OHIO MAGNETICS

LIFTING MAGNET SYSTEMS

USER SELECTION GUIDE TO:

SCRAP HANDLING MAGNETS

STEEL MILL TYPE MAGNETS FOR HANDLING BILLETS, COILS, SHAPES, AND MOLDS

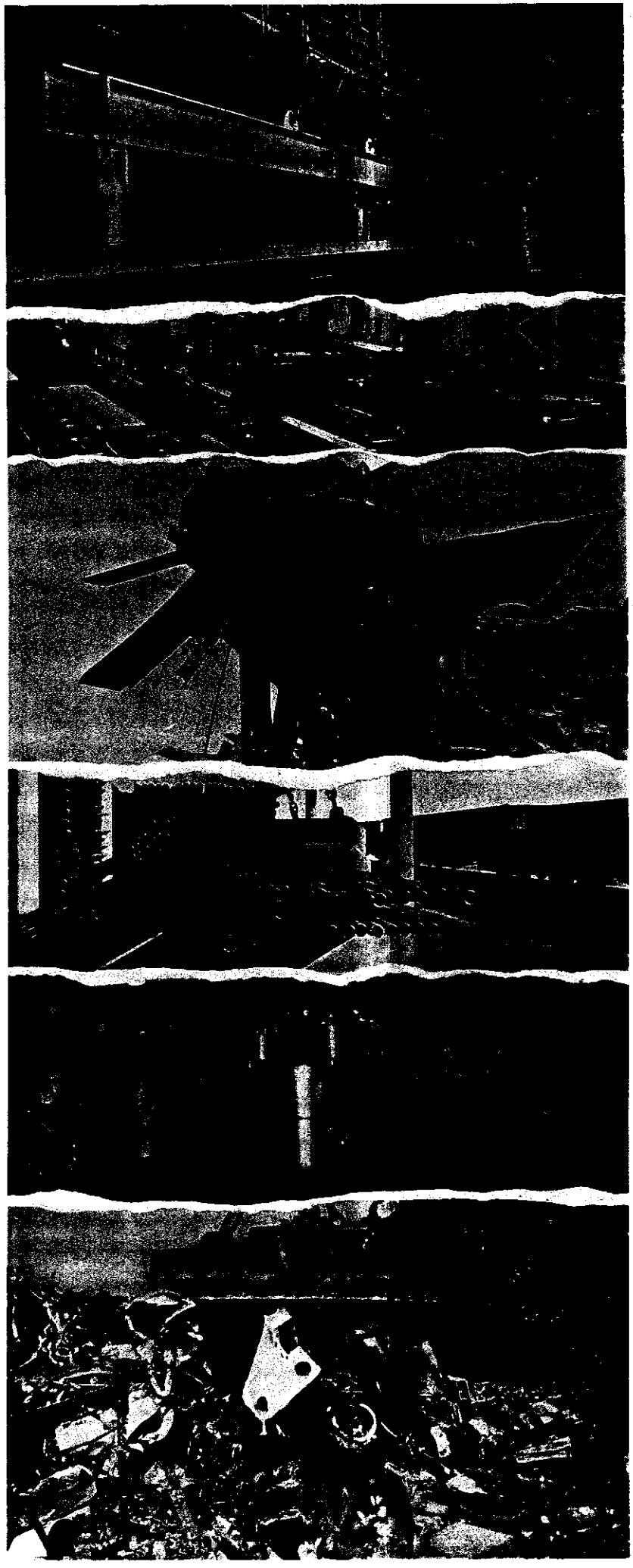
CONTROLLERS

MAGNET GENERATORS

D.C. POWER RECTIFIERS

COMPLETE MAGNETIC MATERIAL HANDLING SYSTEMS

SERVICES



OUR COMMITMENT TO YOU...

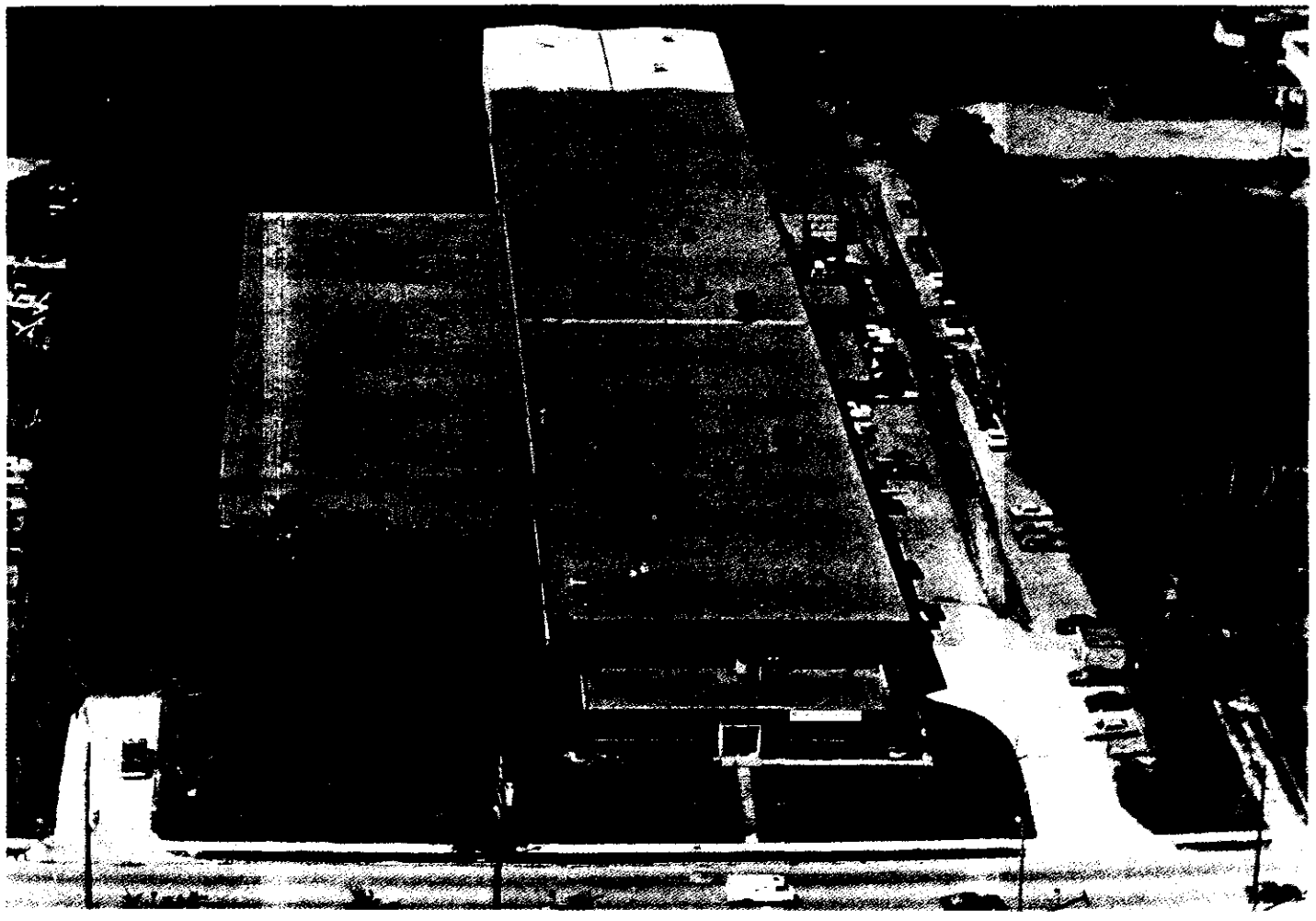
Since 1917, Ohio Magnetics, Inc. has been a leading supplier of magnetic handling equipment to highly productive scrap processing facilities, railroads, foundries, and steel producers around the world.

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.



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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 (300°F 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 AW/L Magnets
6. Grinding Balls	1. Pg. 10 2. Pg. 13 3. Pg. 11	Pow-R-Lite AW/X Magnets Loadstar Magnets
7. Ingots Ingot Molds Drop Ball	1. Pg. 16 2. Pg. 15	SR Magnets AW/L 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 AW/X 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 AW/L 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.

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

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

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.

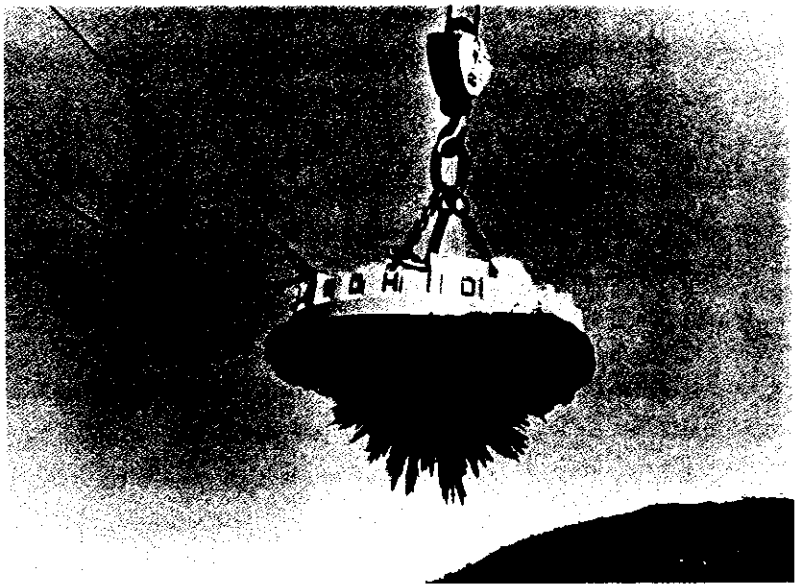
While NEMA I Enclosures are standard with all Ohio DC Power Supplies, NEMA 12 and NEMA 3R options are available from stock. It is important that you consider the environment in which you place your DC Power Supply so as to keep the unit dry and dust-free.

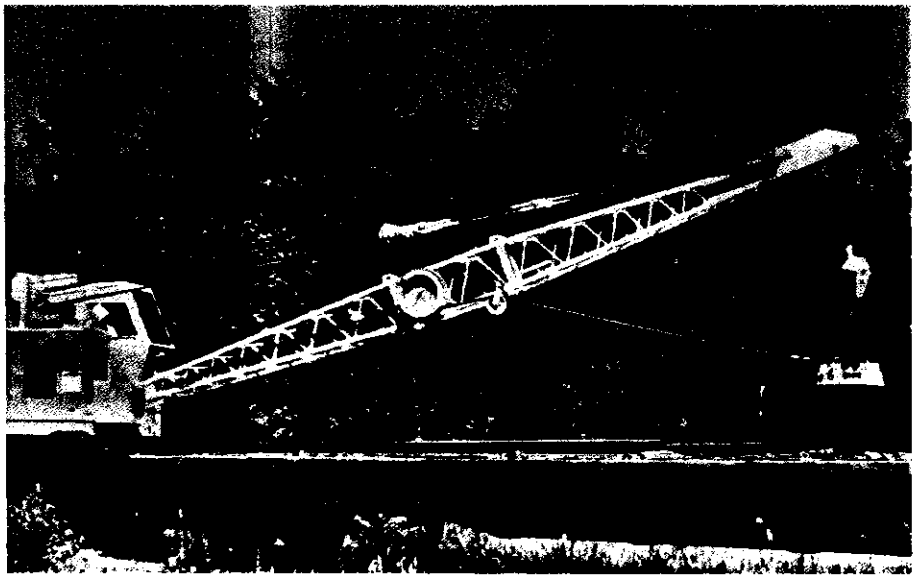
Also available from Ohio for your selection are a number of control and monitoring options, such as power on/off switching both local and remote and voltage/current metering, that you may want to consider.

