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Consiento el envío de comunicaciones comerciales.

To:	<b>FIROUZA CRANES</b>	Date:	2022-08-23
Email:	<a href="mailto:m.cheraghloei@firouzacranes.com">m.cheraghloei@firouzacranes.com</a>	Offer nº:	22.836
Attn:	<b>Marjan Cheraghloei</b>	From:	<b>Joseba Fernandez</b>

Dear Mr. Cheraghloei:

We have pleasure in enclosing our above referenced offer, which has been prepared according to your requirements, data and conditions provided by you.

In this offer we include **Technical Characteristics, Plan of General Dimensions, Prices and sales conditions.**

GRAB INFORMATION		
TYPE OF MACHINE	ORANGE PEEL GRAB	
REFERENCE	P6-1500-3,5	
POWER UNIT	ELECTRO-HYDRAULIC	
MATERIAL TO BE HANDLED	METAL SCRAP	
CRANE SWL (t)	10	
CAPACITY (m <sup>3</sup> )	1,5	
MAXIMUM DENSITY (t/m <sup>3</sup> )	3,5	
WORKING CYCLE	MANUAL/ SEMIAUTOMATIC/ AUTOMATIC	
OPERATIONAL DATA		
MOTOR (Kw; 40% ED)	31,5	
WORKING PRESSURE (bar)	180	
OPENING TIME AT LOAD (s)	6	
CLOSING TIME AT LOAD (s)	10	
WEIGHT (kg)	4100	

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## ENGINEERING FEATURES

**ARMS DESING:** HALF OPENED SHELL OF A SPECIAL DESIGN AND GREAT STRENGTH MANUFACTURED IN ELECTROWELDED STEEL PLATES S355J2G3 (DIN EN 10.025).  
ALL THE ARMS ARE CONVENIENTLY REINFORCED.  
SPECIAL PUNCHING TEETH MADE OF CAST MANGANESE STEEL OR HARDOX 500.

**STRUCTURE:** THE BODY AND STRUCTURE ARE BUILT ON ROLLED STEEL PLATE S355J2G3 (DIN EN 10.025).  
THE OIL DEPOSIT, ELECTRIC MOTOR AND ALL THE COMPONENTS ARE INSIDE.

**SELF-GRIPPING:** THE DRIVE IS HYDRAULIC THROUGH HYDRAULIC CYLINDERS IN AN INCLINED POSITION THAT WORK IN THE OUTSIDE ON THE ARMS PRESSING THE MATERIAL.

**MULTI-STABLE:** IT CAN WORK IN ANY VERTICAL POSITION AT FULL EFFICIENCY IN AN INCLINATION UP TO 60°.

**HYDRAULIC CYLINDERS:** WITH BACK DAMPING, HIGHLY REINFORCED DESIGN, DOUBLE EFFECT, GROUND AND HARDENED CHROME PLATED. PISTON RODS.  
PROTECTED WITH REINFORCED STEEL COVERS.

### ELECTRIC MOTOR

Nominal Working Voltage: 400 Volt 50 Hz  
Speed: 1.500 1/min  
Protection: IP-55  
Insulation: F CLASS

**HYDRAULIC PUMP:** HIGH PRESSURE, VARIABLE FLOW.

**HYDRAULIC OIL:** INCLUDED, HLP-46.

**RETURN FILTER:** 25 MICRONS.

**OIL DEPOSIT:** INCLUDING AN AIR FILTER OF 10 MICRONS FILL IN TAP, LEVEL INDICATOR AND MAGNETIC ELEMENTS TO RETAIN DABS AND MAGNETIC PARTICLES PRESSURIZED AT 0,35 BARS.

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## GIITS WIRELESS SYSTEM FOR CONTROL AND SAFETY (OPTIONAL)

**GIITS** wireless system (Grab Intelligent Interface and Transmission System) allows the communication between grab and crane's PLC in real time and secure way. In order to simplify the installation's wiring and to improve the quality of transmitted operation information it implements an emission/reception set. This opens the door to automation.

