

SFP-SERIES

SPLIT-FLOW PUMPS & NETWORK KITS

MULTIPLE OUTLETS WITH EQUAL FLOW FOR LIFTING AND LOWERING.
NETWORK KITS CONNECTING SPLIT-FLOW PUMPS
FOR MORE LIFT POINTS AND GREATER ACCURACY.



ENERPAC 

▼ SFP421SJ and SFP404SJ (Gauges and retract valves not shown)



- 2, 4, 6 or 8 split-flow outlets
- Individual or simultaneously operation of valves, with advance/hold/retract function
- Joystick (manual) controlled or pendant (solenoid) controlled valves
- Flow per outlet ranging from 0,27 to 4,2 l/min at 700 bar
- For double- and single-acting cylinders
- Adjustable pressure relief valve per circuit
- Reservoir: 20, 40 or 150 litres
- All models include pressure gauges

▼ Step-by-step stage lifting an old windmill using double-acting RR506 cylinders powered by a split-flow pump.



Multiple Outlets with Equal Flow for Lifting and Lowering



Typical Split-Flow Pump Applications

For lifting and lowering applications on multiple points, Split-Flow Pumps are a far better alternative than using independently operated pumps. Where synchronization of maximum 4% is acceptable, Split-Flow Pumps are a safe and economical solution.

The SFP-Series pumps feature both single and synchronized multiple outlet control either through joystick or pendant operation.

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.

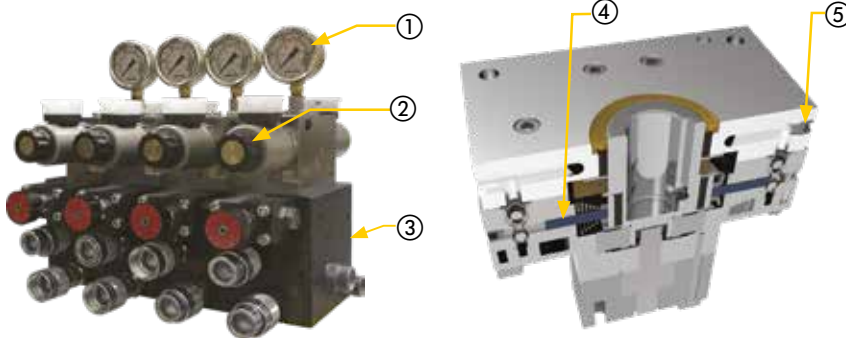
Split-Flow Hydraulic Pumps



How Split-Flow Pumps Work

Split-Flow Pumps are designed to move uneven loads uniformly during both lifting and lowering operations. Flow to each outlet is controlled via simultaneous operation of valves to provide even flow to each lift point regardless of differences in load.

As long as all cylinders have the same load rating (effective area), the cylinders will move evenly based on this even output flow. For fine tuning at individual lift points, valves can be controlled individually. Advance / Hold / Retract functions provide complete control over multi-point lifts.



- ① Easy to read analog gauges provide visibility of load on each outlet
- ② Zero leak directional valves suitable for single or double-acting cylinders
- ③ Individual user-adjustable relief valves for each outlet
- ④ Identical pistons provide equal flow to all outlets
- ⑤ Each piston connects to separate hydraulic outlet



- ① Industrial grade induction motor
- ② Protective steel frame with fork pockets and lifting eyes
- ③ Compact and durable valve manifold (solenoid or manual operation)
- ④ Simple operation via hand-held control pendant
- ⑤ Precision designed radial piston pump element

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



Cylinder Compatibility

The Split-Flow Pump is compatible with a wide range of Enerpac single or double-acting cylinders.

Review oil flow rates prior to choosing a pump especially with cylinders rated at 10 ton or less or with less than 25 mm of stroke. Contact Enerpac for assistance choosing the right pump.



Hoses and Couplers

Enerpac offers a complete line of high-quality hydraulic hoses. To ensure the integrity of your system, specify only genuine Enerpac System Components.

