



Enerpac Heavy Lifting Technology

Enerpac Heavy Lifting Technology provides customers with tailored solutions, combining hydraulics, steel fabrication and electronic control technology. Global Leader providing best in class solutions for safe and precise positioning of heavy loads.

With more than 50 years supporting industrial markets, Enerpac has gained the unique and in-depth expertise that is respected by industrial professionals around the world. Across every continent, Enerpac's network of application engineers, authorized distributors and technical service centers can reach any location, and deliver innovative solutions, technical assistance and quality products.

Enerpac's complete line of standard and customized products and a unique systems approach offers the benefits of safety and efficiency to applications where high forces are required.

Whether constructing a signature bridge across a deep valley, lifting a national landmark for seismic retrofit or simultaneously testing hundreds of foundation pilings to support a new building, Enerpac will supply the hydraulic solutions to get the job done.



Precision lift and position of heavy loads



Synchronous superlift and launch



Bridge lifting and launching



Jacking with high capacity precision control



Synchronous hoisting and load positioning



Incremental bridge lifting










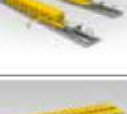




Transportation



Special high tonnage cylinders for the Pioneering Spirit lifting beams

Heavy Lifting Technology - Section Overview

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▼ SFP613SW with 150 litres reservoir (shown with 6 split-flow outlets)



- Smart valve technology allows both controlled lifting and lowering of multiple points
- 2, 4, 6 or 8 split-flow outlets
- Valve operation with advance/hold/retract function
- Joystick (manual) or pendant (solenoid) control
- Flow per outlet from 0,27 to 4,2 l/min at 700 bar
- For double and single-acting cylinders
- Pressure compensated flow control per circuit
- Adjustable pressure relief valve per circuit
- All models include pressure gauge per circuit
- Reservoir: 20, 40 or 150 litres.

Multiple Outlets with Equal Oil Flow



Split-Flow Pump Applications

Split-Flow pumps distribute an equal amount of hydraulic oil to a maximum of 8 outlets. Smart valve technology allows both controlled lifting and lowering of heavy loads.

Pressure compensated flow control

This unique feature to our Split-Flow Pumps will ensure both smooth lifting and lowering, independent of load distribution.

For lifting applications Split-Flow Pumps are an efficient and safer alternative than using individual pumps. Where synchronization of maximum 4% is acceptable, Split-Flow pumps are a safe and economical solution.

Application examples:

- Bridge deck lifting for bearing maintenance
- Stage lifting in construction and shipbuilding
- Skidding to move structures and buildings.
- Levelling of constructions such as wind turbines.



Remote Control Pendant

Split-Flow pumps with solenoid valves include a remote pendant with selector switches for each individual outlet, allowing single or multiple cylinder operation.



◀ During manufacturing of container units, the Enerpac SFP404SW Split-Flow Pump with 4 outlets provide both lifting and load distribution function. The container units weight between 70 and 120 ton and are complete equipped as full operational shelter for specific applications in power-generation, mining and construction industries for on-site use.

Split-Flow Hydraulic Pumps

SFP Series



Reservoir Capacity:
20 - 40 - 150 litres

Split-Flow Outlets:
2, 4, 6 and 8 outlets

Flow at Rated Pressure:
0,27 - 4,20 l/min

Maximum Operating Pressure:
700 bar



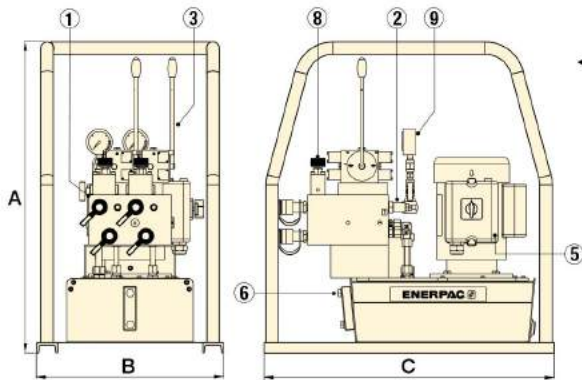
Lifting Cylinders

For a complete line of Enerpac cylinders, see the Cylinder and Lifting Products in our catalogue.

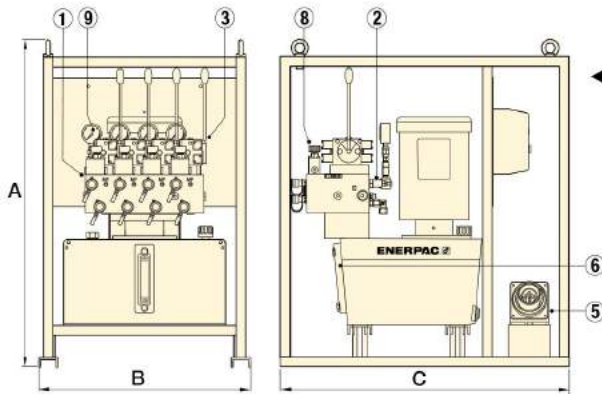
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- ① Manifold with split-flow outlets and CR-400 couplers
- ② Adjustable pressure relief valve per circuit
- ③ Manual 4/3 control valves with joysticks
- ④ Solenoid 4/3 control valves (24 VDC)
- ⑤ Power receptacle
- ⑥ Oil sight gauge(s)
- ⑦ Remote control pendant with 10 m cord
- ⑧ Return flow control valve in each circuit
- ⑨ Hydraulic pressure gauge in each circuit

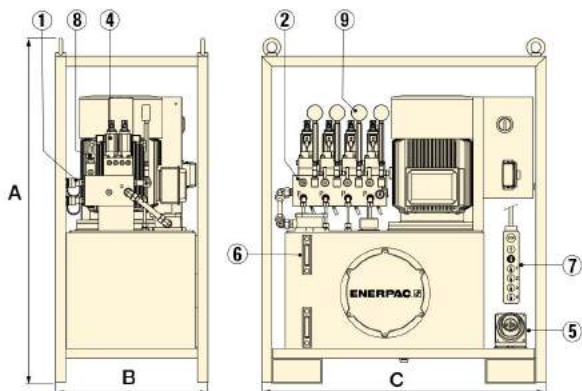
▼ Split-Flow Pump SFP409MW with 4 outlets and manual valves.



◀ SFP-Series with 20 litres reservoir (shown with 2 split-flow outlets)



◀ SFP-Series with 40 litres reservoir (shown with 4 split-flow outlets)



◀ SFP-Series with 150 litres reservoir (shown with 4 split-flow outlets)

Number of Split-Flow Outlets	Reservoir Size (litres)	Oil Flow per Outlet @ 700 bar (l/min)	Pump Model Number		Motor Size 400 V, 3ph 50 Hz (kW)	Dimensions (mm)			Weight (kg)
			4/3 Valve Operation Advance/Hold/Retract Manual (Joystick)	24 V Solenoid (Pendant)		A	B	C	
2	20	0,27	SFP202MW	—	0,75	750	450	700	86
	40	1,30	SFP213MW	SFP213SW	5,5	1019	660	900	240
	150	2,80	SFP228MW	SFP228SW	7,5	1372	605	1130	488
	150	4,20	SFP242MW	SFP242SW	11	1372	605	1130	526
4	40	0,45	SFP404MW	SFP404SW	5,5	1019	660	900	240
	150	0,90	SFP409MW	SFP409SW	5,5	1372	605	1130	475
	150	1,40	SFP414MW	SFP414SW	7,5	1372	605	1130	488
	150	2,10	SFP421MW	SFP421SW	11	1372	605	1130	526
6	40	0,45	—	SFP604SW	5,5	1019	660	900	240
	150	1,30	—	SFP613SW	11	1372	805	1200	550
8	150	1,30	—	SFP813SW	15	1372	805	1200	590

▼ EVOB 816W



- Pumps to control 4 to 8 lifting points
- Intuitive user interface provides easy set-up and control
- For use with standard single- or double-acting cylinders
- Built in warning and stop alarms for optimum safety
- Available in two oil flow options.

▼ Bridge maintenance: A 200 ton bridge was lifted using 8 cylinders to replace the old bearings.



