



Masterlube
CENTRALISED LUBRICATION SYSTEMS



AN ISO 9001: 2008 Certified Company

Friction... Defeated.



CENTRALISED LUBRICATION SYSTEMS FOR OIL AND GREASE

Master Lube Engineers Pvt. Ltd.

THE COMPANY

'MASTERLUBE' name is endorsed - a symbol of the finest systems & equipments in modern lubrication field. Also the masters in designing and developing of various types of oil and grease lubrication equipments suitable for continuous & intermittent applications. The constant efforts are made to introduce new equipments for oil and grease as well as for oil mist lubrication and to improve upon the existing products. **MASTERLUBE** offers the entire range of lubrication equipments and our each and every product is manufactured in accordance with the International standards.

We have a team of highly qualified professionals dedicated for strict quality checks on each and every step to ensure the supplies with a quality tag. The quality control and testing facilities available at our plant are comprehensive and our quality standards strictly confirms with the standards of world renowned products.

Our quality policy is to manufacture the products to the entire satisfaction of our valued customers and to provide them after sales services to give them maximum value of their money.

Being the masters in this field since more then two decades, our main motto is to see totally FRICTION FREE running of the following industries:-

- Machine Tools
- Pouch Packing Machines
- Printing Machines
- Presses & Forging Hammers
- Pharmaceutical Machines
- Pressure Die Casting Machines
- Textile Machines
- Steel Tube Manufacturing Machines
- Calendering Machines
- Nut Bolt Making Machines
- Marble Processing Machines
- Cement Plants
- Steel Rolling Mills
- Food Processing Machines
- Rubber Processing Machines
- Pulp & Paper Processing Machines
- Injection & Blow Moulding Machines
- Sugar Plants
- Hydro Turbines / Wind Turbines
- Bottle Forming / Filling Machines

Why Lubrication is necessary for Machine ?

Any rotating or sliding parts may develop certain amount of heat due to friction of the moving parts and consequently, there will be some wear and tear. The most effective method of reducing friction to minimum and to save the metals from wear and tear is efficient lubrication and the substance used for this purpose is called lubricant.

So proper lubrication system for lubrication is the most important arrangement for efficient running of engines and machine parts.

Advantages of Lubrication :-

- To reduce friction between the moving surface of machine parts.
- To cool the parts by carrying away the heat generated due to friction.
- To clean the parts by washing away deposition of carbon and metal particles caused by wear .
- To cushion the parts against vibration and impact.
- Proper lubrication can reduce the rate of break down of machine.
- Economic use of lubricant.
- Less wear and tear of machine parts.

What is Centralised Lubrication system ?

Under centralised lubrication system the lubricant is sent to different lube points after connecting all the lubrication points provided at the machine by tube to the lubrication system (may be motorized lubrication system or manual lubrication system).

It may be oil lubrication system or grease lubrication system. The main advantage of centralised lubrication system is that, after filling the oil in the lubrication system , we can lubricate all the parts of machine even in the running condition of machine.

HAND OPERATED PISTON PUMPS

These pumps are suitable for manual centralised lubrication system of light duty automatic machines such as small power presses, packing machines, milling machines, single spindle automats, looms, surface grinders, pouch fillings machines etc. Normally these pumps are suitable for 2-6 lube points. These pumps are very simple in construction. The construction is spring return piston type. The piston is operated by pulling a cam handle. The other salient features are strainer at the inlet port, a pressure reducing system which is very important for proper operation of metering cartridges. Always fill clean oil to get better life and trouble free operation of these pumps. It is not recommended to operate dry pumps. Pumps are suitable for oil with viscosity range 40-1000cst.



MS reservoir



*Transparent reservoir

Technical Specification

MODEL	DISCHARGE	RESERVOIR	PR.SETTING
MLE HP 250-4	4cc per stroke	0.25 Ltr.	12Kg/Cm ²
MLE HP 600-6	6cc per stroke	0.60 Ltr.	15Kg/Cm ²
MLE HP 1700-10	10cc per stroke	1.70 Ltr.	15Kg/Cm ²
MLE HP 2000-10	10cc per stroke	2.00 Ltr.	20Kg/Cm ²
MLE HPT 250-4*	4cc per stroke	0.25 Ltr.	12Kg/Cm ²
MLE HPT 600-6*	6cc per stroke	0.60 Ltr.	15Kg/Cm ²
MLE HPT 1700-10*	10cc per stroke	1.70 Ltr.	15Kg/Cm ²
MLE HPT 2000-10*	10cc per stroke	2.00 Ltr.	20Kg/Cm ²

HYDRAULICALLY / PNEUMATICALLY OPERATED PUMPS

These are piston type pumps which are operated by Hydraulic / pneumatic pressure. The recommended Input pressure in case of Hydraulic system is 15-20 bar and in pneumatic system it is 5-7 bars.



Technical Specification

MODEL	DESCRIPTION
MLE Pn -2000-10	The reservoir cap. is 2 Ltr. Discharge/stroke is 10cc. Input Pneumatic pr. is 5Kg/cm ² / Output pr. setting is 15Kg/cm ² . Input Hydraulic pr. is 18Kg/cm ² / Output pr. setting is 15Kg/cm ² .
MLE Pn -600-6	The reservoir cap. is 600ml. Discharge/stroke is 6cc. Input Pneumatic pr. is 5Kg/cm ² / Output pr. setting is 15Kg/cm ² . Input Hydraulic pr. is 18Kg/cm ² / Output pr. setting is 15Kg/cm ² .

NOTE : These pumps can be operated hydraulically also. Please consult for such application.

OIL MIST LUBRICATORS

The OIL MIST LUBRICATOR is pneumatically operated system and the Input pressure required is 4-6Kg/cm². This system is used for the automatic lubrication of machinery elements like Gears, Chains, Overheads Conveyors, Bearings, Slides, Live Centres etc. In the above system air is fed through air filter regulator & solenoid valve which is used as carrying media for oil forced out from the reservoir. The oil is checked by the hydraulic solenoid valve. The flow control valves are provided to control Oil and Air flow. The oil is broken in small fragments by compressed air in the specially designed atomizer block. An electronic timer is also provided for intermittent application. The input power supply 220V.AC / 110V.AC as per requirement. There are different models as mentioned below :-



