

## 2. PRODUCT DESCRIPTION

### 2.1. GENERAL

This chapter

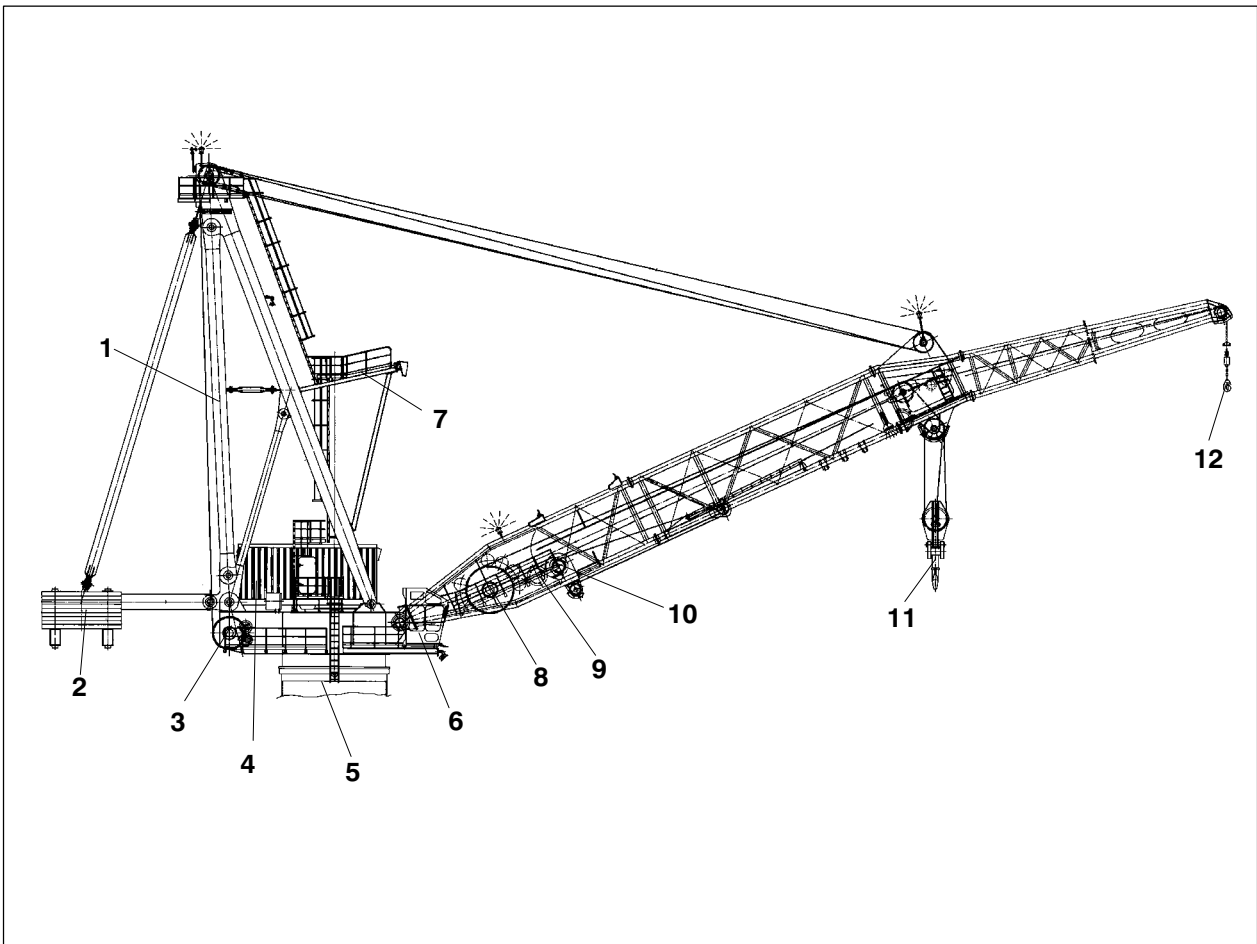
- gives information about the machine application possibilities and warns against incorrect or improper use,
- describes assembly and the main components,
- gives important technical data.



