

Pumping Fuel Oil in Asphalt Burners

One particularly demanding application where Cat Pumps triplex positive displacement (PD) pumps have proved themselves superior to other pumps is in the production of asphalt road surfacing material. The process requires crushed stone to be heated prior to mixing with fine filler materials and then coated with hot bitumen. The role of the asphalt burner pump is to provide a constant supply of fuel into the burner injection system. Oil is pumped under pressure through a jet and ignited inside the rotating drum to heat and dry the graded stone.

Operating conditions are harsh with the pumps often expected to run continuously for up to 10 hours.

Cat Pumps models most commonly used for asphalt burners are the 1530, 2530 and 3535 plunger pumps. The essential reason why they are perfectly suited to this arduous duty is that, unlike most rotary PD pumps, they have no relative movement between metal parts within the pumping chamber. Components such as worm gears, vanes or screws in other pumps quickly become abraded by suspended solids, or suffer rapid wear when pumping low lubricity, low viscosity fuels. This can form increased internal clearances between components, allowing excessive internal slippage which can lead to loss of efficiency and output.

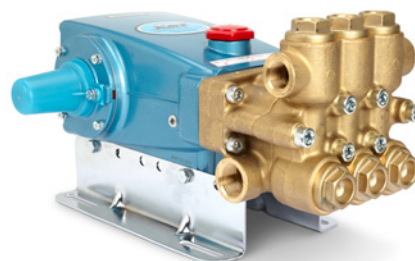
The only relative-moving parts in the fluid head of Cat Pumps triplex plunger pumps are the hard ceramic plungers, which run in specifically designed seals that can tolerate both low lubricity fluids and the suspended abrasives found in fuel oil. When these eventually become worn they can be readily and inexpensively replaced, restoring the pump to full efficiency. Furthermore, the performance of a triplex pump is unaffected by the specific gravity or viscosity of the pumped fluid. With the increase in use of kerosene and similar lighter fuels with poor lubricating properties, coupled with demands to reduce energy and production costs, more asphalt plant operators are returning to reciprocating triplex pumps, and specifically Cat Pumps.



Application Specifications

Fuel Oil Pumping

Cat Pumps Model	1530
Pressure	25 bar
Flow	27 l/min
Fluid	Kerosene/ Waste Oil
Duty Cycle	Continuous
Drive	3 kW, 6 pole, Electric Motor



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