

DIGITALIZACION – FRENOS INDUSTRIALES

VULKAN DO BRASIL

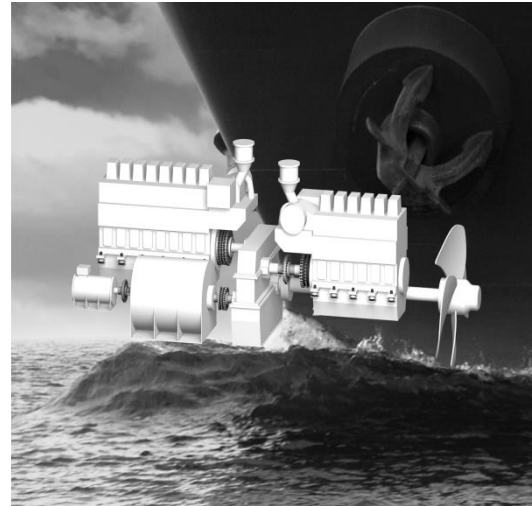
VULKAN
DRIVE TECH

VULKAN
DRIVE TECH



Mobile and stationary
Drive Technology

VULKAN
COUPLINGS



Marine Propulsion/
Gensets

VULKAN OVERVIEW

AT A GLANCE



VULKAN HISTORY:



- Founded in 1889
- 3 business divisions: VULKAN Couplings, VULKAN Drive Tech and VULKAN Lokring.
- VULKAN Group is owned and managed by the Hackworth family – now in its fourth generation.
- 1.200 employees
- 18 subsidiaries
- Agencies covering 51 countries.
- 5 International Production plants located in Brazil, China, Germany, India and United States.

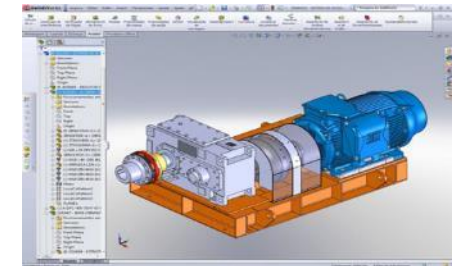
VULKAN – PLANT AT BRAZIL

AT A GLANCE



VULKAN DO BRAZIL:

- Since 1974.
- Located in Itatiba, São Paulo state.
- 180 employees.
- Certified ISO 9001:2015.
- 7500 m² in construction.
- Engineering
 - ✓ Products design.
 - ✓ Products developments.
 - ✓ Special process developments for products application.
 - ✓ Test bench for special applications.
 - ✓ Test bench analysis.
- Test Center
- Technical Assistance.
- Sales Office at Rio de Janeiro, RJ



VULKAN – LATAM

VULKAN COLOMBIA Y VULKAN MEXICO

VULKAN
DRIVE TECH

VULKAN LATAM SALES & OPERATIONAL OFFICES:



PRODUCTS

PORTFOLIO

VULKAN
DRIVE TECH

ELASTIC COUPLINGS



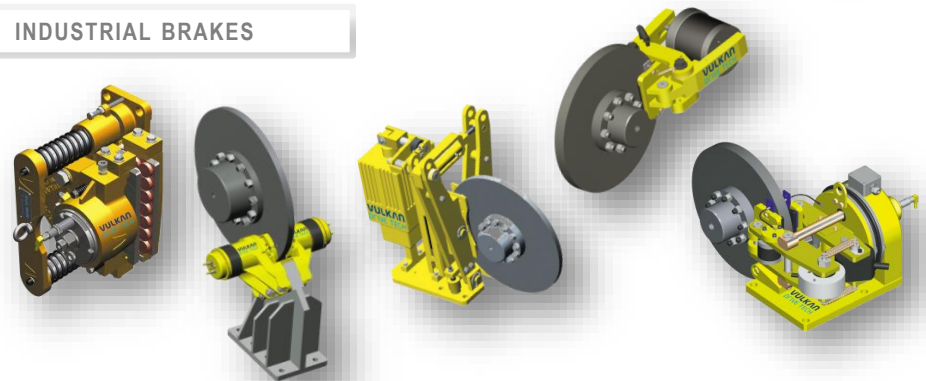
MEMBRANE / GEAR AND FLUID COUPLINGS



BACKSTOPS



INDUSTRIAL BRAKES



PRODUCTS

PORTFOLIO

VULKAN
DRIVE TECH

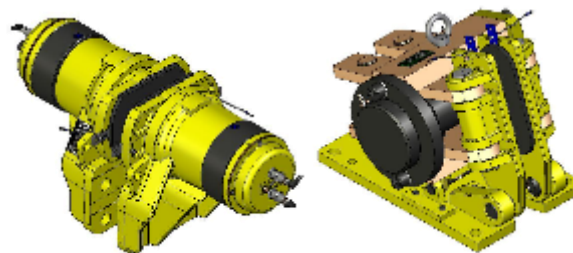
SERVICE BRAKES



BACKSTOPS



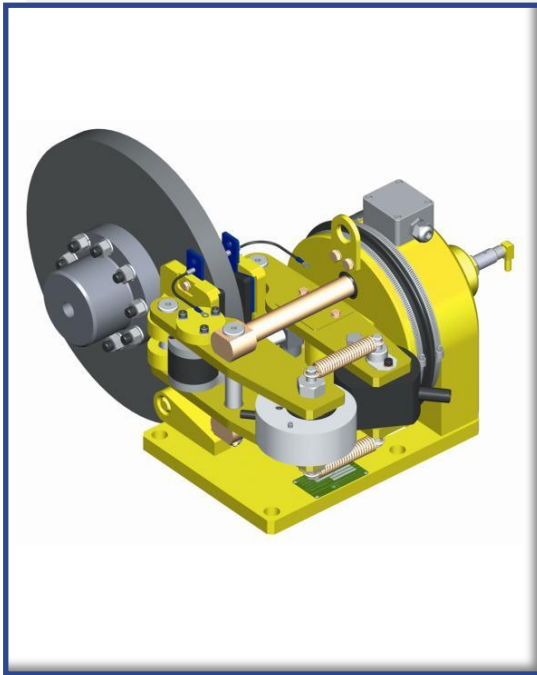
EMERGENCY BRAKES



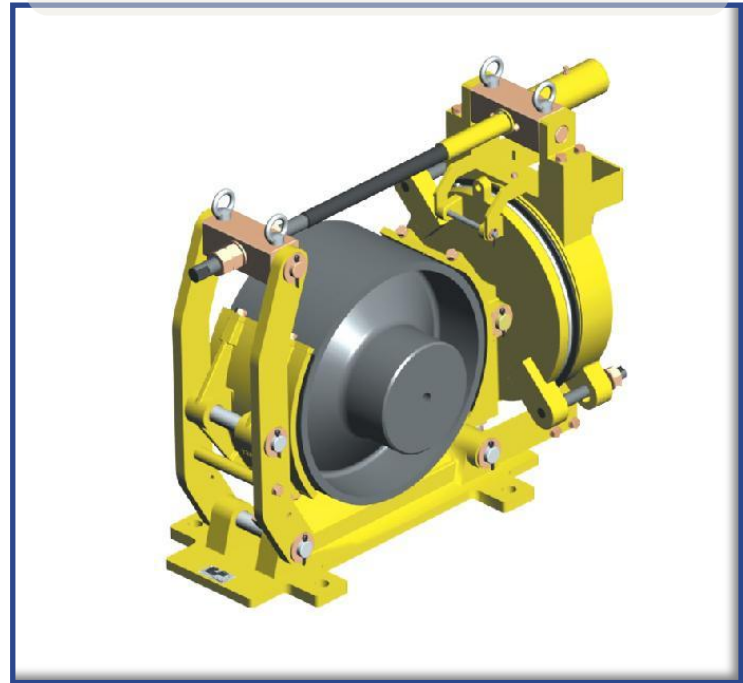
RAIL CLAMPS



DISC BRAKE



DRUM BRAKE



BASIC CONCEPTION OF A BRAKING SYSTEM

- Brake is the component which actuates on the brake disc or drum to transmit the braking force;
- Brake disc or drum: are turning components which will transfer the braking force applied by the brake to the equipment to stop it;
- Pad is a friction material element that enter in contact with the brake disc providing the friction to stop it.
- Power Supply, Hydraulic Unit, Electro-pneumatic Panel, pedal are ways to actuate the brake.

What is a Brake?

Winches



Electromagnetic Disc Brake (emergency brake) , model 10C and power supply.
Braking Torque: 220.000 Nm

Overhead crane N° 04 and N° 05 – ARCELOR MITTAL – JUIZ DE FORA, MG



HOIST CAPACITIES: 150/180 TONS

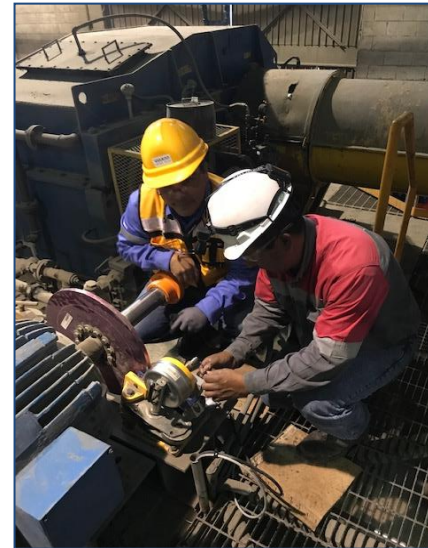
It is the Safety device

It Performs the reduction of speed or completely stops the motion

It guarantees the accurate and fast positioning

SERVICE BRAKES

- Can be negative brake (hydraulic applied and spring released) or positive brake (spring applied and hydraulic released);
- Can be provided with CDPG (worn out pads control and detection) and manual or automatic adjust for the wear of the pad;
- Most of time they are installed on the high speed shaft, where the braking torque is low, thus requiring smaller and lower-cost brakes;
- They enable a large number of braking operations per hour.



EMERGENCY BRAKES

- Positive brake (spring applied and hydraulic released);
- Ensures safe slowing and stopping of the equipment, regardless of any faults;
- Usually installed at critical points of the equipment, can be supplied with 100% automated system in order to ensure safety without human intervention;
- Installed on the low speed shaft;
- The brakes are applied when there is:
 - ✓ Over-speed of the equipment;
 - ✓ Power Outage;
 - ✓ Rupture of components (examples: shafts, screws, couplings, gear teeth, etc...).

