

1.06710.0001

Withdrawal system for stainless steel barrels and -drums, with flexible tubes, inert gas pressurizing

Handling and safety notices

Components

- 1x Threaded adapter (2") stainless steel with 2 vertical quick connectors Rectus type 21 (1x female, 1x male) and G3/8 opening with blind plug
- 1x Spiral gas feeding tube (nylon) with quick connector Rectus type 21 (female), working length: 180 cm
- 1x Filling nozzle with stainless steel coated PTFE-tube (80 cm), quick connector Rectus type 21 (male)

Additional parts

- 9.67100.1040 Dip tube for 10l-stainless steel barrels
- 9.67100.1041 Dip tube for 30l-stainless steel barrels
- 9.67100.1185 Dip tube for 185l-stainless steel barrels
- 9.67100.1010 Dip tube for 10l-stainless steel drums
- 9.67100.1025 Dip tube for 25l-stainless steel drums
- 9.67100.1190 Dip tube for 190l-stainless steel drums
- 1.07070.0001 Antistatic device
- 1.08803.0001 Opening key for G2 and G $\frac{3}{4}$ plugs
- 9.67100.9100 Pressure reducer with integrated overpressure relief
- 9.67100.9004 Overpressure relief (for inert gas bottle connections)
- 9.67100.9003 Threaded adapter (2") stainless steel with 2 horizontal quick connectors Rectus type 21 (1x female, 1x male) and G3/8 opening with blind plug
- 9.67106.0001 Stainless steel clamp for filling nozzle at drum rim
- 9.67107.0001 Stainless steel clamp for filling nozzle (wall attachment)

Spare parts

- 9.67100.9002 Threaded adapter (2") stainless steel with 2 vertical quick connectors Rectus type 21 (1x female, 1x male) and G3/8 opening with blind plug
- 9.67100.9051 Spiral gas feeding tube (nylon) with quick connector Rectus type 21 (female), working length: 180 cm
- 9.67100.9090 Filling nozzle with stainless steel coated PTFE-tube (80 cm), quick connector Rectus type 21 (male)
- 9.67100.1090 Filling nozzle, with G $\frac{3}{4}$ thread
- 9.67100.9052 Stainless steel coated PTFE-tube (80 cm) with quick connector Rectus type 21 (male) and threaded connector G3/8
- 9.43441.0007 Bung plug, stainless steel, 2", PTFE sealing

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Safety notices

General warnings and safety instructions must be observed.

Always work according to the information given on the **Material Safety Data Sheet**, which can be downloaded at www.SigmaAldrich.com/msds.

The withdrawal system, particularly the sealings, should be checked for proper operation before each use.

If flammable liquids (e.g. solvents) are to be used, the container must be properly grounded according to valid safety regulations to avoid explosion and fire risks. Appropriate measures must be taken to discharge static electricity. Both the withdrawal system and container must be grounded in accordance with the applicable safety regulations. For this purpose, the antistatic device (order no. 1.07070.0001) can be used.

Grounding clamps must have **metallic contact** with both the container and the withdrawal system, and a safe ground connection.

The grounding of the container must be installed **before opening/connecting the container**. After finishing the work steps (emptying and closing the container completely) the grounding clamp of the container can be removed and used to ground the new container directly.

To discharge static electricity of the withdrawal system, contact the threaded adapter with the grounded container **prior to screwing and insert it directly into the container**. It must be ensured that no flammable solvent vapors are present in the surrounding of the contact point.

In case of any doubt, the adapter must be connected to a ground contact outside the danger zone for a short time in order to discharge residual charges prior to screwing in.

The discharge of electrostatic charges of the user must be ensured. Therefore, the user must always wear conductive personal protective equipment, especially shoes and gloves. The floor must be conductive as well.

Sampling vessels made of insulating material with a volume greater than 1 liter should not be used.

Before using the withdrawal system, the user must ensure that there are no additional ignition hazards caused by process-specific parameters, such as increased ignitability of the substances due to changed environmental conditions or when sampling in combination with highly charge-generating processes.

It must be ensured that only suitable inert gas is used when operating the withdrawal system. The choice of withdrawal system for the different products as well as the choice of inert gas type is the responsibility of the customer. Merck KGaA, Darmstadt, Germany only gives recommendations. E.g. the system is not suitable for inorganics like corrosive acids and bases.

Before removing the sampling system or in the event of prolonged interruption of the pouring process, and in all cases overnight, the container must be vented to zero pressure (see the following handling instructions).