The economical solution to basic lifting applications



The Basic EVOB-System

Leveraging Enerpac's market leading Z-Class pumps and components from the standard EVO, the Basic EVOB offers an economical solution to basic applications requiring stroke only control for a maximum of 8 lifting points.

The Basic EVOB-System has three work modes. The operator can navigate to any of these menus:

1. Manual
2. Automatic
3. Depressurize.



Typical Synchronous Lifting Applications

- Bridge lifting and repositioning
- Bridge launching
- Bridge maintenance
- Incremental launching and box jacking
- Lifting and lowering of heavy equipment
- Lifting, lowering, levelling and weighing of heavy structures and buildings
- Structural and pile testing
- Lifting and weighing of oil platforms
- Foundation levelling of onshore and offshore wind turbines
- De-propping/load transfer from temporary steel work
- Foundation shoring.

▼ Foundation repair: Synchronous lift system used to lift a 1000 ton building.



Basic Synchronous Lifting Systems



What is Synchronous Lifting?

To achieve high-precision movement of heavy objects it is necessary to control and synchronize the movements of multiple lifting points.

The PLC-control uses feedback from multiple sensors to control the lifting, lowering and positioning of any large, heavy or complex structure, regardless of weight distribution.

By varying the oil flow to each cylinder, the system maintains very accurate positional control. By eliminating manual intervention, the sync lift helps maintain structural integrity and increases the productivity and safety of the lift.

PLC-controlled synchronous lifting systems reduce the risk of bending, twisting or tilting, due to uneven weight distribution or load-shifts between the lift points.

EVOB Series



Number of Lifting Points:

4 - 8

Reservoir Capacity:

40 litres

Flow at Rated Pressure:

0,82 - 1,64 l/min

Motor Size:

1,12 - 2,24 kW

Maximum Operating Pressure:

700 bar



Wire Stroke Sensors

- Ordered separately, requires one for each lifting point
- Provides stroke feedback to controls
- Includes magnets for mounting.



Stroke Sensor Cables

- Ordered separately, requires one for each stroke sensor
- Can be connected together for additional length.

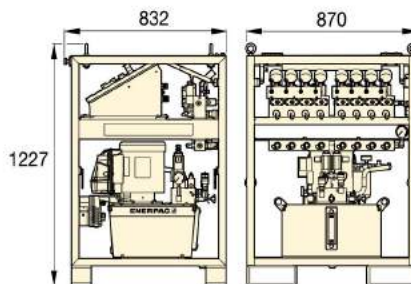
Stroke Sensor Model Number	Measuring Range (mm)
EVO-WSS-500	500
EVO-WSS-1000	1000

Sensor Cable Model Number	Cable Length (metres)
EVO-SC-25	25
-	-

Voltage Options: To select voltage, change suffix W into required suffix.

- B** = 115 V, 1 Ph, 50-60 Hz
- E** = 208-240 V, 1 Ph, 50-60 Hz
- G** = 208-240 V, 3 Ph, 50-60 Hz
- W** = 380-415 V, 3 Ph, 50-60 Hz
- J** = 460-480 V, 3 Ph, 50-60 Hz
- R** = 575 V, 3 Ph, 60 Hz.

Example: **EVOB408E**. EVOB Basic Pump for 4 lift points, 0,82 l/min at 700 bar, and 1,12 kW motor 208-240 V, 1 Ph, 50-60 Hz.



EVOB-Series (Basic)

Lifting Points	Oil Flow at 50 Hz ¹⁾ (l/min)		Model Number ²⁾	Usable Oil Capacity (litres)	Motor Size (kW)	Motor Weight (kg)
	(< 80 bar)	(> 80 bar)				
4	8,88	0,82	EVOB408E	40	1,12	278
4	11,61	1,64	EVOB416W	40	2,24	284
8	8,88	0,82	EVOB808E	40	1,12	278
8	11,61	1,64	EVOB816W	40	2,24	284

¹⁾ Oil flow will be approximately 6/5 of these values at 60 Hz.

²⁾ For other voltages options see information above this selection chart.

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Lifting Cylinders

For a complete line of Enerpac cylinders, see the Cylinder and Lifting Products in our catalogue.

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Multi-functional Synchronous Lifting Systems

For more than 8 lifting points, to link up to 4 systems together and weighing system see the EVO-Standard Series.

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▼ **Box jacking:** Multi-point synchronous system to push hydraulically the tunnel segments under the railway.



▼ EVO 841460W



- Modular lifting pumps to control 4, 8 or 12 lifting points
- Can be connected to single- or double-acting cylinders with the same or different lifting capacities
- PLC-controlled system with integrated 700 bar hydraulic power unit and 250 litres reservoir
- Network capability to link up to 4 HPU's to a separate master control box via wireless control
- Intuitive user interface providing easy set up, control and navigation
- Data storage and recording capabilities
- Variable frequency drive motor (VFDM) and PLC for precise synchronization and oil flow control.



The multi-functional synchronous lifting systems



EVO-System Work Modes

The application possibilities are infinite with the standard EVO-System, powering interlinked hydraulic cylinders – single or double-acting, push or pull, stage lift, hollow plunger or lock nut cylinders. The EVO-System has 9 work modes. The operator can navigate to any of these menus:

1. Manual
2. Pre-Load
3. Automatic
4. Retract Fast
5. Depressurize
6. Tilting
7. Stage Lift
8. Weighing *
9. Center of Gravity determination *

* Available in the EVO-W-models.



Typical Synchronous Lifting Applications

- Bridge lifting and repositioning
- Bridge launching
- Bridge maintenance
- Incremental launching and box jacking
- Lifting and lowering of heavy equipment
- Lifting, lowering, levelling and weighing of heavy structures and buildings
- Structural and pile testing
- Lifting and weighing of oil platforms
- Foundation levelling of onshore and offshore wind turbines
- De-propping/load transfer from temporary steel work
- Foundation shoring.

◀ The superlifting and launch of a 43,000-ton floating oil production system in Malaysia for the Gumusut-Kakap offshore field has set high benchmarks for safety through its use of sophisticated EVO-Series synchronous hydraulics to lift, balance, weigh and smoothly launch massive resource structures.

Synchronous Lifting Systems



Benefits of the EVO-Series System

Precise control of multiple lift points

- Comprehensive understanding and management of a lifting operation from a central control system improves safety and operational productivity.
- Programmable synchronized lifting.
- Automatic stop at pre-set cylinder stroke or load limit.

Safe and efficient movement of loads

- System secured with warning and stop features to realize optimal safety.

High accuracy

- Variable frequency drive (VDFM) and PLC for precise synchronization and control of oil flow, stroke and speed.
- Depending the cylinder capacities used, an accuracy of 1,0 mm between lifting points is achieved.

Ease of operation

- User friendly interface: visual screens, icons, symbols and color coding.
- A single operator controls the entire operation.

Monitoring and Data Recording

- Displays data of the operation.
- Data recording at user-defined intervals.
- Data storage and read-out for reporting.

Network capability

- Ethernet IP protocol for communication between hydraulic power units, allow easy "plug and play".

EVO-W Weighing System

Weighing applications with 1% accuracy

- Includes calibrated sensors and auto-calibration of external load cells.
- Center of gravity determination functionality.
- Parameters for "waiting time for stabilization" and "number of cycles".

Global standardized system

- Enerpac global coverage ensures local support.

EVO Series



Number of Lifting Points:

4 - 8 -12 (up to 48)

Reservoir Capacity:

250 litres

Flow at Rated Pressure:

0,75 - 4,80 l/min

Motor Size:

3,50 - 7,50 kW

Maximum Operating Pressure:

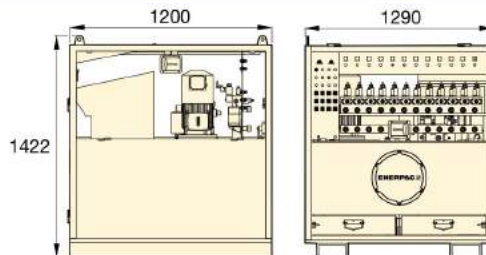
700 bar



Stroke Sensors and Cables

Optional accessories required for each lifting point and stroke sensor.