Technical Specification

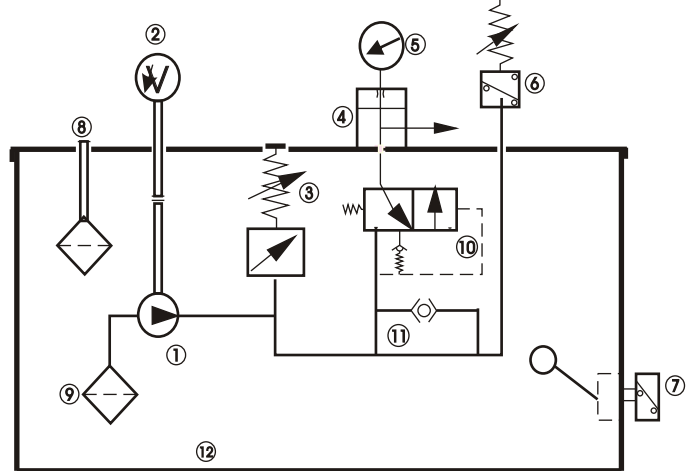
MODEL	DESCRIPTION
MLE OMS-1500	The reservoir cap. is 1.5 Ltr. Discharge adjustable. Input Pneumatic pressure is 4 to 6 Kg/cm ² .
MLE OMS-5000	The reservoir cap. is 5.0 Ltr. Discharge adjustable. Input Pneumatic pressure is 4 to 6 Kg/cm ² .
MLE OMS-25000	The reservoir cap. is 25 Ltr. Discharge adjustable. Input Pneumatic pressure is 4 to 6 Kg/cm ² .

AUTOMATIC LUBRICATION SYSTEMS

Motorised lubrication units are electric motor driven pumps along with reservoir, oil filler, suction stainer, pressure relief valve, bleed valve etc. And are suitable for single shot automatic oil lubrication. These motorised lubrication units are to be run intermittently. During motor 'ON' period (normally 5 sec) all metering cartridges eject out required amount of oil at various lube points of the machine. And during motor 'OFF' period (decided by lubrication frequency min. 1 minute) these metering cartridges get recharged for next lubrication cycle. These units do not require any return line connection as metered amount of oil is lost in normal running of the machine.



SCHEMATIC CIRCUIT



- | | | |
|-----------------------------|-----------------------------|-------------------------|
| (1) Pump | (5) Pressure Gauge | (9) Suction Strainer |
| (2) Motor | (6) Pressure Switch | (10) Pr. Reducing Valve |
| (3) Relief Valve | (7) Float Switch | (11) Bleed Valve |
| (4) Pressure Gauge Isolator | (8) Oil Filler cum Breather | (12) Reservoir |

Technical Specification

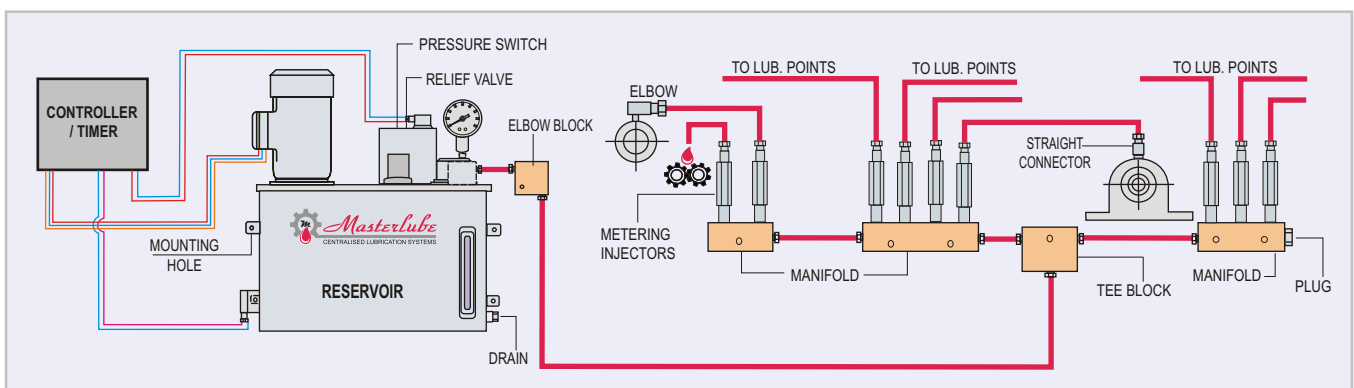
MODEL	RESERVOIR	DISCHARGE	MOTOR RPM1500 (Syn)	RELIEF VALVE	PRESSURE SWITCH	FLOAT SWITCH
MLE AMUS-3-1	3 Ltrs.	1.0 LPM	0.10 Kw, 220V AC. Single Phase	12 kg/Cm ²	Optional	Optional
MLE AMUT-3-1	3 Ltrs.	1.0 LPM	0.12 Kw, 220V AC. 3 Phase	15 kg/Cm ²	Optional	Optional
MLE ELS-2.7-1	2.7 Ltrs.	1.0 LPM	0.10 Kw, 415V AC. Single Phase	15 kg/Cm ²	220 V, 1Amp. With 1 NO+1NC Contact Pressure preset	220 V, 1Amp. With NO or NC contacts
MLE ELT-2.7-1	2.7 Ltrs.	1.0 LPM	0.12 Kw, 415V AC. 4Pole, 3 Phase	15 kg/Cm ²	- do -	- do -
MLE AMUT-5-1	5 Ltrs.	1.0 LPM	0.25 HP, 415V AC. 4Pole, 3 Phase	15 kg/Cm ²	- do -	- do -
MLE AMUT-8-3	8 Ltrs.	3.0 LPM	0.25 HP, 415V AC. 4Pole, 3 Phase	20 kg/Cm ²	- do -	- do -
MLE AMUT-20-6	20 Ltrs.	6.0 LPM	0.50 HP, 415V AC. 4Pole, 3 Phase.	25 kg/Cm ²	- do -	- do -
MLE AMUT-30-6	30 Ltrs.	6.0 LPM	0.50 HP, 415V AC. 4Pole, 3 Phase.	25 kg/Cm ²	- do -	- do -

NOTE : Pressure switch & float switch are optional All these unit suitable for oil with viscosity range 50-1000 cst. Unit with vertical float switch is also available on customer request.

Application :-

Machine tools, Textile machines, Die casting machines, Shearing and press brakes, Rubber mixing machines, Printing machines, Presses and hammer, Pharmaceuticals, food processing equipment etc.

INSTRUCTIONAL LAYOUT



MOTOR PUMP ASSEMBLY

MOTOR PUMP ASSEMBLY consists of a pump, an electric motor and an 'L' bracket. This 'L' type bracket is used to tighten the pump and adopter by means of four mounting bolts.

Motor pump assembly is used for oil lubrication especially where continuous and high dosage of oil is required. It is also applied under oil circulation systems. It is used almost in all machines where free flow of oil is required. Some special purpose machines manufacturers are now frequently using motor pump assembly for continuous flow of oil. The different specification is available with different model. It can suck the oil from 2 ft. downwards and circulate the oil up to 10 ft. height.

The rotation of motor pump assembly is indicated on the label. Four mounting holes are provided to mount the system. An electrical terminal box on the surface of the motor is provided for connection.

OPTIONAL :- Suction strainer, relief valve, flow control valve can be provided on requirement.