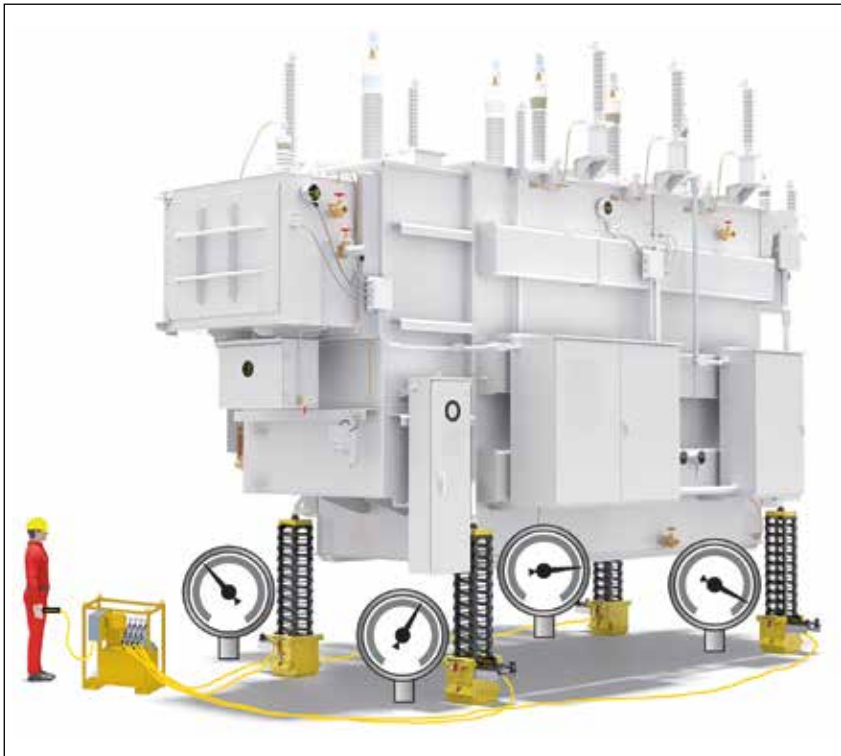


Split-Flow Pump Network Kits

Split-Flow Pump Network Kits connect multiple Split-Flow Pumps under one control system.

Split-Flow Pump Synchro Kits

Split-Flow Pump Synchro Kits connect and electronically synchronize each lift point of a single Split-Flow Pump or multiple Split-Flow Pumps under one control system.



▲ Split-flow pump operating a multi-point lift featuring four SCJ50 Cube Jacks. Simple operation via joystick or hand-held pendant provides controlled lifting despite uneven loads at each lift point.



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SCJ-Series, Self-Locking Cube Jacks

Easy-to-use, compact and portable jacking system that utilizes base lifting frames and self-aligning, lightweight steel cribbing blocks, instead of wooden cribbing materials. Incremental lifting system with automated mechanical locking.



JS-Series, Jack-Up Systems

Enerpac Jack-Up systems provide precision control for extended height lifts and feature lifting barrels that are stacked together to mechanically hold the load. Side loads of up to 5% depending on the lift capacity and lift height can be accommodated.

▼ Enerpac Split-Flow Pumps used in a box-jacking application. The SFP pump operates long-stroke cylinders simultaneously to evenly push concrete sections.



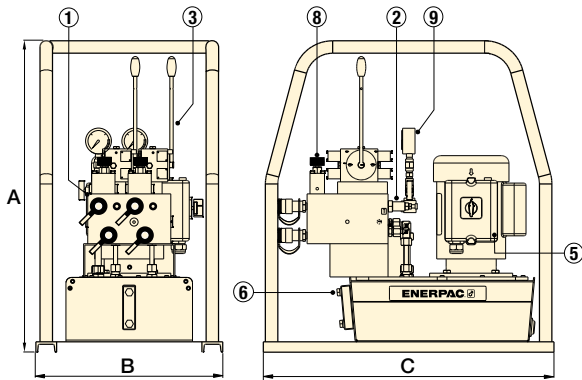
▼ Controlled operation of 32 Enerpac high-tonnage cylinders to aid in construction of a new bridge foundation.



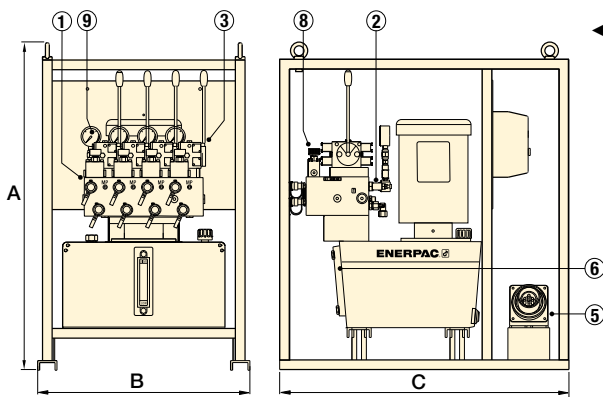
▼ Split-flow pump used to operate multiple hydraulic cylinders to repair the foundation of a large diameter silo.