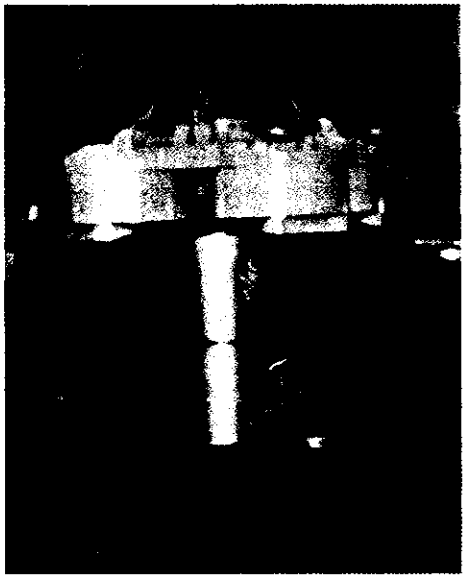
In addition to the basic operating equipment required in a magnet system, Ohio offers a complete line of accessories designed to provide productivity, safe operation, and easier maintenance such as:

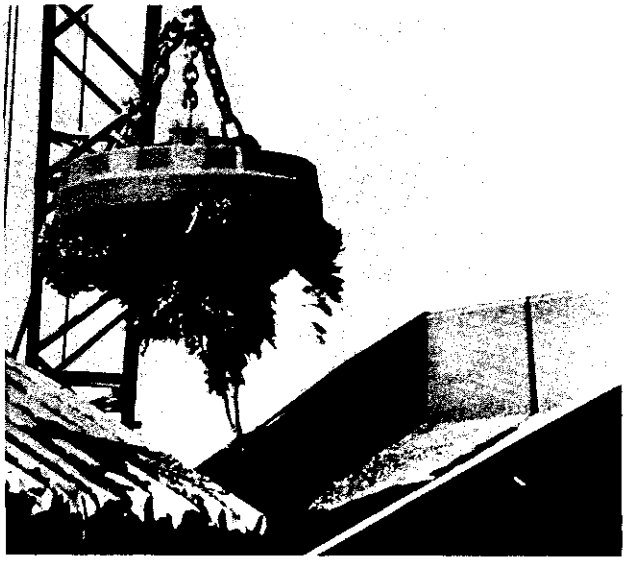
1. Cable Reels for mobile and overhead cranes
2. Grapples and Combination Magnet Grapple sets
3. Magnet Safety Disconnects
4. Microprocessor-based maintenance diagnostics packages
5. Emergency power systems (Battery back-ups)

CHOOSING THE RIGHT POWER EQUIPMENT

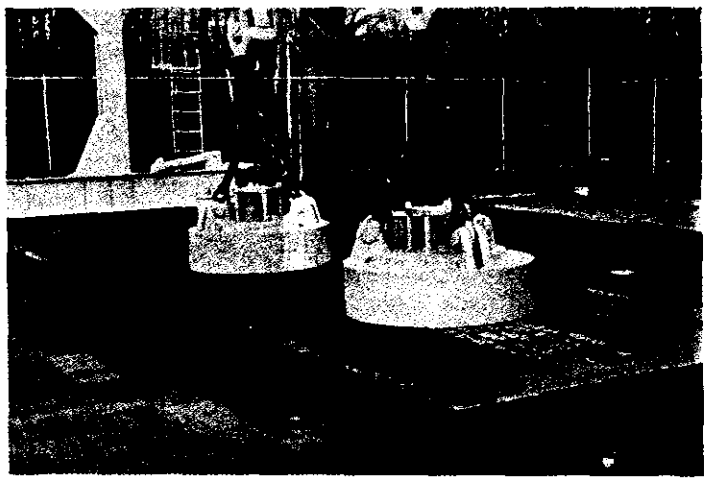


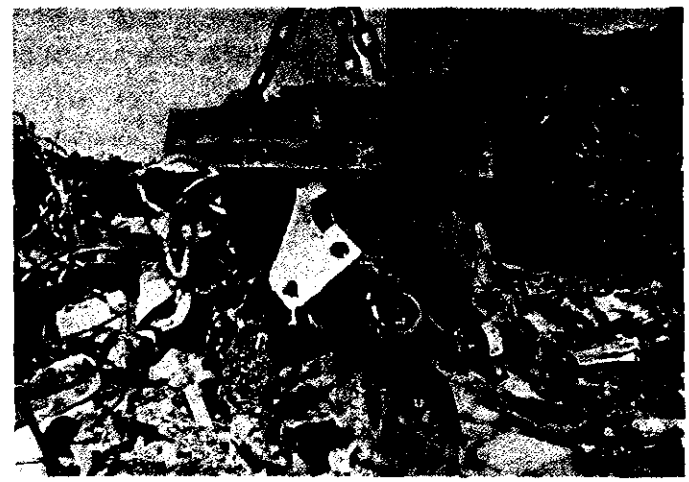


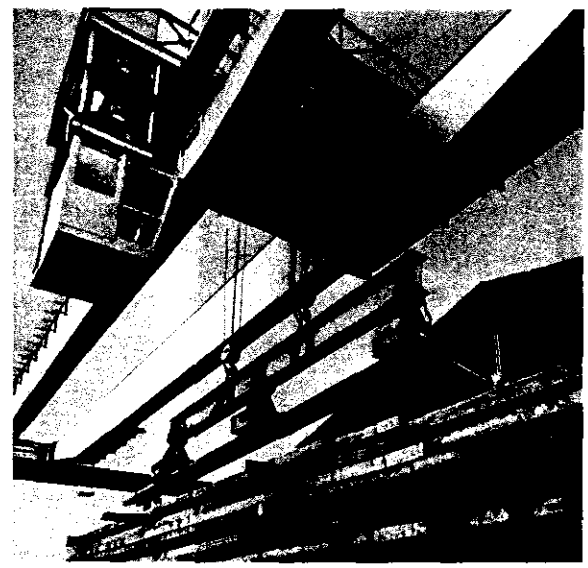


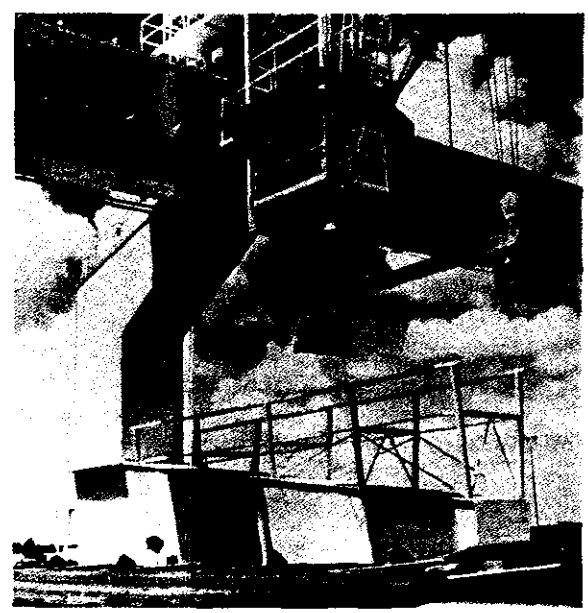


CHOOSING THE RIGHT POWER EQUIPMENT







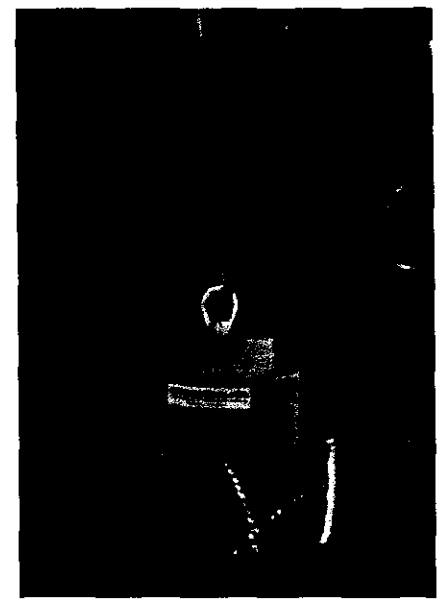


OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

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.

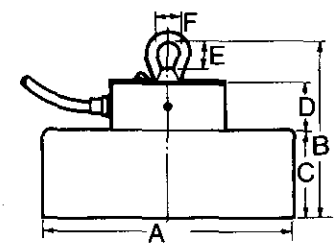
Ideal material handlers for moving equipment. Carry your materials to any part of the plant with small cranes or fork lifts. VERS-A-LIFTS attach quickly and easily with their 1½ inch I.D. lifting ring.

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)

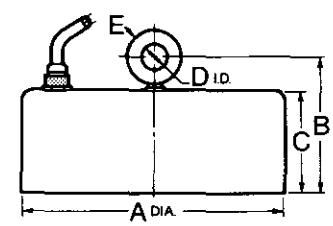
Size (Dia.)	B	C	D	E	F	G	Net Weight (Lbs.)
4"	7⅞	3⅝	2¼	1½	1¼	⅜	12
7"	8 11/16	4 7/16	2¼	1½	1¼	⅜	38
10"	9⅝	4⅝	2⅞	1¾	1½	½	87
12"	10⅛	4¾	2⅞	1¾	1½	½	120
15"	10¾	5¼	3¾	1¾	1½	½	235



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	3⅝	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	4⅝	1½	21/32	201	78
12"	12	6 9/16	4¾	1½	21/32	261	112
15"	15	7 1/16	5¼	1½	21/32	392	212

*(Suitable rectifiers available on request)



PULL DATA

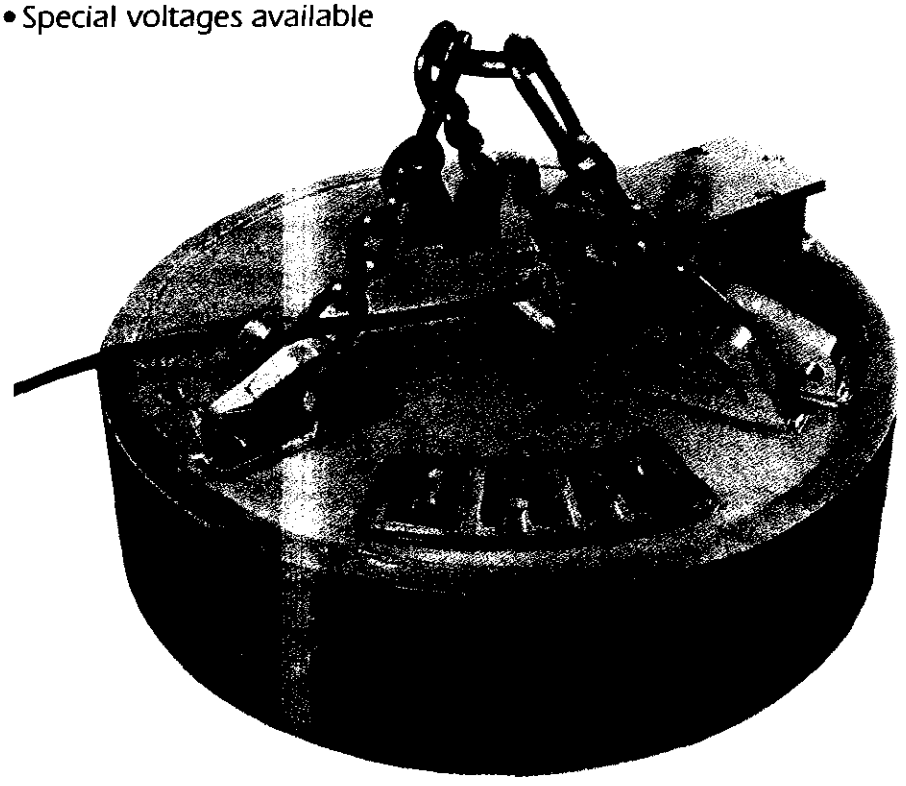
Size (O.D.)	4"	7"	10"	12"	15"
Max. Force (Cold) Lb. Theoretical	612	2,830	5,675	6,950	11,150
Max. Force Hot 75% Theoretical	344	1,740	3,290	3,900	6,290
Min. Plate Thickness (Zero Air Gap Direct Contact Max. Force)	¾"	1"	1¼"	1½"	1¾"

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 Bush-elings	Steel Turnings
3,400	175	150	75	60	50
7,000	300	300	150	100	100
13,000	550	350	300	225	175
14,000	780	345	460	345	270
15,000	1,220	1,220	580	400	330

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	725	#10	CDS
30	17	4	1,100	#10	CDS
34	19	5	1,630	#10	CDS
40	30	7	2,286	#8	MST

*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.

