RAGSOL

Wellcell

well thought, well done.

ragsol is a RAG Austria AG spin-off to market RAG technologies, know-how and solutions for the oil and gas industry.

Our experience and know-how are based on RAG Austria AG's more than 80 years in the field. Combining traditional industrial standards with new technologies, innovative products and state-of-the-art know-how that adapt to the environment while increasing its potential, ragsol provides comprehensive solutions to modernize oil and gas fields. Our aim: to create what we call smart brownfields.

Providing opportunities hitherto unprecedented on the market, our main focus is to produce oil and gas more efficiently and to manage these valuable natural resources in a responsible eco-friendly approach.

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Description

Wellcell is a device for performing performance monitoring on sucker rod pump wells in a client's fields. The aim is to do these measurements with minimum work force effort to reduce HSE risks on site and with high flexibility and little to no effort on data input.

Wellcell is able to measure and provide
data output on:
- Dynamometer card
- Rod load
- Strokes per minute
- Subsurface dynamometer card
- Production rate estimation
  (taking into account volume
  correction factor)
- Pump filling degree

Additionally, the device is able to detect
the following abnormal conditions:
- Fluid pound
- Rod breakage
- Gas lock

Wellcell is able to measure polished rod load and calculate or measure rod position. Both are merged in one file (= dynamometer card) and sent to a server for processing and visualization. All measurements and calculations are undertaken by means of two setting parameters.

Measurements are taken fully automatically, without the need for an operator on site. The mechanical connection at each well is different, therefore the Wellcells mechanical connection is flexible and adjustable to the preexisting set-up – retrofit.

For configuration purposes, manual remote access is available. Automatic configuration via a central server is possible. Device software is programmable according to IEC 61131 and supports .NET framework.

Wellcell is able to detect whether surface and subsurface dynamometer card conditions are normal or abnormal. A minimum of input parameters is used for subsurface card calculations. It is possible to add new features for dynamometer card analysis at any time, and this can be done remotely.

To keep operating costs as low as possible, only one individual is required to install the device. Preparation, installation and start up takes less than 1 hour for each well. Wellcell is independent of any existing data transmission infrastructure. Measured data is transmitted using GSM, satellite and IoT solutions.

It is possible to integrate the device to the existing local SCADA system. Where data transmission is lost, the device provides the option to store all measured data locally. Data extraction is done automatically via remote access and on site. Additionally Wellcell is part of 'Zister' intelligence – a stand-alone software solution for data visualization, data analysis and data storage. The data is accessible online, via web browser as well as mobile devices.

The major content of the device is made in Europe. It has one US component.

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Technical Data

Power Supply	230 VAC @ 50 Hz
Ambient temperature	-20 to +50 °C
ATEX	certified
Connections	Ethernet RJ45 Ports
	USB 2.0 ports
	DVI port
Artificial Lift System	Sucker Rod Pump
Load cell requirements	on request
	Proximity sensor provided
	by RAGSOL
Data transmission	LPWAN suitable
	(MIOTY in 2020)
	LTE/3G/2G
	Satellite
	Ethernet (Modbus, HTTPS)