the instrument may incorporate minor changes in detail from the information contained in the manual.

3.4 Warranty

12 months after installation but max. 18 months after delivery ex works.

The Vendor undertakes to remedy any defect resulting from faulty design materials or workmanship. The Vendor's obligation is limited to the repair or replacement of such defective parts by his own plant or one of his authorized service stations. The Purchaser shall bear the cost and risk of transportation of defective parts and repaired parts supplied in replacement of such defective parts.

When returned to Enraf Tanksystem SA or any of its agreed Service Stations equipment must be contamination-free. If it is determined that the Purchaser's equipment is contaminated, it will be returned to the Purchaser at the Purchaser's expense. Contaminated equipment will not be repaired, replaced, or covered under any warranty until such time that the said equipment is decontaminated by the Purchaser.

The Purchaser shall notify by fax, telex or in writing of any defect immediately upon discovery, specifying the nature of the defect and/or the extend of the damage caused thereby.

Where no other conditions have been negotiated between the Vendor and the Purchaser "General Conditions 188" of United Nations shall apply.

This equipment has been certified as non-electrical equipment for potentially explosive atmospheres for only those classes or categories of hazardous areas stated on the instrument label, bearing the mark of the applicable approval authority. No other usage is authorized.

Unauthorized repair or component replacement by non-original spare parts by the Purchaser will void this guarantee and may impair the good functioning of the instrument.

In no event shall Enraf Tanksystem SA be liable for indirect, incidental or consequential loss or damage or failure of any kind connected with the use of its products or failure of its products to function or operate properly.

Enraf Tanksystem SA do not assume the indemnification for any accident or damage caused by the operation of its product and the warranty is limited to the replacement of parts or complete goods.
3.5 Certification

Enraf Tanksystem SA is an ISO 9001 certified company by QMI and MED-D by Det Norske Veritas Certification GmbH.

3.6 Spare parts

Substitution of components may impact safety. Use only original spare parts.

When ordering spares identify the spare part by TS number and description. Refer to section “Drawings”.

Some spares might be repairable; in this case send part to any authorized service center or to the factory.

In case of urgency replacement units can be available while stocks last.

3.7 Service and Repair

The customer should take care of the freight and customs clearance charges. If units are sent on “freight collect” the charges will be invoiced to the customer.

When returning units or parts for repair to the factory please fill out a service request form (see next page).

When returned to Enraf Tanksystem SA equipment must be contamination-free. If it is determined that the customers equipment is contaminated, it will be returned to the customer at the customers expense. Contaminated equipment will not be repaired until such time that the customer decontaminates the said equipment.
**Service Request**

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<td>Type of unit or part:</td>
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<td>Serial number:</td>
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<td>Short description of defective unit or part:</td>
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<td>Do you want a quotation before repair is started:</td>
<td>yes / no</td>
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<td>Repaired unit has to be returned to the following address:</td>
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### 4. Worldwide Service Stations network

The updated list can be found on our website www.tanksystem.com

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>ADDRESS</th>
<th>TELEPHONE/FAX/E-MAIL</th>
</tr>
</thead>
</table>
| SWITZERLAND   | ENRAF TANKSYSTEM SA  
2, rue de l'Industrie  
CH-1630 BULLE                                                                                   | Tel : +41-26-91 91 500  
Fax : +41-26-91 91 505  
Tanksystem@honeywell.com                                                                         |
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A Div. Of Pylon Electronics Inc.  
31 Trider Crescent.,  
DARTMOUTH, N.S. B3B 1V6                                                                         | Tel : +1-902-4683344  
Fax : +1-902-4681203  
halifax_csr@pylonelectronics.com                                                                 |
| CHINA         | HUA HAI EQUIPMENT & ENGINEERING CO LTD  
Factory 7, Lane 1365, East Kang Qiao Road  
Kang Qiao Industrial Zone, Pu Dong  
SHANGHAI, P.C. 201315                                                                               | Tel : +86-21-68183183  
Fax : +86-21-68183115  
huahaish@huahaiee.com                                                                               |
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Fax : +30-210-4294495  
spanmarin@ath.forthnet.gr                                                                            |
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OSAKA 555-0012                                                                                       | Tel : +81-6-64714701  
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daiwa471@silver.ocn.ne.jp                                                                             |
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marine@worldocean.co.kr                                                                                |
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Fax : +31-10-4141004  
info@tbu.nl                                                                                           |
The updated list can be found on our website www.tanksystem.com

