



Abrasive Mineral Solutions

Rail Unloading via Belt & DPG – Packaged Solution 2

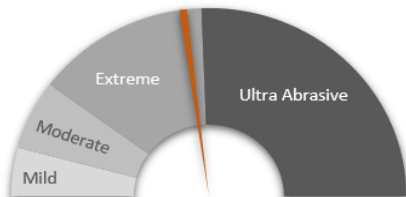
Tackles unloading railcars of extremely abrasive granular materials without a deep pit.

This solution focuses unloading hopper bottom cars of materials that are **extremely abrasive**, dense, granular and do not easily aerate. Ideally suited destination silos are not close enough for a single bucket to be used.

A *shallow* pit below the rail car will be required, but just enough to fit a cleated belt conveyor. Compared to conventional methods of large pits below. The mechanical conveyor serves to bridge the gap between railcar and the dense phase conveyor positioned next to the tracks. This is used only if vacuum transfer from railcar is not feasible. From the dense phase DPG conveyor, product is pressure-conveyed to the destination silo.

Examples include **Frac Sand, Granular Magnesium Oxide, Potash, Granular Perlite Ore**

Abrasivity Scale



Particle Size	-	▢	▢	▢	▢	+
Bulk Density	-	▢	▢	▢	▢	+
Fluidizability	-	▢	▢	▢	▢	+

Standard

Rubber-lined rail pan inserts, cleated belt, surge bin, dust collection, access platform, dense phase conveyor, air receiver, dome valve inlet, sliding disc vent with removable orifice, wear-resistant vent lines, ceramic-embedded hose, vibration flow aides, dead head target boxes, cavity backed elbows, NEMA 4 enclosures.

Standard Options

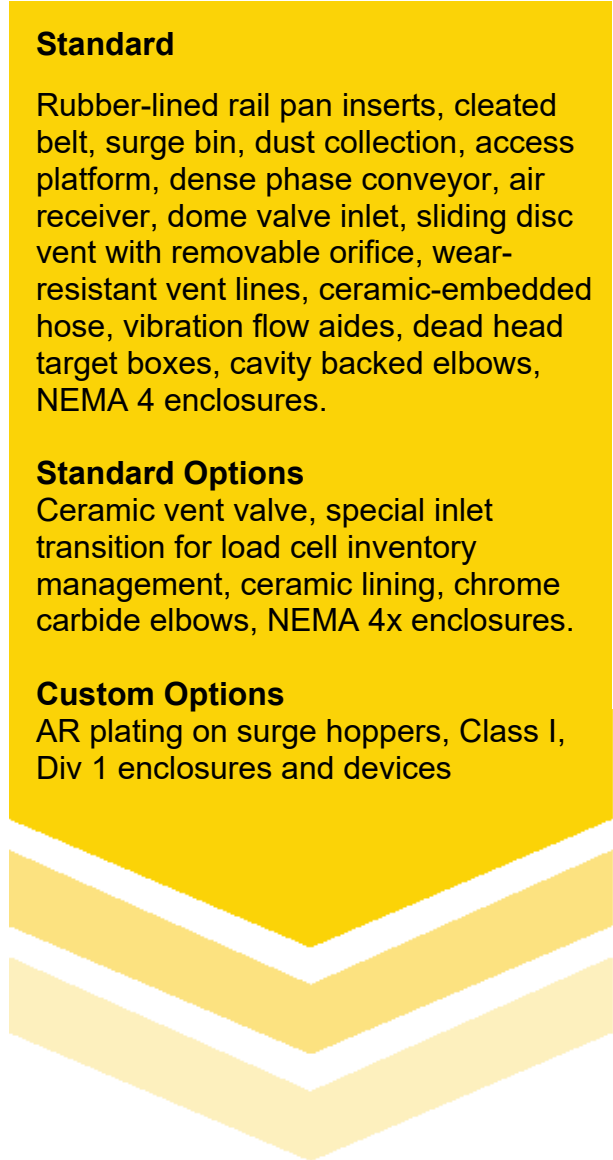
Ceramic vent valve, special inlet transition for load cell inventory management, ceramic lining, chrome carbide elbows, NEMA 4x enclosures.

