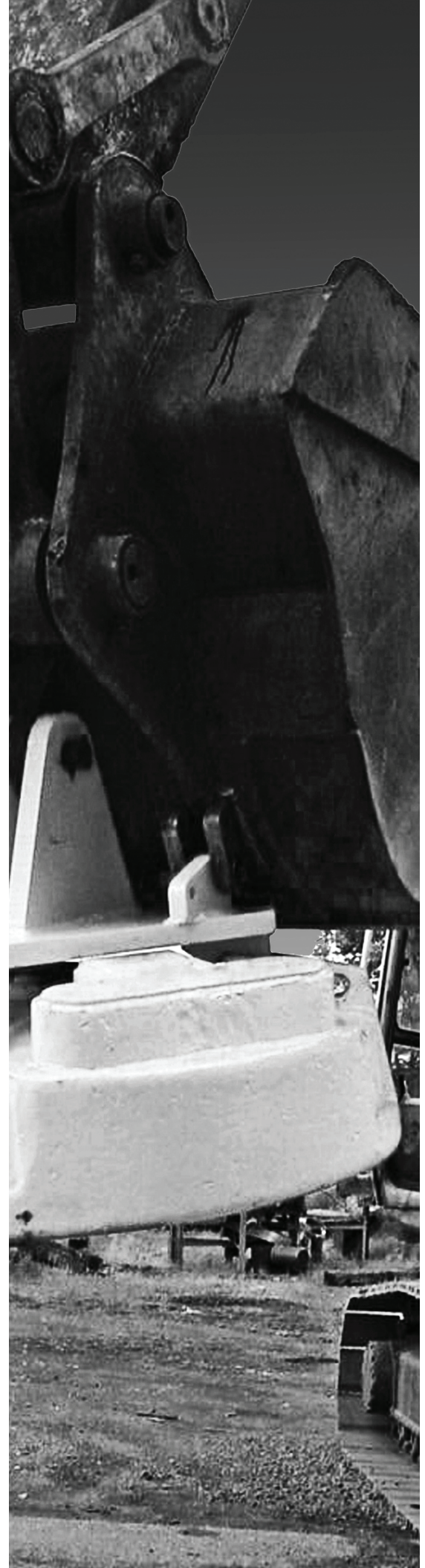


Lifting Magnets

Products & Services

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Magnetech Overview



Magnetech Industrial Services is a recognized leader in the repair, service and supply of electrical apparatus, and we are the only company that services equipment from the transformer to the driven component. We service all your equipment, including transformers, switchgear/circuit breakers, AC/DC motors and generators, exhaust fans, pumps, compressors, gear boxes, overhead cranes, electromagnetic lifting magnets and more.

We provide in-house services, including recondition, rewind and remanufacturing, field services, predictive/preventive maintenance, Total Motor Management® and MagneTrac® asset management programs.

Magnetech offers comprehensive support services to improve the performance of nearly every aspect of your manufacturing or processing operations. We have on-staff engineers and service experts to help you:

- ▶ Lower maintenance and repair costs
- ▶ Reduce downtime
- ▶ Improve productivity
- ▶ Upgrade existing equipment to meet new demands
- ▶ Extend equipment life
- ▶ Achieve a better return on assets

Magnetech Industrial Services, Inc. is an established leader in electrical mechanical service with a long heritage of quality dating back to 1937.

We are committed to operating this business with the values of exceptional customer service, integrity, comprehensive repair and service capabilities, high quality, and competitive pricing. We are working every day to do the things necessary to increase the value we can offer your company. One thing that will never change is our total dedication to meeting your needs – to get what you need, when you need it, with the quality you require.

Industries Served

- | | |
|-----------------------|-------------------------------------|
| ▶ Aerospace | ▶ Naval/Marine |
| ▶ Automotive | ▶ Oil/Pipeline |
| ▶ Chemical Processing | ▶ Plastics and Rubber |
| ▶ Education | ▶ Power Generation and Distribution |
| ▶ Food Processing | ▶ Pulp and Paper |
| ▶ Glass | ▶ Railroad, Light and Class 1 |
| ▶ Healthcare | ▶ Scrap and Recycling |
| ▶ Manufacturing | ▶ Steel |
| ▶ Metal Producing | ▶ Wastewater Treatment |
| ▶ Metalworking | ▶ Wind Power Services |
| ▶ Military | |
| ▶ Mining | |



A Proactive Asset Management Program

Unlike other asset management programs of the past that simply managed inventory or warehouse space, the MagneTrac® program is a complete, proactive system of innovative tools that track, analyze and maintain efficient production line performance. Our single driving goal is to improve the extended life of your capital investments with efficient solutions to prevent further unnecessary equipment failures.

Our MagneTrac® program includes the following critical customer benefits:

Field Survey

- ▶ Trained service technicians inspect & inventory each magnet & system component
- ▶ Each magnet is assigned a S/N or ID number
- ▶ Magnet system compatibility is documented
- ▶ Application & usage of each component is documented

