

Installation Guide

perma CLASSIC / FUTURA / FROST

This Installation Guide provides instructions for the installation of CLASSIC / FUTURA / FROST lubricators and helps in preventing basic mounting errors. The guide should be used together with the operating instructions of the corresponding perma product. The displayed installation drawings are only examples. There are many other possibilities for mounting depending on local conditions. Disclaimers of corresponding operating instructions apply.

1. Determination of Mounting Method

Direct mounting should be used for lubrication points that are easily accessible. Direct mounting is not recommended if application limits are exceeded (see operating instructions). If your answer to any of the questions listed below is YES, remote mounting is recommended:

1. Is the ambient temperature at the lubrication point higher than +40°C (104°F)
 Yes No

2. Is it necessary to remove protective screens, walls, or other types of protection in order to reach the lubrication point?
 Yes No

3. Is the lubrication point exposed to high vibrations?
 Yes No

4. Is it difficult or dangerous to access the lubrication point during operation of the machine?
 Yes No

5. Is the lubrication point exposed to mechanical forces like falling rocks?
 Yes No

2. Basic Guidelines

- One perma lubricator per lubrication point
- When oil is used for lubrication, a non-return valve (oil throttle A 810) must be installed. This will prevent oil leakage from the lubricator (refer to Pict. 3).
- The grease nozzle of perma CLASSIC / FUTURA / FROST has a ¼ “ male thread. If your application has a different thread you will need to use a reducer. perma-tec offers a wide variety of reducers which are shown on our web site www.perma-tec.com .
- Do not over-tighten the plastic thread of perma CLASSIC / FUTURA / FROST
- For all metal to metal connections (extensions, reducers etc.) make sure to use LOCTITE 243 (semi-tight screw locking).

3. Guidelines for Direct Mounting

Pre-lube all accessories (extensions, angles, etc...) prior to installation of perma CLASSIC / FUTURA / FROST with the same grease that is contained in the lubricator (400 g cartridges for grease guns are available at perma-tec).

4. Guidelines for Remote Mounting

Remote installations require a grease line. perma-tec recommends a flexible tube with an inside diameter of at least 6 mm.

1. For installations with flexible tubes the perma CLASSIC / FUTURA / FROST must be secured with special brackets. Please refer to the following page for examples.
2. Select a position for perma CLASSIC / FUTURA / FROST which is easy and safe to reach and protected from falling material, strong vibration, and extreme temperatures.
3. Prior to installing perma CLASSIC / FUTURA / FROST, fill the grease line and accessories with the same lubricant that is contained in the lubricator (perma-tec offers 400 ccm cartridges for grease guns).
4. Secure the tube with suitable fastenings (brackets, cable ties, etc.) in order to protect it from damage and tearing.

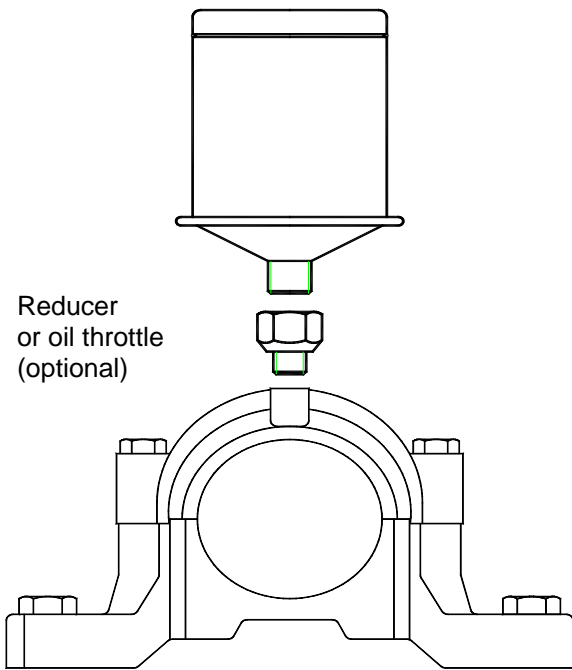
Acceptable tube lengths

Tested at Ø 20°C (68°F) ambient temperature with NLGI 2 grease and inside tube diameter of 6mm.

