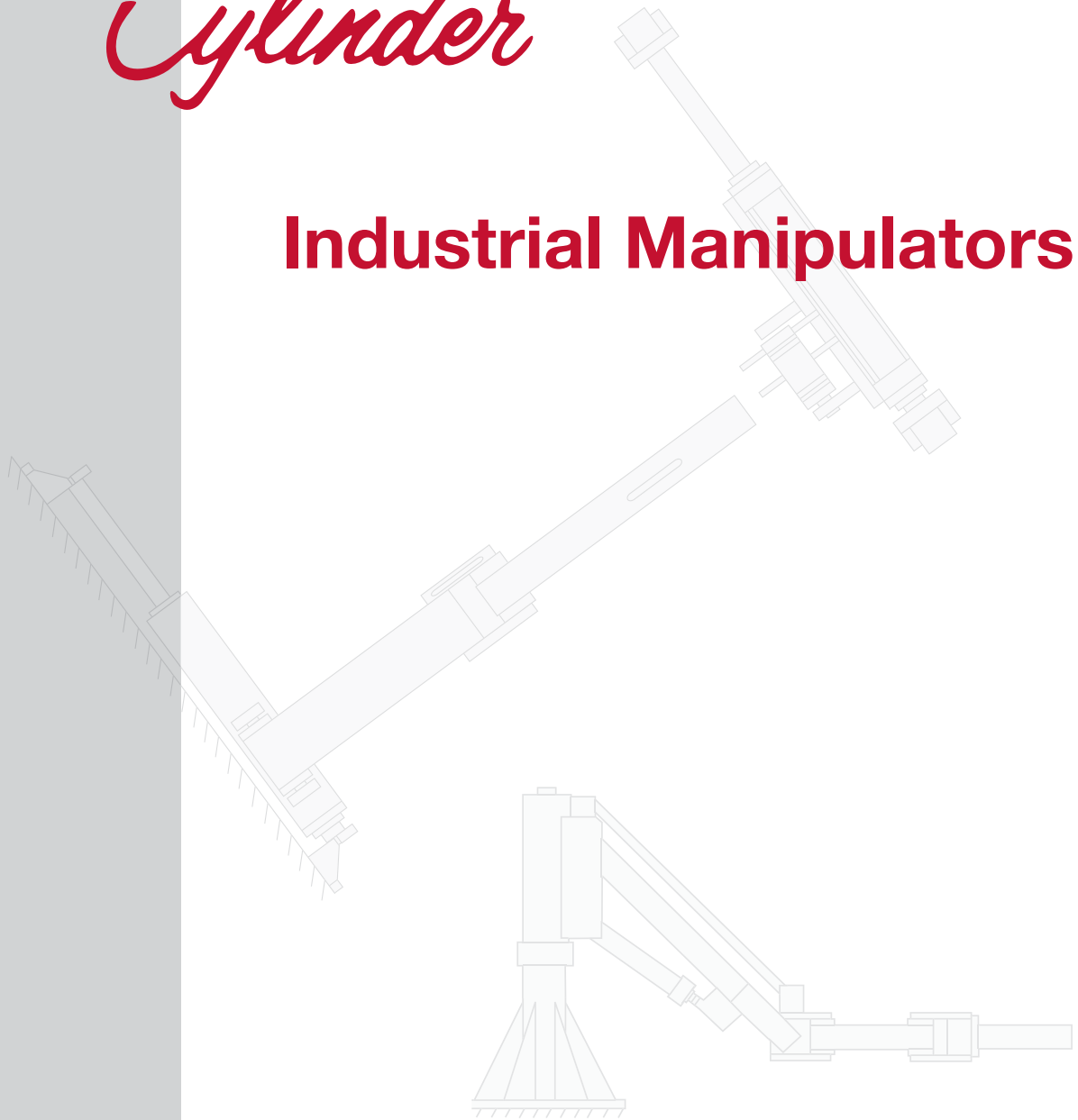


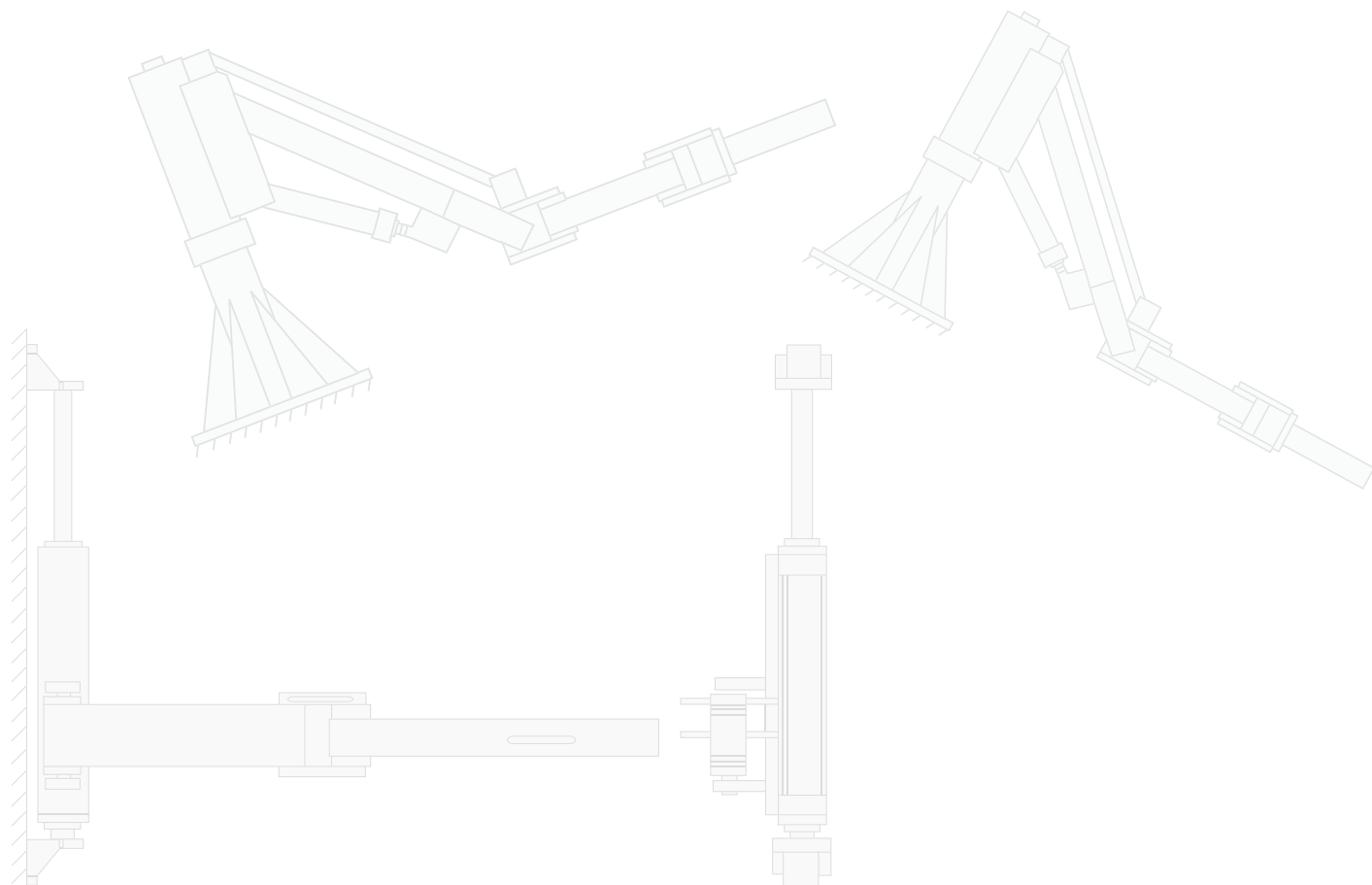
Industrial Manipulators



Pow'r Arm™ and Pow'r Reach™ Industrial Manipulators

from *Milwaukee Cylinder* provide safe and efficient means to lift and locate loads up to 2,000 lbs. They use hydraulic power to lift, and manual operator movement to locate the load. Pow'r Arm™ units are typically mounted to a vertical surface at a machine or press to aid the operator in loading heavy tooling, dies or work pieces of up to 2000 lbs. Pow'r Reach™ provides greater vertical travel and reach for loads up to 750 lbs. Mounting options include floor mount, dolly mount, and overhead mount.

