

MCS SERIES

CONTROLLED POSITIONING SOLUTIONS FOR INDUSTRY



SPX[®]

>Power Team[®]
powerteam.com

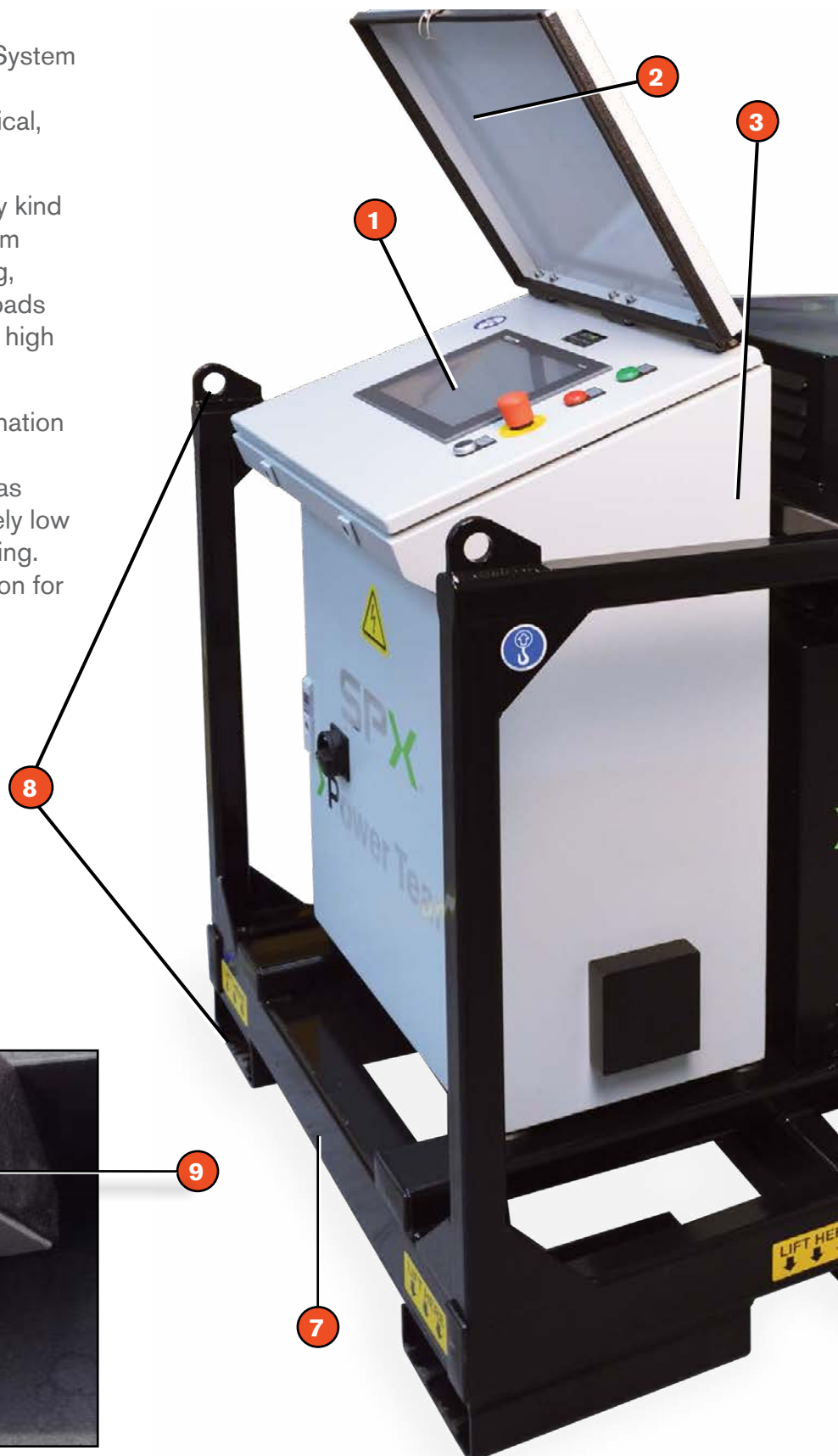
OVERVIEW

The new Power Team Motion Control System (MCS) can be used in many hydraulic applications where load position is critical, requiring cylinder synchronization.

Whether it is a bridge, a building or any kind of heavy load, with the SPX Power Team Motion Control System, lifting, lowering, pushing, pulling, tilting or positioning loads can be carried out automatically with a high degree of accuracy.

The PLC-controlled system is a combination of digital actuation and digital control providing significant advantages such as time savings, repeatability, and extremely low internal stress in the object one is moving. The system also provides documentation for the movement performed.