Activator screw	p1 = 1 Month	p3 = 3 Months	p6 = 6 Months	p12 = 12 Months
Starting time in days / tube length ½ m	1	4	10	24
Starting time in days / tube length 1 m	2	5	15	Not possible

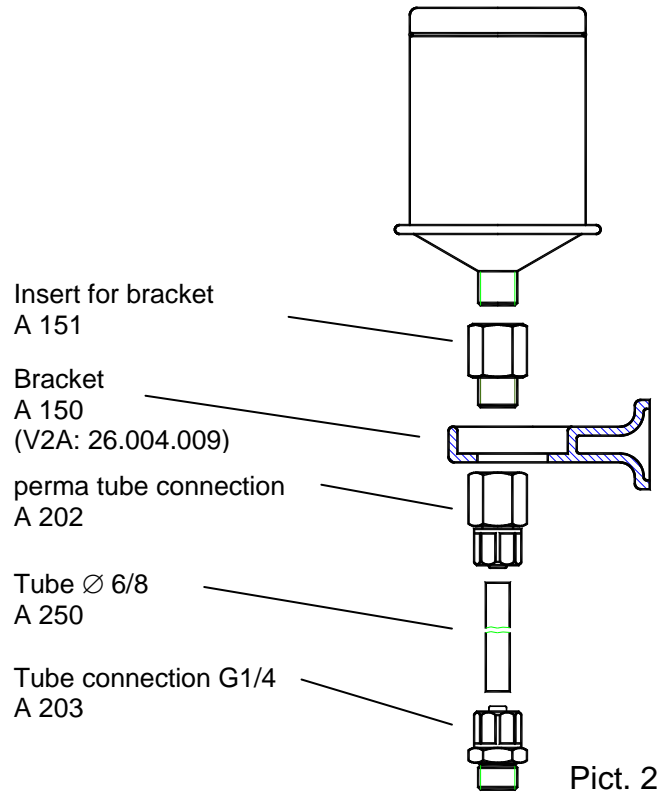
Depending on the lubricant that is used and the ambient temperature, tubes with up to 1 m length are possible. For oil lubrication, tubes up to a length of 3 m are possible.

perma CLASSIC direct mounting



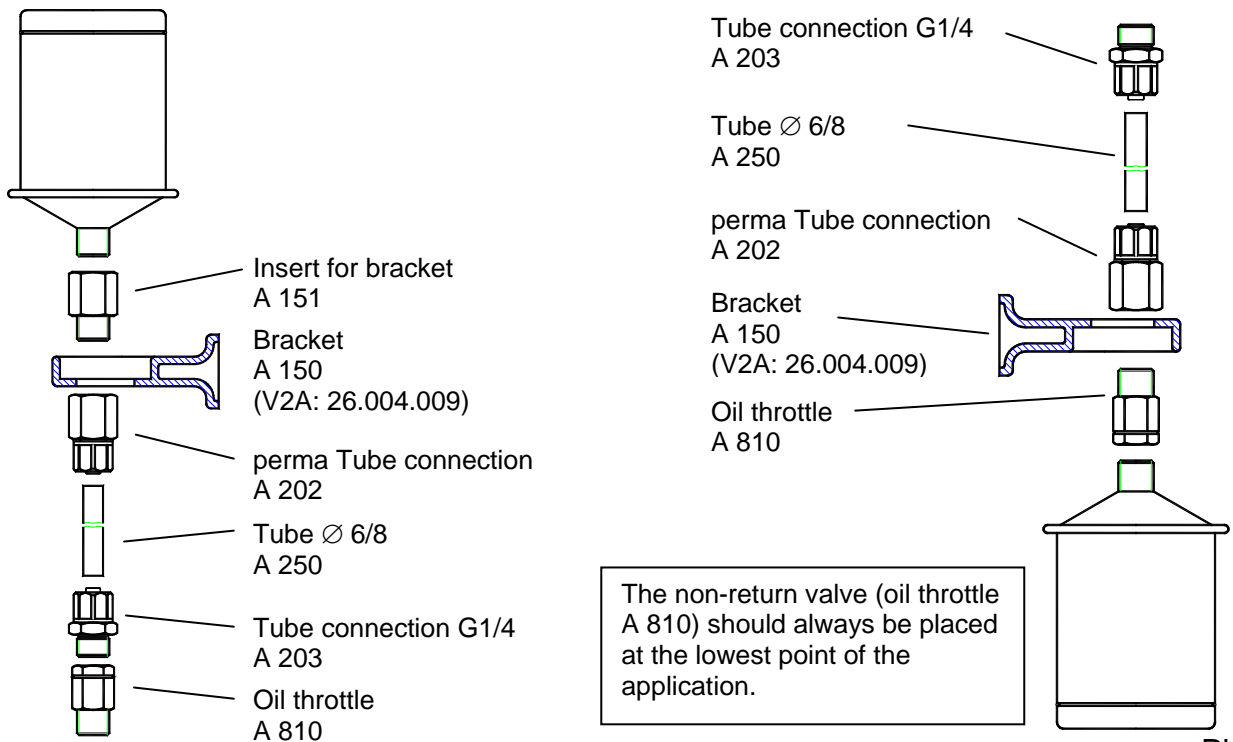
Pict. 1

perma CLASSIC with tube and grease



Pict. 2

perma CLASSIC with tube and oil



The non-return valve (oil throttle A 810) should always be placed at the lowest point of the application.