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</tr>
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<tbody>
<tr>
<td>PORTUGAL</td>
<td>CONTROLIS</td>
<td>Tel : +351-21-2740606</td>
</tr>
<tr>
<td></td>
<td>Rua Conceiçao Sameiro Antunes, 26E</td>
<td><a href="mailto:controlis@netc.pt">controlis@netc.pt</a></td>
</tr>
<tr>
<td></td>
<td>2800-379 COVA DA PIEDADE</td>
<td></td>
</tr>
<tr>
<td>RUSSIA</td>
<td>NPP &quot;GERDA&quot;</td>
<td>Tel : +7-495-7558845</td>
</tr>
<tr>
<td></td>
<td>Vilisa Latsisa str. 17</td>
<td>Fax : +7-495-7558846</td>
</tr>
<tr>
<td></td>
<td>Building 1</td>
<td><a href="mailto:info@gerda.ru">info@gerda.ru</a></td>
</tr>
<tr>
<td></td>
<td>125480 MOSCOW</td>
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<td>SINGAPORE</td>
<td>HUBBELL INT'L (1976) PTE LTD</td>
<td>Tel : +65-6-2557281</td>
</tr>
<tr>
<td></td>
<td>322 Thomson Road</td>
<td>Fax : +65-6-2550464</td>
</tr>
<tr>
<td></td>
<td>SINGAPORE 307665</td>
<td><a href="mailto:hubbell@mbox2.singnet.com.sg">hubbell@mbox2.singnet.com.sg</a></td>
</tr>
<tr>
<td>SPAIN</td>
<td>E.N.I.</td>
<td>Tel : +34-94-4746263</td>
</tr>
<tr>
<td></td>
<td>Electronica y Neumatica Industrial, S.A.</td>
<td>Fax : +34-94-4745868</td>
</tr>
<tr>
<td></td>
<td>C/Jon Arrospide, 20 (Int.)</td>
<td><a href="mailto:eni.tecnica@eni.es">eni.tecnica@eni.es</a></td>
</tr>
<tr>
<td></td>
<td>48014 BILBAO</td>
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<tr>
<td>SWEDEN</td>
<td>INSTRUMENTKONTROLL</td>
<td>Tel : +46-31-240510</td>
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<td>Lars Petersson AB</td>
<td>Tel : +46-31-240525</td>
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<tr>
<td></td>
<td>Varholmsgatan 1</td>
<td>Fax : +46-31-243710</td>
</tr>
<tr>
<td></td>
<td>414 74 GÖTEBORG</td>
<td><a href="mailto:Info@instrumentkontroll.se">Info@instrumentkontroll.se</a></td>
</tr>
<tr>
<td>TURKEY</td>
<td>YEDI DENIZ</td>
<td>Tel : +90.212.251 64 10 / 3 lines</td>
</tr>
<tr>
<td></td>
<td>Setustu, Izzetpasa Yok.1</td>
<td>Fax : +90.212.251 05 75</td>
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<td></td>
<td>TR 34427 Kabatas ISTANBUL</td>
<td><a href="mailto:servicestation@yedideniz.net">servicestation@yedideniz.net</a></td>
</tr>
<tr>
<td>UNITED ARAB</td>
<td>MARITRONICS TRADING L.L.C.</td>
<td>Tel : +971-4-3247500</td>
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<tr>
<td>EMIRATES</td>
<td>P.O. Box 6488</td>
<td>Fax : +971-4-3242500</td>
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<td></td>
<td>Shed # 72, Jadaf Ship Docking Yard</td>
<td><a href="mailto:service@maritronics.com">service@maritronics.com</a></td>
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<td></td>
<td>DUBAI</td>
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<tr>
<td>UNITED</td>
<td>ENERGY MARINE (INTERNATIONAL) LTD.</td>
<td>Tel : +44-1525-851234</td>
</tr>
<tr>
<td>KINGDOM</td>
<td>12 Clipstone Brook Industrial Estate</td>
<td>Fax : +44-1525-852345</td>
</tr>
<tr>
<td></td>
<td>Cherrycourt Way</td>
<td><a href="mailto:info@engmar.com">info@engmar.com</a></td>
</tr>
<tr>
<td>ME</td>
<td>LEIGHTON BUZZARD, BEDS LU7 4TX</td>
<td></td>
</tr>
<tr>
<td>U.S.A / TEXAS</td>
<td>HONEYWELL HERMETIC</td>
<td>Tel : +1-281-930 1777</td>
</tr>
<tr>
<td></td>
<td>4522 Center Street</td>
<td>Fax : +1-281-930 1222</td>
</tr>
<tr>
<td></td>
<td>DEER PARK, TX 77536</td>
<td>Toll free call in the USA:</td>
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<td>1-800-900 1778</td>
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<td></td>
<td></td>
<td><a href="mailto:hermetic@honeywell.com">hermetic@honeywell.com</a></td>
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</table>
5. Description

