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**AKIRA AUTO WASH**  
Automatic Bike Wash Machine

## TVS MOTOR COMPANY APPROVED MODLES

**Booth Model**



**Without Booth Model**



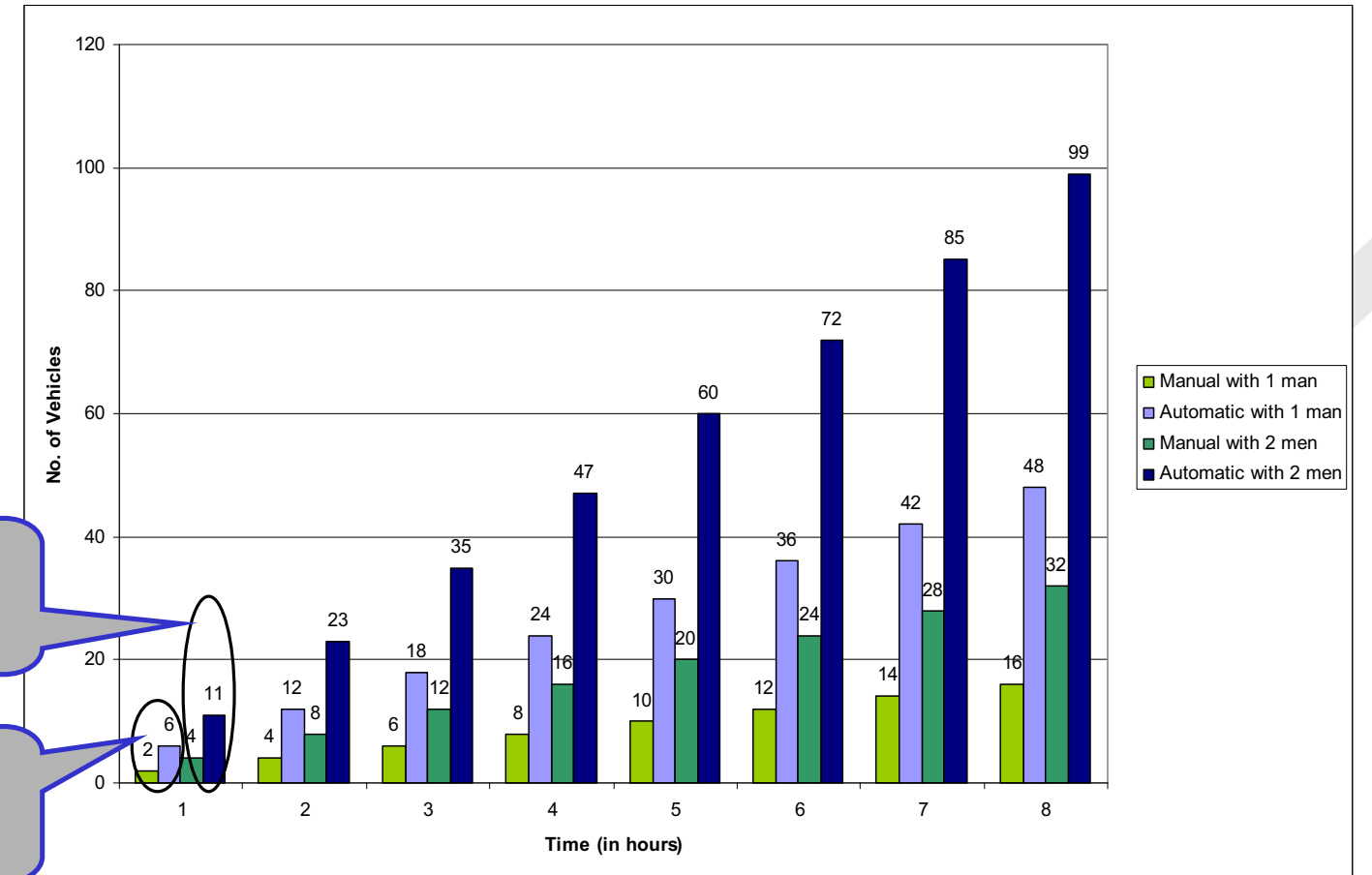
## AUTOMATIC WASHING MACHINE FEATURES

1. Nozzle frame will traverse the complete length of the vehicle with up and down oscillating nozzles to completely cover the vehicle.
2. High pressure heavy duty plunger pump supports both sources like sump and Over Tank, water pressure is upto 30 bar.
3. Heavy duty SS Platform.
4. Rust free Aluminium anodizing Construction.
5. FRL unit with auto drain valve.
6. IP 67 Sensors.
7. Multiple Washing options (Bike, Scooter selection, Single wash & Double wash).
8. Separate SS foaming tank operated by air pressure.
9. PLC control with display (Cycle count options).
10. Nozzle driven by pneumatic cylinders.