Assessment & Profile

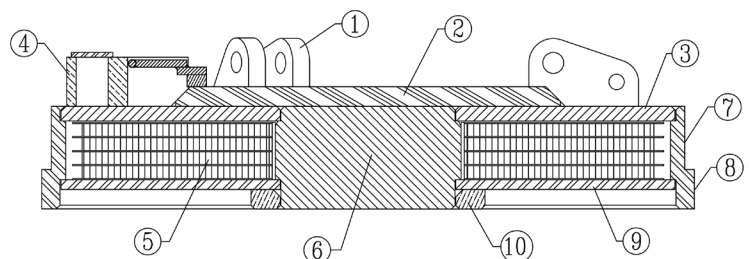
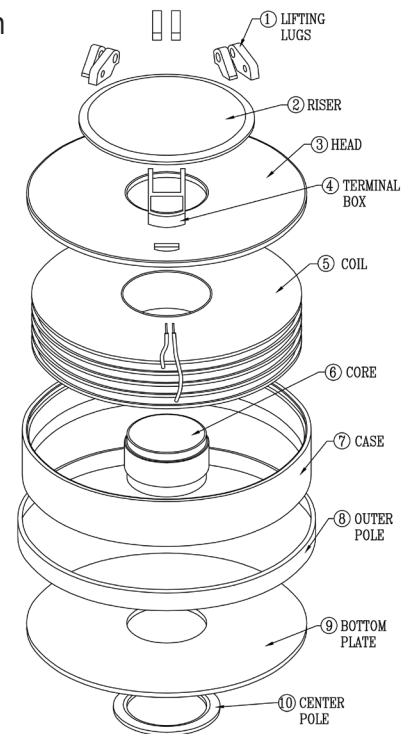
- ▶ Components identified by manufacturer, model, S/N, etc.
- ▶ Each magnet component evaluated based on safety, wear, usage & application
- ▶ Repair/Replacement cost history documented
- ▶ Rank/Risk Assignment based on overall component rating analysis
- ▶ Probable cause of failure evaluated if applicable

Comprehensive Report

- ▶ Detailed preventive maintenance schedule recommendation
- ▶ Repair list for defective units
- ▶ Component standardization recommendation

Components Inspected:

- ▶ Magnet Case
- ▶ Outer Pole Shoe
- ▶ Center Pole Shoe
- ▶ Center Pole Bolts
- ▶ Bottom Plate
- ▶ Lifting Ears
- ▶ Chain Pins
- ▶ Chain/Yoke
- ▶ Tag Line Ends
- ▶ Hard Surfacing
- ▶ Terminal Box
- ▶ Cable Clamps
- ▶ Magnet Leads
- ▶ Power Cable
- ▶ Poles in Plane
- ▶ Coil Megger Reading
- ▶ Coil Ohm Reading
- ▶ Magnet to Cable Connection



Scrapmizer "L" Series

FDAL Ideal For:

- ▶ Material Handler
- ▶ Scrap Handling



Quality is Customary:

- ▶ 75% Duty Cycle
- ▶ Maximized Lift-to-Weight Ratio
- ▶ Class "H" Insulation Throughout
- ▶ 3 Leg Conventional Chain Assemblies
- ▶ Strong & Durable Fabricated Steel Construction
- ▶ Waterproof Double Welded & Sealed Terminal Box
- ▶ Wear Resistant Layer Welded onto Center & Outer Poles
- ▶ High Impact Resistant Heavy Duty Manganese Bottom Plate

ALUMINUM COIL TECHNICAL DATA

SIZE/ MODEL	WEIGHT	VOLTS	AMPS COLD	CONTROLLER SIZE	GENERATOR SIZE	CABLE SIZE	PIG IRON #1 HM	#2 HM	TURNS	PUNCHINGS
34" FDAL	1,250	230	18	0-25	5	8/2	625	425	225	750
40" FDAL	2,062	230	34	0-50	5	8/2	1,150	775	375	1,400
47" FSAL	2,900	230	41	0-50	10	8	1,350	900	420	1,550
47" FDAL	3,100	230	45	0-50	15	8	1,600	1,100	525	1,800
57" FSAL	4,500	230	59	0-100	15	6	2,700	1,750	760	3,250
57" FDAL	4,900	230	65	0-100	15	6	2,850	1,800	810	3,350
63" FDAL	5,800	230	75	0-100	20	6	3,970	2,575	1,250	4,360
67" FSAL	6,200	230	88	0-100	25	6	4,150	2,700	1,300	4,950
67" FDAL	6,300	230	92	0-130	25	4	4,300	2,825	1,375	5,550
69" FDAL	7,200	230	100	0-130	25	4	4,725	3,125	1,425	6,025
72" FDAL	8,900	230	114	0-130	33	4	5,250	3,600	1,675	6,850
78" FDAL	10,900	230	128	0-130	33	2	6,350	4,450	2,200	8,200
84" FDAL	15,000	230	148	0-175	40	2	7,550	5,375	2,600	9,650
84" FDALDV	17,000	230/180	230/180	0-350	60	2/0	7,925	5,650	2,735	10,125
87" FDAL	17,300	230	158	0-175	40	2	8,375	5,975	2,875	10,700
87" FDALDV	19,500	230/180	253/198	0-350	60	2/0	8,790	6,275	3,025	11,225
95" FDAL	19,500	230	191	0-350	50	1/0	10,200	8,350	4,100	12,700
95" FDALDV	22,500	230/180	261/204	0-350	60	3/0	10,700	8,775	4,300	13,350

COPPER COIL TECHNICAL DATA

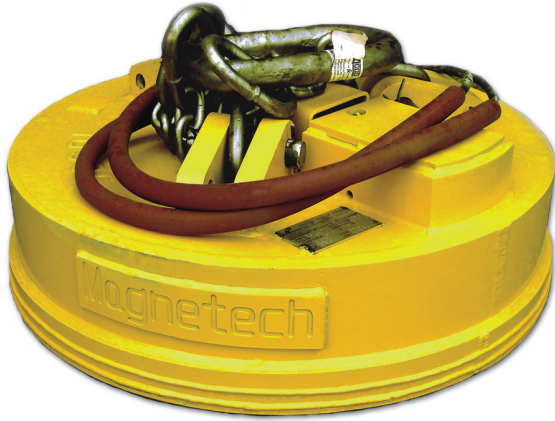
SIZE/ MODEL	WEIGHT	VOLTS	AMPS COLD	CONTROLLER SIZE	GENERATOR SIZE	CABLE SIZE	PIG IRON #1 HM	#2 HM	TURNS	PUNCHINGS
47" FSCL	3,500	230	40	0-50	10	8	1,475	1,025	500	1,925
47" FDCL	4,000	230	44	0-50	15	8	1,775	1,275	632	2,250
57" FSCL	5,500	230	59	0-100	15	6	2,975	2,000	925	4,050
57" FDCL	5,900	230	64	0-100	15	6	3,125	2,075	975	4,175
63" FDCL	7,200	230	77	0-100	20	6	4,575	3,100	1,575	6,200
67" FSCL	7,700	230	87	0-100	20	6	4,725	3,250	1,650	6,950
67" FDCL	8,400	230	92	0-130	25	4	5,200	3,500	1,700	7,525
72" FDCL	11,200	230	109	0-130	25	4	5,775	4,150	2,025	8,575
84" FDCL	16,900	230	136	0-175	33	2	8,300	6,175	3,125	12,050
84" FDCLDV	19,500	230/180	192/150	0-350	50	1/0	8,725	6,500	3,275	12,650
87" FDCL	19,700	230	156	0-175	40	2	9,200	6,875	3,450	13,375
87" FDCLDV	21,800	230/180	232/182	0-350	60	2/0	9,675	7,225	3,625	14,025
95" FDCL	22,300	230	184	0-350	50	1/0	11,200	9,600	4,925	15,875
95" FDCLDV	24,600	230/180	255/200	0-350	60	2/0	11,775	10,100	5,150	16,675

