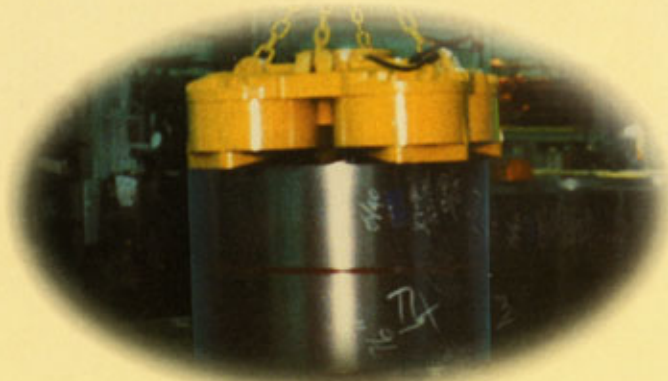




LIFTING MAGNET SYSTEMS

USER SELECTION GUIDE TO:

SCRAP HANDLING MAGNETS
STEEL MILL TYPE MAGNETS
FOR HANDLING BILLETS, COILS,
SHAPES, AND MOLDS
CONTROLLERS
MAGNET GENERATORS
D.C. POWER RECTIFIERS
COMPLETE MAGNETIC
MATERIAL HANDLING SYSTEMS
SERVICES



OUR COMMITMENT TO YOU...

Since 1917, Ohio Magnetics, Inc. has been a leading supplier of magnetic handling equipment to highly productive scrap processing facilities, railroads, foundries, and steel producers around the world.

We have found that by using a balanced approach to short and long term business goals, we can offer unparalleled service to our customers and plan for growth through product and facilities development.

Leadership in product development—lifting magnets and related power equipment—has been the hallmark of Ohio Magnetics. Our innovations have led the way from the bulky, heavy, copper wound magnets of the early 20th century to today's highly specialized array of lifting systems.

Customers rely on our wealth of practical experience to help them develop new ways to increase lifting magnet and systems productivity. They enjoy working with a company that is highly attuned to their needs regarding price, delivery, and aftermarket services.

When you do business with Ohio Magnetics, you get products offering low initial investment and long life, combined with responsive service. You have our word on it...OHIO.



Ohio Magnetics, Inc., Maple Heights, Ohio



Lifting pig iron ingots with 20" Ohio Magnetics magnet
Baker Tractor & Truck Co. - 1917



36" Ohio Magnetics magnet lifts railroad track
Southern Pennsylvania Railroad - 1919

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CHOOSING THE RIGHT MAGNET

The most important criteria in selecting the magnet for your application are:

- A. Type of material to be handled
- B. Physical and electrical capacities
- C. Material temperature
- D. Duty Cycle

With the criteria defined, Ohio Magnetics can recommend lifting magnet systems that offer daily high productivity as well as many years of uninterrupted service.

Ohio Magnetics offers a complete range of products that can handle almost any ferrous metal handling application, but, let's narrow things down and answer the most often asked questions by prospective magnet users:

1. Why aluminum versus copper?

Generally speaking, a lifting magnet with an aluminum wound coil is a preferable design for most applications because the price economics generally outweigh the slightly added lifting capacity of a copper-coil magnet. Although copper does exhibit more mechanical strength as compared to aluminum, Ohio Magnetics goes to great lengths to assure that the mechanical strength of the protective manganese bottom plate adequately shields the coil from damage.

For hot metal applications (150°C and up), invariably a copper-wound coil is used since the thermal properties of copper are superior to that of aluminum.

2. Why a cast magnet case versus fabricated?

Very simply...life. Ohio's cast magnet case designs offer many years of initial life as well as economic repairability with a cast magnet case that can be repaired over and over without the worry of replacing the major components of a fabricated case. It's really quite common for the Ohio factory to repair cast case lifting magnets that are 30-35 years old to like new condition.

3. Why Ohio Magnetics?

Because we not only consider the basic application that is presented to us for quoting. We realize that we are designing and selling powerful equipment and therefore take very seriously our obligation to provide effective and safe equipment to our customers that will not only be an economic initial purchase, but a long term value. You have our word on it...OHIO.

MAGNET SELECTOR GUIDE

IF YOU HANDLE

REFER TO...

1. Billets Blooms Slabs Plates	1. Pg. 16 2. Pg. 20 3. Pg. 19 4. Pg. 18	SR Magnets BiPolar Magnets Cast Rectangular Magnets Fabricated Rectangular Magnets
2. Coils—Eye Horizontal	1. Pg. 20	BiPolar Magnets
3. Coils—Eye Vertical	1. Pg. 21 2. Pg. 20	CL Magnets BiPolar Magnets
4. Coils—Eye Vertical & Horizontal (either position)	1. Pg. 20	BiPolar Magnets
5. Crop Ends	1. Pg. 16 2. Pg. 15	SR Magnets AWL Magnets
6. Grinding Balls	1. Pg. 10 2. Pg. 13 3. Pg. 11	Pow-R-Lite AWX Magnets Loadstar Magnets
7. Ingots Ingot Molds Drop Ball	1. Pg. 16 2. Pg. 15	SR Magnets AWL Magnets
8. Machine Workpiece Loading/Unloading	1. Pg. 9	Vers-A-Lift Magnets
9. Pup Coils	1. Pg. 10 2. Pg. 13 3. Pg. 11	Pow-R-Lite Magnets AWX Magnets Loadstar Magnets
10. Rails Structurals Tubes Pipes Rebar	1. Pg. 20 2. Pg. 18 3. Pg. 19	BiPolar Magnets Fabricated Rectangular Magnets Cast Rectangular Magnets
11. Scrap Metals	1. Pg. 10 2. Pg. 11 3. Pg. 12 4. Pg. 13-14 5. Pg. 15	Pow-R-Lite Magnets Loadstar Magnets LS-X Magnets WX Magnets AWL Magnets
12. Sheets	1. Pg. 9 2. Pg. 18	Vers-A-Lift Magnets Fabricated Rectangular Magnets
13. Track Materials in Rail Maintenance-Of-Way Applications	1. Pg. 10 2. Pg. 11 3. Pg. 13-14	Pow-R-Lite Magnets Loadstar Magnets WX Magnets

CHOOSING THE RIGHT POWER EQUIPMENT

Magnets and their related power equipment are interdependent on one another and, properly matched and maintained, work together to offer high productivity and long life. Therefore, selecting the magnet controller, generator, or DC power supply that are right for your magnet is quite

important. Ohio Magnetics' power equipment is all designed for the toughest applications, and therefore, can be matched to your magnet selection simply by knowing the volts, amperes, and kilowatt requirements.

MAGNET CONTROLLERS

Most magnets operate at 230 VDC which is the optimum DC voltage for magnet designs. For selecting the proper controller, you need only select a size that will accommodate the *cold*

amperage draw of the magnet. Other voltages are available on request from the Ohio Magnetics factory and would be based on the voltage and amperes specified for your magnet.

MAGNET GENERATORS

Magnet generators normally used on mobile cranes are sized in terms of output voltage and output KW. To properly size your generator, you need only know the voltage and *cold* KW of your magnet. Cold KW is calculated by multiplying Volts times cold amps.

All Ohio generators, whether belt driven or engine driven, are Class H Insulated, of drip-proof construction, and are suitable for use in all environments. This makes your selection process much simpler.

Example: 230 volts x 50 cold Amps=
11,500 cold watts, or 11.5 Cold KW.

DC POWER SUPPLIES (RECTIFIERS)

Similar to magnet service generators, DC Power Supplies (Rectifiers), normally used in fixed locations such as wall-mount or directly mounted to an overhead crane, are sized based on A.C. Input Voltage, DC Output Voltage, and KW Output.

To select the proper DC Power Supply, you need only find your available plant power (normally 240 VAC or 480 VAC 3 PH 60 HZ in the U.S.) and the voltage/cold KW requirements of the magnet.

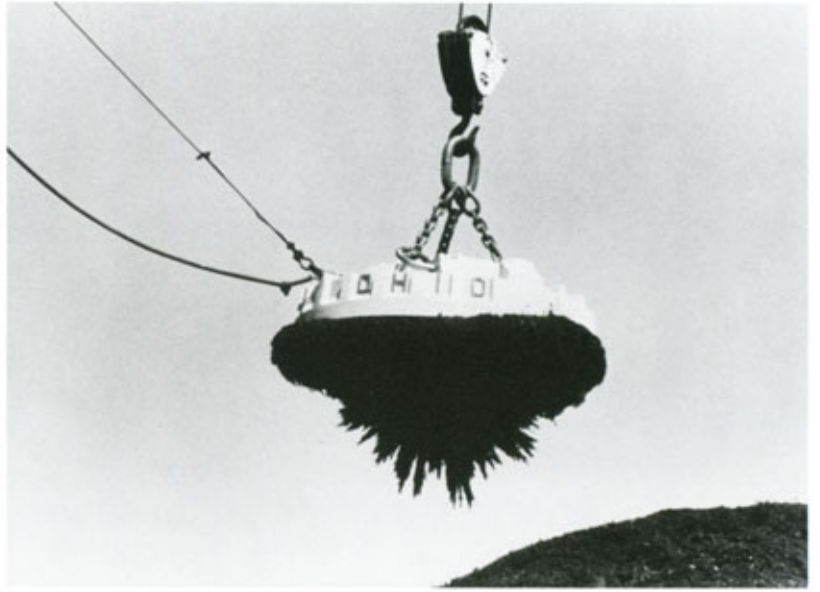
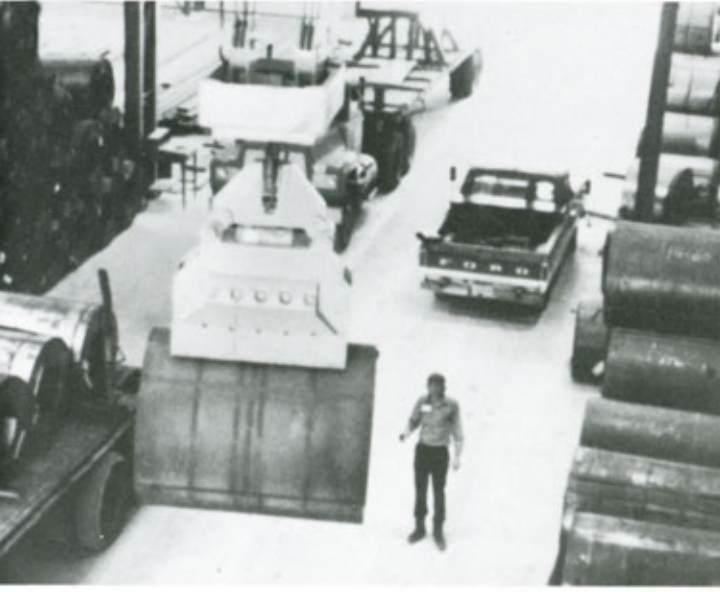
While NEMA 12 (IP-65) Enclosures are standard with all Ohio DC Power Supplies, NEMA 4 (IP-66), 4X (IP-66) and NEMA 3R (IP-32) options are available. It is important that you consider the environment in which you place your DC Power Supply so as to keep the unit dry and dust-free.

Also available from Ohio for your selection are a number of control and monitoring options, such as power on/off switching both local and remote and voltage/current metering, that you may want to consider.

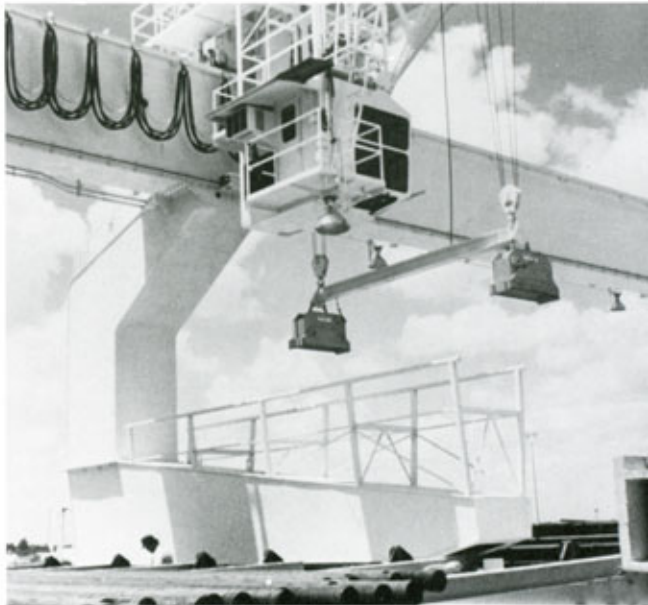
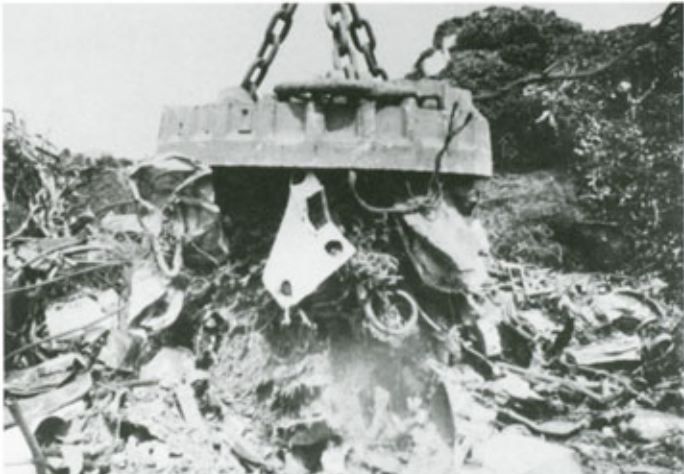
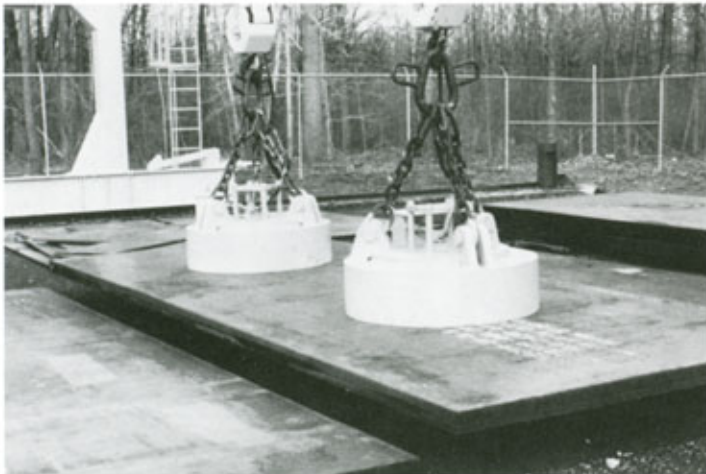
In addition to the basic operating equipment required in a magnet system, Ohio offers a complete line of accessories designed to provide productivity, safe operation, and easier maintenance such as:

1. Cable Reels for mobile and overhead cranes
2. Grapples and Combination Magnet Grapple sets
3. Magnet Safety Disconnects
4. Microprocessor-based maintenance diagnostics packages
5. Emergency power systems (Battery back-ups)

CHOOSING THE RIGHT POWER EQUIPMENT



CHOOSING THE RIGHT POWER EQUIPMENT



OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

LIFTING MAGNETS

VERS-A-LIFT

POWERFUL, EASILY PORTABLE MODELS WITH OR WITHOUT BUILT-IN RECTIFIER.

