

INTRODUCTION

We have pleasure in introducing ourselves as one of the Leading and reputed manufacturers of highly engineered products like **Automatic tyre inflator cum deflator, Bearing Tester, Electronic Thermostats for Railways ,Battery online tester ,2T Oil Dispenser & Multipoint Oil dispenser with lube management** for Workshops & Garages.

We would like to put few points on **existing practice** of oil dispensing system in workshops and **merits of our system** over the **existing practice**.

Existing oil dispensing system in workshops & garages:

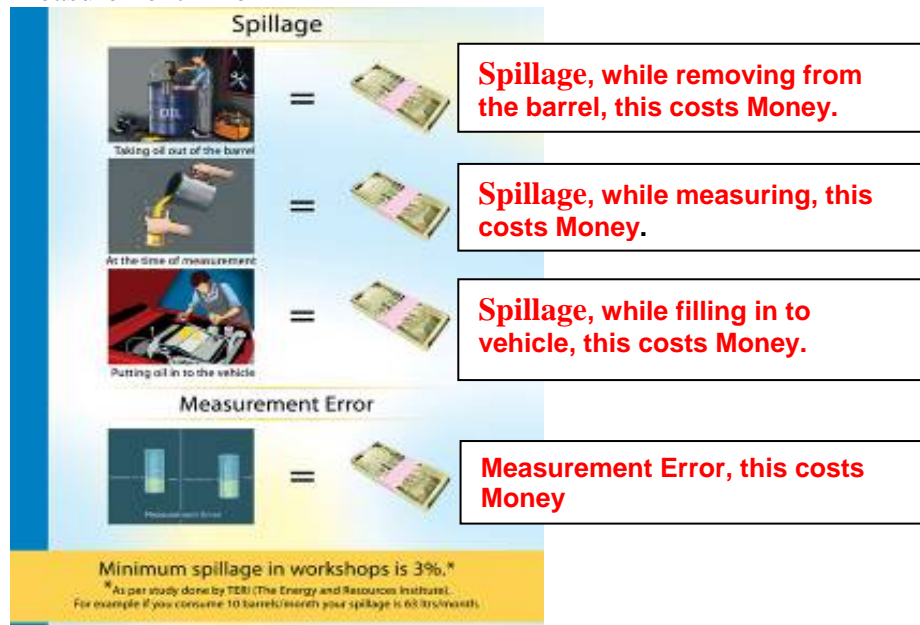
Removing oil from barrel, measuring, taking towards vehicle and then filling into vehicle.

Draw backs of the existing systems: -

1. Removing oil from barrel, measuring, taking towards vehicle and then filling in to vehicle :-

❖ **Spillage of lube & Measurement Error :**

- i. Spillage, while removing from the barrel.
- ii. Spillage, while Measuring.
- iii. Spillage, while filling in to vehicle.
- iv. Measurement Error.



The loss of LUBES due to spillage in a Garage is a minimum of 3%.

(For example an average workshop consumes 20 Barrel of Oil per month i.e. each barrel contains 210 ltrs)

10 x 210 = 2100 ltrs.

According to the TERI (The Energy and Resources Institute) Report, the wastage is 3% Minimum, therefore, the loss of Oil = 2100 ltrs x 3/100 = **63 ltrs per month.**

Assuming if the cost of Oil per liter is Rs.200/- the **Savings per month = 63 ltrs x Rs.200/- = Rs.12,600 per month.**

1. Wastage of time, while removing from the barrel.
2. Wastage of time, while Measuring.
3. Wastage of time, while going to the store to draw the oil.

Man Hours lost



Getting oil from store

=





Gossiping

=



Loss of man hour per transaction is 10min.
 For example if you are servicing 100 vehicles/day total man hours lost is 1000 min(16 HOURS) is equal to 2 man days (Two persons salaries per month).

The technician has to go to the store to draw the oil.10 minutes is lost for every transaction.

For example you are servicing 100 vehicles a day.

Total man hours lost is 1000 minutes (i,e approx 16 Hours). This equal 2 technician's salary per month

- Housekeeping expenses due to spillage (consumables like cotton waste, cleaning detergents and labour)

House Keeping




Labour

=



Labour, costs money



Cleaning Material

=



Cleaning material, costs Money

By Installing Protech Multipoint Oil Dispenser with Lube management system all the above drawbacks can be avoided and Also helps in workshop Automation.

Protech Multipoint Oil Dispenser System and its merits:- It is a Microprocessor based Lube oil dispensing system with multi point dispensing facility. It is specially designed for workshops & garages to dispense required quantity of lube oil directly at ramp/bay itself

It avoids spillage.

