

CPS Series

Clay Polishing System

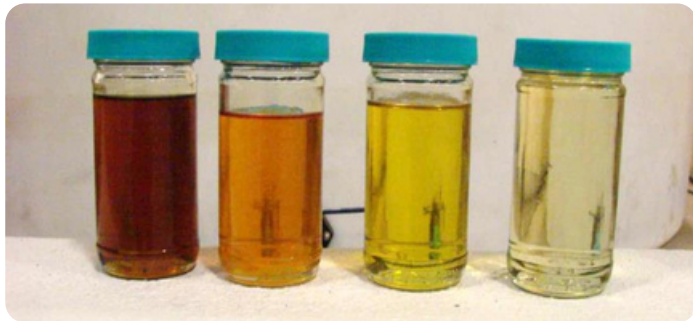
The CPS Series Clay Polishing Systems from Redragon offer a cost-effective alternative to hydrogen-treatment plants for enhancing the value of re-refined lube oil. Designed as an add-on or retrofit to wipe-film evaporators, they serve as an efficient final polishing stage in various oil refining operations.



The CPS uses adsorptive clay columns that can be reactivated after saturation, allowing several hundred cycles before replacement. Under continuous operation, the clay typically lasts 6–12 months and can be disposed of as a dry, non-hazardous landfill waste. At 2017 prices, clay costs approximately US\$0.02 per gallon of oil processed. Oil processed through the CPS exhibits excellent long-term oxidation stability.



In addition to extending oil shelf life, the CPS preserves the Viscosity Index (VI) while reducing sulphur levels from 2000 ppm to below 300 ppm in a single pass, enabling Group II oil quality at the outlet. Its flexible design allows virtual multi-pass processing by switching flow from parallel to series operation.



mode operation via the custom SCADA supplied with every system. Additionally, Redragon has developed its unique ProcRun mode of operation which provides a seamless switching between four banks of columns, bringing the freshly reactivated bank in as the last in a continuously moving series operation, automatically dropping out the oldest bank for reactivation.

This allows the plant owner to easily switch between different processing modes for each oil stream reclaimed through the front-end system. Integration with existing front-end systems and/or tank farms is easily achieved with the Redragon CPS.



Project #:	Base Stock		
Client ID #:	300N		
Matrix:	Liquid		
		BEFORE	AFTER
Parameter	Method	Results	
Ash	ASTM D482	<0.01%	<0.01%
Flash Point	ASTM 1010	>93°C	>200°F
Specific Gravity	ASTM D1298	0.8571	0.8581
Sulfur, Wt%	ASTM D2622	0.2029%	0.036%
Viscosity cSt@40°C	ASTM D445	32.67	33.1
Viscosity cSt@100°C	ASTM D445	5.68	5.74
Viscosity Index	ASTM D2270	113	114
Carbon Conradson Residue	ASTM 189	<0.5%	<0.1%
Clay-Gel, Vol%	ASTM D2007		
Saturates		97.6%	99.2%
Polar Compounds		2.4%	0.8%
Aromatics		<1.0%	<0.2%
Pour Point, °F	ASTM D97	-23°C	-6°F

FEATURES

- Flow rates from 30 USGPH to 7,200 USGPH Single-bank, dual bank, triple banks and quad-bank versions
- Parallel mode operation is single-pass, least contact time, fastest processing
- Series mode operation simulates triple-pass, most contact time, better quality oil
- Modular system ensures no skid is larger than that which can be shipped inside a 40-foot high cube container for reduced shipping and handling costs

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- All global voltages and frequencies available
- Onsite training, commissioning, start-up and custom process optimisation is included with each CPS
- Full client involvement during the manufacture, from engineering approval through to start-up
- Flexible footprint allows placement in unusual shape locations
- Dual gas scrubber allows for integration of exhaust into front-end refinery to minimise points of emission for environmental permit
- Low oil losses as proportion of waste created becomes feedstock for front-end refinery



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