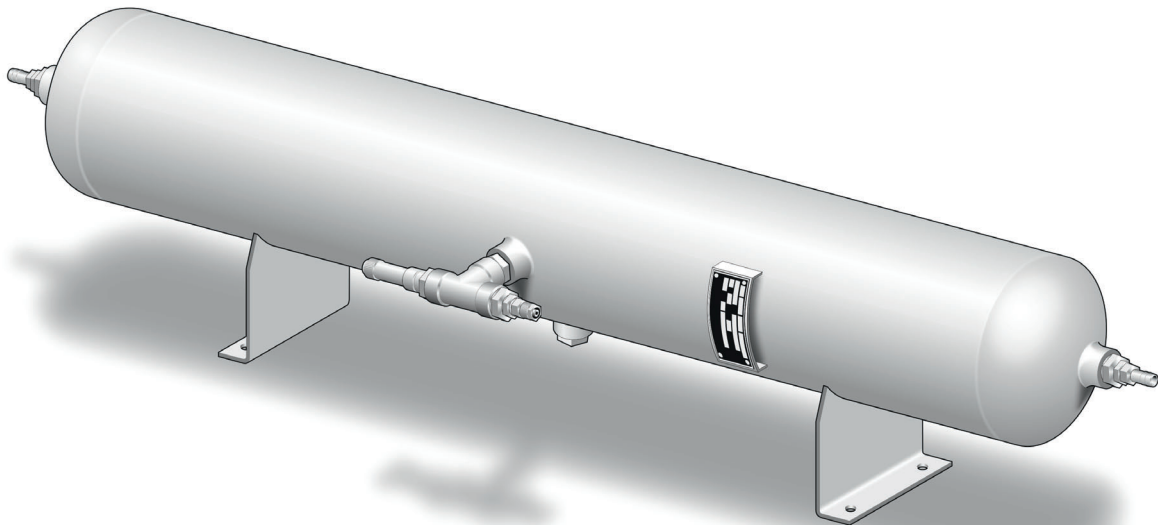


INSTRUCTION

Buffer Tank - Installation and Use

General

The buffer tank has been specially designed for use together with Dansensor's range of gas mixers. The tank volume is 15 litres and the max. pressure is 10 bar. The design allows for both vertical and horizontal use and also for serial connection of up to 3 tanks.



Handling and storage



CAUTION! Any harmful vibrations and corrosion of the tank must be prevented by appropriate measures.

Never drop the tank or allow hard impact or abrasion of the tank from contact with walls, partitions, tools or equipment.



NOTE! The buffer tank must be transported in the original packaging. If the tank is being stored prior to installation, you should leave it in the packaging.

The buffer tank must be in an unpressurized state during transportation and storage.

When unpacking the buffer tank perform a visual inspection for external damage. If the tank is damaged (e.g. has a dent) then it should not be used.

Never roll or slide the tank on its side.

Installation



CAUTION! The installation must only be performed by trained personal that have read and understood the below instructions.

Do not install the buffer tank in places where it can be exposed to direct sunlight or extreme heat.



NOTE! The buffer tank can be placed either horizontally on the ground or vertically or horizontally on a wall. It must be secured firmly so that it cannot fall over.

Fittings, valves and gaskets

The buffer tank is delivered with a selection of fittings, valves and gaskets to make the below assemblies:

<p>A Pressure relief valve & pressure measuring outlet</p> <ul style="list-style-type: none"> 1 Pressure relief valve 2 Gasket, nylon, 1/2"x1.5 mm 3 T-fitting, 1/2"-1/2"-1/2" 4 Nipple, reduction, 1/2"-1/4" 5 Gasket, nylon, 1/4"x1.5 mm 6 Nipple, reduction, 1/4"-1/8" 7 Gasket, nylon, 1/8"x1.5 mm 8 Screw joint, straight, 6/4mm-1/8" 9 Nipple, 1/2"-1/2" 	<p>C Plug (drain)</p> <ul style="list-style-type: none"> 2 Gasket, nylon, 1/2"x1.5 mm 13 Plug, 1/2"
<p>B Hose connector for Gas In- and Outlets</p> <ul style="list-style-type: none"> 2 Gasket, nylon, 1/2"x1.5 mm 10 Nipple, reduction, 1/2"-3/8" 11 Gasket, nylon, 3/8"x1.5 mm 12 Hose connector, 9-10mm-3/8" 	<p>D Pressure relief valve</p> <ul style="list-style-type: none"> 1 Pressure relief valve 2 Gasket, nylon, 1/2"x1.5