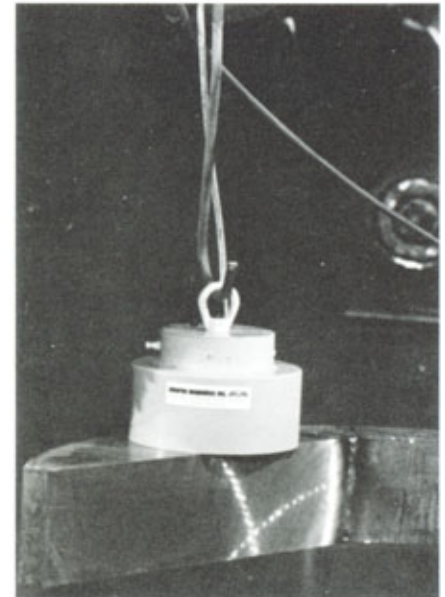
Powerful gripping force for their size. Ohio electro VERS-A-LIFT magnets are efficient, lift, hold and place material handlers throughout the industry. They're easily portable and extremely maneuverable. You'll use these light-weight magnets anywhere inside or outside your plant. Lifting capacities range from 350 to 6,320 lbs., in magnet diameters of 4, 7, 10, 12, and 15 inches.

VERS-A-LIFT magnets are unusually versatile. Easily move small plates and castings, and also use them for small scrap handling.

Ideal material handlers for moving equipment. Carry your materials to any part of the plant with small cranes or fork lifts. VERS-A-LIFTS attach quickly and easily with their 1½ inch I.D. lifting ring.

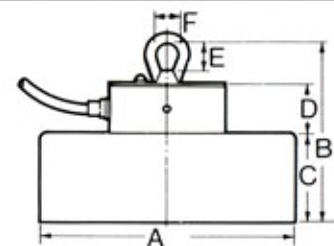
Long-sheet handling capabilities. VERS-A-LIFTS are used in multiples with spreader beams for lifting and placing long sheets that may otherwise flex or bow.

Adaptable to your power source. VERS-A-LIFTS are available in standard DC voltages or with built-in rectifiers. Separate rectifiers are also offered.



MODELS WITH BUILT-IN RECTIFIER (115 V.A.C. SINGLE PHASE, 60 HZ)

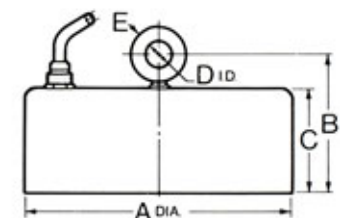
Size (Dia.)	B	C	D	E	F	G	Net Weight (Lbs.)
7"	8 ¹¹ / ₁₆	4 ⁷ / ₁₆	2 ¹ / ₄	1 ¹ / ₂	1 ¹ / ₄	³ / ₈	38
10"	9 ⁵ / ₈	4 ⁵ / ₈	2 ⁷ / ₈	1 ³ / ₄	1 ¹ / ₂	¹ / ₂	87
12"	10 ¹ / ₈	4 ³ / ₄	2 ⁷ / ₈	1 ³ / ₄	1 ¹ / ₂	¹ / ₂	120
15"	10 ³ / ₄	5 ¹ / ₄	3 ³ / ₄	1 ³ / ₄	1 ¹ / ₂	¹ / ₂	235



MODELS OPERATING ON STANDARD D.C. VOLTAGE (115 V.D.C. EXCEPT 4" (12 V.D.C.))

Size (Dia.)	A	B	C	D	E	Watts Intermittent	Net Weight (Lbs.)
4"	4	5 ¹ / ₃₂	3 ⁵ / ₈	1 ³ / ₁₆	⁷ / ₁₆	40	11
7"	7	5 ²⁷ / ₃₂	4 ⁷ / ₁₆	1 ³ / ₁₆	⁷ / ₁₆	114	34
10"	10	6 ⁷ / ₁₆	4 ⁵ / ₈	1 ¹ / ₂	2 ¹ / ₃₂	201	78
12"	12	6 ⁹ / ₁₆	4 ³ / ₄	1 ¹ / ₂	2 ¹ / ₃₂	261	112
15"	15	7 ¹ / ₁₆	5 ¹ / ₄	1 ¹ / ₂	2 ¹ / ₃₂	392	212

*(Suitable rectifiers available on request)



PULL DATA

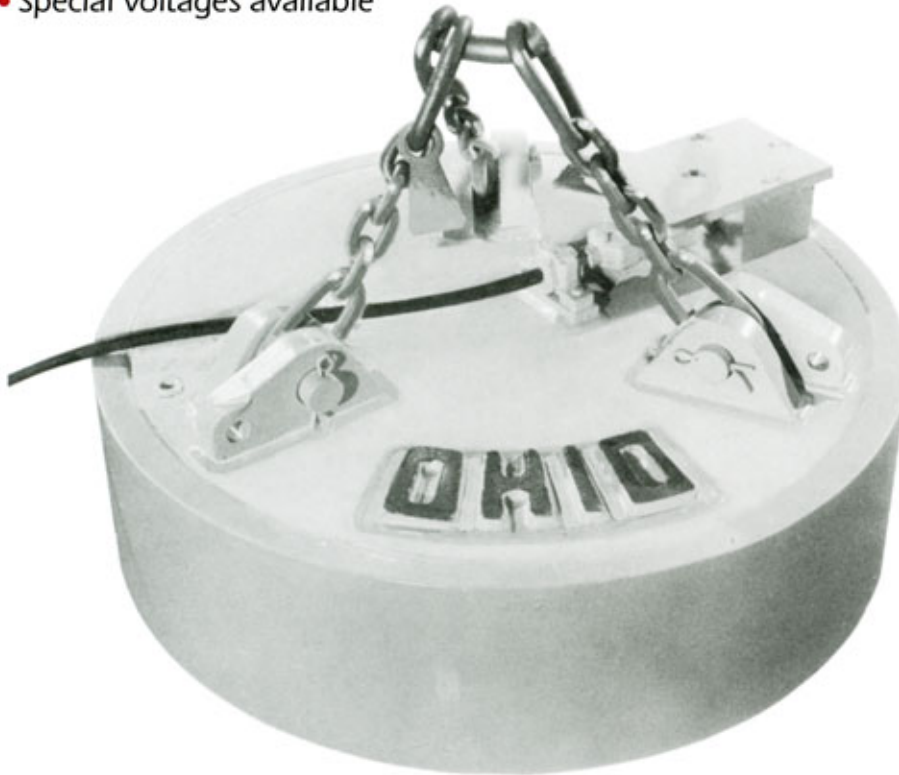
Size (O.D.)	4"	7"	10"	12"	15"
Max. Force (Cold) Lb. Theoretical	612	2,830	5,675	6,950	11,150
Max. Force Hot 75% Theoretical	344	1,740	3,290	3,900	6,290
Min. Plate Thickness (Zero Air Gap Direct Contact Max. Force)	³ / ₄ "	1"	1 ¹ / ₄ "	1 ¹ / ₂ "	1 ³ / ₄ "

OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

LIFTING MAGNETS

POW-R-LITE

- Aluminum or copper wound to High-Duty-Cycle lifting magnets for scrap handling
- Ideal for track sweeping operations
- 230 VDC standard
- Special voltages available



AVERAGE LIFTING CAPACITY IN POUNDS*

Single Slab or Billet	Machine Cast Pig Iron	#1 Heavy Melt	#1 Machine Scrap	#2 Bushelings	Steel Turnings
5,300	175	150	75	60	50
7,700	300	300	150	100	100
10,000	550	550	300	225	175
13,000	780	845	460	345	270
16,500	1,220	1,220	580	400	330
40,000	2,500	2,500	1,150	800	675

TECHNICAL SPECIFICATIONS

Size (Dia.)	Cold Amps @ 230 Volts	** Req'd KW	Magnet Shipping Weight	Avg. Cable Size	Controller Size
20	4	1	350	#10	CDS
25	11	2.5	670	#10	CDS
30	17	4	975	#10	CDS
34	19	5	1,470	#10	CDS
40	30	7	2,100	#8	RD-1W
45	34	8	3,740	#8	RD-1W

* Description of material based on specifications for Iron & Steel Scrap, published by the Institute of Scrap Iron & Steel, Washington, D.C. Capacities are based on tests under optimum conditions. Performance will vary with specific operations.

** For proper Generator Sizing use cold watts and size equal to or larger than, to insure sufficient power for your magnet's operation.

OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

LIFTING MAGNETS

LOADSTAR SERIES

- Production scrap handling magnets
- Heavy-duty cast case construction
- Light-weight ideal for hydraulic machines
- All models are deep field design
- 230 VDC standard
- Special voltages available



TECHNICAL SPECIFICATIONS

Dia. & Type	Cold Amps @ 230 Volts	Gen.** KW	Magnet Weight
48 Loadstar	42A	10	2,890
58 Loadstar	60A	15	3,900
67 Loadstar	85A	20	5,600

LIFTING CAPACITY*

Pig Iron & #1 H.M.	#2 Broken	Steel Turnings
1,800 Lbs.	625-1200	625
2,780 Lbs.	800-1800	850
4,200 Lbs.	1350-2700	1,350

* Description of material based on specifications for Iron & Steel Scrap, published by the Institute of Scrap Iron & Steel, Washington, D.C. Capacities are based on tests under optimum conditions. Performance will vary with specific operations.

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OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

LOADSTAR LIFTING MAGNETS

LS-X SERIES

- Production scrap handling magnets
- **Extra heavy bottom plate design for large, dense scrap handling**
- Heavy-duty cast case construction
- All models are deep field design
- 230 VDC standard
- Special voltages available



SUPER LOADSTAR

- Rugged, cast case construction
- Super field design
- Greater lifting capacity
- Increased duty-cycle for enhanced magnetic operation
- Cooler operating temperature for extended service life



TECHNICAL SPECIFICATIONS

Dia. & Type	Cold Amps @ 230 Volts	Gen. KW**	Magnet Weight
58 LS-X	60A	15	4,142
67 LS-X	85A	20	6,340
67 Super Loadstar	85	20	6,100

LIFTING CAPACITY*

Pig Iron & #1 H.M.	#2 Broken	Steel Turnings
2,780 Lbs.	800-1800	850
4,200 Lbs.	1350-2700	1,350
4,585 Lbs.	1470-3250	1,475

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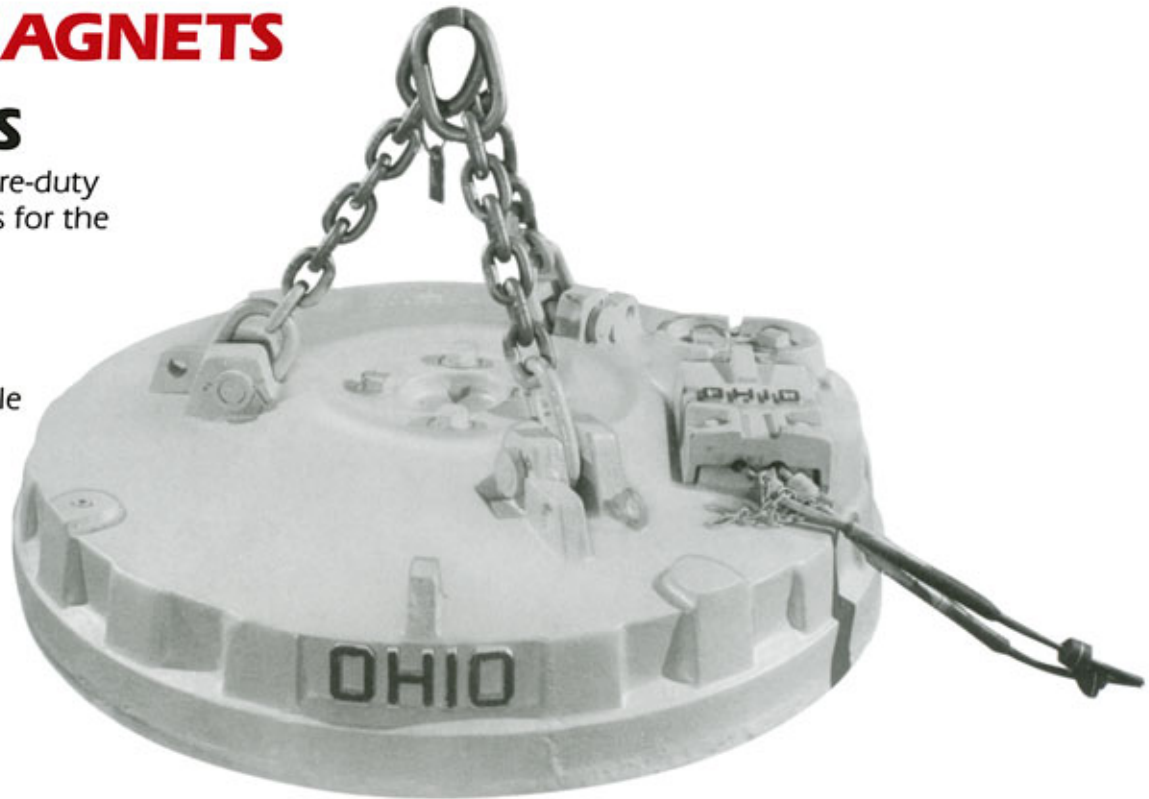
** For proper Generator Sizing use cold watts and size equal to or larger than, to insure sufficient power for your magnet's operation.

OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

LIFTING MAGNETS

AWX SERIES

- Aluminum wound severe-duty scrap handling magnets for the toughest applications
- AWX standard field
- DAWX deep field
- 230 VDC standard
- Special voltages available



TECHNICAL SPECIFICATIONS

Magnet Size & Type	Magnet Weight	Cold Amps	Magnet Cold Watts**	Controller Type	Min. Cable Size
34 AWX	1,150	18	4,200	CD-S	#10
40 AWX	1,900	29	6,600	RD-1W	#8
45 AWX	2,400	39	8,975	RD-1W	#8
45 DAWX	2,800	39	9,000	RD-1W	#8
55 AWX	4,090	58	13,300	RD-1W	#6
55 DAWX	4,000	63	14,400	RD-1W	#6
66 AWX	6,140	80	18,500	RD-1W	#4
66 DAWX	6,300	84	19,200	RD-1W	#4
71 AWX	7,830	102	23,400	RD-2A	#4
71 DAWX	8,200	103	23,800	RD-2A	#4
77 DAWX	10,600	132	30,500	RD-2A	#2
83 AWX	13,000	150	34,700	RD-3A	#2
83 DAWX	14,000	156	35,900	RD-3A	#2
93 DAWX	18,500	173	39,700	RD-3A	#2

LIFTING CAPACITY*

Pig Iron & #1 H.M.	#2 Broken	Steel Turnings
550	250-400	300
900	400-600	300
1,650	500-1000	525
1,800	570-1100	625
2,620	1500-1850	780
2,760	1650-1950	825
4,100	2475-2950	1,200
4,370	2600-3100	1,275
5,260	3275-3950	1,560
5,580	3450-4200	1,660
6,600	3900-4800	2,135
7,900	2500-4700	2,610
9,200	5350-6900	3,040
10,900	6400-8000	3,515

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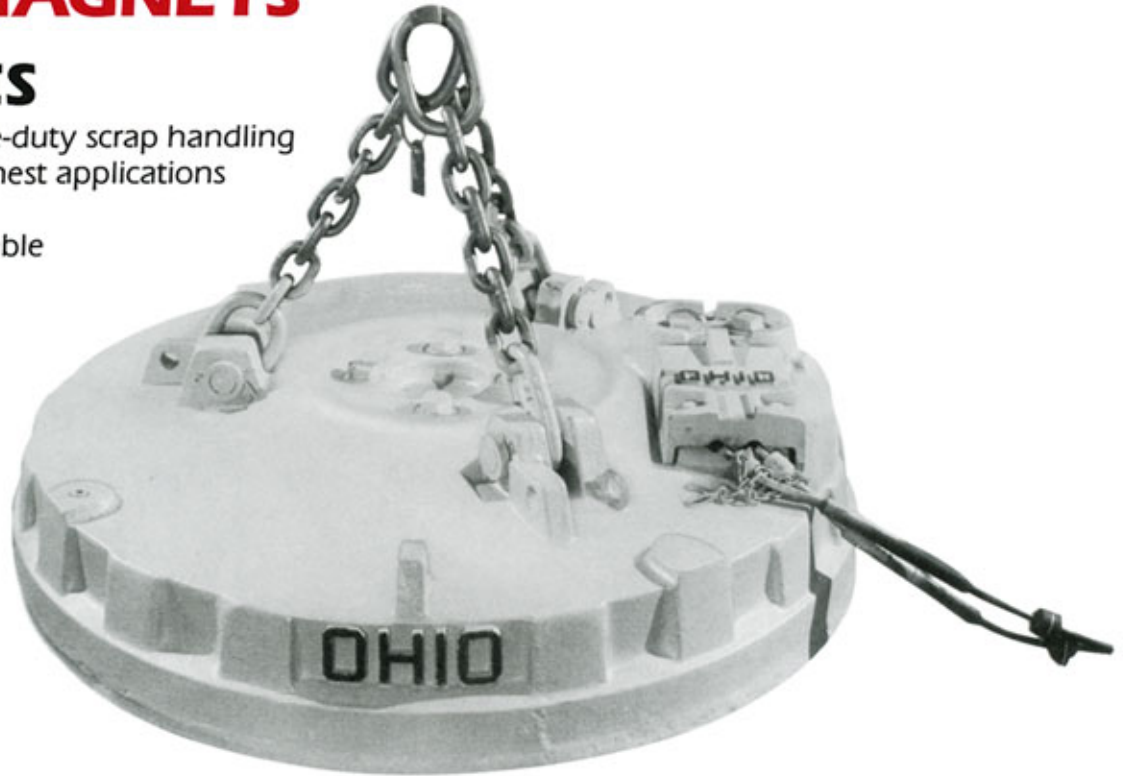
** For proper Generator Sizing use cold watts and size equal to or larger than, to insure sufficient power for your magnet's operation.

OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

LIFTING MAGNETS

CWX SERIES

- Copper wound severe-duty scrap handling magnets for the toughest applications
- 230 VDC standard
- Special voltages available



TECHNICAL SPECIFICATIONS

CWX-Standard Field DCWX-Deep Field

Magnet Size & Type	Magnet Weight	Cold Amps	Magnet Cold Watts**	Controller Type	Min. Cable Size
34 CWX	1,500	22	5,000	RD-1W	#10
40 CWX	2,000	29	6,600	RD-1W	#8
45 CWX	3,100	46	10,500	RD-1W	#8
45 DCWX	3,850	44	10,000	RD-1W	#8
55 CWX	5,200	52	15,500	RD-1W	#6
55 DCWX	5,700	68	15,700	RD-1W	#6
66 CWX	7,700	103	23,700	RD-2A	#4
66 DCWX	8,700	105	24,200	RD-2A	#4
77 DCWX	14,300	100	23,100	RD-1W	#4
83 CWX	16,000	129	29,800	RD-2A	#2
83 DCWX	17,900	181	41,600	RD-3A	#1/0

LIFTING CAPACITY*

Pig Iron & #1 H.M.	#2 Broken	Steel Turnings
750	300-500	275
950	450-650	325
1,800	570-1100	650
1,900	625-1200	725
2,975	725-1525	1,050
3,200	775-1650	1,125
4,800	2500-3100	1,600
5,200	2700-3300	1,700
6,790	4370	2,200
8,330	5370	2,720
9,580	6180	3,130

* Description of material based on specifications for Iron & Steel Scrap, published by the Institute of Scrap Iron & Steel, Washington, D.C. Capacities are based on tests under optimum conditions. Performance will vary with specific operations.

** For proper Generator Sizing use cold watts and size equal to or larger than, to insure sufficient power for your magnet's operation.

OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

LIFTING MAGNETS

AWL SERIES

- 230 VDC standard (special voltages available on request)
- Aluminum wound coils standard
- Copper wound coils available for hotwork applications
- Ideally suited for severe scrap handling duty
 - Drop ball handling
 - Ingot and mold handling
 - Crop end handling
- Heavy cast steel magnet case
- Alloy steel lifting chains
- Quick-disconnect lead assemblies
- Deep-field construction



TECHNICAL SPECIFICATIONS – ALUMINUM WOUND COILS

Magnet Size & Type	Magnet Weight	Cold Amps	Magnet Cold Watts**	Controller Type	Min. Cable Size
47 AWL	3,250	40	9,250	RD-1W	#8
57 AWL	5,650	54	12,500	RD-1W	#6
61 AWL	6,900	74	17,000	RD-1W	#4
66 AWL	7,650	76	17,400	RD-1W	#4
72 AWL	10,250	103	23,600	RD-2A	#4
76 DAWL***	15,700	123	28,400	RD-2A	#2
83 DAWL***	19,300	139	32,100	RD-3A	#2
93 DAWL†	23,400	151	34,700	RD-3A	#2

LIFTING CAPACITY*

Pig Iron & #1 H.M.	#2 Broken	Steel Turnings
1,900	600-1100	650
3,000	750-1600	1,000
3,900	1100-2000	1,300
4,450	2800-3300	1,500
5,700	3500-4300	2,250
7,750	4700-6000	2,450
9,000	5500-7000	2,850
11,400	7000-8700	4,100

* Description of material based on specifications for Iron & Steel Scrap, published by the Institute of Scrap Iron & Steel, Washington, D.C. Capacities are based on tests under optimum conditions. Performance will vary with specific operations.

** For proper Generator Sizing use cold watts and size equal to or larger than, to insure sufficient power for your magnet's operation.

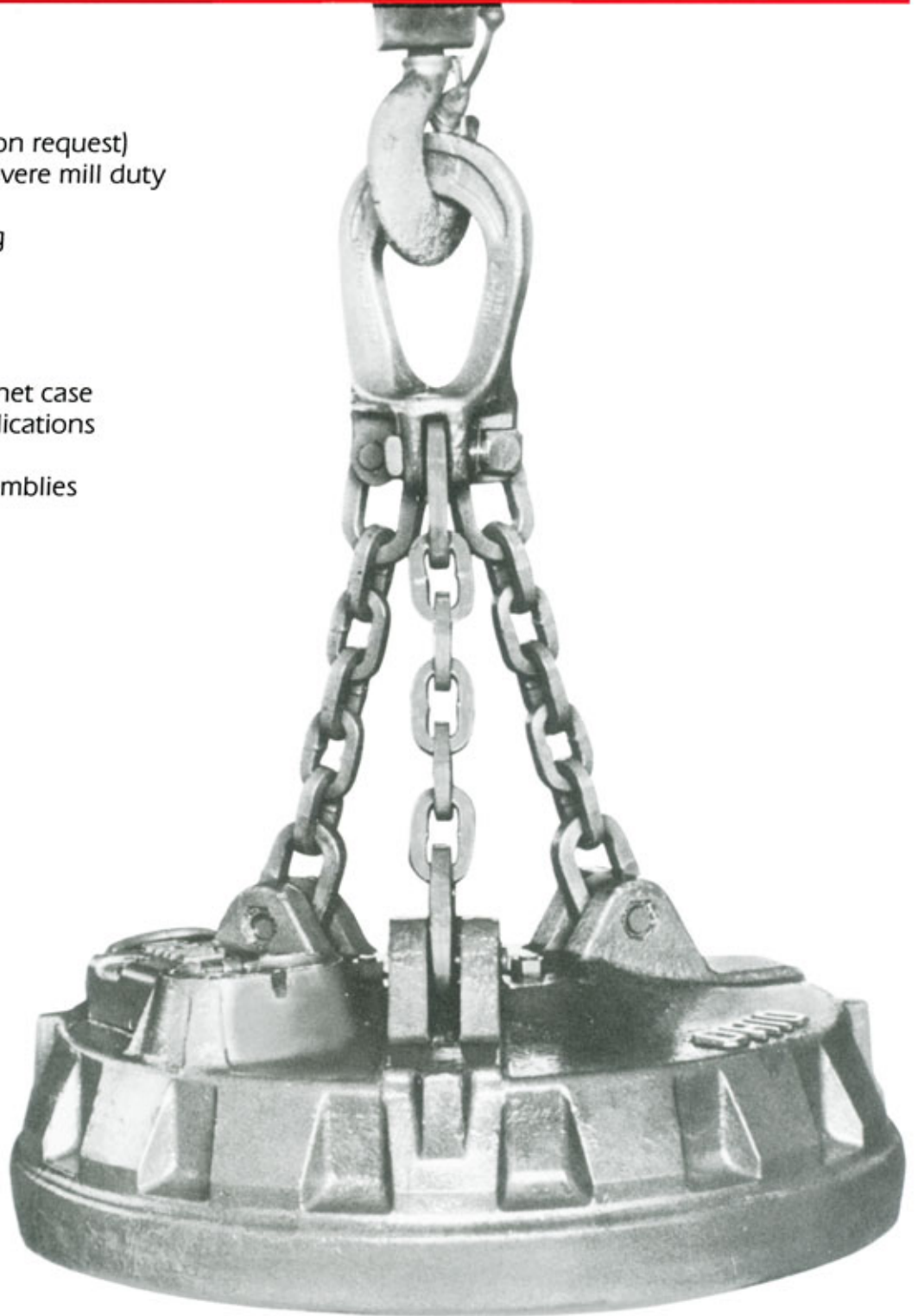
*** Extra Deep Field

† Split voltages available – consult factory

OHIO STEEL MILL TYPE

SR SERIES

- 230 Volts DC standard
(special voltages available on request)
- Designed specifically for severe mill duty applications such as:
 - Heavy drop ball handling
 - Hot crop handling
(hot work construction)
 - Slab handling
 - Slag reclamation
- Extra heavy cast steel magnet case
- Available for hotwork applications
- Alloy steel lifting chains
- Quick-disconnect lead assemblies



OHIO STEEL MILL TYPE

SR SERIES

TECHNICAL SPECIFICATIONS

Magnet Size & Type	Magnet Weight	Cold Amps*	Cold Watts	Controller Type	Min. Cable Size	Billet or Stab***	Drop Ball***	Pig Iron & #1 H.M.
34 SRC	1,700	19	4,300	CDS	10	15,500	9,000	800
40 SRDC	2,550	29	6,600	RD-1W	8	27,600	12,000	1,300
47 SRC	3,500	40	9,100	RD-1W	8	33,400	16,000	1,900
47 SRDA	3,600	38	8,800	RD-1W	8	33,400	16,000	1,900
47 SRDC	3,900	42	9,700	RD-1W	8	33,400	17,000	2,000
47 SREDC	4,400	44	10,200	RD-1W	8	33,400	18,000	2,100
57 SRC	6,000	63	14,400	RD-1W	6	56,500	20,000	3,100
57 SRDA	6,800	65	14,800	RD-1W	6	56,500	22,000	3,200
57 SRDC	7,200	71	16,400	RD-1W	6	56,500	25,000	3,400
57 SREDC	8,200	68	15,600	RD-1W	6	56,500	28,000	3,600
65 SRC	10,900	64	14,700	RD-1W	4	71,200	30,000	4,300
65 SRDA	11,400	74	17,100	RD-1W	4	71,200	35,000	4,800
65 SRDC	13,500	69	15,800	RD-1W	4	71,200	35,000	4,800
65 SREDC	15,600	76	17,400	RD-1W	4	71,200	40,000	5,300
69 SRDC	18,000	84	19,400	RD-1W	4	84,500	45,000	6,500
69 SREDC	21,000	95	22,000	RD-1W	4	84,500	50,000	7,200
82 SRC**	18,000	90	20,800	RD-1W	4	112,000	40,000	7,400
82 SRDA**	17,200	108	24,900	RD-2A	4	112,000	50,000	7,800
82 SRDC**	19,300	113	26,000	RD-2A	4	112,000	60,000	8,000
82 SREDA**	19,000	117	26,800	RD-2A	4	112,000	70,000	8,600
82 SREDC**	22,000	113	26,000	RD-2A	4	112,000	75,000	8,700
82 SRSDC**	25,500	130	30,000	RD-2A	2	112,000	90,000	10,000

SR – Standard Field
 SRD – Deep Field
 SRED – Extra Deep Field
 C – Copper Wound
 A – Aluminum Wound

* For proper Generator Sizing use cold watts and size equal to or larger than, to insure sufficient power for your magnet's operation.

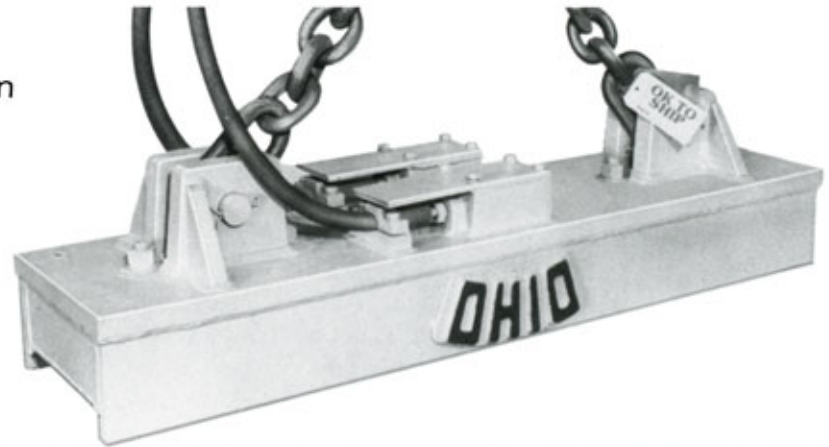
** Split voltages available on request

*** Description of material based on specifications for Iron & Steel Scrap, published by the Institute of Scrap Iron & Steel, Washington, D.C. Capacities are based on tests under optimum conditions. Performance will vary with specific operations.

OHIO STEEL MILL TYPE

HEAVY DUTY FABRICATED RECTANGULAR MAGNETS

- 230 VDC standard (special voltages available on request)
- Custom designed for specific applications in the handling of:
 - Sheets
 - Plates
 - Billets
 - Ingots
 - Structurals
 - Bars
 - Bundles
- Copper wound
- Hotwork designs available
- Low power consumption



STEEL PLATE LIFTING DATA

Plate Thickness (inches)	Longest Plate in Feet for One Magnet		Maximum No. of Plates Per Lift		Plate Area in Square Feet								A—Single Plate Lift		B—Multiple Plate Lift									
	Magnet Series				Magnet Size (inches)																			
	9"	16"	9"	16"	9 x 20		9 x 40		9 x 60		9 x 80		9 x 100		16 x 20		16 x 40		16 x 60		16 x 80		16 x 100	
.015	2.4	3.9	27	60	7	4	13	9	20	13	26	18	33	22	13	12	26	24	38	36	51	48	64	61
.031	3.3	5.5	13	30	9	6	19	13	28	19	37	26	47	32	19	16	36	31	54	47	72	62	91	78
.062	4.5	8.0	7	16	13	9	26	19	39	28	52	38	66	47	26	20	51	39	77	59	102	79	128	99
.125	6.5	10.8	4	9	19	14	37	28	56	41	74	55	93	69	36	25	72	50	109	75	145	100	181	125
.187	7.0	13.0	3	7	23	18	45	35	68	53	91	70	114	88	45	28	90	56	135	84	180	112	225	140
.25	9.0	15.5	3	5	26	20	53	40	79	61	105	81	131	101	52	29	104	58	156	88	208	117	260	146
.375	11.0	19.0	2	4	32	26	64	52	97	78	129	104	161	130	63	32	126	64	189	96	252	128	315	160
.5	13.0	22.0	1	3	37		74		112		149		186		73	33	146	66	219	100	292	133	365	166
.75	16.0	27.0	1	2	46		91		137		182		228		89	36	178	71	267	107	356	143	449	178
1.00	18.0	31.0	1	1	53		105		158		210		263		103		206		308		410		513	

SPECIFICATIONS*

Magnet Size (Inches)	Watts* (Cold)	Magnet Weight* (Lbs.)
6" Series		
6 x 12	90	75
6 x 24	225	125
6 x 36	350	200
9" Series		
9 x 20	625	360
9 x 40	1,250	670
9 x 60	1,875	980
9 x 80	2,500	1,290
9 x 100	3,125	1,600
16" Series		
16 x 20	1,020	750
16 x 40	2,040	1,360
16 x 60	3,060	2,015
16 x 80	4,120	2,800
16 x 100	5,100	3,500
20" Series		
20 x 40	2,920	2,000
20 x 50	3,540	2,525
20 x 60	4,650	3,050
20 x 80	5,520	4,100
20 x 100	6,700	5,150

Note: Above magnets feature copper windings. Magnet weight and watts may vary on special applications.