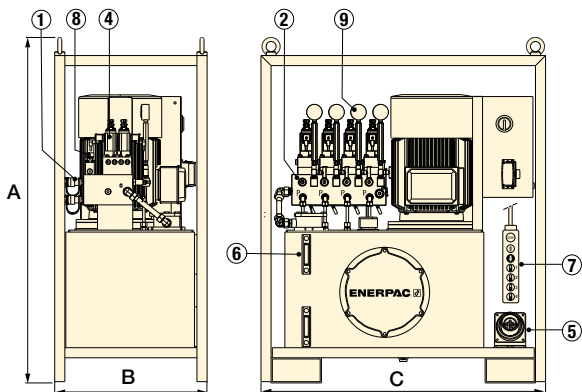
Split-Flow Hydraulic Pumps



◀ 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)

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.

- 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 socket
- ⑥ Oil sight gauge(s)
- ⑦ Remote control pendant with 5 m cord
- ⑧ Return flow control valve in each circuit
- ⑨ Hydraulic pressure gauge in each circuit

Number of Split-Flow Outlets	Usable Oil Capacity (litres)	Oil Flow per Outlet @ 700 bar (l/min)	Pump Model Number 4/3 Valve Operation Advance/Hold/Retract Manual 24 V Solenoid (Joystick) 24 V Solenoid (Pendant)		Motor Size 400 V, 3ph 50 Hz (kW)	Dimensions (mm)			
						A	B	C	
2	9	0,27	SFP 202ME *	—	0,75 *	750	450	700	86
	9	0,27	SFP 202MW	—	0,75	750	450	700	86
	20	1,30	SFP 213MW	SFP 213SW	5,5	1016	640	970	220
	135	2,80	SFP 228MW	SFP 228SW	7,5	1356	605	1160	594
	135	4,20	SFP 242MW	SFP 242SW	11	1356	605	1160	532
4	20	0,45	SFP 404MW	SFP 404SW	5,5	1016	640	970	257
	135	0,90	SFP 409MW	SFP 409SW	5,5	1356	605	1160	483
	135	1,40	SFP 414MW	SFP 414SW	7,5	1356	605	1160	596
	135	2,10	SFP 421MW	SFP 421SW	11	1356	605	1160	534
6	20	0,45	—	SFP 604SW	5,5	1016	640	970	289
	135	1,30	—	SFP 613SW	11	1356	805	1200	562
8	135	1,30	—	SFP 813SW	15	1356	805	1200	602

* SFP...ME: 230V, 1 ph, 50 Hz
SFP...MW: 400V, 3 ph, 50 Hz



Motor Voltage

Motor voltage is specified by the last letter in the model number.

Other motor voltages are available from Enerpac. Change "W" in the model as follows for other options:

J = 460-480V, 3 ph, 50-60 Hz

G = 208-240V, 3 ph, 50-60 Hz

W = 380-415V, 3 ph, 50-60 Hz

▼ SFP-Series Split-Flow Pump Kit Components



Connecting Split-Flow Pumps for more lift points and greater accuracy

- Control multiple Split-Flow Pumps with one control unit
- Pumps can be closer to the lifting points, requiring shorter hoses and increasing accuracy
- Synchronize all lift points to within 1,0 mm (.04 inch)
- Network control boxes expand the number of lifting points by combining up to four split-flow pumps together, simplifying lifting operations by using a single operator
- Plug and play synchronous lift upgrade kits limit initial investment and provide everyday flexibility to tailor the controls to the applications needs.



Split Flow Pumps Kits

SFP Series kits are customized from standard components to meet the needs of your unique applications. On the next page is the guide to help you choose the right components to upgrade or expand your equipment based on your application needs.

Contact your regional Enerpac representative / territory manager for support with your specific project.

Split-Flow Pump Network Kits

Split-Flow Pump Network Kits connect multiple Split-Flow Pumps under one control system.

Split-Flow Pump Synchro Kits

Split-Flow Pump Synchro Kits connect and electronically synchronize each lift point of a single Split-Flow Pump or multiple Split-Flow Pumps under one control system.



Junction Box

SFPKSS4 and **SFPKSS8** junction boxes consolidate the signals from pressure and stroke sensors, allowing the master control box to synchronize the lifting operation.