Gas supply lines



CAUTION! Tubing connected to the buffer tank must not add force to the tank (ex. from weight or temperature expansions).



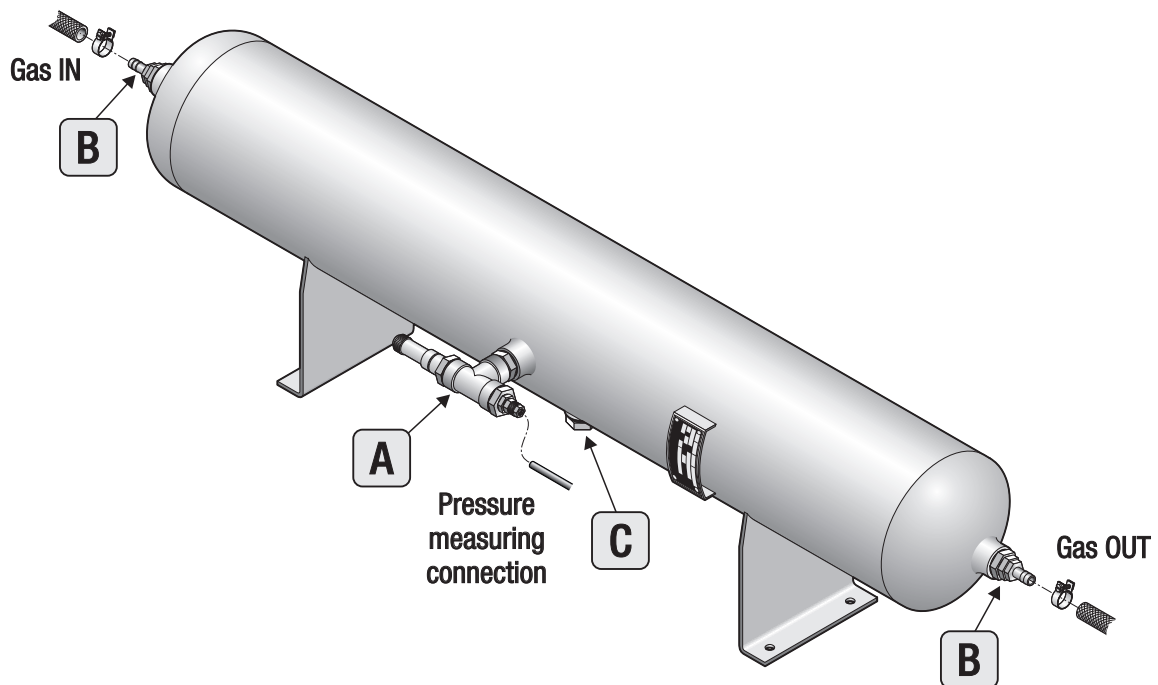
NOTE! All gas lines to and from the buffer tank must be designed for the max. allowed gas pressure and to enable the required gas flow.

The material of the gas lines, valves, fittings and all sealing elements must be suitable for the type of gas used. Ex. for O₂ installations all parts must be oil and grease free.

The gas lines must be free of other contaminants (e.g. dust). If necessary all lines are cleaned by blowing through them with nitrogen or clean, oil free air.

