



## **TYPE CS - SKS CONTAINER**

## **OPERATING INSTRUCTIONS**

### **Safety instructions**

Make sure to pay attention to the following instructions when setting up the container:

- Before entering any rooms where there exists a hazard of concentrated oxygen, nitrogen or argon it is necessary to air thoroughly. This precaution is required on account of the hazard of fire in the case of oxygen, and on account of the hazard of asphyxiation in the case of nitrogen and argon.
- Do not allow cryogenic (liquid) gases to come into contact with your skin. Hence wear suitable protective clothing when handling the gases (gloves, protective glasses, garments with loose sleeves and trousers covering your shoes).
- Make sure to rinse your skin and eyes immediately and amply with cold water (under the tap, if possible) and apply a cold poultice, should any exposed part of your body have come into contact with the liquid gas. Consult a doctor immediately.

### **Initial operation of container:**

Check each container before initial operation and before each refill for it's proper functions.

Check:

- the valves (safety valves in particular)
- the vacuum seals (optical check of vacuum rupture disk)
- the surface of the inside container (for cleanliness)

For cleaning the container, connect up an external source of pressure to the container gas pipe and rinse the container with pure and clean nitrogen. For this purpose open the filling and extraction valves.

Hake good any damage to the valves before filling the container.



### **Filling the container:**

The filling of the vessel can succeed without the flange over the neck DN 50 or with the flange connected withdrawal head over the ball valve LN2 taking (2) [red].

If liquid is to be extracted, close discharge and vent valve (3) [yellow] and (2) [red]. By opening valve (1) [green] pressure will be introduced into the container by the evaporation of liquid.

The pressure inside the container is indicated on pressure gauge (5). As soon as the desired pressure is reached, the liquid can be extracted (or filled in) by opening fill-up valve (2) [red], using the filling hose. The filling hose is equipped with a sintered bronze phase separator which is mainly intended for filling open dewars.

Safety valve (6) will blow off pressure as soon as maximum container pressure has been reached.

The topical LN2 level is shown on the level indicator (5).

### **Loss of vacuum:**

The following conditions are indicative of loss of vacuum and / or serious deterioration of vacuum:

- a) A rapid pressure rise inside the container noticeable by frequent, or permanent blow-off action of the safety valve.
- b) Unusual loss of liquid on account of evaporation.

If any of the above detailed symptoms should be noted, inform the manufacturer. Re-evacuation of the container is only possible on the manufacturer's facilities.

If the existence leak is suspected, pressurize the container to operating pressure through vent valve (3) using nitrogen (gas) and apply soap water to the areas where a leakage is assumed.

Leaks at screw connections can be sealed with Teflon strip.

It is recommended to replace the complete stop valve, if this is found to leak.

For preventing the increase of moisture, close all valves when the container is not in operation.



**In-service inspection by qualified inspection agency:**

The user of the pressure vessel is responsible for retesting the vessel regularly according to direction 99/36 EC; Part III, if the object is used in the EUROPEAN COMMUNITY.



*Pressure vessels acc. to EN 1251-3 : 2000; chapter 15e have to be retested every five years.*

*Pressure vessels acc. to EN 13458-3; chapter 7.2 have to be retested every three years.*

*Safety valves have to be retested acc. to EN 13458-3; chapter 7.3.*

**Safety regulations:**



The general accident prevention regulations are to be observed when operating the containers.

The helium containers may only be operated in conjunction with a safety attachment.