



Oilfield Products and Services

Composite Catalog

Catalogue Contents

Solids Control and Waste Management Equipments

Rental Fleet

- Decanting Centrifuges**
- Shale Shakers**
- Dewatering Units**
- Drilling Fluids Pumping Systems**

Sales

- Decanting Centrifuges**
- Shale Shakers**
- Dewatering Units**
- Customized Drilling Waste Management Systems**
- Drilling Fluids Pumping Systems**
- Spares and Consumables for Solids Control Equipments**

Technical Consultancy for Drilling Fluids

Engineering Services

Equipment Repairs, Refurbishments and Renewals

Solids Control and Waste Management Equipments
Drilling Fluids Systems

Oilfield Equipment

Spare Parts for Mud Pumps
Manifolds, Plug Valves, Chokes, Fittings
Lubricants and Greases
Speciality Oil Filtration and Cleaning Units

FEATURES

The 518 Full Hydraulic Centrifuge is a high speed, high volume decanting centrifuge with a 14" diameter and 57.5" long (353 mm x 1,460 mm) stainless steel bowl and conveyor assembly.

The Electrical Drive (45 kW), rated for operation in explosive atmospheres, powers a main Hydraulic Pump rated at 90 lpm and a back-drive Hydraulic Pump rated at 57 lpm.

The decanting centrifuge consists of a contour bowl assembly with hardfacing protection in the feed zone, tungsten carbide discharge ports and hardfaced conveyor flights. A two step planetary 3.5 kNm gearbox with a 60:1 ratio drives the centrifuge. Additional overload protection is provided with a resettable mechanical clutch and safety shutdown device.

BENEFITS

Effectively removes the finest silts and returns valuable fluids for reuse.

Reduces makeup fluids, dilution, cleanup and disposal costs.

Ideal for any solids-control application; especially valuable in environmentally sensitive areas.

Rugged construction and corrosion-resistant materials provide long service life and low maintenance costs in the toughest oilfield environments.

Works efficiently with other M-I SWACO equipment to maximize solids control.

Centrifugal Decanters: Mi-SWACO 518 FHY Centrifuge

TECHNICAL DATA

Overall Dimensions:

Length x Width x Height x Weight:
120" x 82,67" x 70,86" x 7480 lbs.
3048mm x 2100mm x 1800 mm x 3400 kg.

Bowl Assembly:

Length:	57.48"	1460mm
Diameter:	14"	356mm
Speed:	variable 800 to 3300 RPM	

Electrical Data:

Main drive: 45 kW, 380/440V, 50/60 Hz, 1500 rpm Continuous Duty 3-ph ATEX Electric Motor, Explosion Proof.

Supplied With:

Progressive Cavity Feed Pump, Skid and Container.

Electrical and Fluid Processing Accessories.



FEATURES

Linear motion for fast conveyance and heavy loading plus balanced elliptical motion for maximum retention time and drier cuttings.

Dual-motion control box allows changes in shaker motion at the flip of a switch - without stopping the shaker.

Balanced basket functions flawlessly in either linear or balanced elliptical mode with dry, light loads or heavy loads.

Reinforced X-frame basket extends screen life by ensuring uniform fluid distribution across the screen; reduces bed fatigue and the risk of premature failure.

Accommodates pre-tensioned screens for fast screen changes and overall ease of use.

BENEFITS

Largest net usable screen area (20 ft²) among shakers of similar footprint.

Unique screen locking mechanism - wedge firmly in place; remove with a mallet.

Ultra-tight seal between screen and screen bed eliminates solids buildup and costly bypass of solids.

Rugged construction and corrosion-resistant materials provide long service life and low maintenance costs in the toughest oilfield environments.

Works efficiently with other M-I SWACO equipment to maximize solids control.

Shale Shakers: Mi-SWACO Mongoose PT

TECHNICAL DATA

Overall Dimensions:

Length x Width x Height x Weight:

116" x 63" x 47" x 3450 lbs.

2941mm x 1600mm x 1194 mm x 1565 kg.