It avoids wastage.

It avoids wastage of time during oil filling.

It increases workshop capacity.

It avoids contamination of oil. *(As the oil is not handled manually)*

Drop to Drop Accountability.

Better Traceability. *(You can track every transaction)*

Viking series Multipoint oil dispenser is microprocessor based Networked metered oil Dispensing system using cutting edge technology.

It uses one metering Unit for multi point dispensing with master slave concept. The master contains the metering unit and is networked with slaves at the of point dispensing, Each master can handle 50 slaves (i.e. 50 dispensing points) and up to 5 products. The required quantity can be programmed at the slave or sent from the fluid management software. The message is sent to the master which in turn takes charge of that particular slave and dispenses the programmed quantity through that slave only. The master is connected with a pneumatic pump which can be directly mounted on the barrel .

Procedure of operation:

- 1) The technician feeds the required qty from one of the preset keys or the same can be sent from the PC for better control, when this is enabled the technician will not have control on the quantity setting.
- 2) The slave asks for the Job card NO, which is entered using the front panel keys.
- 3) The slave asks for the ID card, where in the technician has to present it at the reader on the slave.
- 4) The slave will cross check for the validation of the ID. If it's a valid ID it will start dispensing or else a ID INVALID message is displayed.
- 5) Once the dispensing is over the slave sends the following data to the master
 - a) Quantity Dispensed
 - b) Date
 - c) Time

- d) Job Card No
- e) Product
- f) Technician ID

This is stored in the master as a transaction if the PC is connected the data is transferred online for record.

The Master & the slaves are networked electronically; a pipe line runs from the master to the slaves for supply of oil.

Master: The Master is a microprocessor based system. It consists of an RS- 485 Communication Port, Oval Gear meter for metering with great accuracy, built in calibration, Totalizer (for better accountability), a backlit LCD display ,memory to store 1000 transactions & a keypad(keys are life time warranty). It has an inbuilt barrel empty indicator, port for communication With PC (Where in the Data can be downloaded)

Slave: The slave is a microprocessor based system. It consists of an RS- 485 communication Port, Backlit LCD display ,oil low level indicator , keypad : 5 programmable preset keys , job card entry, RFID Reader & 4 control keys , (keys are life time warranty), a status indication lamp to indicate the availability of the master and a Non drip nozzle .

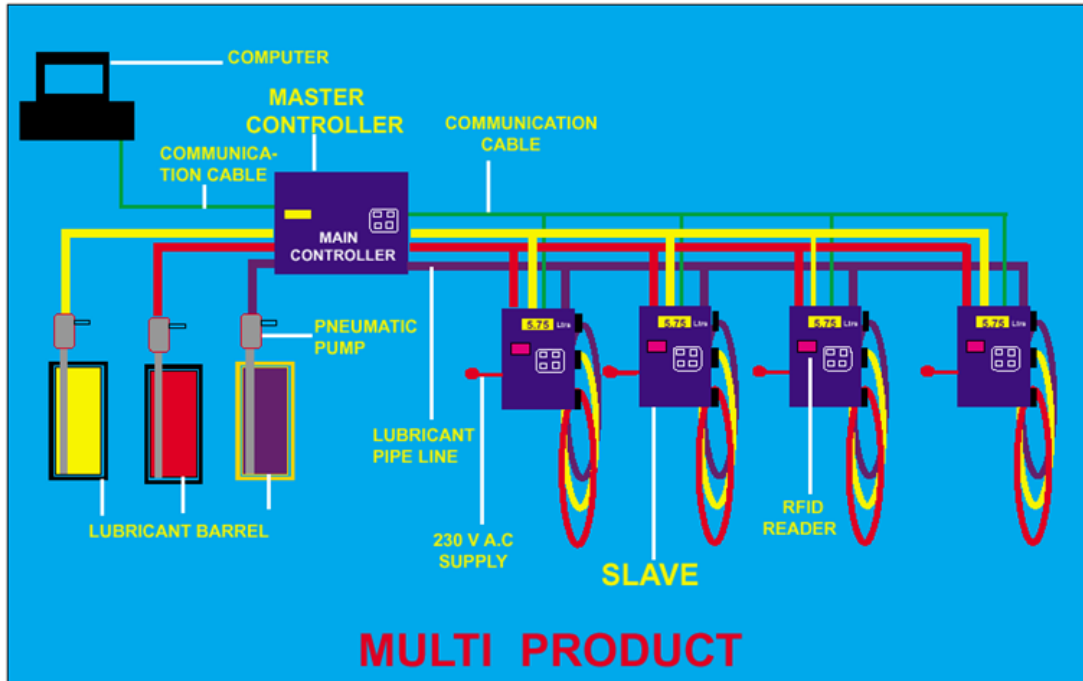
Fluid Management Software: The lube management software helps in keeping drop to drop accountability and comprehensive records of all transactions. It enables the workshop manager to have control over bulk oil usage to prevent oil loss.