5.1 General

The HERMetic Samplers are designed for sampling of liquids or chemicals, which present a Fire-, Health- or Air pollution Hazard. The equipment is designed for use in potentially explosive atmospheres area.

5.2 Sampling types

Several kinds of samples can be realised with this sampler. To get different samples, 4 bottles are available: Zone bottle, Spot bottle, Running bottle and Bottom bottle.

The Zone bottle allows sampling of the upper level inside the tank.

The Spot bottle allows sampling at a determinate height.

The running bottle allows sampling all along the displacement of the bottle inside the tank.

The Bottom bottle allows sampling of the tank bottom.

As far as the kinds of sampling are concerned, please refer to ISO 3170 “Petroleum liquids – Manual sampling”.

All these bottle are interchangeable, please refer to § 6.1.

For specific application, other bottles exist. For further information, please contact.

The sampler is delivered as standard with zone sampling bottle. All other sampling bottles are available as option.
5.3 Sampling principle

5.3.1 Connection and grounding system

All HERMetic products are easy to connect. Indeed, all HERMetic devices are equipped with a quick coupler for connection on a HERMetic ball valve.

Place the unit on the appropriate valve and activate the locking system. Depending on the locking system, either rotate the collar and actuate the lever or pull on the sleeve.

If the instrument is connected to genuine HERMetic valve, grounding is effected through the quick connect coupler and the mating nipple of the valve. No additional grounding strap is necessary. For further information, please refer to §2 “Recommendation for safe use”.

![Diagram of HERMetic Sampler A2](image)
5.3.2 Sampling method
The sample is taken by a vertical move of the bottle inside the fluid.

The bottle is linked with a graduated tape to monitor the bottle location.

For complete explanation of sampling procedures, please refer to §6 “Operation”.

Important note: to avoid contamination of the sample taken by the sampler itself, check and clean the unit and the bottle prior to use. Clean the unit with an appropriate cleaner without impacting the unit or contamination risk of the next sample.

5.3.3 Liquid transfer
To transfer the fluid, no additional equipment is necessary. Just remove the sampling bottle through bottom of Sampler and pour its content into an appropriated laboratory bottle.
6. Operation

6.1 Checking before use

Before using the sampler:

- Check the good state of the device.
- Check the cleanliness of the unit (sampler and bottle) to prevent any contamination of the sample.
- Inspect the bottle tape end for breaks, kinks and wear. If there is some damage, replace the tape before use.
- Check of the attachment of the hook locking device on the tape.
- Check the closure of the hook locking device according to Fig. 1. The swivel hook has to be locked in use.

Nota: Clean the instrument of any excess of liquid after use. Remove the winder holder and clean the storage tube. This cleaning must be done very properly, in particular when corrosive liquids are gauged, such as strong acids or caustic soda for instance.

Store the instrument in a dry location.

Fig. 1
6.2 **Operating the ZONE SAMPLING BOTTLE**

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<td>30329</td>
<td>10380</td>
<td>Zone Bottle 0.43 l. Viton assy</td>
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1. Remove the 2" cover from the valve.
2. Install the sampler on top of the valve.
3. Open the valve.
4. Lower the bottle at a minimum speed of 0.5 m/sec. If the lowering speed is too low the liquid will not flow through the bottle. The resistance of the ball to flowing has to be higher than its weight to keep open the bottom valve of the bottle.
5. Stop the lowering at the level where the sample is to be taken.
6. Lift the bottle back into the sampler housing.
7. Close the valve.
8. Remove the cover of the sampler together with the bottle and pour its content into a laboratory bottle with a minimum 2" neck diameter.
9. Reassemble the bottle and cover to the sampler.
10. Remove the sampler from the valve.
11. Reinstall the 2" cover on top of the valve.
12. Clean the equipment after use and check it for proper functioning.
6.3 *Operating the BOTTOM SAMPLING BOTTLE*