#### NOTE !

The illustrations in the product description serve only to give general information and do not necessarily correspond with the actual setting–up stage of the machine.

### 2.2. GENERAL ARRANGEMENT OF CRANE

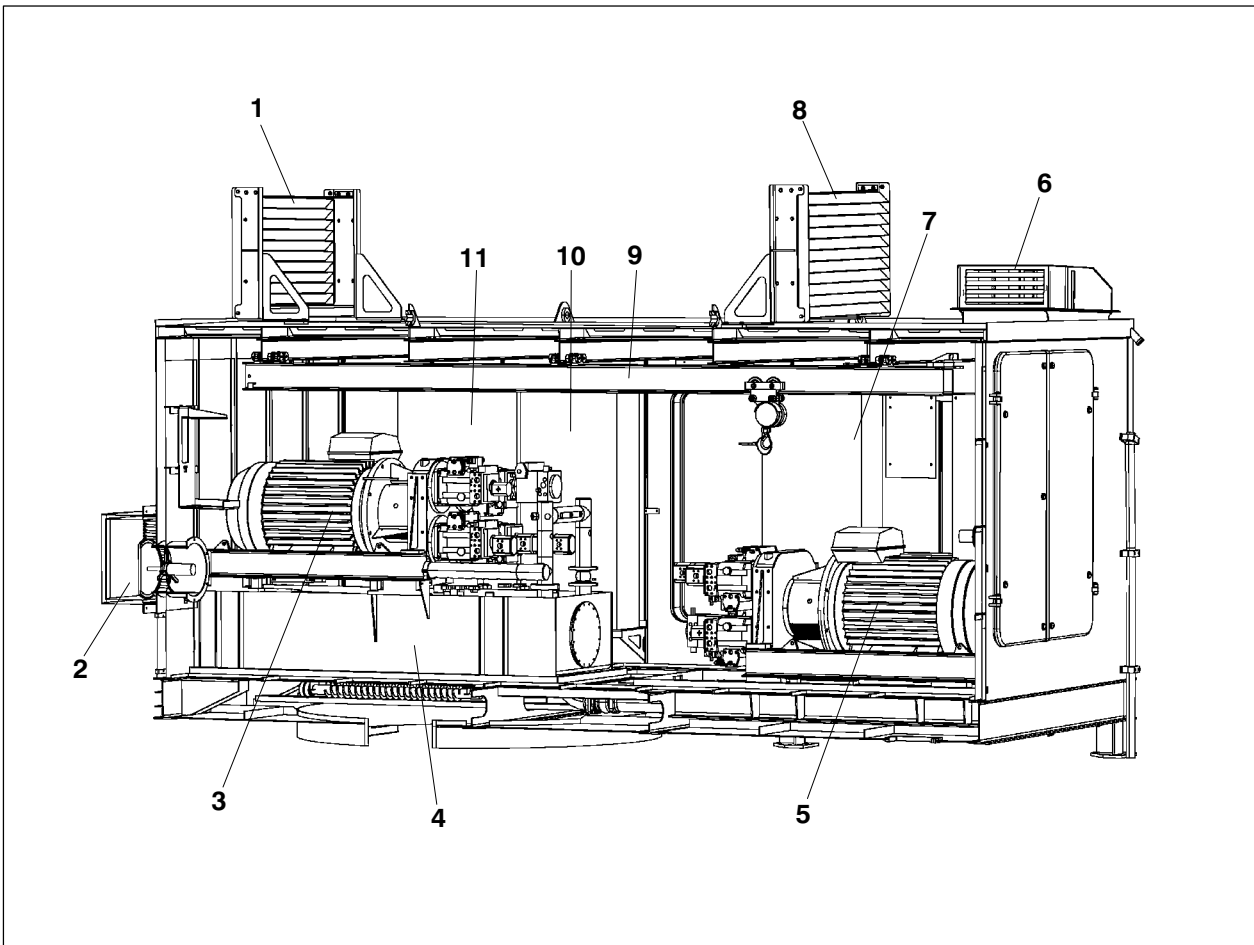


- |                    |                             |
|--------------------|-----------------------------|
| 1 A–frame          | 7 Anti tilt struct for boom |
| 2 Counter weight   | 8 Main hoisting winch       |
| 3 Luffing winch    | 9 Auxiliary hoisting winch  |
| 4 Machinery house  | 10 Tugger winch (2x)        |
| 5 Base column      | 11 Hook main hoist          |
| 6 Operator's cabin | 12 Hook auxiliary hoist     |