FDCL Ideal For:

- ▶ Steel Mill & Foundry
- ▶ Scrap Handling

An electro magnet lifting capacity is based on optimum conditions. Variables in the size, density, composition and arrangement of materials to be lifted or variables within the magnetic power system can affect lift performance. Material descriptions are based upon specifications for iron and steel scrap published by the Institute of Scrap Recycling Industries. Lifting capacities are based on an all day average per lift. Magnet weights do not include weight of chain.

Mill Duty “H” Series



Ideal For:

- ▶ Steel Mill & Foundry
- ▶ Heavy Duty Scrap Handling
- ▶ Slabs & Billets

ALUMINUM COIL TECHNICAL DATA

SIZE/MODEL	WEIGHT	VOLTS	AMPS COLD	CONTROLLER SIZE	GENERATOR SIZE	CABLE SIZE	PIG IRON #1 HM	SLAB	DROP BALL
40" FDAH	2,200	230	30	0-50	10	8	900	20,000	10,000
45" FSAH	3,500	230	41	0-50	10	8	1,625	38,000	15,000
45" FDAH	3,900	230	43	0-50	10	8	1,850	41,000	16,000
55" FSAH	6,000	230	55	0-130	15	6	2,600	55,000	20,000
55" FDAH	6,800	230	65	0-130	15	6	2,675	58,000	22,000
65" FSAH	11,500	230	80	0-130	20	4	3,800	68,000	30,000
65" FDAH	13,000	230	90	0-130	25	4	5,300	76,000	35,000
75" FDAH	16,500	230	120	0-130	33	4	6,500	110,000	42,000
80" FDAH	19,000	230	130	0-130	33	4	7,200	130,000	50,000
80" FDAHDV	20,000	230/140	209/127	0-350	50	1/0	8,000	150,000	60,000
84" FDAH	21,500	230	140	0-350	33	1/0	9,000	160,000	70,000
84" FDAHDV	23,500	230/140	230/140	0-350	60	1/0	9,500	180,000	75,000

COPPER COIL TECHNICAL DATA

SIZE/MODEL	WEIGHT	VOLTS	AMPS COLD	CONTROLLER SIZE	GENERATOR SIZE	CABLE SIZE	PIG IRON #1 HM	SLAB	DROP BALL
40" FDCH	2,800	230	30	0-50	10	8	1,100	24,000	12,000
45" FSCH	4,500	230	42	0-50	10	8	1,800	40,000	16,000
45" FDCH	5,200	230	48	0-50	15	8	2,000	43,000	17,000
55" FSCH	7,000	230	65	0-130	15	6	2,500	55,000	20,000
55" FDCH	8,500	230	69	0-130	20	6	3,000	60,000	25,000
65" FSCH	14,000	230	85	0-130	20	4	4,000	70,000	30,000
65" FDCH	15,400	230	95	0-130	25	4	5,300	83,000	35,000
75" FDCH	19,000	230	120	0-130	33	4	7,000	120,000	45,000
80" FDCH	22,500	230	125	0-130	33	4	7,700	140,000	55,000
80" FDCHDV	23,500	230/140	209/128	0-350	50	1	9,000	160,000	65,000
84" FDCH	24,500	230	130	0-130	33	2	9,500	170,000	75,000
84" FDCHDV	27,000	230/140	255/156	0-350	60	1	10,000	200,000	78,000

Quality is Customary:

- ▶ 75% Duty Cycle
- ▶ Maximized Lift-to-Weight Ratio
- ▶ Class “H” Insulation Throughout
- ▶ 3 Leg Conventional Chain Assemblies
- ▶ Strong & Durable Fabricated Steel Construction
- ▶ Waterproof Double Welded & Sealed Terminal Box

An electro magnet lifting capacity is based on optimum conditions. Variables in the size, density, composition and arrangement of materials to be lifted or variables within the magnetic power system can affect lift performance. Material descriptions are based upon specifications for iron and steel scrap published by the Institute of Scrap Recycling Industries. Lifting capacities are based on an all day average per lift. Magnet weights do not include weight of chain.

Scrap Star Series

Ideal For:

- ▶ Light Weight Material Handler
- ▶ Scrap Handling



Quality is Customary:

- ▶ 75% Duty Cycle
- ▶ Maximized Lift-to-Weight Ratio
- ▶ Class "H" Insulation Throughout
- ▶ 3 Leg Conventional Chain Assemblies
- ▶ Strong & Durable Cast Steel Construction
- ▶ Twist Lock Magnet Plugs for Easy Installation
- ▶ Wear Resistant Layer Welded onto Center & Outer Poles
- ▶ High Impact Resistant Heavy Duty Manganese Bottom Plate
- ▶ Terminal Box Features Feedthrough Insulators With Terminal Studs

