

# Marine and offshore winch drives

Finnish high-end technology for the marine and offshore industry: Katsa's specialized winch gearboxes utilizing latest permanent magnet motor technology – a powerful package

The latest development in the DC grid and permanent magnet (PM) motor technology offers new possibilities for developing light, compact and agile machines for the marine and offshore sector. Demanding dynamic applications like escort winches are perfect applications for utilizing the advantages of the new technologies.

Combining a modern PM motor with a two speed gearbox offers a broad range of very high torques at low speed up to very high speeds for quick rope recovery. The gear change with two wet multi-plate clutches together with the advanced control system allows a quick change of ratios, even under load. The PM technology ensures high torques over a broad speed band. Proper cooling of the whole system ensures best performance throughout all load cases.

For example with Visedo's extremely compact and robust package of PowerDrum™ motor and PowerMaster™ AC/DC inverter a direct integration in the vessels DC grid is easily possible, offering also the possibility in recovering braking energy and saving it in energy buffering systems like Visedo's PowerCAP™. Visedo products offer also possibility for regenerative connection to AC grid as option.

By combining helical and planetary gear stages in a proper way, a reduction of space requirement of the winch may be achieved, which leaves more space on deck. The compact solution also leads to a rather small total weight of the winch.

By combining different motor sizes with one or two inverters together with optimized ratios in the gear train, a wide range of requirements for different specifications can be covered.

## Escort Winch Drive LPL648-120/235:

### For winch with:

Drum Ø 609 mm  
Rope Ø 88 mm

Power  $P_{nom} = 265 \text{ kW @ 1800 rpm}$

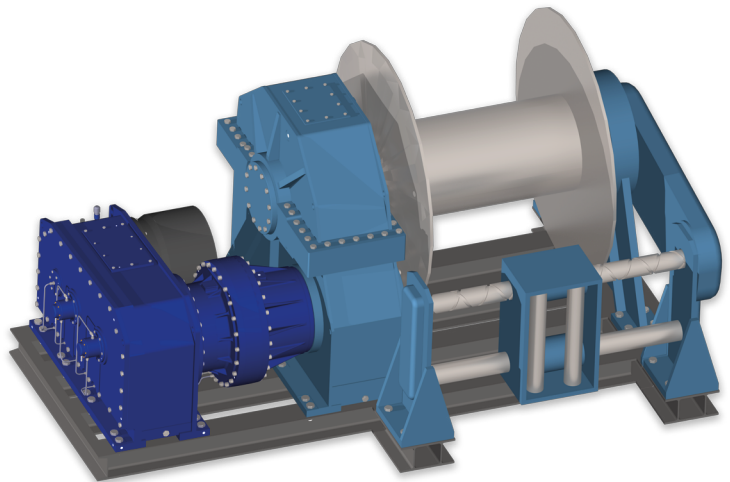
### Low speed performance @ 2. layer:

- nominal = 85 t @ 13 m/min
- short term load = 120 t @ 13 m/min
- fast = 35 t @ 40 m/min

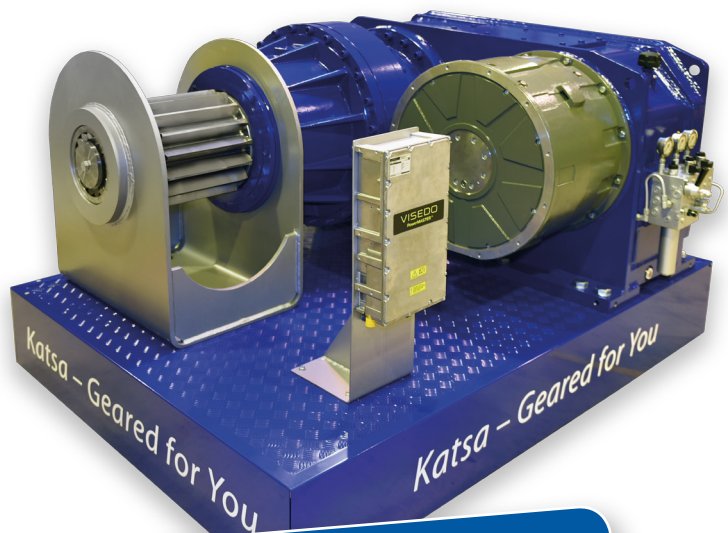
### High speed performance @ 2. layer:

- nominal = 45 t @ 13 m/min
- short term load = 60 t @ 13 m/min
- fast = 18 t @ 80 m/min

*Katsa OY designs and manufactures power transmission components. Katsa is a supplier of special gear units which are tailored to meet the customer's demands. For end users, Katsa provides modelling, modernisation, gearbox repair and maintenance services as well as spare parts. Moreover, Katsa manufactures a range of toothed components as single batches and in serial production.*



Dimensions 4,0 m x 2,4 m and total weight 20 t



Power package at stand  
A4.102 SMM 2016 in Hamburg

Get in contact and we  
will show you, how we  
will improve your winch  
with our technology.



*Katsa – Geared for You*

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