

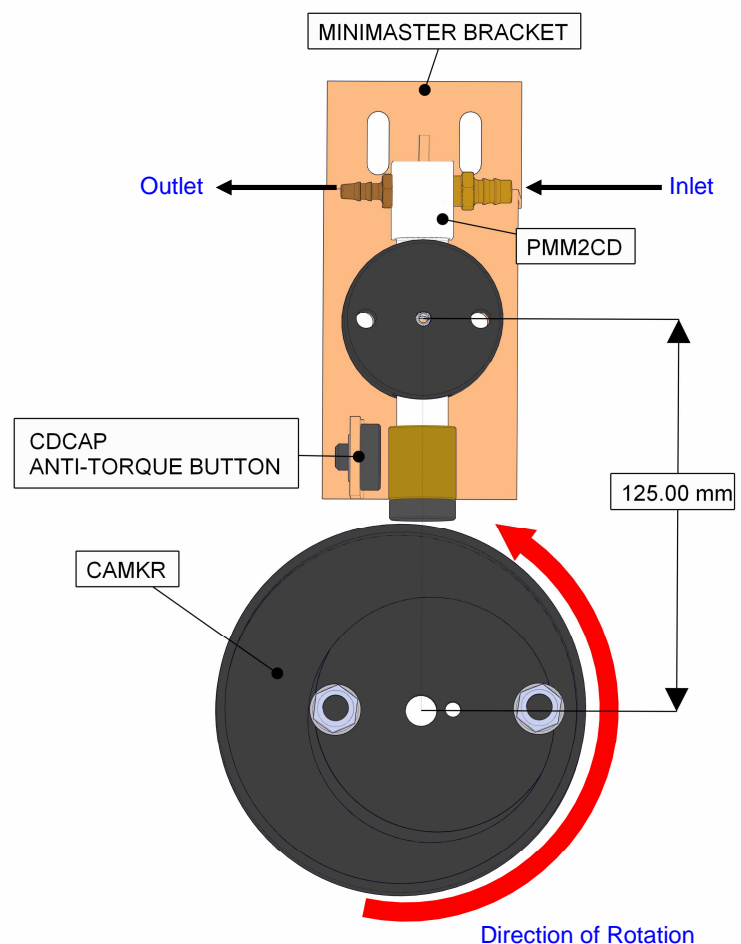


The Bignall Group of Companies

Product Information Sheet

Minimaster PMM2CD

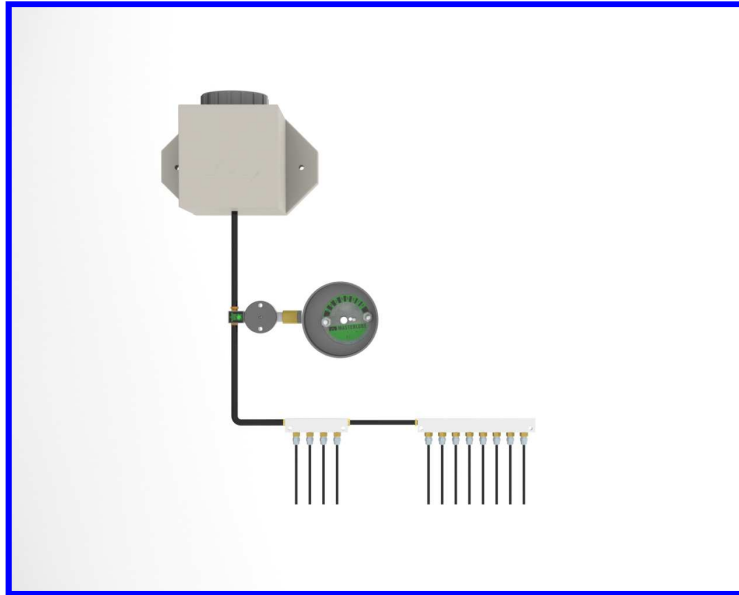
- Fit cam to suitable rotating shaft
- Set cam at lowest setting.
- Install pump to bracket using M6 bolts.
- Ensure anti-torque button is fitted on the correct side depending on rotation of cam.
- Align and fix bracket so pump touching cam at 90 degrees
- Ensure feed tube from reservoir is bled of air before installing onto pump
- When pump is connected to distribution system set cam to provide suitable oil output from pump to suit soil and crop conditions.
- Use simple oils with no additives SAE30 for cold climates and SAE90 for warm conditions