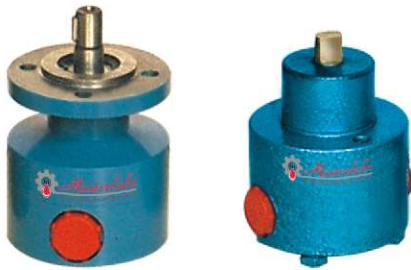


Technical Specification

MODELS	DISCHARGE	MOTOR Flange Mounted
MLE MPA - 1	1 Litre per minute	0.25 HP, 415 V. AC. 1440rpm.
MLE MPA - 3	3 Litres per minute	0.25 HP, 415 V. AC. 1440rpm.
MLE MPA - 6	6 Litres per minute	0.50 HP, 415 V. AC. 1440rpm.
MLE MPA -10	10 Litres per minute	0.50 HP, 415 V. AC. 1440rpm.
MLE MPA -16	16 Litres per minute	1.00 HP, 415 V. AC. 1440rpm.
MLE MPA -20	20 Litres per minute	2.00 HP, 415 V. AC. 1440rpm.
MLE MPA -25	25 Litres per minute	2.00 HP, 415 V. AC. 1440rpm.

ROTARY PUMPS (Flange or Insert Type)

Rotary pumps are gear rotor type pumps with positive displacement of oil. Applicable in machines which require low discharge, medium pressure of oil. These pumps are of two types: Reversible and non-reversible. Non-reversible pumps rotates only in one direction and reversible pumps rotates in either directions. (Clockwise and anticlockwise).



Technical Specification

MODELS	DISCHARGE	Max. PRESSURE
MLE PP - 1	1 Litre per minute	20Kg/Cm ²
MLE PP - 3	3 Litres per minute	20Kg/Cm ²
MLE PP - 6	6 Litres per minute	20Kg/Cm ²
MLE PP -10	10 Litres per minute	20Kg/Cm ²
MLE PP -16	16 Litres per minute	20Kg/Cm ²
MLE PP -20	20 Litres per minute	20Kg/Cm ²
MLE PP -25	25 Litres per minute	20Kg/Cm ²

ELECTRONIC CONTROLLERS

These are used in the lubrication systems where pressure switch/ float switch are provided for sensing the pressure load and low oil level. In the controllers signals for Pressure & Low oil level sensing are provided. ON time is 5 sec. Fixed and OFF Time is 2 to 240 min. Adjustable.



Technical Specification

MODEL	MOUNTING	ON TIME	OFF TIME
MLE EC-1000 W	Wall mounting	5 Sec. Fixed	2 to 128 min. (Adjustable)
MLE EC-1000 P	Panel mounting	5 Sec. Fixed	2 to 128 min. (Adjustable)

ELECTRONIC TIMER

The Electronic Timer & Controllers are used for automatic controlling of lubrication systems. There are different models used for different applications. Following models are under our regular production.



ON / OF Time Variable

Technical Specification

MODEL	DESCRIPTION	SPECIFICATIONS
MLE T 5-128	A - Wall mounting type B - Panel mounting type	ON time is fixed 5 sec..OFF time varies from 2min. To 128 min.
MLE T 60-240	A - Wall mounting type B - Panel mounting type	ON time is fixed 5 sec..OFF time varies from 1min. To 240 min.
MLE T- 2-30-120	A - Wall mounting type B - Panel mounting type	ON time varies from 2 to 30 sec. OFF Time varies from 2min. to 120 min. Both adjustable

MANUAL GREASE PUMPS



APPLICATION :-

Manually Operated Grease Pump designed and manufactured by MASTERLUBE is used for feeding grease to bearings, bushes, chains, slides and other moving parts of a machine. These manually operated grease pump are used for lubrication of machines such as Mixing Machines, Rolling Mills, Bending Machines, Furnaces etc.

WORKING :-

This device meant for ejecting predetermined amount of grease on each stroke of handle. On pulling the handle, suction port of the cylinder gets filled with grease. Spring force through follower plate over the top surface of the grease (filled in the reservoir) further helps to push grease into the suction port, while pushing handle this grease comes out under pressure through a check valve and is supplied to the lubrication points through the piping.

EQUIPMENT :-

The pump has transparent / MS. reservoir, for storage of grease. A tell tale rod indicates the level of grease and a follower plate assembly helps in providing positive suction of grease. Pump has got two outlet port of 1/4" BSP provided at the left and right side of the pump. Normally left hand side is plugged which is used for air bleeding. To check reverse flow of grease, a non return valve is put in the system at the outlet port. However if required the bleed plug and check valve can be inter changed. Grease can be filled manually or with another pump for which a 1/4" BSP port is provided on the right side of the pump. A pressure Gauge is provided on the front face of the pump body which is internally connected to the outlet for indicating the pressure.

Pump is fitted with a needle valve. When line is filled up, the needle valve is opened in order to relieve pressure of the lubrication line.

FILLING OF GREASE :-

Grease can be filled manually or with another pump. Filling from pump 1/4" BSP port is provided. Manually, we have to remove follower plate with spring, top cover and fill the grease from the top of the reservoir and to fit all the components by pressure. For air removing unscrew the bleed plug pull the handle maximum out and press the follower plate by knob till grease comes out from bleed plug.

DISTRIBUTION SYSTEM :-

A Progressive block is used to distribute the grease to the available lubrication points in sequence one after another. Progressive Blocks are added as per requirement.

Technical specifications

MODEL	Reservoir Capacity	Discharge	Maximum Pressure	Vertical Wall Mounting
MLE-GHP - 600 - 2	600 gms	2cc Per Stroke	60 Kg. / Cm ²	4 Holes, 7 Dia
MLE-GHP -1000 - 4	1 Kg.	4cc Per Stroke	100 Kg. / Cm ²	4 Holes, 7 Dia
MLE-GHP -1500 - 4	1.5 Kg.	4cc Per Stroke	100 Kg / Cm ²	4 Holes, 9 Dia

NOTE : We can also manufacture special pump as per customer requirement

PROGRESSIVE DISTRIBUTOR BLOCKS



Progressive distributor blocks are meant for distribution of grease/oil delivered by a pump. From this progressive block we get lubricant in sequentially one after another. Any one outlet is blocked then the progressive block will stop functioning. With suitable monitoring devices, this blockage is sensed and suitable warning is given to avoid running the machine without proper lubrication. These blocks can be used for intermittent / continuous lubrication. This block has three type of elements :-

1. Starting block 2. Middle block 3. End block

Each middle block has two outlet & min. 03 middle block are required in progressive block we can add other middle blocks as per requirement.