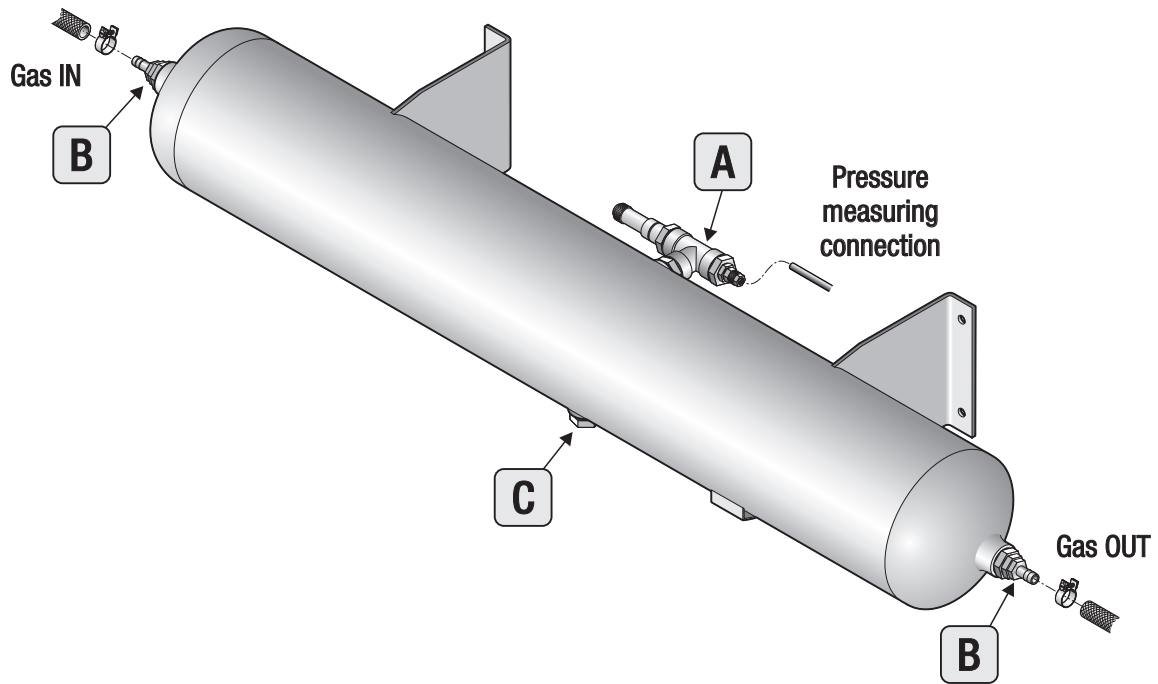
Installation on the floor

- Fit gas in- and outlets (**B**) in the ends of the buffer tank.
- Fit drain plug (**C**) in the bottom of the tank.
- Fit the assembly (**A**) with a pressure relief valve and a pressure measuring connector in the side of the tank.