*These are representative specifications, only to be used as a guide. Actual magnet requirements will be based on type and size of material to be handled. (Consult factory.)

OHIO STEEL MILL TYPE

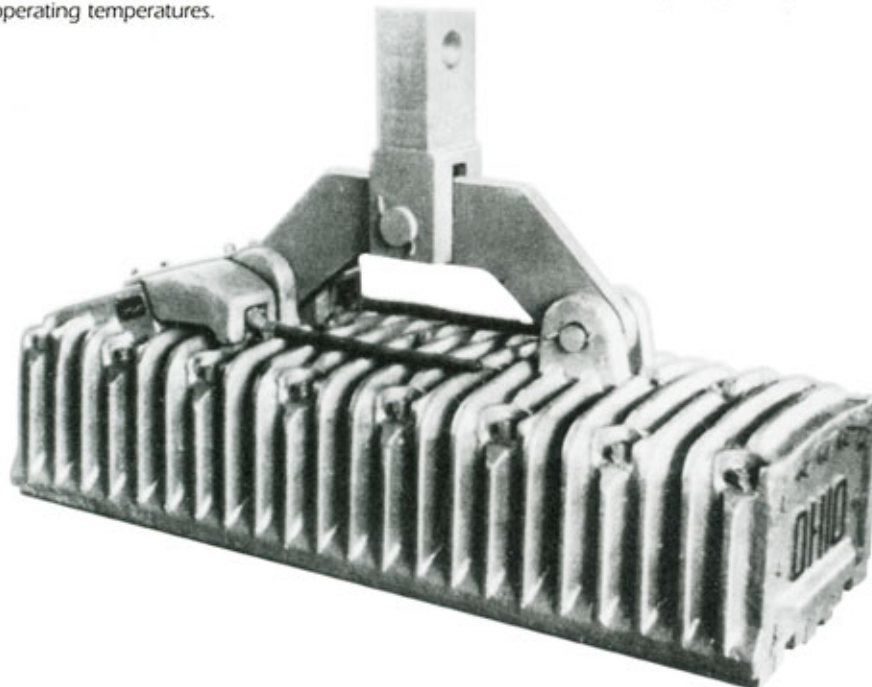
OHIO CAST-CASE RECTANGULAR MAGNETS

- 230 Volts DC standard
(special voltages available on request)
- Copper wound
- Designed specifically for the most severe mill applications, such as:
 - Slab turning
 - Hot slab handling (hot work construction)
 - Hot billet/bloom handling (hot work construction)
 - Hot structurals (hot work construction)
- Suited to the most extreme conditions

TECHNICAL SPECIFICATIONS

Magnet Size & Type	Magnet Weight	Cold Amps	Cold Watts	Controller Type	Min. Cable Size	Lifting Capacities*
19 x 32	950	8	1,850	CDS	14	7,000
19 x 42	1,700	12	2,700	CDS	14	12,000
19 x 52	1,550	13	3,000	CDS	14	15,000
19 x 73	2,850	15	3,500	CDS	14	28,000
20 x 66	3,000	19	4,500	CDS	12	25,000
21 x 85	3,850	25	5,800	RD-1W	12	32,000
21 x 108	4,500	35	8,050	RD-1W	10	40,000
26 x 42	3,000	21	4,900	RD-1W	12	18,000
26 x 54	4,500	30	6,900	RD-1W	10	25,000
26 x 62	4,800	30	6,900	RD-1W	10	30,000
26 x 68	5,900	37	8,500	RD-1W	10	35,000
28 x 74	6,850	40	9,700	RD-1W	10	47,000
30 x 48	4,500	23	5,400	RD-1W	10	22,000

*Material lifted must cover magnet face and be a minimum of 2" thick. Extremely rough, long or wide pieces must be derated. Amounts shown are safe lifts at operating temperatures.



OHIO STEEL MILL TYPE

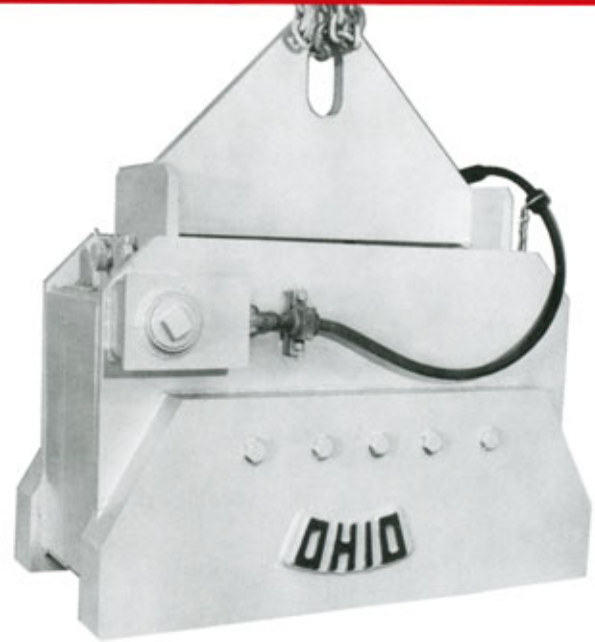
BI-POLAR MAGNETS STANDARD AND SPECIAL OHIO BI-POLAR MAGNET DESIGNS AND OPTIONS

Available in various standard widths—8", 12", 13", 19", and 22". Standard and special widths to meet any application. Renewable or auxiliary pole shoes can be supplied for all sizes. Shoes convert standard magnets for special handling—reconvert to regular magnets quickly and easily for routine material handling.

DESIGN ADVANTAGES

A unique advantage to Ohio magnets is their capability to handle higher temperature material than normally is the case with a standard rectangular magnet. The Ohio magnet coil is positioned farther away from the hot material. In addition, fewer square inches of magnet pole contacts the load. As a result, less heat is transferred to the magnet, thus it retains a greater percentage of its lifting ability with these higher temperature loads.

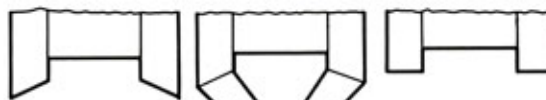
- 230 VDC standard
(special voltages available on request)
- Low power consumption
- The most versatile magnet design for mill application such as:
 - Plates
 - Billets (hot and cold)
 - Coils (eye vertical and horizontal)
 - Structurals
 - Bundles
 - Rebar
 - Rails
 - Tubes and pipes
- Custom designed pole shoes for radial or irregular shapes
- Hotwork designs readily available



Width	Plate Size	Pull* #/in. of length
8"	1½"	320
12"	2½"	450
13"	3"	515
19"	3¾"	940
22"	5"	1,010

*Working Pulls @ 230 Volts D.C. under ideal conditions.
Above capacities based on clean, smooth, flat, low carbon steel plate.
Derate according to safety factor required. Derate for thinner plate.

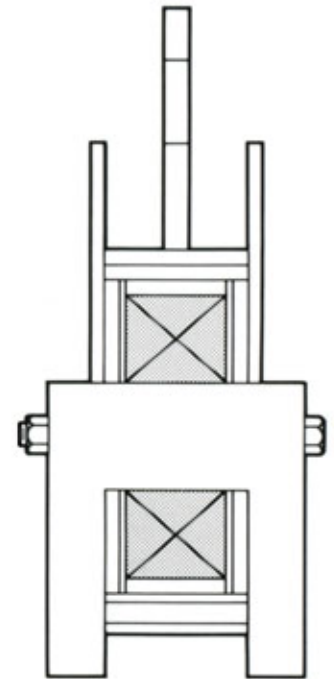
- Heavy duty magnet construction
- Specifically designed internal construction, the correct balance of wire to steel, develops maximum flux density for heavy-duty lifting with minimum power consumption
- 100% lifting area with a uniform field across the full length of the unit
- Pole lengths from 24" to 100" or to any special length you require



Tapered poles for bundles, coils and structurals.

Removable poles and angles and tubes.

Flat poles for sheet and plates.



OHIO STEEL MILL TYPE

COIL HANDLING MAGNETS (CL TYPE)

FOR EYE VERTICAL COIL HANDLING

- 230 Volts DC (special voltages available on request)
- Custom designed for the handling of specifically sized coils (eye vertical)
- Designs available for up to 55 tons
- Heavy duty cast steel top plate construction

FOR DESIGN SPECIFICATION AND QUOTATION, SUPPLY:

1. Coil I.D., O.D., length maximums/minimums
2. Maximum coil weight
3. Maximum edge stagger
4. Duty cycle
5. Banding specification
6. Crane capacity
7. Coatings and coverings (if applicable)



OHIO DUTY-CYCLE™ MAGNET CONTROLLERS

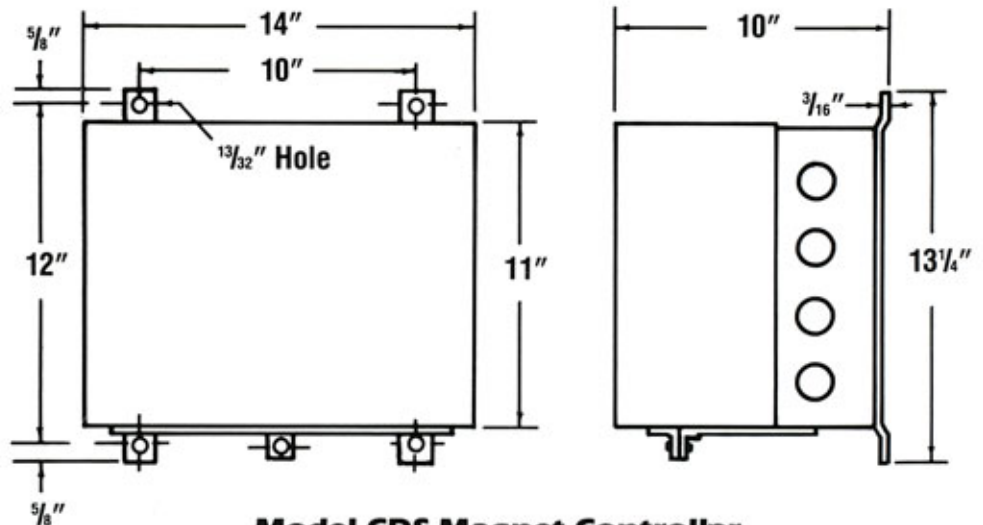
MODEL CDS

230 VDC. Operating Range: Manual 1-20 Amps Automatic 5-20 Amps

Model CDS is the smallest controller in Ohio's line. It features robust contact tips and heavy-duty movable parts. It cuts inventory costs since all parts are interchangeable with larger Ohio Controllers.

- Automatic Drop. One movement of master switch (either pushbutton or lever type is standard). The controller automatically senses precise amount of reverse current to clear magnet of load.
- Manual Drop. For precise control of small, low-amperage-draw magnets. If additional control of plates, or dribbling of scrap is desired, move switch from LIFT to OFF position. This dissipates magnetism slowly through discharge resistors. When ready to drop load, move switch to DROP, and hold until magnet has cleaned itself. Switch returns to OFF on release.

CAUTION: Do not mount so that controller is exposed to weather, excessive moisture, oil or dirt. Mount only in vertical position. Do not use with magnets requiring 4600 watts. Keep entire magnet system free from grounds or shorts.



Model CDS Magnet Controller

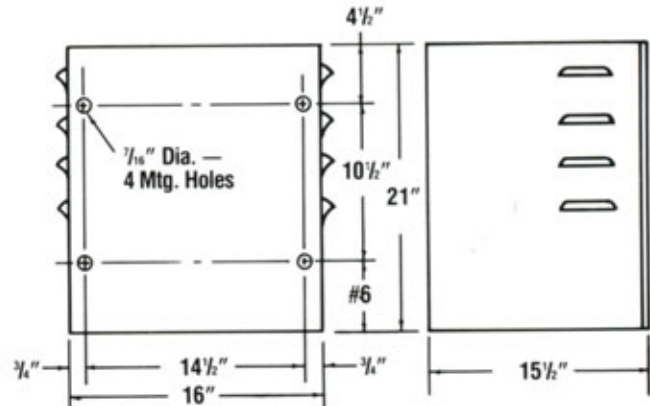
OHIO DUTY-CYCLE™ MAGNET CONTROLLERS

MODEL RD1W

230 VDC. Operating Range: Automatic and Manual 20-100 Amps

Model RD1W is the “wide-range” control that has adjustable drop time on the automatic model. It features robust contact tips and heavy-duty movable parts. It cuts inventory costs since all parts are interchangeable with other Ohio Controllers.

- **AUTOMATIC DROP.** One movement of master switch (either pushbutton or lever type standard). Controller automatically senses amount of reverse current to clear magnet of load, depending on the setting of the rheostat which is easily adjustable for variations in materials to be handled.
- **MANUAL DROP.** For precise control of small, low-amperage-draw magnets. If additional control of plates, or dribbling of scrap is desired, move switch from LIFT to OFF. This dissipates magnetism slowly through discharge resistors. When ready to drop load, move switch to DROP, and hold until magnet has cleaned itself. Switch returns to OFF on release.



Model RD1W Magnet Controller

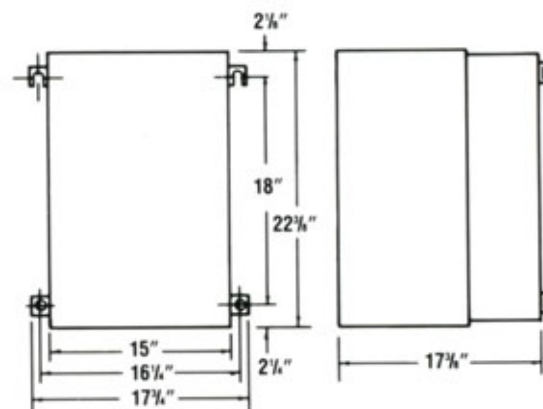
CAUTION: Do not mount so that controller is exposed to weather, excessive moisture, oil or dirt. Mount only in vertical position. Do not use with magnets requiring over 23,000 watts. Keep entire magnet system free from grounds or shorts.

MODEL RD2A

230 VDC. Operating Range: Automatic and Manual 100-150 Amps

Model RD2A is the hard-working controller based on its amperage rating and the 65-inch diameter and larger magnets it operates. It features robust contact tips and heavy-duty movable parts. It cuts inventory costs since all parts are interchangeable with other Ohio Controllers.

- **AUTOMATIC DROP.** One movement of master switch (either pushbutton or lever type standard). Controller automatically senses amount of reverse current to clear magnet of load, depending on the setting of rheostat which is easily adjustable for variations in materials to be handled.
- **MANUAL DROP.** For precise control of small, low-amperage-draw magnets. If additional control of plates, or dribbling of scrap is desired, move switch from LIFT to OFF. This dissipates magnetism slowly through discharge resistors. When ready to drop load, move switch to DROP, and hold until magnet has cleaned itself. Switch turns to OFF on release.



Model RD2A Magnet Controller

CAUTION: Do not mount so that controller is exposed to weather, excessive moisture, oil or dirt. Mount only in a vertical position. Do not use with magnets requiring over 34,500 watts. Keep entire magnet system free from grounds or shorts.