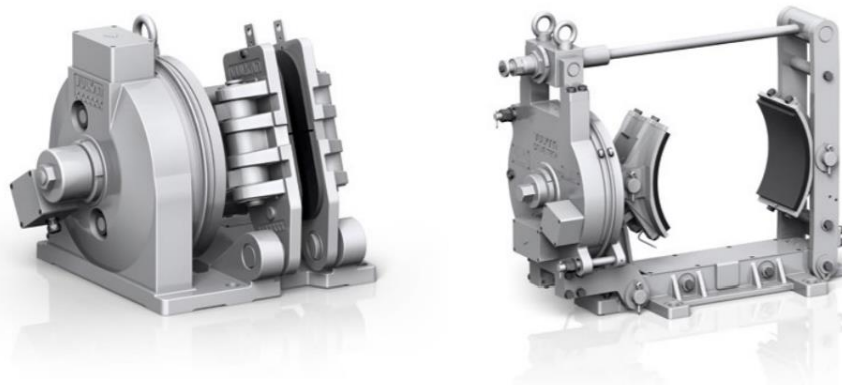


PARKING BRAKES

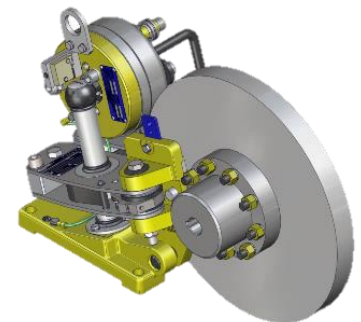
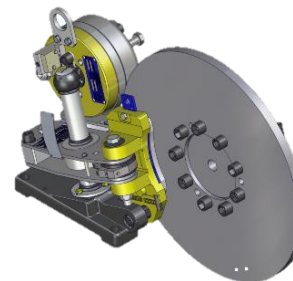
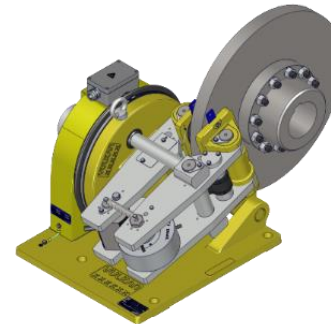
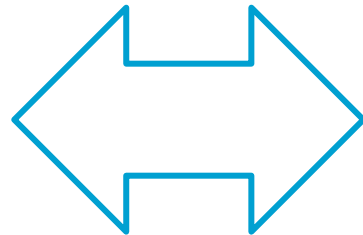
- They close (brake) after having the equipment stopped, keeping it stopped for eventual maintenance and avoiding the action of external forces, such as wind and storms.



- ✓ Fast response time for applying and releasing
- ✓ Safety command by electric components
- ✓ Safety operation in the missing or failure of electrical energy
(spring applied brake)

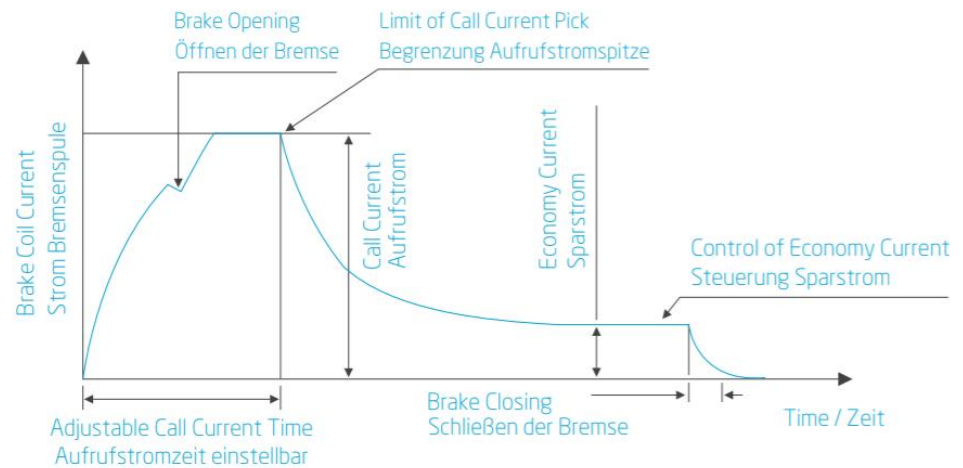


POWER SUPPLY – ELECTROMAGNETIC BRAKE



POWER SUPPLY – ELECTROMAGNETIC BRAKE

V317-HEAVY DUTY AC/DC POWER SUPPLY



ELECTROMAGNETIC BRAKE

VULKAN
DRIVE TECH

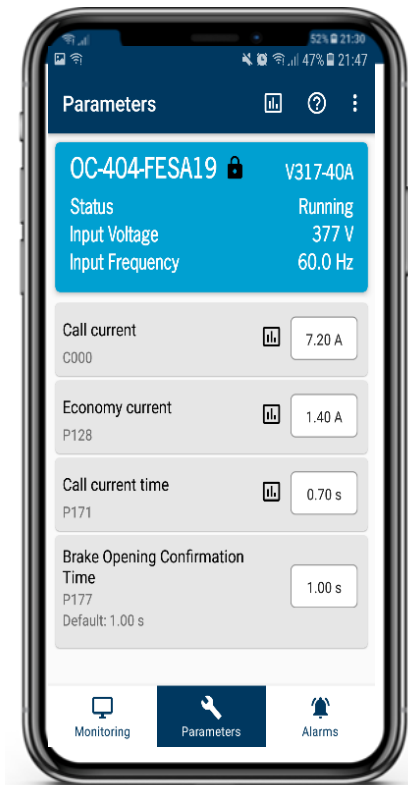
**NUEVO APP
VULKAN CONNECT**



**MÁS TECNOLOGIA
PARA LOS FRENOS
ELECTROMAGNETICOS**

VULKAN
DRIVE TECH

ELECTROMAGNETIC BRAKE



Parameters

Vulkan VConnect easy allows a quick setup configuration for the several Brake models



Monitoring

It show us a real time parameters monitoring. Numbers, text or graphics is available.



