



## WASTE TO FUEL APPLICATIONS

# INCORPORATING BRIQUETTE PROCESSING

### TYPES OF PROCESSES

- Refuse derived fuel (RDF) produced from domestic and business waste sources which includes biodegradable materials as well as plastics.
- Solid recovered fuel (SRF) produced from agriculture, forestry and bulky industrial waste sources including paper and cardboard.

The RDF and SRF briquettes are fed to industrial boilers and furnaces such as cement kilns, power plants and large-scale heat generating systems instead of coal.

As the raw material composition can vary considerably, all plants are designed based on available raw material composition and condition with the configuration and layout being determined by the physical conditions.

### BRIQUETTE PROCESSING

- The non-recyclable waste having a high calorific value is initially shredded and kept within a controlled moisture content range before being supplied to the briquetting machine via feeding conveyors. Briquetting is carried out on either piston type or roller/die type briquetting machines.
- Equipment includes:
  - Pre-shredder to shred waste material to less than 60mm particle size.
  - Magnetic separators for the removal of metallic particle contaminants.
  - Hammer mill to further reduce the waste material particle size to less than 10-15mm.
  - Screen for separating out any oversized material for return to the hammer mill.

- Optional briquette RDF and SRF processing systems.
1. Piston Type Solid Briquetting (suited to producing up to 100mm diameter briquettes)

Typical Equipment:

<b>2-3 T/Hr 50-100mm Solid Briquette Machine</b>	
<b>Technical Parameters</b>	
Including	(2) Screw Conveyor (4) Control Cabinet (5) Cooling Pipe  (2) Main Press Machine (4) Oil Cooling Equipment
Capacity	2000-3000Kg/Hr
Industrial Voltage	380V, 50Hz
Power	110kW
Size of Raw Material	< 20mm
Moisture of Material	< 15%
Size of Final Briquettes	Diameter: 9mm, 15mm, 22mm, 38mm, 50mm, 90mm, 100mm
Density of Briquettes	1-1.4g/cm <sup>3</sup> (according to different raw material)
Moisture of Briquettes	< 10%
Overall Dimension	L3800*W2500*H2300mm per set
Total Weight	14000Kg
Workers Needed	3 Workers
Power Consumption	40kW Hr/Ton





## 2. Roll and Die Briquetting (suited to producing 25-40mm diameter range briquettes)

Typical Equipment:

<b>72-Hole Briquetting Machine</b>		
<b>Parameter Table</b>		
<b>Paramater</b>	<b>Specification</b>	
Drive Type	Gearbox and Motor	
Overall Dimensions	3200*1950*1900mm	
Main Motor Power	90kW	
Main Shaft Speed	82 r/min	
Main Shaft Material	45# Steel Forging	
Production Capacity	Kg/hr ( <i>Note: Specific value missing</i> )	
Product Density	0.8-1.2g/cm <sup>3</sup>	
Die	Die Type	Ring Die
	Die Inner Diameter	980mm
	Number of Holes	72 Holes
	Die Material	40CrMnTi (Coating Treatment)
	Hole Size	30*30mm

Roller (Press Wheel)	Diameter	390mm
	Quantity	2 pcs
	Material	Tool Steel
Main Machine Weight		Approximately 6.3 tons
Oil Pump (Auto)		<i>(Note: Lubricating oil not included)</i>
Heating Rod		2 pcs
Product Spec (Profiled)		30*30mm
Raw Material Moisture		20-35%
Raw Material Fragmentation		< 5cm
Impurity Content		< 8%





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