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Master Control Box

Required to link up to 4 standard EVO-pumps together to achieve a maximum of 48 lifting points. Contact Enerpac for more information.

EVO-Series (Standard)

Lifting Points	Variable Oil Flow at 50 Hz ¹⁾ (l/min)		Model Number ²⁾ 380-415 V, 3ph, 50-60Hz	Usable Oil Capacity (litres)	Motor Size (kW)	Motor Speed ⁴⁾ (kg)	
	(< 125 bar)	(> 125 bar)					
4	4,0 - 13,3	0,75 - 2,51	EVO 421380	250	3,5	VFDM	910
4	4,0 - 13,3	0,75 - 2,51	EVO 421380 W ³⁾	250	3,5	VFDM	910
4	4,7 - 15,6	1,44 - 4,80	EVO 440380	250	7,5	VFDM	1005
4	4,7 - 15,6	1,44 - 4,80	EVO 440380 W ³⁾	250	7,5	VFDM	1005
8	4,0 - 13,3	0,75 - 2,51	EVO 821380	250	3,5	VFDM	910
8	4,0 - 13,3	0,75 - 2,51	EVO 821380 W ³⁾	250	3,5	VFDM	910
8	4,7 - 15,6	1,44 - 4,80	EVO 840380	250	7,5	VFDM	910
8	4,7 - 15,6	1,44 - 4,80	EVO 840380 W ³⁾	250	7,5	VFDM	910
12	4,0 - 13,3	0,75 - 2,51	EVO 1221380	250	3,5	VFDM	920
12	4,0 - 13,3	0,75 - 2,51	EVO 1221380 W ³⁾	250	3,5	VFDM	920
12	4,7 - 15,6	1,44 - 4,80	EVO 1240380	250	7,5	VFDM	1025
12	4,7 - 15,6	1,44 - 4,80	EVO 1240380 W ³⁾	250	7,5	VFDM	1025

¹⁾ Oil flow will be approximately 6/5 of these values at 60 Hz. ²⁾ For 460-480 VAC, 3 phase, 50-60 Hz change 380 in model number into 460. Example EVO421460.

³⁾ Model numbers with suffix W are pumps for weighing systems. ⁴⁾ VFDM = Variable Frequency Drive 15-50 Hz.

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▼ Precision levelling caisson pier box: 3 EVO-Systems connected with 32 jacks lowered the 1100 ton bascule pier box.



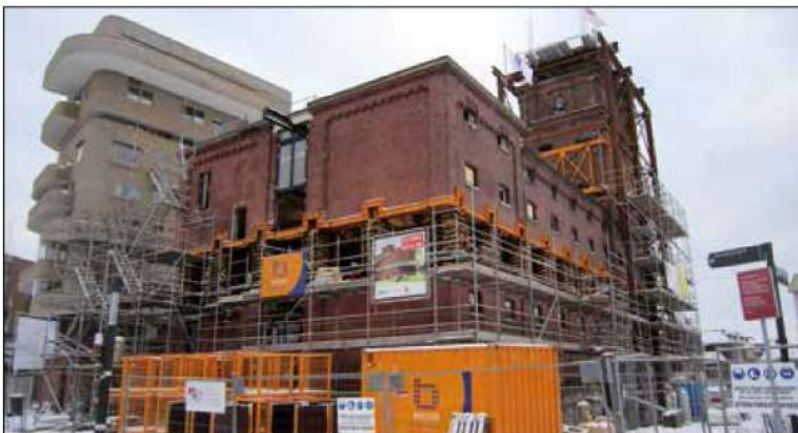
ENERPAC 245

▼ BLS-1006



- Climbing jacks include integral tilt saddles with maximum tilt angles up to 5 degree
- Large base with anti-rotation rod for stability and safety
- Built-in safety valve prevents accidental over-pressurization
- Ideal in combination with the stage lift work mode of the EVO-Series synchronous lifting system
- Baked enamel finish for increased corrosion resistance
- CR400 couplers included on all models.

▼ *Synchronous Stage Lifting: 48 double-acting jacks (25 and 50 ton) are networked in to a 16 points synchronous system to lift this 50 metres long, 1000 ton building up to a height of 2,5 metres to construct a new floor level.*



A Simple Solution to Incremental Lifting



Lifting Height

Climbing Jacks overcome the usual limitation of lifting height imposed by the cylinder's plunger stroke length. Large objects, such as oil tanks, can be lifted, held and lowered for maintenance without sending for a crane.



Split-Flow Pumps

SFP-Series Pumps with multiple outlets with equal oil flow. For lifting and lowering applications on multiple points Split-Flow Pumps are a far better alternative than using separately operated pumps.

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Synchronous Lifting System

The standard EVO-Series System is ideal for stage lifting, powering interlinked hydraulic cylinders. The EVO-system has 9 work modes including the stage lift work mode.

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Jack-Up Systems

For incremental lifting with higher lifting capacities and up to 20 m lifting height, see our JS-Series Jack-Up Systems.

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Cylinder Capacity	Stroke (mm)	Model Number	Max. Cylinder Capacity (kN)	
			Push	Pull
50 ton	150	BLS-506	498	103
95 ton	161	BLS-1006	933	435
140 ton	151	BLS-1506	1386	668
200 ton	151	BLS-2006	1995	1017

Double-Acting Climbing Jacks



◀ Typical stage-lift application using a custom built Enerpac system to lift the 360 ton Akkerwinde wooden bridge in the Netherlands.

BLS Series



Capacity per Lifting Point:

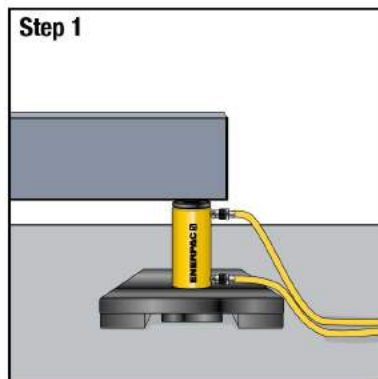
50 - 200 ton

Stroke per Stage:

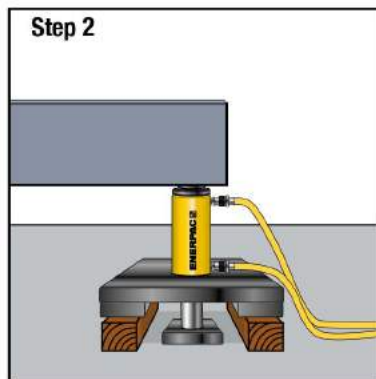
150 - 161 mm

Maximum Operating Pressure:

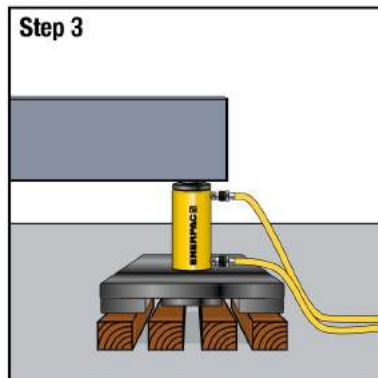
700 bar



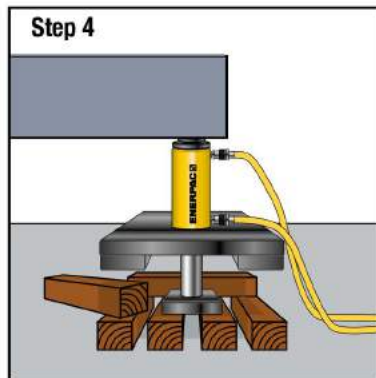
Step 1



Step 2



Step 3



Step 4

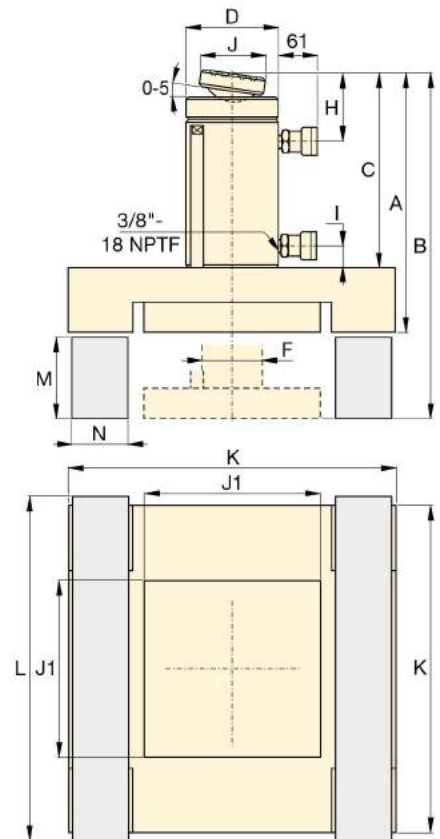
▲ Stage Lifting Sequence

Step 1: The climbing jack is placed on a solid support under the load (retracted plunger).

