

## CAR-Series Mechanical Sand Reclamation System

The CAR-Series is Palmer's lowest cost Mechanical Sand Reclamation system. Built around a heavy duty attrition mill, the CAR is designed for simplicity of operation and years of trouble free service.

While inexpensive, the CAR still delivers performance. This unit is ideal for small or infrequent reclaimed sand users. **Capacities from 1 to 5 tons per hour.**

### Features

- Designed for Maximum Cost Efficiency
- Rugged, Ultra-Simple Design
- Minimal Space Required
- Low Maintenance
- Easy Cleaning
- No Pit or Foundation Required

### CAR-Series Systems Include:

- Dual Screen Attrition Mill including vibration dampening springs and stand
- Direct Fed, Low Level Fluid Bed Classifier
- System Motor Starter Controls (Non-Sensored)  
- IEC Based Controls

### Models

- CAR-1 Featuring 1 TPH Attrition Mill
- CAR-3 Featuring 3 TPH Attrition Mill
- CAR-5 Featuring 5 TPH Attrition Mill

Note: All nominal attrition mill output tonnages are based on furan bonded sands. For alternate resin materials, outputs are de-rated.

### General

The CAR-Series Mechanical Sand Reclamation System is designed as a complete no-bake sand reclamation system for the cost conscious or low sand volume user. The CAR features the same heavy-duty construction featured on all Palmer equipment at a fraction of the price.

The CAR provides users with an inexpensive means of breaking down no-bake lumps to usable grain sized sand in an easy-to-use package.

The CAR-Series System includes as standard the attrition mill, classifier, and system controls.

### Attrition Mill

The CAR-Series Attrition Mill is a rugged, heavy-duty unit that is designed to provide constant, reliable reclamation, year after year. It is a top loading mill that contains no cross bars or grates that interfere with inspection of the primary screen or removal of tramp metal, gagers, etc.



The attrition mill utilizes a dual screen agglomeration reduction system that is comprised of two perforated steel plates. The first is located in the top chamber of the mill and permits only loose sand and small lumps to feed into the bottom chamber. The second screen is located at the discharge flange of the bottom chamber. It allows only grain size sand and some compound grains to exit the mill. Both screens are replaceable.

The CAR attrition mill utilizes a 3 phase vibrator motor which is bottom mounted to provide maximum agitation of the sand mass.

### Classifier

The CAR-Series fluidized bed classifier is fabricated from 1/4" steel and utilizes a regenerative type blower for fluidization pressure. The blower eliminates fluidized bed membrane saturation problems associated with the use of compressed air.

A 4" diameter exhaust is provided for connection to an existing dust collection system.

Sand that is discharged from the classifier is ready for use.

The discharge of the classifier can be configured for use with a bucket elevator or vibratory transfer conveyor.

The classifier is constructed from three major components:

- A plenum chamber into which fluidizing air is blown by a blower
- A fluidizing screen made from 400 Mesh Stainless Steel screen material
- An upper chamber which serves as a cover and pressure chamber

The plenum chamber serves not only as a base, but also as a means of distributing the incoming air to the underside of the fluidizing screen.

The fluidizing screen is placed directly on top of the plenum chamber flange and is held in place with the upper chamber.

The upper chamber is mounted on top of the base. It serves not only as a cover, but also as a dust collection chamber.

The fluidizing action of the sand assists in polishing each grain, removing the fines produced by the casting process and transport of the sand. A negative pressure maintained over the bed by a dust collector (supplied by the customer) and controlled by a gate located between the collector and the classifier ensures that the fines are removed from the chamber.

Fluidizing air is provided by a regenerative blower that includes an inlet air flow control.

Flanged discharge and 4" dust collection take-off are included on the classifier body.

### Controls

All electrical controls are housed in a dust tight electrical enclosure. Electrical control components are based on the IEC standard of controls. Each component is simply turned on or off as no automatic interconnections are required due to system simplicity.



### System Operating Requirements

- 240/480-V, 3-Phase
- Dust Collection Required for Classifier - 400 CFM

### Options

- Dust Collector
- Load Chute