ALUMINUM COIL TECHNICAL DATA

SIZE/ MODEL	WEIGHT	VOLTS	AMPS COLD	CONTROLLER SIZE	GENERATOR SIZE	CABLE SIZE	PIG IRON #1 HM	#2 HM	TURNINGS	PUNCHINGS
34" CDAS	1,300	230	22	0-25	5	8/2	625	425	225	750
40" CDAS	1,900	230	32	0-50	7.5	8/2	1,150	775	375	1,400
48" CDAS	2,900	230	43	0-50	10	8/2	1,825	1,250	600	2,225
58" CSAS	3,700	230	66	0-100	15	6/2	2,740	1,890	900	3,375
58" CDAS	4,200	230	65	0-100	15	6/2	2,825	1,950	925	3,475
67" CDAS	5,800	230	86	0-100	20	6/2	4,300	2,875	1,425	5,350
72" CDAS	7,800	230	108	0-130	25	4/2	5,525	3,775	1,750	6,825

"MP" Series

Ideal For:

- ▶ High Production Material Handler
- ▶ Scrap Handling

Quality is Customary:

- ▶ 75% Duty Cycle
- ▶ Maximized Lift-to-Weight Ratio
- ▶ Class "H" Insulation Throughout
- ▶ 3 Leg Conventional Chain Assemblies
- ▶ Strong & Durable Cast Steel Construction
- ▶ Twist Lock Magnet Plugs for Easy Installation
- ▶ Wear Resistant Layer Welded onto Center & Outer Poles
- ▶ High Impact Resistant Heavy Duty Manganese Bottom Plate
- ▶ Terminal Box Features Feedthrough Insulators With Terminal Studs
- ▶ Designed for high volume high production applications.
- ▶ Heavier than the above magnets and capable of more lift, the operators need to be aware of this when handling scrap with the boom fully extended over the side.
- ▶ These magnets with their "electro core" offer a larger center-pole, or lifting center, excellent for handling shredded, busheling or processed scrap.

ALUMINUM COIL TECHNICAL DATA

SIZE/ MODEL	WEIGHT	VOLTS	AMPS COLD	CONTROLLER SIZE	GENERATOR SIZE	CABLE SIZE	PIG IRON #1 HM	#2 HM	TURNINGS	PUNCHINGS
58" CDAE	5,000	230	68	0-100	15	6/2	3,275	2,225	1,075	4,000
58" CXDAE	5,000	230	87	0-100	20	6/2	3,425	2,325	1,125	4,200
67" CDAE	6,100	230	88	0-100	20	6/2	4,975	3,325	1,625	6,175
67" CXDAE	6,100	230	112	0-130	25	4/2	5,225	3,500	1,700	6,475
72" CDAE	8,700	230	112	0-130	25	4/2	6,025	4,125	1,925	7,475
72" CXDAE	8,700	230	130	0-130	30	4/2	6,350	4,350	2,025	7,875

An electro magnet lifting capacity is based on optimum conditions. Variables in the size, density, composition and arrangement of materials to be lifted or variables within the magnetic power system can affect lift performance. Material descriptions are based upon specifications for iron and steel scrap published by the Institute of Scrap Recycling Industries. Lifting capacities are based on an all day average per lift. Magnet weights do not include weight of chain.

Slag Reclamation Duty “B” Series

Ideal For:

- ▶ Cable Crane using Drop Ball for Slag Reclaiming
- ▶ Highly Abusive Applications

Quality is Customary:

- ▶ 75% Duty Cycle
- ▶ Maximized Lift-to-Weight Ratio
- ▶ Class “H” Insulation Throughout
- ▶ 3 Leg Conventional Chain Assemblies
- ▶ Thicker Case Walls for Abusive Applications
- ▶ Strong & Durable Fabricated Steel Construction
- ▶ Waterproof Double Welded & Sealed Terminal Box
- ▶ Wear Resistant Layer Welded onto Center & Outer Poles
- ▶ High Impact Resistant Heavy Duty Manganese Bottom Plate



ALUMINUM/COPPER COIL TECHNICAL DATA

SIZE/ MODEL	WEIGHT	VOLTS	AMPS COLD	CONTROLLER SIZE	GENERATOR SIZE	CABLE SIZE	PIG IRON #1 HM	SLAB	DROP BALL
58" FDAB	7,300	230	68	0-130	20	6/2	3,000	60,000	25,000
58" FDCB	8,500	230	67	0-130	20	6/2	3,500	65,000	28,000
68" FDAB	12,000	230	85	0-130	25	4/2	5,500	80,000	35,000
68" FDCB	14,100	230	90	0-130	25	4/2	5,800	90,000	40,000

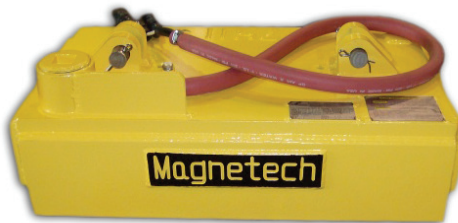
Rectangular/Tri-Pole Magnets

Quality is Customary:

- ▶ Steel Mill Duty
- ▶ 75% Duty Cycle
- ▶ Hot Bottom Designs
- ▶ Copper or Aluminum
- ▶ Available in Various Sizes
- ▶ Class “H” Insulation Throughout
- ▶ Standard 230 VDC - Special Voltages Available

Ideal For:

- ▶ Steel Mills & Steel Distributors Handling: Slabs, Plate, Rebar Bundles, Pipe, Billets, Coil and Structural Steel



Rectangular Shaped Magnets

Ideal For:

- ▶ Steel Mills & Port Terminals
- ▶ Heavy Duty Scrap Handling for Charge Buckets
- ▶ Railcar & Barge

Quality is Customary:

- ▶ Steel Mill Duty
- ▶ 75% Duty Cycle
- ▶ Copper or Aluminum
- ▶ Available in Various Sizes
- ▶ Class “H” Insulation Throughout
- ▶ Standard 230 VDC - Special Voltages Available



Bi-Polar Magnets

Ideal For:

- ▶ Steel Mills & Steel Distributors Handling: Slabs, Plate, Rebar Bundles, Pipe, Billets, Coil and Structural Steel

