

## ***UNLOADING PROCEDURE OF AN AIRFLOW CONTAINER WITHOUT PUMP***

***LCO2 / LN2O***



## ***PHASE 1 : Preliminary check and first manipulations before the discharge***

### 1. Security rules

1. Wear all required safety equipments for discharging.
2. Never open totally the valves.
3. Be aware of all gas related hazards
4. In case of Nitrous oxide, de sure that no grease is used and that the container is not located over asphalt.



***PHASE 1 : Preliminary check and first manipulations before the discharge***

2. Open the side doors of the container and check its general state.



## ***PHASE 1 : Preliminary check and first manipulations before the discharge***

3. Be sure that all the valves of both container and tank are fully closed.



## ***PHASE 1 : Preliminary check and first manipulations before the discharge***

4. Make sure that the pressure of the container does not under 14 bar. Use V5 if needed to rise this pressure once V4 is open.





***PHASE 1 : Preliminary check and first manipulations before the discharge***

5. Connect **DN50** Hose between the **HC1** connection of the container and the liquid Valve of the tank.

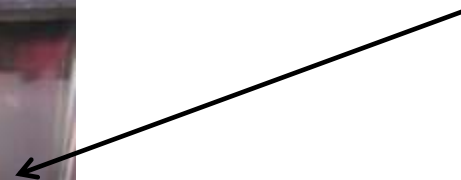


***PHASE 1 : Preliminary check and first manipulations before the discharge***

- 6. Purge the connected **DN50** hose. Open the liquid valve of the tank and the purge valve **V11** of the container



V11



Do this operation 3 times and let the liquid valve of the receiving tank open.



### ***PHASE 1 : Preliminary check and first manipulations before the discharge***

7. Open **V2** and **V4** valve of the container (yellow globe valves) using the dedicated key.



V2



V4

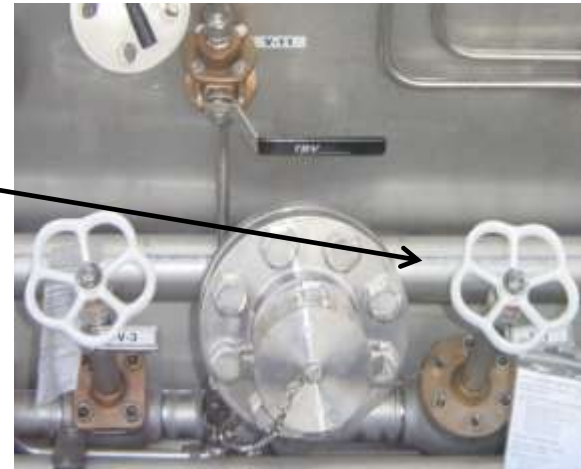




### ***PHASE 2 : Discharge of the container***

8. To start the transfer, open **V1**.

V1



### ***PHASE 2 : Discharge of the container***

9. Open the gaz phase valve of the receiving tank.
  - Make sure the the pressure of the tank does not go under 14 bar.
  - If it happens, close the gaz phase valve of the tank.

If a hazard appears, stop the transfer, tight the flences and/or change the seals and start again.



### ***PHASE 2 : Discharge of the container***

10. Maintain the pressure of the container 4 bar above the one of the receiving tank by opening or closing **V5**.



Pressure gauge



V5



### ***PHASE 4 : End of discharging process***

11. When the level reach 90%, open the trycock of the tank and check.



When the tank is full, stop the transfer by closing the gaz phase valve of the recieving tank.





### ***PHASE 4 : End of discharging process***

12. Close **V2** and **V4** of the container (use the dedicated key or the security cable).



V2



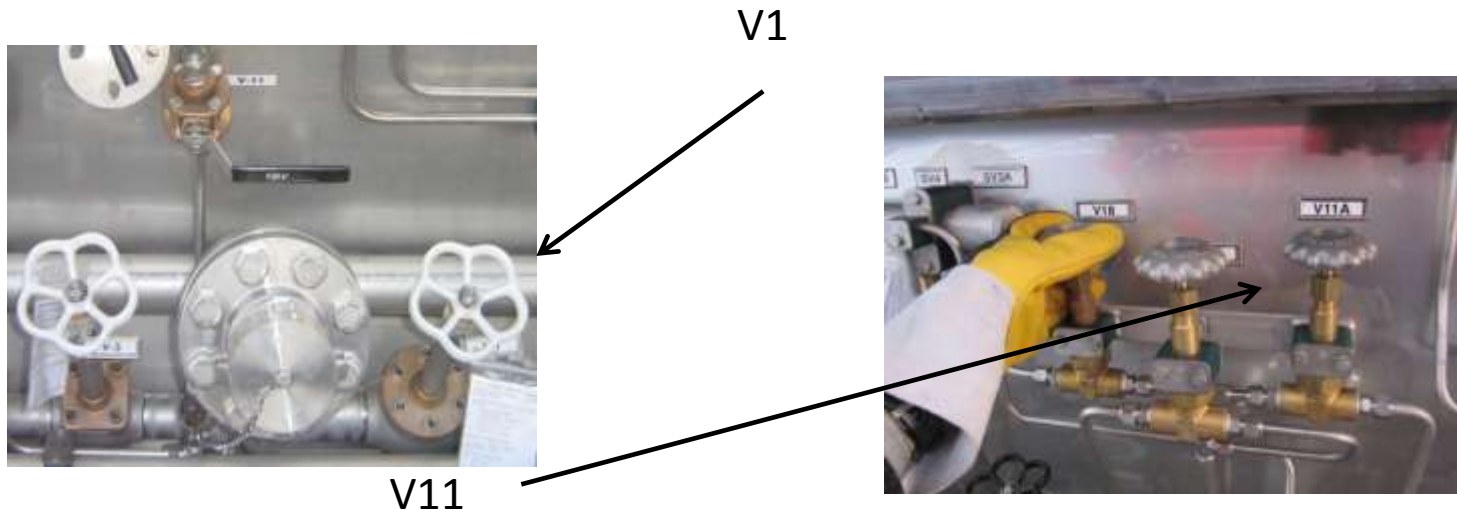
V4



### ***PHASE 4 : End of discharging process***

13. Close **V1** and the gas phase valve of the receiving tank.

Purge the hose **HC1** by opening **V11**.



### ***PHASE 4 : End of discharging process***

14. Disconnect the hose **HC1**.



**Attention** : Cold burns hazards due to remaining liquid in the hose.



### ***PHASE 4 : End of discharging process***

15. Close **V11**.



V11





### ***PHASE 4 : End of discharging process***

16. Check that all the valves are closed and shut the containers doors.



### *P&ID Air Flow ISO Container*