MULTILINE RADIAL LUBRICATOR



APPLICATION :-

Radial grease Lubricator designed and manufactured by MASTERLUBE are best suited for machines where continuous or intermittent high pressure grease/oil is required for individual lubrication point. This Radial Lubricator is used for Lubrication of Rolling mills, Calendering Machines, Sugar Mills, Cement Plants, Hydro Turbines, Stone Crushers, Forging Hammers, Steel Mills, Heavy duty press tools and M/cs, Mining machinery, Earth Moving Equipments etc.

OPERATING PRINCIPLE :-

Driven by an electric motor geared down to final speed of 22 rpm, a series of individual pumping elements draw lubricant from a central reservoir and discharge it direct to bearing etc. or the lubricant can be distributed further with the help of primary and secondary progressive block. Each of the pumping elements can be adjusted to give the ideal quantity of lubricant. The pump can be arranged to work intermittently or continuously while the machine is operating.

EQUIPMENT :-

Radial Lubricator is meant to discharge metered amount of oil/grease at a high pressure(max.250Kg/Cm²) to the respective lubrication points independently. Radial lubricator consist of a single pumping station having no. of pumping units placed radially and fitted on the outer stems periphery of the housing. The plunger of each pumping unit is given a reciprocating motion with the help of a cam. For grease lubricator a deflector/ stirrer also rotates with the cam. This helps operating positive suction of grease and minimize air trapping. The maximum dose per pump units per cycle is 0.25cc and per pumping unit/ minute is 5gms. These type of lubricators are fitted on machine suitably and connected to the lubrication point by means of steel tube, Rubber hoses, fitting and clamps etc.

FILLING OF LUBRICANTS :-

Grease filling in the reservoir can be done manually as well as with the help of other pump. For filling throw pump, a 1/4" BSP port is provided.

- Always use proper & clean lubricants. Avoid foreign particles in the pump. The foreign particles or dust items are the main responsible factor to damage physical components of the pump and chocking in the plunger body.
- Always fill the lubricants before it is empty to avoid air trapping in the pump. The presence of air results in improper functioning of pump.
- Should always careful with regular maintenance of plungers and reservoir for its long life.
- Do not plug out put of any pumping unit.

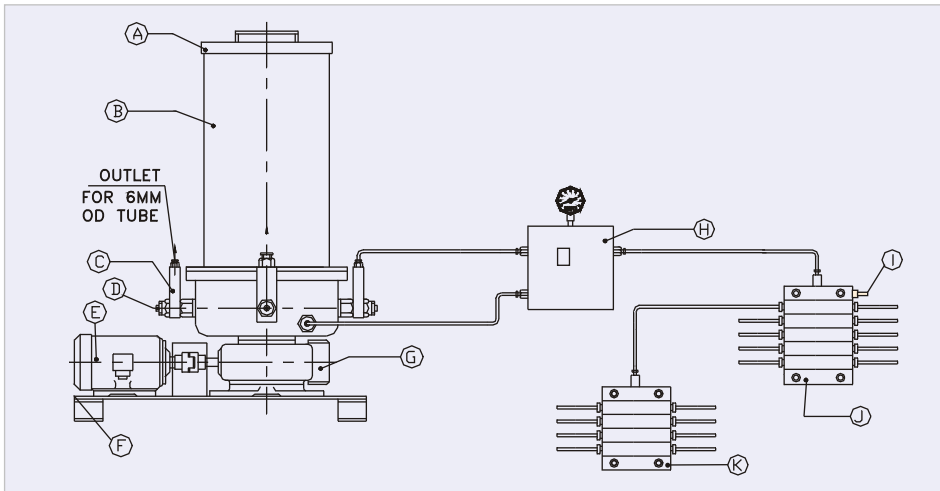
Technical specification

MODEL	MLE RL-01-05	MLE RL-02-09	MLE RL-03-15
Reservoir Capacity	5 Ltrs.	9 Ltrs.	15 Ltrs.
No. of pump elements	8 Pump elements Max.	10 Pump elements Max.	20 Pump elements Max.
Discharge of Pump/cycle (Adj.)	0.10 to 0.25-cc (Max. 6 gm/minute) per pump element.	0.10 to 0.25-cc (Max. 6 gm/minute) per pump element.	0.10 to 0.25-cc (Max. 6 gm/minute) per pump element.
Gear Box reduction ratio	70:1	70:1	70:1
Power of motor	0.25- H.P. 415 Volt AC, 3 Phase	0.50- H.P. 415 Volt AC, 3 Phase	0.5-1.0- H.P. 415 Volt AC, 3 Phase
Motor rpm	1440 rpm syn.	1440 rpm syn.	1440 rpm syn.
Working Pressure Oil/Grease	200/300 Kg/Cm ² Maximum.	200/300 Kg/Cm ² Maximum.	200/300 Kg/Cm ² Maximum.

1. Use clean lubricant, 2. Always fill the lubricant before it is empty to avoid the air, 3. Regular maintenance.

RADIAL LUBRICATOR (GREASE/OIL)

FLOW DIAGRAM



PART NAME	
A	LID
B	RESERVOIR
C	PUMP ELEMENT
D	ADJUSTING SCREW
E	MOTOR
F	BASE PLATE
G	GEAR BOX
H	PRESSURE RELIEF VALVE
I	VISUAL INDICATOR
J	PRIMARY BLOCK
K	SECONDARY BLOCK

IMPORTANT

1. Do not plug outlet of any pumping unit. If not required remove whole pumping unit and plug it by using M 22 x 1.5 Plug with sealing ring.
2. Always use clean lubricant in order to avoid damage to the pumping unit.
3. The number of outlets and reservoir capacity can be provided as per requirement.
4. Grease of consistency PD 000/00/0 or NLGI- I / II is recommended for the system.



PLUNGER PUMPS (PUMPING UNIT)

Plunger pump is a compact pump that gives metered amount of lubricant in every stroke. We can adjust the discharge by adjusting screw. Output can vary from 0.05cc to 0.25cc/stroke & delivery pressure 200 Kg/cm² max. The stroke of the plunger remains always same. The mounting threads of the plunger is M22x1.5. Plunger pump is also available in 0.50cc/stroke, 0.70cc/stroke & 1.6cc/stroke (Non adjustable).

SINGLE LINE GREASE LUBRICATION SYSTEM

The single line Lubrication System is a perfect system to be used where the lubricating points are more than 20 nos. and are suited at far distance from each other. By this system Grease of consistency upto NLG 1-2 can be injected to different points of lubrications in the machine under heavy pressure. These systems are used in **Cement Plants, Sugar Plants, Chemical Plants, Earth Moving Equipments, Mining Machineries, Coal and Mineral Industry, Mills and Crushers etc.**

Technical specification

MODELS	MLE SGL-30	MLE SGL-50	MLE SGL-70	MLE SGL-100
Reservoir capacity	10 Kg.	30 Kg.	50 Kg.	70 Kg.
Delivery Pressure Max.	250 Kg/cm ²	250 Kg/cm ²	250 Kg/cm ²	250 Kg/cm ²
Grease grade	NLGI - I / II	NLGI - I / II	NLGI - I / II	NLGI - I / II

DUAL LINE GREASE LUBRICATION SYSTEM



APPLICATION

Dual line system is used where large distance in lubrication points. This is high pressure pump and used in steel plants, cement plants, Turbine generator, furnaces, sugar plants, spong iron plants etc.