Quality is Customary:

- ▶ Steel Mill Duty
- ▶ 75% Duty Cycle
- ▶ Hot Bottom Designs
- ▶ Copper or Aluminum
- ▶ Available in Various Sizes
- ▶ Class "H" Insulation Throughout
- ▶ Standard 230 VDC - Special Voltages Available
- ▶ Customized Pole Shoes Available for Irregular Shaped Materials



Railroad Magnets

Ideal For:

- ▶ Material Handlers Handling: Tie Plate, Rail Spikes, Rail Wheel, and Scrap

Quality is Customary:

- ▶ Railroad Duty
- ▶ 75% Duty Cycle
- ▶ Copper or Aluminum
- ▶ Available in Various Sizes
- ▶ Class "H" Insulation Throughout
- ▶ Standard 230 VDC - Special Voltages Available
- ▶ Customized Pole Shoes or Lifting Ears





Powerpro® Diesel Gen-Set

Self Contained Lifting Magnet Generator

These Heavy Duty Skid Mounted Systems are Completely Self Contained Including Fuel Tank, Battery, Controls, Automatic Oil Pressure Shut Down, Balanced Lifting Point and Vibration Isolation Mounts.

- ▶ Does not interfere with operation of the crane
- ▶ One system can be used on multiple cranes
- ▶ Alleviates the need for a permanent generator system
- ▶ Easily removed for major maintenance or idle crane transfers
- ▶ Powered by its own fuel efficient diesel engine
- ▶ Self contained system simply mounts to the skid
- ▶ Does not require removal for maintenance
- ▶ Wires just connect to the Lift/Drop switch and the Boom/Stick
- ▶ Integrated magnet controller

100% Duty Cycle Baldor 10kw DC Generator:

- ▶ 219 ATC Frame
- ▶ 2500 RPM
- ▶ 230 Volt DC
- ▶ 43.5 Amps
- ▶ 200 Ohm Field Control Rheostat
- ▶ Uses (2) 100 Ohm 225 Watt Slide Bar Resistors



POWERPRO SKID MOUNTED SYSTEM TECHNICAL DATA

UNIT SIZE	WEIGHT	LENGTH	WIDTH	HEIGHT	SKID
5KW DIESEL	700	50"	24"	36"	METAL
10KW DIESEL	1,200	56"	24"	36"	METAL
15KW DIESEL	1,700	62"	24"	36"	METAL

Hydraulic Gen-Set

Magnetech's Fluid Control Gen-Set Systems offer efficiency in operations and cost effectiveness. The operator has the convenience of total in-cab control, which means added productivity with less downtime. Pollutant-free hydraulic generators are environmentally friendly while allowing lowered maintenance costs. Custom configurations are available.

- ▶ 12 or 24 VDC Operation
- ▶ Available in Sizes: 5-33kw
- ▶ Includes Magnet Controls with Meter Package & Pistol Grip
- ▶ Self-contained, Frame Mounted
- ▶ Ready to Install & Operate on Delivery
- ▶ Includes All Hydraulic Controls with Integrated Single Manifold

TECHNICAL DATA

GENERATOR	WEIGHT	LENGTH	WIDTH	HEIGHT	AMP	CONTROLLER	REQUIRED FLOW PRESSURE
5KW	270	40"	27"	46"	25	92001-305	12 GPM @ 2037 PSI
10KW	308	40"	27"	46"	50	92001-305	30 GPM @ 1194 PSI
15KW	480	48"	35"	52"	100	91883-202	34 GPM @ 1546 PSI
20KW	639	48"	35"	52"	100	91883-202	34 GPM @ 2061 PSI
25KW	897	48"	35"	52"	130	91819-202	34 GPM @ 2577 PSI
33KW	936	48"	35"	52"	175	91805-202	40 GPM @ 2858 PSI

Note: Customer to supply mounting for hydraulic pump or Priority Flow Valve and plumbing from the hydraulic pump or Priority Flow Valve to the hydraulic motor valve.

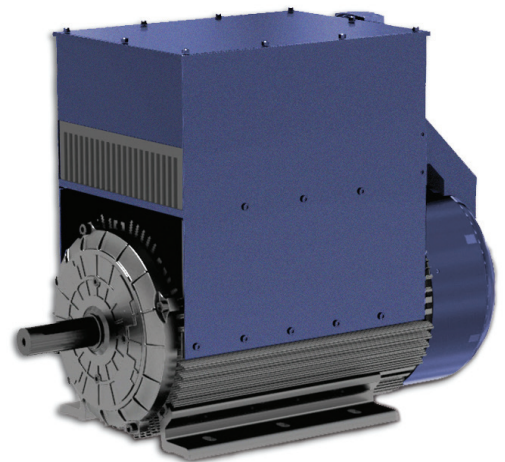
Distributor For KW Generators

Generator-Solid State Controller Systems

- ▶ Load limit control
- ▶ Torque control
- ▶ Integrated system tester
- ▶ Integrated insulation monitoring
- ▶ Adjustable magnetic power

GEMA MODEL SPECIFICATIONS

	GEMA 9		GEMA 15		GEMA 20		GEMA 30
	2 POLE	4 POLE	2 POLE	4 POLE	2 POLE	4 POLE	4 POLE
Nominal power 100% duty cycle - S1	9 kW	9 kW	15 kW	15 kW	20 kW	20 kW	30 kW
Nominal voltage	230 VDC on all models						
Boost voltage	280 VDC on all models						
Nominal current	39 A	39 A	65 A	65 A	86 A	86 A	130 A
Recommended Speed	3000	2000	3000	2000	3000	2000	1800
Speed Range (rpm min-max)	2700-4500	1800-3600	2700-4500	1800-3600	2700-4500	1800-3600	1500-3000
Weight (kg/lbs)	75/165	75/165	95/210	95/210	118/260	118/260	180/397
Size							
d	28 mm	32 mm	28 mm	32 mm	32 mm	32 mm	42 mm
l	60 mm	60 mm	60 mm	60 mm	60 mm	60 mm	110 mm
h	132/5.9	132/5.9	132/5.9	132/5.9	132/5.9	132/5.9	160/6.3
x	264/10.4	264/10.4	264/10.4	264/10.4	264/10.4	264/10.4	324/12.8
y	425/16.7	434/17.1	450/17.7	459/18.1	525/20.3	525/20.3	466/18.3
z	427/16.8	427/16.8	427/16.8	427/16.8	505/19.9	505/19.9	565/22.2