Step 2: Plunger extends, lifting the load and giving clearance to insert two outer blocks under the spreading plate.

Step 3: Plunger retracts, giving clearance to position the central blocks which will support the plunger plate for the next extension.

Step 4: Plunger extends, lifting the load, giving clearance to insert two new blocks, placed crosswise under the spreading plate.



Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)		Dimensions (mm)										Cribbing Blocks * and Dimensions (mm)			Model Number		
Push	Pull	Push	Pull	A	B	C	D	F	H	I	J	J1	K	Material	L	M		N	(kg)
71,2	21,5	1111	335	406	556	318	127	79	56	36	50	240	515	Azobe Wood	565	140	120	170	BLS-506
133,3	62,2	2238	1045	445	606	343	177	95	76	24	71	330	670		720	150	160	315	BLS-1006
198,1	95,4	3090	1488	472	624	370	203	114	94	39	130	230	475	Solid Aluminium or Steel	500	140	115	322	BLS-1506
285,6	145,6	4332	2209	510	661	387	248	133	102	37	130	270	550		575	140	135	373	BLS-2006

* Cribbing blocks are not supplied by Enerpac.

JS-Series, Jack-Up Systems

▼ JS-250, Enerpac Jack-Up System (one lifting tower shown)



Incremental Lifting System – Synchronously Lift and Mechanically Hold

i Typical Applications

- Bridge maintenance
- Lifting and lowering of heavy equipment
- Lifting, lowering and levelling of heavy structures and buildings
- De-propping/load transfer from temporary steel work.

Computer Controls

Enerpac Jack-up Systems provide precision control suitable for many demanding lifting/lowering applications. The comprehensive self-contained design features simple to use software.

- Automatic synchronization of multiple networked lift points.
- Overload and stroke alarms
- Emergency stop switch at jack-up units and controls.

- Self-contained hydraulics in each jack-up unit for uncluttered work area
- Synchronously lift loads with multiple jack-up units. The most common system set-up includes 4 jack-up units
- Lifting barrels are stacked together to mechanically hold the load
- Up to 5% side load capacity depending on lifting height
- Computer controls for operating the jack-up system with automatic and manual lifting settings.

▼ Enerpac has been awarded a contract by Burkhalter to extend the height of Enerpac's 2000 ton (500 ton per tower) jack-up system from 20m to 36m for future projects.



▼ A load is lifted in increments as barrels are slid into the system, lifted, and stacked; forming 'lifting towers'.



▼ Lifting barrels are stacked together to mechanically hold the load



Enerpac Jack-Up Systems



Enerpac Jack Up Systems

The jack up system is a custom developed multi-point lifting system. A typical system setup includes four jack up units positioned under each corner of a load.

Example: A four unit setup with JS250 has a lifting capacity of 1000 ton (250 ton per unit). The lifting frame of a jack up unit contains four hydraulic lifting cylinders, one in each corner, which lift the load using the stacked steel barrels.

A load is lifted in increments as barrels are slid into the system, lifted, and stacked; forming 'lifting towers'. A jack up system is operated and controlled by a computer control unit.

Each unit's lifting and lowering operations occur simultaneously; the computer control unit's synchronous technology maintains the balance of the load.

JS Series

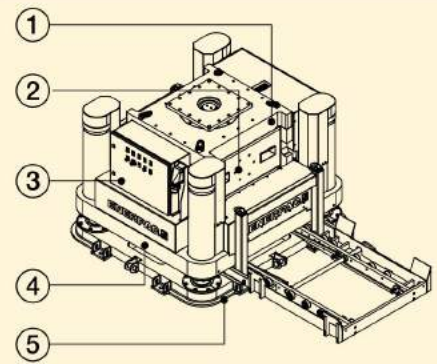
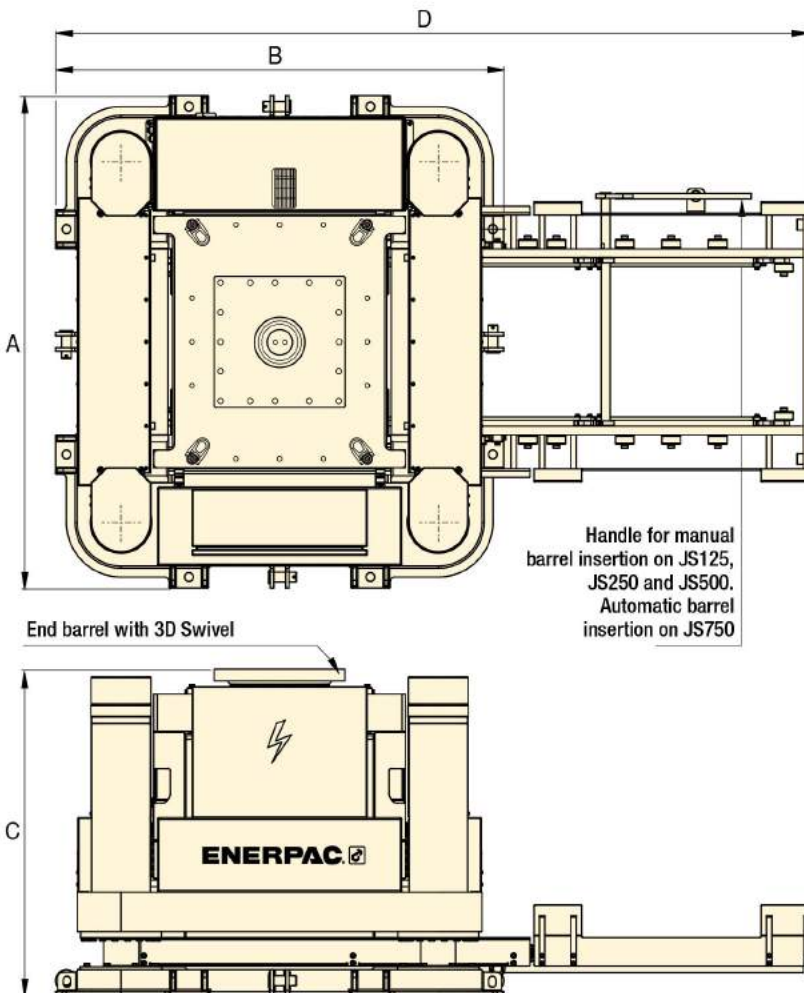


Capacity Per Lifting Tower:

125 - 750 ton

Lifting Height:

Up to 6 - 20 metres



Enerpac Jack Up Systems

- ① End Barrel
- ② Barrel
- ③ Electric Powerpack
- ④ Lifting Frame
- ⑤ Base Frame



Contact Enerpac!

Contact the Enerpac office nearest to you for advice and technical assistance in the layout of your ideal Lifting System or visit us at: www.enerpac.com. Or ask Enerpac for assistance: enerpac.com/contact-us

▼ Enerpac jack-up system hoists 1500 ton span on Fore River Bridge.