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Series H

Series MH

Series LH

Series A

Series MN

Hyd-Pneum Devices

Cyl Accessories

Manipulators

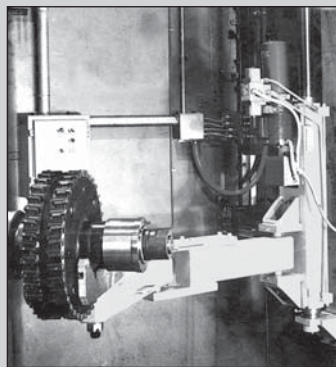


Safe, convenient positioning of loads up to 2,000 lbs.

- Quick, easy lifting and positioning of heavy dies, tooling and parts
- One-man control — saves time and labor
- Mounts directly on machine, I-beam or vertical surface
- Vertical travel is easily controlled with 8.0 ft remote pendant push-button control
- Articulated arm simplifies positioning of load, folds away for convenient storage
- Metering orifice slows downward motion
- 2-speed control permits fast movement and precise positioning of load

Features

- Hydraulic power to lift, operator movement to locate the load
- 12 inch and 24 inch vertical travel
- Electric powered, self-contained, stand-alone hydraulic power unit controls vertical travel with manual horizontal positioning of the load by the operator
- Lift speeds of 22 in/min. to 117 in/min.



Large and complex cutters are often impossible to handle without some mechanical assistance. The Pow'r Arm™ was adapted for this specific application.



In automated forging processes, hot metal blanks are fed automatically into a progressive die. Each die segment may weigh several hundred pounds and must be handled quickly, easily and safely.



Large shear blades are used to cut steel bars and billets. When these blades become worn the Pow'r Arm™ performs speedy removal and replacement of the blades safely with minimal disruption to the process.

POWER SUPPLY

Pow'r Arm™ includes a complete, self-contained, stand-alone power supply. It consists of a pump, motor, coupling, coupling adapter, hydraulic reservoir and controls.

The electric-hydraulic units have a pre-set relief valve to prevent overloads and a check valve which retards descent of the load if the power fails. Pressure settings for relief valves are set as shown in the "Hydraulic Specifications" table to the right.

▼ Hydraulic Specifications

Model Number	Pressure Rating (psi)	System Fluid Capacity (gal)	Vertical Travel Speed (in/min)
MPA-25	300	2.0	117
MPA-50	300	2.0	54
MPA-100	300	2.0	37
MPA-200	300	2.0	22

▼ Electrical Specifications

AC		Phase	Amps
Voltage	Hz		
115*	60/50	1	9
220	60/50	1	7
440	60/50	3	3.5

* STD. - Unless otherwise specified.