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Further information

- Handling manuals in **video format**
www.SigmaAldrich.com/safe-handling
- Further information on **safety products**
(e.g. risk prevention, daily safety tools, emergency help)
www.SigmaAldrich.com/lab-safety
- Information on **withdrawal systems for inorganics** (acids/bases)
www.SigmaAldrich.com/inorganics-withdrawal

Handling notices

The withdrawal system at issue is designed for dispensing solvents from stainless steel barrels of 10 l, 30 l and 185 l and from stainless steel drums of 10 l, 25 l and 190 l volume with inert gas pressurizing. Drums and barrels made of steel **must not be used** with this withdrawal system.

The withdrawal is done by pressurizing with inert gas (e.g. argon, nitrogen), either via house gas line or gas cylinder. Appropriate precautions for availability and security must be taken by the user. The potential hazards due to unwanted release of inert gas due to leakage must be evaluated by the user.

The solvents container must be properly grounded **before opening**. Subsequently, the container lid is opened using a drum key (e.g. order No. 1.08803.0001).

For the first usage or after solvent exchanges the system must be pre-rinsed (dip tube inside and outside) with a sufficient amount of the solvent to be used. The first milliliters should be discarded to avoid a transfer of possible production-related impurities into the solvent. After long shutdown times a flushing of the whole system is recommended.

Ensure that the container is depressurized before the withdrawal system is removed (see "Container exchange").

When removing the withdrawal system from the container, ensure that the system is still grounded. Solvent residues inside the withdrawal system can be returned to the container via the dip tube. The empty container must be closed immediately after removal of the withdrawal system.

Only remove the grounding lines after closing the container tightly with the original screw cap!

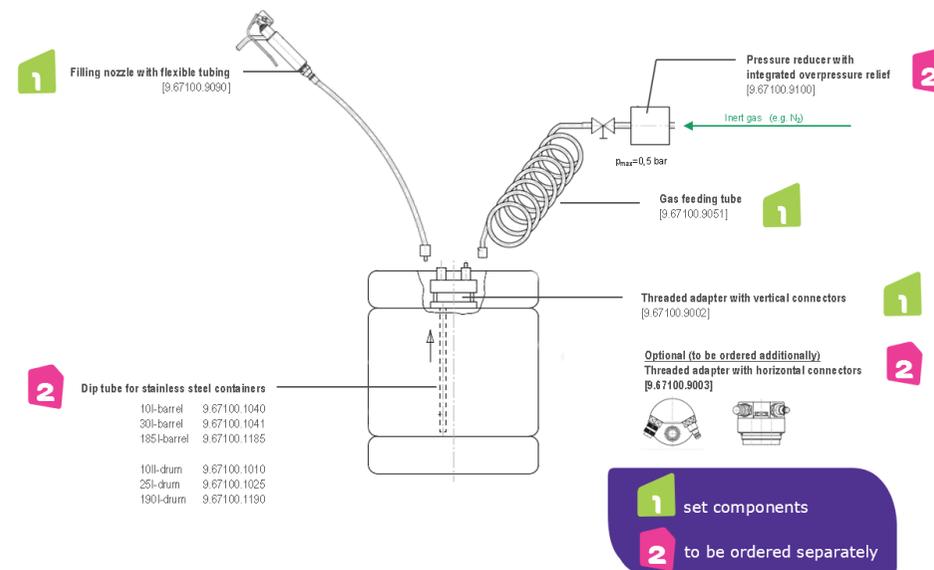
IMPORTANT: Ensure that the dip tube is **not touched** during the container-exchange procedure and that the withdrawal system is installed **directly** into the new container **without** putting it down on another surface.

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Handling and safety notices

Installation overview



Information: The quick connectors used are self-closing.

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Handling and safety notices

Installation

Put on personal protective equipment in accordance with the respective safety data sheets. Check the proper operation of all components.

- Ensure that all components as well as the user are properly and separately grounded.
 - Container (barrel/drum)**
Ensure that the grounding clamps are in metallic contact with both the container and a safe ground connection.
 - Withdrawal system**
In order to dissipate any possible electrostatic charge, ground the threaded adapter by bringing it into brief contact with the grounded container.
 - Users/operating personnel**
Grounding is e.g. possible via a conductive floor and conductive footwear.
- Make sure that the inert gas supply is closed.
- Ensure that the maximum inert gas pressure does not exceed 0.2 bar.
For house gas feeding the installation of the pressure reducer 9.67100.9100 is recommended. For gas bottle feeding the installation of the overpressure relief 9.67100.9004 is recommended.
- Make use of special clamps (e.g. 9.67107.0001) which allow the filling nozzle to be hooked onto securely while preventing it from dripping.