Screen Deck and Assembly:

Weir Height: 29" 737mm

Screen Area: 20ft² 1,86 m²

Deck angle: adjustable: -3° ÷ +3°

Electrical Data:

Linear Motors: 2 HP, 380/440V, 50/60 Hz, 1500 rpm Continuous Duty 3-ph EX II 2G EExde IIB T4 Electric Motor.

Elliptical Motor: 0.6 HP, 380/440V, 50/60 Hz, 1500 rpm Continuous Duty 3-ph EX II 2G EExde IIB T4 Electric Motor.

Supplied With:

Lifting Points Certification.

ATEX rated Electrical Start-Stop Panel.



FEATURES

Closed Loop Systems employ a suite of solids control equipments designed to minimize drilling fluid dilution and provide economical and efficient handling of drilling wastes.

A typical closed-loop system includes a series of linear motion shakers, mud cleaners and decanting centrifuges, followed by a de-watering or flocculation unit.

The flocculation unit, once programmed and adjusted, permits automatic addition of polymers, coagulants and other chemicals to the drilling fluid, enhancing settling and decanter efficiency.

The flocculation unit has become a major factor towards "closing the loop" in a dry location concept.

BENEFITS

Computer controlled mixing-unit for preparation of flocculant suspension.

Includes mixing and dosing unit, mix tank with agitator, transfer pump, control valves, agitated storage and transfer tank.

All tanks are equipped with sensors for measuring tank volumes.

Insulated tanks, heated unit, prepared for winter and harsh environment operations.

Automated screw dosing system, eliminating need for operator interference.

DEWATERING UNIT: MD3000FU

TECHNICAL DATA

Overall Dimensions:

Length x Width x Height x Weight:
118" x 95,6" x 102,35" x 6250 lbs.
3000mm x 2430mm x 2600mm x 3000 kg

Specifications:

Flow rate: 3000L/hr
Voltage: 400V/50Hz
Power Consumption: 6,5kW
Noise Level: <70dB
Min. water pressure: 2 bar
Max. water pressure: 10 bar

Manufacturing Data:

Material of vessels and piping: SS316L

Supplied With:

Lifting Points Certification.



FEATURES

Centrifugal Pumps are the most common and well-established pumps on the market. They come in many different models and can transfer fluids with high efficiency over a wide range of flows and pressures.

Strong cast casing provides efficiency and resistance in operation with highly abrasive and corrosive fluids. The concentric design minimizes turbulence and abrasive wear.

DL Centrifugal Pumps systems have a high degree of interchangeability of parts between the different pump constructions and manufacturers, and even between different pump families.

DL Centrifugal Pumps are 100% interchangeable with MISSION Centrifugal Pumps.

BENEFITS

Mechanical Seal or Stuffed Packing Options Available.

Delivered with ATEX rated Electric Motor and ATEX rated motor-pump coupling.

Ranges from 1,5"x1"x7 $\frac{1}{2}$ " up to 8"x6"x14" sizes, with electrical motors from 2kW up to 100kW.

Can be delivered with ATEX rated Local Control Panel, on client request, for ease of operation and installation.

Continuous technical support, stocked spare parts and consumables, available 24/7

CENTRIFUGAL PUMPS: DL118, DL175 and DL250 Series

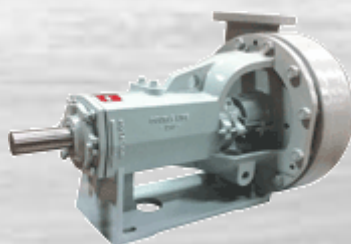
TECHNICAL DATA

Typical Applications:

Drilling Industry:	Weighted Drilling Fluids Unweighted Drilling Fluids Brines, Slurries, etc. Mud Plant Mixers
Other Industries:	Food & Beverage Processing Lime Slurries Wastewater Treatment

Typical Dimension and Features:

1"x 1 $\frac{1}{2}$ "x 9":	max. head 350ft max. flow 130 GPM
5"x 4"x 14":	max. head 300ft max. flow 1000 GPM
6"x 5"x 14":	max. head 220ft max. flow 1800 GPM
8"x 6"x 14":	max. head 220ft max. flow 2800 GPM



FEATURES

The W3D-350-6 VFD is a high speed, high volume fully electrical decanting centrifuge with a 14" diameter and 57.5" long (353 mm x 1,460 mm) stainless steel bowl and conveyor assembly.