Pict. 3

5. Pre-filling of Extensions and Tubes

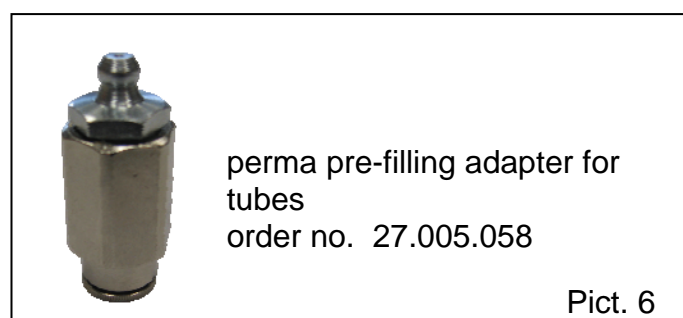
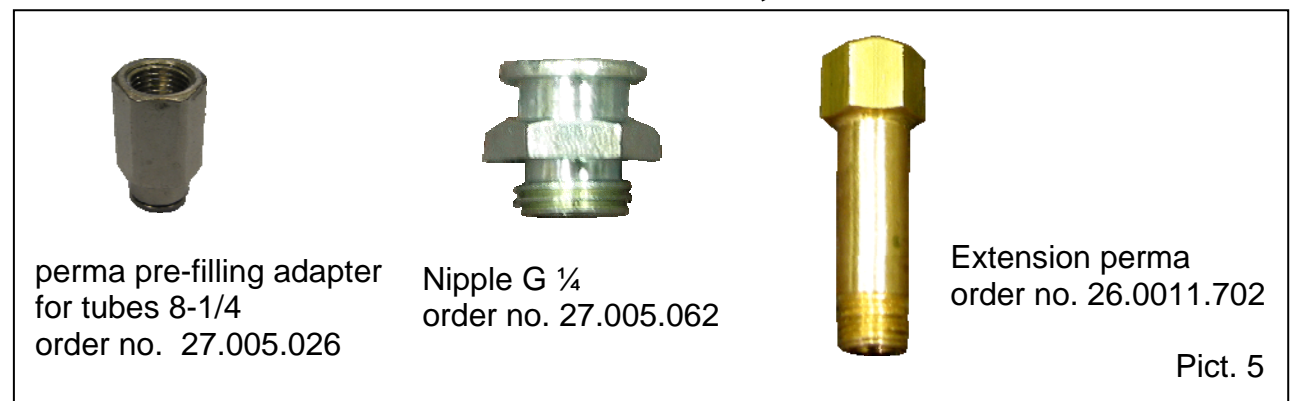
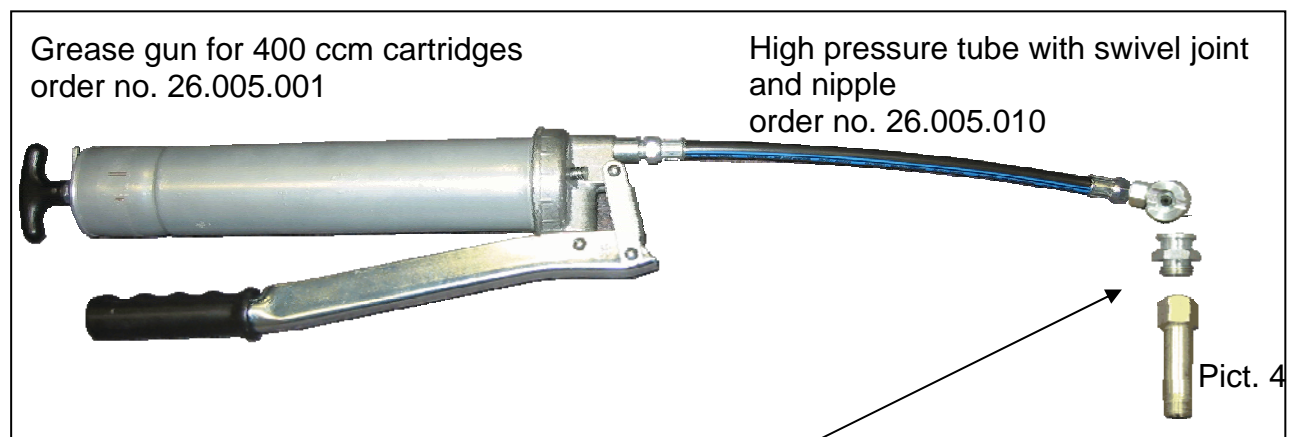
All grease lines (extensions and tubes) must be pre-filled. If this is not done, the lubricator would need some time at first to fill the tubes, before it would actually supply lubricant to the lubrication point.

