TTS Offshore Handling Equipment delivers Anchor Handling/Towing Winches up to 600 tonnes. Our winches are designed to meet all anchor handling/towing requirements and are delivered with high pressure hydraulic drive.
TTS Offshore Handling Equipment

TTS Offshore Handling Equipment consist of people with long experience within the areas of: Winch design, Hydraulic, Control Systems.

With this we can act as an experienced supplier of Anchor Handling/Towing Winches.

As a new supplier of Anchor Handling/Towing Winches we can assure that our design is custom made to your specification. We will work closely with you, as our customer, to make sure that the delivered product can handle all your required needs.

Our customer benefits:
- Custom made design of winches.
- Winches produced with high quality steel and parts.
- All systems are prepared for Remote monitoring, maintenance and service.
- TTS’ world wide service network assures availability of parts and service.
**PRODUCT SPECIFICATION**

**Anchor Handling / Towing Winch**

**200 TONNES**

**Model:** TTS-AHT-200-300-2D  
**Type:** Waterfall type  
**Drums:** 2

---

**Towing drum – 200 tonnes**

- One declutchable towing drum: 900 mm dia. x 2700 mm dia x 1900 mm length.
- Wire capacity: 1200 m of 64 mm dia. + 3% tolerance.
- Duty on 1st layer: 200 tonnes at 7.5 m/min
- Lowering: 18 m/min with 200 tonnes holding force
- Dynamic Breaking: 0-50 m/min at 20-200 tonnes
- Breaking force on 1st layer: 300 tonnes

---

**Anchor Handling drum – 200 tonnes**

- One declutchable towing drum: 900 mm dia. x 2400 mm dia x 1700 mm length.
- Wire capacity: 1200 m of 64 mm dia. + 3% tolerance.
- Duty on 1st layer: 200 tonnes at 7.5 m/min
- Lowering: 18 m/min with 200 tonnes holding force
- Dynamic Breaking: 0-50 m/min at 20-200 tonnes
- Breaking force on 1st layer: 300 tonnes

---

Basic design calculations criteria for the drums is based on using steel wire rope. The drums is fitted with band brakes of robust design, all movable parts with grease nipples. Sensor in bandbrake for measuring static wire tension.

**Brake and clutch control:** Manual/remote controlled

**Cable lifter:**

- One fixed cable lifters of steel to be fitted outside the towing drum, shaft ends for cable lifter are for dimensions of 3” rig chain.

**Hydraulic/remote controlled spooling gear for the anchor handling/towing drums (combined):**

- The spooling gear is equipped with valves giving a max. sideload of 20 tonnes.
- The spooling rollers are of openable to full drum length to allow passing shackles etc. The spooling device is driven by high pressure hydraulic motors. Hydraulic overload protection included.

NB! Spooling device not shown on enclosed drawing.

---

**Winch performance**

<table>
<thead>
<tr>
<th>SPEED HOISTING</th>
<th>SPEED LOWERING</th>
<th>DYNAMIC BREAKING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st layer</td>
<td>1st layer</td>
</tr>
<tr>
<td></td>
<td>200 tonnes at 0-7.5 m/min</td>
<td>200 tonnes at 0-18 m/min</td>
</tr>
<tr>
<td>1st layer</td>
<td>117 tonnes at 0-12.8 m/min</td>
<td>117 tonnes at 0-32 m/min</td>
</tr>
<tr>
<td>Top layer</td>
<td>78 tonnes at 0-19.2 m/min</td>
<td>78 tonnes at 0-46 m/min</td>
</tr>
</tbody>
</table>

---

The drums is fitted with band brakes of robust design, all movable parts with grease nipples. Sensor in bandbrake for measuring static wire tension.

**Brake and clutch control:** Manual/remote controlled

**Cable lifter:**

- One fixed cable lifters of steel to be fitted outside the towing drum, shaft ends for cable lifter are for dimensions of 3” rig chain.

**Hydraulic/remote controlled spooling gear for the anchor handling/towing drums (combined):**

- The spooling gear is equipped with valves giving a max. sideload of 20 tonnes.
- The spooling rollers are of openable to full drum length to allow passing shackles etc. The spooling device is driven by high pressure hydraulic motors. Hydraulic overload protection included.