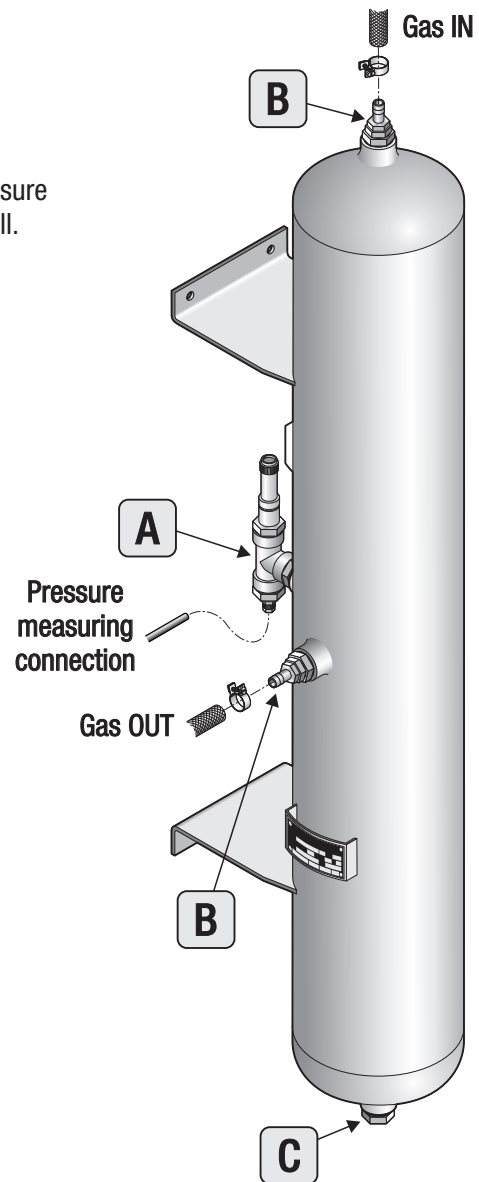
Installation on wall, horizontally

- Fit gas in- and outlets (**B**) in the ends of the buffer tank.
- Fit drain plug (**C**) in the bottom of the tank.
- Fit the assembly (**A**) with a pressure relief valve and a pressure measuring connector in the side of the tank against the wall.



Installation on wall, vertically

- Fit gas inlet **(B)** in the top of the buffer tank.
- Fit gas outlet **(B)** in the side of the buffer tank.
- Fit drain plug **(C)** in the bottom of the tank.
- Fit the assembly **(A)** with a pressure relief valve and a pressure measuring connector in the side of the tank against the wall.



