



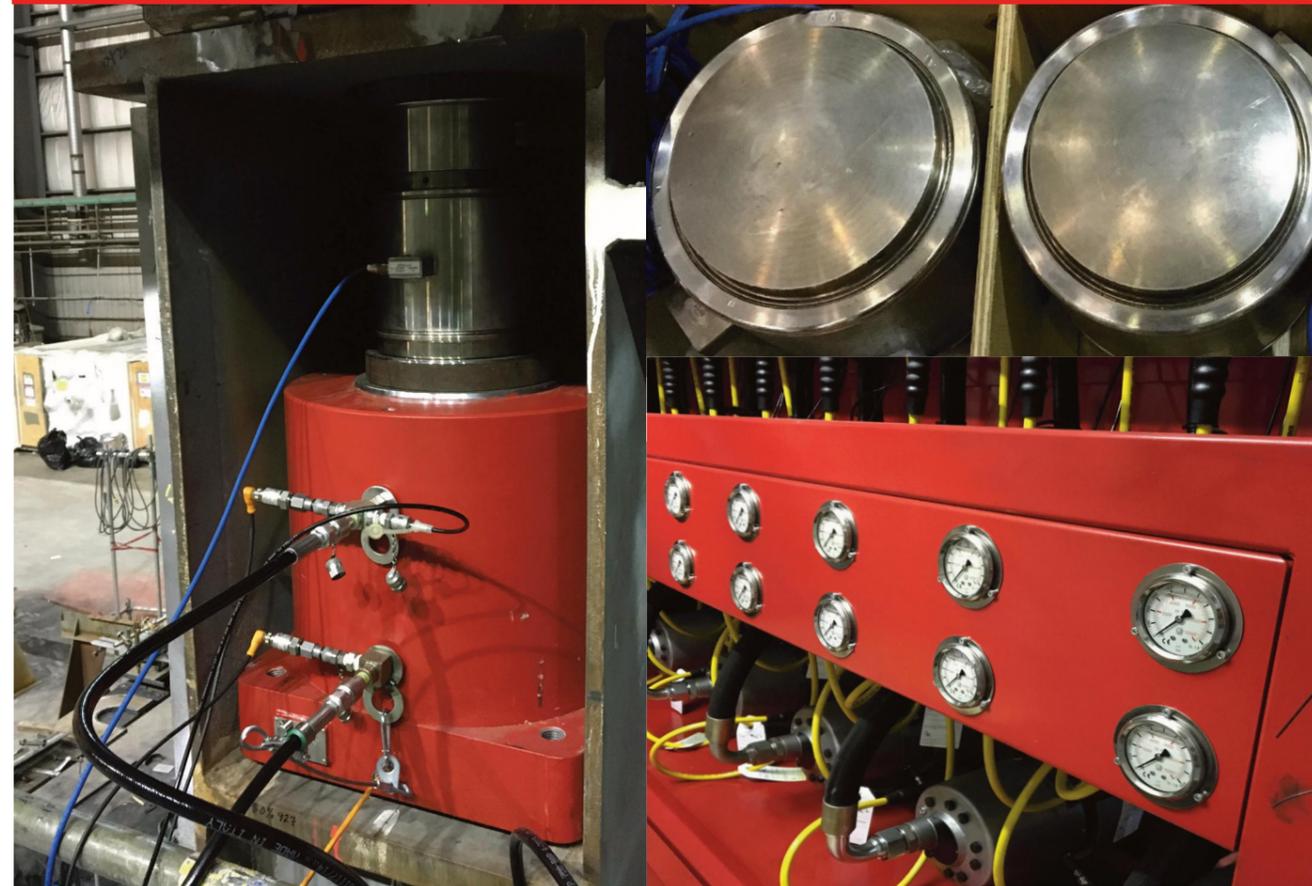
**WEIGHING SYSTEM  
(LOAD CELLS)**

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**TECHNICAL BROCHURE**

THE SYSTEM

This unit has been built to operate by controlling up to 20 lines. The system is able to operate in Manual or Automatic mode. This weighing unit has a maximum lifting capacity up to 12,000 ton and a maximum rated weighing capacity of 12,000 ton. The power pack is designed around five electric motors 3-phase, 4-pole 400 V 50 Hz power of 11 kW each. The 1450 RPM engines provide oil to the lifting jacks through 20 individual sends. The hydraulic oil is supplied from the main jacks 5 pumps with four single sends for each pump. Each pump flow provides the flow rate and the oil pressure that is distributed and managed through appropriate distribution block with installed solenoid control valves. All directional controls, position, strength and sequence are managed by the panel and the computer installed in appropriate box placed in a control room adjacent to the unit.



