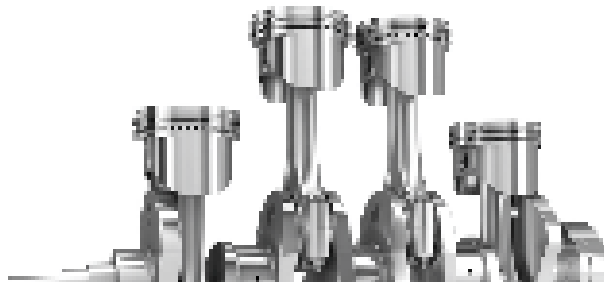


Sector: Automobile Components

## Auto Pistons

### Introduction:

Auto piston is an important component of any Automobile Vehicle. The Piston reciprocates in the engine cylinder to transmit power to the wheels. It is generally made of Aluminium. Pistons are used in Automobile Industries and Vehicle Manufacturers are their main users. The demand of Pistons for Automobiles is expected to continue and grow with the growing trend of demand in the Automobile Sector. The demand is expected to expand at an average growth rate of 15% to 20%. In addition, the replacement market is also very big and growing. Automobile Pistons project, a comparatively bigger project requires investment of more than a crore of rupees. It has long-term market potential as an O.E. supplier and/or in the replacement market. Profitability of the project is very good and technology available indigenously.



### Production Capacity/annum:

**Quantity:** 60,000 Nos.  
**Value:** 240 lac

## Production Process:

Aluminium alloys suitable for gravity die-casting is used for manufacturing of Pistons. Aluminium alloys like Hyper, LM is suitable for casting of piston. These alloys have excellent fluidity, good corrosion resistance and good mechanical properties. The cast component should be free from holes, pinholes, shrinkage, cold shut etc. Ingot should be free from slag or dross. With an average weight of 200 gms, appr. 5000 Pistons can be casted and manufactured per month of different sizes & for different Automobiles. The furnace for Casting of Pistons should be properly insulated to reduce heat & radiation loss. Automatic Pyrometer control should maintain the desired temperature.

## Infrastructure required:

- a) **Land and Building:** 4000 Sq.ft.  
(Area required)
- b) **Plant & Machinery / Equipments:**
  - (i) Crucible Furnace 200 Kg.
  - (ii) Precision Lathe
  - (iii) Drilling Machine
  - (iv) Heat Treatment Furnace.
  - (v) Lathe Machine
  - (vi) Bench Grinder
  - (vii) Generator
  - (viii) Testing Equipment
- c) **Raw Materials & Consumables:**
  - (i) Aluminium Alloy
  - (ii) Packing Material
  - (iii) Chemicals
- d) **Power load:** 15 kw.
- e) **Water** (per shift basis): Normal Tap Water

## Manpower required:

- Supervisor: 1No.
  - Skilled Workers: 6Nos.
  - Other Workers: 6Nos.
- Total Manpower: 13Nos.**

## Investment required:

### a) Fixed Investment:

Land & Building:	Owned or rented.
Plant & Machinery:	Rs. 70.00 lac.
Furniture & Fixtures:	Rs. 03.00 lac.
Other Fixed Assets:	Rs. 07.00 lac.
<b>Capital Investment:</b>	<b>Rs. 80.00 lac.</b>
<b>Working Capital:</b>	<b>Rs. 60.00 lac.</b>
<b>Total Investment:</b>	<b>Rs. 140.00 lac.</b>

**Loan Amount required:** Rs. 105.00 lac.  
(75% of investment)

**Expected Annual Profit:** Rs. 36.00 lac.  
(before tax.)

<b>Estimated Annual Income:</b>	<b>Rs. 240.00 lac.</b>
<b>Estimated Annual Expenditure:</b>	<b>Rs. 204.00 lac.</b>
<b>Net Profit Per Annum (before tax):</b>	<b>Rs. 36.00 lac.</b>