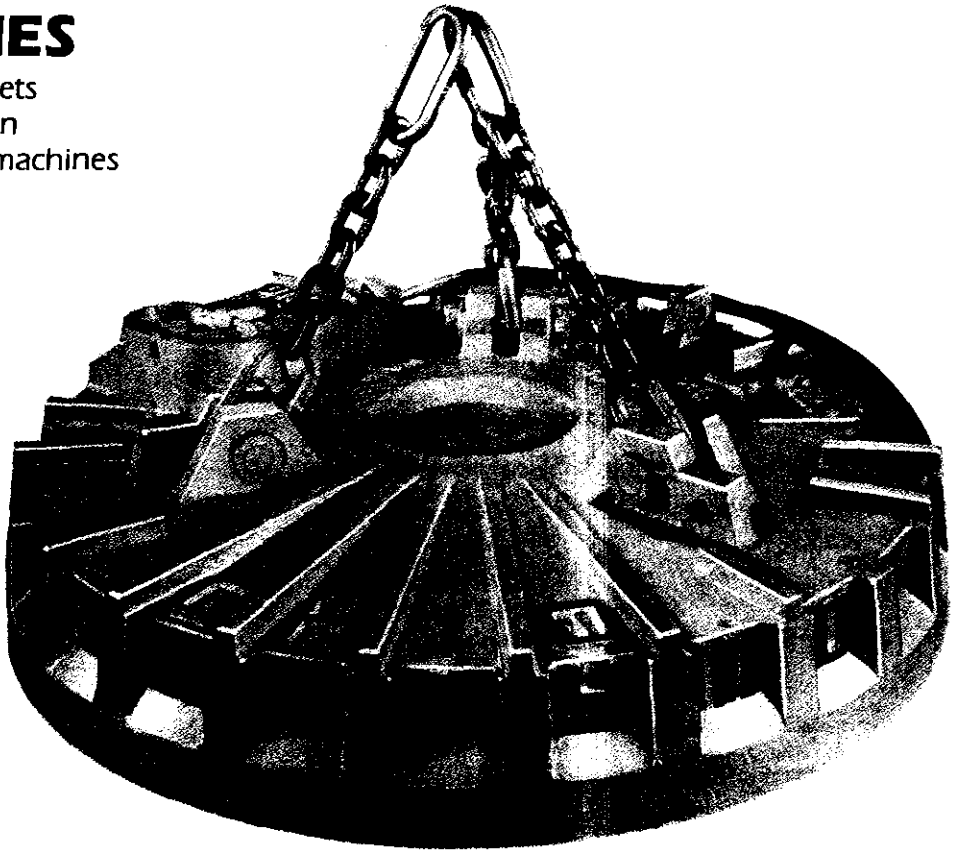
**For proper Generator Sizing use cold volts and size equal to or larger than, to insure sufficient power for your magnet's operation.

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 Heavy Melt	#2 Broken	Steel Turnings
1,800 Lbs.	625-1200	625
2,780 Lbs.	800-1800	850
4,200 Lbs.	1350-2700	1,350

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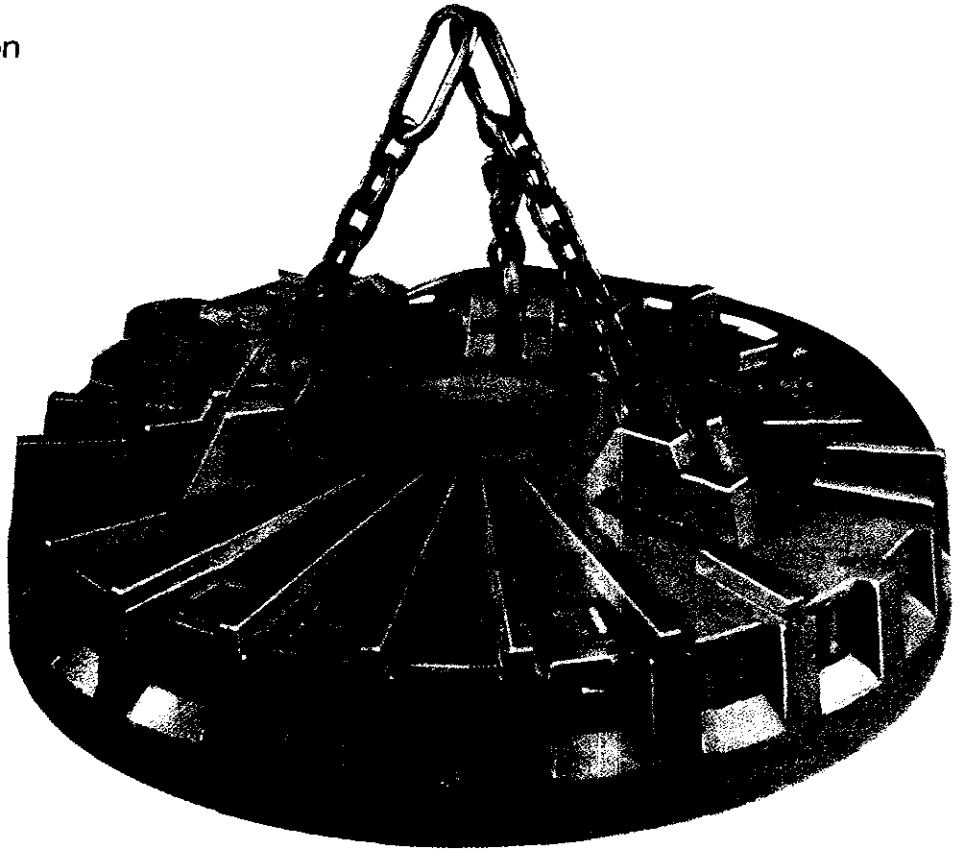
OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

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



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

LIFTING CAPACITY*

Pig Iron & #1 H.M.	#2 Broken	Steel Turnings
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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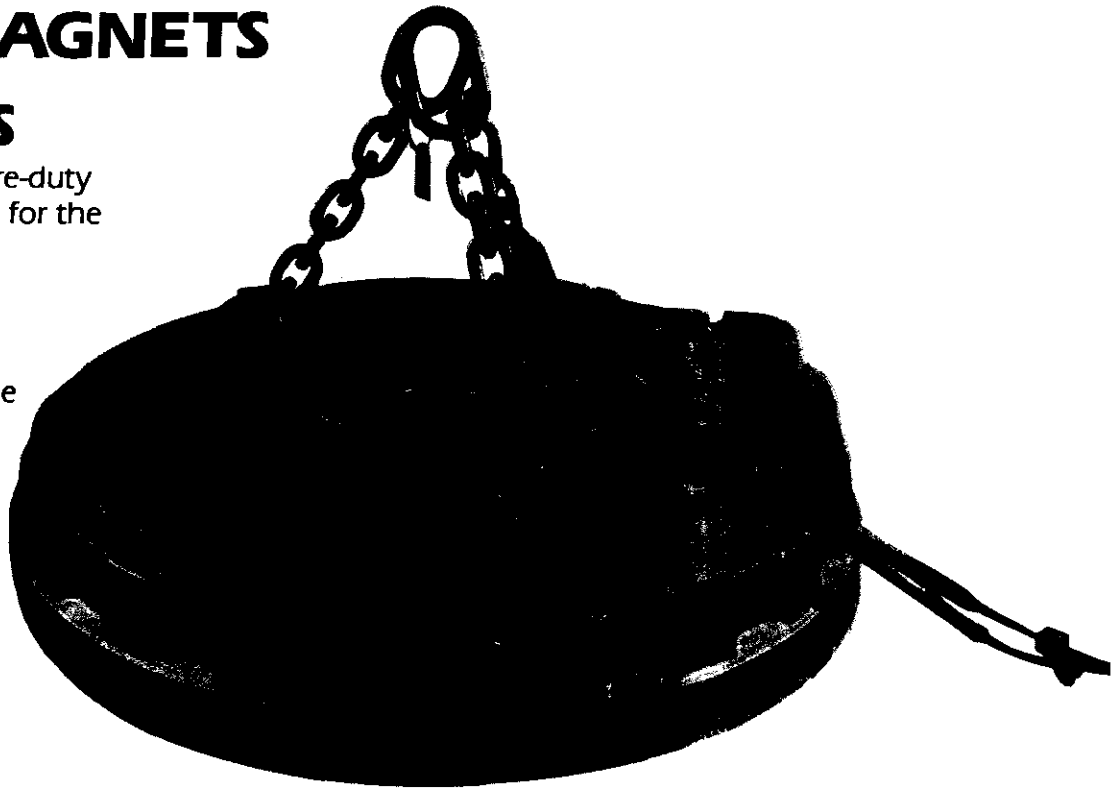
OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

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	1,250	18	4,200	CD-S	#10
40 AWX	1,700	29	6,600	MS-T	#8
45 AWX	2,400	39	8,975	MS-T	#8
45 DAWX	2,800	39	9,000	MS-T	#8
55 AWX	4,090	58	13,300	RD-1W	#6
55 DAWX	4,200	63	14,400	RD-1W	#6
66 AWX	6,140	80	18,500	RD-1W	#4
66 DAWX	6,800	84	19,200	RD-1W	#4
71 AWX	7,830	102	23,400	RD-2A	#4
71 DAWX	8,700	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	15,000	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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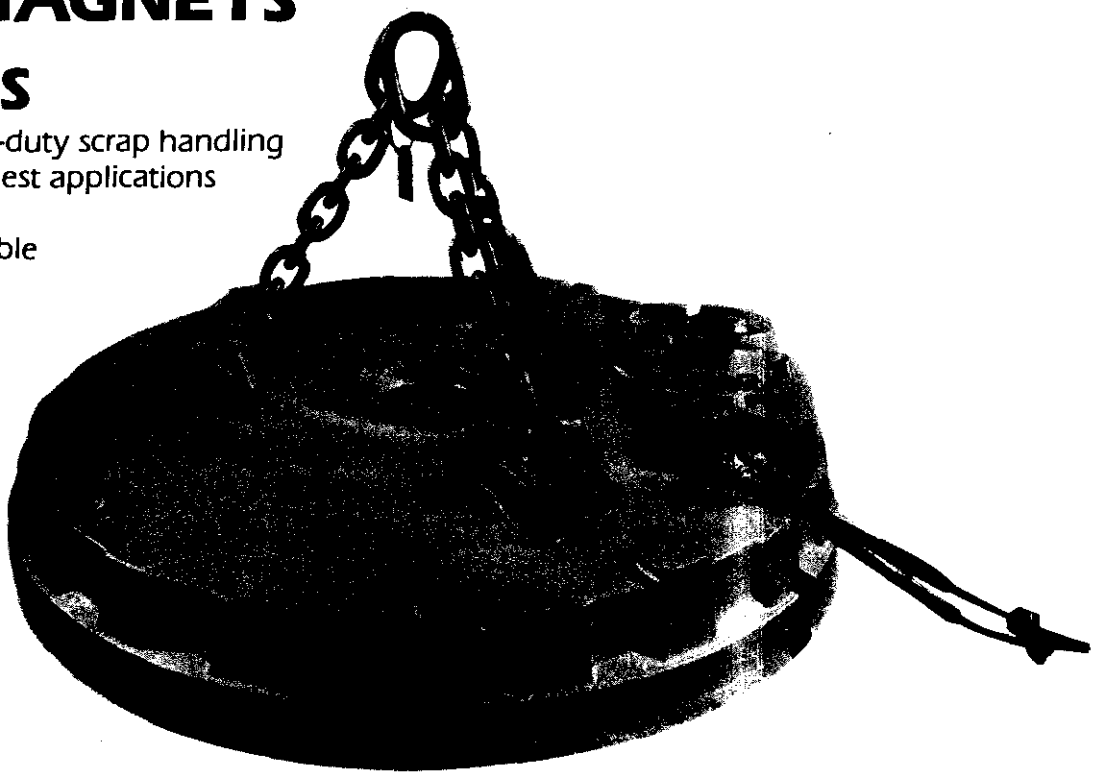
OHIO SCRAP HANDLING MAGNETS AND AUXILIARY EQUIPMENT

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	MS-T	#10
40 CWX	2,000	29	6,600	MS-T	#8
45 CWX	3,100	46	10,500	MS-T	#8
45 DCWX	3,850	44	10,000	MS-T	#8
55 CWX	4,750	67	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	1150-1950	1,600
5,200	1440-2300	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.