SFPKMN, Master Control Box

All SFP-Series Synchro Kits include a master control box to allow the operator to easily monitor and control a multi-point synchronized lift and adjust individual lift points as needed. All master control boxes feature an industrial grade touch screen and a user-friendly interface.



EVO-SC-25, Stroke Sensor Cable, 25 metres

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



EVO-WSS, Wire Stroke Sensors

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

lifting point. Available in measuring range from 100 to 1250 mm.

Model Number	Range (mm)	Model Number	Range (mm)
EVO-WSS-100	100	EVO-WSS-750	750
EVO-WSS-125	125	EVO-WSS-1000	1000
EVO-WSS-375	375	EVO-WSS-1250	1250
EVO-WSS-500	500	–	–



Communication Cables

EVO-COMM-Series communication cables transfer information about the synchronized lift operation from the master control panel to each of the connected split-flow pumps.

Model Number	Length (m)	Model Number	Length (m)
EVO-COMM-25	25	EVO-COMM-75	75
EVO-COMM-50	50	EVO-COMM-100	100

Split-Flow Pump Network Kits



Upgrading Split-Flow Pumps

To network multiple SFP-pumps together with standard function see drawing and table ①.

To upgrade a single SFP-pump to synchronous lift capability, see drawing and table ②.

To upgrade and network multiple SFP-pumps together with synchronous lift capabilities, see drawing and table ③.

SFP Series



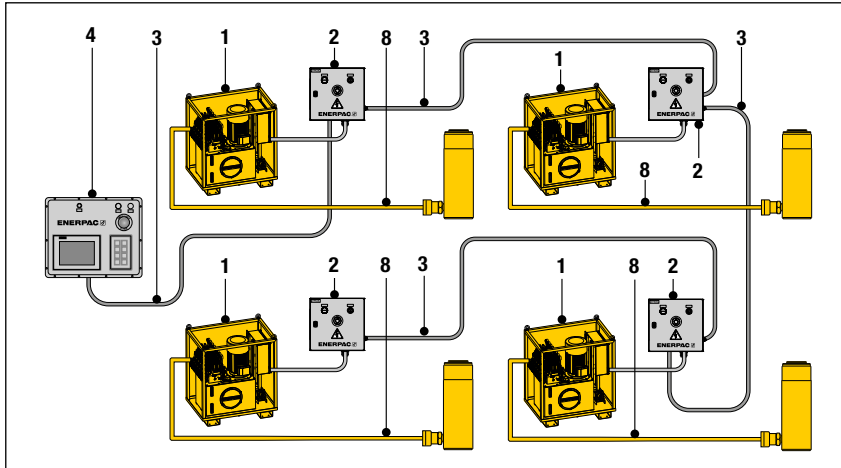
Multiple Pumps in Network System:

1 - 4 pumps

Maximum Lifting Points:

32x cylinders

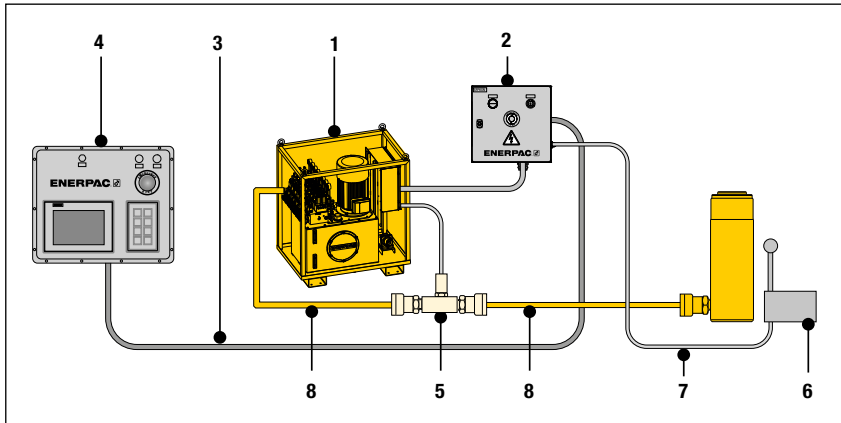
① Networked SFP-Pumps in Standard Operation



① Networked SFP-Pumps in Standard Operation

Nr.	Qty	Model Nr. & Description
1	4x	SFP...SW Pumps with solenoid valves
2	4x	SFPKSN Junction Box, 1x per pump
3	4x	SFPCOMM-25 Communication Cable, 1x per pump
4	1x	SFPKMN Master Control Box
8		HC-700-Series, Hydraulic Hoses