At the following pages the main components of the crane are described in detail. The crane parts are described generally. There may be differences to the actual crane configurations because of customized features!

2.3. MACHINERY HOUSE

2.3.1. OVERALL VIEW MACHINERY HOUSE



- |   |                                      |    |                                       |
|---|--------------------------------------|----|---------------------------------------|
| 1 | Hydraulic oil cooler of power pack I | 7  | Switch cabinet X3                     |
| 2 | Ventilating fan                      | 8  | Hydraulic oil cooler of power pack II |
| 3 | Power pack I                         | 9  | Crab                                  |
| 4 | Hydraulic oil tank                   | 10 | Switch cabinet X2                     |
| 5 | Power pack II                        | 11 | Switch cabinet X1                     |
| 6 | Ventilating                          |    |                                       |

**Hydraulic oil tank** (Pos. 4)

- supplies the complete hydraulic system
- is equipped with a return flow filter and a breather filter
- oil level control is possible with an electric hydraulic oil level indication

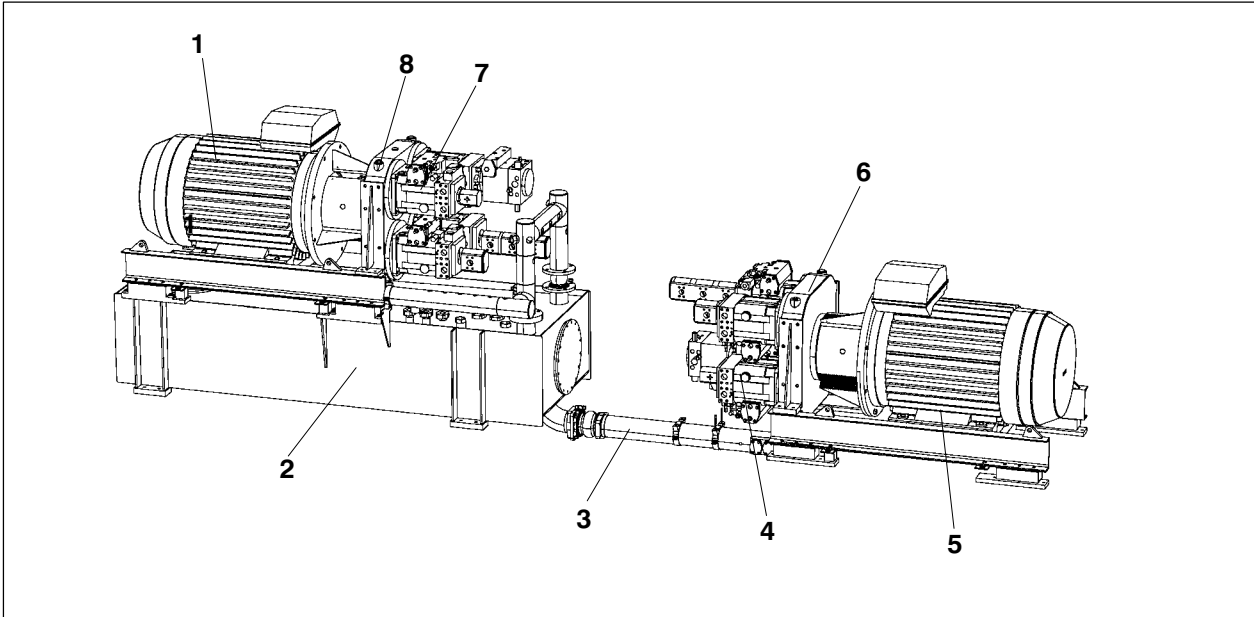
**Switch cabinet X1** (Pos. 11), **X2** (Pos. 10), **X3** (Pos. 7)

The switch cabinets contain the electric basic assembly for crane control.