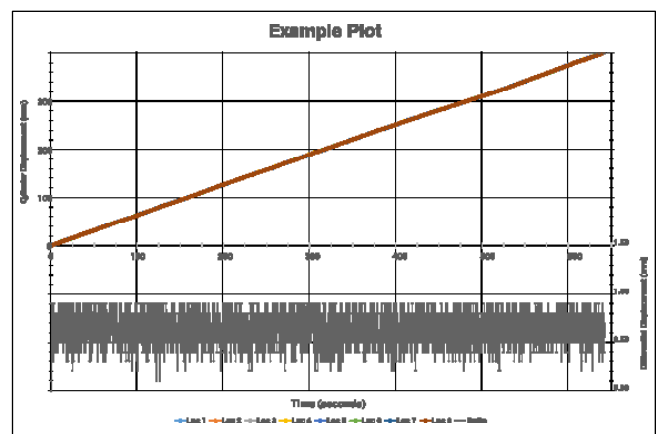
Magnetic Mount Sensors



SYSTEM COMPONENTS

- 1 HMI touch screen
- 2 Hinged cover provides protection for HMI and doubles as a sun screen
- 3 State of the art digital PLC controls system & logs data
- 4 Pressure sensors to monitor lifting pressures in each circuit
- 5 Electrically controlled valves to control the distribution of oil into the hydraulic circuits in small increments
- 6 Forty gallon (150 L) reservoir with sight gauge to handle a wide range of cylinder combinations
- 7 Heavy-duty frame designed to handle all industrial applications
- 8 Integrated lift points for cranes and forks
- 9 Feedback sensors to monitor the position of the load

Data Log/Report



WHY USE A MOTION CONTROL SYSTEM (MCS)?

The primary reason to use a Power Team MCS is Internal Stress Reduction. When a large object is stationary, internal stresses are normalized. When the object is moved, stresses are induced into the object. If the mover is not careful, the object can bend or twist creating a stress riser

which can cause hundreds of thousands or millions of dollars in damage. The Power Team MCS digitally controls the movement of an object, keeping it level within the user specified parameters. This reduces internal stress and the likelihood of damage.

USER FRIENDLY PLC INTERFACE

The PLC-controlled system is a combination of digital actuation and digital control providing significant advantages such as time savings, repeatability, and extremely low internal stress in the object one is moving and automated documentation of the movement performed.

Home Page Screen: This page highlights all activities during the use of the MCS. For each cylinder in use, the cylinder's performance is captured and shown on this screen.



FEATURES	BENEFITS
▪ Control of lifting or lowering loads from PLC	▪ Safe and accurate movement of loads
▪ State of the art software in the PLC	▪ Allows accuracies as low as 1 mm (0.040 in)
▪ Electrical box rated NEMA12	▪ Able to operate in wide range of temperature (32 –131°F, 0 – 55°C) and humidity (30 – 95% non-condensing)
▪ Multiple safety features and auto diagnostics	▪ Full stop due to power failure, sensor failure, pressure overload, tolerance error, uncontrolled load movement, etc.
▪ Data log card	▪ Data recording and reporting capabilities

REDUNDANT SAFETY FEATURES

The Power Team Motion Control System (MCS) has numerous safety features built into the digital controller which safely stop the movement in the

event of an alarm. In addition, there are backup mechanical features which function even in the event of a power loss.

AUTOMATIC DIGITAL		MECHANICAL BACKUP
▪ Max load exceeded	▪ Hydraulic pump overload	▪ Posi-Check® load lowering valve to hold load and provide a mechanical backup to safely control the lowering of the load
▪ Max pressure exceeded	▪ E-Stop button activation	
▪ Max displacement exceeded	▪ Pressure sensor wire break	
▪ Datalog error	▪ Displacement sensor wire break	▪ Manual lowering override to safely lower load in event of power loss.
▪ System communication error	▪ Two button start procedure prevents accidental starting	

TYPICAL APPLICATIONS AND USE

Common applications include:

- Bridge lifting, repositioning, maintenance & launching
- Controlled movement and positioning of heavy equipment, buildings, concrete segments and other construction components
- Structural testing in civil engineering
- Lifting, weighing and/or determining center of gravity (oil platforms)
- Structure raising, leveling & shoring



POWER TEAM SYNCHRONIZED LIFTING AND LOWERING SYSTEM



Order No. MCS-PE554-8

Features:

- Load Capacity: limited by cylinders (use with single or double acting cylinders).
- Intuitive graphic, touch screen control.
- Basic systems start at 8 Jacking Points.
- Safety features include: Full stop due to power failure, sensor failure, pressure overload, tolerance error, uncontrolled load movement, etc.
- Displayed information includes:
 - Startup diagnostics.
 - Position of lift points relative to starting position.
 - Pressure at each lift point.
 - Status of each cylinder.
 - Status of alarms.
- Lifting / lowering accuracy of ± 1 mm (0.040 in.).
- Operating Pressure (up to) 10,000 psi.
- Standard system has a 40 gallon tank.

TRAINING INCLUDED

Every MCS includes one day of on-site training at one of SPX's Regional Headquarters (Rockford, IL, USA or Singapore or The Netherlands). Training includes both classroom and hands-on instruction. Travel & lodging not included.



HARDWARE INCLUDED



Motion Control System (MCS) with robust cage and reusable shipping container.



8 x 500 mm (19.7 in) linear displacement sensors. (4 sensors per case).

