This data sheet interacts with

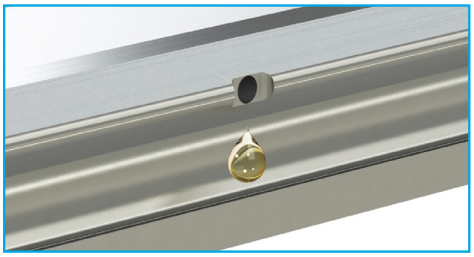
GFX Catalogue

HepcoMotion®
ADVANCED LINEAR SOLUTIONS

GFX Lubrication

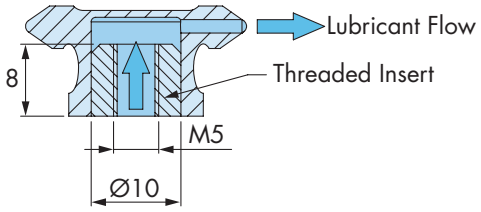
Bleed Lubrication

Sufficient lubrication is essential for all of Hepco's guidance systems for Beckhoff XTS. Bleed lubrication is incorporated in all GFX systems as standard. This facility channels lubricant directly to the vee faces.



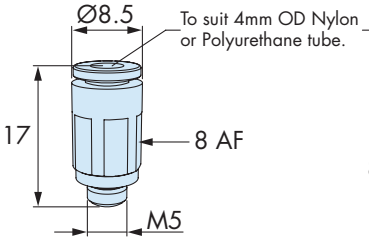
It is highly recommended that lubrication ports are situated once every 3 meters of track for systems without lubricators, or once every 6 meters of track for systems with lubricators.

As standard, 1-Trak GFX systems will be supplied with an M5 tapped hole, suitable for standard lubrication fittings (as shown below). For PRT2 GFX systems, there are two types of bleed lubrication inserts (shown in the illustration on the right) allowing for various methods of lubrication routing.

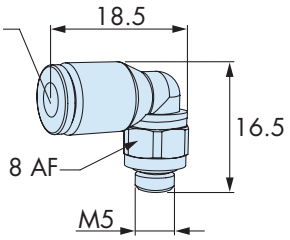


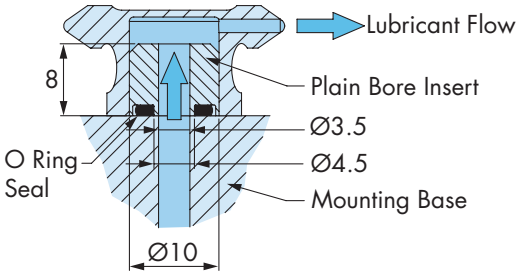
Standard lubrication fittings.

Straight Connector

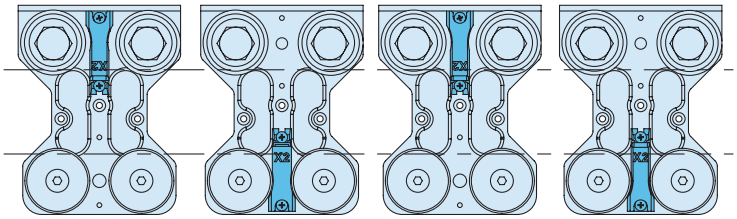


90 ° Connector





Lubricant is then distributed around the system by the movers. This process can be aided with lubricators mounted on movers (Lubricators are only available on four bearing PRT2 movers). Lubricators should be positioned on alternating movers as shown to minimise the additional friction.



Flow Rate Calculation

For the majority of systems with no special duty requirements and running up to speeds of approximately 4m/s the following calculation can be used to work out the required flow rate:

0.1ml/vee/metre/24hr

This can be rewritten to calculate an estimated required flow rate per day as:

$$0.1\text{ml} \times \text{metres of track} \times \frac{\text{Daily Cycle (hours)}}{24\text{ hours}} = \text{ml per V per day}$$

For example, a 10 module oval system (comprising of roughly 5.5 meters of track) running 2 x 8 hour shifts per day will require:

$$0.1\text{ml} \times 5.5 \times \frac{16}{24} = 0.37\text{ml per V per day}$$

GFX Lubrication

Lubricant Specification

- The lubricant type and specification is dependant on the application and environment. However, it is common for a grease to be chosen over an oil lubricant in the absence of mover lubricators as this will adhere to the V faces.
- There are many specialist lubricants such as food compatible or extreme temperature greases/oils. Please contact Hepco's technical department for more information.
- Oil - Slideway oil, viscosity 68 cSt or equivalent.
- Grease - NLGI 2 Lithium Soap or equivalent.

Automated Lubrication Systems

- Hepco does not supply lubrication pumps or recommend any specific equipment.
- Pump must be rated and specified to the appropriate flow rates calculated above.
- Lubrication systems must be maintained and operated within the manufacturers specification.
- Hepco cannot accept responsibility for the installation, commissioning or reliability of third party hardware.

Lubrication System Integration

- It is understood that the Beckhoff TwinCAT control system is capable of controlling and monitoring suitably equipped lubrication pumps, please discuss with Beckhoff.

Aerosol Distribution

- GFX lubrication is an open application process.
- However it is not a "total-loss" system, lubricant being recycled and distributed around the track system during operation.
- There is the probability of aerosol distribution of tiny droplets of lubrication materials on non-running surfaces, mover assemblies, motor modules and adjacent equipment.

Build-up of Waste Lubricant

- Grease will tend to build up in enclosed areas and non-running surfaces of the bearings.
- This can be ejected from the system as large (>0.2ml) deposits.

Cleaning and Re-starting

- To prevent contamination of processes, cleaning must be undertaken as part of the regular maintenance.
    - Remove visible deposits from the outer diameter of bearings.
    - Wipe the slide, paying particular attention to the inner faces and cavities.
    - If necessary, remove the mover & motor assemblies (as described in the manual) to get suitable access.
- All track V surfaces must be lightly lubricated before re-starting the system.

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