NB! Spooling device not shown on enclosed drawing.
PRODUCT SPECIFICATION

Anchor Handling/Towing Winch

300 TONNES

Towing drum – 300 tonnes
One declutchable towing drum: 900 mm dia. x 27000 mm dia x 1900 mm length
Wire capacity: 2000 m of 64 mm dia. + 3% tolerance
Breaking force on 1st layer: 400 tonnes

Anchor Handling drum – 300 tonnes
One declutchable towing drum: 900 mm dia. x 27000 mm dia x 1900 mm length
Wire capacity: 2000 m of 64 mm dia. + 3% tolerance
Breaking force on 1st layer: 400 tonnes

Basic design calculations criteria for the drums is based on using steel wire rope. The drums is fitted with band brakes of robust design, all movable parts with grease nipples. Sensor in bandbrake for measuring static wire tension.

Brake and clutch control: Manual/remote controlled

Cable lifters:
Two fixed cable lifters of steel to be fitted outside the towing drums, one 64 mm – port side and one 64 mm – STB side.
Shaft ends for cable lifters are for dimensions of rig chain from 3” and 2 1/2”.

Hydraulic/remote controlled spooling gear for the anchor handling/towing drums (combined):
The spooling gear is equipped with valves giving a max. sideload of 30 tonnes.
The spooling rollers are of openable to full drum length to allow passing shackles etc.
The spooling device is driven by high pressure hydraulic motors.
Hydraulic overload protection included.

Winch performance

<table>
<thead>
<tr>
<th>STEP</th>
<th>1st layer</th>
<th>180 tonnes at 16.6 m/min</th>
<th>Mid layer</th>
<th>122 tonnes at 24.6 m/min</th>
<th>Top layer</th>
<th>92 tonnes at 32.7 m/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEP TWO</td>
<td>226 tonnes at 13.3 m/min</td>
<td>136 tonnes at 22 m/min</td>
<td>92 tonnes at 32.7 m/min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEP THREE</td>
<td>150 tonnes at 20 m/min</td>
<td>90 tonnes at 33.2 m/min</td>
<td>61 tonnes at 49.2 m/min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEP FOUR</td>
<td>75 tonnes at 40 m/min</td>
<td>45 tonnes at 66.4 m/min</td>
<td>31 tonnes at 98.4 m/min</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SPEED LOWERING
Lowering: 20 m/min with 300 tonnes holding force

DYNAMIC BREAKING
0-55 m/min at 30-300 tonnes
Anchor Handling/Towing Winch

400 TONNES

**Towing/working drums – 400 tonnes**

One declutchable towing drum: 1500 mm dia. x 3200 mm dia x 1900 mm length

- Wire capacity: 1732 m of 84 mm dia. + 3% tolerance

One declutchable working drum: 1500 mm dia. x 3200 mm dia. x 3000 mm length

- Wire capacity: 2759 meter of 84 mm dia. + 3% tolerance

Wire fastening prepared for wire from ø58 mm to ø98 mm.

Basic design calculations criteria for the drums are based upon using steel wire.

The drum is fitted with band brakes of robust design, all moveable parts with grease nipples. Sensor in bandbrake for measuring static wire tension.

Brake holding load: 500 tonnes on 1st layer.

**Hydraulic/remote controlled spooling gear for the towing/working drums:**

The spooling gear is equipped with valves giving a max. sideload of 50 tonnes. The spooling rollers are of openable to full drum length to allow passing shackles etc. The spooling device is driven by high pressure hydraulic motors. Hydraulic overload protection included.

**Anchor Handling drum – 400 tonnes**

One declutchable ah/wire drum: 1500 mm x 3200 mm dia. x 4870 mm length with dividing flange socket part 900 mm.

- Wire capacity on stowing part: 4500 m of 84 mm dia. Wire + 3% tolerance

Wire fastening prepared for wire from ø58mm to ø98mm

Basic design calculations criteria for the drum is based on using steel wire rope.

The drum is fitted with band brakes of robust design, all movable parts with grease nipples. Sensor in bandbrake for measuring static wire tension.

Brake holding load: 500 tonnes on 1st layer.

**Brake and clutch control: Manual/remote controlled**

**Cable lifters:**

Two fixed cable lifters of steel to be fitted outside the towing drums, one 76 mm – port side and one 76 mm – STB side.

Shaft ends for cable lifters are for dimensions of rig chain from 2 3/4" to 6 1/2".