CONSTRUCTION

Dual line lubrication system comprising of a single pumping station having pumping elements and fitted on the outer periphery of the housing. Reservoir also mounted on housing and fitted on base plate with motor, gear box, change over valve, pressure gauge etc.

WORKING

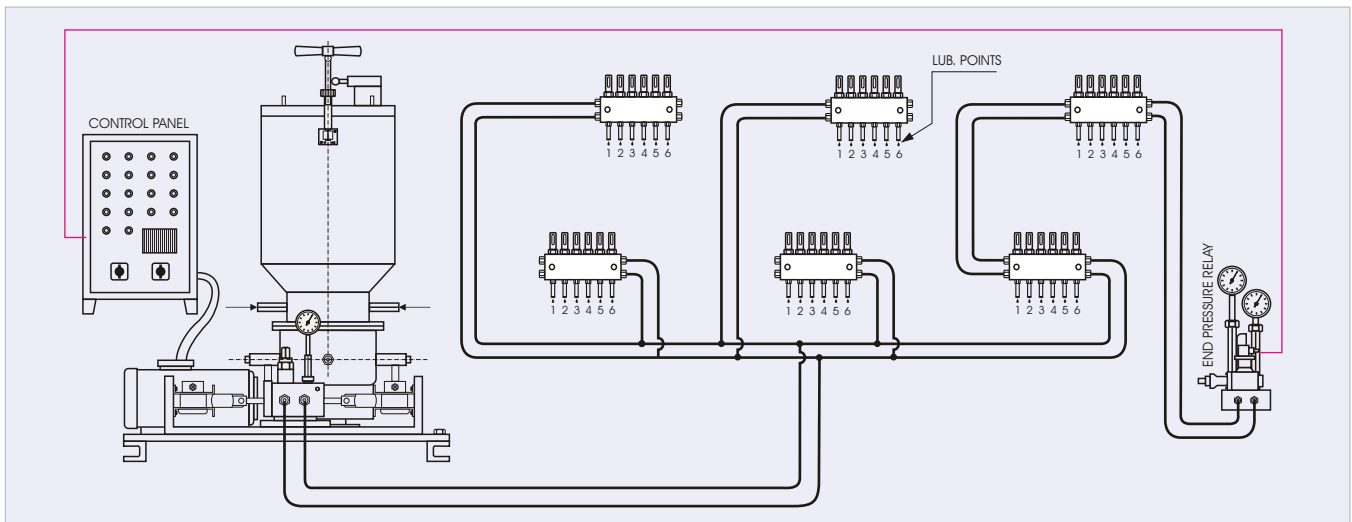
Dual line grease lubrication system can be installed with a decided scheme by using main pumping station, end pressure relay, relief valve, change over valve, dose feeder, in line filter, tubing & fitting and electronic control panel. When pump starts, then grease will deliver to main line and it will finally reach to connected lubrication points through dose feeder (Blocks). Once grease has delivered to all points connected with one line, the pressure will rise in the corresponding line as pump is still supplying grease. As soon as pressure crosses set pressure value pressure reversing valve, through control panel actuates. Grease starts flowing into second line. Delivery of grease to lubricating points take place and pressure rises again. When it crosses set pressure of end relay, the system will stop. Cycle is over and it confirm lubrication to all points. Now after preset 'OFF' time system starts again and repeats the same process.

Technical specification

MODELS	MLE DGL-30	MLE DGL-50	MLE DGL-70	MLE DGL-100
Reservoir capacity	30 Kg.	50 Kg.	70 Kg.	100 Kg.
Max. Discharge	250 gm/min.	250 gm/min.	250 gm/min.	250 gm/min.
Delivery Pressure Max.	250 Kg/cm ²	250 Kg/cm ²	250 Kg/cm ²	250 Kg/cm ²
Grease grade	NLGI - I / II	NLGI - I / II	NLGI - I / II	NLGI - I / II

- End pressure relay :-** It sense the end pressure and gives signal to change over valve through control panel. For checking the pressure two pressure gauge are provided.
- Electric control panel :-** Electric control panel is required to operate the lubrication system. Panel has the features main on indication, Manual and auto mode indication, Line one and two on indication, Line fault indication, Motor trip indication, Emergency stop button and other standard control. This control panel is available as per customer requirements.
- Grease transfer pump :-** Grease transfer pump is pneumatic version. This pump is directly mounted in the barrel. It transfer the grease to the reservoir of pumping station.

FLOW DIAGRAM



PNEUMATIC GREASE PUMPS



APPLICATION

The pneumatic grease pump is suitable for dispensing of grease & automatic feeding of grease to bearing and other moving parts of machines. Such as milling machine, rolling machine, presses & hammers, rubber processing machine, dye casting machine, furnaces etc. This pump is suitable for grease upto NLG-2. For distribution we used progressive blocks through this pump.

WORKING

Pneumatic grease pumps are operated through pneumatic line, connected to the ports of pneumatic cylinder. The cylinder is built in with the pump housing. During on period of the pneumatic line a piston inside the cylinder is pushed ejecting out grease from the outlet port of the pump housing. During the reverse flow of pneumatic line grease is sucked through the suction port. In the pump spring force through follower plate exerted on the top surface of the grease make the suction of the grease positive & easier. Pneumatic pump is available in adjustable discharge & multiport with adjustable discharge in each port. Discharge & reservoir of pump is available as per customer requirement.

TECHNICAL SPECIFICATION

MODELS	MLE PnGP-1500-10	MLE PnGP-3000-12	MLE PnGP-5000-15
Reservoir capacity	1.5Kg.	3 Kg.	5 Kg.
Discharge/Storke	0-10 grams (Adj.)	0-12 grams (Adj.)	0-15 grams (Adj.)
Delivery Pressure Max.	150 Kg/cm ²	120 Kg/cm ²	100 Kg/cm ²
Input Pressure	5-7 Kg/cm ²	5-7 Kg/cm ²	5-7 Kg/cm ²

NOTE : Discharge & reservoir of pump is available as per customer requirement.
Optional : Limit switch for Low level Grease indication (Extra Cost)

CONSTRUCTION

There is a reservoir mounted on the pump body for storage of grease. A tell tale rod connected for sensing grease level.