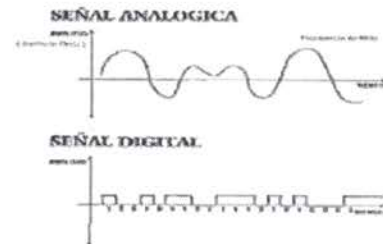
The main benefit of **GIITS** technology is that makes handling unit automation simpler and more economical.

The technology **even opens the door for the modernisation of equipment that does not have the necessary electrical wiring in the cable drum.**

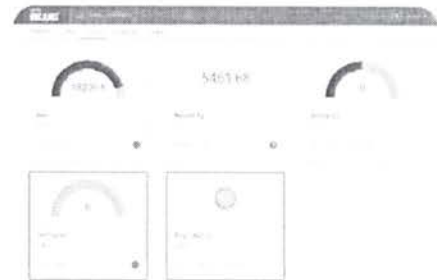


### **GIITS** FUNCTIONALITIES

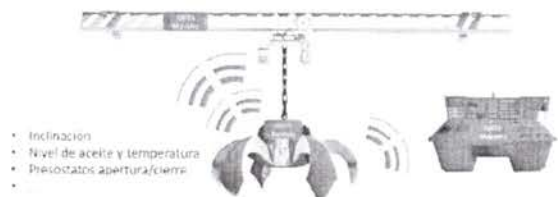
1. Grab/Clamshell Grab and/or Crane signal collection



2. Basic configuration and display of signals.



3. Interconnection of signals from different equipment wirelessly (Master-Slave).



4. Interconnection with DIGITAL BLUG



**DIGITAL**  
**BLUG** FUNCTIONALITIES

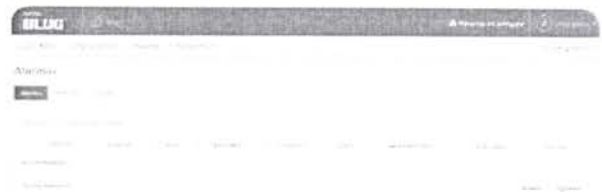
**1. Signal monitoring**



**2. Documentation of machines**



**3. Maintenance of machines**



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### CONTROL OF FINAL PRODUCT: OPERATIONAL TESTS

After their mounting, all the equipments are subjected to a series of operational tests, simulating the real operating conditions.

These tests take place **continuously during 48 hours**, in order to prove the performance and tolerance of the equipments.

Once these operational tests have taken place, following **quality controls** are performed:

- Dimensional checking of different measures of the machine.
- Control of the most relevant characteristics.
- Execution of the different movements of the machine, at no load.
- Control of the hydraulic system and pressure checking.
- Tightness of the different hydraulic components and leakage checking.
- Checking of levels.
- Control of temperatures.
- Checking of the volumetric performance of the pump.
- Static test of load maintaining at the maximum pressure.
- Measurement at no load of the closing and opening times.
- Control of the electric circuit.
- Checking of the good operation of the power drives.
- Operation control of rheostats ends of stroke, detectors and other fittings.
- Checking of the engines consumption.
- Measurement of the sound level.
- Checking of the lack of vibrations.
- Check of clearances in all the joints.

### DOCUMENTATION AND CERTIFICATES

Documentation enclosed with each machine:

- General Plan and General Dimensions with an itemized list of the components.
- Maintenance instructions-book and Start-up handbook.
- Technical characteristics, hydraulic diagrams and electric diagrams.
- List of first emergency spare parts for three years.
- Certificates of materials concerning all the raw materials S/DIN 50.049-3.1B
- Tests protocol and Quality Certificates of the electric engines.
- Supporting documents of official approval for soldering tools.
- Quality certificates of hydraulic cylinders and other commercial components.
- QUALITY AND WARRANTY CERTIFICATE OF THE MACHINE.
- E.U. CERTIFICATE.