**Crab** (Pos. 9)

A crab (2 to) for maintenance is mounted in the machinery house.

2.3.2. POWER PACK



- |   |                               |   |                      |
|---|-------------------------------|---|----------------------|
| 1 | Main motor I                  | 5 | Main motor II        |
| 2 | Hydraulic oil tank            | 6 | Distribution gear II |
| 3 | Suction line to power pack II | 7 | Hydraulic pumps      |
| 4 | Hydraulic pumps               | 8 | Distribution gear I  |

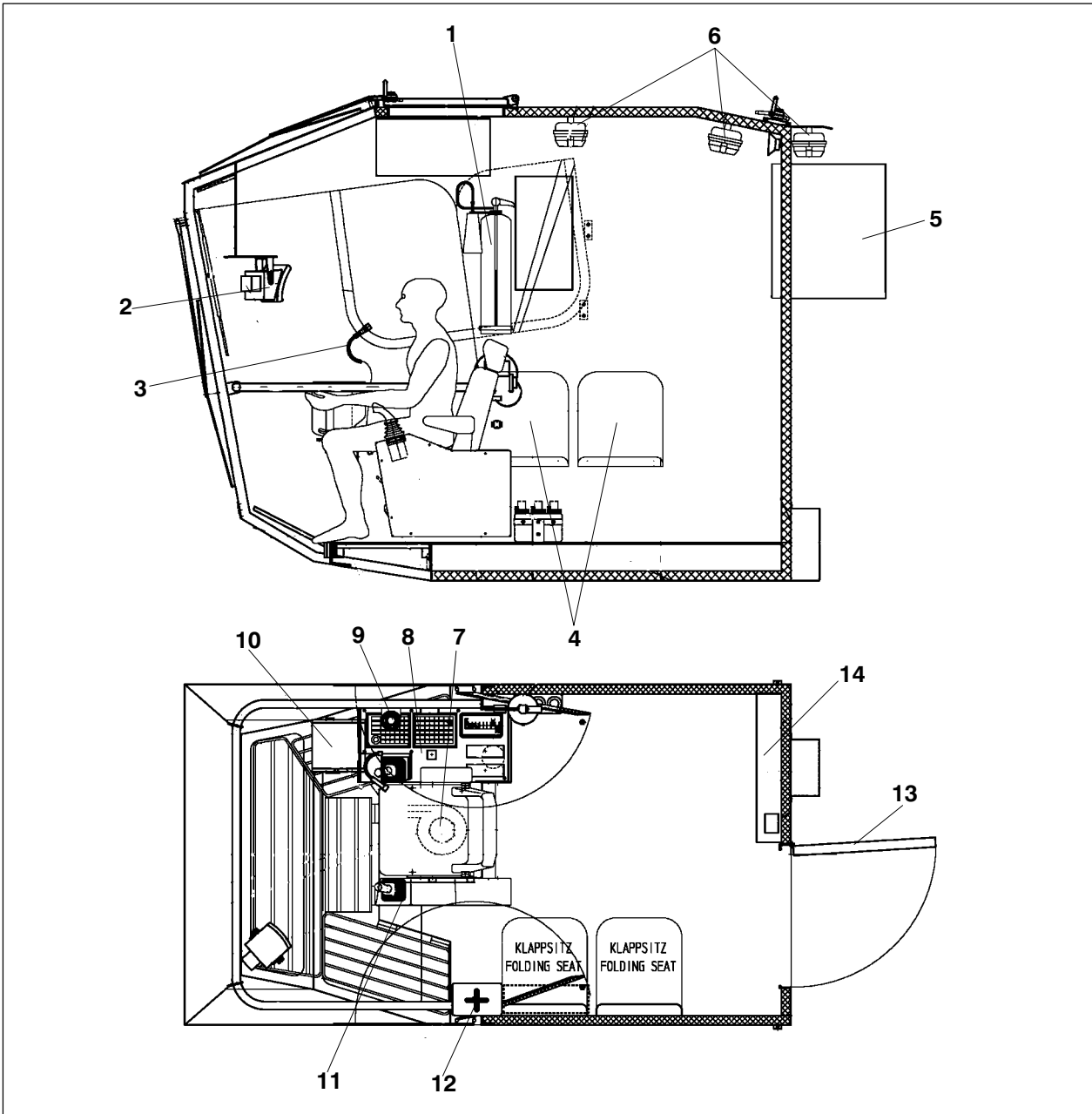
**Electric main motors** (Pos. 1, 5)

