

# Wirth Multi Gear Drawworks

## For offshore applications

**Our multi gear drawworks with three shifting gears allow for both high hook speeds and maximum hoisting performance with the added value of an improved energy efficiency.**

### Product description

HMH's field-proven drawworks are the hoisting system which raises and lowers the travelling block and the equipment underneath. For offshore applications, gear driven drawworks are state-of-the-art technology. Compared to single gear drawworks, our multi gear design requires less input power to achieve the same hook load.

With three independent braking systems, our drawworks are leading in HSSE standards and availability. They are equipped with a regenerative dynamic braking system via the main drives, a fail-safe disk brake system for emergency and parking operations and an eddy current brake (ECB) to assist fast dynamic braking. The auto driller system (ADS) is provided via the main drive motors.

Our wireline protection system (WPS) prevents the "bird's-nest" effect during a sudden stop in hoisting operations. In our drawworks, we also set standards for usability and efficiency. With ADS, the

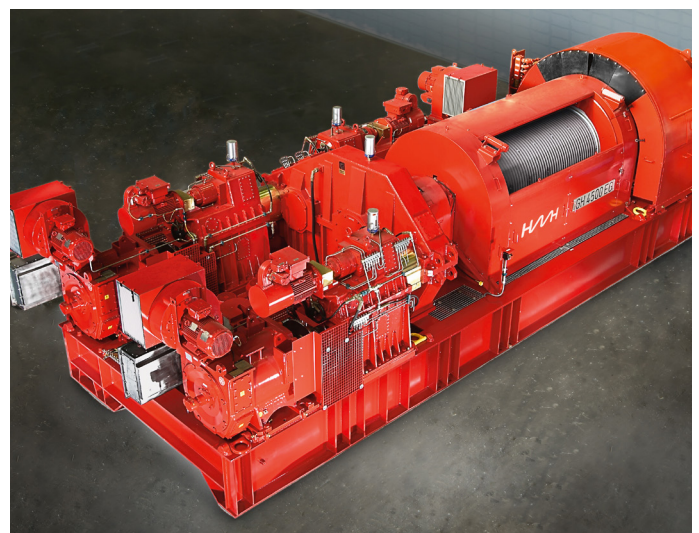
### Benefits

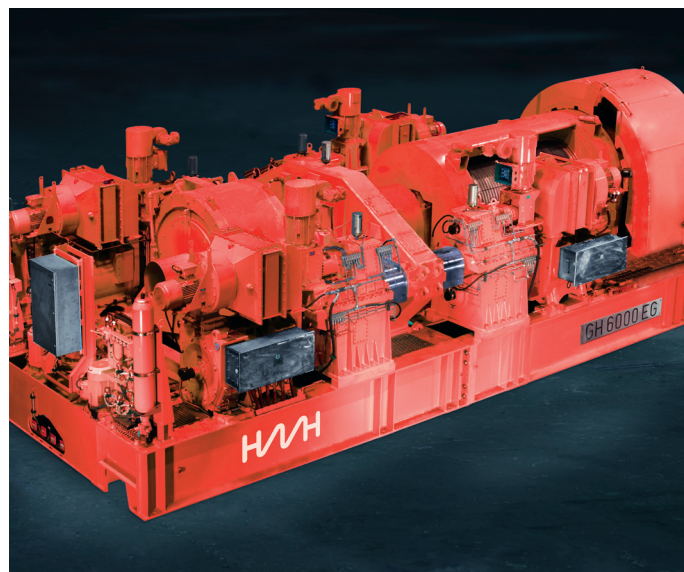
- Low-maintenance design and CBM capabilities maximize availability and uptime, resulting in lowest operational costs
- Highest hook speeds and maximum hoisting performance
- Three independent braking systems safeguard the complete drawworks operation
- Auto Driller System (ADS) for highest availability and efficiency
- Can replace chain driven drawworks (with AC or DC motors), with the added value of our high equipment quality
- Long and short base frame designs for different substructure designs
- Extended in-house testing facilities

drawworks can be operated precisely. It allows automatic operation control with parameters for rate of penetration (ROP), weight on bit (WOB), stand pipe pressure (SPP) and DDM torque. The intuitive and flexible-to-configure human machine interface (HMI) of our drawworks' control system allows the driller to focus on the most critical information. This results in higher drilling efficiency and safer working conditions. Our multi gear drawworks are accredited in accordance with API-7K.

### Additional Options

- Third party certifications such as ABS and DNV are available
- Reduced motor mode to operate the drawworks with one motor out of service
- Independent ADS for main motors for additional redundancy to main drive system. It is based on a separate AC drive arrangement and works independently from the main drive system. In case of main drive failure the drill string can be secured with the ADS.
- Online system allows our 24/7 technical service to diagnose and assist remotely
- Extended verification of drawworks and its control system on our unique in-house test facilities
- Condition based maintenance (CBM) system





## Technical specifications

Our multi gear drawworks for offshore applications are available with hoisting capacities ranging from 500 to 1 250 short tons (454 to 1 134 mT). The typical variants shown in the table below can be selected depending on rig requirements.

		GH 2500-EG-AC-3G-SV*	GH 3000-EG-AC-3G-SV*	GH 4500-EG-AC-3G	GH 6000-EG-AC-3G
Rig performance rating, max.		2 500 hp (1 864 kW)	3 000 hp (2 237 kW)	4 500 hp (3 356 kW)	6 000 hp (4 474 kW)
Rig capacity, max.		500 short tons (454 mT)	750 short tons (680 mT)	1 000 short tons (907 mT)	1 250 short tons (1 134 mT)
Standard main motors		Two AC, forced ventilated		Three AC, forced ventilated	Four AC, forced ventilated
Eddy current brake type		7838 or equivalent			
Lifting capacity first layer, max.		675 short tons (1 350 lbs x 1 000) with 14 lines	861 short tons (1 723 lbs x 1 000) with 14 lines	1 283 short tons (2 565 lbs x 1 000) with 16 lines	1 710 short tons (3 420 lbs x 1 000) with 16 lines
Lifting capacity fourth layer		558 short tons (1 117 lbs x 1 000) with 14 lines	861 short tons (1 382 lbs x 1 000) with 14 lines	1 062 short tons (2 125 lbs x 1 000) with 16 lines	1 413 short tons (2 825 lbs x 1 000) with 16 lines
Block speed, max.		260 ft/min (1.3 m/sec) with 14 lines		258 ft/min (1.3 m/sec) with 16 lines	
Dry weight		134 500 lb (61 000 kg)	136 700 lb (62 000 kg)	190 700 lb (86 500 kg)	271 200 lb (123 000 kg)
Dimensions	Length	348 in (8 650 mm)	363 in (9 218 mm)	454 in (11 522 mm)	439 in (11 600 mm)
	Width	139 in (3 520 mm)	144 in (3 660 mm)	158 in (4 005 mm)	209 in (5 320 mm)
	Height	115 in (2 920 mm)	955 in (2 414 mm)	124 in (3 142 mm)	124 in (3 161 mm)

\* These drawworks are designed as a compact short version. They are also available as an long version to meet other space requirements. Data is subject to confirmation by the manufacturer.