

Making our world more productive



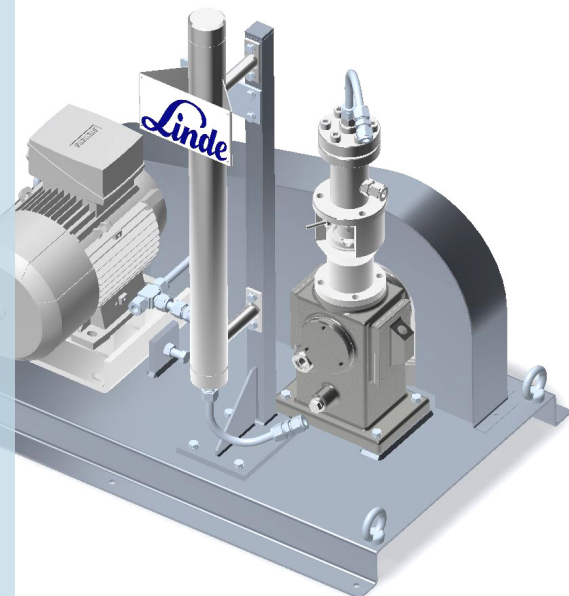
**+** additional equipment

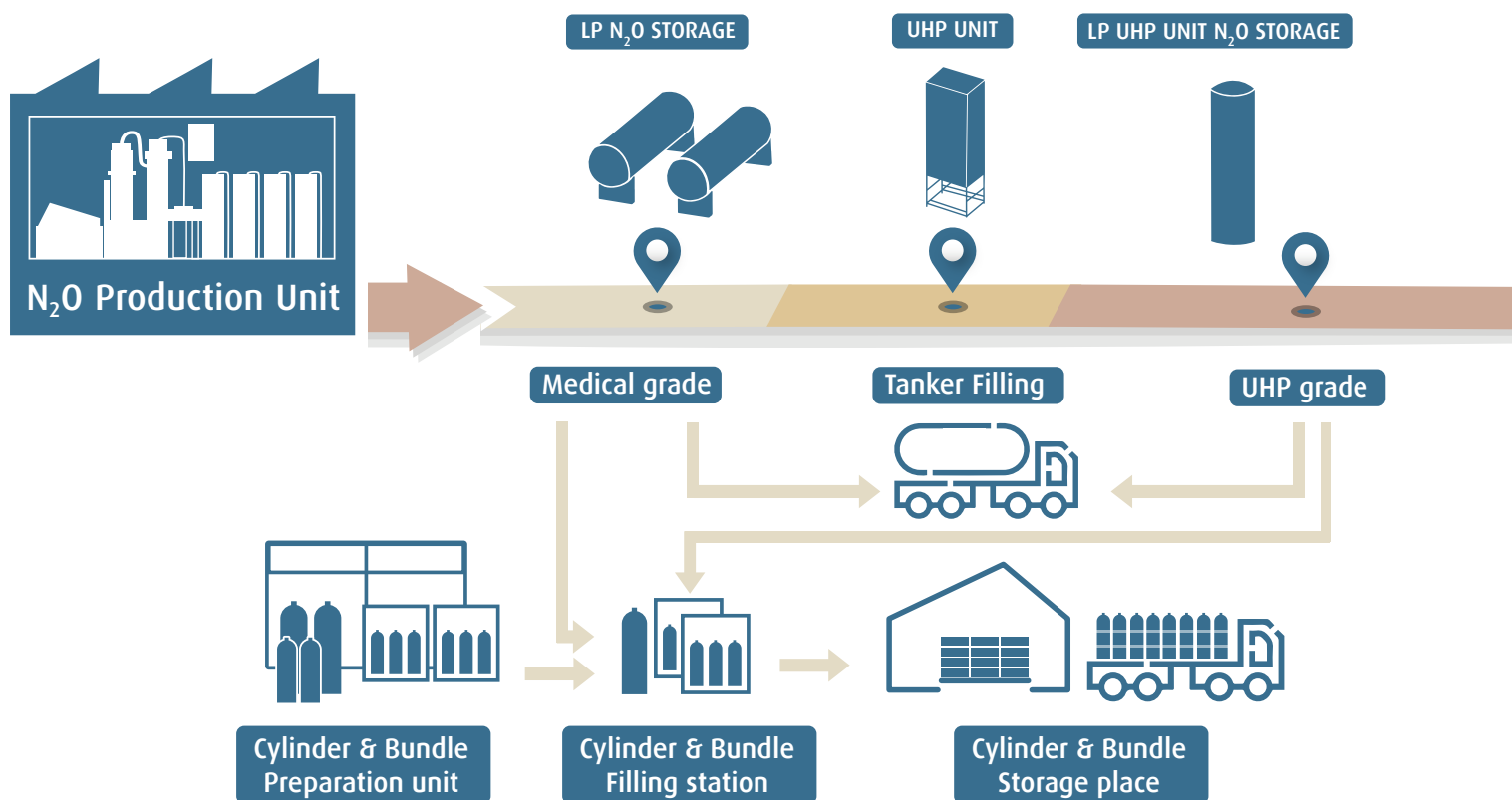
## Nitrous Oxide Filling Solutions for Cylinder, Bundle & Tanker filling

The last step of the nitrous oxide ( $N_2O$ ) production process is the storage of the final product (medical/industrial). The qualified and certified product can be filled into multiple types of vessels from the storage tanks, e.g. cylinders, bundles, ton tanks, ISO container or tanker, depending on the user's requirements.

We recommend the following available Filling Systems:

- Cylinder Filling Unit (medical/industrial), which can also fill Bundle and TON Tank. Its main parts are the Filling Pump, the Cylinder Filling Stand and the Cylinder Preparation Stand.
- Trailer Filling Unit can fill different type of tankers and ISO containers. Its main parts are the Filling Pump and the Trailer Filling Skid.





### Cylinder & Bundle Preparation unit

After the mechanical checking of the empty cylinders/bundles, the remaining quantity is vented, and all the gas and possible contaminations are removed with a vacuum pump. In the next step, they are pre-filled to ~1 barg.



### Cylinder & Bundle Filling

The filling process starts with the cooling down of the filling pump, which is a piston pump. Then the filling pipe is being vented to remove the contamination. At the UHP filling, the venting process can take longer because of the higher quality requirements. Both the cylinder and bundle are filled one by one with weight measuring.



### Tanker Filling

For tanker filling, we prefer to use centrifugal pump. Before filling the tanker or ISO container, the quality is checked. After the filling hose connected to the tank, the pump cooling starts, and the liquid transferred to the unit. The gas-phase flows back to the storage tank through a by-pass line.

## What can we offer?

- Ready to connect, commission and for use modules.
- All parts are skid mounted.
- Integrated control system, which can provide detailed tracking.

## Why choose us?

- Specialized for Nitrous Oxide filling by Linde.
- Turnkey solution from specification to startup.
- Selection of reliable equipment based on long term experience.