OPERATIONAL SYSTEM

The equipment is arranged to lift and / or weigh operations executed by a single load cell up to a maximum of 20 load cells. The load cell systems are configured as follows: A Hydraulic cylinder with a recess in the bottom gland where the measurement technique is configured. Each cylinder has its own independent load cell unit. The load system is based on a load compression of a dedicated designed object. The shape is chosen to obtain a linear compression under load. Inside the compressive object there is a dedicated electronic system able to measure the compression by means of capacitive measurement. Each loadcell has several measurement references inside. This will also allow inclined compression. Chip technology inside the loadcell can record a deterred load chart, applied by a calibrated press. During this process the exact properties are recorded into the loadcell which is connected to a remote control PC system provide with a dedicated software to be used either for the control and change of the parameters.



CAPACITY AND PERFORMANCE

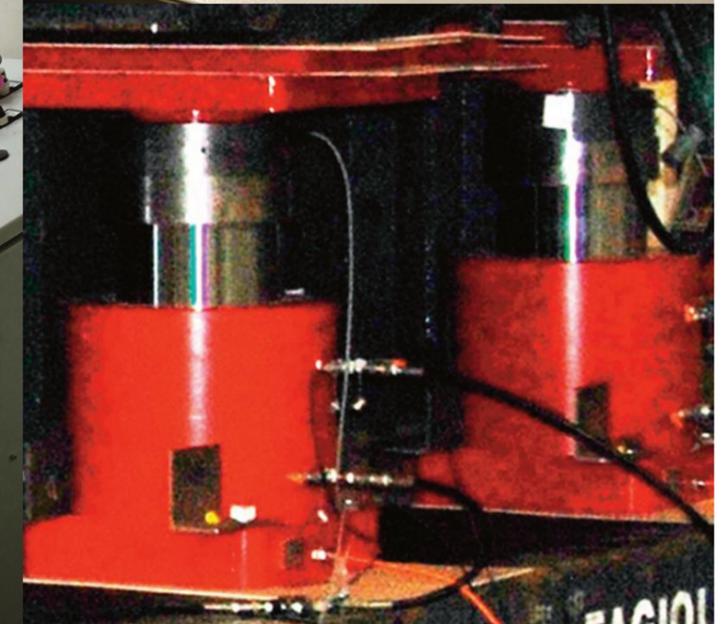
Load cells system range: 100- 200- 300- 500-600 tons. Operator can decide the most suitable load cell to be used for the lifting / weighing operation. The accuracy, considering maximum stroke and maximum load, is 0,5% ±

MANUAL MODE

When the controller is in manual mode, each operation is established and desired by the operator within the limits of the maximum calibration values. Each load cell is able to operate independently within the limits of the maximum calibration value.

AUTOMATIC OPERATION

In this mode all the cylinders of the pre-selected system preconfigured move / operate jointly. During the automatic cycle of operations it is possible to vary the operating tolerances between the various cylinders. This feature allows the system to adapt to the object-induced reactions / behaviors during the lifting/weighing operations.



# WEIGHING SYSTEM - OVERVIEW

<b>Power</b>	80 kW
<b>Power Supply</b>	125A ( 5 poles: 3P + N + E)
<b>Electric voltage</b>	400V
<b>Frequency Power</b>	50 Hz
<b>Working Pressure</b>	MAX 600 Bar (adjustable)
<b>Max Capacity for each line</b>	2 litres / minute
<b>Hydraulic Oil</b>	BIO oil
<b>Number of controlled Hydraulic Lines</b>	<ul style="list-style-type: none"> <li>• 20 Hydraulic Lines.</li> <li>• Each line is connected to an hydraulic cylinder and its load cell.</li> <li>• Each line is able to operate independently</li> </ul>
<b>Main phases controlled by the System</b>	<ul style="list-style-type: none"> <li>• Lifting by managing the load / boost. <ul style="list-style-type: none"> <li>• Shifts and pressure detection.</li> <li>• Motion control and leveling.</li> </ul> </li> <li>• Descent and unloading of the weight in a controlled manner. <ul style="list-style-type: none"> <li>• Recognition and storage of weights lifted.</li> </ul> </li> </ul>
<b>Operating Modes</b>	<ul style="list-style-type: none"> <li>• <u>Operation in Manual Mode</u>: each operation is established and desired by the operator within the limits of the maximum calibration values and cells loads are working independently.</li> <li>• <u>Operation in Automatic Mode</u>: all cylinders (of the pre-selected system) move and operate at the same time.</li> </ul>
<b>Hydraulic Cylinder Characteristics</b>	Double acting hydraulic cylinders equipped with two pressure transducers (supply and return) and a linear position transducer (rod extension).
<b>Load Cells (to be used)</b>	Load Cell System 100- 200- 300- 500- 600 ton
<b>Accuracy</b>	0,5% ± max. stroke / max. load
<b>Load Cell Calibration Type</b>	In conformity with international regulations



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