OHIO DUTY-CYCLE™ MAGNET CONTROLLERS

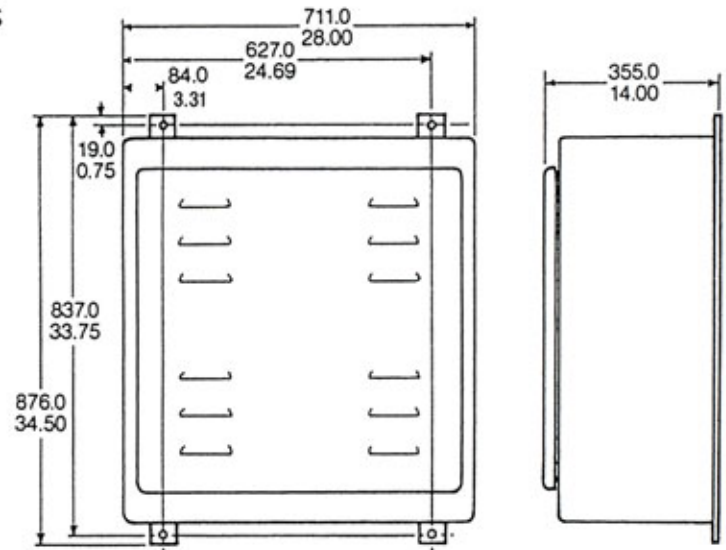
MODEL RD3A

230 VDC. Operating Range: Automatic and Manual 100-200 Amps

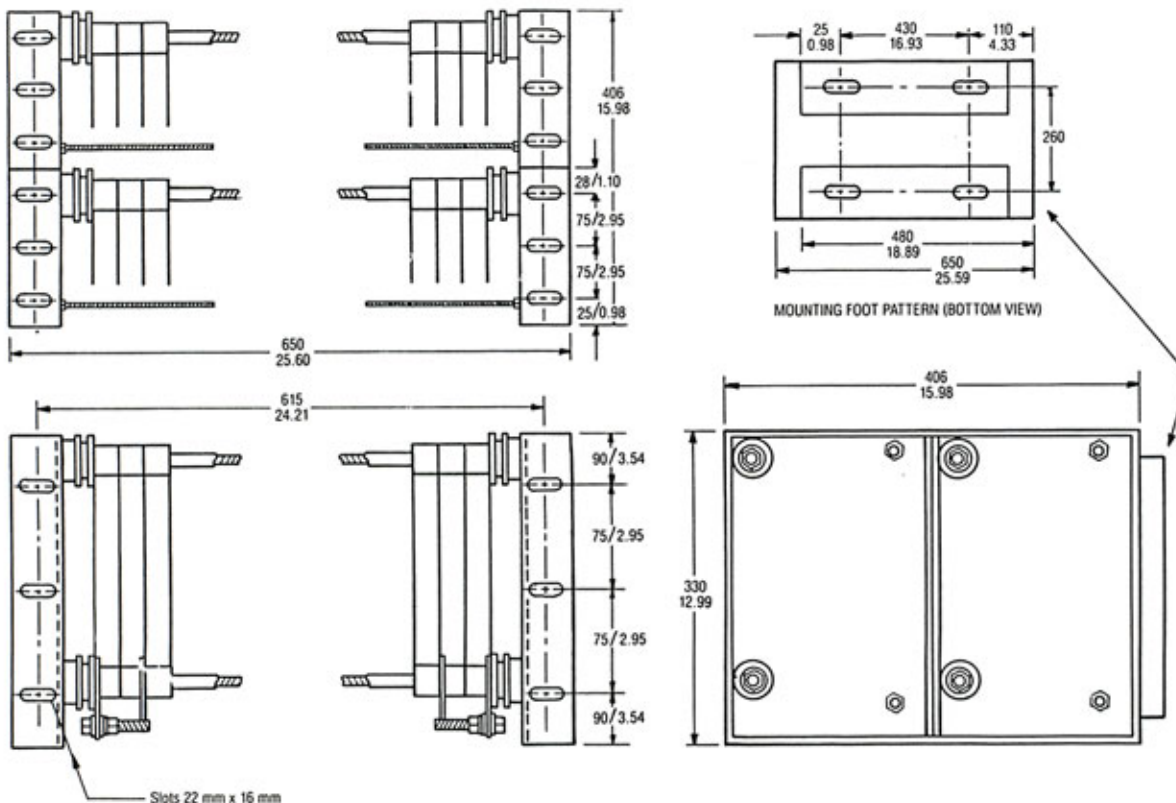
Model RD3A is the highest rated controller in Ohio's line. It features robust contact tips and heavy-duty movable parts. It cuts inventory costs since all parts are interchangeable with larger Ohio Controllers.

- **AUTOMATIC DROP.** One movement of master switch (either pushbutton or lever type standard). Drop circuitry is made to function by a set of adjustable timers. Drop time is varied by adjusting a timer (see Maintenance Manual for instructions).
- **MANUAL DROP.** For precise control of small, low-amperage-draw magnets. If additional control of plates, or dribbling of scrap is desired, move switch from LIFT to OFF. This dissipates magnetism slowly through discharge resistors. When ready to drop load, move switch to DROP, and hold until magnet has cleaned itself. Switch returns to OFF on release.

CAUTION: Mount only in a vertical position. Do not use with magnets requiring over 200 A (46 KW). Keep entire magnet system free from grounds or shorts.



Model RD3A Magnet Controller



Model RD3A Resistor Assembly
(Mounted remote from the Controller)

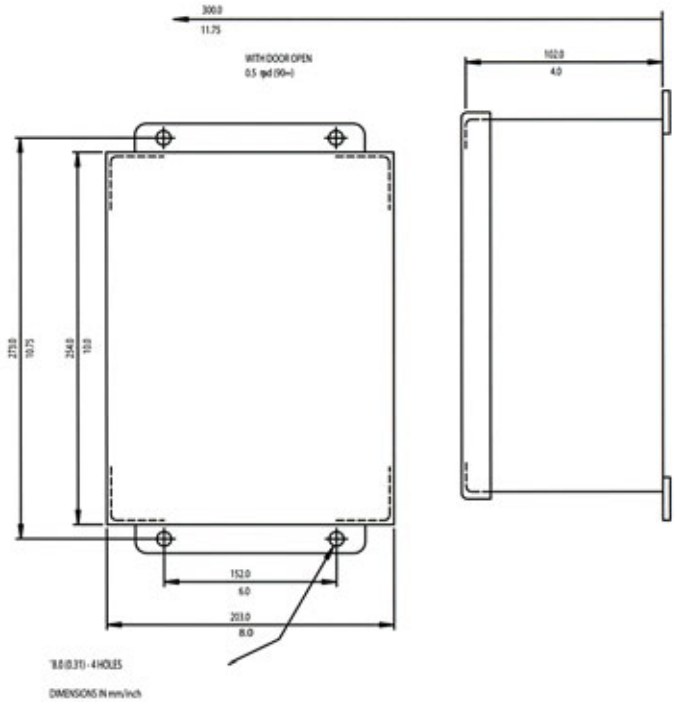
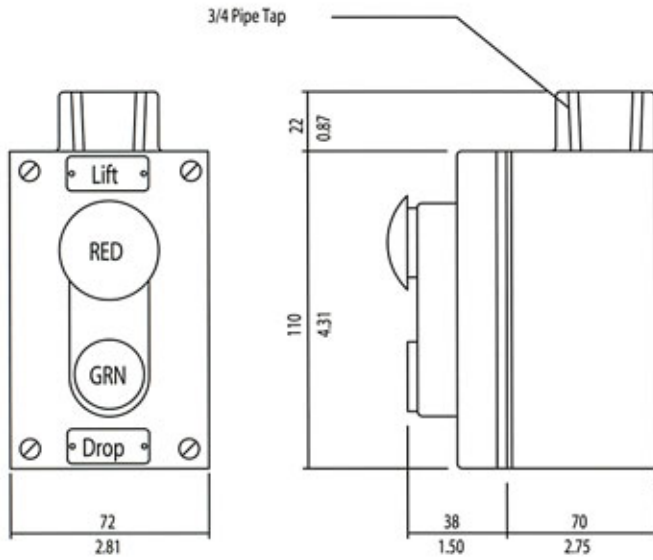


OHIO DUTY-CYCLE™ MAGNET CONTROLLERS

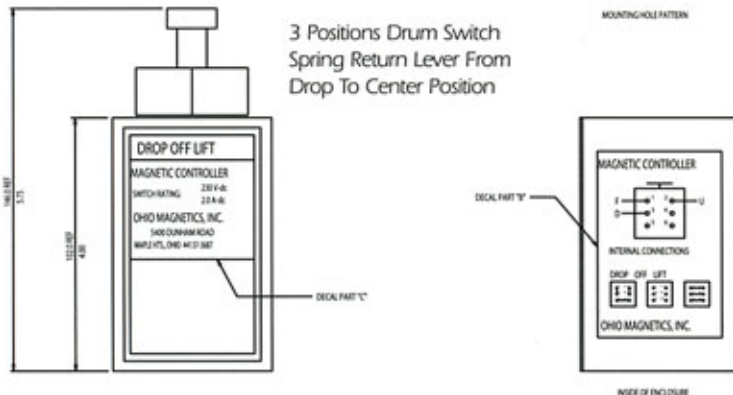
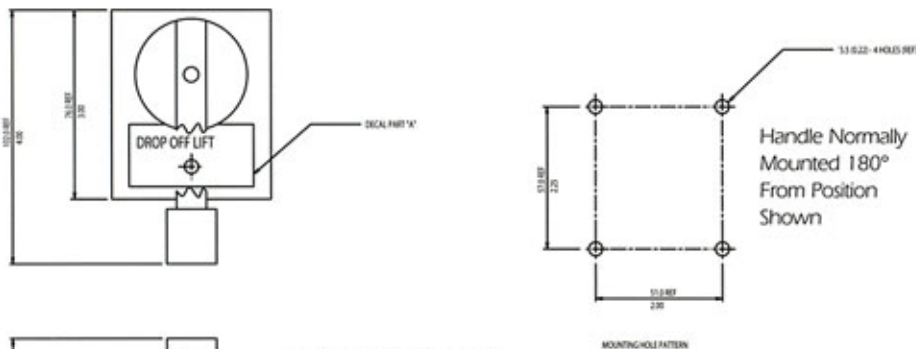
OPERATOR CONTROL SWITCHES

Push Button Type Part No. 091M2266A

Reduced Voltage Package 12 or 24 volts for Cab-Mounted or Joystick-Mounted Lift/Drop Buttons. (Must use 2 N.O. Buttons)



Standard Lever Type Part No. 1300C0150000



250 VDC MAGNET SAFETY DISCONNECT SWITCH

STANDARD FEATURES:

- Manually operated
- Automatic discharge of magnet power
- Mechanical interlock (door must be closed to operate)
- Nema 3R/12 (IP-65) combination enclosure
- Provides operator safety

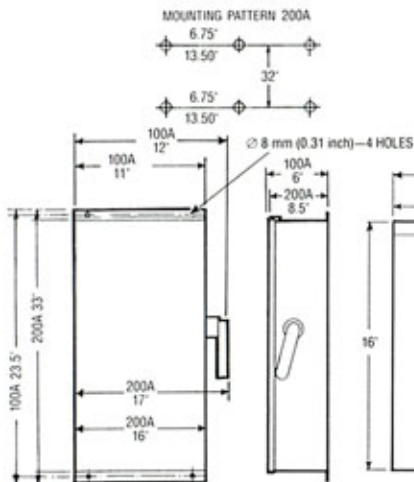
Magnet circuits, which are highly inductive, occasionally require disconnection while the magnet is energized. Standard knife or safety switches are not capable of breaking this highly inductive magnet energy.

Ohio Magnetics' magnet disconnect switch interrupts the magnet circuit arc by using a quick break switch with a permanently connected power diode and power resistor* across negative and positive of the switch output. The power diode directs the discharge current from negative to positive while blocking the normal currents from positive to negative. The power resistor* dissipates the stored energy of the inductive magnet circuit. The switch is polarity sensitive. Input and output power leads must be connected as indicated by markings.

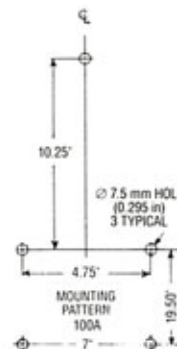
*30 A and 60 A switches do not require power resistor.

DIMENSION INFORMATION

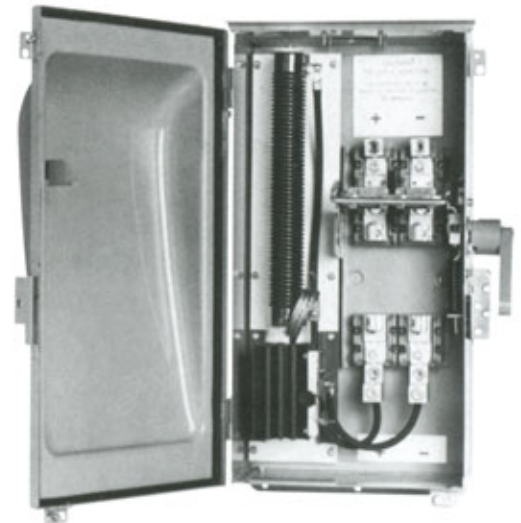
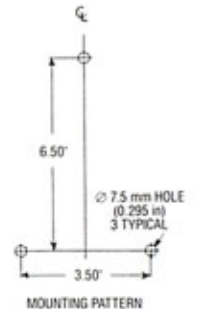
100 AND 200 AMP SWITCHES



60 AMP SWITCH

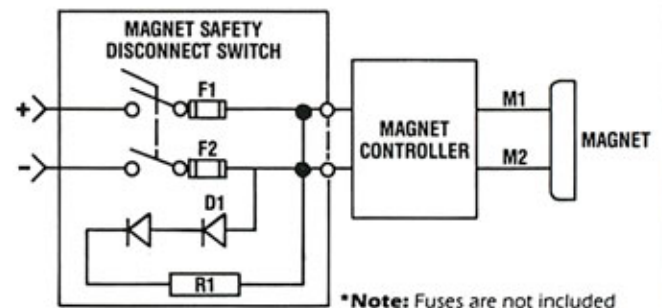


30 AMP SWITCH



Voltage	Amp Rating max.	Part No.
250 VDC	30	018C8500A
250 VDC	60	018C8600A
250 VDC	100	018C8700A
250 VDC	200	018C8800A

ELEMENTARY DIAGRAM*

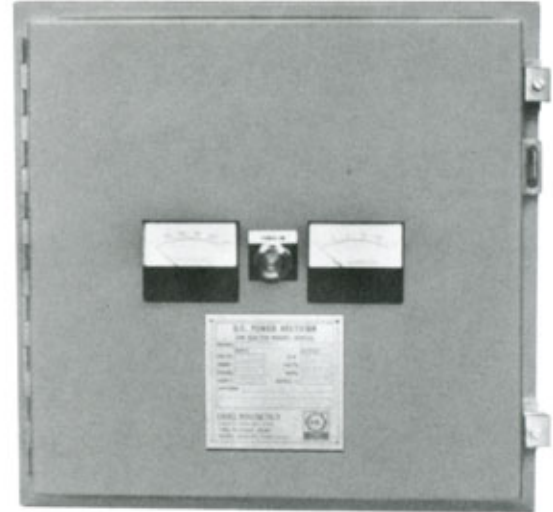


DC POWER SUPPLIES

LOW VOLTAGE POWER SUPPLIES FOR SMALL MAGNETS

P/N 1300D018001

- 120/240 volt single phase AC input
- Variable output voltage 12-120 VDC
- 10 amp maximum output
- NEMA 12 (IP-65) wall mount cabinet
- Optional door mounted meter package (DC volts ammeter)
- Optional remote start/stop switch
- Weight 95 lbs., 43 kg
- Enclosure size 20" x 21 $\frac{1}{8}$ " x 11 $\frac{1}{4}$ " D. (510mm x 540mm x 290mm)



DC POWER SUPPLY ACCESSORIES (Remote Mount)

<p>METER, CONTROL, LIGHT PACKAGE</p> <ul style="list-style-type: none"> • DC VOLTMETER • AMMETER • START/STOP BUTTONS • AC "ON" LIGHT • DC "ON" LIGHT • NEMA 12 (IP-65) ENCLOSURE 		<p>METER PACKAGE</p> <ul style="list-style-type: none"> • DC VOLTMETER • AMMETER • NEMA 12 (IP-65) ENCLOSURE 	
<p>DC "ON" LIGHT PACKAGE</p> <ul style="list-style-type: none"> • NEON LAMP • NEMA 12 (IP-65) ENCLOSURE 		<p>SELECTOR SWITCH "ON/OFF" PACKAGE</p> <p>SINGLE OPTION ENCLOSURE CONTROLS, LIGHTS</p>	<p>START/STOP PUSHBUTTON PACKAGE</p> <p>TWO- OPTION ENCLOSURE CONTROLS, LIGHTS</p>
<p>START/STOP BUTTON AND D.C. "ON" PACKAGE</p> <p>THREE- OPTION ENCLOSURE CONTROLS, LIGHTS</p>		<p>START/STOP BUTTONS D.C. "ON" A.C. "ON" PACKAGE</p> <p>FOUR- OPTION ENCLOSURE CONTROLS, LIGHTS</p>	

LIFTING MAGNET AND INDUSTRIAL HEAVY-DUTY DC POWER SUPPLIES

FIXED AND VARIABLE VOLTAGE

Ohio Magnetics' DC Power Supplies for lifting magnets are available in both a fixed voltage output (usually 230 VDC or 115 VDC) and a variable voltage output (usually 0-230 VDC or 0-280 VDC).