- Check valve is fitted on the outlet port of the pump to stop reverse flow of grease into the pump through outlet port.
- To bleed air entrapped in the system, there is a plug on the pump body which is to be opened till continuous flow of grease starts coming.
- The adjusting screw is provided in order to vary in output of the grease by tightening the screw the output of grease decreases and vice versa.
- It is must to put filter regulator unit in the pneumatic line fed to the pump. This will ensure that pneumatic line going to the pump is dust and moisture free.

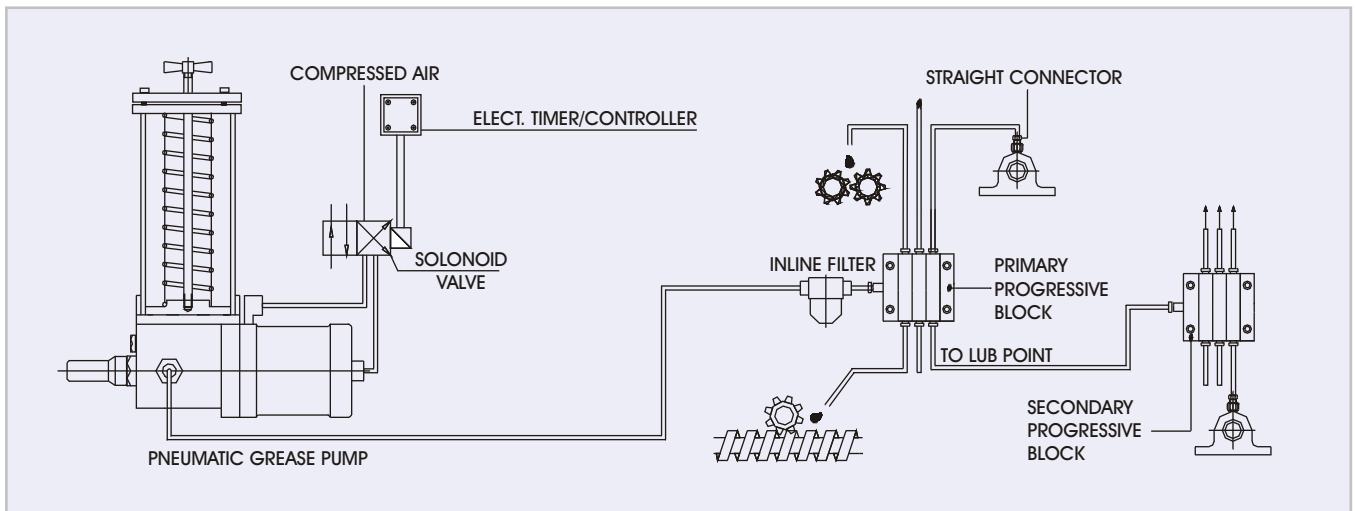
AIR REMOVING

For air removing, un screw the bleed plug apply compressed air & press the grease pusher by knob till grease come out from bleed port and plug the bleed port. The pump is ready for operation.

FILLING

Grease filling in the reservoir can be done manually as well as with the help of other pump. For those who wants to fill grease by another pump, a 1/4" BSP ports is provided on front side of the pump. This port is normally plugged.

FLOW DIAGRAM





HAND OPERATED MOBILE GREASE FILLING SYSTEM

MLE HGS-5	(Reservoir Cap.-5 Kg.) Discharge-8 gms per stroke, Max. Pr.-100Kg/Cm ² , with Rubber hose & grease adopter.
MLE HGS-10	(Reservoir Cap.-10 Kg.) Discharge-10 gms per stroke, Max. Pr.-125Kg/Cm ² , with Rubber hose & grease adopter.
MLE HGS-20	(Reservoir Cap.-20 Kg.) Discharge-10 gms per stroke, Max. Pr.-150Kg/Cm ² , with Rubber hose & grease adopter.

All above mentioned models are mobile type. The pressure plate or dead weight has been provided in all the models to avoid the air gap. These pumps are suitable for pressurised greasing of machine parts.

NOTE: Remove the pressure plate or dead weight from the bottom of reservoir before filling the grease in the reservoir. Insert the pressure plate or dead weight in reservoir after filling the grease in the reservoir.



AIR OPERATED MOBILE GREASE FILLING SYSTEM

MLE GFS-25 (Mobile)	Reservoir Cap.-25 Kg. Discharge-300 to 400 gms per minute, Max. Pr.-125 Kg/Cm ² . with rubber hose, Grease gun & Trolley mounted.
MLE GFS-50 (Mobile)	Reservoir Cap.-50 Kg. Discharge-300 to 400 gms per minute, Max. Pr.-125 Kg/Cm ² . with rubber hose, Grease gun & Trolley mounted.
MLE GFS-200	Suitable for drum Cap.-200 Kg, Discharge-300 to 400gms per minute, Max. Pr.-150Kg/Cm ² , Air input pressure 5-7 Kg/Cm ² . With rubber hose & grease gun. This pump is suitable for transfer the grease with greater discharge.

NOTE:-*Drum shown in the figure is not the part of item.



MOTORISED MOBILE GREASE FILLING SYSTEM

MLE GFS-25 (Mobile)	Motor 0.25 HP., 1440 rpm. 440V. AC Three Phase Reservoir Cap.-15 Kg. Discharge-04 Kg per hours, Max. Pr.-125 Kg/Cm ² . with Trolley mounted.
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NOTE : Reservoir Capacity Provided as per customer requirement.

OIL FEEDER (with solenoid valve)

MODEL-MLE OF - 2700 / S.V



Reservoir capacity
2.7 Kgs.

GREASE FEEDER

MODEL-MLE GF - 500



Reservoir capacity
100, 250, 500gms.

12/24V DC RADIAL LUBRICATOR

MODEL-MLEDCL-2-3, 5-3



Reservoir Capacity 5 Ltrs, number of plunger pump - 3, Discharge 0 to 0.25cc per stroke/ Element (Adj.), Max. Pressure 100 Kg/Cm², 12V DC / 24V DC input supply.

(O.C.S.) OIL RECIRCULATING SYSTEMS

These system are recirculatory type, where oil is recirculated in a closed circuit to save costly oil. It supplies continues desired quantity of properly conditioned filtrated cool oil to individual or group of points. Lube oil system are designed and manufactured as per standards and customers specifications.



Applications

- ★ Steam, gas and water turbines.
- ★ Gear boxes
- ★ Heavy duty motors
- ★ Industrial fans
- ★ Boiler feed descaler pumps
- ★ Compressors
- ★ Cement plants raw mill, coal mill
- ★ Cement mill power house equipments
- ★ Ball and tube mill
- ★ Paper plant machinery
- ★ Sugar plant machinery
- ★ Steel plant- rolling mill, wire and rod mill, morgoil systems.
- ★ Any other machinery which requires continues oil lubrication.

