

## Mirrors kit

Mirrors kit that allow the RH side, rear and of the winches vision from the operating position

## Documents

- 2 copies of Use and Maintenance manuals, hydraulic schematic and electrical diagrams
- 2 copies of Spare Parts manuals
- 2 CDs including the complete technical file, engine documentation and accessories documentation. (extra copies upon request)

Including:

- Cylinder 5100 mm stroke - Pull-down system
- Max pull-down force: 141 kN
- Max pull up force: 226 kN
- Speed up: 21 m/min
- Speed down: 20 m/min
- Cathead c/w sheaves CPD

3.9 meter long foldable mast extension including cathead c/w sheaves for main and service winch.

### Mechanical locking Kelly bar

- Diameter 368 mm
- Dimensions 4 x 9 m
- with box of 200 mm with disk type spring
- Depth CPD version – 31.1m (self-mounting)

**Kelly bar guide** ( including the locking kit for transport )

### Kelly bar swivel

- Connecting element between the kelly bar and the main winch rope.

Rope for main winch

- Non rotating rope 24 mm L.70 meters (suitable up to kelly bar: 4x10,5 locking and 5x8 friction)

### Rotary quill kit

With interchangeable kelly ribs, complete with lower bar ring

Rotary quill suitable for Kelly bar diam. 368 mm

Flange for bucket opening

## Cardan joint

Universal joint connecting the rotary sleeve and the driving flange; it allows to overcome the bending moment that could arise from the casing driving and transmits the rotary torque to the casing.

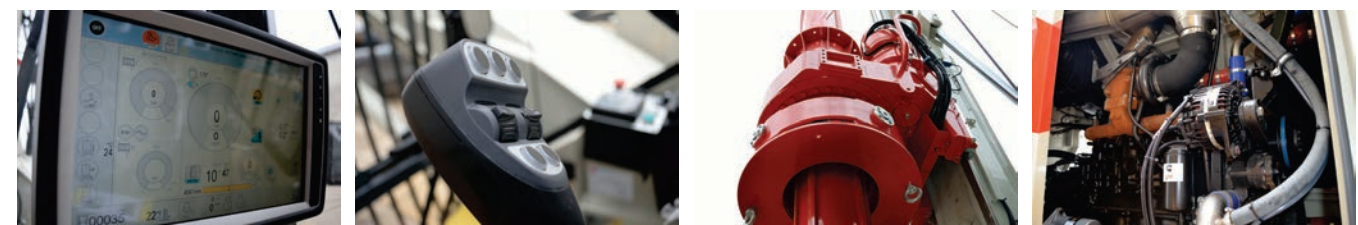
Cardan joint flanges

1000 mm diameter casing driving flange for cardan joint

1300 mm diameter casing driving flange for cardan joint

# COMACCHIO CH450: WELCOME TO THE EVOLUTION

Foundation drilling has evolved, see it for yourself



**drill techniques**  
EXPERTISE DRIVING PERFORMANCE

**SPECIFICATIONS - CH 450 HT SN: 2915**

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# Welcome to the Evolution

## SPECIFICATIONS – CH 450 HT SN: 2915

### Drilling parameters – Bored piles

- Max pile diameter CPD: 1,500 – 2,000 mm (w/o bottom element)
- Max pile depth friction Kelly CPD: 56.6 meters
- Max pile depth friction Kelly WPD: 62.9 meters
- Max pile depth locking Kelly CPD: 45.1 meters
- Max pile depth locking Kelly WPD: 50.4 meters

### Variable Width Undercarriage

Variable width undercarriage 2,550-4,000mm, 600 mm shoes, average ground pressure 0.1 Mpa. Extendable undercarriage by means of hydraulic cylinders with triple grouser track shoes.

Complete with mechanical attachment for casing oscillator.

Overall length:	4925 mm
Centre idler to centre sprocket:	4100 mm
Chain pitch:	190 mm
Traction force:	385 kN
Travelling speed:	2.0 / 3.3 km/h

### Upper Structure

Mounted on slew ring with internal gear operated by two motor-reducer gear boxes c/w motors and brakes for a 360° rotation, including:

- Soundproofed FOPS-1 and TOPS cabin: 980 mm wide, windscreen on top, front and side, fully adjustable seat
- Pedal for main winch rope release and pedal for special drilling functions.
- Radio CD kit
- Bluetooth
- Automatic air conditioning and heating;
- Levers and capacitive controls easily accessible, each operation is recalled by controls with graphical symbols.
- Full can-bus hydraulic system
- Hydraulic oil tank 600 l c/w 10 µ return line filter and pneumatic refilling pump
- Fuel tank 500 l c/w electric refuelling pump
- 3.850 kg dismountable counterweight.

Width:	2550 mm
Tail swing radius:	3865 mm
Slewing speed:	3 rpm

#### Main winch CW160

Controlled descent type hydraulic winch, fitted with Lebus type grooved drum, complete with wire pressing device for the correct rope winding.

Line pull in first layer:	160 kN
Max speed:	75 m/min

#### Service winch CW72

Controlled descent type hydraulic winch, fitted with flat type drum, complete with wire pressing device for the correct rope winding

Line pull in first layer:	72 kN
Max speed:	55 m/min

### Winches

Parallelogram assembly to connect the mast to the upper structure including: triangular frame, mast erecting hydraulic cylinders, connection rods to the frame and cylinder for working radius adjustment c/w hydraulic hoses and safety valves. Working radius variable from 3,000 to 3,800 mm

Reinforced boxed steel mast, specifically structured to support on its whole length 190 kNm torque, including: fitting for folding cathead, kinematic cross member and main winch reeving pulley on a sliding bushing

Sliding along the mast by means of slide pad mounted cradle; c/w two variable displacement radial piston motors and two one-step reducing gearboxes. The rotary unit can work with 355, 368 and 394 mm O.D. kelly bar.

Maximum Nominal torque:	190 kNm @ 33 MPa
Maximum Torque:	165 kNm @ 28.5 MPa
Maximum drilling speed:	51.5 rpm
Spin-off speed:	125 rpm

Monitoring and controlling system of the main unit by means of a 12,1" colour touch screen and joypad which allow the:

- Managing and controlling of all the electrically actuated functions;
- Diagnosis check control and errors display;
- Pump pressures display;
- Mast verticality control by means of an electronic inclinometer;
- Drilling depth display;
- Rotary speed and pressure display;
- Crowd pressure display
- Automatic rotary speed management (ASM) setting.
- Interactive rotary multiple gear system (IMGS), allowing the operator to manually adjust the gear being always in constant power mode.
- Automatic winches control on rigging and derigging phases.
- Slewing back to Centre hole with automatic stop.
- Diesel engine interface on a separate display.

Soundproof canopy easily accessible for inspection and maintenance Diesel engine assembly with CUMMINS QSB6.7, US EPA Tier 3, six cylinders turbocharged and charge air cooled.

Rated Power: 201 kW (274 Hp) @ 2000 rpm  
Displacement: 6700 cm<sup>3</sup>

Fan drive system for low noise emission

Average fuel consumption: 34.5 l/h

Hydraulic system including:

Electronic control of diesel engine load factor;

No.1 variable displacement double pump 2x214 l/min max pressure 30 MPa;

No.1 variable displacement piston pump 160 l/min max pressure 32 MPa;

No.1 gear pump 28 l/min max pressure 20 MPa

### Kinematic assembly

### Mast assembly

### CR 19 Rotary head

### Comacchio Controlling System (CCS)

### Hydraulic power pack CUMMINS QSB6.7 Step 3A / Tier 3