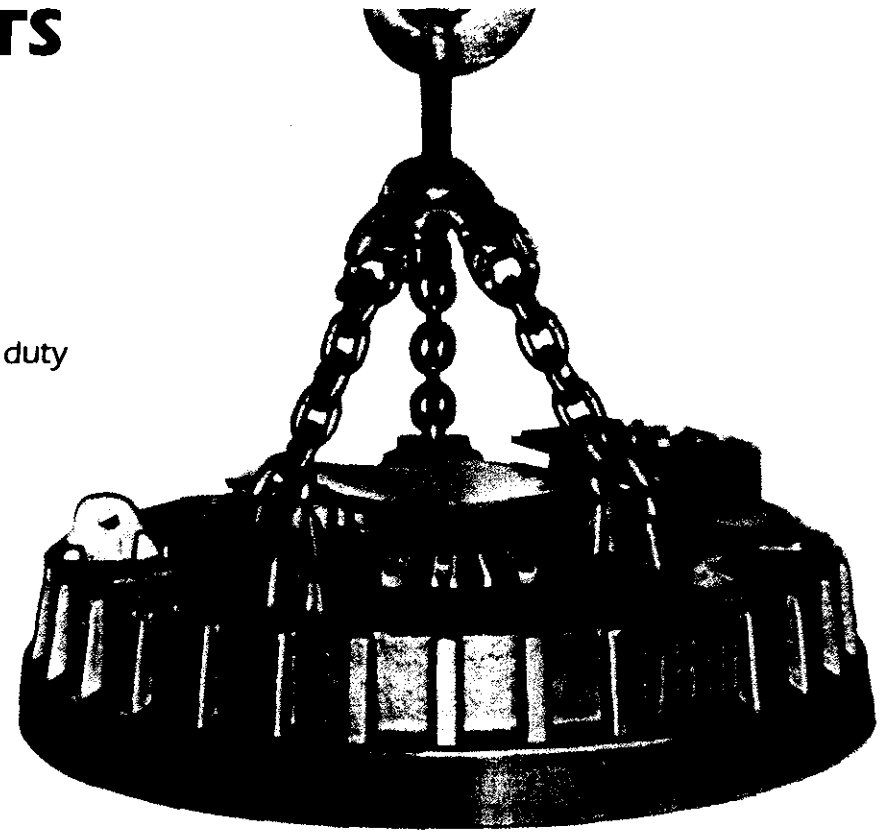
**For proper Generator Sizing use cold volts and size equal to or larger than, to insure sufficient power for your magnet's operation.

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	Lifting Capacities*		
						Pig Iron & #1 H.M.	#2 Broken	Steel Turnings
47 AWL	3,250	40	9,250	MST	#8	1,900	600-1100	650
57 AWL	5,650	54	12,500	RD-1A	#6	3,000	750-1600	1,000
61 AWL	6,900	84	10,200	RD-1A	#4	3,900	1100-2000	1,300
66 AWL	7,650	76	17,400	RD-1W	#4	4,450	2800-3300	1,500
72 AWL	10,250	103	23,600	RD-2A	#4	5,700	3500-4300	2,250
76 DAWL***	15,700	123	28,400	RD-2A	#2	7,750	4700-6000	2,450
83 DAWL***	19,300	139	32,100	RD-3A	#2	9,000	5500-7000	2,850
93 DAWL†	23,400	151	34,700	RD-3A	#2	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 volts and size equal to or larger than, to insure sufficient power for your magnet's operation.

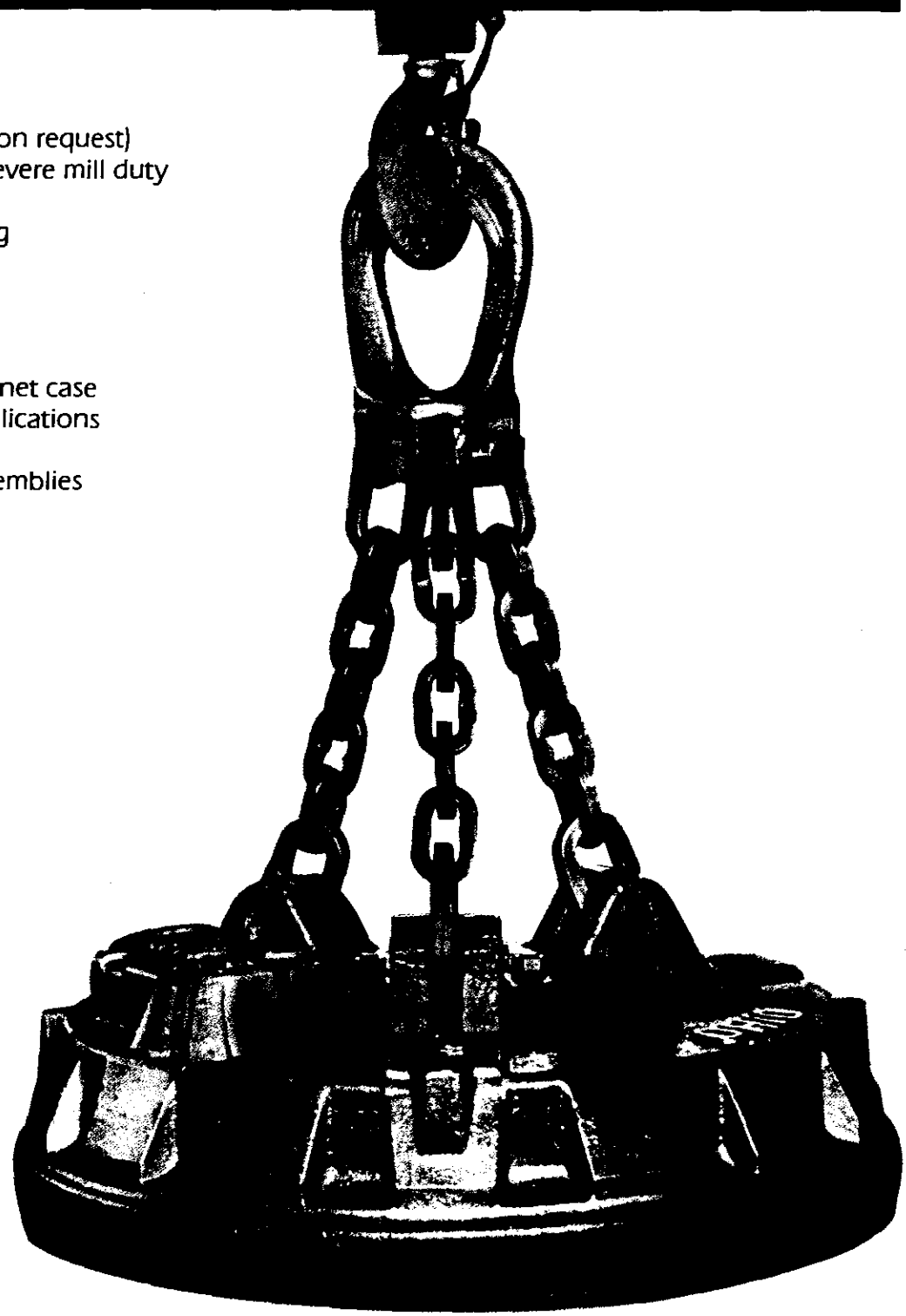
***Extra Deep Field

†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 Slab***	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	MST	8	27,600	12,000	1,300
47 SRC	3,500	40	9,100	MST	8	33,400	16,000	1,900
47 SRDA	3,600	38	8,800	MST	8	33,400	16,000	1,900
47 SRDC	3,900	42	9,700	MST	8	33,400	17,000	2,000
47 SREDC	4,400	44	10,200	MST	8	33,400	18,000	2,100
57 SRC	5,800	63	14,400	RD-1W	6	56,500	20,000	3,100
57 SRDA	6,280	65	14,800	RD-1W	6	56,500	22,000	3,200
57 SRDC	6,720	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	14,300	74	17,100	RD-1W	4	71,200	35,000	4,800
65 SRDC	15,300	69	15,800	RD-1W	4	71,200	35,000	4,800
65 SREDC	17,800	76	17,400	RD-1W	4	71,200	40,000	5,300
69 SRDC	20,800	84	19,400	RD-1W	4	84,500	45,000	6,500
69 SREDC	24,000	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.

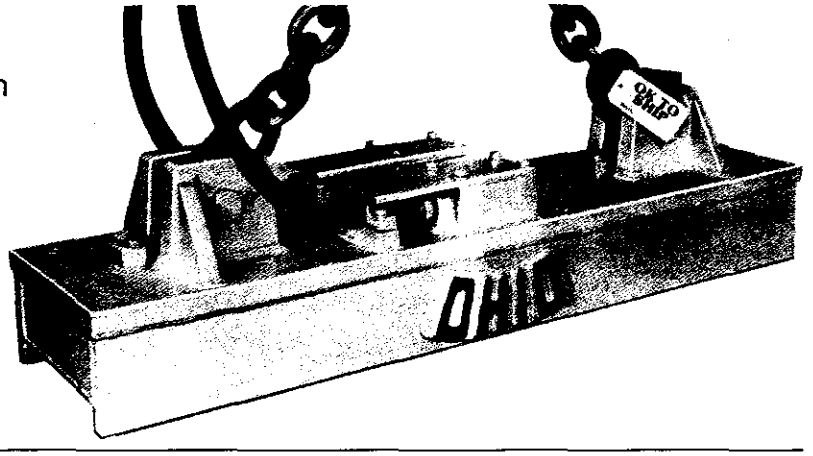
**Split voltages available on request.

***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
  - Ingots
  - Bundles
  - Plates
  - Structurals
  - Billets
  - Bars
- Copper wound
- Hotwork designs available
- Class "H" insulated coils
- Low power consumption



STEEL PLATE LIFTING DATA

	Longest Plate in Feet for One Magnet		Maximum No. of Plates Per Lift		Plate Area in Square Feet — Magnet Size (inches) — A—Single Plate Lift B—Multiple Plate Lift																	
Plate Thickness (inches)	Magnet Series				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	
	9"	16"	9"	16"	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
.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	4,120
16 x 100	5,100	3,325
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. (See magnet application questionnaire.)

OHIO MAGNETICS

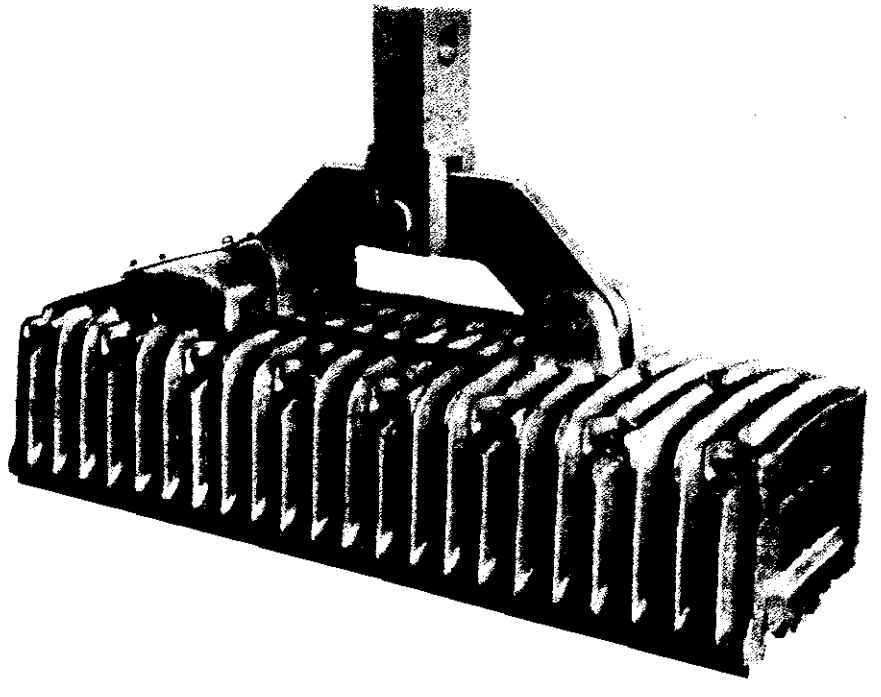
OHIO CAST-CASE RECTANGULAR MAGNETS

- 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	MST	12	32,000
21 x 108	4,500	35	8,050	MST	10	40,000
26 x 42	3,000	21	4,900	MST	12	18,000
26 x 54	4,500	30	6,900	MST	10	25,000
26 x 62	4,800	30	6,900	MST	10	30,000
26 x 68	5,900	37	8,500	MST	10	35,000
28 x 74	6,850	40	9,700	MST	10	47,000
30 x 48	4,500	23	5,400	MST	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.