Unit 15, Dabble Duck Ind. Est.
Shildon
Co. Durham
UK
DL4 2QN

Minimaster™

The purpose of this manual is to highlight the functions and benefits of the unique Minimaster oil lubrication system. This constant oil pressure system been purpose designed by Masterlube Systems to protect chains and sprockets in high contamination environments.



Application:

Ideal for round baler chain lubrication, industrial conveyors, food processing plant and all other applications where reliable oil lubrication is needed.

The Minimaster System Principle.

The Minimaster system provides a pressure of oil around a machine from which predetermined quantities can be supplied constantly to bearings & chains throughout the working day. The constant oil pressure is maintained in the system by the unique minimaster pump. To match changing field conditions, the overall supply of oil to the machine can be adjusted by increasing or decreasing the line pressure. Each chain/sprocket or bearing is provided with pre-determined metered quantities of oil. In this way large numbers of large chains and small bearings can be served with a single system.

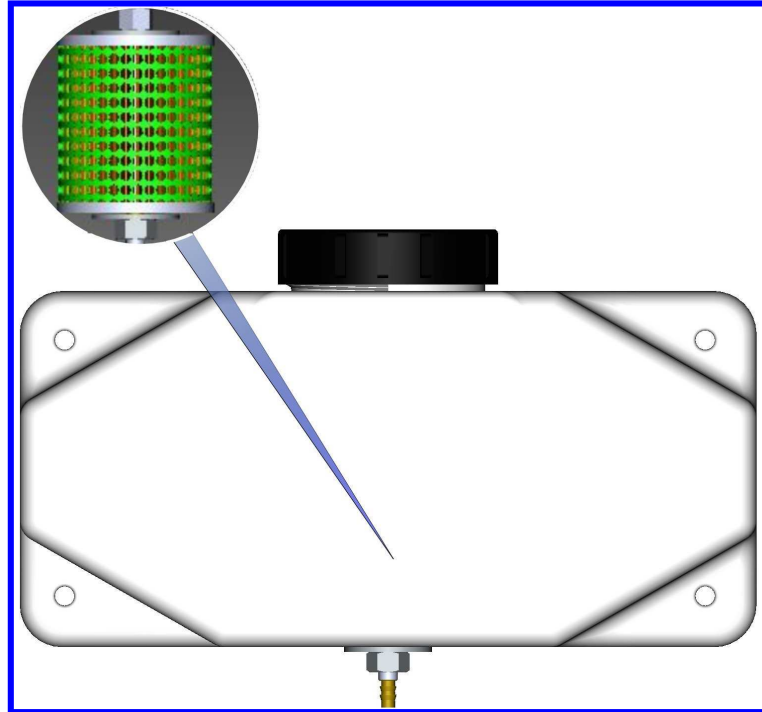
Benefits:

- Constant lubrication flushes chains/sprockets/bearings of dirt, water and crop.
- Constantly lubrication saves costs by extending the life of the chain and reducing power consumed.
- Efficiency is maximised by reducing downtime & increasing productivity.
- Safety considerably improved as manual chain lubrication avoided.

System Features:

Reservoir:

The reservoir is supplied with internal paper element filter. Although only clean oil should be used the filter ensures that contaminants do not enter the system. The filter can be changed as part of normal service schedules. Ensure that the reservoir is removed from system and thoroughly cleaned when changing filters to prevent dirt & water ingress. Never allow water to enter the reservoir, as the oil will emulsify.



