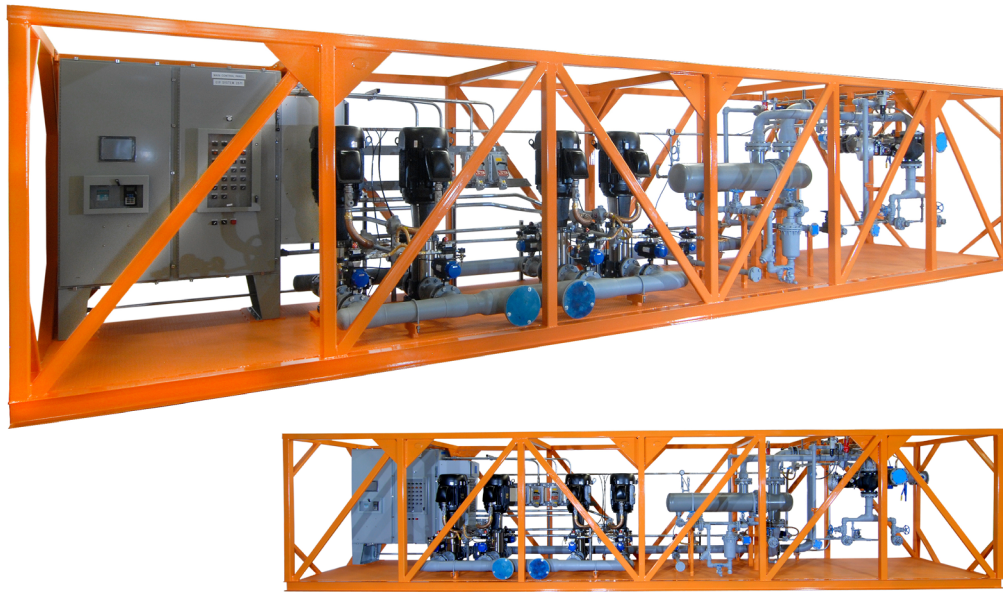


CIP(Clean In Place) System COW System

Portable & Fixed Crude Oil Washing System



CIP2571 is a Crude Oil Washing system that is designed to clean large hydrocarbon storage tanks with solvents, water, and chemistry solutions such as our proprietary microemulsion chemistries. **CIP2571** has the capability to create a recirculation loop within the tank to be cleaned via the selected tank cleaning machines thus dislodging and mixing the tank bottoms to be carried away via the return pump system to our proprietary solids separation system where the fluid stream is reduced of solids to less than 300 micron. The solids fraction is discharged to holding bins for further treatment or disposal and the aqueous phase is returned to the tank skids for continued recirculation in the tanks to be cleaned until all solids are removed from the tank. Our oil/water separation skid can be engaged for side stream polishing of the aqueous stream thus reducing the oil in water fraction for remediation of the fluid streams and recovery of the oil or microemulsion chemistries can be used for a more complete recovery of the oil and remediation of the solids. The required heat source is supplied via our boiler skid and power is supplied via our power generation skid. Tanks are inerted with our Nitrogen Gas skid. Each skid frame is uniquely designed for on land and offshore use. The majority of the system is PLC controlled from the primary pump skid and connection to other skids are via an RJ45 data highway. Modules that are included with this system are...

Skid Modules		
Modules	Dimensions (feet/meters)	Function
Pump Skid	40x6x7 12.19x1.8x2.13	Primary pump and master control skid.
Tank Skid 1		Primary tank skid; surge and chemistries
Tank Skid 2		Secondary tank skid; surge and storage
Solids Separation		Solids separation of cleaning fluid streams
Oil/Water Separator		Oil/water separations skid
Inert Gas Skid		To provide nitrogen to tanks being cleaned
Power Skid		Diesel powered generator.
Boiler Skid		Diesel powered boiler skid.

We reserve the right to changes without prior notice.

Type: CIP2571

Features

- Explosion Proof
- Master Control Skid
- PLC Controlled
- Solids Separation
- Oil/Water Separator
- Inert Gas Skid
- Power Generation Skid
- Boiler Skid
- Hydraulic Return Pumps
- Stackable
- 2 Tank Skids
 - 13,000 Gal. Capacity
- Tank Cleaning Machines
 - Conventional
 - Programmable

Industries

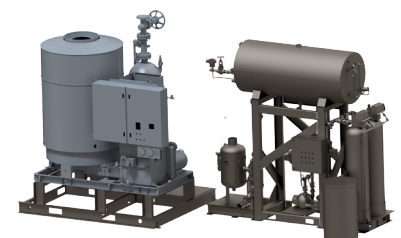
- Oil Refineries
- Contractors
- Oil Storage Facilities
- Tank Farms
- FPSO