Lifting Magnet DC Generator



- ▶ Class "H" Insulation, Class "F" Rise
- ▶ Brush Holders with Constant Force Springs
- ▶ Extra Heavy Steel Frame with Casted Endplates
- ▶ F-2 Box Location Optical C-Face Mounting
- ▶ Drip Proof Fully Guarded Enclosure with Weather Resistant Paint
- ▶ Sealed Ball Bearings, Compound Wound with Drooping Voltage Characteristics 1.0 Service Factor

Magnet Controllers

APEX, EDP CONCEPTION CONTROLLER AND HUBBELL CONTROLLERS DISTRIBUTED BY
MAGNETECH INDUSTRIAL SERVICES, INC.

Type Controller 4291/4292/4295

- ▶ Automatically Discharges Magnet
- ▶ Fast & Clean Release of Load
- ▶ Peak Magnet Induced Voltage Limited to Under 700 Volts
- ▶ Wide Reverse Current Adjustment for Different Types of Loads
- ▶ Mechanically Interlocked Mill-Type Lift/Drop Contactors
- ▶ High Thermal Capacity Varistor Discharge
- ▶ Permanently Connected Discharge Path
- ▶ Drop Contactor Opens Automatically at End of Drop Cycle
- ▶ Front Wired, Front Removable Components
- ▶ Long Contact Life, Minimum Maintenance
- ▶ Full Voltage Reverse Current

TECHNICAL DATA

CONTROLLER	MODEL #	SIZE	AMP	LIFT/DROP CONTROLS
4291	91804-103	2	0-50	4215 MASTER SWITCH
4291	91842-103	2	0-50	PUSH BUTTONS
4291	91819-103	3	0-130	4215 MASTER SWITCH
4291	91820-103	3	0-130	PUSH BUTTONS
4291	91805-103	4	0-175	4215 MASTER SWITCH
4291	91831-103	4	0-175	PUSH BUTTONS
4291	91816-003	5	0-350	4215 MASTER SWITCH
4292	91833-002	3	0-100	4215 MASTER SWITCH
4292	91833-004	3	0-100	24 VOLT PUSH BUTTONS
4292	91883-006	3	0-100	12 VOLT PUSH BUTTONS
4295	91843-102	1	7-13	4215 MASTER SWITCH
4295	91813-008	1	13-25	4215 MASTER SWITCH
4295	91814-008	2	25-50	4215 MASTER SWITCH

EDP Conception Controllers

Control Inputs/Outputs:

Digital input: Dedicated to magnet on/off function
+24Vdc @ 60mA max
Supports most single and double action switches via configuration setting

Digital output: Dedicated to system indicator light
+24Vdc @ 200mA max

Relay output: Dedicated to hydraulic servo valve operation
Time off delay adjustable via configuration setting

Real time display:

- ▶ Armature volt
- ▶ Armature Current (Amps)
- ▶ Field Voltage
- ▶ On/Off Switch Status
- ▶ System Ground Detection
- ▶ Located on controller unit

Remote Unit:

- ▶ Cab mounted
- ▶ Access to digital inputs/outputs
- ▶ System indicator light



EDP-C2 TECHNICAL DATA:

Input supply:	12 – 24 VDC @ 2 Amps max .
Output to field:	0 – 300 VDC @ 5 Amps max.
Output to magnet:	0 – 300 VDC programmable up to 200 Amps max.
Temperature:	Unit rated -40° F min. to +180° F max Normal operation -40° F to +176° F Output is reduced 15% from +176° F to 180° F

APEX Lifting Magnet Controllers

SERIES	SIZE	CONTROL VOLTAGE
ACS	100M	0-12 = 12 VDC
ACS	130M	0-24 = 24 VDC
ACS	175M	250 = 250 VDC

INDICATES RATED CURRENT

100M = 100 AMPS

130M = 130 AMPS

175M = 175 AMPS

- ▶ Rated 5-175 Amps
- ▶ Automatic Varistor Discharge
- ▶ Outdoor Rated Custom Configurations Available
- ▶ 50MV Shunt Included

Magnet Accessories

Twist-Lock Magnet Connector

Ideal For:

- ▶ Lifting Magnets
- ▶ Welding Machines
- ▶ Battery Chargers
- ▶ Motor Connections
- ▶ Portable Machinery

TECHNICAL DATA

PART #	AMP CAPACITY	WIRE SIZE
MF2	200 AMP	#8 TO #1/0
MF4	400 AMP	#2 TO #2/0

- ▶ Locks in Any Position
- ▶ Connects with "Push & Twist" Action
- ▶ Uses Set Screws to Fasten Cable Ends
- ▶ Constructed with Heavy Gauge Copper
- ▶ Single Pole Solderless Cable Connector
- ▶ Requires only Knife & Screwdriver for Application
- ▶ Safe, Low Cost & Easy-to-Use Industrial Electrical Connector



Magnet Crane Cable

TECHNICAL DATA (TYPE W)

PART #	AWG/CON	O.D./IN	WEIGHT LBS/FT	AMPS/COND
532000008	8/2	.81	.42	72
533000008	8/3	.91	.59	59
532000006	6/2	.93	.58	95
533000006	6/3	1.01	.765	79
532000004	4/2	1.08	.82	127
533000004	4/3	1.17	1.08	104
532000002	2/2	1.27	1.17	167
533000002	2/3	1.34	1.49	138

TYPE (W)

