



COMPARISON CHART

(Horizontal & Vertical Roaster)

S.No.	PARTICULAR	HORIZONTAL ROASTER-MIXER	VERTICAL ROASTER-MIXER
1.	ROASTING QUALITY	Moderate to Good quality roasting.	High quality roasting.
2.	ROASTING EFFICIENCY	Comparatively more energy is required per kg of moisture evaporation as compared to Vertical.	Lesser energy consumption.
3.	UNIFORMITY	Reduces when quantity of one of the constituent is very low as compared to others.	Highly uniform even with low relative quantity of the constituents
4.	LAYER FORMATION OF MATERIAL	<p>Powder roasting in a horizontal blender results in layer formation of the powder product on the heating surface as shown below.</p> 	<p>In vertical unit powder movement is owing to gravity and agitation and hence powder does not stick to the heating surface.</p> 
5.	MATERIAL LEFT OVER AT THE BOTTOM AT THE TIME OF DISCHARGE	Very high as compared to Vertical.	Almost entire material empties out.
6.	MIXING EFFICIENCY	Less as compared to Vertical Mixer. Bottom layer in the mixer is not homogenously mixed in the entire material.	Mixing efficiency is very high . 97% mixing completes in first three minutes of operation.
7.	POWER	More power per kg of processed product required.	Lesser power required per kg of product.
8.	SPACE OCCUPATION	Occupies lot of horizontal space.	Occupies very less horizontal space but more of vertical space, hence reduces the floor area required. Gravity flow can also be planned for feeding and discharge.

9.	OPERATION	Batch Process and can be made continuous with multiple feeding points.	Batch or Continuous, both operations can be planned with the unit. Hence single point feeding and discharge for high capacity requirements as well.
10.	HEATING	Material is heated from 3 sides and wide open top portion for steam evacuation.	Material is heated from all side and comparatively narrower top portion is open for steam exhaust.
11.	EXHAUST	Wide open area is there, hence, exhaust planning is quite difficult.	Limited open area and exhaust can be planned easily for the big units as well.
12.	CAPACITY	Medium scale roasting units, with higher size units becoming inefficient.	High capacity roasting units, of upto 4000 lits, possible. Efficiency does not change with size.
13.	MAINTENANCE	More as compared to vertical mixer.	Comparatively much less.