Two Electrical Motors, rated for operation in explosive atmospheres, directly power the bowl and the scroll assembly through a planetary gearbox.

All abrasion subjected areas are coated and spray welded with tungsten carbide. Discharge Area Bushings are also built from tungsten carbide and are easily replaceable.

BENEFITS

Field-proven design is improved with state of the art technology to increase equipment performance.

The fully electrical design simplifies operation and decreases maintenance duration and costs.

Highly customizable auxiliaries and unit configuration. The rotating assembly can be effectively built as requested.

Centrifugal Decanters: W3D-350-6 VFD Centrifuge

TECHNICAL DATA

Overall Dimensions:

Length x Width x Height x Weight:
120" x 82,67" x 70,86" x 7480 lbs.
3048mm x 2100mm x 1800 mm x 3400 kg.

Bowl Assembly:

Length:	57.48"	1460mm
Diameter:	14"	356mm
Speed:	variable 800 to 3300 RPM	

Electrical Data:

Supplied with Siemens PLC and Inverter for operation of Main and Back Drive.

Supplied With:

Progressive Cavity Feed Pump, Skid and Container.
Electrical and Fluid Processing Accessories.



FEATURES

Next Generation Linear motion for fast conveyance and heavy loading, powered by Martin Engineering Screen Vibrators. All motors are warranted for three years from date of shipment.

Each motor produces 7,700 lbs. force to attain up to 8.0G's on the shaker panel basket.

Adjustable While Drilling / AWDIII hydraulic operated jack enables deck adjustment quickly to raise or lower the basket from -1° to $+6^{\circ}$. This allows proper conveyance of solids without interrupting drilling operation.

Accommodates pre-tensioned screens for fast screen changes and overall ease of use.

BENEFITS

Increased capacity, longer screen life and optimal solids removal are the end result of next generation shakers.

All high wear area of the basket are manufactured from 316 Stainless Steel.

Can be supplied with vibrating basket suitable for pre-tensioned screens or with vibrating basket suitable for hook-strip type screens.

Variable G-Force is available to suit contractor's needs.

Shale Shakers: AWDIII Linear Motion Shale Shaker

TECHNICAL DATA

Overall Dimensions:

Length x Width x Height x Weight:
118" x 68" x 58" x 3600 lbs.
2941mm x 1725mm x 1473 mm x 1565 kg.

Screen Deck and Assembly:

Weir Height: $26\frac{1}{2}"$ 673mm
Deck angle: adjustable: -1° ÷ $+6^{\circ}$

Electrical Data:

Linear Motors: 2,5 HP, 380/440V, 50/60 Hz,
1500 rpm Continuous Duty 3-ph EX II 2G EExde IIB
T4 Electric Motor.

Supplied With:

Lifting Points Certification.
ATEX rated Electrical Start-Stop Panel.



FEATURES

Closed Loop Systems employ a suite of solids control equipments designed to minimize drilling fluid dilution and provide economical and efficient handling of drilling wastes.

A typical closed-loop system includes a series of linear motion shakers, mud cleaners and decanting centrifuges, followed by a de-watering or flocculation unit.

The flocculation unit, once programmed and adjusted, permits automatic addition of polymers, coagulants and other chemicals to the drilling fluid, enhancing settling and decanter efficiency.

The flocculation unit has become a major factor towards "closing the loop" in a dry location concept.

BENEFITS

Computer controlled mixing-unit for preparation of flocculant suspension.

Includes mixing and dosing unit, mix tank with agitator, transfer pump, control valves, agitated storage and transfer tank.

All tanks are equipped with sensors for measuring tank volumes.

Insulated tanks, heated unit, prepared for winter and harsh environment operations.

Automated screw dosing system, eliminating need for operator interference.