- ▶ Stranded Copper Conductor
- ▶ Royal Double Pass Reinforced Jacket Rubber Fill
- ▶ EP Rated 90oC 600/2000 Volt
- ▶ Oil Resistant Neoprene Jacket
- ▶ MSHA Approved

TYPE SOW-A/SO CONTROL CABLE

- ▶ Stranded Bare Copper Conductors
- ▶ Cable Fillers are Non-Hydroscopic
- ▶ Insulation & Jacket is EPR
- ▶ Temperature Rating 90oC 600 Volt
- ▶ Oil Resistant
- ▶ MSHA Approved

TECHNICAL DATA (TYPE SOW-A/SO CORD)

PART #	AWG/CON	O.D./IN	WEIGHT LBS/FT	AMPS/COND
AN07B-0404	12/4	.67	.275	20

Connomac Two Pole

CONNECTORS & RECEPTACLES (SAFETY CHAINS AVAILABLE)

TECHNICAL DATA * = ALUMINUM HOUSING

MODEL #	AWG	TYPE	AMPS	DESCRIPTION
*5658-SI	10	SO	30	MALE W/O CHAIN
5959	10	SO	30	FEMALE W/ CHAIN
5332-SI	8	W	50	MALE W/O CHAIN
5334	8	W	50	MALE W/ CHAIN
5335	8	W	50	FEMALE W/ CHAIN
*5364-SI	6	W	65	MALE W/O CHAIN
5365-6S4	6	W	65	FEMALE W/O CHAIN, 6" LEADS
5366	6	W	65	MALE W/ CHAIN
5367	6	W	65	FEMALE W/ CHAIN
*5368-SI	2	W	105	MALE W/O CHAIN
5369-6S2	2	W	105	FEMALE W/O CHAIN, 6"LEADS
5370	2	W	105	MALE W/ CHAIN, PARADUPLEX CABLE
5371	2	W	105	FEMALE W/ CHAIN, ROUND CABLE
*5372-SI	2	W	120	MALE W/O CHAIN
5373-6SI	2	W	120	FEMALE W/O CHAIN

- ▶ Stranded Copper
- ▶ Insulation EP Rated 90oC 600/2000 Volt
- ▶ Oil Resistant Black Neoprene Jacket
- ▶ Tweco and Pro Connectors Available
- ▶ Can Cross Match Manufacturers
- ▶ Other Sizes Available Upon Request



Magnet Chains

Standard Magnet Chains

STANDARD LIFT CHAINS

STOCK #	SIZE (INCHES)	SIZE (MM)	WORKING LOAD LIMIT LBS 60	5 LINK REACH (INCHES)	7 LINK REACH (INCHES)
780070625	5/8	16	47,000	32 1/2	36 3/8
780070750	3/4	20	73,500	35	39 7/8
780070875	7/8	22	89,100	36	41 3/8
780071000	1	26	124,700	40	45 7/8
780071250	1 1/4	32	184,400	45 1/2	53

Note: Magnet chains, magnet ears (or lugs) and magnet pins are an important part of your magnet's lifting apparatus. Maintenance and installation of magnet chains must be properly done to ensure maximum chain life. A magnet chain normally has 3 legs. Two of these legs will be shorter than the third. Each magnet chain should be installed with the longest leg positioned in the middle of the yoke. Periodically inspect magnet ears, pins & chains. If you notice excessive wear or any damage contact your Magnetech Sales Representative for further assistance.



Steady Lift Magnet Chains

STEADY LIFT CHAINS

STOCK #	SIZE (INCHES)	SIZE (MM)	WORKING LOAD LIMIT LBS 60	5 LINK REACH (INCHES)
790051000	1	26	100,000	43
790051250	1 1/4	32	150,000	55

Meter Packages

Meter packages contain both volt and amp meters. They are also available with either rheostats or slide bar resistors. The rheostat and slide bar resistors allow the operator to maintain a constant 230 VDC output to the magnet. Remote packages are also available.



Spreader Beams

- ▶ Custom Designed Spreader Beams
- ▶ On-Staff Design Engineers
- ▶ Custom Fitted to Your Facility & Equipment to Meet Application Requirements



Grapple Magnet Towers & Accessories

Grapple Towers

- ▶ Available for 34" - 58" Magnets
- ▶ Towers & Other Attachments
- ▶ Can be Removed or Permanently Welded to a Magnet



ACS Industries Couplers

- ▶ Allows Lifting Magnets to be Attached to a Backhoe or Other Type of Equipment
- ▶ Made in the USA
- ▶ Dozens of Sizes Based on Type of Equipment, Brand, Model & Lifting Capacity



Backhoe Attachments

- ▶ Magnetech fabricates custom couplers to fit customer's equipment

Battery Back Up

A battery back up system is used to continue the excitation of the magnet so that it continues to hold its load for the time specified. The system activates when there is an interruption or loss of DC power to the magnet. For DC powered cranes, an AC supply source is needed for the battery charger.

Magnet Rectifiers

When only AC power is available the rectifier is used to convert the present AC power to the required DC power for the magnet system.

Other Available Components

- ▶ Lift/Drop Switches of All Types
- ▶ Safety Disconnect Switches
- ▶ Cable Reels
- ▶ Replacement Batteries
- ▶ Generator Replacement Parts
- ▶ Replacement Parts for All Types of DC Magnet Controllers

Other Services Provided

Transformers

- ▶ Repair, Rewind & Remanufacturing Oil Filled, Dry-Type Core-Form & Shell Form Transformers
- ▶ 100 KVA - 25,000 KVA (Base Rating)
- ▶ Voltage Regulator Maintenance
- ▶ Field Refurbishment
- ▶ Bushing Replacement
- ▶ Internal Inspection & Repair
- ▶ Oil Testing & Processing Services

Circuit Breakers

- ▶ Complete Low & Medium Voltage Refurbishment
- ▶ LV & MV Retrofit, Clean & Test
- ▶ High Voltage Field Service
- ▶ Breaker Parts/Components
- ▶ Trip Relay Upgrades
- ▶ Contact Resistance Testing

Turbines

- ▶ Dye Penetrant & Magnetic Particle Testing
- ▶ Annual Overspeed Trip Testing
- ▶ Blade & Shaft Repair
- ▶ Rebuild Linkage, Trip & Throttle Valves
- ▶ Steam Chest Repairs
- ▶ Valve Rebuilds

Blowers

- ▶ Turnkey/Fan/Rotor Removal
- ▶ Laser Alignment & Leveling
- ▶ Bearing Inspection, Change Out, Installation & Rebabbing
- ▶ Shaft Repair & Fabrication
- ▶ Coupling Machining & Installation
- ▶ Dynamic Balancing to ANSI & ISO Standards
- ▶ Vibration Analysis & Data Collection

Switchgear

- ▶ Complete Upgrade & Replacement
- ▶ Low & Medium Voltage
- ▶ Substation Design
- ▶ Engineered Turnkey Projects
- ▶ Remanufacture of all OEM Switchgears
- ▶ On-Site Custom Bus Fabrication

Split Ring Manufacturing

Spin Cast Babbit Bearings



Pumps

- ▶ Complete Rebuild & Repair to Manufacturer Specifications
- ▶ Preventative Maintenance
- ▶ New Equipment Sales

Air Compressors

- ▶ Preventative Maintenance
- ▶ Plant Air System Audits
- ▶ Sales & Service for:
 - Compressors
 - Dryers
 - Aftercoolers
 - Filters
 - Separators
- ▶ Rental Units Available

Cranes

- ▶ Breakdown Service
- ▶ Conversions, Upgrades & Repairs
- ▶ New Installs
- ▶ OSHA Inspections & Consulting Services
- ▶ Preventative Maintenance
- ▶ Service & Supply of Crane Systems & Components

New Equipment & Spare Parts

- ▶ Authorized Distributor For Over 23 Major Brands
- ▶ Total Motor Management™ & Warehousing Available
- ▶ Authorized ABB Service Provider
- ▶ Installation/Start-Up Available

Form Coil Manufacturing

- ▶ AC & DC Coils to 15kV
- ▶ Hydro Generator Coils
- ▶ Turbine Generator Coils

Other Services Provided



Motors

- ▶ All Makes & Models
 - AC Motors to 80,000HP (13.8kV)
 - DC Motors to 10,000HP (750 V)
- ▶ Complete Rewind, Reconditioning & Remanufacturing
- ▶ Scheduled Outage Services
- ▶ Motor Redesign & UL Re-rating
- ▶ 12' VPI
- ▶ Dynamic Balancing to ANSI & ISO Standards
- ▶ Dynamometer Load Testing to 13.8kV
- ▶ Complete Mechanical Repair Services

Preventative Maintenance

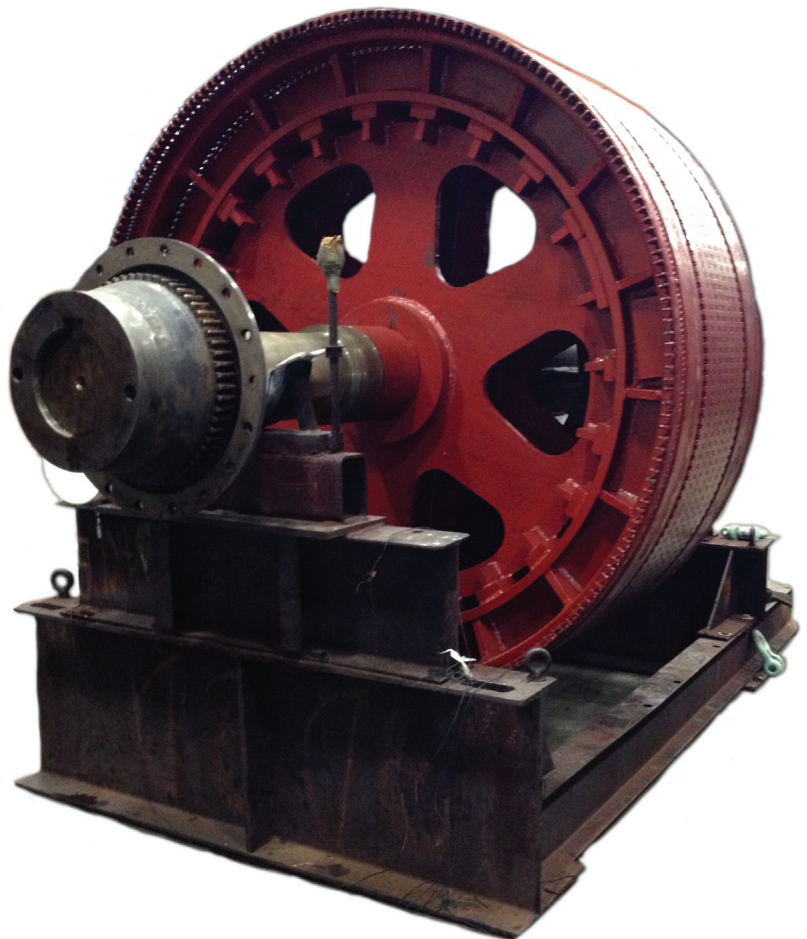
- ▶ Vibration Analysis
- ▶ Oil Analysis
- ▶ Ultrasonic Examination
- ▶ Physical Inspections
- ▶ Infrared Thermal Imaging
- ▶ Laser Shaft Alignment
- ▶ Motor Circuit Testing
- ▶ Balancing & Alignment

Upgrades & Diagnostics

- ▶ Motor Design & UL Re-Rating
- ▶ Root Cause Failure Analysis
- ▶ Performance Verification Testing & Analysis
- ▶ Power System Studies
- ▶ CAD Engineering/Documentation
- ▶ Energy Efficiency Studies

Specialty Equipment

- ▶ Class 1 Rail (UTEX) on Main Generators, Alternators & all Auxiliary Equipment
- ▶ Light Rail Traction Motors & Alternators
- ▶ Nuclear Reactor Coolant Pump Motors



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