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Handling and safety notices

- Installation - continued -

- Screw the appropriate dip tube onto the bottom of the withdrawal system and tighten it.
Before using it for the first time, when changing the solvent, or after it has not been used for an extended period of time, the withdrawal system must be rinsed with a sufficient amount of the solvent which will be used next. From then on, the dip tube of the withdrawal system must not be touched or laid down.
- Open the container with an appropriate key. (e.g. 1.08803.0001)
Store the original screw cap in a safe, dry and dust-free environment.
IMPORTANT: It must be ensured that there are no ignitable solvent vapors in the area of the contact point.
In case of doubt, the adapter must be briefly connected to a grounding contact at another suitable location outside the hazard area in order to discharge any residual charges.
- In order to dissipate any possible electrostatic charge, ground the threaded adapter by bringing it into brief contact with the grounded container.
- Screw the threaded adapter directly into the 2" opening and tighten it.



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Handling and safety notices

- Installation - continued -

9. Click the filling nozzle of the product hose onto the female quick nozzle connector marked "OUT" on the threaded adapter.

Make sure that the connection clicks into place audibly.

Ensure the safe connection by lightly pulling on the pipe.

Repeat the instructions of step 9 until the connection cannot be separated by lightly pulling on the pipe.



10. Hook the filling nozzle onto the head hoop of the **barrel** securely.

The rim of **drums** is too low to hook the nozzle to. Make use of special clamps (e.g. 9.67106.0001) which allow the filling nozzle to be hooked onto securely while preventing it from dripping.



11. Connect the gas feeding tube with its rapid-action connector to the male connector marked "IN" on the threaded adapter.

Make sure that the connection clicks into place audibly.

Ensure the safe connection by lightly pulling on the pipe.

Repeat the instructions of step 11 until the connection cannot be separated by lightly pulling on the pipe.



Note: The quick couplings on the thread adapter are of different types, in order to avoid a mix-up between gas and product connector.

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Handling and safety notices

- Installation - continued -

Note: An adapter with horizontal rapid-action connectors can be used for work and storage areas with height restrictions. This saves the additional height which the connected pipes need.

12. Start the supply of inert gas with a **working pressure of up to 0.2 bar**.

Safety notice – Maximum pressure resistance:

For **stainless steel barrels** ("KEG", with ID-code, BAM 8361 / BAM 8290) the maximum pressure must not exceed **0.5 bar**.

For **stainless steel drums** (BAM 9909 / BAM CH 3085) the maximum pressure must not exceed **0.3 bar**.



13. Take the filling nozzle and insert the outlet about 1 cm into a receptacle.

14. Press the safety lever down with your thumb and operate the withdrawal lever.

The safety lever can be released during filling.

15. When the desired amount is withdrawn, just release the withdrawal lever. The nozzle closes automatically by itself.



16. Hook the filling nozzle onto the head hoop of the **barrel** securely.

The rim of **drums** is too low to hook the nozzle to. Make use of special clamps (e.g. 9.67106.0001) which allow the filling nozzle to be hooked onto securely while preventing it from dripping.



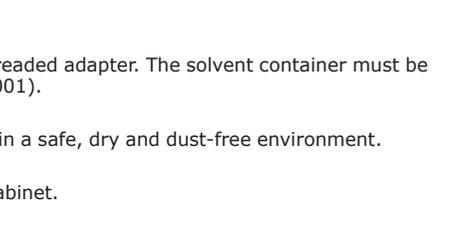
Note: The first few milliliters withdrawn should be disposed of in order to prevent possibly transferring production-related impurities into the solvent.

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Handling and safety notices

At the end of the work/Long period of inactivity

1. Turn off the gas supply.
2. Disconnect the gas feeding tube on the rapid-action connector from the threaded adapter by pulling the knurled ring of the quick connector backwards until it is completely disconnected. 
3. Use a venting connector (9.67100.1052) with the male connection (gas side, "IN") of the threaded adapter to depressurize the container completely. **Make sure that the gas emitted is not contacting the user but is deflected away to the air extraction device.** 
4. Remove the venting connector by pulling the knurled ring of the quick connector backwards until it is completely disconnected. 
5. Disconnect the product hose (incl. filling nozzle) by pushing the knurled ring of the quick connector on top of the treaded adapter downwards until it is completely disconnected from the threaded adapter. 
6. Use the connector 9.67100.1052 with the male connector of the filling nozzle tube and operate the filling nozzle (see steps 13-15 Installation) to empty the hose from remaining solvent residues.
7. Store the withdrawal components in a safe, dry and dust-free environment.
8. For a **long period of inactivity** please remove the threaded adapter. The solvent container must be closed tightly by using an appropriate key (1.08803.0001).
9. Disconnect the container from the ground and store it in a safe, dry and dust-free environment.
10. Store the solvent container properly, e.g. in a safety cabinet.