## ADVANTAGES OF AUTOMATIC WASHING MACHINE

- Cost reduction of 50% for 100 vehicles as manpower reduced from 6 to 3 for a service inflow of 50-100 vehicles.
- Washing time reduction of 60% as compared to manual wash.
- Consistent washing quality and output. (Fatigue affects during manual washing).
- Improves morale and health of operator.
- Reduction in manpower attrition rate.
- Estimated 40% reduction in power consumption.
- Space saving.
- Detailed comparison of vehicle output with 1, 2 and 3 manpower for manual and automatic process is enclosed.

## Vehicle output comparison for 1 and 2 men for manual and semi-automatic



With 2man  
manualvsm/c  
1<sup>st</sup> hour output

With 1man  
manualvsm/c  
1<sup>st</sup> hour output

## Investment required and Payback Period

Considering 1 vehicle

WASHING PROCESS COST				REMARKS	
SL. NO.	FACTOR	MAN	SEMI-AUTOMATIC	MAN	SEMI-AUTOMATIC
1	Cycle Time (min)	25	10	Washing Time=10 min Drying Time=15 min	Washing Time=2 min Drying Time=3 min
2	No. of manpower	6	3	2	6 + 1 = 6 washing boys + 1 Washing supervisor as specified by SQOP. As per man, machine and vehicle chart.
	Labor Cost (in Rs.)	20	10	7	Rs. 20/vehicle
3	Running Cost (in Rs./ 100 vehicle)				Running Time = 7min. Running Time= 2 min.
	a) Electricity (in Rs.)	1.82	1.05	1.05	5 HP 3-phase motor for water pump and 240V, 3.5A AC motor for pneumatics
	b) Water (in Rs.)	5.78	6	6	Water cost at Hosur: Rs.460 per 6000L
	c) Air Cost:	NIL			11LPM 40LPM - 4.239LPM/4239CFM
4	Consummables (in Rs.)				
	a) Soap	1.2	1.2	1.2	2L soap oil per 100 vehicle & 1L costs Rs. 60
	b) Diesel	0.88	0.88	0.88	2L diesel per 100 vehicle & Rs. 44 per L of diesel
	c) Others (sponge & brush)	0.5	0.5	0.5	
	<b>Total</b>	<b>30.18</b>	<b>20</b>	<b>16</b>	
5	Investment (in Rs.)		4,00,000	4,00,000	Cost of washing set-up.
	a) Interest/Annum @10%:	NIL	40,000	40,000	Rate calculated @ 10% p.a.; maintenance cost
	b) Maintenance Cost:				
	c) Depreciation Cost:				

Savings per 1 vehicle	Rs.	11	14
Savings per 100 vehicle	Rs.	1055	1388
Service Inflow per month	Qty	2600	2600
Savings per month	Rs.	27430	36097
<b>PAYBACK PERIOD</b>	<b>Months</b>	<b>16</b>	<b>12</b>