▼ HOW TO ORDER

Example: **MPA - 25 - 12 - 24/24 - 7 - SH - S**

Model No. & Load Capacity _____

Vertical Travel ("S" from dim. chart below) _____

Rated Reach ("A" and "B" from dim. chart below) _____

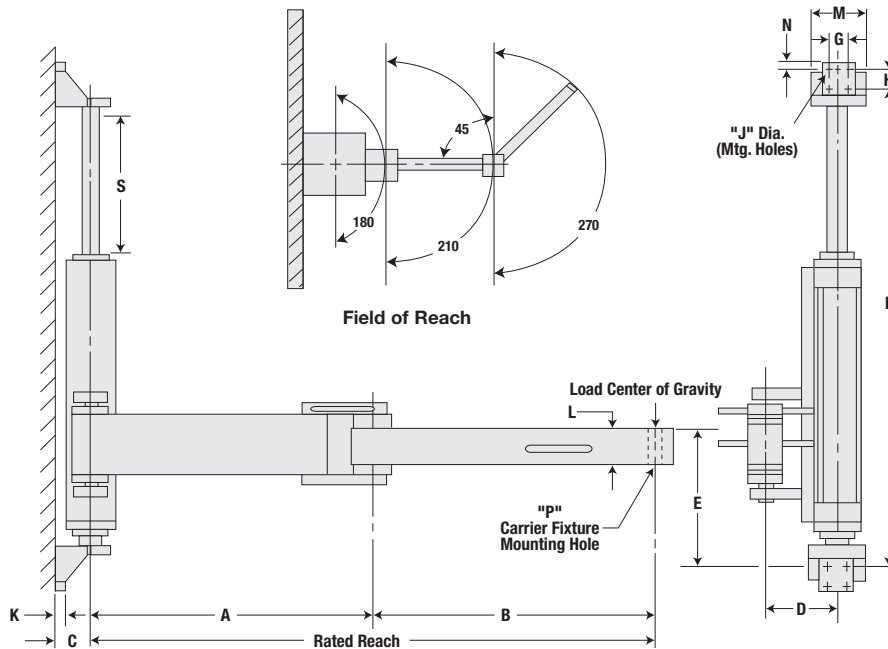
Seals _____
 Buna (standard) - 7 ; Viton (optional) - 8

Power Unit (SH = Electric-Hydraulic) _____

Modification from Standard - S _____
 (If Applicable)

Operating Specs. - Model MPA

Rated Load:	250-2000 lbs.
Working Radius:	24-36 in.
Pump:	1.5 GPM, 3450 RPM
Pressure Rating:	300 psi
Motor:	0.5 hp, 3450 RPM, C Frame
Reservoir Capacity:	2.0 gal.
Lowering Power:	Gravity (Controlled by Needle Valve)
Operating Controls:	2-button Up/Down Pendant
Electrical Requirements:	20 Amps, 115V / 60 Hz
Down Speed:	Adjustable with Needle Valve
Total Weight:	560 lbs. 275-1600 lbs.



Safety Relief Valve

Relief valves are pre-set at the factory to prevent overloading of the cylinder arm assembly.

Dual Speed Control

The vertical travel is controlled by a hand held push-button pendant, connected to the hydraulic power unit. Dual speed provides maximum performance and control.

Integrated Hydraulic Controls

All hydraulic controls are integrated into compact manifold packages to minimize space and system hydraulic connections. Controls are designed to provide positive load holding.

▼ DIMENSIONAL CHART

Load Cap. (lbs)	Model No.	Dimensions (in)															Wt.
		A	B	C	D	E	F	G	H	J	K	L	M	N	P	S	
250	MPA-25	24.00	24.00	3.75	5.88	11.25	39.38	1.75	1.75	.43	.50	3.00	3.75	.50	.753/.755	12.00	275
500	MPA-50	24.00	24.00	4.50	7.25	17.43	77.38	4.00	2.00	.56	1.00	4.00	8.00	1.00	1.003/1.005	24.00	750
1000	MPA-100	30.00	30.00	5.50	8.50	19.15	75.81	4.50	3.50	.68	1.25	5.00	8.00	1.00	1.503/1.505	24.00	975
2000	MPA-200	36.00	36.00	6.50	10.75	22.75	78.12	6.00	4.00	.81	1.50	6.00	10.00	.75	1.503/1.505	24.00	1600