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Handling and safety notices

Container exchange

1. Make sure that the new container contains the same product in the same quality as the empty container.
2. Turn off the gas supply.
3. Disconnect the gas feeding tube on the rapid-action connector from the threaded adapter by pulling the knurled ring of the quick connector backwards until it is completely disconnected. 
4. Use a venting connector (9.67100.1052) with the male connection (gas side, "IN") of the threaded adapter to depressurize the container completely. 
5. Remove the venting connector by pulling the knurled ring of the quick connector backwards until it is completely disconnected. 
6. Disconnect the product hose (incl. filling nozzle) by pushing the knurled ring of the quick connector on top of the treaded adapter downwards until it is completely disconnected from the threaded adapter. 
7. Ground the new container.
A second grounding cable is required for this purpose which is included in the antistatic set 1.07070.0001.

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Handling and safety notices

- Container exchange - continued -

8. Open the new, full container by using an appropriate key (e.g. 1.08803.0001). Store the original screw cap in a safe, dry and dust-free environment.



9. Unscrew the threaded adapter with the dip tube from the empty container.



10. Keep the end of the dip tube inside the container until the remaining amount of solvent has completely dripped out of the dip tube.

11. Insert the threaded adapter **directly** into the new, full solvent container of identical size and content and screw it on tightly by hand.

The adapter must not be laid down or touched while doing this!



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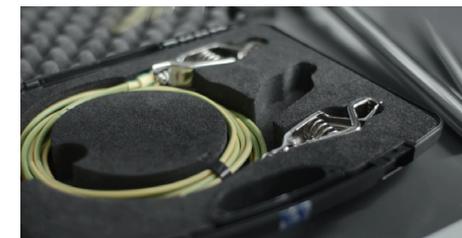
Handling and safety notices

- Container exchange - continued -

12. Always close the empty container tightly with the original screw cap by using an appropriate key (e.g. 1.08803.0001).



13. Disconnect the empty container from the ground. The grounding cable can be stored away in the anti-static set case (1.07070.0001) until the container is changed again.



To operate the system properly and supply solvent safely, please follow the steps 9.-16. of chapter "Installation".

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Handling and safety notices

System Disconnection

1. Turn off the gas supply.
2. Disconnect the gas feeding tube on the rapid-action connector from the threaded adapter by pulling the knurled ring of the quick connector backwards until it is completely disconnected.
3. Use a venting connector (9.67100.1052) with the male connection (gas side, "IN") of the threaded adapter to depressurize the container completely.
4. Remove the venting connector by pulling the knurled ring of the quick connector backwards until it is completely disconnected.
5. Disconnect the product hose (incl. filling nozzle) by pushing the knurled ring of the quick connector on top of the threaded adapter downwards until it is completely disconnected from the threaded adapter.
6. Use the connector 9.67100.1052 with the male connector of the filling nozzle tube and operate the filling nozzle (see steps 13-15 "Installation") to empty the hose from remaining solvent residues.
7. Store the withdrawal components in a safe, dry and dust-free environment.
8. Remove the threaded adapter (incl. the dip tube).



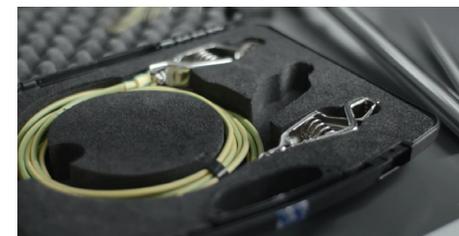
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Handling and safety notices

- System Disconnection - continued -

9. Keep the end of the dip tube inside the container until the remaining amount of solvent has completely dripped out of the dip tube.
Store the withdrawal components in a safe, dry and dust-free environment.
10. The solvent container must be closed tightly with the original screw cap by using an appropriate key (1.08803.0001).
11. Disconnect the container from the ground.
Store the not emptied solvent container in an appropriate place, e.g. safety cabinet and all other components in a safe, dry and dust-free environment.



Please keep this information for further reference.

DISCLAIMER

Our withdrawal systems and safety accessories have been developed and optimized for the use with containers and chemicals from Merck KGaA, Darmstadt, Germany. Merck KGaA, Darmstadt, Germany therefore disclaims any warranty or liability for the operability of its withdrawal systems and safety accessories in connection with containers or chemicals from other manufacturers. Merck KGaA, Darmstadt, Germany reserves the right to refrain from the delivery of withdrawal systems and safety accessories if the respective order does not indicate that each withdrawal system and safety accessory will be used in combination with appropriate chemicals and containers from Merck KGaA, Darmstadt, Germany.

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Merck KGaA, 64271 Darmstadt, Germany,
Tel. +49(0)6151 72-2440EMD Millipore Corporation, 400 Summit Drive
Burlington MA 01803, USA, Tel. +1-978-715-4321Sigma-Aldrich Canada Co. or Millipore (Canada) Ltd.
2149 Winston Park, Dr. Oakville, Ontario, L6H 6J8
Phone: +1 800-565-1400