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## PROCESS OF STANDARD SUPERFICIAL TREATMENT

### Degreasing and Cleaning

All the materials and components in our equipments undergo a thorough cleaning after their machining.

All the plates and mechanically-welded materials are subjected to a degreasing process of their surfaces and a meticulous hand-made cleaning by means of scraper and metallic brush, in order to remove the exceeding coats of rolling, rust, strange particles and manufacturing marks from the outside as well the inside surfaces.

The surfaces of the mechanically welded parts are afterwards subjected a blasting process with Swedish SA quality sand, degree 2½ SVENSK STANDARD.

### Priming

Anticorrosive treatment by means of the application of 2 Rust preventive priming coats of Zinc Phosphate Synthetic with a thickness of 35 microns for each dry film.

### Finish

2 Coats of **RAL 1003** pure chloride rubber painting in yellow colour are applied, with a thickness of 50 microns for each coat of dry film.

### Machined Parts

The machined metallic parts are properly protected with anticorrosive greases or peel able varnishes.

Threaded holes or to be used for bolts, are tightly sealed if they are to be stocked in the open air.

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## WARRANTY

We guarantee the machine without possibility of further claims against any construction faults or defects during **TWO (2) YEARS** from its supply after delivery Ex-Works Azpeitia (Spain). The service hours guaranteed are the same than those granted to us by the manufacturers of components incorporated into the machine, such as, motor, pump, valves, hoses, etc,.....

The guarantee is not valid for wearing parts.

In order to be granted by the warranty for **TWO YEARS** it is necessary to purchase the list of spare parts covering the wearing parts of the machine.

The list of such spare parts will be provided by **CREDEBLUG** and it is sent together with the Maintenance Book.

The list of spare parts may assure a service at most cases without any trouble.

The supplier does not compensate for any damage or claim due to the following reasons:

- Inadequate or improper utilisation, incorrect assembly or incorrect putting into operation by the customer or third party, natural wear of the parts, faulty or negligent handling of the machine, unsuited materials handling, faulty construction works provided the faults are not caused by the supplier.
- Mounting into the machine of spare parts or wearing parts which are not purchased from **CREDEBLUG** causes expiration of any right for claiming the guarantee of the machine.
- Any repairs or modifications made by the customer without **CREDEBLUG**'s approval shall not be attended nor considered and are liable for losing the guarantee.

Any construction faults or defects in the machine must be notified in writing by the customer to **CREDEBLUG**. We reserve the right for an appropriate inspection at site before taking any solution.

By virtue of this guarantee, **CREDEBLUG**, shall repair or replace defective parts free of charge according to the choice of the supplier, provided that defective parts or construction faults are consequently proven. Defective parts are property of the supplier.

The guarantee is subjected to the observance by the customer of rules given by a good industrial practice, and particularly, of the specific instructions shown in the Maintenance Book for our machines.

## REPLACEMENT PARTS

In the Maintenance Book supplied together with the machine appears the list of replacement parts.

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**CERTIFICATE AND QUALITY**

<ul style="list-style-type: none"> <li>Each BLUG equipment fits machine board <b>2006/42/CE</b></li> </ul>	
<ul style="list-style-type: none"> <li>Registered company by BUREAU VERITAS according to <b>ISO 9001</b> standard</li> </ul>	
<ul style="list-style-type: none"> <li>Winner of the <b>Best Small and Medium-size Enterprise 2012</b> award by the <b>Chamber of Commerce of Gipuzkoa</b></li> </ul>	
<ul style="list-style-type: none"> <li>Winner of the <b>IBJ Awards 2010/2017 – Best Grab</b></li> </ul>	
<ul style="list-style-type: none"> <li>Member of <b>FEM-AEM</b> association - European Manufacturers Association of Materials Handling, Lifting and Storage Equipment (N° 83-99-2008)</li> </ul>	