Features

- System are custom built, tailor made, packaged unit skid mounted, ready for installation and piping to parent machine, in simplex as well as duplex arrangements. Fabricated oil tank to hold required quantity of oil with accessories i.e. Mahole, breather cum filler, oil level indicators, level switches for level control, baffles, drain valve, heater etc.
- Rotary gear, screw or centrifugal type pumps with built in relief valve, connected with electric motor. Filters of basket, self cleaning type, micron rating 10 micron onward depend on application. Material of element S.S wiremesh, paper, felt, fibre etc.
- Oil cooler to cool oil, horizontal or vertical, shell and tube type, plate type etc.
- Instrument panel consisting of pressure gauges, pressure switches, temperature gauges, temperature switches, RTD, flow switch, level switches, etc to keep control of the different parameters.
- Control panel is designed for higher degree of sophistications to control above, parameters and automatic changeover of pump, oil coolers, filters, change of flow path.
- Various valve are incorporated, check valve, gate, globe, ball, plug, relief valve, pressure control valve etc.
- Material of construction have various combination depending on end use, environment, pressure, temperature etc.

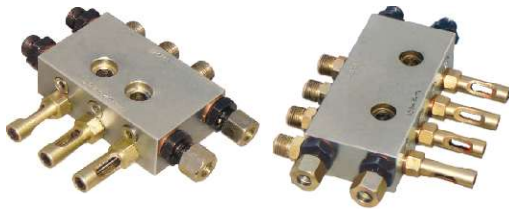
IN-LINE FILTER (BASKET TYPE) & ELEMENT



Masterlube has developed the durable basket type of in-line filter. The body of filter is made of aluminium casting and the element of filter is made of stainless steel of 100 wire mesh having 149 μ filtration. The element of filter can be re-used after cleaning. This filter is suitable for both pressure line and zero pressure line. The inlet and outlet port of this filter is available in both 1" BSP and 1/2" BSP. The drain port of 1/4" BSP has also been provided for drain out the dirty oil from the filter body. The main advantage of this in-line filter is that the element of filter can be cleaned without disturbing the pipe line. This filter is suitable for flow up to 200 LPM. The element and body of filter is suitable for mineral / petroleum based oils. Separate element of this filter is also available. Port for installation of visual indicator has also been provided. It is recommended to use this filter up to maximum temperature of 80°C. For cleaning the filter open the all four corner nut provided at the top cover and pull the basket of filter in the downward direction, then open the element of filter with the help of spanner.

NOTE :- Different filtration rating or micron size of element can be provided as per customer's requirement with additional cost.

DOSE FEEDER (DUAL LINE BLOCKS)



Dual line grease feeder is made of steel having two input ports connected with two outlet lines of pumping station. Outlet ports of dose feeder are connected to lubrication points by means of tubing (pipelines). The connection of dose feeders have been shown in the flow diagram. At the another side of dose feeder an adjusting screw has been provided for adjusting the quantity of grease as per requirement. Functioning of each dose feeder can be noticed by the movement of indicating pin. Dose feeder is available in discharge range of 0.5 to 5 gm/cycle (adjustable). It comes with different number of outlets i.e. 1/2/3 and 4.

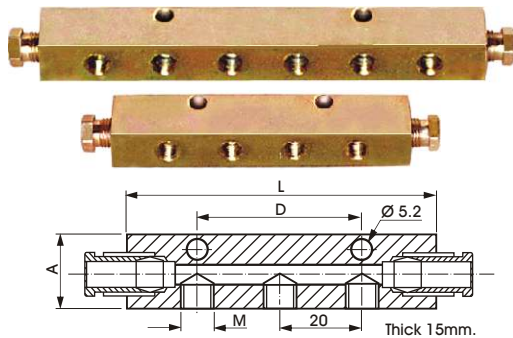
Technical Specification

MODEL	MLE DF-21	MLE DF-22	MLE DF-23	MLE DF-24
Discharge per cycle	0.5-5 gm/cc	0.5-5 gm/cc	0.5-5 gm/cc	0.5-5 gm/cc
No of outlet	1 outlet	2 outlet	3 outlet	4 outlet
Max working pressure	275kg/cm ²	275kg/cm ²	275kg/cm ²	275kg/cm ²

NOTE: These dose feeders have single side outlets and discharge grease twice in each cycle. Any outlets of feeder can be plugged, which will not disturb the working of other outlets. These feeders are suitable for grease as well as for oil.

MANIFOLDS

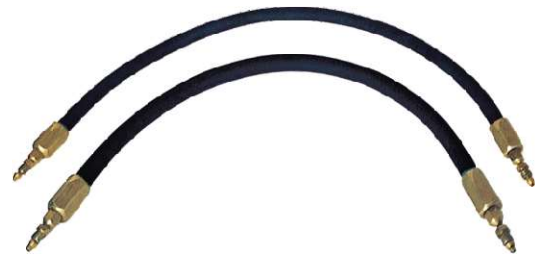
Manifold are required for mounting of oil distributors. These having two ports of 6mm OD tube and few side outlets. Oil distributors are screwed directly on side outlets of manifolds.



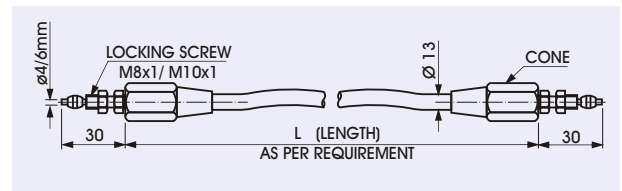
MODEL	L mm	A mm	M	D mm	Mounting Holes
FM-1	35	18	M8X1	-	1
FM-2	55	18	M8X1	-	1
FM-3	75	18	M8X1	40	2
FM-4	95	18	M8X1	40	2
FM-5	115	18	M8X1	40	2
FM-6	135	18	M8X1	60	2
FM-8	175	18	M8X1	60	2
FM-10	215	18	M8X1	140	2
FM-1A	40	22	M10X1	-	1
FM-2A	65	22	M10X1	-	1
FM-3A	90	22	M10X1	50	2
FM-5A	140	22	M10X1	50	2

HOSES

Hoses are used to connect points where flexibility is a must and also mechanical strength required. These hoses are made of synthetic rubber with textile re- inforcement. These hoses are available with 4mm and 6mm steel end fittings with working pressure of 28 Kg/cm² to 200 Kg/cm². OD of these hoses is 13mm and ID of 6.3 mm. The length of hose pipes can be supplied as per costumer requirement.