Fixed Voltage output type DC Power Supplies are used in most general magnet applications. Variable Voltage supplies are used in applications of Fanning, Boost/Carry, Flux Reduction, Constant Flux Regulation, etc. Voltage outputs can be set via potentiometers for voltage limit-current regulation or current limit-voltage regulation.

Because the cold current of the magnet is 30% to 50% greater than the operating current, the power supply must be sized for the cold rating of the magnet at 25°C.

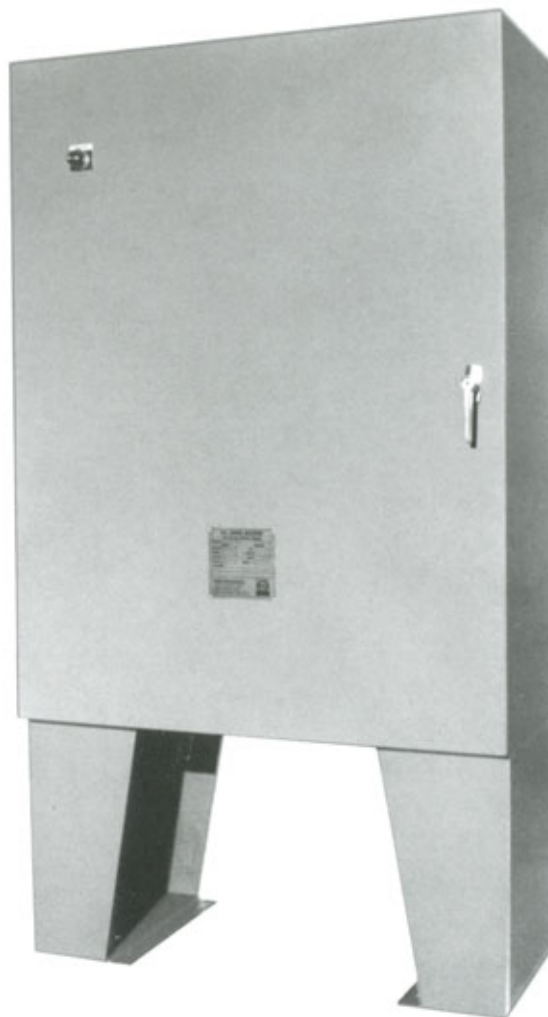
STANDARD FEATURES:

- NEMA 12 (IP-65) enclosure natural convection
- North American or international input voltages; 3 phase; 50 or 60 Hz
- 480 V or 240 VAC input voltage, 3 phase, 60 Hz
- Magnetic line starter with 3-phase overload relay protection
- Adjustable taps on power transformers to match input line conditions
- Fast acting fuse protection for diode bridge
- Transient surge protection
- DC output fuses for short circuit protection
- AC power on indicator light (neon)
- Wall mounted enclosures to 10 KW, floor mounted enclosures above 10 KW
- 110/120 V (North America) or 220/240 (international) control voltage for input switching and operation of accessories
- 120 VAC control for input power switching
- Input and output power terminal blocks
- 230 V or 115 VDC output voltage (115 VDC output only to 25 KW).

- Modular diodes/scr's for easy replacement
- Convection cooled up to 6.5 KW (230 V) or 4 KW (115 V); Fan cooled above 6.5 KW (230 V) or 4 KW (115 V).
- Separate 230 V supply for controllers on all variable voltage supplies.

MAGNET DC POWER SUPPLY SPECIFICATIONS:

Full Load Efficiency	90-96%
Power Factor	92-95%
Voltage Regulation	6% or less
Full Wave Output Ripple	4.6%
Power Ratings	100% Continuous @ 60°C Ambient
	125% 2 Hours



LIFTING MAGNET AND INDUSTRIAL HEAVY-DUTY DC POWER SUPPLIES

FOR PRICING INFORMATION, PLEASE SUPPLY:

1. Input voltage and frequency
2. Input line equipment desired (see options)
3. DC output voltage
4. Magnet cold current rating @ 25°C
5. Enclosure IEC 529 style or NEMA 12 (IP-65) standard
6. Additional options
7. Quantity

Note: Service, parts replacement, and rebuilding are available on existing equipment. Call for cost-saving details.

DC POWER SUPPLY DATA FOR FIXED AND VARIABLE DC POWER SUPPLIES

KW ¹	Amps @ 230 V	Amps @ 115 V	Enclosure Size H* x W x D (in/mm)	Weight/Mass (lb/kg)	KW @ 280 V
2	8.7	16.6	36 x 30 x 12 915 x 760 x 305	238/110	2.5
4	17.2	33.3	36 x 30 x 12 915 x 760 x 305	265/120	5.0
6.5	28.0	54.2	36 x 30 x 12 915 x 760 x 305	310/140	8.0
10	43.1	83.3	36 x 30 x 12 915 x 760 x 305	355/160	12.5
15	64.7	125.0	48 x 36 x 16 1220 x 915 x 405	545/250	18.5
20	86.2	166.6	48 x 36 x 16 1220 x 915 x 405	595/270	25.0
25	109.0	208.0	48 x 36 x 16 1220 x 915 x 405	640/290	30.5
35	151.0	N/A	60 x 36 x 20 1525 x 915 x 510	800/360	43.0
45	194.0	N/A	60 x 36 x 20 1525 x 915 x 510	875/400	55.0
55	237.0	N/A	60 x 36 x 20 1525 x 915 x 510	950/430	67.5
65	283.0	N/A	60 x 48 x 24 1525 x 1220 x 610	1060/480	80.0
75	326.0	N/A	60 x 48 x 24 1525 x 1220 x 610	1100/500	85.5
87.5	380.0	N/A	60 x 48 x 24 1525 x 1220 x 610	1145/520	91.0
100	435.0	N/A	60 x 48 x 24 1525 x 1220 x 610	1255/570	122.0

*Add 12 in.—305 mm to height for leg kit on floor mount models!

¹NOTE: On 0-280 V variable volt output models, the power output in kilowatts is based on the power delivered to the load when voltage is set to 230 VDC.

OPTIONAL FEATURES:

- IP32, IP66, enclosures natural* convection
- Latch lock on enclosures where possible
- 3 wire pushbutton on/off control or 2 wire selector switch type on/off control both local or remote package
- Remote meter package on all ratings, local meter package only on IP32, IP65*
- DC output indicator light both local or remote package
- Circuit breaker disconnect (local or remote)
- Variable voltage:
 - 0-230 V system for flux reduction, fanning, current/voltage regulation applications
 - 280 V systems for boost/carry, current/voltage regulation applications
- Power relay for operation of controller lift/drop coil from 110/120 (North America) or 220/240 (international) via pendant control
- Special requests available; please contact factory

NEMA 3R-IP32,
NEMA 12-IP65,
NEMA 4-IP66,
NEMA 4X-IP66

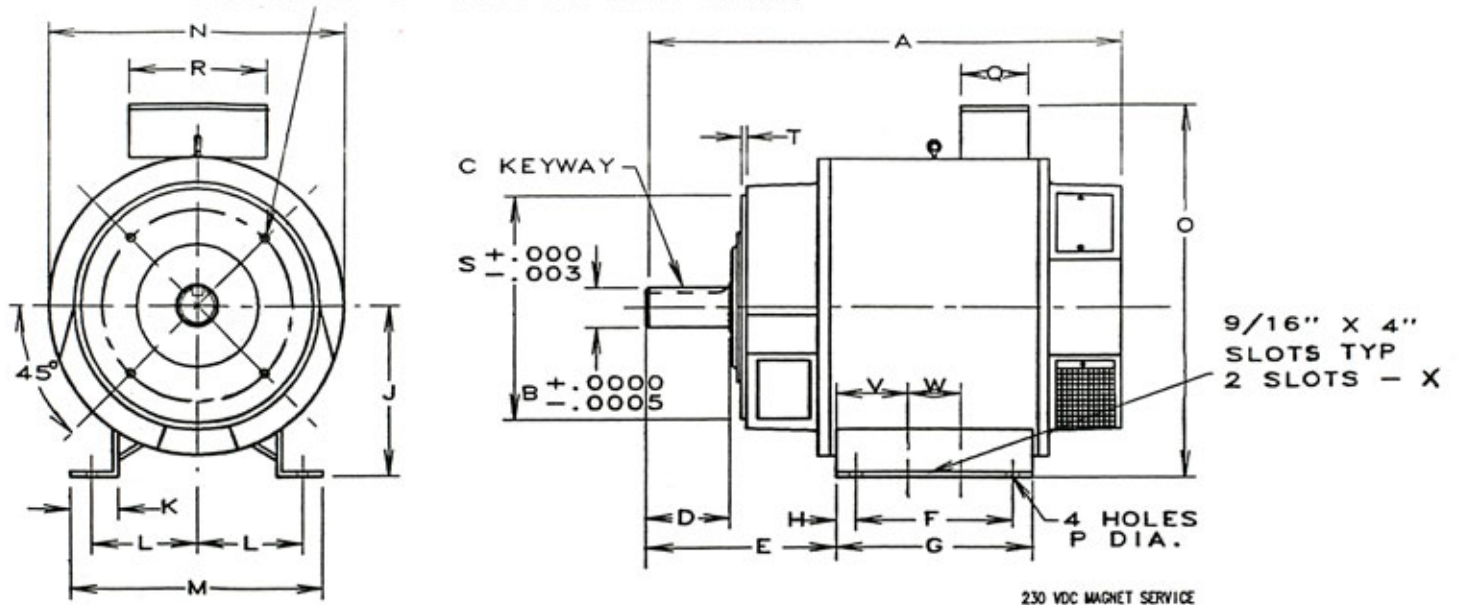
OHIO DUTY-CYCLE™ GENERATORS

5 to 33 KW, 230 VDC Models OPTH Designed for Hydraulic Motors

1/2-13 NC THD. - .75 DEEP

4 PLACES ON U" B.C. 90 DEG. APART

Belt or Hydraulic Motor Drive



230 VDC MAGNET SERVICE

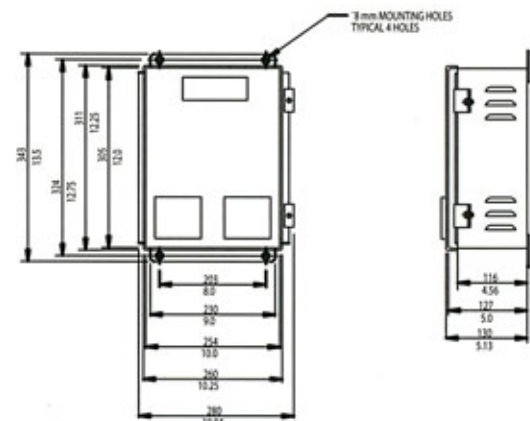
DIMENSIONS (INCHES)

Model	KW	rpm	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Approx. Weight/Lbs.
OPTH-5-25	5	2,500	16 1/2	1	1/4 x 1/8	2 1/4	N/A	7 1/16	N/A	N/A	6 19/32	N/A	3 3/8	8 1/4	10 3/4	16	17 1/32	4 1/4	4 1/4	10 1/2	1/4	9	OMIT	OMIT	OMIT	170
OPTH10-25	10	2,500	19 7/8	1 1/4	1/4 x 1/8	3 1/2	7 1/16	5 1/2	7	3/4	6 3/4	2	4 1/2	10 1/8	12	15 9/16	9/16	4 1/4	4 1/4	8 1/2	1/4	7 1/4	OMIT	OMIT	OMIT	175
OPTH15-18	15	1,800	24 3/8	1 5/8	3/8 x 3/16	4	8 13/16	4 1/2	10	3/4	8	2 1/2	5 1/2	12 3/4	14	18 3/16	9/16	4 1/4	4 1/4	10 1/2	1/4	9	3 1/4	3 1/2	SLOT	290
OPTH20-18	20	1,800	26 3/8	1 5/8	3/8 x 3/16	4	8 13/16	6	10	3/4	8	2 1/2	5 1/2	12 3/4	14	18 3/16	9/16	4 1/2	6 1/2	10 1/2	1/4	9	3 1/4	3 1/2	SLOT	345
OPTH25-18	25	1,800	28 3/8	1 7/8	1/2 x 1/4	4	8 13/16	6	10	3/4	8	2 1/2	5 1/2	12 3/4	14	18 3/16	9/16	4 1/2	6 1/2	10 1/2	1/4	9	3 1/4	3 1/2	SLOT	410
OPTH33-18	33	1,800	31 11/16	2	1/2 x 1/4	5	10 3/4	11	13	1	8 1/2	3	6 1/2	14 3/4	15 3/4	20 1/2	11/16	4 1/2	6 1/2	12 1/2	3/8	11*	3 1/4	3 1/2	SLOT	570

*5/16-11 NC THD.—.875" DEEP

Ammeter, Voltmeter, Slide Resistors in Separate Enclosure

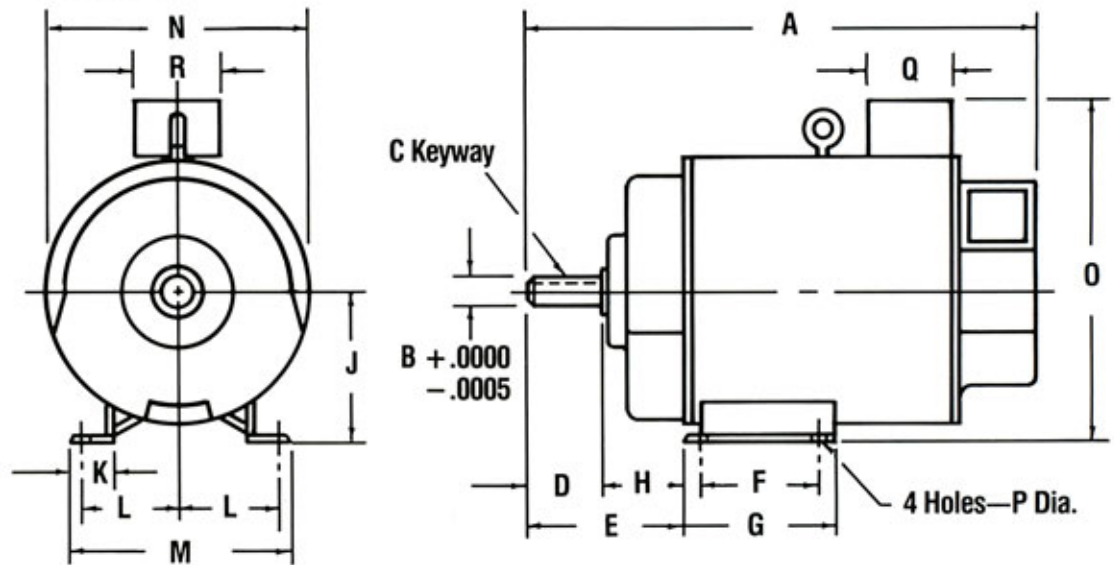
- Required for use with all Ohio Generators
- Hydraulic components available
(Contact factory for application information)