Alarms

It can show real time fault. It provide the alarm information and how it can be solved.

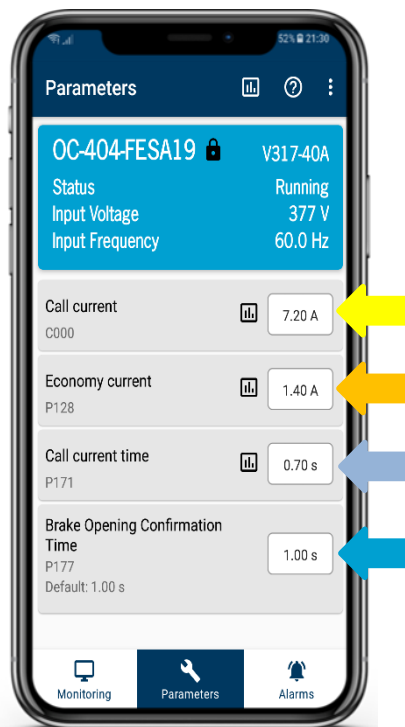
VCONNECT INSTALLATION KIT



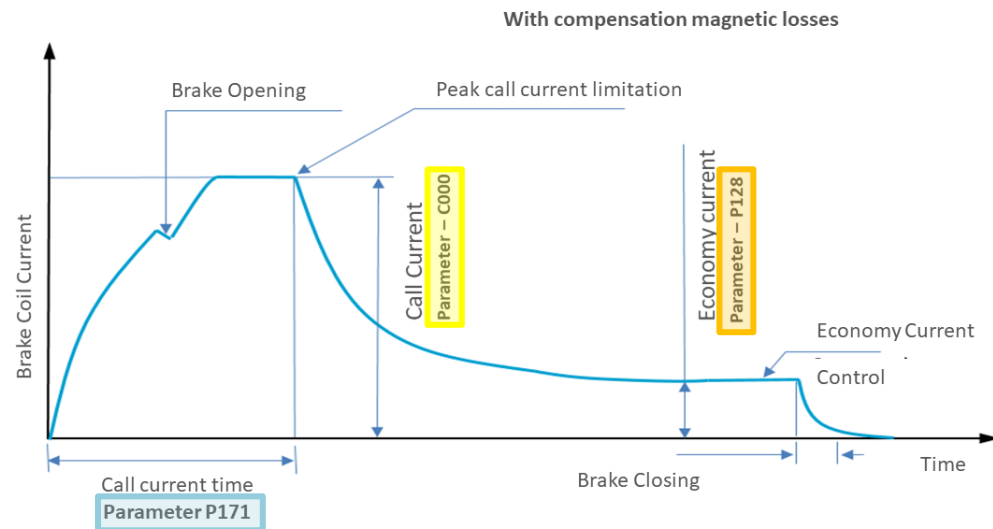
Modbus Transmission
Speed: Select 57600 by
using the parameter C161
on HMI



MAIN PARAMETERS

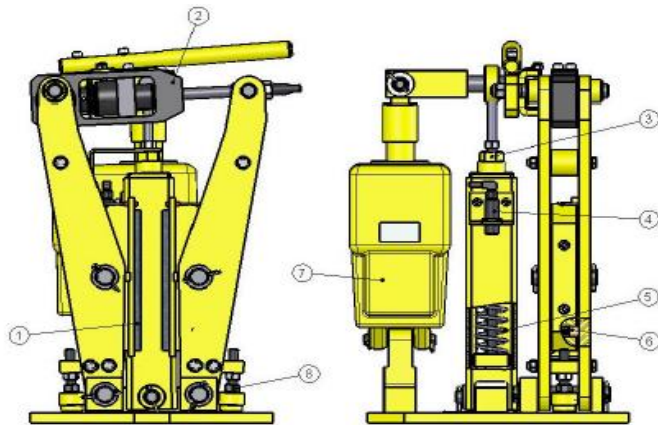


Output current control mode

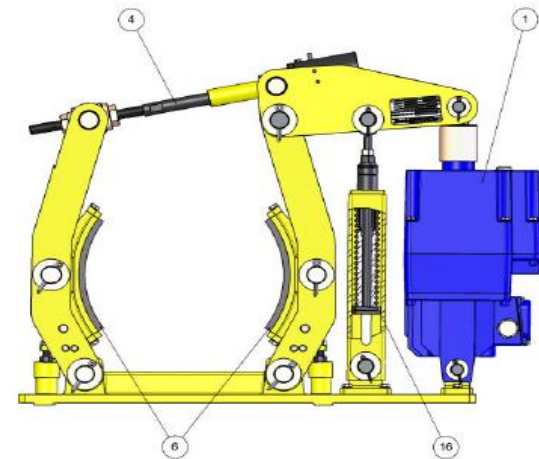


ELECTROHYDRAULIC BRAKE

- ✓ Soft response time for applying and releasing
- ✓ Safety command by electric components
- ✓ Safety operation in the missing or failure of electrical energy (spring applied brake)