Jack-Up Systems

Capacity per Tower ton (kN)	Model Number	Maximum Sideload	Base Frame Dimensions (mm)				Barrel Dimensions L x W x H (mm)	Weight (kg) *
			A	B	C	D		
125 (1250)	JS-125	3% @ 6m	1200	1100	950	1850	600x600x300	2400
250 (2500)	JS-250	3,5% @ 10m	2250	2050	1475	3450	1150x1150x500	7500
500 (5000)	JS-500	4% @ 15m	2800	2300	1700	4500	1700x1700x700	13.000
750 (7500)	JS-750	5% @ 20m	3670	3250	2375	6100	2300x2300x1000	24.000

* Weight per jack up unit, excluding barrels.

HSL-Series, Heavy Lifting Strand Jacks

▼ Shown: HSL50006 Strand Jack



High Capacity Precision Control



Heavy Lifting Strand Jacks

Enerpac strand jacks are the strand jacks of choice for customers seeking precise synchronous control with heavy-lifting capacity in an economical, compact, and reliable foot print.

Enerpac strand jacks are powered by electrical or diesel driven hydraulic power packs and controlled by Enerpac's proprietary SCC-Smart Cylinder Control System to ensure full control of lifting and lowering operations.

Enerpac continually improves reliability, durability, and safety of their strand jacks, making them an industry standard for heavy lifting.

- Precision control of synchronous lifting and lowering
- Can be controlled by a single operator from a central location for increased safety
- Automated locking - unlocking operation
- Two strand sizes: 15,7 mm and 18 mm (.62 and .71 inch)
- Telescopic strand guide pipes prevent bird caging
- Internal components are coated with Lunac, an anti-corrosion coating, making it suitable for marine environments
- Lifting anchor included with all strand jacks
- Lloyd's witness tested to 125% of maximum working load.

▼ *Songdo Bridge, South Korea: Four HSL85007 strand jacks were installed on top of a temporary bent tower and simultaneously lifted both pylons up to their permanent position at 75 degrees. The lift was monitored and controlled using a computer controlled strand jack system with 30 kW hydraulic power units.*



▼ *HSL85007 Strand Jack System used on Enerpac custom Self Erecting Tower.*



Heavy Lifting Strand Jacks



Strand Jacks

A strand jack can be considered a linear winch. In a strand jack, a bundle of steel strands are guided through a main "lifting" jack.

Above and below the cylinder are anchor systems with wedges that grip the strand bundle simultaneously. Lifting and lowering a load is achieved by hydraulically controlling the main jack and both mini jacks alternately.

In the case of system pressure loss, the wedges are mechanically closed automatically, holding the suspended load in place.

Today strand jacks are widely recognized as the most sophisticated heavy lifting solution. They are used all over the world to erect bridges, load out offshore structures, and lift/lower heavy loads where the use of conventional cranes is neither economical nor practical.

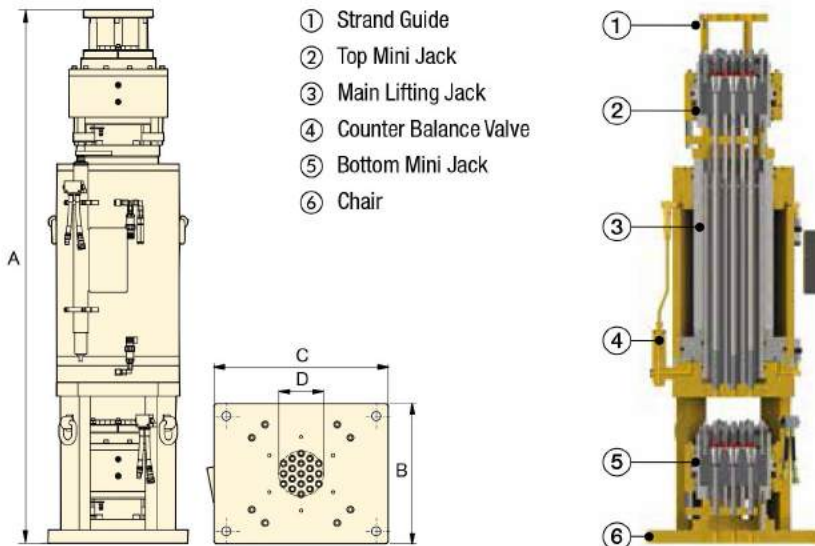
HSL Series



Capacity:
15 - 1250 ton

Stroke:
250 - 600 mm

Maximum Operating Pressure:
350 bar



▼ Strand Jack Accessories

Contact Enerpac for assistance by email at integratedsolutions@enerpac.com



Hydraulic Power Packs

Enerpac offers a comprehensive range of hydraulic power packs that are optimized for use with their industry leading heavy lifting strand jacks.



Strand Guides

Provides a guide for the strand as a strand jack lifts the load.



Strand Recoilers

Passively pays in or pays out strands while jacking and lowering.



Strand Dispenser

Essential to safely unbundle a new strand coil.



Lifting Anchor

Each Strand Jack includes a lifting anchor for attaching strand to the load.

Strand Diameter mm (inch)	Capacity *		Model Number	Number of Strands	Stroke (mm)	Dimensions (mm)				(kg)
	ton	(kN)				A	B	C	D	
15,7 (.62)	30	(300)	HSL3006	3	480	1851	350	500	59	500
	70	(700)	HSL7006	7	480	1915	360	575	93	640
	200	(2000)	HSL20006	19	480	1992	522	650	169	1300
	300	(3000)	HSL30006	31	480	2046	673	673	216	2180
	500	(5000)	HSL50006	48	480	2136	733	733	273	3150
18 (.71)	15	(150)	HSL1507	1	250	1242	220	220	20	100
	45	(450)	HSL4507	3	480	1728	350	500	73	500
	60	(600)	HSL6007	4	480	1752	400	625	88	650
	100	(1000)	HSL10007	7	480	1926	408	625	116	850
	200	(2000)	HSL20007	12	480	2001	522	650	165	1400
	300	(3000)	HSL30007	19	480	2055	673	673	210	2180
	450	(4500)	HSL45007	31	480	2223	733	733	272	3050
	650	(6500)	HSL65007	43	480	2237	850	850	351	3950
	850	(8500)	HSL85007	55	480	2402	900	900	364	5000
	1000	(10.000)	HSL100007	66	480	2558	1092	1092	436	7650
1250	(12.500)	HSL125007	84	600	2658	1100	1100	458	8300	

* Capacity is based on 2,5 minimum safety factor over strand breaking load.

▼ 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 jogging 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.

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



▼ An SyncHoist system used to align steel blocks of the ship's control tower sections allowing gradual lift and positioning of the load.



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.

▼ SyncHoist lifts and positions Brisbane Riverwalk concrete girders



SyncHoist - High Precision Load Positioning



What is SyncHoist?

Enerpac SHS-Series 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.

SyncHoist Power Packs

SyncHoist Power Packs are specifically designed to work with the SyncHoist cylinders to insure proper operation of the system. Contact Enerpac for assistance at enerpac.com/contact-us

SHAS-Series, Wireless SyncHoist

See next page for wireless remote control system with integrated hydraulics.

SHS Series



Capacity Per Lifting Point:

55 - 85 - 110 ton

Maximum Stroke:

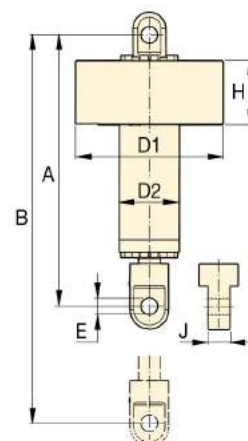
500 - 1000 - 1500 mm

Accuracy Over Full Stroke:

± 1,0 mm

Maximum Operating Pressure:

700 bar



Capacity ton (kN)	Total Load ton (kN)	Cylinder Stroke (mm)	Model Number ¹⁾ 400 VAC, 3 ph - 50 Hz	Control System	Motor Size (kW)	Number of Pump Outlets and Oil Flow ²⁾ (l/min)	Cylinder Dimensions (mm)						Weight (kg) ³⁾	
							A	B	D1	D2	E	H		J
4 x 55 (539)	220 (2156)	500	SHS 45520 MW	Manual	7,5	4 x 1,4	1300	1800	690	245	59	385	80	450
		1000	SHS 45540 MW				1800	2800						625
		1500	SHS 45560 MW				2300	3800						800
		500	SHS 45520 AW	Automatic	15	4 x 2,1	1300	1800	450					
		1000	SHS 45540 AW				1800	2800	625					
		1500	SHS 45560 AW				2300	3800	800					
4 x 85 (833)	340 (3332)	500	SHS 48520 MW	Manual	11	4 x 2,1	1330	1830	690	265	72	385	100	500
		1000	SHS 48540 MW				1830	2830						700
		1500	SHS 48560 MW				2330	3830						900
		500	SHS 48520 AW	Automatic	15	4 x 2,1	1330	1830	500					
		1000	SHS 48540 AW				1830	2830	700					
		1500	SHS 48560 AW				2330	3830	900					
4 x 110 (1078)	440 (4312)	1000	SHS 411040 MW	Manual	11	4 x 2,1	1855	2855	780	315	85	395	124	970
		1500	SHS 411060 MW				2355	3855						1235
		1000	SHS 411040 AW	Automatic	15	4 x 2,1	1855	2855	970					
		1500	SHS 411060 AW				2355	3855	1235					

¹⁾ 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: SHS 45560 M.J.

