

# QUBO TL

## PORTAL CRANE WITH ADJUSTABLE HEIGHT BRIDGE



The portal is made by a main frame on which the diesel engine, the hydraulic power unit and the command console are placed.

### Hydraulic system:

The hydraulic system of the machine is made by two separate circuits, fed by a single tank. One hydraulic system is dedicated to driving both the two crawlers and the four rail wheels, while the other is for the actuating cylinders and clamps. Both circuits are equipped with variable displacement pump. The machine is equipped with an emergency quick coupling system, to be used in case of engine failure.

### Drive control hydraulic system:

The system driving the crawlers and the rail wheels is made of two separate circuits, each with variable displacement pump. Pumps are driven by the diesel engine, by means of a coupler, and are actuated by electro valve and emergency command. The QUBO driving operations can be commanded either by a operator on the ground (availing the remote control), or from the on board workstation.

### Hydraulic system for cylinders actuation:

Hydraulic pumps feed the actuators via a control valve, by means of the actuating levers on the command panel (or by remote control). All cylinders are equipped with a safety valve, preventing eventual breakdowns of the system, or leaks from the hydraulic circuit hoses. When the hydraulic oil temperature reaches the predefined parameters (70° C), the pressure regulator automatically switches the electric valves of the heat exchanger on.

### Hydraulic sleeper beam:

The QUBO TL can be equipped with a special hydraulic beam for handling 25 sleepers and laying them down to the ground, respecting the predefined spacing (e.g., 60 mm / 66 mm). Commands for the grab/hold and the for sleepers laying are handled by the same remote control used for managing QUBO TL.

Connections realised via safety couplings, as well as hydraulic and electric couplings, guarantee a fast and high safety application procedure.

### Different operations qubo can perform:

- 1 - Pulling and laying down one set of long rails, from a wagon.
- 2 - Handling and laying down a bunch of 25 sleepers, by adding to QUBO the mechanical beam. One only unit of QUBO is required for this job, for which it can travel either by crawlers or by wheels.
- 3 - Handling and laying down long track panels or turnouts; replacing old track panels or turnouts. Due to the weight, two units are used (pair), synchronized.
- 4 - Laying down rails and sleepers, by adding the mechanical beam. In this case, two units are used, where one functions as a shuttle continuously feeding the rail wagons, the other just picking and laying. In this case, wheels are predominantly used on the shuttle one, while crawlers are used on the picking & laying unit.

### Technical characteristics:

Overall width with retracted crawlers .....	3.208 mm
Overall width with extended crawlers .....	5.408 mm
Length .....	2.520 mm
Height .....	3.100 mm
Weight .....	16 t
Lifting Capacity .....	20 t
Pads width .....	360 mm
Rail wheels, diameter .....	400 mm
Wheel base .....	2.400 mm
Speed on crawlers .....	5 Km/h
Speed on rail wheels .....	12 Km/h

**Diesel Engine:** N° of cylinders / Power ..... 4 Cyl. / 75 kw

**Emergency Diesel engine:** Power ..... 4,5 Kw

### Optional:

Synchronised commands of the portals, when operating in tandem, for both working and travelling phases.