**Hydraulic/remote controlled spooling gear for the anchor handling drum:**

The spooling gear is equipped with valves giving a max. sideload of 50 tonnes. The spooling rollers are of openable to full drum length to allow passing shackles etc.

**Winch performance**

**SPEED HOISTING**

<table>
<thead>
<tr>
<th>Step</th>
<th>1st Layer</th>
<th>Mid Layer</th>
<th>Top Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEP ONE</td>
<td>400 tonnes at 18.7 m/min</td>
<td>280 tonnes at 26.6 m/min</td>
<td>216 tonnes at 34.5 m/min</td>
</tr>
<tr>
<td>STEP TWO</td>
<td>308 tonnes at 24.9 m/min</td>
<td>217 tonnes at 35.4 m/min</td>
<td>167 tonnes at 46 m/min</td>
</tr>
<tr>
<td>STEP THREE</td>
<td>212 tonnes at 37.3 m/min</td>
<td>149 tonnes at 53.2 m/min</td>
<td>115 tonnes at 69 m/min</td>
</tr>
<tr>
<td>STEP FOUR</td>
<td>108 tonnes at 62 m/min</td>
<td>76 tonnes at 88.3 m/min</td>
<td>59 tonnes at 114.7 m/min</td>
</tr>
</tbody>
</table>

**SPEED LOWERING**

<table>
<thead>
<tr>
<th>Step</th>
<th>1st Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Layer</td>
<td>31 m/min</td>
</tr>
</tbody>
</table>

**DYNAMIC BREAKING**

<table>
<thead>
<tr>
<th>Step</th>
<th>1st Layer</th>
<th>Mid Layer</th>
<th>Top Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Layer</td>
<td>124 tonnes at 62 m/min</td>
<td>87 tonnes at 88.3 m/min</td>
<td>67 tonnes at 114.7 m/min</td>
</tr>
</tbody>
</table>
PRODUCT SPECIFICATION

Anchor Handling / Towing Winch
500 TONNES

Towing/working drums – 500 tonnes
One declutchable towing drum: 1500 mm dia. x 3750 mm dia. x 2800 mm length
Wire capacity: 4600 m of 76 mm dia. + 3% tolerance

One declutchable working drum: 1500 mm dia. x 3750 mm dia. x 2800 mm length
Wire capacity: 4600 meter of 76 mm dia. + 3% tolerance

Wire fastening prepared for wire from ø58mm to ø88mm.
Basic design calculations criteria for the drums are based upon using steel wire.

The drum is fitted with band brakes of robust design, all moveable parts with grease nipples.
Sensor in bandbrake for measuring static wire tension.

Brake and clutch control: Manual/remote controlled
Brake holding load: 650 tonnes on 1st layer.

Hydraulic/remote controlled spooling gear for the towing/working drums:
The spooling gear is equipped with valves giving a max. sideload of 50 tonnes. The spooling
rollers are of openable to full drum length to allow passing shackles etc. The spooling device
is driven by high pressure hydraulic motors. Hydraulic overload protection included.

Anchor Handling drum – 500 tonnes
One declutchable ah/wire drum: 2800 mm x 4300 mm dia. x 5600mm length with dividing
flange socket part 1100 mm.
Wire capacity on stowing part: 7700 m of 76 mm dia. Wire + 3% tolerance

Wire fastning prepared for wire from ø58mm to ø88mm
Basic design calculations criteria for the drum is based on using steel wire rope.

The drum is fitted with band brakes of robust design, all movable parts with grease nipples.
Sensor in bandbrake for measuring static wire tension.

Brake and clutch control: Manual/remote controlled
Brake holding load: 650 tonnes on 1st layer.

Cable lifters:
Two fixed cable lifters of steel to be fitted outside the towing drums, one 76mm – port side
and one 76mm – STB side.
Shaft ends for cable lifters are for dimensions of rig chain from 2 3/4” to 6 1/2”.

Hydraulic/remote controlled spooling gear for the anchor handling drum:
The spooling gear is equipped with valves giving a max. sideload of 50 tonnes. The spooling
device is driven by high pressure hydraulic motors. Hydraulic overload protection included.