Flocculation Units: MD3000 FU

TECHNICAL DATA

Overall Dimensions:

Length x Width x Height x Weight:
118" x 95,6" x 102,35" x 6250 lbs.
3000mm x 2430mm x 2600mm x 3000 kg

Specifications:

Flow rate: 3000L/hr
Voltage: 400V/50Hz
Power Consumption: 6,5kW
Noise Level: <70dB
Min. water pressure: 2 bar
Max. water pressure: 10 bar

Manufacturing Data:

Material of vessels and piping: SS316L

Supplied With:

Lifting Points Certification.



FEATURES

Based on field and industry requirements, ARMOS developed and designed a unit that would fulfill the contractor's need for mobility, versatility and efficiency.

The three-stage processing unit was built with knowledge and expertise gathered from hundreds of Drilling Waste Management and Sludge Processing projects throughout the world.

The Sludge Processing Unit delivers fine screening, chemically enhanced decanting and filtration technologies to provide the best results.

All the equipments installed and built into the unit are selected and customized to allow ease in operation, minimized maintenance and low down-time rates.

BENEFITS

Fine Screening capability up to API 270 (51 micron cut point), achieved by a field proven and highly efficient Oilfield Mongoose Dual Motion Shale Shaker.

Dedicated Chemicals and Additives Preparation unit, with a capacity of 2000liters.

High Speed - High Volume 518FE Decanting Centrifuge, with rotational speed and differential speed adjustments.

Dual Pod Filtration Unit, capable of providing series or parallel operation, at high flow rates.

ARMOS Compact Mobile Sludge Processing Unit

TECHNICAL DATA

Typical Applications:

Drilling Industry:	Sludge Processing
	Drilling Fluid Processing
	Brines, Slurries, etc.
	Mud Pit Processing
Other Industries:	Lime Slurries
	Wastewater Treatment

Typical Dimensions:

Including Semi-Trailer

Length	13,800 mm (545")
Height	4,000mm max. (160")
Width	2,500 mm max.(100")
Weight	15,000 kg max. (empty)



OPERATIONAL DESCRIPTION

The Sludge Processing Unit is a three stage processing system that provides the following capabilities:

Stage 1: Sludge Collecting and Screening

The sludge is collected and transferred to the Shale Shaker through a 3" Pneumatic Membrane Pump powered by an independent electrical screw compressor. Sludge is processed through the four shakers screens at a maximum force of 6 G's.

The transfer capabilities of the Pneumatic Membrane Pump achieve more than 40 m³/ hour, at a discharge pressure of 3,5 bar, and 70 m³/hour at a discharge pressure of 1,5 bar.

The processing capabilities of the Shale Shaker, considering a 9,4 ppg heavy fluid, screened at 170 API (92 microns), exceed 60 m³/ hour.

The screened fluid, clean of large solids, is collected into a 8 m³ tank installed under the shaker.

Stage 2: Chemically Enhanced Decanting

After screening, the fluid is transferred via a MonoPump into Polymer Mixing Unit. The additives help in flocculating the colloidal particles suspended into the sludge. Increasing the actual size of the particle helps in higher processing rates and lower cut points achieved by the Decanting Centrifuge.

The Polymer Mixing unit can provide 2000l/ hour of Polymer Solution, sufficient to process 40-60 m³/ hr of fluid.

The Decanting Centrifuge has a variable frequency drive capable of adjusting the rotating assembly speed, thus optimizing solids removal and fluid cleanliness. Capable of processing 55 m³/hour of 9.0ppg fluid, with a cut point of 8microns, the Decanting Centrifuge is the primary fine solids removal equipment included into the Sludge Processing Unit.

Stage 3: Filtration for Polishing Fluids

The fluid discarded by the Decanting Centrifuge is collected into a 7,5 m³ tank installed below. Samples for analysis of the quality of the fluid can be taken during operation. If the fluid is deemed suitable for filtration, an electrical centrifugal pump is used to transfer the fluid from under the shaker to a Dual Pod Filtration Unit.

Several chemicals can be added into the Tank, to adjust the PH range.

The Unit can be filled with Filters capable of screening suspended particles down to 2 microns. The resulted fluid is usually transparent and compliant for safe disposal in most areas.