PVC Nitrile Reservoir to Pump Hose:

Ensure when refilling reservoir from empty that air is not introduced to the pump line. The push-on PVC Nitrile hose can be removed from the pump easily in order to bleed the line. When oil appears re-install feed tube to pump.

Minimaster Pump:

The minimaster pump is designed to maintain a constant line pressure in the system. The pump feeds oil under spring pressure to the system. The spring is compressed by the purpose-designed cam, which can be adjusted to alter the load. The spring maintains the pressure in line as the oil is used.

If large quantities of oil are used then the pump shaft/spring moves more to maintain line pressure.

If the system pressure equals the spring pressure the pump will not move.

Because of this the cam can operate at high speeds while the pump will not normally follow the cam but stay close above it. Only if there is no backpressure at all will the pump follow the cam profile.

Adjustable Cam

The cam can be adjusted to increase or decrease overall system oil consumption. This is particularly useful as weather, soil and crop conditions change. There are 8 settings on the cam.

Low settings offer a shorter cam throw therefore lower pump spring pressure.

Higher settings offer a longer cam throw, which compresses the spring further therefore, increasing line pressure/overall oil output.

CDCAP Side Load Protection.

To prevent premature wear or damage to the pump always check the pump is operated at 90 degrees to the cam tangent line. The CDCAP is installed onto the pump shaft to prevent side loading from the cam. Ensure the CDCAP is mounted so that it fully supports the pump shaft and opposes the direction of rotation.

4mm Nylon oil line:

The oil is fed around the machine via 4 mm OD highly U/V stabilised flexible tube. Regularly ensure that these lines are not damaged.

Meter Units:

Each lubrication point is fed by a metering unit, which is installed in manifolds mounted around the machine. The unit delivers a predetermined ratio of the oil available to the chain/sprocket/bearing. There are 8 sizes of meter unit. Each increase in size doubles the output.

Meter Unit Size:	Output/time
1	1 unit
2	2 units
3	4 units
4	8 units
5	16 units
6	32 units
7	64 units
8	128 units (At a constant pressure)

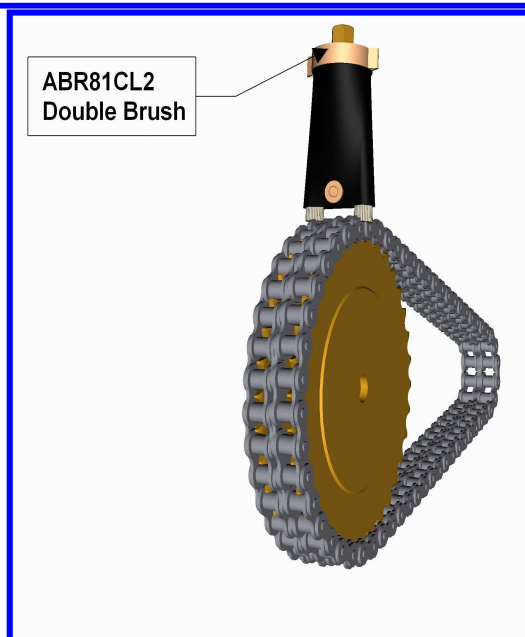
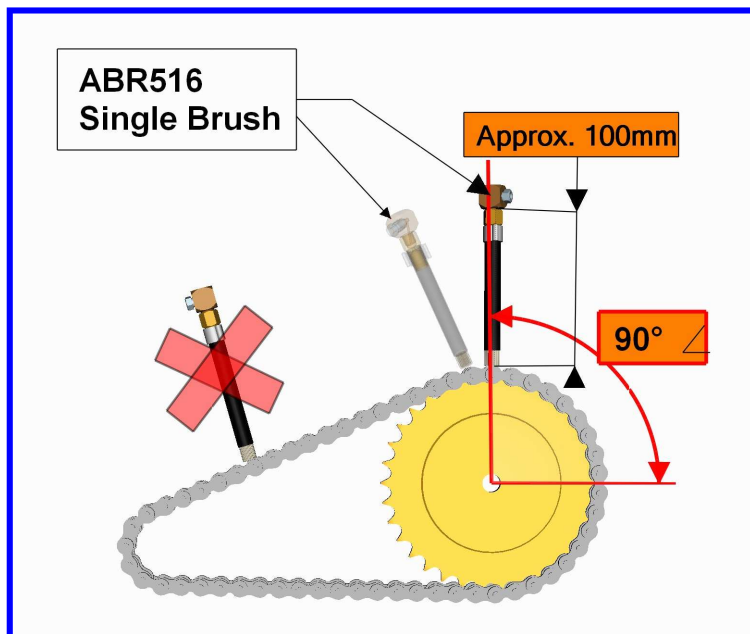
Meter units have a gauze filter installed on the inlet to protect them from contamination. Care should be taken when removing meter units that dirt is not introduced to the system. OEM manufactures specify meter unit sizes for each point. Refer to the manufacturer before altering meter unit ratios.