Linha FEHD



Linha FEHSD

ELECTROHYDRAULIC BRAKE

VULKAN
DRIVE TECH

ELECTROHYDRAULIC DISC BRAKE



FEHD-I G2



FEHD-II G2



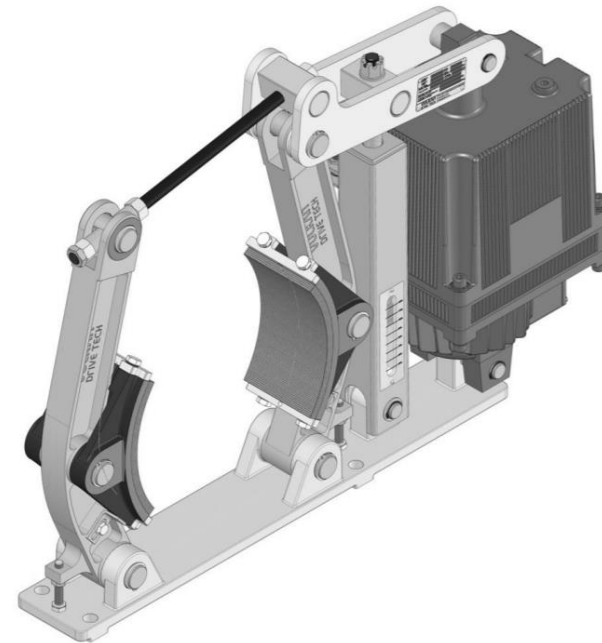
FEHD-III G2



FEHD-VI G2

ELECTROHYDRAULIC BRAKE

ELECTROHYDRAULIC DRUM BRAKE



ELECTROHYDRAULIC BRAKE

CASE

VULKAN
DRIVE TECH



ELECTROHYDRAULIC BRAKE

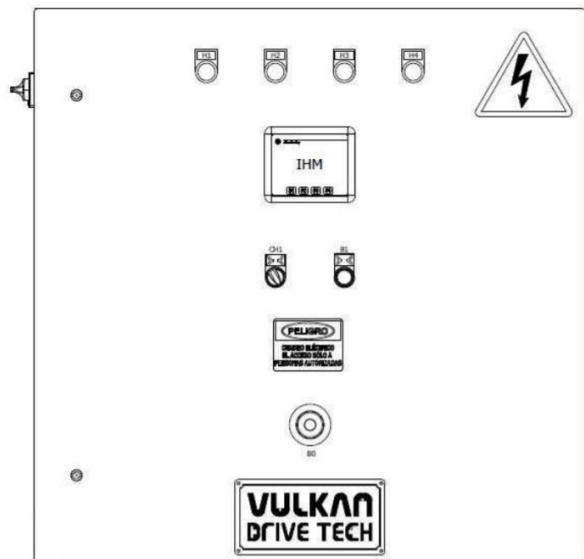
CASE

VULKAN
DRIVE TECH



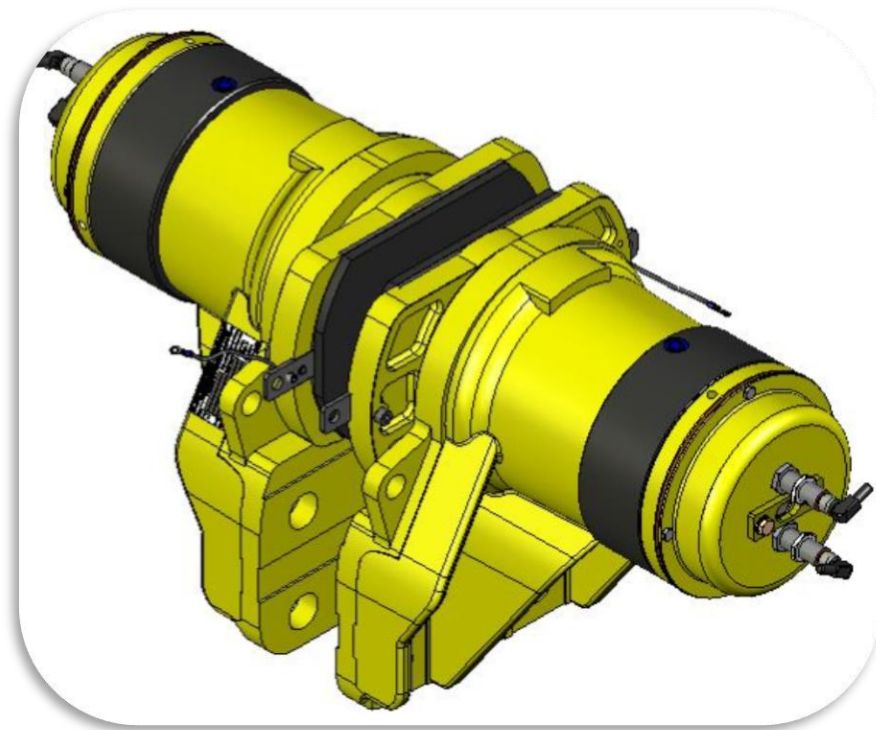
ELECTROHYDRAULIC BRAKE

CASE



HYDRAULIC BRAKE

- ✓ Positive brake;
- ✓ Spring applied;
- ✓ Hydraulic released;
- ✓ Braking force until 400.000 N;
- ✓ Disc thickness: equal or greater than 42mm;
- ✓ Organic pads, asbestos free;