Example:

A tube with a length of ½ m and 6 mm Ø requires 14 ccm of lubricant.

With a 12 months activator screw, the perma CLASSIC / FUTURA / FROST would need about 1 ½ months to fill this tube.

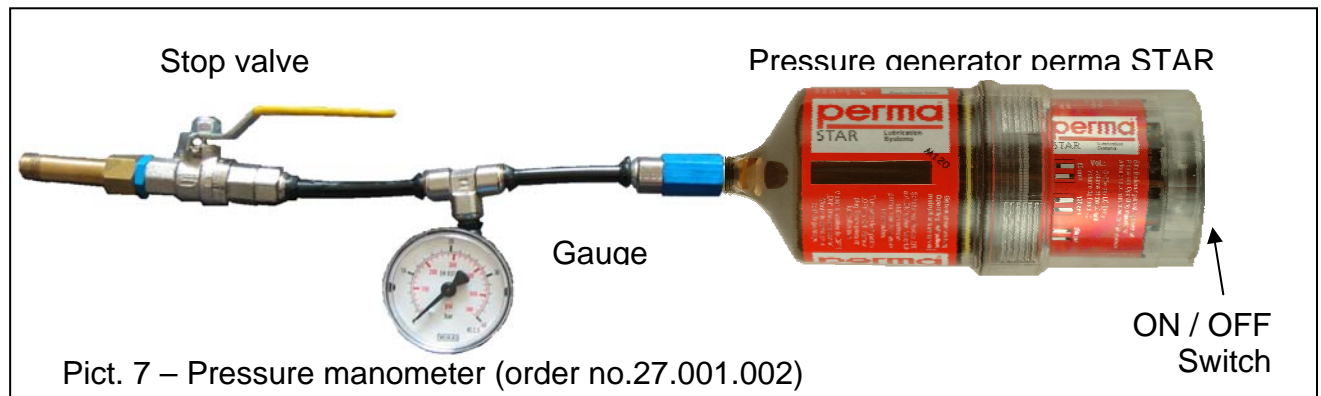
The following pictures show one pre-filling possibility with standard parts for a grease gun with extension thread M10 x1.



6. Preparation for Installation

perma CLASSIC / FUTURA / FROST can build up pressure up to 4 bar.
Most bearings require a pressure of 0.5 to 2 bar (without any tubes, extensions, angles etc.).

In order to avoid malfunctions, the counter pressure at the application should be checked before perma CLASSIC / FUTURA / FROST are installed. Please check the counter pressure according to the following description:



This pressure manometer can be purchased from perma-tec.
Make sure to order the pressure manometer with a lubricant cartridge that contains the same grease as used in / selected for the application.

Handling the pressure manometer:

1. Clean the lubrication point to remove any potential contaminants
2. Remove the grease nipple
3. Install reducers, extensions, grease line etc. if necessary
4. Screw the pressure manometer into the lubrication point
5. The best measurement results are achieved during operation
(Caution: Make sure to observe rules for accident prevention).
6. Ensure that stop valve of pressure manometer is open
7. Press the small black switch on the pressure generator perma STAR for appr. 20 seconds. Observe the manometer and repeat this procedure until the pressure registered on the gauge stays constant. Wait for appr. 5 minutes until the system has relaxed and do one more discharge for **max. 5 seconds**. By doing so, the system pressure (= counter pressure) of your application is determined.
8. If the counter pressure is 4 bar or higher, you should “rinse” the lubrication point with a grease gun. If the counter pressure does not decrease you might need a different lubricant or lubricator. Please contact perma-tec for assistance.

7. Start-up

Electrochemical lubricators are temperature and vibration dependent. Therefore, please pay attention to the following discharge table.