Pressure Gauge:

If installed the pressure gauge shows the line pressure in the system. The higher the pressure the greater the output. Note that line pressure is affected by ambient temperature, cam settings, viscosity of oil and meter unit sizes installed.

Lubrication brushes:

The oil is distributed to chains/sprockets using purpose designed lubrication brushes. To optimise efficiency brushes are mounted at 90 degrees to the highest sprocket to allow gravity to feed oil constantly onto the chain/sprocket. The brush should be touching the chain to prevent crop build up interfering with oil flow. Oil should be fed at a rate that allows the chain pins to be oiled effectively. More abrasive soil conditions will require more oil to flush away dirt build up. Brushes should be mounted on the tension side of the chain and **not** be mounted between sprockets where the chain may vibrate or flex thereby destroying the brush.



Recommended Oil:

Minimaster systems require clean simple mineral engine oils & recomme

nded biodegradable oils only. Commonly used oils include SAE30 grades to APIcc/cd specification. Avoid multipurpose, universal or oils with high EP packages. The additives in some oils can separate under pressure and deposit onto the metering valves reducing efficiency and in some cases preventing oil flow.

Higher viscosity oils are used in high ambient temperatures. Note that higher viscosity oils require higher line pressures to flow.

Warranty

MASTERLUBE SYSTEMS LTD. (The Company) guarantees its products to conform to their specifications and to be free from defects therein due to faulty workmanship or materials for a period of twelve (12) months from the date of delivery to the purchaser or from the documented date of installation which shall in no event be more than six (6) calendar months from the date of delivery.

There are no other warranties express or implied including but not limited to the warranties of merchantability and fitness for the particular purpose.

Some states do not permit the limitations of warranties.

The Company shall not be liable for any damages resulting in whole or in part, directly or indirectly, as a result of any misuse, accident, negligence, or improper installation or adjustment.

The Company shall not be bound by or be liable for any affirmation of fact, promise, representation or inducement made by any agent, distributor, or reseller which is not embodied in this agreement.

In no event shall the company be liable for damages, regardless of the form of action, or nature of the claim, exceeding the costs of the products. In no event shall the company be liable for loss of profit, indirect, incidental, special, consequential or other similar damages arising out of the use of the products, even if the company has been advised of special circumstances of the customer or the possibility of such damages.

In any event the customer's sole and exclusive remedy shall be the repair or replacement of the product.

MASTERLUBE SYSTEMS LTD.

UNIT 15, DABBLE DUCK IND. EST.

SHILDON

CO. DURHAM

DL4 2QN

UK

TEL:+44(0)1388 775584

FAX:+44(0)1388778893

WEB: www.bignall.co.uk