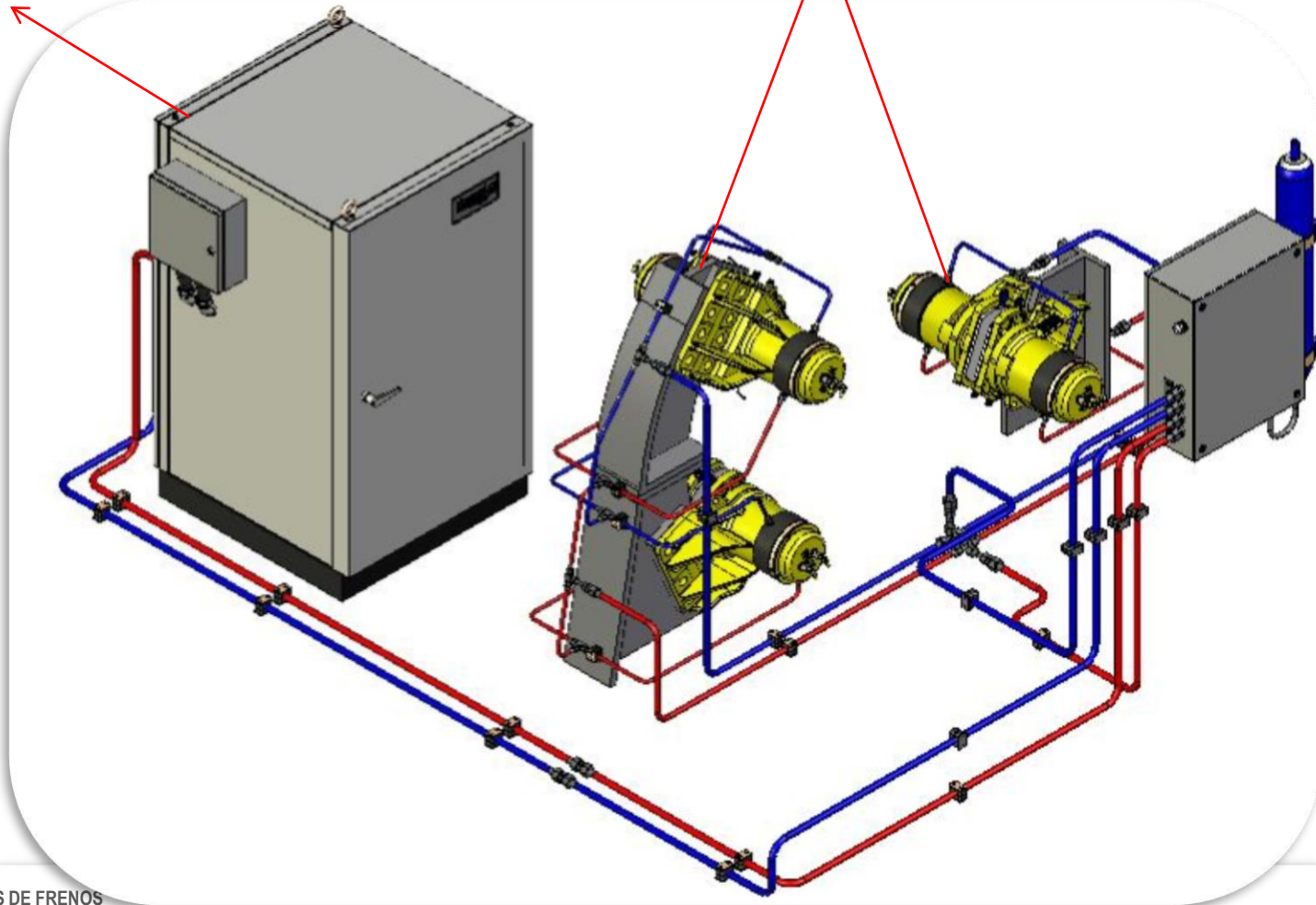
INDUSTRIAL BRAKE

EXEMPLE – HYDRAULIC BRAKE ASSEMBLY

VULKAN
DRIVE TECH

Unidad Hidráulica

Frenos Hidráulicos



INDUSTRIAL BRAKE

CONVEYOR