The crane is equipped with two electrical driven main motors.  
They are fully controlled by the LITRONIC control system.

**Hydraulic pumps** (Pos. 4, 7)

The hydraulic pumps are flanged via a distribution gear (Pos. 6, 8) to the main motor.

2.4. CABIN



- |   |                                   |    |                               |
|---|-----------------------------------|----|-------------------------------|
| 1 | Fire extinguisher                 | 8  | Control desk right side       |
| 2 | Monitor video control             | 9  | Clinometer                    |
| 3 | Microphon of PA-system            | 10 | LCD monitor LITRONIC          |
| 4 | Additional seats                  | 11 | Control desk left side        |
| 5 | Air conditioning unit             | 12 | First-aid kit                 |
| 6 | Cabin lighting                    | 13 | Entrance door                 |
| 7 | Operators seat, below: Ventilator | 14 | Control panel for ventilation |

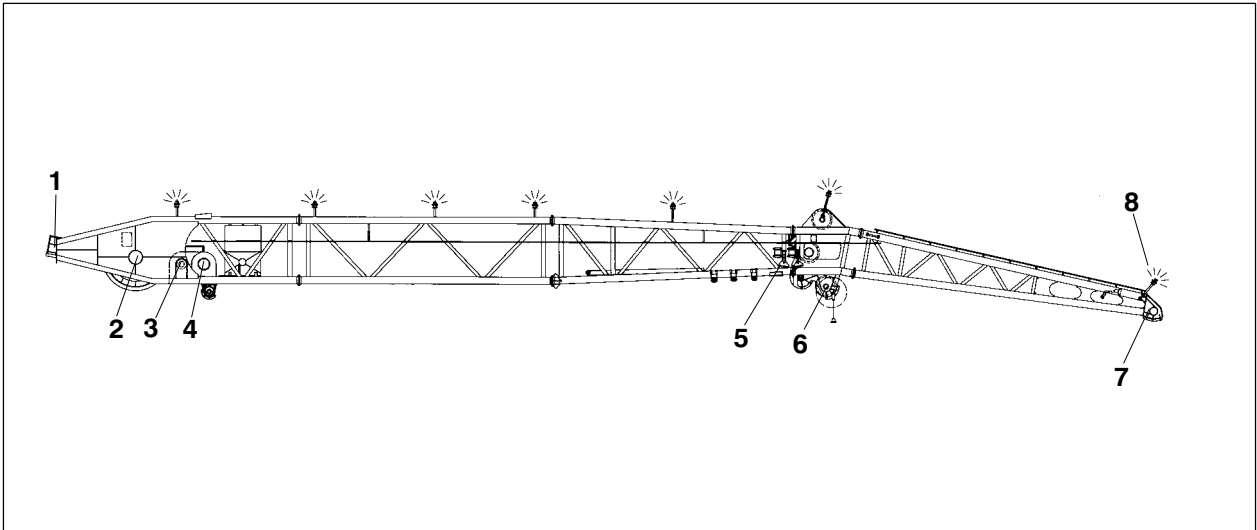
**Features of the drivers cabin**

All important control and operation elements are installed in the operators cabin. It is constructed to support and simplify the crane operation.