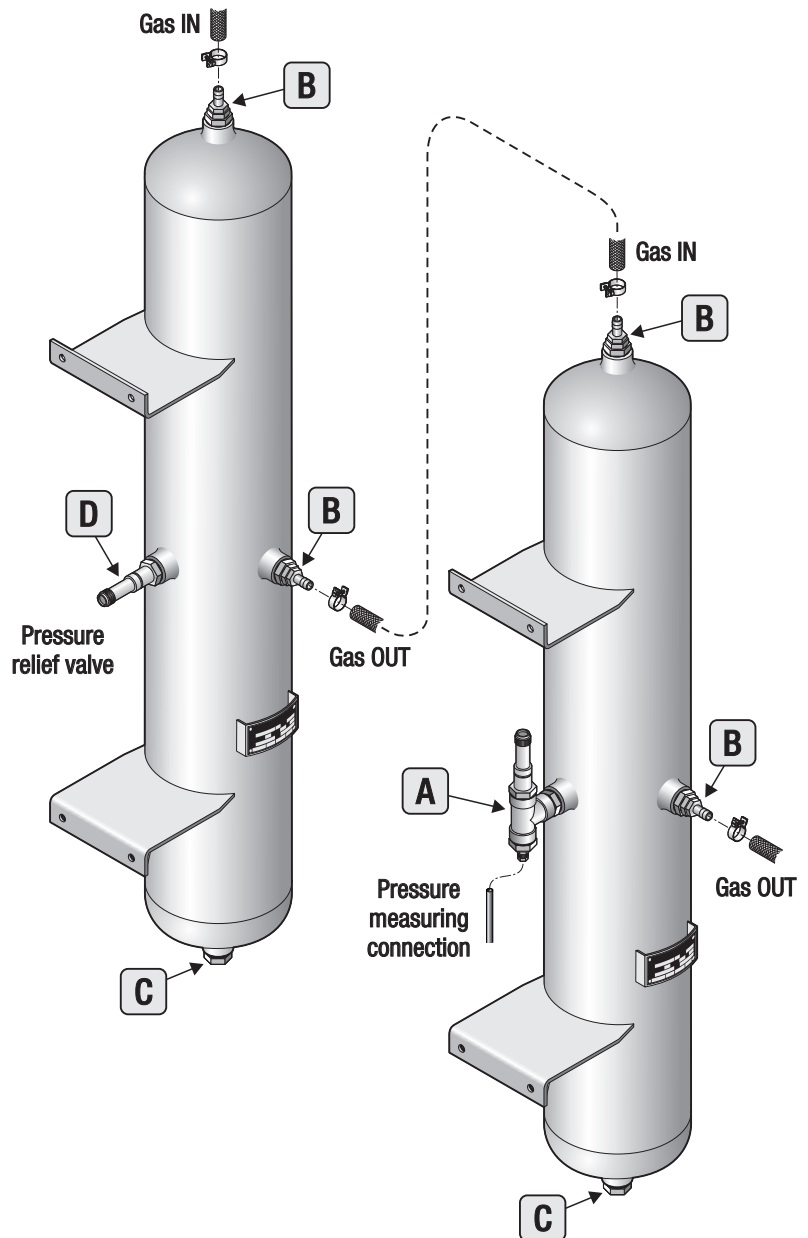
Installation of 2 or 3 tanks

Up to 3 buffer tanks can be connected either in series or parallel. If they are connected in series, you must ensure that the connections between the tanks must have an area that is twice as large as the connection that uses the gas.

The tanks can be mounted on the floor or on a wall horizontally or vertically.

The illustration shows a scenario with 2 tanks connected in series mounted vertically on a wall:

- Fit gas inlet **(B)** in the top of the first buffer tank.
- Fit gas outlet **(B)** from the first tank in the side and connect it to the gas inlet **(B)** in the top of the second tank.
- Fit gas outlet **(B)** from the second tank in the side.
- Fit a drain plug **(C)** in the bottom of each tank.
- Fit a pressure relief valve **(D)** in the side of the tank against the wall.
- Fit the assembly **(A)** with a pressure relief valve and a pressure measuring connector in the side of the second tank against the wall.



Usage



CAUTION! The buffer tank should only be used by trained personal that have read and understood these instructions.

For your safety, monitor the workplace atmosphere continuously through a suitable gas detection system.

After the initial start-up and after modification, repair or expansion of a plant, the tightness of connections and connections to the atmosphere of inert gas should be checked and properly documented in accordance with "Ordinance on Industrial Safety and Health".

Only use appropriate leak detection methods (never use an open flame). If you find leaks, repair them immediately in accordance with applicable safety regulations.

When installing the buffer tank in confined spaces and/or in rooms with poor ventilation and using gases that displace the atmospheric oxygen from the atmosphere at work, the atmosphere in the workplace should be monitored continuously through a suitable gas detection system.



NOTE! In accordance with the applicable national law, the buffer tank is subjected to an initial inspection prior to usage.

Usage of the buffer tank may only take place if it was tested to its safe operation.

Maintenance



CAUTION! The buffer tank must be in an unpressurized state during all maintenance and repair work.

Any unauthorized modifications or alterations to the buffer tank are prohibited for security reasons.

No weld or heat treatments may be performed on the tank's pressure-bearing walls.



NOTE! All necessary measures for maintenance must be carried out in accordance with national regulations of the country.

Any modifications, additions or modifications to the pressure tank will void the warranty.

The buffer tank operates almost maintenance free. For safety reasons and to ensure a trouble-free operation, we recommend to perform the following checks periodically (at least monthly):

- Check that the gas inlet pressures is within the specified pressure range.
- Check connections for leaks. Use only appropriate leak detection methods (never use an open flame). If you find leaks, repair them immediately in accordance with applicable safety regulations.
- Drain the tanks at regular intervals.

Technical Specifications

Dimensions	See illustration below
Weight	9 kg
Volume	15 litres
Gases	N ₂ , CO ₂ , O ₂ , Ar, and Air
Pressure	Max. 10 bar. The delivered pressure relief valve opens at 10 bar. The buffer tank can manage 1000 cycles between 0 and 10 bar. The buffer tank will not get fatigued by cycles with a delta pressure of 2 bar.
Temperature	0 - 40°C The gas temperature can vary from 0-40°C.
Conformity	The buffer tank complies with the directive 97/23/EC (PED) (Gas fluid group 1, category II, module A1). If any other laws exist (local, national or otherwise) it is the user's responsibility to check that these are abided by.