Hose with 4/6 mm OD steel ends



TUBES

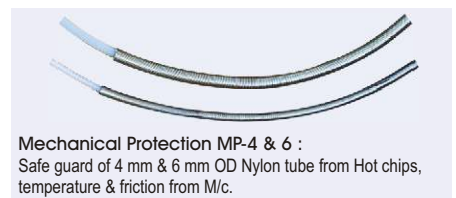
STEEL TUBES



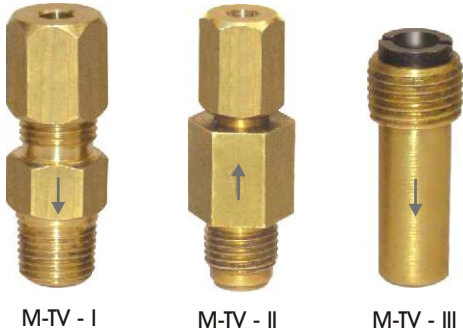
NYLON TUBES



MECHANICAL PROTECTION & P.U. PIPES



THROTTLE VALVE



M-TV - I

M-TV - II

M-TV - III

These valves have been designed for discharge the oil continuously drop by drop under low pressure of 2-4 kg/cm². The efficiency of these valves depends upon the purity of oil and viscosity of oil. The viscosity of oil should not be more than 68 cst. These valves can be operated with motorised / pneumatic / manual pump. These valves are available in different input thread size i.e. 1/8" B.S.P., 1/8" N.P.T., M8x1 taper etc. and outlet is suitable for 4mm OD tube.

TECHNICAL SPECIFICATION

MODEL	M -TV - I	M -TV - II	M -TV - III
Drop/Minute	App. 20 Drops	App. 30 Drops	App. 40 Drops
Thread Size	1/8" BSP	1/8" NPT or M10 x1	M8x1 Taper or M10 x1



METERING CARTRIDGE

MLE MC D-1	Dosage 0.01cc, 0.03 cc, 0.05 cc, 0.10 cc and 0.16 cc per stroke.
MLE MC D-2	Dosage 0.25 cc, 0.40 cc per stroke.
MLE MC D-3	Dosage 1.0 cc, 1.60 cc, 2.00 cc Per stroke

FITTINGS

Banjo

MB-6



Male thread M10 x1 (For 6mm OD Tubes) used for right angle connection from pump and Manifold.

Elbow Blocks

EB-6



For joining two tubes at right angle of 6mm OD tube.

Tee Blocks

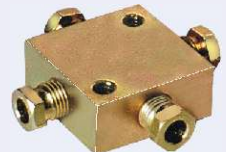
TB-6



For dividing main line into three lines of 6mm OD tube.

Cross Blocks

CB-6



For dividing main line into Four lines of 6mm OD tube.

Connector Blocks

TC-6 & TC-4



For joining two tubes of 6mm OD & 4mm OD.

Elbow

ME-4T (M8x1 or 1/8" BSP)



Male thread (taper thread) for right angle connection to lub. point with female tapping.

Banjo (4mm)

MB-4T (M8x1 or 1/8" BSP)



Male thread M8 x1 & 1/8" BSP used for right angle turn from end point of M/c.

Straight Connector

SC-6 1/8" BSP, SC-4T M8 x1 or 1/8" BSP



For connecting 6mm & 4mm OD Tube at end point of M/c.

Locking Screw

LS-4, LS-6



Locking screw of 4 mm. OD Tube, 6 mm. OD Tube & 10 mm. OD Tube.

Plugs

MP-8, MP-10 & MP-1/4" BSP



Thread M8x1, M10x1 for closing the extra point & end port of manifold.

Clamps

C-4-1, C-4-2, C-4-3, C-6-1, C-8-1 & C-10-1



To clamp Single, Two, Three tube 4mm OD, Single tube 6mm, 8mm, & 10mm OD.

Straight Connector

SC-10 T/1/4" BSP



Male thread 1/4" BSP T (taper thread) for connecting 10mm OD tube.

Elbow

ME-10 T/1/4" BSP



Male thread 1/4" BSP T (taper thread) for right angle connecting 10mm OD tube.

SPARES

FLOAT SWITCH



MODEL	DESCRIPTION
M FSH-1	For motorised lub. unit, for electrically oil level sensing NC contact
M FSH-2	For motorised lub. unit, for electrically oil level sensing NO + NC contact
M FSV-1	For motorised lub. unit, for electrically oil level sensing NC contact
M FSV-2	For motorised lub. unit, for electrically oil level sensing NO + NC contact

PRESSURE SWITCH



MODEL	DESCRIPTION
M PS-830	Pressure switch used in motorised unit for Sensing pressure.
M PS-040	Pressure switch used in motorised unit for Sensing pressure.

PRESSURE GAUGE



MODEL	DESCRIPTION
M PG	For measure the working pressure of lubrication systems. Range 0 - 25, 0 - 35, 0 - 300 Kg/Cm ² .

RELIEF VALVE



MODEL	DESCRIPTION
M RV-030-A	Used for pressure setting in Lubricating units.
M RV-030-B	Used for pressure setting in Lubricating units.

OIL FILLER CUM AIR BREATHER



MODEL	DESCRIPTION
M B-03	Used for oil filling cum air breathing in lubricating Units.
M B-05/08	Used for oil filling cum air breathing in lubricating Units.

SUCTION STRAINER



MODEL	DESCRIPTION
M SS-03	For 3Ltrs. Motorised lubrication unit.
M SS-05	For 5Ltrs./8Ltrs. Motorised lubrication unit.
M SS-50	For 10 to 100 Ltrs. Oil recirculating system.

SIGHT GLASS



MODEL	DESCRIPTION
M SG-25	Tube dia 25mm. OD, Inlet & Outlet port 1/8" BSP.
M SG-38	Tube dia 38mm. OD, Inlet & Outlet port 1/8" BSP.

FLOW SWITCH



MODEL	DESCRIPTION
M FS-010	Oil flow switch for 0-10 Lpm. Inlet & outlet port 1/4" & 1/2" BSP. 1NO+1NC contact Read switch rating 1Amp. 220V. AC.
M VFI-25	Oil visual flow indicator with 1/4" BSP. Inlet & outlet for 0-10 Lpm.

IN LINE FILTER



MODEL	DESCRIPTION
M IF-13	Inline filter for Oil & Grease upto 149 micron filtration Inlet & outlet port 1/4" & 1/2" BSP.
M IF-05	Inline filter for Oil Brounz filtration Inlet & outlet port 1/4" BSP.

GREASE GUN



MODEL	DESCRIPTION
M GG-500	Grease gun Reservoir Capacity 500gms.
M GG-1500	Grease gun Reservoir Capacity 1500gms.

CENTRALISED LUBRICATION SYSTEMS FOR OIL AND GREASE



MOTORISED LUBRICATION UNIT



12/24V DC RADIAL LUBRICATOR



MULTILINE RADIAL LUBRICATOR



PNEUMATIC GREASE PUMP



(O.C.S.) OIL RECIRCULATORY SYSTEM



MANUAL GREASE PUMP

Authorised dealer

Master Lube Engineers Pvt. Ltd.

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Website : www.masterlubeindia.com , indiamart.com/masterlubeengineers

Note :- Specifications are subject to be changed without any notice.