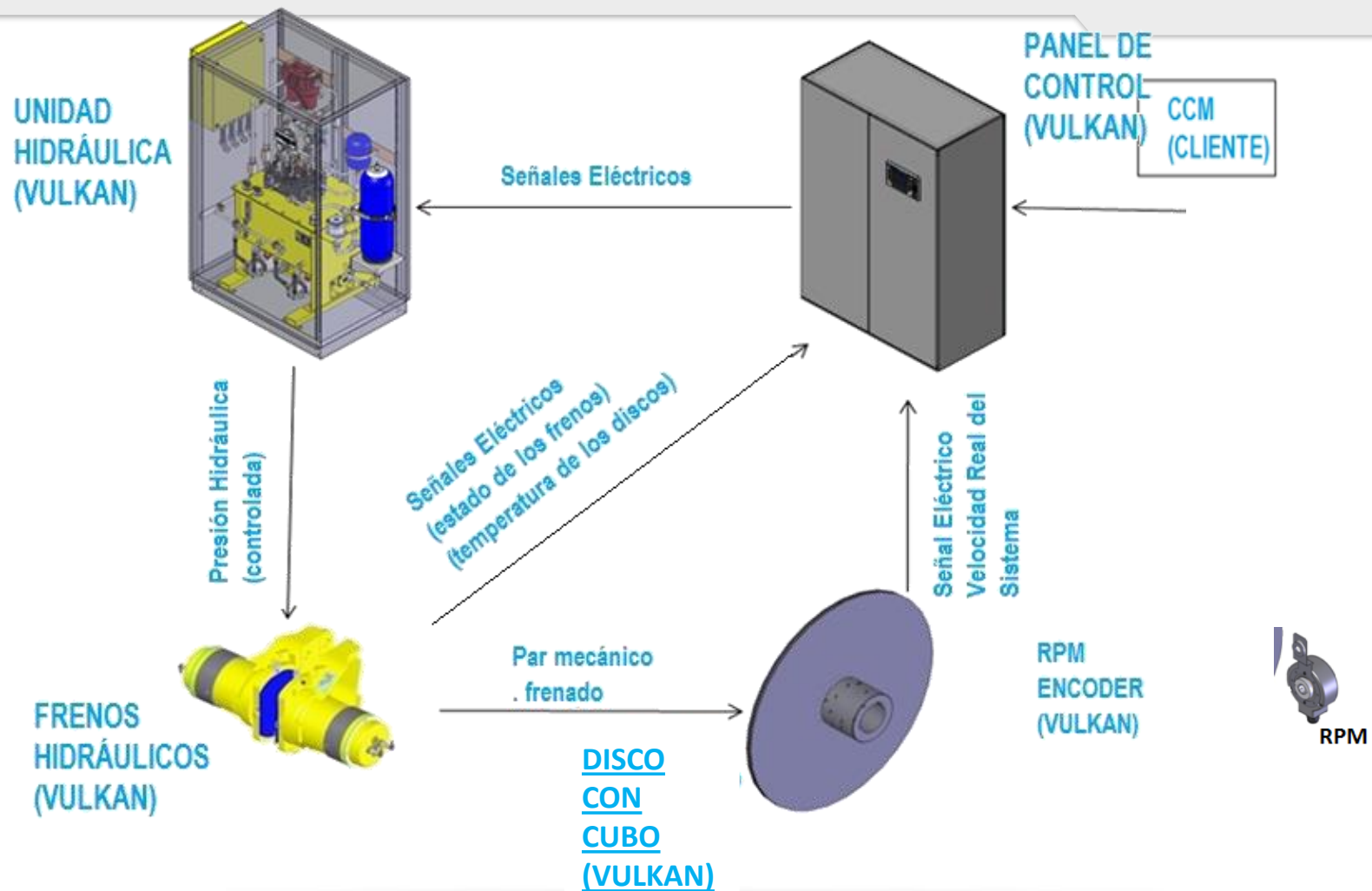
VULKAN
DRIVE TECH



INDUSTRIAL BRAKE

CONVEYOR

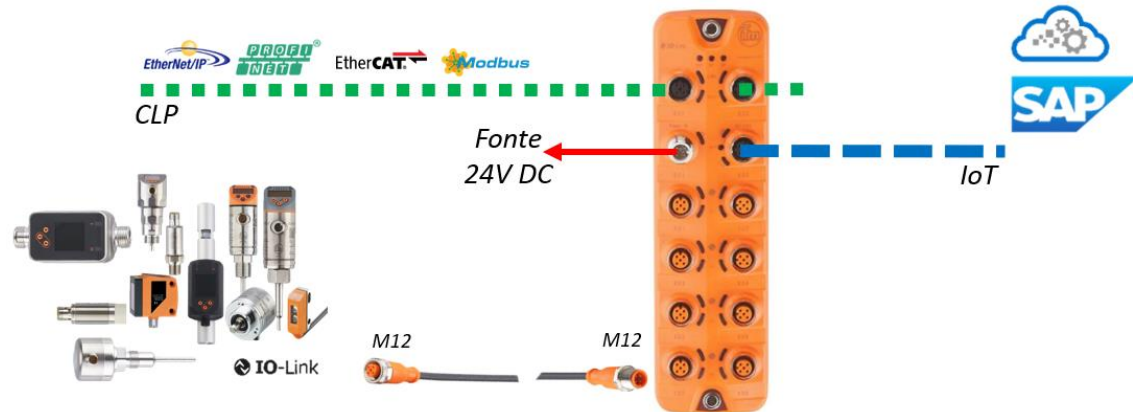
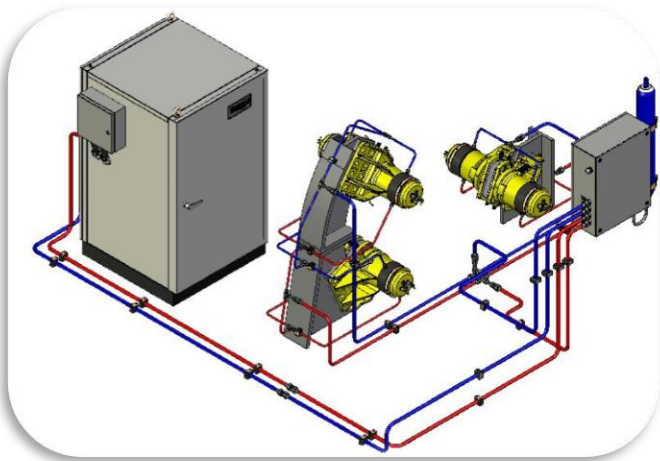
VULKAN
DRIVE TECH