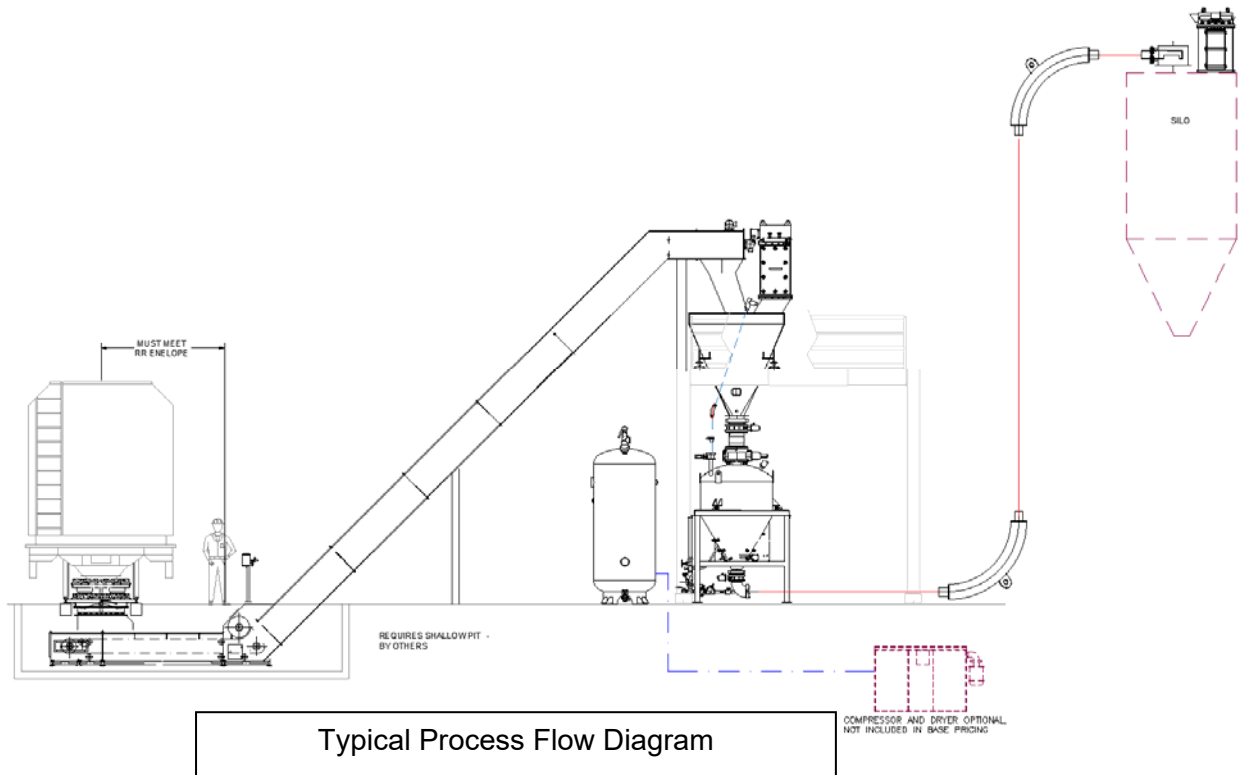
Custom Options

AR plating on surge hoppers, Class I, Div 1 enclosures and devices

Requirements

- 80-100 psig clean, dry compressed air
- 480 /3/60 Power supply for two motors
- Shallow pit required (by others)





Maximum rate Options

For clients requiring very high rates without re-spotting the cars, multiple boot lifts can be used to connect in parallel and multiple conveyer lines. Pair this approach with dual conveyors, parallel lines for maximum rate or simply converge on a single surge bin with moderate rates, but where minimum railcar handling is required. See example on right.

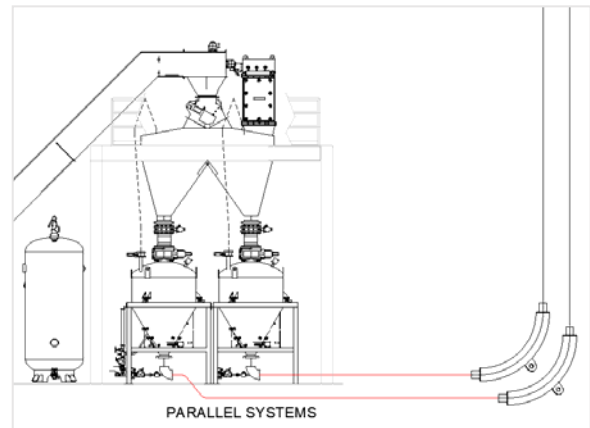


Figure 1 Fracking Sand



Figure 2 Granular Perlite Ore