

## Separation Plant DSE 400

### Description

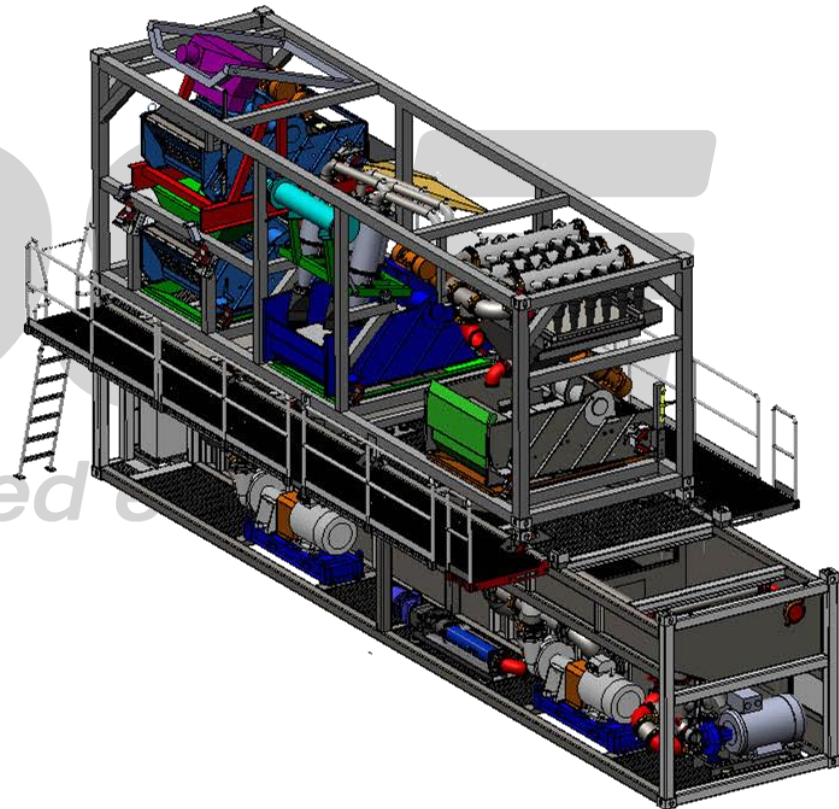
The **DSE 400** is a compact separation plant and specially designed for processing of slurries and removal of mineral solids from the slurry circuit in drilling or other associated applications with a high content of silt.

Instead of a collection of equipment from various sources, the **DSE 400** is a field-proven network of separation components specifically designed to function as a single unit. During each separation stage, a maximum of solid particles is removed from the slurry. The modular system guarantees continuous and fast advance rates, reducing downtimes to a minimum. The innovative screening technology combined with hydrocyclones constitutes a complete recycling concept, providing optimal removal of critical fine particles down to 20 microns and guaranteeing constant slurry properties.

### Structure

The **DSE 400** is composed of one (1) linear motion vibration prescreening machine for separation of coarse solids such as gravel and clayballs, one (1) linear motion vibration screening machine for separation of coarse solids such as gravel, pebble and coarse to medium sand, four (4) hydro-vacuum-cyclones with a cone size of 12", one (1) linear motion vibration screening machine for removal and dewatering of the hydrocyclone's underflow containing solids such as fine sand and silt, twenty-four (24) multicyclones

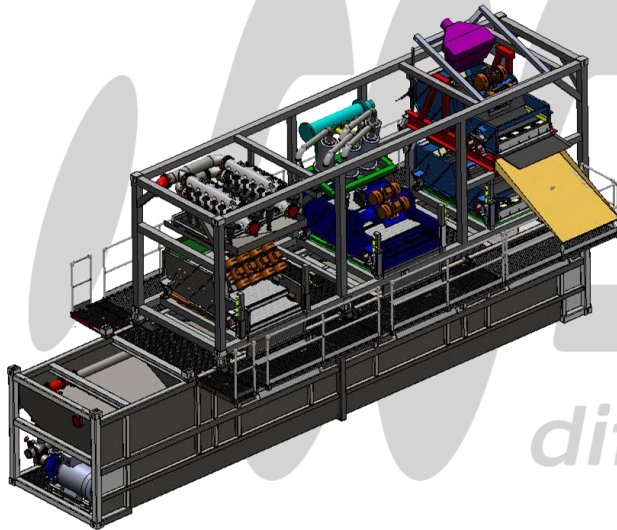
with a cone size of 4", one (1) linear motion vibration screening machine for removal and dewatering of the 4" hydrocyclone's underflow containing solids such as fine sand and silt, one (1) 40 ft. process tank with integrated agitation and two (2) integrated WARMAN HD-centrifugal feed pumps, one (1) central control cabinet and accessories, one (1) KSB Etanorm feedpump TBM.



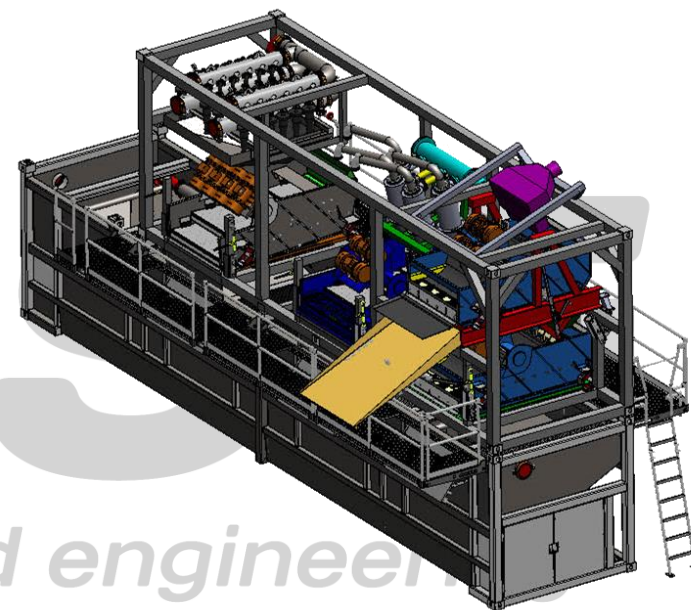
*Example DSE 400 working position*

Adjustable discharge chutes, fold-away platform and pluggable railing for safe working and good access provide a plug-and-play solution. Assembly time is therefore reduced to a minimum. Feeding of shakers and cyclones is accomplished by an integrated fixed piping and wiring system in a minimal footprint. All components, such as shakers, cyclones and funnels, are mounted in a 30' container frame, all electrical wiring is pluggable into each machine compartment.

equipment fixed into it. The left space of 10' at the top of the tank is recommended for using the DSE ZR17254 decanter unit or the DSE ZR15046 decanter unit, each installed in a 20' insulated container, with included polymer device.



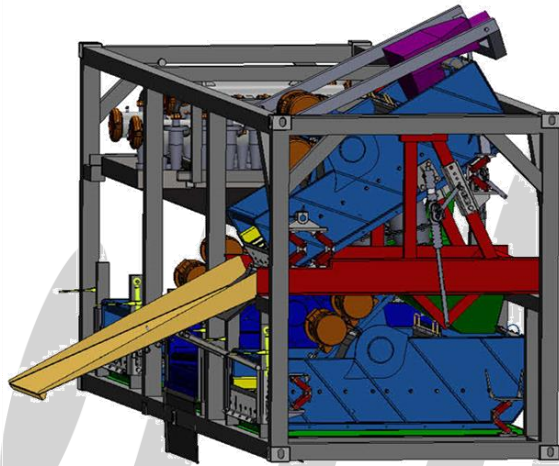
*Example DSE 400 back view*



*Example DSE 400 side view*

All cables are fixed at the tank section, no machines with hanging cables, when the 30' frame is lifted. The whole machinery is divided in two compartments, when transported, one 40' tank and one 30' frame with all

The single-deck vibration screening machines can easily and flexibly be equipped with a wide range of different DSE panel screens made of steel or polyurethane which are available from 10 mm mesh width down to 45 µm.



Example top frame 30' side view

**Overall dimensions for transportation<sup>1</sup>:**

**Tank (incl. pumps and folded working platform)**

Length	12 160 mm
Width	2 439 mm
Height (with unfolded working platform)	4 542 mm
Height	2 438 mm

**Frame 30' with screening machines and cyclone units**

Length	9 120 mm
Width	2 439 mm
Height	2 895 mm
Height (installed)	6 200 mm
Total weight (approx.)	25 000 kg

**Technical specification<sup>2</sup>:**

Nominal fluid capacity (max.) <sup>3</sup>	400 m <sup>3</sup> /h
Total power supply	190 kW
	(without winter package)

<sup>1</sup> approximately; assembled on site

<sup>2</sup> subject to change

<sup>3</sup> The capacity of the DSE400 is subject to the slurry properties, solids loading, grain size distribution, screen selection, and properties along with operating conditions, and might be differ than specified and can be more than 400m<sup>3</sup>/h.

**Vibration screening machines primary cut**

Number installed	2	no
Number of decks (each)	1	no
Deck angle adjustment	0° to +30°	
Total screen area	2.4	m <sup>2</sup>
Screen panels per shaker	10	no

**Vibration screening machines cyclones**

Number installed	2	no
Number of decks (each)	1	no
Deck angle adjustment	5° to +3°	
Total screen area	3.2	m <sup>2</sup>
Screen panels per shaker	4	no

**Vibration motors**

Rated power (each with)	6 x 3.6 kW
	4 x 2.2 kW
Voltage	400V / 50Hz / 3phase

**Hydro-vacuum-cyclones 12"**

Number installed	4	no
Diameter/ cone size	305	mm (12")
Cut point d <sub>50</sub>	25	µm <sup>4</sup>

**DSE 400CS/PS**

**DSE 35PSM**

**OLI 5500/15; OLI 3800/15**

**DSE 12C**

**Hydro-vacuum-cyclones 4"**

Number installed	24	no
Diameter/ cone size	102	mm (4")
Cut point d <sub>50</sub>	5	µm <sup>5</sup>

**Centrifugal cyclone feed pump**

Number installed	2	no
Rated power	75	kW
Voltage	400V / 50Hz / 3phase	

**Centrifugal feed pump TBM**

Number installed	1	no
Rated power	90	kW
Voltage	400V / 50Hz / 3phase	

**DSE 4C**

**Warman DMU 200/200**

**KSB Etanorm 125-100/300**

**Contact**

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<sup>4</sup> (at 1.1 bar + 4 x 78 m<sup>3</sup>/h)  
 regarded to – viscosity: 80 kg/m\*s; density suspension: 1.47 kg/l; density dry content: 2.48 t/m<sup>3</sup>

<sup>5</sup> (at 3.3 bar + 24 x 15 m<sup>3</sup>/h)  
 regarded to – viscosity: 80 kg/m\*s; density suspension: 1.47 kg/l; density dry content: 2.48 t/m<sup>3</sup>