

▼ SHS-Series 4-Point SyncHoist System



- High precision load manoeuvring, vertically and horizontally – using one crane
- Reduces the risk of damage from oscillations of wire rope due to crane joggling and sudden starts/stops
- Vastly improving worker safety, operating speed and control
- Weather conditions play less critical role
- PLC-controlled hydraulics turn lifting into high accuracy hoisting and load positioning system
- Double-acting push/pull cylinders with load holding valves for added safety in case of hose rupture or coupler damage
- Cost reduction compared to conventional load positioning methods.

Options for system management & control:

- Manual control: system warning functions
- Automatic control: fully PLC-monitored system with programmable functions using touch screen and system warning functions
- SHAS-Series: Wireless control – self-contained hydraulics with hand-held control. Integrated PLC-controlled hydraulics in each lifting device – no need for external powerpack and hydraulic hoses.

▼ Bridge segments are hoisted from the ground, being positioned with a 4-point SyncHoist system with fully monitored cylinders.



▼ Rigging engineers used the SyncHoist system to precisely monitor and adjust each lifting point independently, or together in a synchronized manner to position the 1140 ton nuclear plant module.



Accurate Hoisting and Load Positioning Enhancing a Crane's Capability



Synchronous Hoisting

Enerpac SyncHoist is a unique crane product for below-the-hook positioning of heavy loads that require precision placement. The SyncHoist system may reduce the number of cranes needed and reduce the costs of multiple picks.

Functions

- High precision horizontal and vertical load positioning
- Pre-programmed positioning, tilting and aligning.

Applications

- Positioning of rotor, stator and propeller blades of wind turbines
- Positioning of roof sections, concrete elements, steel structures
- Positioning of turbines, transformers, fuel rods
- Precise machinery loading, mill rod changes, bearing changes
- Precise positioning of pipe lines, blow out valves
- Positioning and aligning of ship segments prior to assembly.

▼ Offshore wind turbine base foundations installed with a wireless SHAS-SyncHoist System to ensure the foundation remained vertical during lowering and positioning.



SyncHoist - High Precision Load Positioning



What is SyncHoist?

Enerpac SyncHoist is a hydraulically operated auxiliary attachment for high precision load positioning for cranes.

The automatic version with PLC-controlled hydraulic pump monitors and guides the powerful double-acting push-pull cylinders integrated into the lifting points above the load. The SyncHoist system can be used for pre-programmed positioning, tilting and aligning of loads.

- Patented system
- Complete system tested in compliance with European lifting directive and safety requirements

SyncHoist improves safety, operating speed and control of load movement

Geometric positioning of heavy loads in a horizontal and vertical plane are frequently done using more than one crane.

Synchronising movements between cranes are difficult and risky. The lifting inaccuracy can result in damage to the load and support structures and puts workers at risks.

The SyncHoist system can be used for controlled hydraulic horizontal and vertical material handling.

System management and control

Contact Enerpac for the following options, or other customised stroke, capacity and control configurations.

1. Manual control

- Valves with manual levers
- Warnings for thermal motor protection
- Visual check: oil level, filter indicator.

2. Automatic control

- Load and stroke monitoring, and stroke control
- PLC-control and touch screen
- Solenoid valves with pendant
- Pre-programmable motions and data recording
- System warnings for:
 - maximum cylinder load control setting
 - stroke and position control
 - thermal motor protection
 - oil level and filter indicator.

Autonomous SHAS- wireless system

- Wireless remote control
- Only one electric power connection per lifting point
- Integrated hydraulics, PLC and controls
- No need for hydraulic hoses and cables
- No need for mid-hoist disconnection of hoses and movement of pump.

SHS, SHAS Series



Capacity Per Lifting Point:

55 - 225 ton

Maximum Stroke:

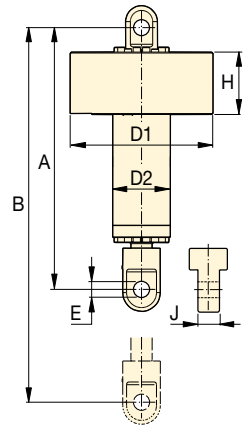
500 - 1000 - 1500 mm

Accuracy Over Full Stroke:

± 1,0 mm

Maximum Operating Pressure:

700 bar



Capacity ton (kN)	Total Load ton (kN)	Cylinder Stroke (mm)	Model Number SHS = 400 VAC-3 ph, 50 Hz SHAS = 400-500 VAC, 3 ph, 50-60 Hz	Control System	Motor Size (kW)	Number of Pump Outlets and Oil Flow ³⁾ (l/min)	Cylinder Dimensions (mm)						Weight (kg) ⁴⁾			
							A	B	D1	D2	E	H		J		
4 x 55 (4 x 539)	220 (2156)	500	SHS45520MW ¹⁾	Manual	7,5	4 x 1,4	1300	1800	690	245	59	385	80	450		
		1000	SHS45540MW ¹⁾				1800	2800						625		
		1500	SHS45560MW ¹⁾				2300	3800						800		
		500	SHS45520AW ¹⁾	Automatic			15	4 x 2,1						1300	1800	450
		1000	SHS45540AW ¹⁾											1800	2800	625
		1500	SHS45560AW ¹⁾											2300	3800	800
4 x 85 (4 x 833)	340 (3332)	500	SHS48520MW ¹⁾	Manual	11	4 x 2,1			1330	1830	690	265	72	385	100	500
		1000	SHS48540MW ¹⁾						1830	2830						700
		1500	SHS48560MW ¹⁾						2330	3830						900
		500	SHS48520AW ¹⁾	Automatic			15	4 x 2,1	1330	1830						500
		1000	SHS48540AW ¹⁾						1830	2830						700
		1500	SHS48560AW ¹⁾						2330	3830						900
4 x 110 (4 x 1078)	440 (4312)	1000	SHS411040MW ¹⁾	Manual	11	4 x 2,1			1855	2855	780	315	85	395	124	970
		1500	SHS411060MW ¹⁾						2355	3855						1235
		1000	SHS411040AW ¹⁾	Automatic					15	4 x 2,1						1855
		1500	SHS411060AW ¹⁾				2355	3855								1235
4 x 110 (4 x 1078)	440 (4312)	1000	SHAS411040WE ²⁾	Wireless	4 x 4,0	-	1855	2855			1063	315	85	540	124	1183
		1500	SHAS411060WE ²⁾				2355	3855								1448
4 x 225 (4 x 2204)	900 (8816)	1000	SHAS422540WE ²⁾	Wireless	4 x 8,0	-	2140	3140	1235	420	142	580	190	3219		
		1500	SHAS422560WE ²⁾				2640	3640						3414		

¹⁾ SHS: With 4 cylinders and one 400 VAC-3 phase-50 Hz Powerpack (suffix W). For 460-480 VAC-3 phase-60 Hz Powerpack change suffix W into J. Example: SHS45560MJ.

²⁾ SHAS: WE = 400-500 VAC, 3ph, 50-60 Hz with European electrical wiring. Change into suffix "WU" for US-market. Example: SHAS411060WU.

³⁾ SHS: Pump and cylinders include 4x 25 meters hydraulic hoses with couplers.

⁴⁾ Weight per cylinder.