*(O = OPTION)*

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<td>O</td>
<td>20246</td>
<td>20124</td>
<td>Bottom bottle 0.40 l FKM assy</td>
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1. Remove the 2" cover from the valve.
2. Install the sampler on top of the valve.
3. Open the valve.
4. Lower the bottom bottle until reaching the bottom of the tank.
5. When the bottom valve of the bottle hits the tank bottom the bottle fills up automatically.
6. Lift the bottle back into the sampler.
7. Close the valve.
8. Remove the cover of the sampler together with the bottom bottle. Mind not to open the bottom valve inadvertently.
9. Put the bottom bottle vertically into a laboratory bottle with a minimum 2" neck diameter.
10. When the bottle bottom valve hits the bottom of the laboratory bottle the liquid is transferred.
11. Reassemble the bottom bottle and the cover to the sampler.
12. Remove the sampler from the valve.
13. Reinstall the 2" cover on top of the valve.
14. Clean the equipment after use and check it for proper functioning.
6.4 *Operating the SPOT SAMPLING BOTTLE*

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1. Remove the 2" cover from the valve.
2. Install the sampler on top of the valve.
3. Open the valve.
4. Lower the spot bottle to the level where the sample is to be taken.
5. Stop the bottle at this level and shake it rapidly up and down about 10 times on a 200 mm stroke. This movement has a pumping effect as the ball opens and closes the bottom of bottle.
6. Lift the bottle back into the sampler.
7. Close the valve.
8. Remove the cover of the sampler together with the spot bottle. Mind not to open the bottom valve inadvertently.
9. Put the spot bottle vertically into a laboratory bottle with a minimum 2" neck diameter.
10. When the bottle spot cover hits the bottom of the laboratory bottle the liquid is transferred.
11. Reassemble the spot bottle and the cover to the sampler.
12. Remove the sampler from the valve.
13. Reinstall the 2" cover on top of the valve.
14. Clean the equipment after use and check it for proper functioning.
6.5 *Operating the RUNNING SAMPLING BOTTLE*

(O = OPTION)

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0. The calibration plug on top of the running bottle has to be adjusted according to the liquid to be sampled. The plug is properly set up when the transferred quantity of liquid falls between 70 and 85% of the capacity of the sampling bottle, i.e. between 0.3 and 0.35 l (API MPMS Chapter 8.1, § 8.3.3.3).

1. Remove the 2” cover from the valve.

2. Install the sampler on top of the valve.

3. Open the valve.

4. Lower the running bottle regularly to the appropriate depth but do not hit the tank bottom to keep the bottom plug closed all the time.

5. When the appropriate depth has been reached lift the running bottle back into the sampler at the same regular speed.

6. Close the valve.

7. Remove the cover of sampler together with the running bottle. Mind not to open the bottom valve inadvertently.

8. Put the running bottle vertically into a laboratory bottle that shall have a 2” minimum neck diameter.

9. Open the bottom valve by hitting the bottom of the laboratory bottle. Transfer the liquid.

10. When the transfer is completed, check that the transferred liquid falls between the two marks 0.3 and 0.35 l in order to comply with API MPMS Chapter 8.1 requirements.

11. Reassemble the running bottle and the cover to the sampler.

12. Remove the sampler from the valve.

13. Reinstall the 2” cover on top of the valve.

14. Clean the equipment after use and check it for proper functioning.
7. Care & Maintenance

7.1 Safety warning

As this equipment has been designed as non-electrical equipment for potentially explosive atmospheres. Specific precautions have to be taken regarding maintenance of the device. The user can exchange parts and modules if following points are observed:

1. Never carry out any repair or trouble shooting in a hazardous area.

2. Substitution of components may impact safety. Use only original spare parts.

3. Work shall be done only by maintenance personnel who has experience with equipment certified for use in potentially explosive atmosphere.

The design of the equipment is modular, i.e. in case of damage, check which modules or spare parts have to be replaced. Order new parts according to enclosed drawings and specific item number TS -----. The instrument consists of the following modules:

- Mechanical parts
- Tape assembly
- Tape cleaner

7.2 Care

Clean the instrument of any excess of liquid after use. Remove the winder holder and clean the storage tube. This cleaning must be done very properly, in particular when corrosive liquids are sampled, such as strong acids or caustic soda for instance.

Store the instrument in a dry location.

Check periodically whether the general state of the device is still OK.

Check periodically whether all sealings are still OK.

