



BASIC HYDRAULICS (PTY) LTD

Project Title

**DRAFT SPECIFICATION FOR THE WINCHES
MOSSEL BAY SLIPWAY UPGRADE**

Document Title

TECHNICAL SPECIFICATION AND SCOPE OF SUPPLY

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DRAFT SPECIFICATION FOR THE WINCHS OF MOSSEL BAY SLIPWAY UPGRADE

Refer to your inquiry regarding the machinery; we proposed the winch specification as follows:

1. Main cradle winch:

Duty pull at 1 st layer	:	55 T @ 7M/min;
Brake holding at 1 st layer	:	75 T;
Ratchet holding at 1 st layer	:	75 T;
Drum barrel OD	:	1390 mm;
Rope diameter	:	80 mm;
Width of the drum	:	1600 mm;
Layers of the cable	:	3 Layers in full drum & 2.65 layers when cradle in upper Position
Rope working length	:	250 metres
Safety coil onto the drum	:	5
Hydraulic pressure on motor	:	175 bar;
Flow across motor	:	270 L/min;

The winch will be driven via enclosed spur gear + planetary gearbox with disc brake + hydraulic motor.

2. Cradle hauling down winch:

Duty pull at 1 st layer	:	20 T @ 7M/min;
Brake holding at 1 st layer	:	30 T;
Drum barrel OD	:	560 mm;
Rope diameter	:	26 mm;
Width of the drum	:	1175 mm;
Layers of the cable	:	3 Layers in full drum;
Rope working length	:	250 meters
Safety coil onto the drum	:	5
Hydraulic pressure on motor	:	165 bar;
Flow across motor	:	102 L/min;

The winch will be driven via enclosed planetary gearbox with disc brake + hydraulic motor.

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3. Side cradle slipway winch (per winch drum):

Duty pull at 1 st layer	:	10 T @ 5M/min;
Brake holding at 1 st layer	:	15 T;
Drum barrel OD	:	900 mm;
Rope diameter	:	26 mm;
Width of the drum	:	890 mm;
Layers of the cable	:	1 Layer on full drum
Rope working length	:	80 metres
Brake (manual)	:	10 T;
Safety coil onto the drum	:	5
Hydraulic pressure on motor	:	180 bar;
Flow across motor	:	34 L/min;

The winch will be driven via enclosed spur gear + planetary gearbox with disc brake + hydraulic motor.

Spring loaded bottom roller to keep rope on the drum.

Note:

- All pins to be stainless steel.
- Maintenance free bushes to be used.
- Spur gear and pinon to be in oil bath gearbox.

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4. Hydraulic Power Unit (HPU)

The three slipway winches as per the following:

- Main cradle winch : 90 kw
- Cradle hauling down winch : 35 kw
- Side cradle slipway winch : 30 kw

Will be powered by a common 90 kw hydraulic power unit.

The HPU will have 2 x 45 kw pump sets which can operate as a single or combined pump set powering the three winches.

This arrangement will optimise the input power and provide redundancy. With one pump set the main cradle winch will operate at full load at a reduced speed.

The two 45 kw pump sets will have electrical soft start control.

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