The processing rate of the Filtration Unit exceeds 150m³/ hr, more than enough for usage even as a standalone unit.

Accessories

The unit is completely independent and self-sustainable, generating power through its included 100 kVA Diesel Generator and also providing 2500 lpm of compressed air through an electrical compressor.

Tools, accessories, hoses, spare parts and components are stored on the unit, making maintenance and operations suitable in remote areas.

Spare Parts for Shale Shakers

- Springs, Pneumatic Dampeners.
- Gaskets, Gasket Frames, Gasket Fasteners.
- Screens Wedges, Screen Tensioning Devices, Pneumatic Sealing Systems.
- Pre-Tensioned and Hook-Strip Screens.
- Vibrating Motors, Parts for Vibrating Motors and Specialized Fasteners. Specialized Lubricants for Vibrating Motors
- Miscellaneous Spares and Consumables.

Spare Parts for Centrifugal, Positive Displacement and Pneumatic Pumping Systems

Membranes, Seats, Sealing Ball Valves, Connectors and Couplings for Membrane Pumps.

Stators, Rotors, Connecting Rods and Bushings, Mechanical and Electrical Variators for Positive Displacement Pumps.

Wear Sleeves, Mechanical Seals and Packing Seals, Rotors, Bearings and Casings for Centrifugal Pumps.

Spare Parts and Consumables for Solids Control Equipments

Spare Parts for Centrifugal Decaners

- O-rings, Seal Rings, Lip Seals and Rotary Shaft Seals, Bearings and Sleeves.
- Electrical Spare Parts : Circuit Breakers, Fuses, Special Push-Buttons and Actuators, Speed Control Devices, Sensors, Cables and Indicators.
- Wear Sleeves, Tungsten Carbide Discharge Bushings, Special Sized Spacers and Bearing Holders.
- Hydraulic Pumps and Hydraulic Drives, Spares and Consumables for Hydraulic Systems.
- Miscellaneous Spares and Consumables.

Spare Parts for Various Solids Control Equipments

- Hydrocyclones, Victaulic Type Couples, Gauges and Pressure Indicators, Flanges and Piping Systems for Desanders and Desilters .
- Centrifugal, Atmospheric, Vertical and Horizontal Type Degassers.
- Seals, Consumables, Filters, Bags and Piping Auxiliaries for all Brine Filtration Equipment.
- Miscellaneous Consumables.

CAPABILITIES

Inspections, troubleshooting, performance monitoring, repairs, refurbishment and overhauls for various Solids Control and Drilling Waste Management Equipments.

One source supply for major Solids Control and Drilling Waste Management original equipment manufacturers, including: NOV Fluid Control/Brandt, MiSwaco, Derrick, FSI, etc.

Personnel with more than 15 Years experience in overhauling, repairing and troubleshooting SC & DWM Equipments.

Romanian presence on the market since 2004. Fully equipped and customized workshop.

Technical Assistance on installation and commissioning.

CERTIFICATIONS

Certified Quality System Management, including procedures issued by OEM for various operations and preventive maintenance procedures.

Accredited level 1 and level 2 inspectors.

Engineers accredited by Original Equipment Manufacturers: MiSwaco, IFE, NOV Rig Solutions, NOV Fluid Control / Brandt, etc.

Engineers authorised by INSEMEX-GANex for the installation, maintenance and operation of equipments designed for Explosive Atmospheres.

**Inspections and Refurbishments:
Solids Control And DWM Equipments**

BACKGROUND

Overhauls for SC Equipments:

Clients: Drilling Craiova;
GSP Constanta;
Drilling Dafora;
NOV Brandt (Fluid Control);
TACROM Drilling.

Solids Control Equipments:

Shale Shakers, Decanting Centrifuges, Centrifuge Feed Pumps, Mud Cleaners, Degassers, etc.

Overhauls for DWM Equipments

Clients: NOV Brandt (Fluid Control);
MiSwaco;
GSP Constanta;

Drilling Waste Management Equipments:

Dewatering and Flocculation Units, Drying Shakers, Cuttings Dryers, Screw Conveyors. Vacuum Pumping Systems, etc.





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