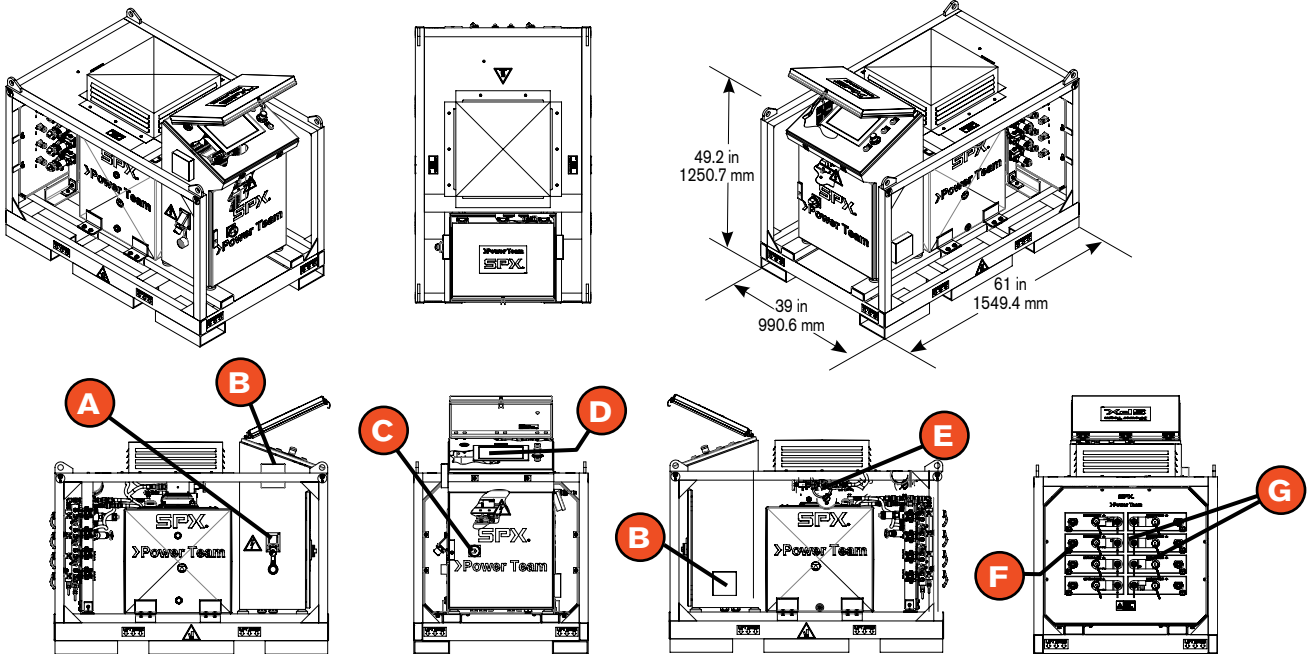


8 x 100 ft (30.5 m) cables for sensors and hard, plastic case



Electrical plug female connector

TECHNICAL IDENTIFICATION



- | | | |
|---------------------------------|---|---|
| A Electrical Plug Inlet | D HMI (Touch Screen) | G Hose Connection Quick Couplers |
| B External Cabinet Vents | E Pressure Gauges | |
| C Door Switch | F Displacement Sensor Connectors | |

OPTIONAL CYLINDERS

Power Team offers a wide variety of single, double and center hole cylinders to meet your requirements.



ORDERING INFORMATION

Order No.	Maximum Lift Points	Pump Specs	Reservoir Size	Motor Voltage	Control Voltage	Max Pressure	Valves Included	Transducers Included	Weight
MCS-PE554-8	8	55 in ³ / min @10,000 psi (0.9 L/min @ 700 bar)	40 Gallons (150 L)	1 ¼ hp, 230 VAC	24 VDC	10,000 psi (700 bar)	3P-4W and 2P-2W	Pressure transducers and ASM Linear Position Transducers	1700 lb (771 kg) (w/oil)

CUSTOMER SERVICE CENTERS

North America Customer Service Center

Rockford, Illinois USA

5885 11th Street
Rockford, IL 61109
USA

Customer Service/Order Entry
Tel: +1 800 541 1418
Fax: +1 800 288 7031

Technical Services
Tel: +1 800 477 8326
Fax: +1 800 765 8326
info@powerteam.com

European Headquarters

Albert Thijsstraat 12
6471 WX Eygelshoven
The Netherlands
Tel: +31 45 567 8877
Fax: +31 45 567 8878

infoeurope@powerteam.com

Asia Pacific Headquarters

26 Soon Lee Road
Singapore 628086
Singapore
Tel: +65 6265 3343
Fax: +65 6265 6646

infoasia@powerteam.com

Shanghai, China

No. 1568 Hua Shan Road
Treasury Building
11th Floor
Shanghai 200052, China
Tel: +86 21 2208 5888
Fax: +86 21 2208 5682

infochina@powerteam.com

ENGINEERING, MANUFACTURING AND SUPPORT CENTER

World Headquarters

5885 11th Street
Rockford, IL 61109, USA
Tel: +1 815 874 5556
Fax: +1 800 288 7031

info@powerteam.com

Distributed by:

