



EVO-Series Synchronous Lifting Systems

Management of lifting operations from a central control system improves safety and operational productivity.



▼ EVO-8 (shown with optional cylinders and wire stroke sensors)



- **Modular lifting system 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, 3,0 kW motor, 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 (VDFM) and PLC for precise synchronization and oil flow control.**

▼ Multipoint EVO-synchronous lifting system for roof support during construction.



The multi-functional synchronous lifting system



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.



EVO-System Work Modes

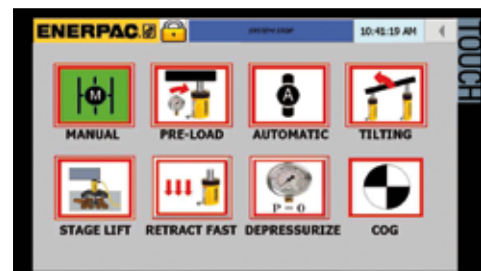
The application possibilities are infinite with the EVO-system, powering interlinked hydraulic cylinders – single or double-acting, push or pull, stage lift, hollow plunger or lock nut cylinders.

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 System** with calibrated sensors, please contact Enerpac.

▼ Touch screen showing the menu with work modes.





What is Synchronous Lifting ?

To achieve high-precision movement of heavy objects it is necessary to control and synchronise 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. This control maintains structural integrity and increases the productivity and safety of the lift, by eliminating manual intervention.

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.

Benefits of the Enerpac EVO-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".

Global standardized system

- Enerpac global coverage ensures local support.

EVO-W Weighing System

Weighing applications with 1% accuracy

- Includes calibrated sensors and replaces the need for load cells.
- Reads information from external load cells connected to the system
- Parameters for "waiting time for stabilization" and "number of cycles".

EVO Series



Number of Lifting Points:

4, 8 or 12

Accuracy EVO-System:

1,0 mm over full stroke

Accuracy EVO-W (weighing) System:

1% of full scale



Lifting Cylinders

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



▼ 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.



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

▼ 20-points wireless PLC-controlled train lifting system for rail carriage production and maintenance.



Synchronous Lifting Systems



Enerpac Worldwide Locations

The Industrial Tools Line

Cylinders and Lifting Products

- General Purpose
- Aluminium Lightweight
- Pancake
- Flat-Jac®, Low Height
- Pull
- Hollow Plunger
- Precision
- Long Stroke
- High Tonnage
- POWR'RISER® Lifting Jacks
- Jacks

Pumps

- Manual
- Cordless & Electric Driven
- Compressed Air Driven
- Petrol Driven

System Components

- Hoses, Couplers, Oil
- Gauges, Adaptors
- Manifolds, Fittings

Valves

- 3-and 4-Way Directional
- Pressure and Flow Control

Presses

- Bench, Workshop, Roll Frame
- Arbor and C-Clamps
- Tension Meters, Load Cells

Pullers

- Master Pullers Sets
- Multi Purpose Puller Sets
- Posi Lock® Pullers

Tools

- Maintenance Sets
- Punches
- Machine Lifts
- Load Skates
- Cutters
- Pipe Benders
- Wedgie, Spreaders

Bolting Tools

- Multipliers
- Torque Wrenches
- Impact Sockets
- Bolt Tensioners
- Wrench and Tensioner Pumps
- Flange Alignment Tools
- Nut Splitters

Integrated Solutions

- Synchronous Lifting Systems
- Stage Lift Systems
- Synchronous Hoisting Systems
- Hydraulic Gantries
- Strand Jacks
- Skidding Systems

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