Check the tape wiper for wear.

Clean periodically the sampling bottle. Check the valves of sampling bottles for liquid leakage.

Check periodically tape for kinks.

Check periodically (at least every 6 months) the continuity of grounding by measuring the electrical resistance between the hook lock (or the sampling bottle) and the quick connect coupler. Resistance should not exceed 100 Ω.

7.3 Sampler cleaning

To clean HERMetic Sampler A2, winder holder can be easily removed and sampling bottle detached from tape.
It is required to fit the cleanliness level with the sample goals. Where appropriate, dismantle the winder holder and clean the parts with an appropriate cleaner to prevent any contamination of the sample by the sampler itself.

7.4 **Tape cleaning**

If tape requires cleaning it has to be unwound. Clean it during its winding-up operation on the winder.

7.5 **Tape wiper replacement**

- Unscrew the 4 screws position 7 on the drawing ND 20319 (30m) or ND 40796 (40m)
- Remove the old tape wiper.
- Put the new one.
- Tighten the 4 screws again.

7.6 **Tape replacement**

- Remove the winder holder from the sampler (2 screws);
- Remove the tape wiper;
- Unwind totally the old tape;
- Remove it and unscrew the screw tightening to the core;
- Put the new tape;
- Fasten the tape to the core with the screw;
- Wind the new tape;
- Put back the tape wiper.
- Put back the winder holder and tighten the 2 screws.
8. Specifications

General Specifications

- **Tape length**: up to 40 m/130 ft approx.
- **Tape graduation**: Metric/English
- **Tape resolution**: 1 mm / 1/16”
- **Tape accuracy**: ±6.3mm/40 m (±1/4”/130 ft approx.)
- **Liquid density**: up to 8kg/dm³
- **Ambient temperature range**: -20°C to 80 °C (-4°F to 176°F)
- **Maximum liquid temperature**: 80°C (176°F)
- **Mechanical coupling**: Q2 (2”)
- **Weight**: 6.2 kg approx.
- **Dimensions**: 830 x 170 x 140 mm approx

Meets ISO 3170 “Petroleum liquids – Manual sampling”

**Tape cleaning device**: Adjustable tape cleaner

**Available bottles**: Zone, bottom, spot, running sampling bottles

**Maintenance**: modular design / easy exchange of parts

Specifications subject to change without notice.
9. Drawings

These documents are enclosed in following pages.

9.1 Sampler

O = Option, according to specific order.

<table>
<thead>
<tr>
<th>ND</th>
<th>TS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>20319</td>
<td>10042</td>
<td>Hermetic Sampler A2-0,5 l. 30 m</td>
</tr>
<tr>
<td>30386</td>
<td>10302</td>
<td>Winder tape 30 m metric/inch</td>
</tr>
<tr>
<td>40796</td>
<td>10369</td>
<td>Tape assy w/o winder 30 m</td>
</tr>
<tr>
<td>20320</td>
<td>98039</td>
<td>Hermetic Sampler A2-0,5 l. 40 m</td>
</tr>
<tr>
<td>30454</td>
<td>10308</td>
<td>Winder tape 40 m metric/inch</td>
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<tr>
<td>41162</td>
<td>10392</td>
<td>Tape assy w/o winder 40 m</td>
</tr>
<tr>
<td>30329</td>
<td>10380</td>
<td>Zone Bottle 0,43 l. Viton assy</td>
</tr>
<tr>
<td>O 20246</td>
<td>20124</td>
<td>Bottom bottle 0.40 l FKM assy</td>
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<tr>
<td>O 20255</td>
<td>20137</td>
<td>Spot bottle 0.40 l. FKM</td>
</tr>
<tr>
<td>O 20254</td>
<td>20138</td>
<td>Running bottle 0.40 l. FKM</td>
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9.2 Valves

Important: Valves are supplied separately from Samplers. There are not included in Sampler scope of supply.