²⁾ Pump and cylinders include 4x 25 meters hydraulic hoses with couplers. ³⁾ Weight per cylinder.

▼ SHAS 411040WE Autonomous SyncHoist System demonstrated using a load simulation



- High precision load manoeuvring using one crane
- Vastly improving worker safety, operating speed and control
- Integrated PLC-controlled hydraulics in each lifting device – no need for external powerpack and hydraulic hoses
- Wireless control for safe operation
- Quick installation, set-up and operation - one electric connection per lifting point
- Cost reduction compared to conventional load positioning methods.

Accurate Hoisting and Load Positioning Enhancing a Crane's Capability



Autonomous SyncHoist System

Enerpac Autonomous SyncHoist System 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.

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.

▼ A single operator controls and oversees the entire hoisting job - the portable wireless control allows him to be at a safe distance.



▼ 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.



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



SyncHoist - High Precision Load Positioning



What is SyncHoist?

Enerpac SHAS-Series SyncHoist is a hydraulically actuated auxiliary attachment for high precision load positioning for cranes.

The autonomous system (SHAS) with integrated PLC-controlled hydraulics, monitors and guides the powerful double-acting push-pull cylinders which are integrated into the lifting points.

The SyncHoist system can be used for pre-programmed positioning, tilting and aligning of loads.

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

Autonomous 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.

Modular system

- Standard with four lifting devices.
- Quick installation, set-up and operation.

PLC-controlled system

- Pre-programmable motions
- Data recording
- Load control
- Stroke control
- Alarms for overload
- Real time indication of force and stroke per lifting point
- Controlled adjustment of forces per lifting point during entire operation.

Wireless controls

- Operate from safe distance
- Portable, no cables
- Siemens wireless 7 inch touch screen control panel
- Emergency stop, TÜV certified in PROFISAFE.

SHAS Series



Capacity Per Lifting Point:

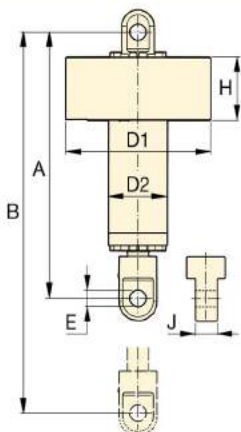
110 - 225 ton

Maximum Stroke:

1000 - 1500 mm

Accuracy Over Full Stroke:

± 1,0 mm



SyncHoist system mounted in an auxiliary frame for levelling and positioning steel structures during construction of an oil & gas installation. ▶



Capacity ton (kN)	Total Load ton (kN)	Cylinder Stroke (mm)	Model Number ¹⁾ 400-500 VAC, ²⁾ 3ph - 50-60Hz	Control System	Motor Size (kW)	Dimensions (mm)						(kg) ³⁾	
						A	B	D1	D2	E	H		J
4 x 110 (4 x 1078)	440 (4312)	1000	SHAS 411040 WE	Wireless	4 x 4,0	1855	2855	1063	315	85	540	124	1183
		1500	SHAS 411060 WE			2355	3855	1063	315	85	540	124	1448
4 x 225 (4 x 2204)	900 (8820)	1000	SHAS 422540 WE	Wireless	4 x 8,0	2140	3140	1235	420	142	580	190	3219
		1500	SHAS 422560 WE			2640	3640	1235	420	142	580	190	3414

¹⁾ Standard with 4 lifting points. For more or less lifting points contact Enerpac.

²⁾ WE = with European electrical wiring. Change into suffix "WU" for US-market. Example: SHAS 411060 WU. ³⁾ Weight per cylinder.

SL, SBL, MBL-Series, Hydraulic Gantries

▼ SBL1100 with optional skid tracks, header beams, powered side shifts and lifting anchors



- Self-contained hydraulics and electronics
- Intelli-Lift wireless control system
- Self-propelled wheels or tank rollers
- Foldable boom on SBL900, SBL1100, MBL500 and MBL600
- Full range of supplementary equipment: header beams, lifting anchors, side shifts and skid tracks
- Designed and tested to meet ASME B30.1-2015 safety standards
- Lloyds witness tested to 125% of maximum working load.

▼ Two SBL1100 telescopic hydraulic gantry systems lifted the 1300 ton hydrocracker off the barge onto a SPMT Self-Propelled Modular Transporter.



Precision Lift and Position of Heavy Loads

The Ultimate in Safety and Control



Intelli-Lift Wireless Control

The Intelli-Lift wireless control system is included with all Enerpac hydraulic gantries.

The Intelli-Lift controller offers superior safety and control and includes the following features:

- Encrypted bi-directional communication that eliminates interference from other devices
- Remote operation using multi channel wireless (2.4 GHz) or wired (RS-485) control
- High and low speed settings
- Automatic synchronization of lifting with an accuracy of 24 mm (0.95 inch)
- Automatic synchronization of travelling with an accuracy of 15 mm (0.60 inch)
- Overload and stroke alarms
- Remote side shift control
- Emergency stop switch.

Maximum Capacity (with 4 towers)	Model Number (4 towers)	Retracted Height
(kN)		A (mm)
600	SL 60	2004
1250	SL 125	2640
3000	SL300	2705
4000	SL 400	3166
5000	SBL 500	3028
8976	SBL 900	5004
10.484	SBL 1100	4370
5000	MBL 500	6098
6000	MBL 600	6553

Telescopic Hydraulic Gantries



Hydraulic Gantries

Telescopic Hydraulic Gantries are a safe, efficient way to lift and position heavy loads in applications where traditional cranes will not fit and permanent overhead structures for job cranes are not an option.

Hydraulic Gantries are placed on skid tracks to provide a means for moving and placing heavy loads, many times with only one pick.

Enerpac offers three series of Hydraulic Gantry systems:

- **SL-Series Super Lift**

The cost-effective SL-Series Super Lift offer control and stability for everyday lifting applications below 4000 kN up to 9 metres

- **SBL-Series Super Boom Lift**

The heavy-duty SBL-Series Super Boom Lift boom style gantries offer increased lifting capacity of over 4000 kN to heights of almost 12,2 metres.

- **MBL-Series Mega Boom Lift**

The massive MBL-Series Mega Boom Lift offers capacities and lifting heights of over 6000 kN at almost 14,6 metres extreme lifting conditions.

All Enerpac gantries are delivered with specific properties and control systems to ensure optimum stability and safety.

SL, SBL, MBL Series



Capacity with 4 towers:

600 - 10.484 kN

Lift Height:

3,49 - 14,55 meters

▼ Optional Gantry Accessories

Contact Enerpac for assistance by email at enerpac.com/contact-us



Skid Tracks

Allows for easy levelling of the gantry tower and reduce ground bearing pressure, available in two standard lengths, 3 and 6 m.