Series H

Series MH

Series LH

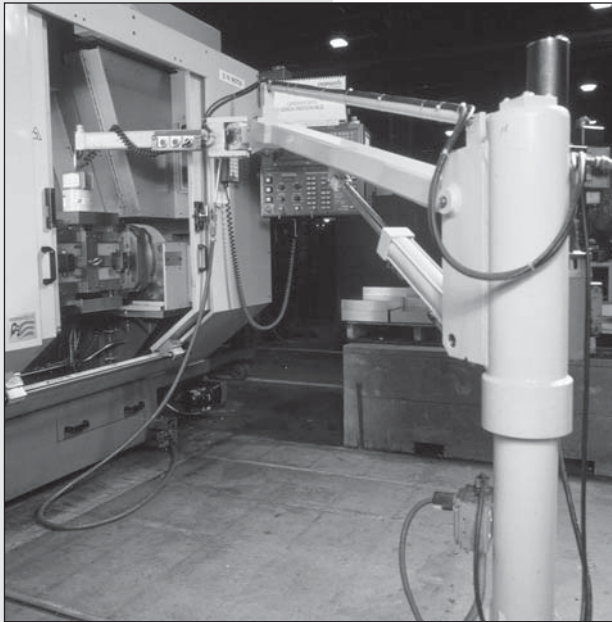
Series A

Series MN

Hyd-Pneu Devices

Cyl Accessories

Manipulators

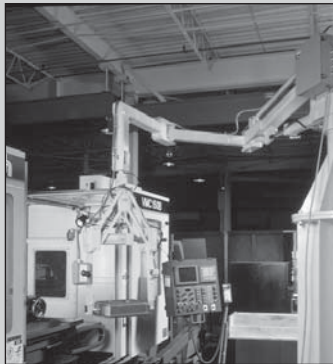


For fast, easy lifting and precise positioning of tombstones, vises and materials

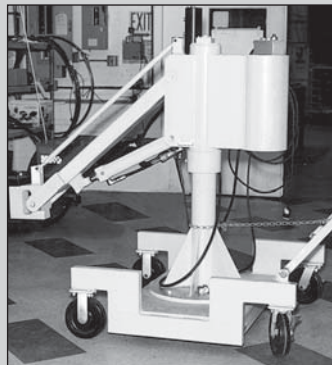
- Available in 250 lbs or 750 lbs capacity
- 58-inch vertical travel, 8.5 foot reach, 350 degree rotation
- One-person control – saves time and labor
- Low column profile for maneuverability
- Two-speed pendant control permits fast movement and precise positioning
- Special bearings prevent drifting of load

Standard Features

- 58" vertical travel
- Self-contained hydraulic power unit for lifting with manual horizontal power
- Rapid up speed - Full 58 inches travel in 15 seconds
- Vented reservoir with sintered metal breather filter
- Buna cylinder seals are standard; Viton seals available upon request



Parts are selected from pallets and moved to working stations. The smooth, positive hydraulic control of the Pow'r Reach™ permits picking and positioning of expensive parts safely and precisely.



Portable dolly-mounted Pow'r Reach™ provides flexibility to accommodate a wide variety of applications. For stability, a counterweight is welded to the column of these models.



A Pow'r Reach™ is used to position parts in machining centers. It is useful and effective because of the ease and convenience with which the heavy parts are handled.

MPR-Series Pow'r Reach™ Technical Data

POWER SUPPLY

All Pow'r Reach™ units include a complete self-contained electric-hydraulic power supply mounted on the column. The standard power supply is driven by a single-phase electric motor. Standard voltages, frequencies and motor specifications are in the table below. Custom configurations are available upon request.

▼ HOW TO ORDER

Example: **MPR - 25 - SH - 7 - S**

Model No. & Load Capacity _____
 Power Supply _____
 SH - Electric / Hydraulic (standard)
 Seals _____
 Buna (standard) -7 Viton (optional) -8
 Modification from standard -S _____
 (if applicable)

Safety Relief Valve

Relief valves are pre-set at the factory to prevent overloading of the cylinder arm assembly.