OHIO DUTY-CYCLE™ GENERATORS

5 to 33 KW, 230 VDC Models OPT Designed for Power Takeoff

Belt Motor Drive

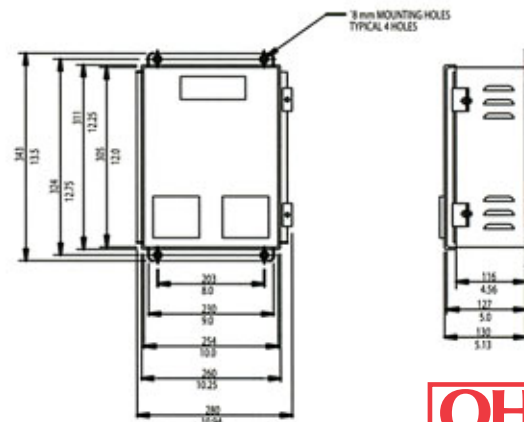


DIMENSIONS (INCHES)

Model	kW	rpm	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	Approx. Weight/Lbs.
OPT5-25	5	2,500	16½	1	¼ x ⅛	3	2⅞	7⅞	8⅞	½	6⅞	—	3⅞	8¼	10¾	16	17/32	4¼	4¼	170
OPT10-25	10	2,500	19⅞	1¼	¼ x ⅛	3½	7⅞	5½	7	¾	6¾	2	4½	10⅞	12	15⅞	9/16	4¼	4¼	175
OPT15-18	15	1,800	24⅞	1⅝	⅜ x ⅜	4	8⅞	4½	6	¾	8	2½	5½	12¾	14	18⅞	9/16	4¼	4¼	290
OPT20-18	20	1,800	26⅞	1⅝	⅜ x ⅜	4	8⅞	6	7½	¾	8	2½	5½	12¾	14	18⅞	9/16	4½	6½	345
OPT25-18	25	1,800	28⅞	1⅞	½ x ¼	4	8⅞	6	7½	¾	8	2½	5½	12¾	14	18⅞	9/16	4½	6½	410
OPT33-18	33	1,800	31⅞	2	½ x ¼	5	10¾	11	13	1	8½	3	6½	14¾	15¾	20½	11/16	4½	6½	570

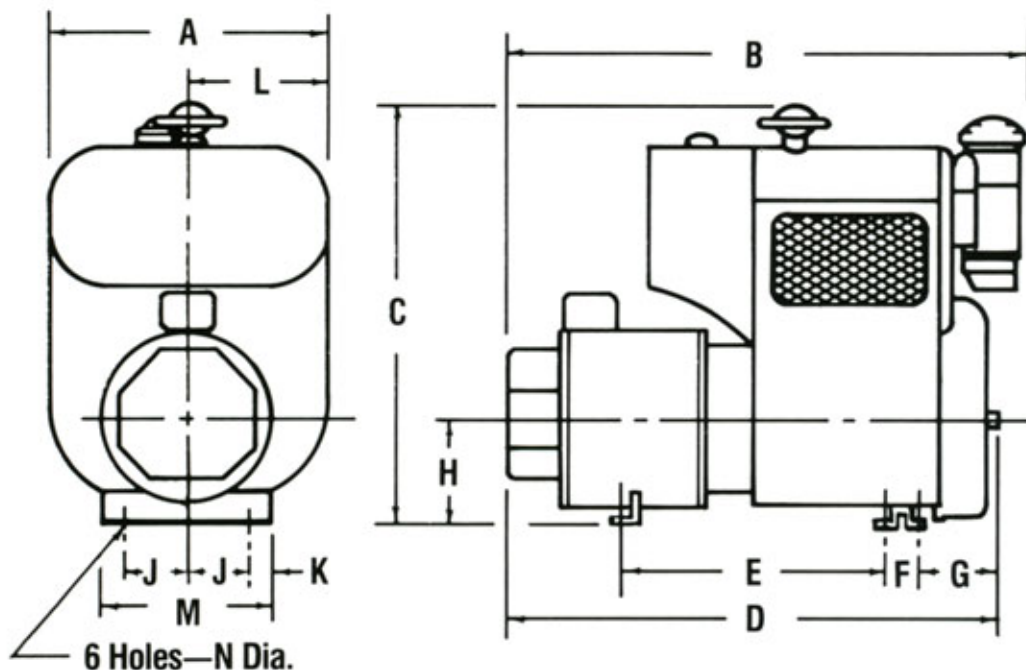
Ammeter, Voltmeter, Slide Resistors in Separate Enclosure

- Required for use with all Ohio Generators



OHIO DUTY-CYCLE™ GENERATORS

5, 15, and 20 KW 230 VDC Models Gasoline-Engine Driven



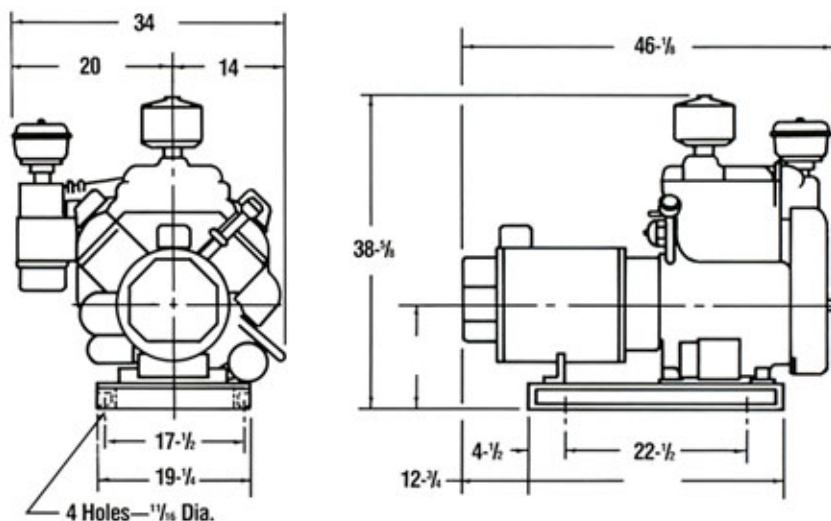
DIMENSIONS (INCHES)

Model	kW	rpm	A	B	C	D	E	F	G	H	J	K	L	M	N	Approx. Weight/Lbs.
OAG5-25	5	2,500	17 ¹⁵ / ₁₆	32 ³ / ₄	21 ¹ / ₂	—	19	—	—	10 ¹⁵ / ₁₆	6 ¹ / ₄	1 ⁵ / ₈	8 ³¹ / ₃₂	15 ³ / ₄	1 ³ / ₁₆	408
OAG15-18	15	1,800	24 ³ / ₄	46 ¹ / ₂	36 ³ / ₈	41 ⁷ / ₈	22 ¹¹ / ₁₆	3	6 ⁷ / ₈	9	5 ⁵ / ₁₆	2	12 ³ / ₈	1 ¹ / ₁₆	1 ⁷ / ₃₂	720
OAG20-18	20	1,800	24 ³ / ₄	48 ¹ / ₄	36 ³ / ₈	43 ⁵ / ₈	22 ³ / ₄	3	6 ⁷ / ₈	9	6	2	12 ³ / ₈	16	2 ¹ / ₃₂	740

25 KW Model Gasoline-Engine Driven

- 230 VDC operation
- 1800 rpm generator
- Air-cooled, 4-cylinder gasoline engine

Model No. OAG25-18
Rheostat and Meter Package Required
for This Unit



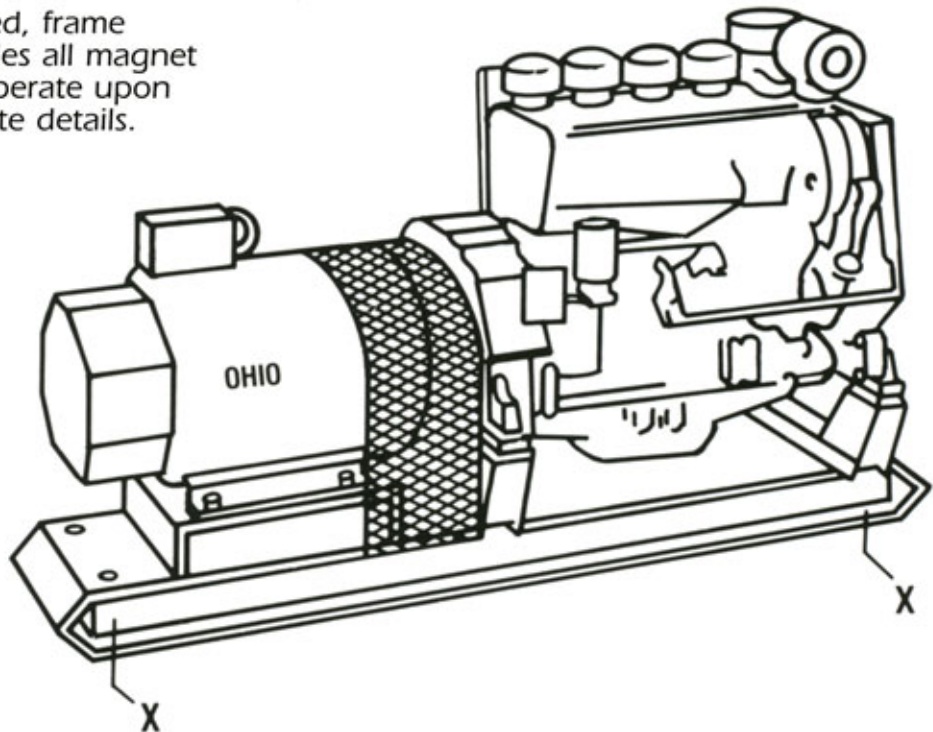
OHIO DUTY-CYCLE™ GENERATORS

5, 10, 15, 20, 25 and 33 KW Models Air-Cooled, Diesel Engine Driven

- 230 VDC

Now available in a self-contained, frame mounted package which includes all magnet controls. Ready to install and operate upon delivery. Call factory for complete details.

NEW!

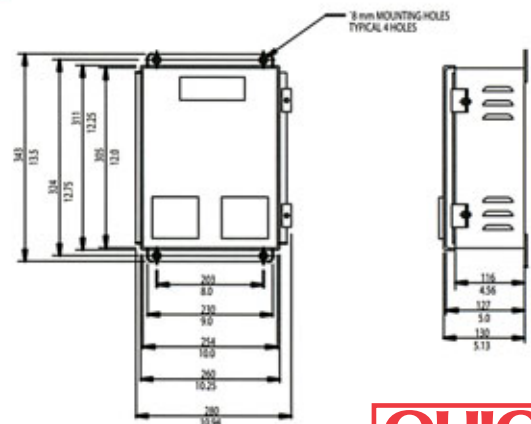


DIMENSIONS (INCHES)

Complete Assembly	Generator Model #	KW	rpm*	Width	Length	Height	Approx. Weight/ Lbs.	X Base Mfg. Holes 1/16 Dia.
OAD5-25	OPT-5	5	2,500	20.5	37.31	23	521	12 1/2 x 26 1/2
OAD10-25	OPT10-25	10	2,500	23.5	50.25	35	800	14 5/8 x 42
OAD15-18	OPT15-18	15	1,800	26.5	60	38.5	1,150	14 5/8 x 48 1/2
OAD20-18	OPT20-18	20	1,800	26.5	60	38.5	1,200	14 5/8 x 48 1/2
OAD25-18	OPT25-18	25	1,800	26.5	60	38.5	1,275	14 5/8 x 48 1/2
OAD33-18	OPT33-18	33	1,800	26.5	72	39	1,400	14 5/8 x 48 1/2

Ammeter, Voltmeter, Slide Resistors in Separate Enclosure

- Required for use with all Ohio Generators



**OHIO
MAGNETICS**

OTHER PRODUCTS AVAILABLE FROM OHIO MAGNETICS

EMERGENCY POWER SUPPLIES (BATTERY BACK-UPS)

FOR 230 VDC LIFTING MAGNETS ON-LINE TYPE

Ohio Magnetics' on-line type emergency power supplies provide immediate battery power to 230 VDC lifting magnets that will safely hold loads in the event of a power failure for your specified period of time.

Available for 2 KW to 100 KW magnet systems, the OHIO EPS power supply also provides instant warnings that the magnet system is operating on battery power in both audible and visual displays.

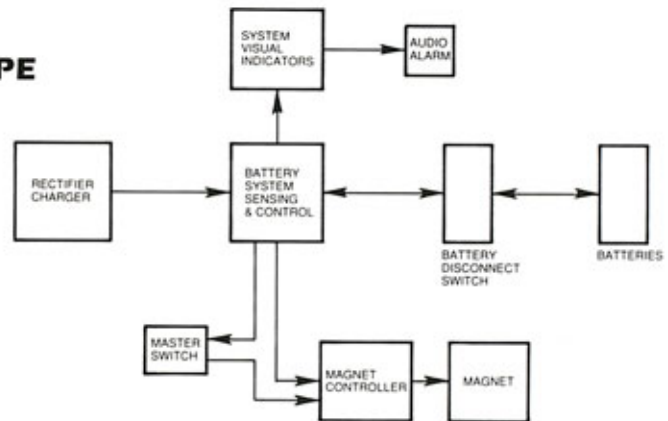
Standard Features:

- 5, 10, 15, 20, 30, 45, and 60 minute holding times
- Lead acid industrial batteries in IP-65 enclosure*
- Batteries charge from main power rectifier
- Instant transfer of power to load
- Battery disconnect switch with fault sensing
- IP-65 enclosures*
- Cab mounted operator's display with alarm horn and visual operation indicating lamps
- 180 VDC end voltage

Optional Features:

- Nickel-cadmium batteries
- Charging/discharging ammeter
- Off-line charging system
- Special indicating features such as alarms, lamps, and meters
- 115 VDC system voltage
- Battery enclosure heaters

*NEMA12-IP65



For Pricing, Please Supply:

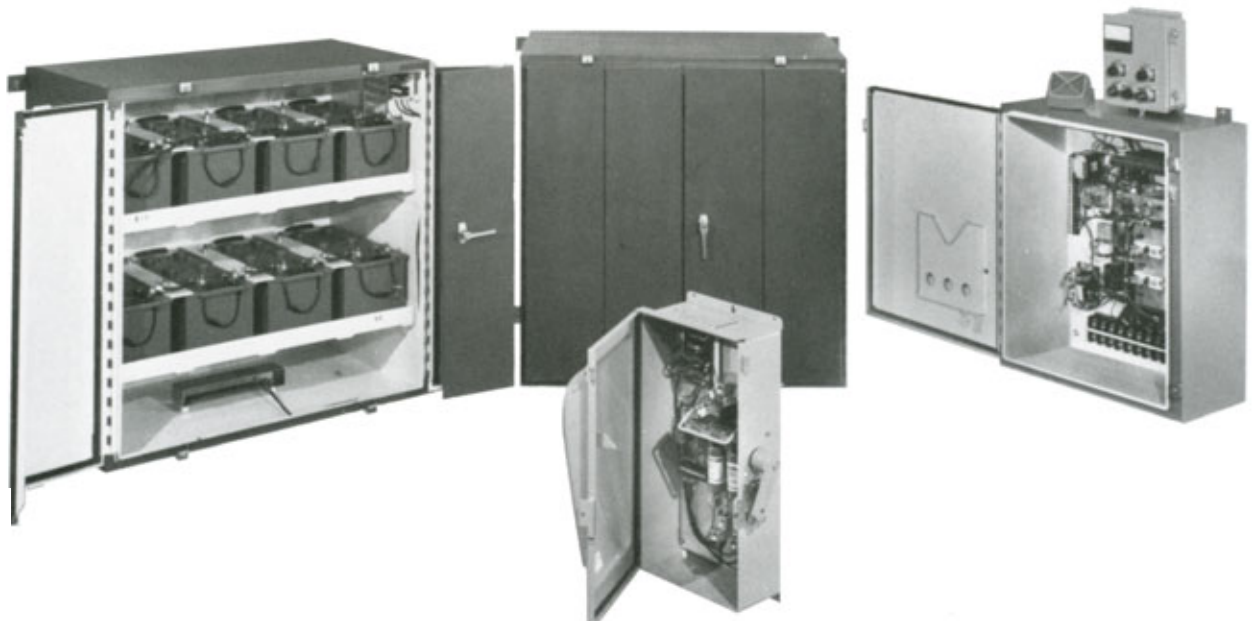
- Magnet voltage (DC)
- Cold magnet current
- Material being handled
- Ambient conditions
- Standard input voltages/frequency:
- Indoor/outdoor operation
- Battery-type preference
- Hold time required
- A.C. input voltage/line frequency:

U.S.A./Canada:

230 240 250 V }
460 470 480 490 500 V } 60 Hz

Foreign:

200 220 240 V }
400 420 440 460 480 V } 50/60 Hz
380/400/415 V—50/60 Hz
500/575/600 V—60 Hz



REPAIRS

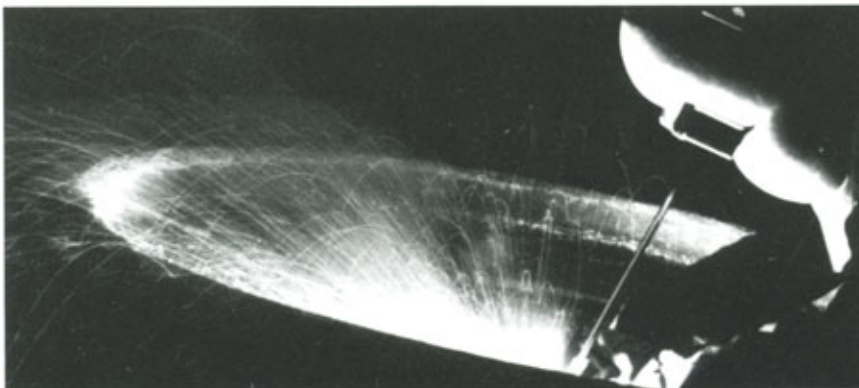
Ohio Magnetics maintains the most complete magnet repair facility available today and performs complete repairs, economically and timely, on all makes and types of lifting magnets.

How To Begin

Arranging for a rebuild diagnosis is as simple as calling Ohio Magnetics or your Ohio Magnetics' representative. He will discuss your present application and needs and ask about any planned changes in your operating system, in the event that an upgrade might be required. After the initial interview and analysis, he will supply you with special shipping tags, then arrange to have your magnet shipped for inspection.

Your Preliminary Inspection

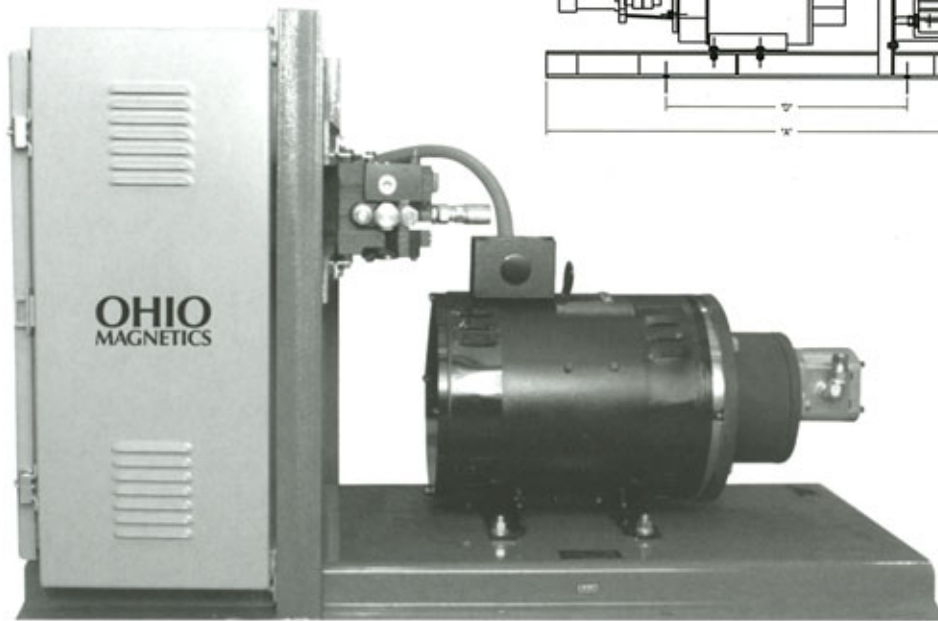
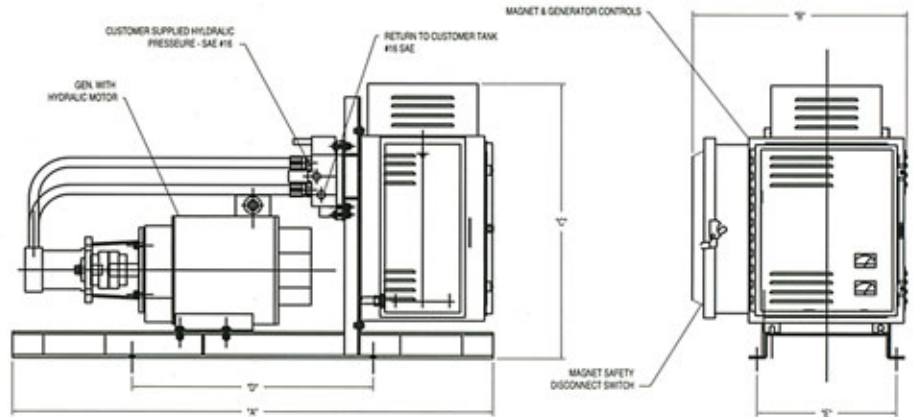
When your magnet is received for inspection, the Ohio engineering staff prepares a detailed description of your unit, electrical readings are taken, a thorough mechanical inspection is done, and photo documentation of the project begins. After the initial inspection is completed, a decision is made as to whether or not your magnet must be opened. At this time, a preliminary suggested course of action is made and estimates on the procedures are quoted.



OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

OHIO HYDRA-MAG PACKAGE

- Available in sizes: 5-25KW
- Self-contained, frame mounted
- Operates on 12 or 24 VDC
- Includes all hydraulic controls – with integrated single manifold
- Includes magnet controls
- Ready to install and operate on delivery



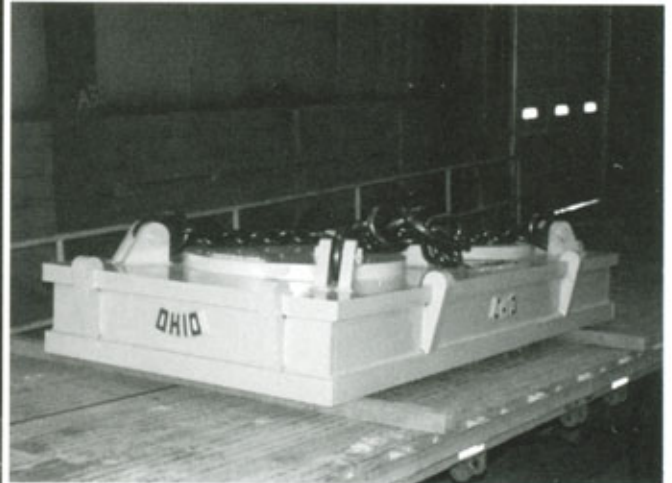
TECHNICAL SPECIFICATIONS

Generator	A	B	C	D	E	F	Controller	Required Pressures and Flows From Pump
5 KW	43.00"	28.75"	28.75"	20.94"	18.00"	30 amp	CDS	5 KW 12 GPM @ 2368 PSI
10 KW	50.69"	24.50"	34.14"	31.00"	14.00"	60 amp	RD1W	10 KW 31 GPM @ 1338 PSI
15 KW	60.25"	27.62"	35.63"	29.25"	18.00"	100 amp	RD1W	15 KW 32 GPM @ 1803 PSI
20 KW	62.25"	27.62"	35.62"	31.25"	18.00"	100 amp	RD1W	20 KW 32 GPM @ 2304 PSI
25 KW	64.25"	27.62"	35.63"	33.25"	18.00"	200 amp	RD1W/RD2A	25 KW 32 GPM @ 2805 PSI

OHIO SCRAP RECTANGULAR MAGNETS

LIFTING MAGNETS

- Heavy duty fabricated case
- Ideal for the loading and unloading of rail cars
- Optimum magnet for scrap charging
- Deep field dual coil design for lower inductance which decreases charging and discharging times
- Designed for ease of maintenance
- Design allows for continued operation even in the event of a single coil failure
- 230 volts standard
- Dual voltage and special voltages available
- Sizes typically manufactured to suit applications



Consult Factory with Application and Crane Specifications for Proper Size Selection.

TECHNICAL SPECIFICATIONS

Magnet					Controller	Min. Cable Size	Magnet Dimensions, Inches							Average Scrap Lift In Lbs.		
Size & Type	Wt. Lbs.	Cold Amps	Cold kW	Duty %	Type		"L"	"W"	"H"	"HR"	"BOW"	"BOH"	"BD"	Plate Punchings	#1 Heavy Melt*	#2 Heavy Melt**
63x126 DAWXRM	18,300	185	42.6	50	RD3A	2-#1/0	126	63	21.00	100.0	9.00	16.00	2.75	14,660	12,540	8,410
68x136 DAXRM	20,725	236	54.3	50	(2) RD2A	4-#2	136	68	24.25	109.5	9.00	16.00	2.75	18,125	15,500	10,400
73x146 DAXRM	29,820	238	54.7	50	(2) RD2A	4-#2	146	73	25.25	117.0	9.00	16.00	2.75	21,980	18,590	11,990
83x166 DAWXRM	33,000	242	55.7	65	(2) RD2A	4-#2	166	83	22.50	119.0	9.00	16.00	2.75	26,135	22,090	14,240

*Scrap, No 1 heavy melting steel as defined by ISIS Code No. 200, 201, or 202

**Scrap, No 2 heavy melting steel as defined by ISIS Code No. 203, 204, 205, or 206

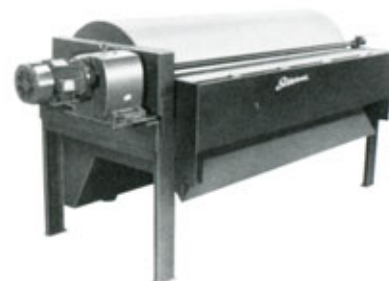
NOTES

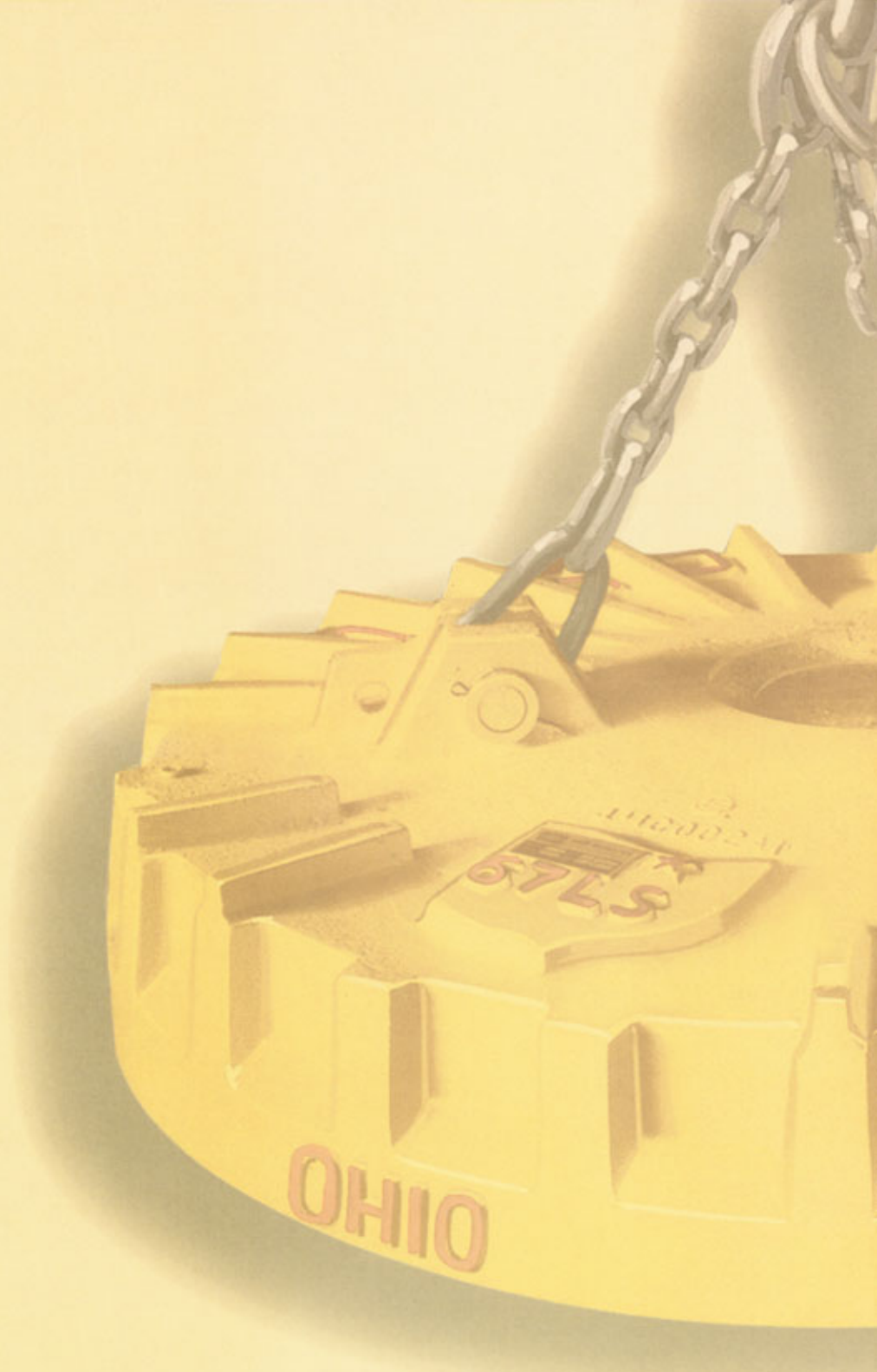
STEARNS MAGNETICS PRODUCTS

The Stearns' product lines cover the entire spectrum from municipal refuse and scrap handling systems; to systems for removing tramp iron to protect processing equipment; to a revolutionary, ultra sensitive metal detection system that combines advanced electronics and super sophisticated microprocessor technology to produce the most precise, efficient metal detection device on the market.

Stearns Magnetics' Repair Program will rebuild any manufacturer's electro-separation equipment, supplying you with the equivalent of a new unit.

Markets attracted to Stearns' products include food processing, iron ore mining, textiles, refuse and waste treatment, coal and quarry, pharmaceuticals, tobacco, chemicals and plastics, rubber, wood and paper.





PEERLESS-WINSMITH, INC.
**MATERIAL HANDLING
EQUIPMENT**

OHIO MAGNETICS, INC.
ISO 9001
2000
CERTIFIED
STEARNS MAGNETICS

OHIO MAGNETICS—PERFORMANCE ENGINEERED



OHIO MAGNETICS, INC.
SUBSIDIARY OF PEERLESS-WINSMITH, INC.



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Websites: www.ohiomagnetics.com • www.stearnsmagnetics.com