Tank Skid 8,000 Gallons



Tank Skid 5,000 Gallons



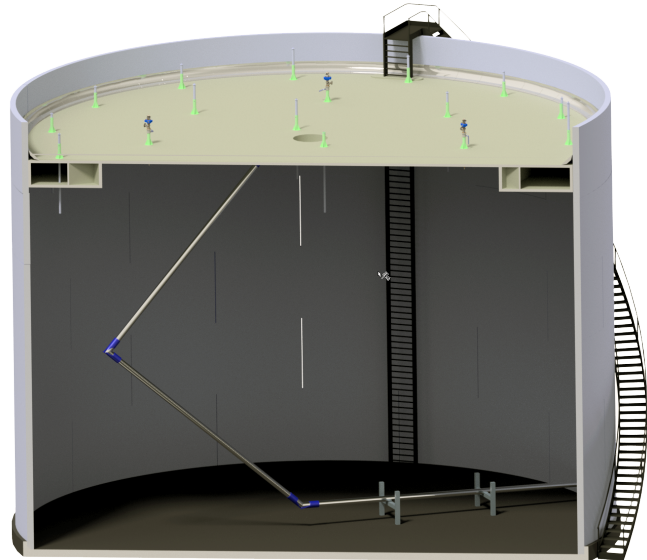
Boiler Skid



SC 45TW Portable Tank Cleaning Machine



SC 60A Programmable Tank Cleaning Machine



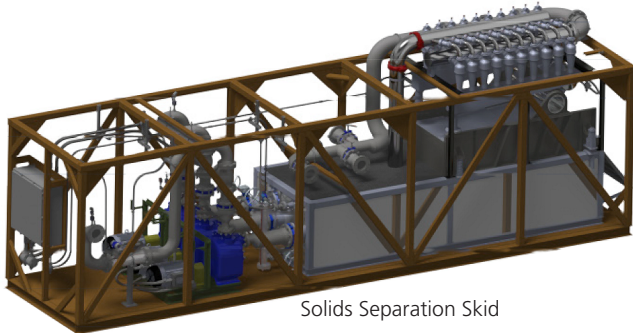
Typical Floating Roof Crude Oil Storage Tank



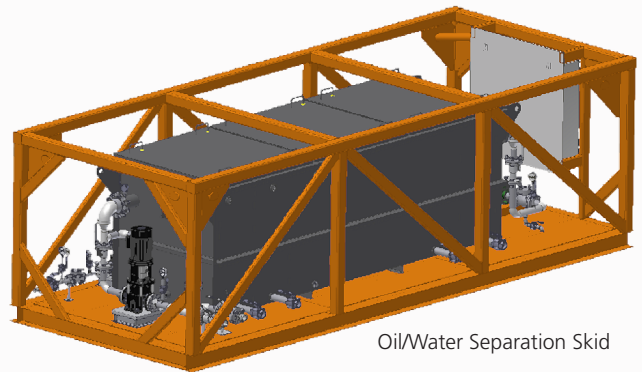
MicroEmulsion Oil/Water/Solids Split

Summary Performance Characteristics of Products in this Full Package		
Module	Summary	Power Requirements
Pump Skid	Pumping capacity of 1600 USGPM (364 m3/hr) @175 PSIG (12.06 BAR) @140°F (60°C); VFD	230/460 V 60 Hz
Tank Skid 1	5000 gallon tank; 3000 gallon chemical tank; automated valves where prudent	230/460 V 60 Hz
Tank Skid 2	5000 gallon tank; automated valves where prudent	230/460 V 60 Hz
Separations Skid	Combination hydrocyclone/shaker with capacity of 1600 USGPM (364 m3/hr) with tank	230/460 V 60 Hz
Oil/water Separator	Oil/water separator for side stream polishing of surge tanks	230/460 V 60 Hz
Inert Gas Skid	Nitrogen inert gas skid to control LEL levels in tank to be cleaned	230/460 V 60 Hz
Power Skid	Generator skid to provide power to all modules; diesel powered	Diesel
Boiler Skid	Boiler skid to provide steam to the pump skid heat exchanger; diesel powered	Diesel/230/460 V 60 Hz
Programmable TCM	4 each Single nozzle programmable Crude Oil Washing Machines	Pneumatic & Media
Conventional TCM	4 each Portable tank cleaning machines with capacity of 104 USGPM(23.5 m3/hr)	Cleaning Fluid
Return Pumps	4 each hydraulically driven submersible pumps; 400 USGPM(91 m3/hr) each	Hydraulic Power Pack
Hydraulic Power Pack	Diesel powered hydraulic power pack with the capacity to drive 4 each of the return pumps	Diesel
Drawing Number	2571-09-PID	---

The above characteristics are summary in nature.



Solids Separation Skid



Oil/Water Separation Skid