Type	p1 = 1 Month		p3 = 3 Months		p6 = 6 Months		p12 = 12 Months	
	Discharge period (Months)	Initial delay* (days)	Discharge period (Months)	Initial delay* (days)	Discharge period (Months)	Initial delay* (days)	Discharge period (Months)	Initial delay* (days)
0°C / 32°F	4	5	8	12	15	16	>18	25
+10°C / 50°F	2	3	5	4	8	8	18	10
+20°C / 68°F	1	1	3	2	6	4	12	6
+30°C / 86°F	0,8	<1	2	1	3	2	6	3
+40°C / 104°F	0,6	<1	1	<1	2	1	3	1
Color of Activator screw	yellow		green		red		grey	

* Time required until first lubricant discharge takes place (without counter pressure)

If an exchange is due during the colder winter months, it is possible to reduce the long initial delay as following: Activate perma CLASSIC or FUTURA, according to the above listed initial delay days, in a heated room before installation.

Example:

You want to install a perma CLASSIC (activator screw p6) outside at approx. 0°C / 32°F on a Monday. Activate the lubricator already on Thursday, the week before, inside (at around 20°C / 68°F). Do not remove the black plug at the outlet of the lubricator as this will prevent lubricant from leaking. On Monday, the lubricator will be ready to supply lubricant to your application.

For sea water or food industry applications, perma Futura is preferred. The plastic cover is resistant to salt water and most chemical cleaning agents used in the food industry.

perma CLASSIC and perma FUTURA are suitable for underwater applications.

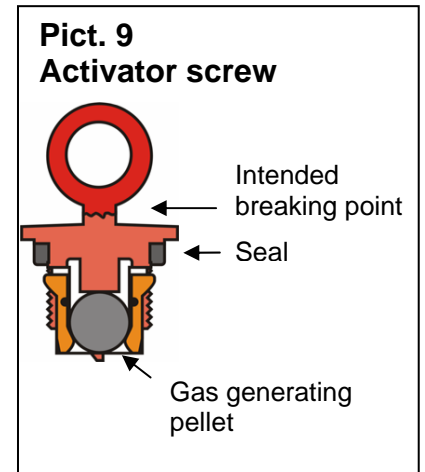
perma FROST:

Temperature	Discharge period	
+ 10°C	1	week
± 0°C	2	weeks
- 10°C	6	weeks
- 20°C	14	weeks
- 25°C	26	weeks

Only black colored activators are available for perma FROST. The discharge period depends on the ambient temperature. When a perma FROST is mounted on portable applications in cold storage houses (e.g. forklifts), it is important that it stays within the low temperature range the whole time. At an ambient temperature of 20°C / 68°F, the perma FROST would be empty within a few days.

8. Activation

Look at the activator screw and check if it contains the gas generating pellet (Pict. 9)
Screw the selected activator into the lubricator and hand tighten. When the activator becomes hand tight, take a screw driver and insert it through the top ring of the activator. Continue to tighten until the O-ring breaks off at the intended breaking point. To insure that the gas generating pellet has fallen from the activator into the bladder that starts the chemical dispensing reaction, simply shake the lubricator to hear the pellet rattle inside.



Activator screws of perma CLASSIC / FUTURA / FROST are all different. DO NOT interchange, otherwise function cannot be guaranteed.

perma CLASSIC: Activator screws with black seal
perma FUTURA: Activator screws with pink seal
perma FROST: Black activator screw with black seal

At the end of a lubrication period, the red discharge indicator cap becomes clearly visible (red piston can be seen through plastic cap) indicating that the lubricator is empty.

You can read which lubricant is filled in the perma CLASSIC or FROST by looking at the imprinted code (e.g. SF 01) on the metal bottom. The manufacturing date is imprinted above the lubricant code (e.g. 03/05 = Year 2003, calendar week 5).

perma FUTURA shows the lubricant and manufacturing date on the black plastic bottom. The lubricators can be stored for 1 year under normal ambient conditions (room temperature).



perma CLASSIC / FROST

03/05 → Manufacturing date (Year / Calendar week)
SF01 → Lubricant



perma FUTURA

03/05 → Manufacturing date (Year / Calendar week)
SF01 → Lubricant

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We have taken great care when compiling all the details contained in this documentation. However, we cannot rule out discrepancies and we reserve the right to make technical changes to the product without giving advance notice.

We do not assume any judicial responsibility or liability for damages which may ensue as a result.

We will include any necessary changes in the next edition.

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