Header Beams

Sold in pairs and includes lifting points and fork pockets for easy positioning on gantry towers. Available in standard lengths of 8, 10 and 12 meters



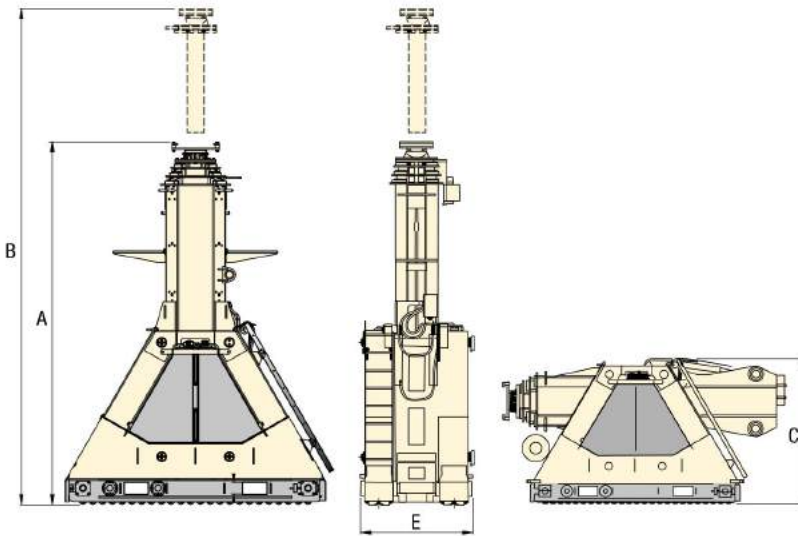
Powered Side Shift

Electric propulsion controlled by standard gantry controls. Each set consists of 4 units.



Lifting Anchors

Designed to transfer the load to the top of the header beam. Can accommodate a 250 ton shackle or attach directly to the lifted load.



Stage 1		Stage 2 ¹⁾		Stage 3		Transport Height	Skid Track Width	Skid Track Weight (kg) ²⁾	Model Number (4 towers)
Max. Height	Max. Capacity	Max. Height	Max. Capacity	Max. Height	Max. Capacity				
B (mm)	(kN)	B (mm)	(kN)	B (mm)	(kN)	C (mm)	E (mm)		
3404	150	4704	150	-	-	2034	769	1050	SL 60
4575	313	6640	313	-	-	2762	812	2130	SL 125
4605	750	6700	500	-	-	2705	830	3250	SL300
5224	1000	7232	1000	9140	460	3170	1218	4600	SL 400
4998	1300	6908	1300	8618	750	3028	1218	6300	SBL 500
8304	2244	11.304	1481	-	-	2243	1218	13.350	SBL 900
7004	2621	9668	1699	12.002	945	2244	1218	11.950	SBL 1100
-	1250	12.867	1250	-	-	2243	1682	19.750	MBL 500
-	1500	14.552	1500	-	-	2525	1982	20.950	MBL 600

¹⁾ MBL500 and MBL600 are two stage gantries; stages 1 and 2 extend simultaneously and provide full capacity at any height. ²⁾ Weight per tower

HSK, LH-Series, Skidding Systems

▼ Shown: HSK1250 Skidding System



HSK-Series, Skidding System

- PTFE skid pads with dimpled surface for low friction and long lifetime
- Easy to replace skid pads, no tools necessary
- Bi-directional operation using push-pull cylinders avoid the need to reposition cylinders for switching direction
- Large load support surface on the skid beams for distributing load
- Bottom of skid shoes equipped with stainless steel sliding plates.

LH-Series, Low-Height Skidding System

- 2-in-1 track design for added support
- Intuitive pump controls (SFP-Series Split-Flow Pump)
- Easily reversible to change skidding direction
- Portable design for quick setup
- 400 ton skidding capacity with two push-pull units.

▼ A custom hydraulic Low-Height Skidding System will provide the maintenance team with the ability to maneuver and transport transformers with physical access limitations.



The Ideal Jack and Slide Solution



Skidding Systems

The skidding system is comprised of a series of skid beams moved by hydraulic push-pull cylinders, travelling over a pre-constructed track.

A series of special PTFE coated pads are placed on the skid tracks. The PTFE surface is matched with a sliding plate under the Enerpac skid beams, designed to achieve minimum friction coefficients. The skid beams are connected by hoses to a hydraulic electric or diesel driven power pack.

In addition to our standard skidding systems, we have the capability to create customized skidding systems to meet your specific requirements.



Controls

Enerpac offers several options for controlling our skidding systems. Wireless Controls allows the operator the freedom to view

the skidding operation from multiple locations while providing complete control of all system functions.

Manual controls offer a cost-effective solution by utilizing manual hydraulic valves mounted directly on the skidding system power unit.

▼ HSKJ-2500 Skid Shoe Jack.





Skidding Systems

Enerpac Skidding Systems are available in several versions:

- **B-Series (Skid Beam)** utilizes a tall skid beam with built-in push-pull cylinders. Skidding direction can be easily switched by flipping a lever on the attached gripper box.
- **J-Series (Skid Jack)** provides the same functionality as the B-Series with the added benefit of having a built-in cylinder for lifting or leveling the load.

- **LH-Series (Low-Height)** includes low-height skid beams that can fit in tight spaces while still offering high capacity. We also offer a track support for added rigidity when the surface is not fully supported.

HSK LH Series



Capacity:

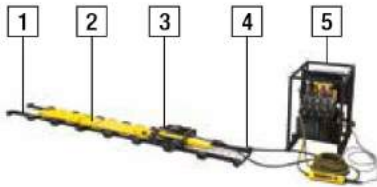
100 - 250 ton

Push/Pull Stroke:

600 mm

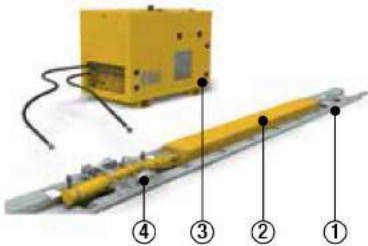
Lifting Stroke:

175 mm



LH-Series Skidding System Requirements

- 1 Skid Track (required)
- 2 Skid Beam (required)
- 3 Push-Pull Cylinder Unit (required)
- 4 Hydraulic Hoses (required)
- 5 Split-Flow Electric Pump (required)
- 6 Track Support (optional, not shown)
- 7 Storage/Transport Frame (optional, not shown)
- 8 Pump Cart (optional, not shown)



HSK-Series Skidding System Requirements

- ① Skid Track
- ② Skid Beam
- ③ Hydraulic Power Pack
- ④ Hydraulic Push-Pull Unit



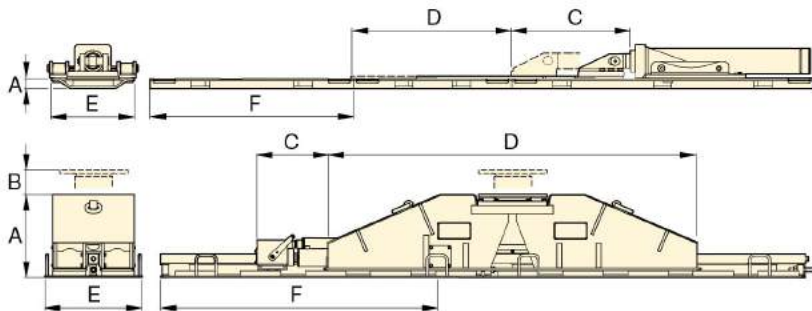
Skid Tracks

Include specially constructed and easily replaceable PTFE coated pads. Skid track is sold separately.



Hydraulic Power Packs

Enerpac offers a comprehensive range of hydraulic power packs that are optimized for use with Skidding Systems.



▼ Low-Height Skidding System assembly (LH400).



Skidding Systems

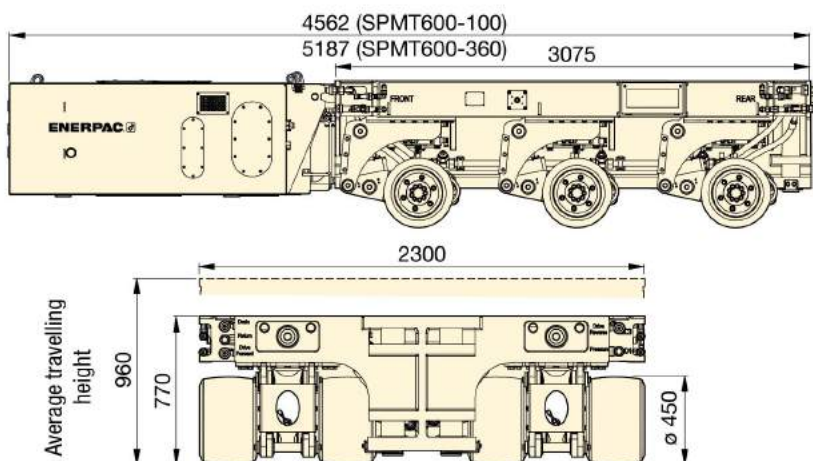
Maximum Capacity (per beam)	Maximum Push-Pull Capacity ton (kN)		Model Number	Skid Beam Height (with track)	Lifting Stroke	Push-Pull Stroke	Skid Beam Length	Skid Beam Weight	Skid Track Width	Skid Track Length	Skid Track Weight
	ton (kN)	Push									
100 (860)	25 (255)	11 (98)	LH400	92	–	600	1080	63	250	955	67
125 (1250)	22 (220)	16 (160)	HSKB1250	309	–	600	2500	740	400	1983	120
125 (1250)	22 (220)	16 (160)	HSKJ1250	502	175	600	1690	790	400	1983	120
200 (2000)	25 (255)	14 (141)	HSKJLH2000	204	–	600	2902	340	540	1998	120
250 (2500)	40 (400)	26 (260)	HSKB2500	374	–	600	3000	1020	600	1946	290
250 (2500)	40 (400)	26 (260)	HSKJ2500	600	175	600	1784	1450	600	1946	290

SPMT, Self-Propelled Modular Transporter

▼ SPMT600-360 with MTPP-360 hydraulic power unit (HPU)



- **Modular design for multiple configurations.**
- **Minimized height and slim design are ideal for in-plant operation**
- **Intelli-Drive wireless control system is intuitive and easy to use**
- **One power pack can operate 2-3 trailers maximum depending on model**
- **Two trailers and power pack can be shipped inside a 20 ft. container**
- **Hydraulic power unit is tier-4 diesel engine for reduced emissions.**



Capacity (per trailer)	Model Number	Maximum Configuration	Steering Range	Lifting Stroke	HPU *	Trailer
ton (kN)		(trailer in rows)	(degrees)	(mm)	(kg)	(kg)
60 (600)	SPMT600-100	4 x 2	-50° - +50°	384	2500	8000
	SPMT600-360	6 x 2	-179° - +179°	384	2800	8300

* HPU = 54 kW Power Pack Diesel is sold separately.

SPMT Series

Capacity:

60 ton (600 kN)

Transport Speed (unloaded - loaded):

3 - 1,5 km/h

Motor Size:

54 kW



Self-Propelled Modular Transporter

The Enerpac Self-Propelled Modular Transporter (SPMT) features a minimized height and slim design, which makes it very easy to operate in confined spaces. Each wheel unit has a steering function as well as a lifting cylinder at its disposal. Two axles are driven, the centre axle is non-driven. Wheel propulsion is established by wheel drives.

The SPMT is operated by the Intelli-Drive Remote Controller. This remote controller can be used both hard wired and wireless (based on radio frequency).

The SPMT is a modular system and can be built up to a maximum configuration of six transporters in a row and two in the width. This is the maximum setup of units that can work together on just one Intelli-Drive Remote Controller.

The SPMT is a modular system comprised of trailers with 3 axle lines each and diesel hydraulic power units (HPU). Depending on the model number, the trailers and HPUs can be configured to a maximum of 4 trailers in 2 rows (4x2) or 6 trailers in 2 rows (6x2).

▼ Turbine rotor transport.





Custom Heavy Lifting Solutions

When your application requires something other than our standard product offering, look to Enerpac Heavy Lifting Technology, Experience and Expertise.

Our group of engineers, designers and specialist, will work with you to understand your specific application and provide a turn-key solution that will exceed your expectations.



STEEL FABRICATION

Enerpac has a dedicated facility for steel fabrication and welding. We design and manufacture custom structures used in demanding heavy-lifting applications.



ENGINEERING

Enerpac has a multi-disciplined engineering team capable of design and development of all aspects of an Heavy Lifting system. Leveraging design and application experience with the latest in computer software, rapid prototyping and analysis methods ensures delivery of the highest quality systems.



ELECTRONICS

Enerpac designs all control systems in-house. This capability keeps control technology close to the design engineers who are developing the rest of the system. In doing so, we can tailor the control system to match unique project requirements.



MACHINING

Enerpac utilizes the latest in CNC machining technologies and manufactures all large and special hydraulic cylinders in-house. We can machine diameters up to 1000 mm with lengths to 6000 mm.



FIELD SUPPORT

Enerpac Heavy Lifting Technology is available to provide on-site support including training and troubleshooting of systems. We also stock repair parts and consumable items at several locations to ensure fast delivery and minimal downtime.



HYDRAULIC POWER UNITS

Enerpac designs, assembles and tests small to large hydraulic power units in-house. Power units range from 0,5 to 240 kW and are tested with the system they are intended to operate.



MAINTENANCE and REPAIR

Due to the unique nature of Enerpac Heavy Lifting Technology, we offer complete maintenance and repair services. Our M&R group is available to assist customers who do not have access to local service facilities qualified to work on these systems.

Custom Heavy Lifting Solutions



OFFSHORE GANTRY CRANE

The Enerpac Over Head Travel Crane (OHTC) comprises two pairs of lifting beams, with an overall width of 30m, and a lifting capacity of 4800 ton for lifting, moving and lowering the concrete blocks for the offshore highway.



STRAND JACK GANTRY

The strand jack gantry is a steel structure to facilitate erection and skidding back, forth and sideways of heavy loads. The Enerpac strand jack gantry can be used with either skidding systems or hydraulic gantries on top.



TRAVEL GANTRY

The travel gantry combines the safety and efficiency of a hydraulic gantry with the ease of use of SPMT (self-propelled modular transporter) technology. With a lifting capacity of 67 ton, the travel gantry sets a new standard in equipment and container handling.



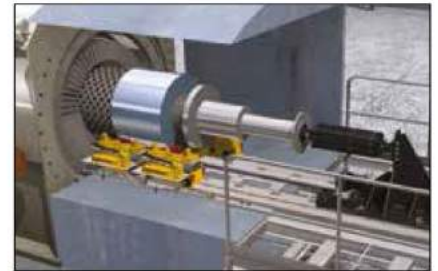
BRIDGE LAUNCHING SYSTEMS

Spindle Bar System: group of in-line hollow plunger cylinders. The hollow plungers allow the steel bars to be inserted through the cylinders, which are used for pushing, pulling and braking. **Enerpac Enerlauncher** is an automatic and synchronous incremental hydraulic tandem launching system with a 800 ton lifting section and an 300 ton push/pull section.



JACK-UP SYSTEMS

The jack-up system is a custom developed multipoint lifting system – synchronically lift and mechanically hold. A typical system setup includes four jack-up units positioned under each corner of a load.



ROTOR REMOVAL AND INSTALLATION SYSTEM

The generator rotor removal and installation system is a custom developed product for removing and installing the rotor (field) in a power plant's generator. The system is designed to comply with the varying dimensions and challenging accessibility of a plant's generator.



CUSTOM HYDRAULIC PRESSES

Our hydraulic presses can be configured to fulfill a broad range of applications. Each press is designed and manufactured according to customer specifications and in cooperation with our engineering team.



SELF-ERECTING TOWER

The Enerpac Self Erecting Tower (ESET) is a self-erecting tower lift system that enables you to build a free standing gantry from ground level. The ESET can be supplied in various capacities and lifting heights and is built with standard modular components, enabling a flexible solution to future project demands.



LAS VEGAS WHEEL

Our expertise has been acknowledged by the world's leading industrial professionals and has contributed to the successful movement of a number of the most recognizable structures on earth. At the time of construction the Las Vegas High Roller was the largest observation wheel in the world. A custom hydraulic drive system was developed to propel the wheel for daily use and was also used to construct the wheel in sections.