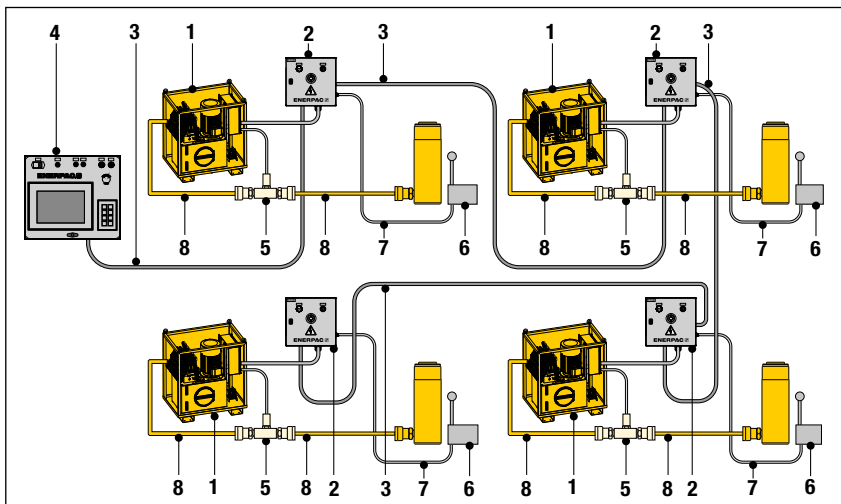
② Single SFP-Pump in Multiple-Point Synchronous Lifting Operation



② Single SFP-Pump in Multiple-Point Synchronous Lifting Operation

Nr.	Qty	Model Nr. & Description
1	1x	SFP...SW Pump with solenoid valves
2	1x	SFPKSS4 Junction Box for 2-4 lifting points or SFPKSS8 for 6-8 lifting points
3	1x	SFPCOMM-25 Communication Cables
4	1x	SFPSSC Single Slave Control Box
5		SFPKPT Pressure Transducer Kit (1x per cylinder A-port)
6		EVO-WSS-XXX Stroke Sensor, 1x per cylinder
7		EVO-SC-25 Stroke Sensor Cable, 1x per cylinder
8		HC-700-Series, Hydraulic Hoses

③ Networked SFP-Pumps in Multiple-Point Synchronous Lifting Operation



③ Networked SFP-Pumps in Multiple-Point Synchronous Lifting Operation

Nr.	Qty	Model Nr. & Description
1	4x	SFP...SW Pump with solenoid valves
2	4x	SFPKSS4 Junction Box, 1x per pump, for 2-4 lifting points or SFPKSS8 Junction Box for 6-8 lifting points
3	4x	EVO-COMM-XXX Communication Cable, 1x per pump
4	1x	EVOMASTER Master Control Box
5		SFPKPT Pressure Transducer Kit, 1x per cylinder A-port)
6		EVO-WSS-XXX Stroke Sensor, 1x per cylinder
7		EVO-SC-25 Stroke Sensor Cable, 1x per cylinder
8		HC-700-Series, Hydraulic Hoses



THE RIGHT TOOL MAKES ALL THE DIFFERENCE

Enerpac heavy lifting technology products are put to work under the most intense and demanding conditions. That's why we never compromise. So you can rely on quality and precision every time, giving you the safest and most efficient path to a successful lift.

Enerpac heavy lifting technology combines technical excellence with proven performance – every day, every year, year after year. We believe that customers shouldn't have to compromise – they can rest easy knowing that even in the most complex situations, their reputations and safety are protected by the most trusted products available.

ELITE TOOLS. FOR ELITE PROFESSIONALS.

Heavy Lifting Technology



SFP-Series,
Split-Flow Pumps



EVOB-Series, Basic
Synchronous Lifting Systems



EVO-Series, Standard
Synchronous Lifting Systems



SCJ-Series,
Self-Locking Cube Jacks



JS-Series
Jack-Up Systems



SL, SBL-Series,
Telescopic Hydraulic Gantries



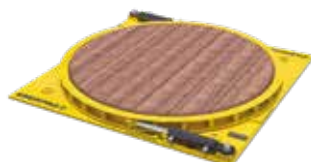
HSL-Series,
Strand Jack Systems



SHS, SHAS-Series, SyncHoist
Synchronous Hoisting Systems



LH, HSK-Series
Skidding Systems



ETT-Series, Turntables



ETR-Series, Trolley Systems



SPMT-Series, Self-Propelled
Modular Trailers