Features:

a) Online Data of every Transaction. **b)** Complete Inventory Management of Lubes. **c)** Online Job Card wise Query. **d)** Graphical Display of inventory. **e)** On line Graphical Display of Barrel Level. **f)** Job Card Authorization Entry{For control Usage with preprogrammed individual vehicles oil qty} **g)** Job card wise Report. **h)** Technician wise Report. **i)** Purchase entries Reports. **j)** Product wise report. **k)** Barrel wise report.

RFID reader at slaves, this helps in tracking the lube dispensed by each person or the vehicle. Each person in the garage is provided with an RFID card. On presenting this card at the slave, then only the lube is dispensed .This avoids unauthorized person from dispensing the lube . All these transactions are stored in the master ,the master has the capability to store up to 1000 transactions , each transaction will have the following data : RFID no,qty dispensed ,date , time, slave no & product. The same data is transferable to a PC with lube management software provided by us. This helps complete automated lube management.

Block diagram of a three product four slave system:



Economical advantages of using MPD in workshop.

I. Advantages of Using PROTECH Viking MPD Series.

In terms of economics, we would like to put forward some of the revealing facts about the Wastage of Oil.

As per our study, we found the Wastage of Oil at the time of following operations.

I. At the time of removing Oil from the Barrel.

II. At the time of measuring.

III. At the time of filling Oil into the Vehicles etc.

As per the study of TERI (The Energy and Resources Institute) the loss of LUBES in a Garage is a minimum of 3%.

(For example an average workshop consumes 20 Barrel of Oil per month i.e. each barrel contains 210 ltrs) $10 \times 210 = 2100$ ltrs.

According to the TERI (The Energy and Resources Institute) Report, the wastage is 3% Minimum,

Therefore, the loss of Oil = 2100 ltrs \times $3/100 = 63$ ltrs per month.

Assuming if the cost of Oil per liter is Rs.200/- the **Savings per month = 63 ltrs x Rs.200 = Rs.12,600 per month.**

II. The usage of PROTECH Viking MPD Series not only saves Financial Losses directly, it helps **in indirect** savings and **improves efficiency** in the Workshop, reducing **other invisible costs** like

1. Dispenses desired Accurate Quantity of Oil.
2. Drop to Drop Accountability of Lube.
3. House Keeping.
4. Time Saving. (in man hours)
5. High Customer Satisfaction.
6. Litter Free.
7. Reduces pollution.
8. Savings in consumables, like cotton waste, cleaning detergents.

In direct savings for example: Let us take a workshop servicing 50 cars a day. Approximate time taken by a technician to draw oil for the cars from the store is 10 min.

And for 100 cars it is 1000 min (16 hrs).

This time is equivalent to 2 man days.

Therefore it **saves salary of 2 persons** per month.(approx salary Rs.5000)

Savings is Rs.10000=00/month

Increases workshop capacity & Decreases Turnaround time.As you save man days, you can service more vehicles with the same persons.This indirectly increases the workshop capacity(additional space).

.For example if you save 2 man day, you add two bays to your workshop i.e a new workshop area is added to your workshop without physically increasing the space. If each bay covers an area of 150 sft,you add 300 sft to your workshop.If rentals of each sft is Rs.30/month then **you benefit Rs.9000/month.**

Increases workshop income, As space is added, more vehicles are serviced.

For example if each person services 3 vehicles a day.

Therefore 2 persons services 6 vehicles.

If average income on each vehicle is Rs.500 ,your daily income will increase by Rs.3000.

Your monthly income **will increase by Rs.75000** (taking 25 working days per month into account)

Total Savings accounts to a minimum of

Rs. 1, 06, 600=00/Month (1.06 lakhs/month)

Rs. 12,79,200=00/year (Rs.12.79 lakhs/year)

INSTALLATION PHOTOS



5 PRODUCT DISPENSING POINT



5 PRODUCT MASTER



**SINGLE PRODUCT TWO
DISPENSING POINTS**



**SINGLE PRODUCT 3
DISPENSING POINTS**