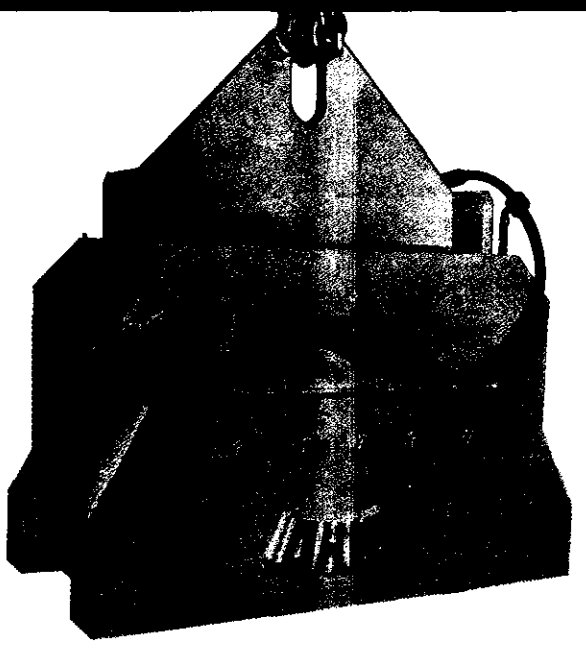
OHIO MAGNETICS

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

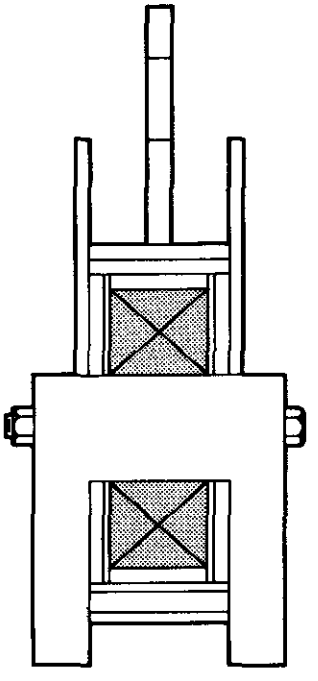
A unique advantage to Ohio magnets is their capability to handle higher temperature material than normally is the case with a standard rectangular magnet. The Ohio magnet coil is positioned farther away from the hot material. In addition, fewer square inches of magnet pole contacts the load. As a result,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

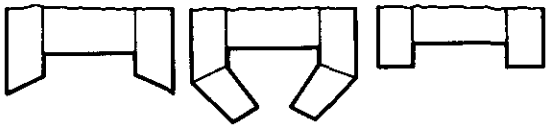
- 230 VDC standard (special voltages available on request)
- Low power consumption
- The most versatile magnet design for mill application such as:
  - Plates
  - Coils (eye vertical and horizontal)
  - Structurals
  - Bundles
  - Rebar
  - Rails
  - Tubes and pipes
- Custom designed pole shoes for radial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

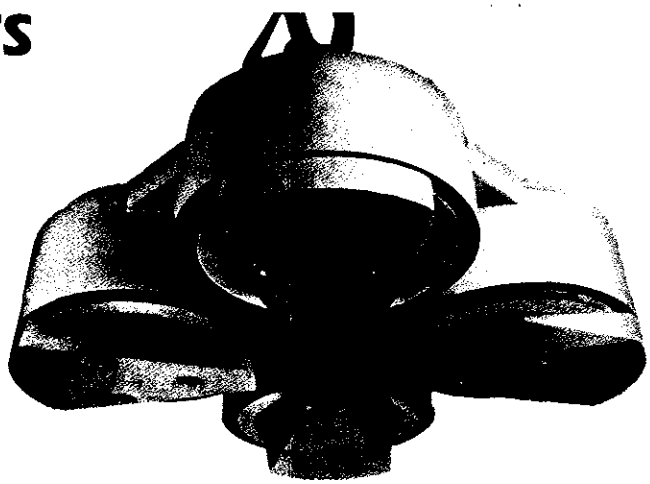
Flat poles for sheet and plates.

OHIO STEEL MILL TYPE

COIL HANDLING MAGNETS (CL TYPE)

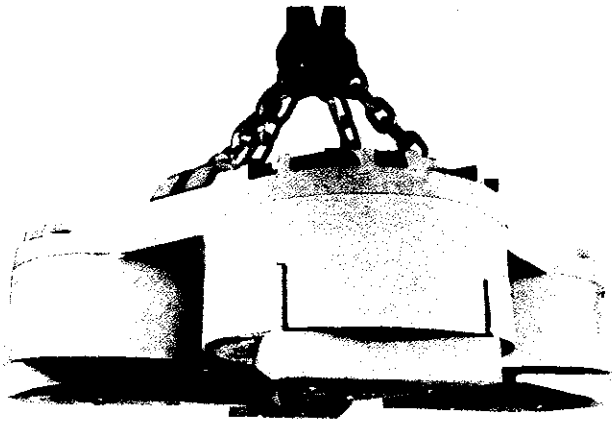
FOR EYE VERTICAL COIL HANDLING

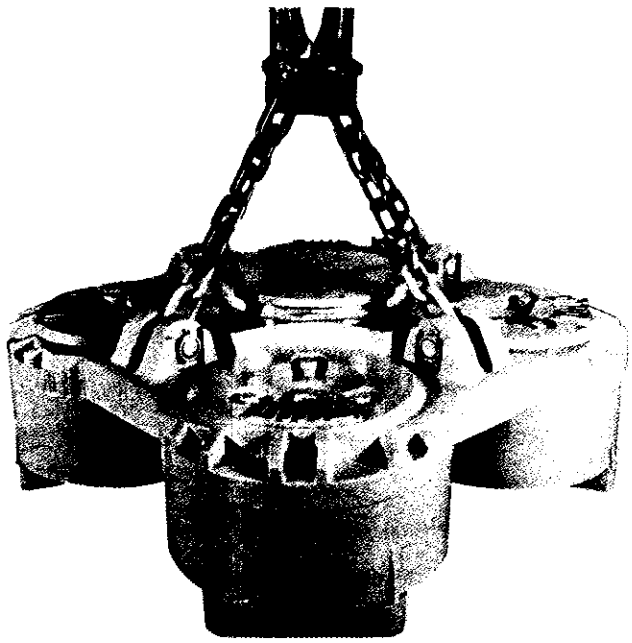
- 230 Volts DC (special voltages available on request)
- Custom designed for the handling of specifically sized coils (eye vertical)
- Designs available for up to 55 tons
- Heavy duty cast steel top plate construction



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 MAGNETICS

OHIO DUTY-CYCLE™ MAGNET CONTROLLERS

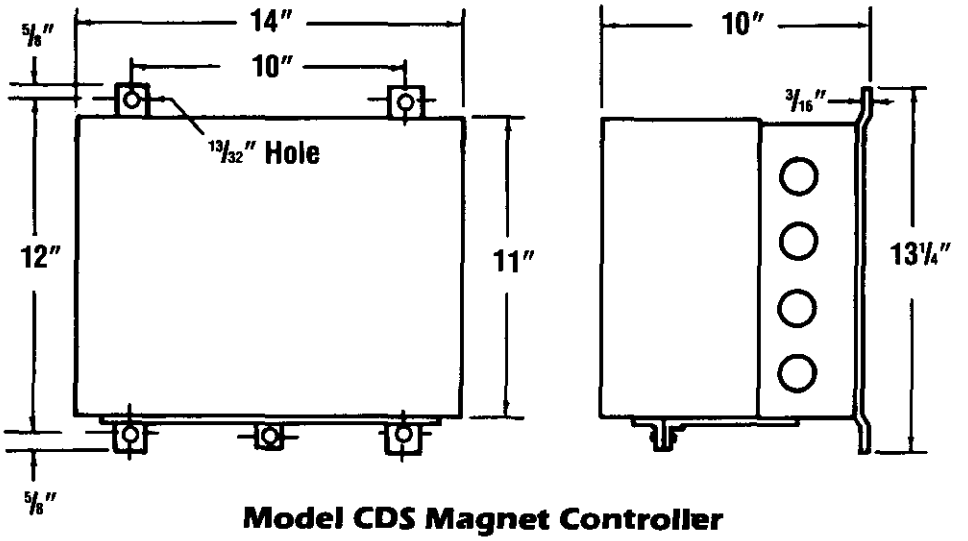
MODEL CDS

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.



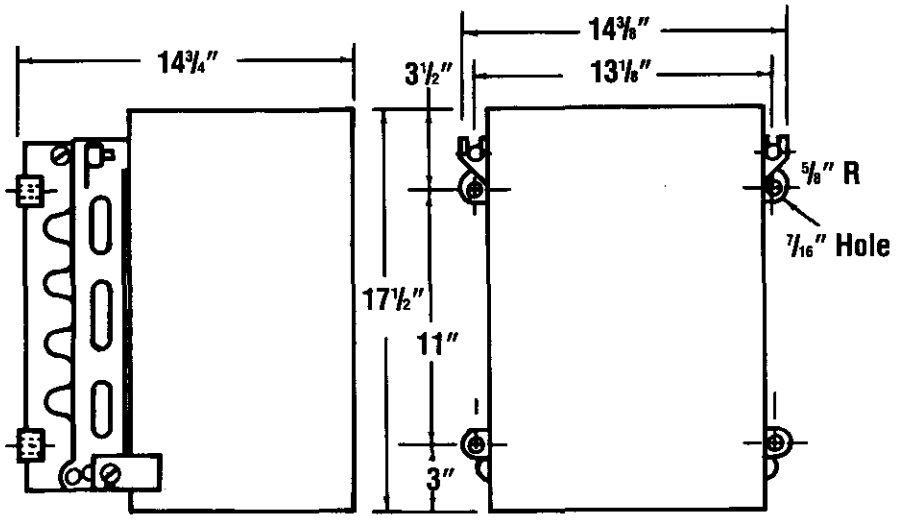
Model CDS Magnet Controller

MODEL MST

230 VDC. Operating Range: Automatic and Manual 21-50 Amps

Model MST is the first in Ohio's line of similar manufactured control, yet very compact and functional. 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). The controller automatically senses precise amount of reverse current to clear magnet of load.
- Manual Drop. 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 MST 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 magnet requiring over 11,500 watts. Keep entire magnet system free from grounds or shorts.

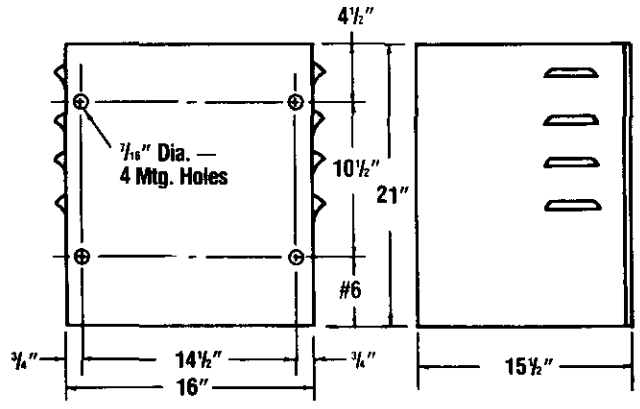
OHIO DUTY-CYCLE™ MAGNET CONTROLLERS

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

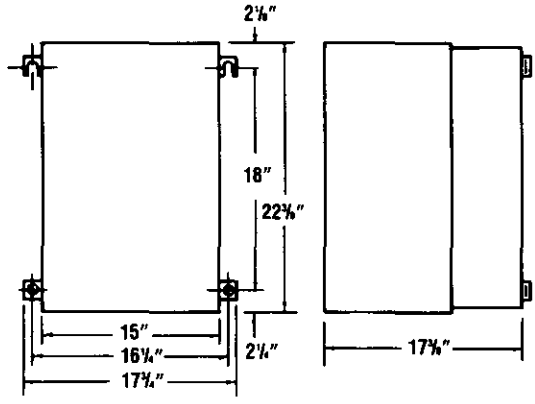
CAUTION: Do not mount so that controller is exposed to weather, excessive moisture, oil or dirt. Mount only in vertical position. Do not use with magnets requiring over 23,000 watts. Keep entire magnet system free from grounds or shorts.