100 vehicles/day x 26 working days

## Savings

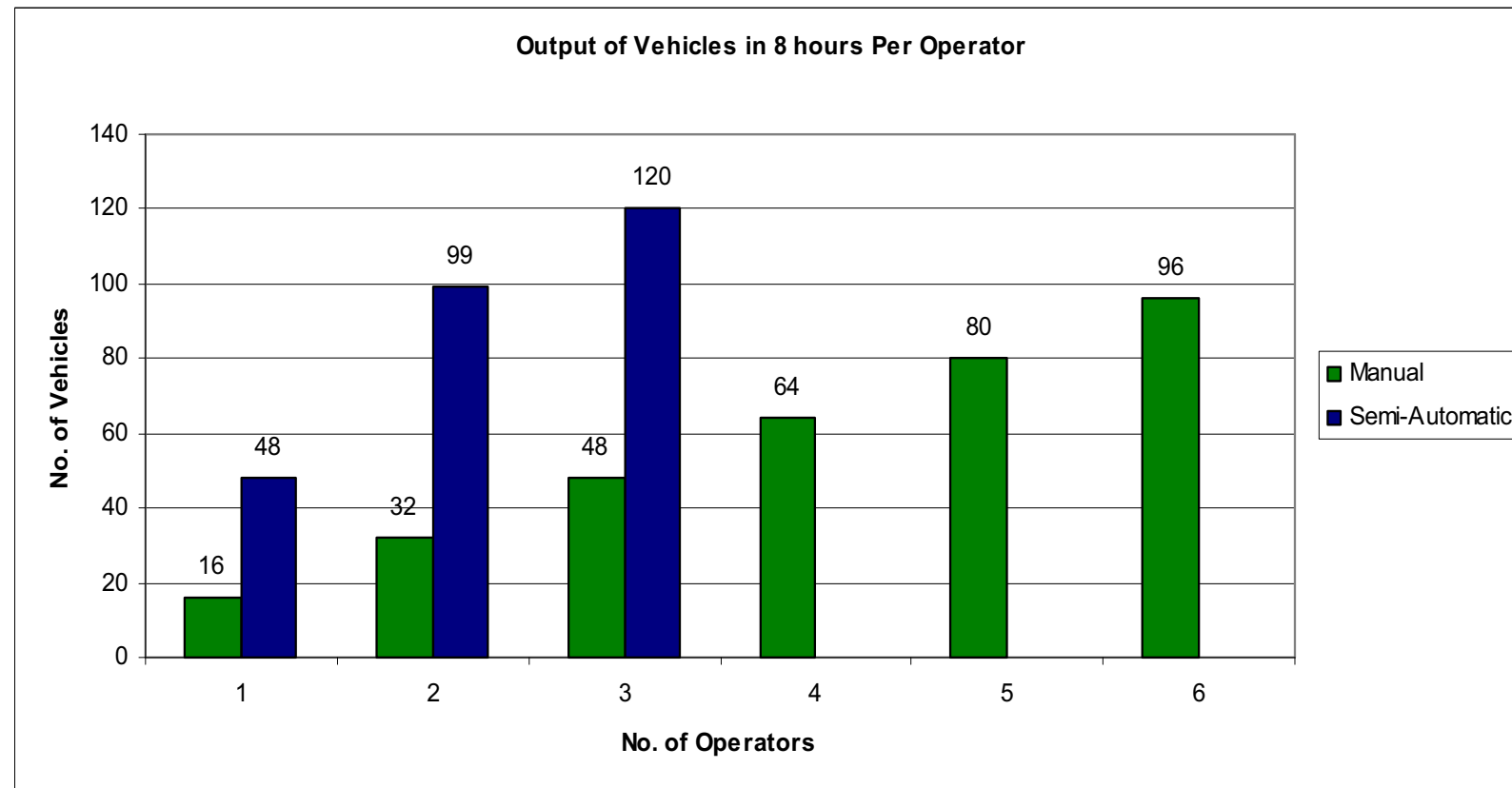
Considering 100 Vehicle as 1 day output

Cost involved	Manual	Semi-Automatic	Savings Cost		Remarks	
			Rs.	%	Manual	Semi-Automatic
Manpower	6	2	4	67	As per SQOP	As per calculation
Manpower Cost (in Rs.)	2000	668	1332	67	Ref. Table 1	
Electricity:						
a) Time of Consumption (in min)	7	2	5	71		
b) Power (in units)	26.11	15.26	10.85	42		
c) Cost (in Rs.)	182.77	106.82	75.95	42		

Table 1

	Cost	Qty.	Unit
Vehicle	1 Vehicle		20 Rs.
	100 Vehicle		2000 Rs.
Manpower	Manual		
	6 men/100 veh		2000 Rs.
	1man/100 veh		333.33 Rs.
	Semi-Automatic		
	2 men/100 veh		666.67 Rs.
	1 man/100 veh		333.33 Rs.

## Semi-Automatic vs Manual Output Per Operator



### ERECTION REQUIREMENTS

Kindly furnish the below requirements to complete the installation of our auto bike wash.

#### 1. Space requirements:

Space measurements are in meters

Length - 3.5 mtrs + vehicle loading area (2 mtrs)

Room inner width - 2 mtrs

Room height - 2 mtrs minimum required.

#### 2. Water resource requirement :

Water storage - minimum capacity of 2000 ltrs tank

Storage can be over tank or sump.

Separate pipe lining from over tank is required in 1.5 inch pvc lining system.

#### 3. Air resource requirements :

Minimum 6 bar pressure air lining which has to be lay up to the machine control panel;

#### 4. Power resource requirement :

For Water pump drive - 3 phase, 5HP, 440V, AC Power with 16 amps Mcb outlet near to pump control panel.

For machine drive - - 1 phase, AC Power with 6 amps Mcb outlet near to machine control panel.



**Remote box**



**Main Control Panels**



**High pressure pump**



**Foam Spray**



