ABV
INDUSTRIES

52 – J, GANDHI ROAD
THILAGAR NAGAR
TIRUPPUR - 641 601
PHONE NO: 98651 25383

Date: 12.04.2024

TO

The Principal,

Sasurie College of Engineering,

Vijayamangalam – 638 056.

Dear Sir/Madam,

Up on receiving the Institutional Brochure and the subsequent inquiry - Regarding.

Having received the Institutional consultancy brochure, we are interested investigating the feasibility of supplying "**Eco- friendly Mechanically Operated Multipurpose Spray Pump**" in collaboration with your consultancy team. We would like inquire about the corresponding costs involved.

Thanks and Regards

K. Anju Bhartia

Managing Director

K.Anju Bhartia

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

SASURIE INSTITUTIONS
SASURIE
COLLEGE OF ENGINEERING
Approved by AICTE, New Delhi
Affiliated to Anna University, Chennai

Date: 16.04.2024

To

Managing Director,
ABV Industries,
52 – J, Gandhi Road,
Thilagar Nagar,
Tiruppur - 641 601.

Respected Sir/Madam,

Sub: Submission of project consultancy work quotation - Reg.

Greetings - Sasurie College of Engineering, Vijayamangalam, Erode.

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In response to your letter dated 12.04.2024, regarding the supply of " **Eco- friendly Mechanically Operated Multipurpose Spray Pump** " and following our detailed discussions. We are pleased to present the official quotation for your review and response.

Quotation

S.No	Particulars	Quantity	Rate per Unit	Total Amount
01	Mechanically Operated Multipurpose Spray Pump	7	10200	71400

Thanking You

With warm regards

SASURIE COLLEGE OF ENGINEERING
Vijayamangalam, Tirupur (D.T), 638 056.

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt)

PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

ABV INDUSTRIES

52 – J, GANDHI ROAD
THILAGAR NAGAR
TIRUPPUR - 641 601
PHONE NO: 98651 25383

AMOUNT SACTION LETTER

Date: 25.04.2024

To

The Principal,

Sasurie College of Engineering,

Vijayamangalam – 638 056.

Respected Sir/Madam

We have approved the institution proposal for the supply of the "Eco- friendly Mechanically Operated Multipurpose Spray Pump" as specified in the quotation. We have allocated a total budget of Rs. 71400 (Seventy one Thousand and four hundred only). It is crucial that the completion of this project adheres to the agreed upon time frame of 30 days.

Thanks and Regards

K. Anju Bhartia

Managing Director

K.Anju Bhartia

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

SASURIE INSTITUTIONS
SASURIE
COLLEGE OF ENGINEERING
Approved by AICTE, New Delhi
Affiliated to Anna University, Chennai

Date: 28.05.2024

To

Managing Director,

ABV Industries,

52 – J, Gandhi Road,

Thilagar Nagar,

Tiruppur - 641 601.

Respected Sir/Madam,

Sub: Submission of project consultancy work quotation - Reg.

Greetings from Sasurie College Engineering!

In response to your letter dated on 25.04.2024 regarding the supply" **Eco- friendly Mechanically Operated Multipurpose Spray Pump**" and following our detailed discussions. We are pleased to present the official quotation for your review and response.

FINANCIAL DETAILS:

S.No	Particulars	Quantity	Rate per unit	Total Unit
01	Mechanically Operated Multipurpose Spray Pump	7	10200	71400

Thanking You,

With warm Regards

SASURIE COLLEGE OF ENGINEERING
Vijayamangalam, Tirupur (D.T), 638 056.

PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

CONSULTANCY PROJECT WORK REPORT

DEPARTMENT OF MECHANICAL ENGINEERING

Eco- friendly Mechanically Operated Multipurpose Spray Pump

SUBMITTED TO

Managing Director,

ABV Industries,

52 – J, Gandhi Road

Thilagar Nagar

Tiruppur - 641 601.

DELIVERY DATE: 28.05.2024

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

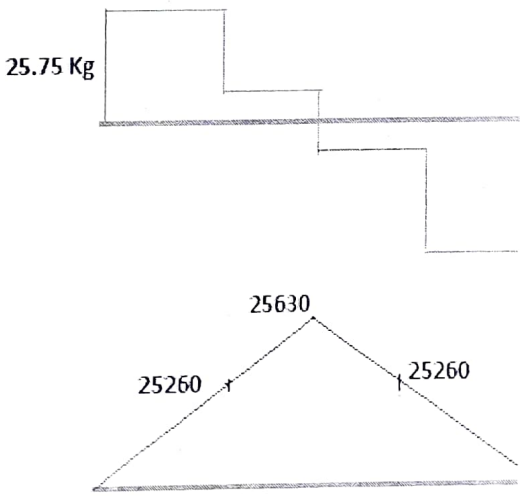
CONSULTANCY PROJECT REPORT

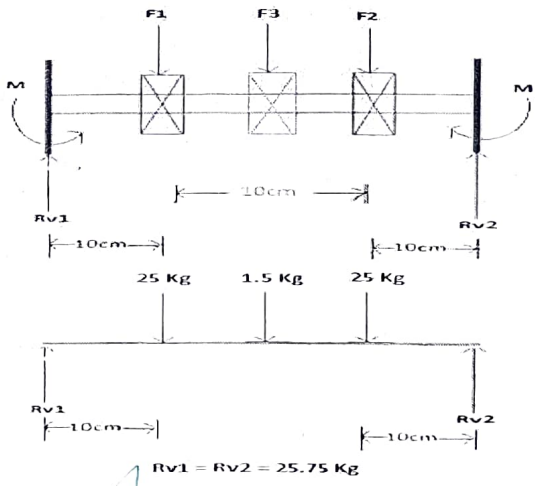
Eco- friendly Mechanically Operated Multipurpose Spray Pump

OBJECTIVE:

As on today the whole world is facing a problem of energy crisis. If we want to continue for prolonge duse of energy then we must try to save it as much as we can when ther it is on large scale or small scale. In today's world, we use various spraying technologies involving use of electrical energy, chemical energy of fuels. This fact makes us know that how large content of energy is getting used at such a places where mechanical energy can be used instead of direct energy sources. This is a reason why we have implemented some mechanical sprayers getting powered by human effort. Although these are serving the purpose, their range of working is not enough. They take considerably larger time for spraying. Thus what we have aimed is to design such a technology which will run on mechanical power but requiring less time for spraying than those which are hand operated. Thus considering today's demand, we have come up with mechanically operated multipurpose spray pump which is purely mechanical. This device is having the advantage of taking less timefor sprayingonce it starts. If we want to decrease the time further we just need to increase size ofour piston and no. of nozzles with relative change in effort. In addition to all this we are implementing soil coulter along with spray pump so we can have double advantage..

Working:





Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

Farming is the backbone of Indian economy. In this agriculture sector there is a lot of field work, such as weeding, reaping, sowing etc. Apart from these operations, spraying is also an important operation to be performed by the farmer to protect the cultivated crops from insects, pests, funguses and diseases for which various insecticides, pesticides, fungicides and nutrients are sprayed on crops for protection. Farming has undergone a great evolution in last 50 years. Out of the various reasons involved for this evolution is control of various diseases on crops. During initial days there was only hand spraying people use to do. Then slowly there has been development of various methods to spray out chemicals and dusts. Though these devices were highly efficient, there is a need to have certain changes. Chemicals are widely used for controlling disease, insects and weeds in the crops. They are able to save a crop from pest attack only when applied in time. They need to be applied on plants and soil in the form of spray, dust or mist. The chemicals are costly.

Methodology:

To overcome the disadvantages related with previous model, we have designed a model running without any fuel and also easy to operate for a user. In this model we find that we have simply used a cam mounted on rear shaft which will actuate piston inside cylinder. Also we can see a special mechanism used for a soil coulter. The assembly consists of 4 wheels out of which 2 are mounted on rear shaft and 2 are mounted on guide shaft at front. A cam is mounted on rear side exactly at the middle of shaft .A cam profile design is secret as it is a special purpose cam and is designed just to reduce friction as much as it can be.

Working:

- When we push the sprayer trolley, work done by the wheels get transmitted first to cam and then to follower link, due to which piston reciprocate and starts building pressure.
- This is because the power applied is transmitted to driving shaft attached to main wheels.
- While power is getting transferred to piston, at the same time a coulter come into action and its flaps starting their function.
- As the time passes, a strong pressure gets developed inside cylinder as accumulator helps it in doing that.
- As the pressure gets developed, nozzles start acting and they initiate spraying.
- During this time, a connecting link from coulter also moves its flaps rapidly andsoil is taken to the roots of plants.

SI.No	Description	Unit Rate (Rs)	No of Quantity	Amount in Rupees
01	Mechanically Operated Multipurpose Spray Pump	7	10200	71400
Total payable				**71400**

Dr.M.VIJAYAKUMAR ME., Ph.D.,
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Approved by AICTE, New Delhi
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Date:31.05.2024

UTILIZATION CERTIFICATE

Certified that the amount of rupees **Rs.71400** (Seventy one Thousand and four hundred only) was sanctioned by A B V Industries, Tirupur during the academic year (2023-2024), in favour of Department of Mechanical Engineering, Sasurie College of Engineering has been fully utilized for consultancy project titled Estimation of "Eco- friendly Mechanically Operated Multipurpose Spray Pump". The purpose of amount sanctioned has been fulfilled and delivered as per conditions of grant were satisfied

PROJECT INVESTIGATOR

31-5-24

PRINCIPAL

Dr.M.VIJAYAKUMAR ME., Ph.D.,
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SASURIE COLLEGE OF ENGINEERING,
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