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

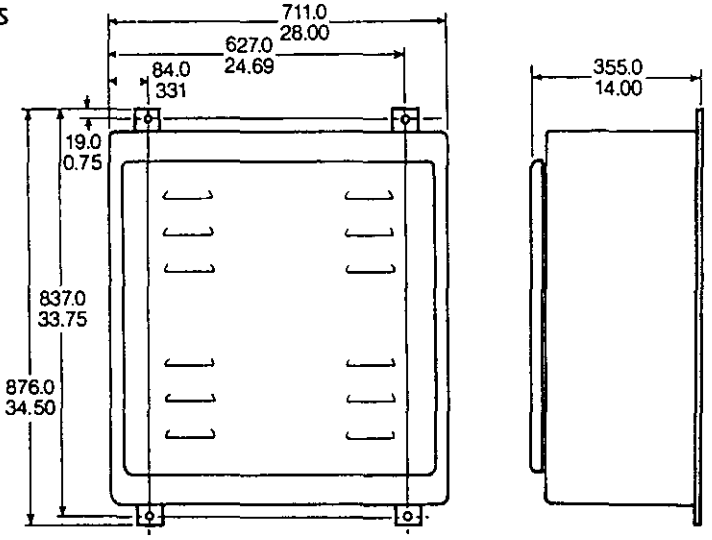
MODEL RD3A

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

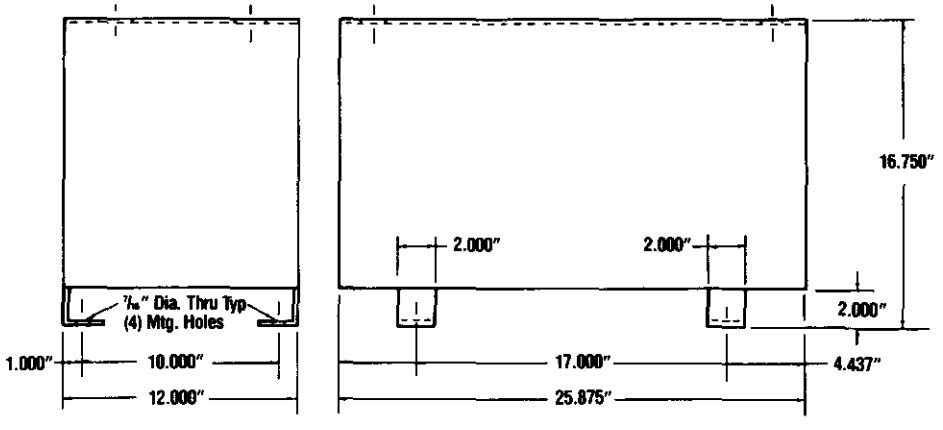
Model RD3A is the highest rated controller in Ohio's line. It features robust contact tips and heavy-duty movable parts. It cuts inventory costs since all parts are interchangeable with larger Ohio Controllers.

- 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 46,000 watts. Keep entire magnet system free from grounds or shorts.



Model RD3A Magnet Controller



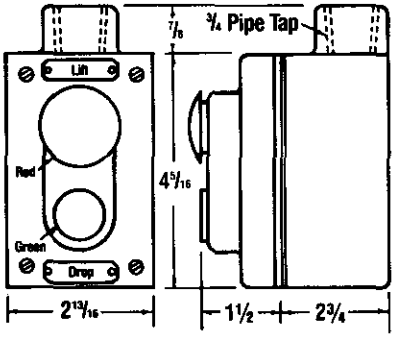
Model RD3A Resistor Assembly

(Mounted remote from the Controller)

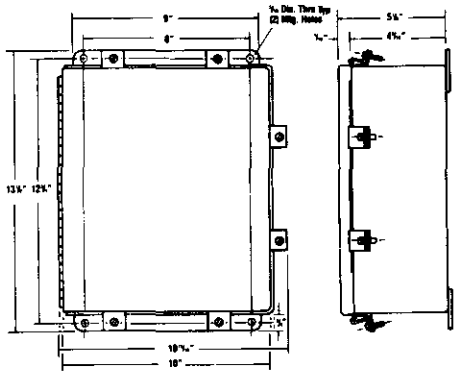
OHIO DUTY-CYCLE™ MAGNET CONTROLLERS

OPERATOR CONTROL SWITCHES

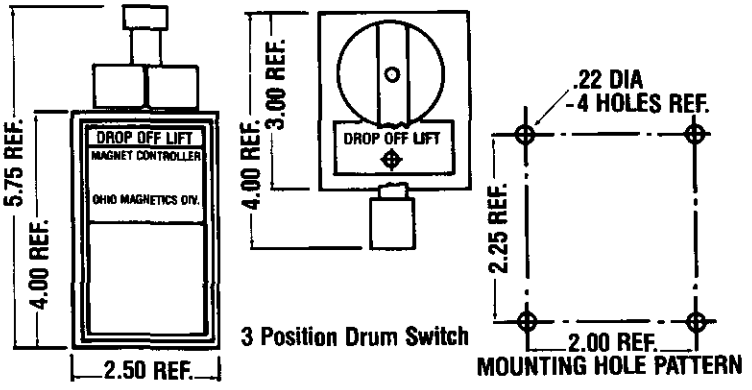
Push Button Type Part No. 091M2266A



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. 1300CO150000

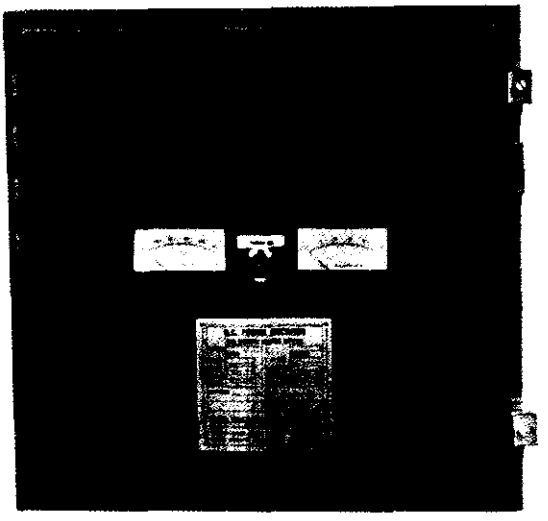


3 Position Drum Switch Spring Return Lever From Drop To Center Position

Handle Normally Mounted 180° From Position Shown

DC POWER SUPPLIES

LOW VOLTAGE POWER SUPPLIES FOR SMALL MAGNETS P/N 1300DO18000

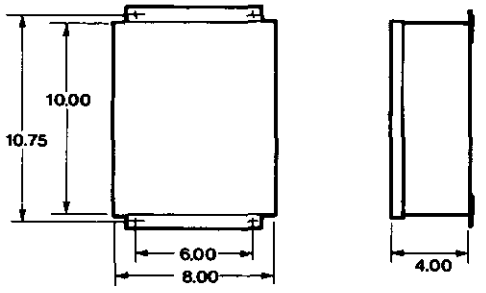


- 120/240 single phase AC input
- Variable output voltage 12-120 VDC
- 10 amp maximum output
- NEMA 12 wall mount cabinet
- Optional door mounted meter package (DC volts ammeter)
- Optional remote start/stop switch
- Weight 95 lbs.
- Enclosure size 20" x 21⅛ x 11¼ D.

DC POWER SUPPLY ACCESSORIES (Remote Mount)

METER, CONTROL, LIGHT PACKAGE

- DC VOLTMETER
- AMMETER
- START/STOP BUTTONS
- AC "ON" LIGHT
- D.C. "ON" LIGHT
- NEMA 3R ENCLOSURE

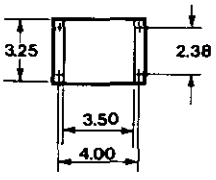


METER PACKAGE

- DC VOLTMETER
- AMMETER
- NEMA 3R ENCLOSURE

DC "ON" LIGHT PACKAGE

- NEON LAMP
- NEMA 3R ENCLOSURE

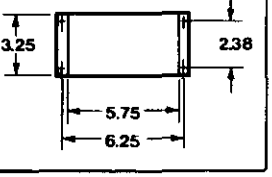


SELECTOR SWITCH "ON/OFF" PACKAGE

SINGLE OPTION ENCLOSURE CONTROLS, LIGHT

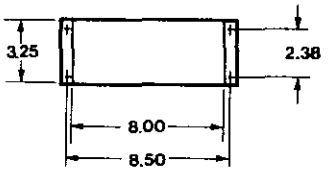
START/STOP PUSHBUTTON PACKAGE

TWO-OPTION ENCLOSURE CONTROLS, LIGHTS



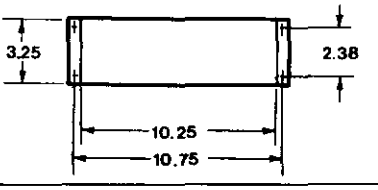
START/STOP BUTTON AND DC "ON" PACKAGE

THREE-OPTION ENCLOSURE CONTROLS, LIGHTS



START/STOP BUTTONS D.C. "ON" A.C. "ON" PACKAGE

FOUR OPTION ENCLOSURE CONTROLS, LIGHTS



OHIO MAGNETICS

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.

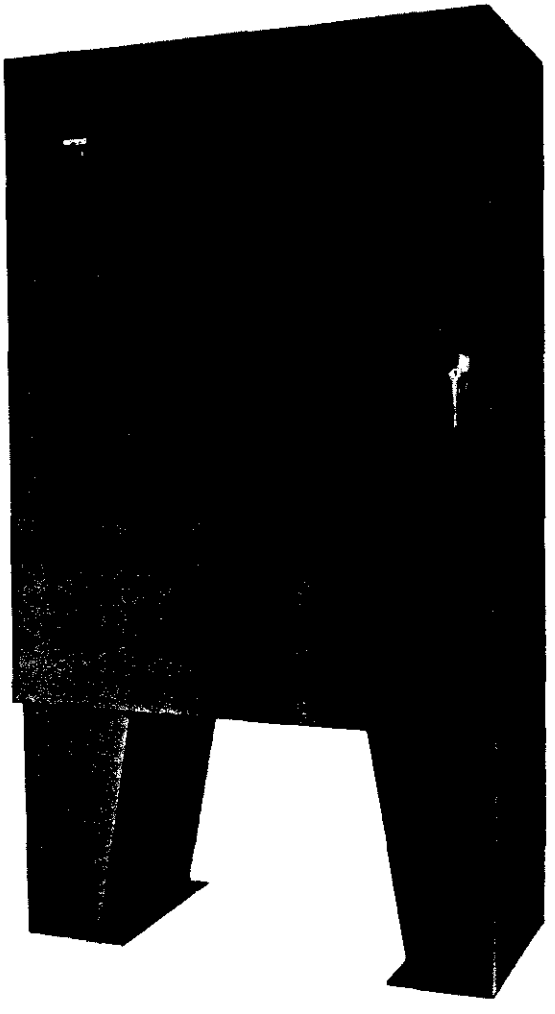
Because the cold current of the magnet is 30% to 50% greater than the operating current, the power supply must be sized for the cold rating of the magnet at 25°C.

STANDARD FEATURES:

- NEMA I 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
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!
[1]NOTE: 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:

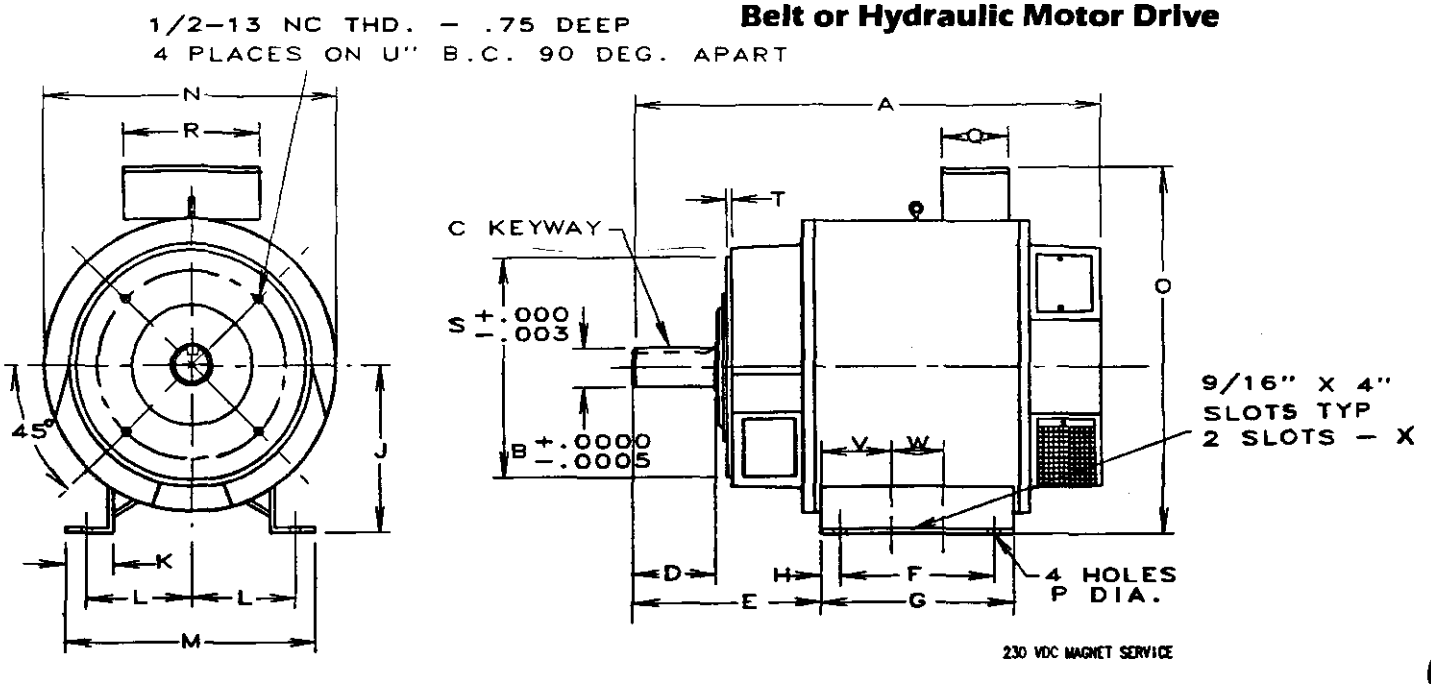
- IP32, IP65, IP66, enclosures natural* convection
- Latch lock on enclosures where possible
- 3 wire pushbutton on/off control or 2 wire selector switch type on/off control both local or remote package
- Remote meter package on all ratings, local meter package only on IP23, IP65*
- DC output indicator 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 1-IP23,
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

Belt or Hydraulic Motor Drive



Rheostat and Meter Package Required for These Models

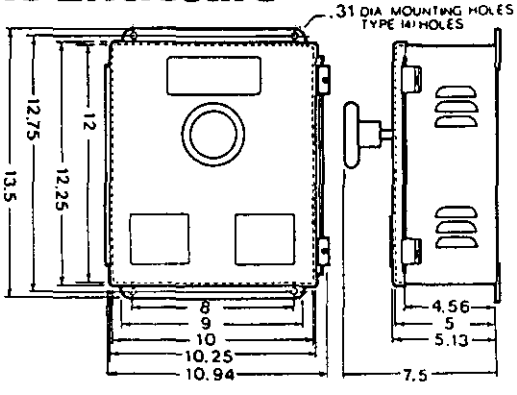
DIMENSIONS (INCHES)

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	16½	1	¼ x ⅛	2¼	N/A	7 7/16	N/A	N/A	6 19/32	N/A	3⅝	8¼	10¾	16	17/32	4¼	4¼	10½	¼	9	OMIT	OMIT	OMIT	186
OPTH10-25	10	2,500	19⅞	1¼	¼ x ⅛	3½	7 1/16	5½	7	¾	6¾	2	4½	10⅛	12	15 9/16	9/16	4¼	4¼	8½	¼	7¼	OMIT	OMIT	OMIT	225
OPTH15-18	15	1,800	24⅜	1⅝	⅜ x 3/16	4	8 13/16	4½	10	¾	8	2½	5½	12¾	14	18 3/16	9/16	4¼	4¼	10½	¼	9	3¼	3½	SLOT	320
OPTH20-18	20	1,800	26⅜	1⅝	⅜ x 3/16	4	8 13/16	6	10	¾	8	2½	5½	12¾	14	18 3/16	9/16	4½	6½	10½	¼	9	3¼	3½	SLOT	380
OPTH25-18	25	1,800	28⅜	1⅞	½ x ¼	4	8 13/16	6	10	¾	8	2½	5½	12¾	14	18 3/16	9/16	4½	6½	10½	¼	9	3¼	3½	SLOT	410
OPTH33-18	33	1,800	31 11/16	2	½ x ¼	5	10¾	11	13	1	8½	3	6½	14¾	15¾	20½	11/16	4½	6½	12½	⅜	11*	3¼	3½	SLOT	490

*⅝-11 NC THD.—.875" DEEP

Ammeter, Voltmeter, Rheostat in Separate Enclosure

- Required for use with all Ohio Generators

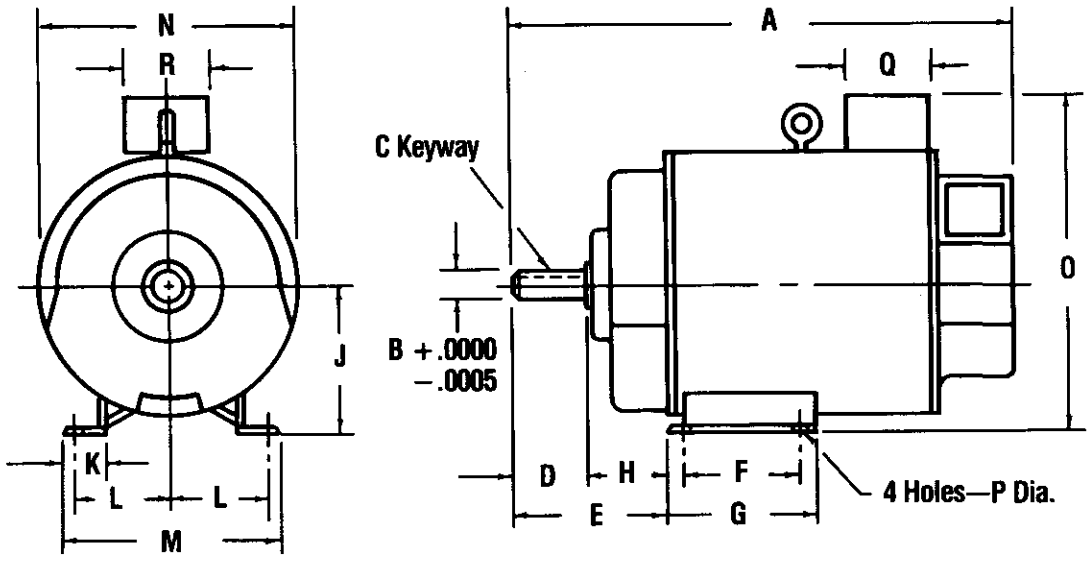


OHIO MAGNETICS

OHIO DUTY-CYCLE™ GENERATORS

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

Belt Motor Drive



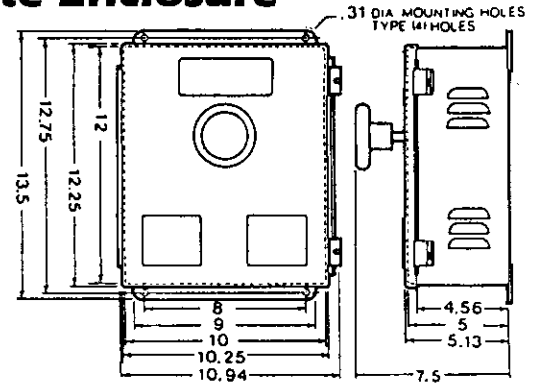
Rheostat and Meter Package Required for These Models

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	2⅛	7 7/16	8 11/16	½	6 9/16	—	3⅝	8¼	10¾	16	17/32	4¼	4¼	186
OPT10-25	10	2,500	19 7/8	1¼	¼ x ⅛	3½	7 1/16	5½	7	¾	6¾	2	4½	10⅛	12	15 9/16	9/16	4¼	4¼	225
OPT15-18	15	1,800	24⅜	1⅝	⅜ x 3/16	4	8 13/16	4½	6	¾	8	2½	5½	12¾	14	18 3/16	9/16	4¼	4¼	320
OPT20-18	20	1,800	26⅜	1⅝	⅜ x 3/16	4	8 13/16	6	7½	¾	8	2½	5½	12¾	14	18 3/16	9/16	4½	6½	380
OPT25-18	25	1,800	28⅜	1⅞	½ x ¼	4	8 13/16	6	7½	¾	8	2½	5½	12¾	14	18 3/16	9/16	4½	6½	410
OPT33-18	33	1,800	31 11/16	2	½ x ¼	5	10¾	11	13	1	8½	3	6½	14¾	15¾	20½	11/16	4½	6½	490

Ammeter, Voltmeter, Rheostat in Separate Enclosure

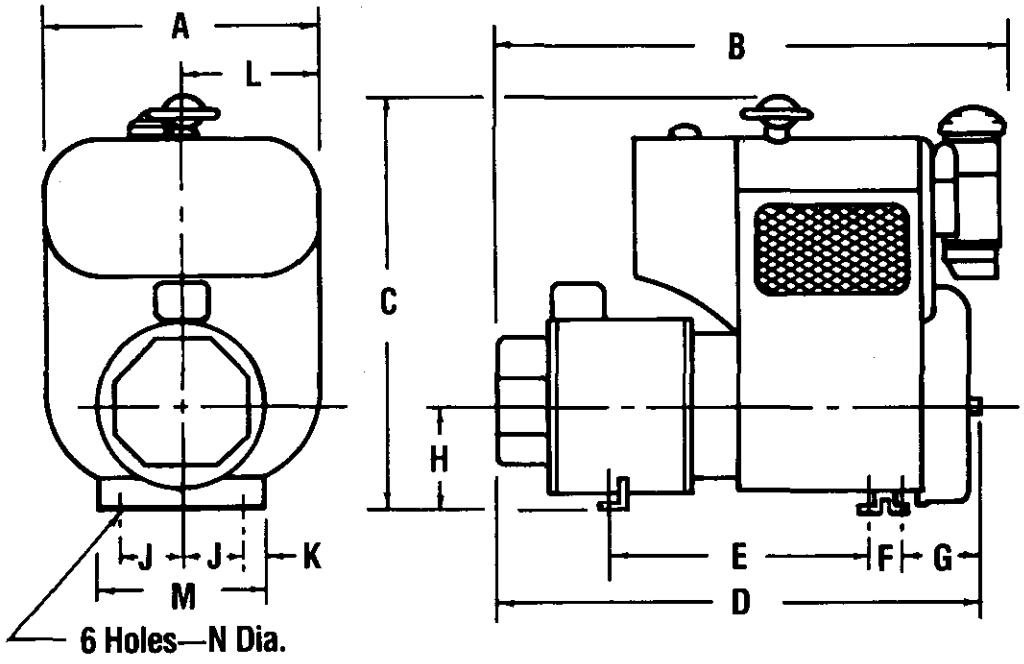
- Required for use with all Ohio Generators



OHIO MAGNETICS

OHIO DUTY-CYCLE™ GENERATORS

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



Rheostat and Meter Package Required for These Models

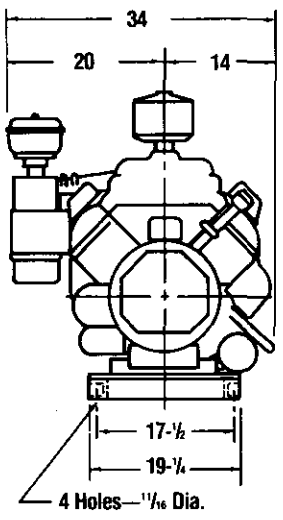
DIMENSIONS (INCHES)