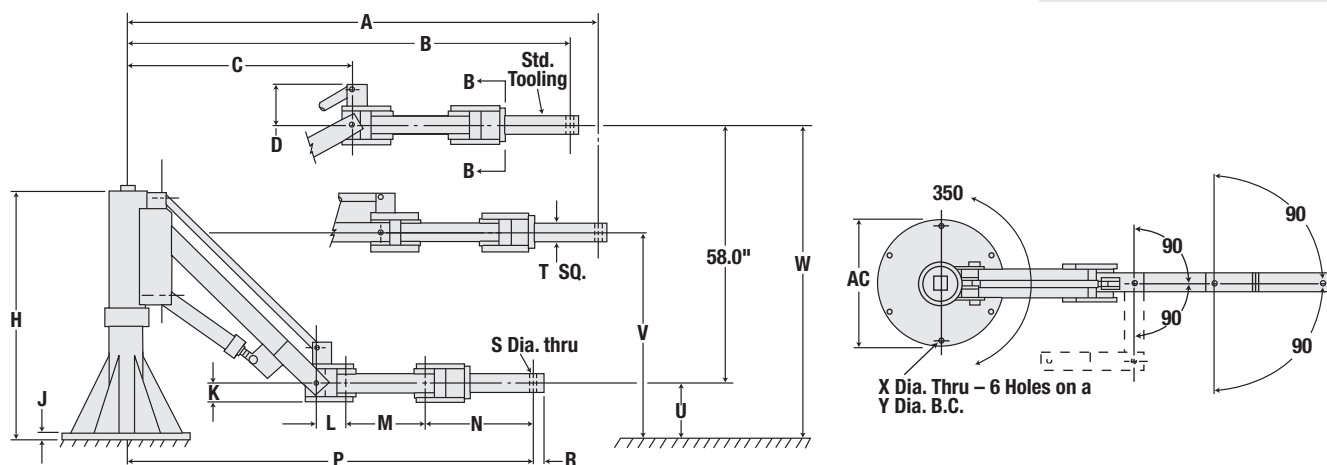
Dual Speed Control

Standard on the MPR-25 for maximum performance and control. Variable speed proportional control is standard on the MPR-75 and optional on the MPR-25.

Integrated Hydraulic Controls

All hydraulic controls are integrated into compact manifold packages to minimize space and system hydraulic connections. Controls are designed to provide positive load holding.

Operating Specifications	Model MPR-25	Model MPR-75
Rated Load:	250 lbs.	750 lbs
Working Radius:	102.00 in.	103.50 in.
Pump:	1.5 GPM, 3450 RPM	2.8 GPM, 1750 RPM
Pressure Rating:	600 psi	600 psi
Motor:	0.5 hp, 3450 RPM, C Frame	1.5 hp, 1750 RPM, C Frame
Reservoir Capacity:	2.0 gal.	3.0 gal.
Lowering Power:	Gravity, Controlled by Needle Valve	Hydraulic Power Unit
Operating Controls:	2-button Up & Down Pendant Control	Joystick, Variable Speed Control Proportional Valve
Electrical Requirements:	20 Amps, 115V / 60 Hz	30 Amps, 220V / 60 Hz
Down Speed:	Adjustable with Needle Valve	Joystick Variable Speed Control
Mounting Data		
Mounting Bolt-Pull-Out Force:	4000 lbs. Minimum	7000 lbs. Minimum
Total Weight, Floor-Mounted Pow'r Reach:	560 lbs.	1183 lbs.



▼ DIMENSIONAL CHART

Load Cap. (lbs)	Model No.	Dimensions (in)																			
		A	B	C	D	H	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	AC
250	MPR-25	102.00	95.50	47.50	7.50	53.00	.75	3.50	5.00	19.00	24.00	88.00	1.62	.755/.753	3.00	12.50	46.50	70.50	.56	18.00	22.00
750	MPR-75	103.50	97.06	49.06	8.75	55.50	1.00	4.00	6.50	17.50	24.00	89.50	2.00	1.005/1.003	4.00	12.50	46.50	70.50	.84	26.00	28.00