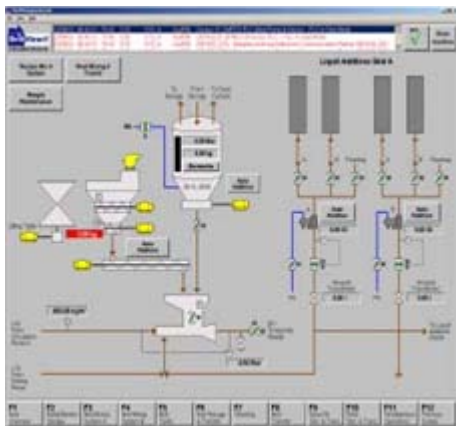


Mud Control System

STEP Offshore's Mud Control System is designed to control and monitor everything from simple pieces of equipment to the complete mud, bulk and solids control system with associated equipment including third party equipment. The Mud Control System is the key element on a "state of the art" drilling rig to ensure proper control of the mud properties.



STEP Offshore AS is a competitive and focused supplier of high quality systems for drilling fluid applications to offshore oil and gas projects world wide.

We shall provide an effective and efficient project management and supply our clients with the highest quality products the industry has to offer.

This product flyer covers our standard unit. We will also, on request, offer a wide range of variations and project specific adaptations in order to best suit our clients needs and requirements.

STEP Offshore AS

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General Description – Mud Control System IB01

KEY ELEMENTS:

- ✓ Local Equipment Controls / PLC's
- ✓ Local and/or remote IO's
- ✓ IO for safe or hazardous area
- ✓ Computer Hardware
- ✓ Interface to other systems / third party

- ✓ Remote Control of equipment / systems
- ✓ Synchronization of various equipment
- ✓ Fully automated mode
- ✓ Automatic mixing / pre-mixing sequences
- ✓ Taylor made to fit any mud process

TYPICAL CONTROLS

- ✓ Bulk storage and transfer, automatic line-up, automatic refill, etc
- ✓ Control of mud additives and mud mixing process, keeping track of chemical's used etc.
- ✓ Automatic density control, weighing/de-weighing of mud
- ✓ Centrifuge controls, automatic control of feed pump rate and automatic control of centrifuge parameters
- ✓ Shale Shaker controls
- ✓ Cuttings Re-injection unit controls (fully automated system)

REPORTING:

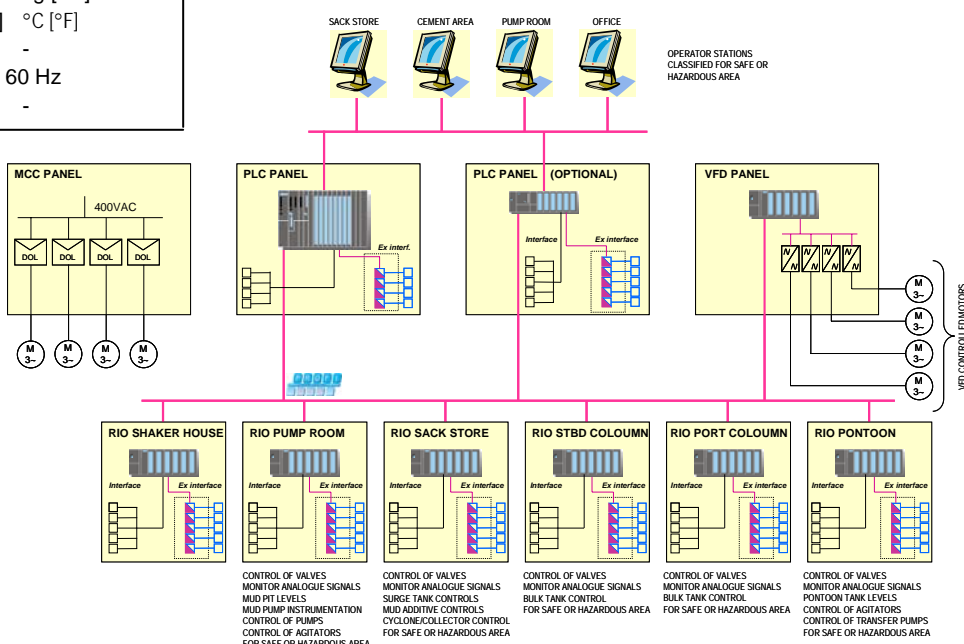
- ✓ Trending of data
- ✓ Logging of historical data
- ✓ Logging of rates
- ✓ SQL interface

TESTING:

To ensure a minimized test period / commissioning on site all control systems delivered by STEP Offshore will be thoroughly tested in our test facilities. The tests will be performed by connecting IO's to simulators and field equipment.

DESIGN DATA (STANDARD):

Weight	: Project specific	kg [lbs]
Design temperature	: -10/+50 [14/122]	°C [°F]
Area classification	: Project specific	-
Electrical supply	: 230 VAC / 50 or 60 Hz	
Electrical consumption	: Project specific	-



DOCUMENTATION:

DESCRIPTION	REFERENCE	INCLUDED	NOTE
User Manual	STEP Standard based on NS 5820	Yes	Two (2) Sets
Manufacturing Recording Book	NS 5820	No	Retained Document
Certificates / Statements	NS 5820	Yes	As applicable

OPTIONS:

- 01 – Automatic density control
- 02 – Remote diagnostics
- 03 – Integration to other computer or control systems
- 04 – SQL database access

NOTES:

- 01 - STEP Offshore can supply installation supervision (including installation material), commissioning and training on a separate contract.
- 02 - Documents/Drawings issued to customer are delivered as STEP Offshore standard and will not be subject for comments.
- 03 - Spare parts can be ordered separately from STEP Offshore's Operation Division.