Further the cabin contains security devices to provide the crane drivers safety (windows made of compound glass, fire extinguisher, emergency stop button, first-aid kit).

2.5. BOOM

2.5.1. OVERALL VIEW BOOM



- |   |                       |   |                           |
|---|-----------------------|---|---------------------------|
| 1 | Boom pivot            | 6 | Main hoisting pulley      |
| 2 | Main hoist winch      | 7 | Auxiliary hoisting pulley |
| 3 | Auxiliary hoist winch | 8 | Helicopter warning lights |
| 4 | Tugger winches (2x)   |   |                           |
| 5 | Floodlights           |   |                           |

**Features of boom**

The boom is made of a lattice construction consisting of different sections which are bolted together. The main hoisting winch, the auxiliary hoisting winch and the tugger winch are situated at the boom pivot piece.

The adjustment of the boom is provided via the luffing gear.

A boom gangway provides easy access for maintenance.

## PRODUCT DESCRIPTION

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### 2.6. TECHNICAL DATA

#### 2.6.1. DESIGN CRITERIA'S

|                           |           |
|---------------------------|-----------|
| Design temperature        | -15 °C    |
| Relative Humidity         | max 100 % |
| Max. wind speed           | 20 m/sec  |
| Maximal crane inclination | 3°        |

#### 2.6.2. WORKING RANGE

##### – Main hoisting gear

|                   |   |
|-------------------|---|
| At minimum radius | 11 m  |
| At maximum radius | 40 m with long boom configuration<br>28 m with short boom configuration |

##### – Auxiliary hoisting gear

|                   |        |
|-------------------|--------|
| At minimum radius | 13,6 m |
| At maximum radius | 56,0 m |

#### 2.6.3. TOTAL LIFTING HEIGHT

##### – Main hoisting gear

|                    |                           |
|--------------------|---------------------------|
| 2x1 fall operation | 2620 m below slewing ring |
| 2x2 fall operation | 1100 m below slewing ring |
| 2x3 fall operation | 890 m below slewing ring  |
| 2x4 fall operation | 620 m below slewing ring  |

##### – Auxiliary hoisting gear

|                  |                         |
|------------------|-------------------------|
| 1 fall operation | 40 m below slewing ring |
|------------------|-------------------------|

#### 2.6.4. PERMISSIBLE CAPACITIES

##### – Main hoisting gear

|                                |              |
|--------------------------------|--------------|
| Maximal hoisting capacity      | 400,0 tonnes |
| Reeving                        | 2 x 8 fall   |
| Hoisting speed with 400 to SWL | 4 m/min      |
| Hoisting speed with empty hook | 13 m/min     |

##### – Auxiliary hoisting gear

|                                |             |
|--------------------------------|-------------|
| Maximal hoisting capacity      | 10 tonnes   |
| Reeving                        | single fall |
| Hoisting speed with 10 to SWL  | 86 m/min    |
| Hoisting speed with empty hook | 153 m/min   |

##### – Tugger winch gear

|                                |             |
|--------------------------------|-------------|
| Maximal rope tension pull      | 10 tonnes   |
| Reeving                        | single fall |
| Hoisting speed with 10 to SWL  | 34 m/min    |
| Hoisting speed with empty hook | 61 m/min    |

– **Slewing gear**

|                             |              |
|-----------------------------|--------------|
| Slewing gear with full load | 0 – 0,62 rpm |
| Slewing range               | indefinitely |

– **Luffing gear**

|  |  |
|--|--|
| Luffing speed from min. to max. radius | 321 seconds without load on the hook     |
| Luffing speed from min. to max. radius | 606 seconds with 400 to load on the hook |

**2.6.5. MAIN MOTOR**

|                |                      |
|----------------|----------------------|
| Manufacturer   | <b>ABB motors</b>    |
| Protection     | IP 55                |
| Type           | M2BA 355 S4          |
| Capacity       | 400 KW, S6 40% ED    |
| Starter system | Softstarter included |
| Weight         | 1550 Kg              |