<table>
<thead>
<tr>
<th>ND</th>
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</tr>
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<tbody>
<tr>
<td>20291</td>
<td>10083</td>
<td>Valve C2-SS-W, 2” flange DUJ, weather cap</td>
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<tr>
<td>20287</td>
<td>10082</td>
<td>Valve C2-SS-SEC, 2” flange DUJ, security cover</td>
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<tr>
<td>20288</td>
<td>10081</td>
<td>Valve C2-SS-BL, 2” flange DUJ, blind cover</td>
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<tr>
<td>30391</td>
<td>10076</td>
<td>Valve C2-SS-W, 2” female, weather cap</td>
</tr>
<tr>
<td>30374</td>
<td>10078</td>
<td>Valve C2-SS-SEC, 2” female, security cover</td>
</tr>
<tr>
<td>30596</td>
<td>10085</td>
<td>Valve C2-SS-BL G2” Female, blind cover</td>
</tr>
</tbody>
</table>
Winder tape 30m metric/inch

This drawing is our property and must not without our permission be copied or made available to others.
The receiver is responsible for every misuse.
Bande coupée à 478 mm
Tape cut at 478 mm

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Weight</th>
<th>Description</th>
<th>Material</th>
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<th>ND</th>
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<tbody>
<tr>
<td>1</td>
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<td>2</td>
<td>0.0</td>
<td>Rivet ø 2 x 2.1</td>
<td>A2</td>
<td>-</td>
<td>41367</td>
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<tr>
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<td>1</td>
<td>42.1</td>
<td>Swivel hook with clasp</td>
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<td></td>
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<td>Washer for tape connector</td>
<td>1.4301</td>
<td>11238</td>
<td>41200</td>
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TOLERANCES UNLESS OTHERWISE SPECIFIED

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<tr>
<th>Norm. Size</th>
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<th>6</th>
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<th>100</th>
<th>300</th>
<th>1000</th>
<th>2000</th>
<th>Angles</th>
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<tr>
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<td>±</td>
<td>0.05</td>
<td>0.1</td>
<td>0.15</td>
<td>0.2</td>
<td>0.3</td>
<td>0.5</td>
<td>0.1</td>
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</table>

REMOVE ALL BURRS AND SHARP EDGES

Weight: 687.2 Eff.

ISSUE 1: 23.06.2008

Sampler
Tape Assy w/o winder 30m

This drawing is our property and must not without our permission be copied or made available to others. The receiver is responsible for every misuse.

Enraf Tanksystem SA
RUE DE L'INDUSTRIE 2 CH-1630 BULLE
Tel. +41 26 91 91 500 - Fax +41 26 91 91 505

Drawn: CPI 24.06.2008
Control:

MPSA 1000
Replacement for: ND
Replaced by: ND

REF ND 30225/20319/20332

TS 10369
ND 40796
This drawing is our property and must not without our permission be copied or made available to others. The receiver is responsible for every misuse.
<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Weight</th>
<th>Description</th>
<th>Material</th>
<th>TS</th>
<th>ND</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>839.1</td>
<td>Tape 40m Metric/inch</td>
<td>1.4021</td>
<td>19505</td>
<td>ND</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>0.0</td>
<td>Rivet ø 2 x 2.1</td>
<td>A2</td>
<td>-</td>
<td>41367</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>42.1</td>
<td>Swivel hook with clasp</td>
<td>20502</td>
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<tr>
<td>4</td>
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<td>Washer for tape connector</td>
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**TOLERANCES UNLESS OTHERWISE SPECIFIED**

<table>
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</table>

**Angles**

- 60
- 90

**Weight:**

- 883.0 Eff.
- 1:1

**REMOVED ALL BURRS AND SHARP EDGES**

** ISSUE 1 : 23.06.2008**

**MPSA 1000**

**Sampler**

**Tape Assy w/o winder 40m**

---

This drawing is our property and must not without our permission be copied or made available to others. The receiver is responsible for every misuse.

Enraf Tanksystem SA
RUE DE L'INDUSTRIE 2 CH-1630 BULLE
Tel. +41 26 91 91 500 - Fax +41 26 91 91 505
Sampler 2" GT
Zone bottle 0.43l. Viton assy

This drawing is our property and must not without our permission be copied or made available to others.
The receiver is responsible for every misuse.
Valve fits on flange:

DIN PN10 DN50
DIN PN16 DN50
DIN PN25 DN50
DIN PN40 DN50
JIS 5K 50
JIS 10K 50
ANSI 150lbs 2"
Valve fits on flange:
DIN PN10 DN50
DIN PN16 DN50
DIN PN25 DN50
DIN PN40 DN50
JIS 5K 50
JIS 10K 50
ANSI 150lbs 2"
Valve fits on flange:
DIN PN10 DN50
DIN PN16 DN50
DIN PN25 DN50
DIN PN40 DN50
JIS 5K 50
JIS 10K 50
ANSI 150lbs 2"