Winch performance
Anchor Handling Drum

<table>
<thead>
<tr>
<th>WINCH PERFORMANCE</th>
<th>SPEED HOISTING</th>
<th>STEP ONE</th>
<th>1st layer</th>
<th>500 tonnes at 20 m/min</th>
<th>Mid layer</th>
<th>413 tonnes at 24 m/min</th>
<th>Top layer</th>
<th>352 tonnes at 28.5 m/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic breaking</td>
<td>STEP TWO</td>
<td>1st layer</td>
<td>303 tonnes at 33.4 m/min</td>
<td>Mid layer</td>
<td>250 tonnes at 40.5 m/min</td>
<td>Top layer</td>
<td>213 tonnes at 47.5 m/min</td>
<td></td>
</tr>
<tr>
<td>Dynamic breaking</td>
<td>STEP THREE</td>
<td>1st layer</td>
<td>202 tonnes at 50.1 m/min</td>
<td>Mid layer</td>
<td>167 tonnes at 60.7 m/min</td>
<td>Top layer</td>
<td>142 tonnes at 71.3 m/min</td>
<td></td>
</tr>
<tr>
<td>Dynamic breaking</td>
<td>STEP FOUR</td>
<td>1st layer</td>
<td>184 tonnes at 60.1 m/min</td>
<td>Mid layer</td>
<td>149 tonnes at 60.7 m/min</td>
<td>Top layer</td>
<td>124 tonnes at 71.3 m/min</td>
<td></td>
</tr>
</tbody>
</table>

Winch performance
Towing/Working Drums

<table>
<thead>
<tr>
<th>WINCH PERFORMANCE</th>
<th>SPEED HOISTING</th>
<th>STEP ONE</th>
<th>1st layer</th>
<th>500 tonnes at 25.2 m/min</th>
<th>Mid layer</th>
<th>337 tonnes at 37.3 m/min</th>
<th>Top layer</th>
<th>243 tonnes at 52 m/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic breaking</td>
<td>STEP TWO</td>
<td>1st layer</td>
<td>321 tonnes at 31.4 m/min</td>
<td>Mid layer</td>
<td>217 tonnes at 46.6 m/min</td>
<td>Top layer</td>
<td>156 tonnes at 64.8 m/min</td>
<td></td>
</tr>
<tr>
<td>Dynamic breaking</td>
<td>STEP THREE</td>
<td>1st layer</td>
<td>241 tonnes at 42 m/min</td>
<td>Mid layer</td>
<td>163 tonnes at 62.2 m/min</td>
<td>Top layer</td>
<td>117 tonnes at 86.6 m/min</td>
<td></td>
</tr>
<tr>
<td>Dynamic breaking</td>
<td>STEP FOUR</td>
<td>1st layer</td>
<td>161 tonnes at 63 m/min</td>
<td>Mid layer</td>
<td>109 tonnes at 93.4 m/min</td>
<td>Top layer</td>
<td>78 tonnes at 130 m/min</td>
<td></td>
</tr>
</tbody>
</table>

Model: TTS-AHT-400-500-3D
Type: Waterfall type
Drums: 3
**PRODUCT SPECIFICATION**

**Secondary Winch**

**Drum:**
Fixed drum with band brake and dividing flange.
Dimensions: Dia. 1500 mm/dia. 4500 mm x 900 mm on socket part
Dimensions: Dia. 1500 mm/dia. 4500 mm x 4500 mm on main drum
Capacity: 1600 m of 8" dia. syntetic rope of 4000 m of 76 mm dia. rope

Wire fastening for wire from ø48 mm to ø94 mm in both side flanges.
Basic design calculations criteria for the drums are based upon using steel wire.

**Brake control:**
Manual/remote controlled with sensor in bandbrake for measuring static wire tension.

**Spooling device for secondary winches:**
The spooling device is equipped with valves giving a max. sideload of 23 tonnes. The spooling device can serve both the main drum and the socket part and can be parked in front of the socket part outside the normal operation area for the main drum. The spooling device is driven by high pressure hydraulic motors. Hydraulic overload protection included.

**Winch performance**

<table>
<thead>
<tr>
<th>1ST LAYER</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>150 tonnes pull at 0-28 m/min</td>
<td></td>
</tr>
<tr>
<td>200 tonnes dynamic breaking at max. 60 m/min</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LAST LAYER</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>61 tonnes pull at 0-69 m/min</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BRAKE HOLDING FORCE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>200 tonnes at first layer</td>
<td></td>
</tr>
<tr>
<td>81 tonnes at last layer</td>
<td></td>
</tr>
</tbody>
</table>