INDUSTRIAL BRAKE

CONVEYOR

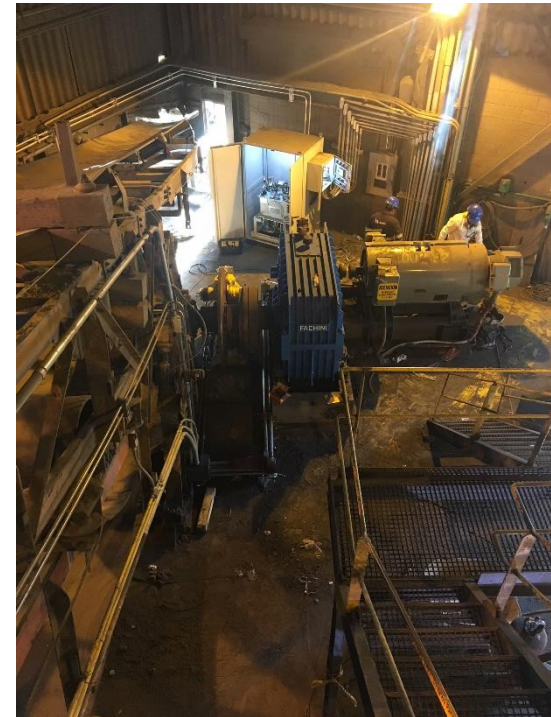
VULKAN
DRIVE TECH



INDUSTRIAL BRAKE

CUSTOMER: IRON ORE MINE
OVERLAND CONVEYOR

VULKAN
DRIVE TECH

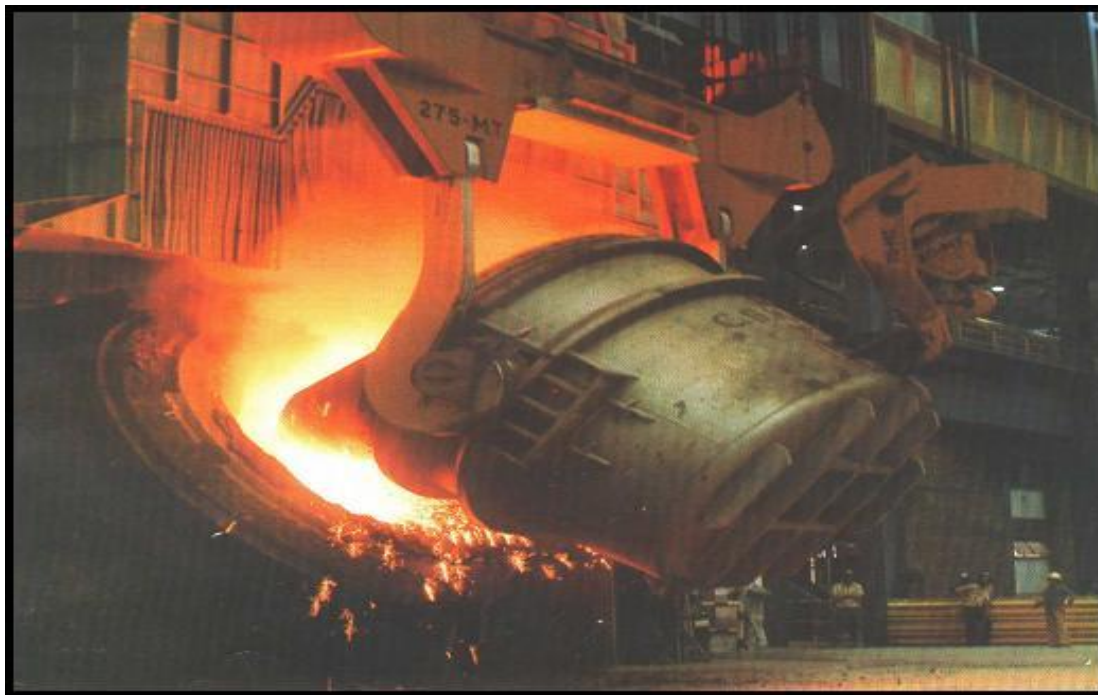


INDUSTRIAL BRAKE

PAY ATTENTION !!!

VULKAN
DRIVE TECH

IF THE BRAKES WILL BE USED INCORRECTLY OR IF IT RECEIVES DEFICIENT MAINTENANCE BY UNQUALIFIED PERSONS, IT MAY CAUSE SERIOUS PROPERTY AND PERSONAL DAMAGE.



Andre Nunes

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GRACIAS POR SU ATENCIÓN

VULKAN
COUPLINGS

VULKAN
DRIVE TECH

VULKAN
LOCKING