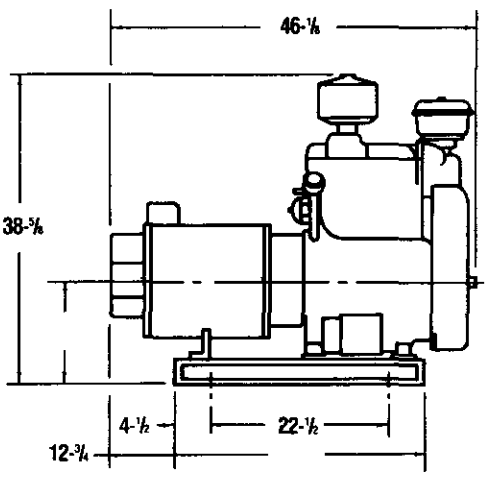
Model	kW	rpm	A	B	C	D	E	F	G	H	J	K	L	M	N	Approx. Weight/ Lbs.
OAG5-25	5	2,500	17 15/16	32 3/4	21 1/2	—	19	—	—	10 15/16	6 1/4	1 5/8	8 31/32	15 3/4	13/16	408
OAG15-18	15	1,800	24 3/4	46 1/2	36 3/8	41 7/8	22 11/16	3	6 7/8	9	5/8	2	12 3/8	1 1/16	17/32	720
OAG20-18	20	1,800	24 3/4	48 1/4	36 3/8	43 5/8	22 3/4	3	6 7/8	9	6	2	12 3/8	16	21/32	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





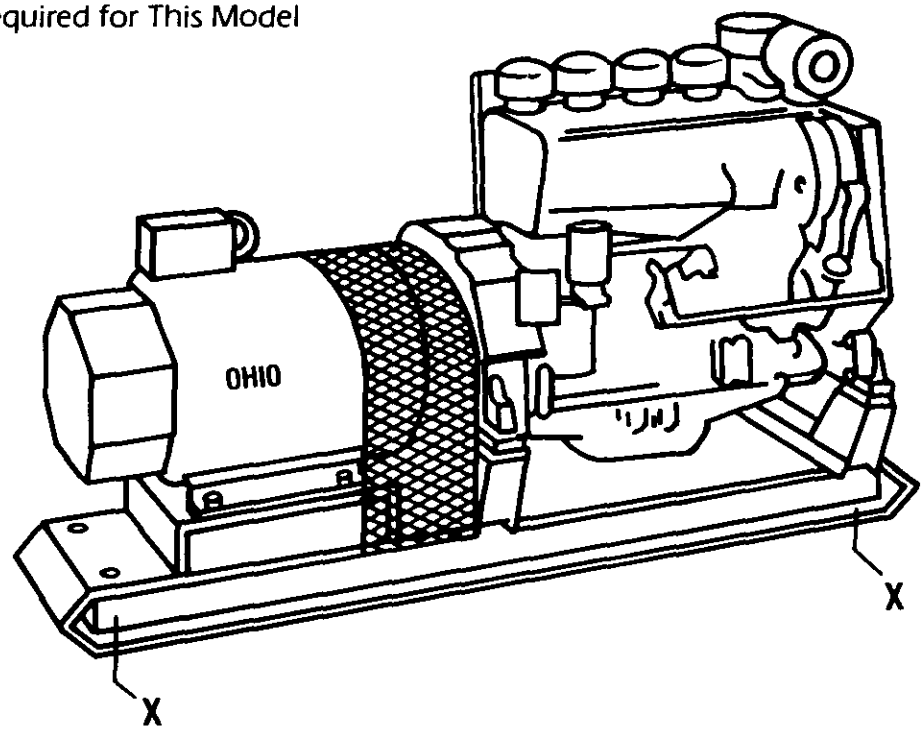
OHIO MAGNETICS

OHIO DUTY-CYCLE™ GENERATORS

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

- 230 VDC

Rheostat and Meter Package Required for This Model

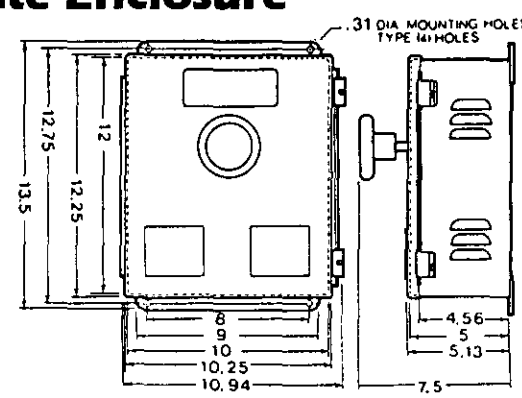


DIMENSIONS (INCHES)

Complete Assembly	Generator Model #	KW	rpm*	Width	Length	Height	Approx. Weight/ Lbs.	X Base Mfg. Holes 11/16 Dia.
OAD5-25	OPT-5	5	2,500	20.5	37.31	23	521	12½ x 26½
OAD10-25	OPT10-25	10	2,500	23.5	50.25	35	800	14⅝ x 42
OAD15-18	OPT15-18	15	1,800	26.5	60	38.5	1,150	14⅝ x 48½
OAD20-18	OPT20-18	20	1,800	26.5	60	38.5	1,200	14⅝ x 48½
OAD25-18	OPT25-18	25	1,800	26.5	60	38.5	1,275	14⅝ x 48½
OAD33-18	OPT33-18	33	1,800	26.5	72	39	1,400	14⅝ x 48½

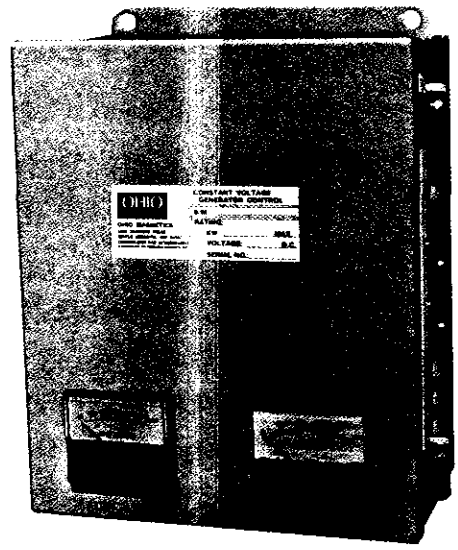
Ammeter, Voltmeter, Rheostat in Separate Enclosure

- Required for use with all Ohio Generators



OHIO MAGNETICS

CVGC-Constant Voltage Generator Control for Ohio Generators

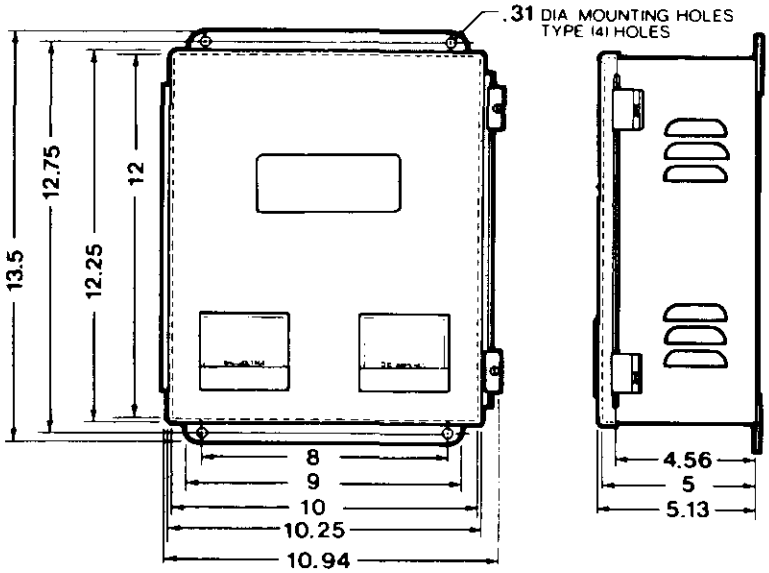


STANDARD FEATURES:

- 230 VDC Magnet Service

CVGC or meter package required for all Ohio Generators.

Ohio Magnetics CVGC—Constant voltage generator control automatically compensates to hold generator voltage output within ±2 volts through your day-to-day operations. Set it once at installation between 230 and 250 VDC to compensate for the line drop in the wires to the magnet. The OHIO CVGC is identical in size and mounting as our current meter package.



250 VDC MAGNET SAFETY DISCONNECT SWITCH

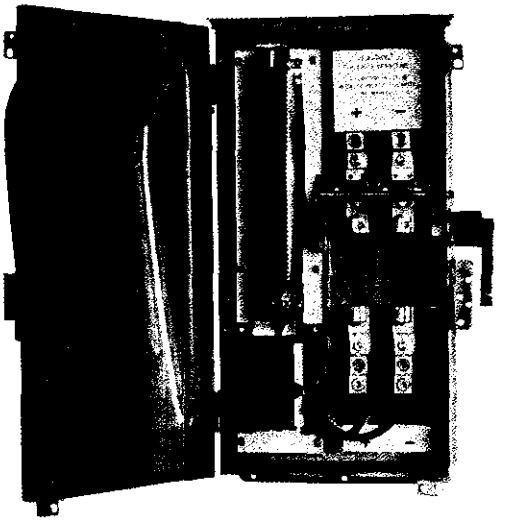
STANDARD FEATURES:

- Manually operated
- Automatic discharge of magnet power
- Mechanical interlock (door must be closed to operate)
- Nema 3R/12 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.

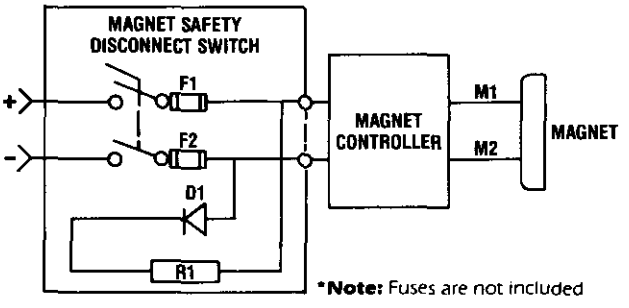
Ohio Magnetics' magnet disconnect switch interrupts the magnet circuit arc by using a quick break switch with a permanently connected power diode and power resistor* across negative and positive of the switch output. The power diode directs the discharge current from negative to positive while blocking 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.

*Smaller models do not require power resistor.



Voltage	Amp Rating max.	Part No.
250 VDC	30	1200C042000
250 VDC	60	1200C043000
250 VDC	100	1200C01000
250 VDC	200	1200C02000

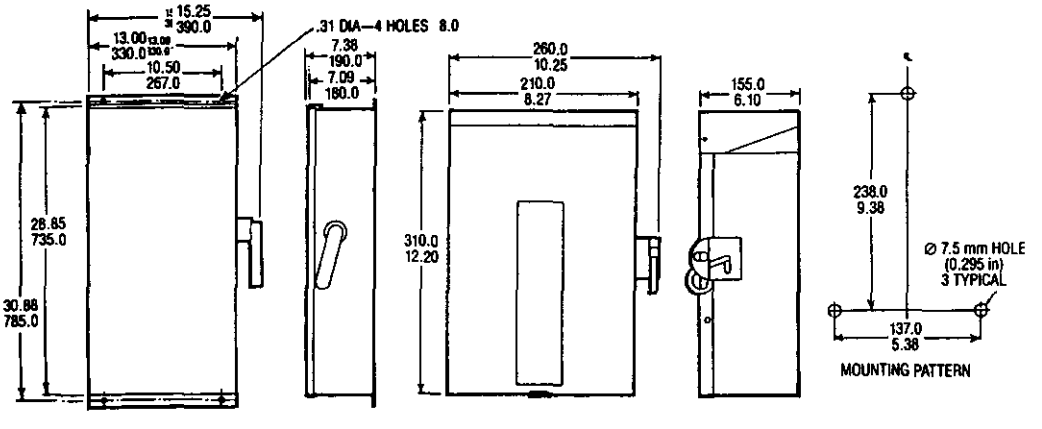
ELEMENTARY DIAGRAM*



*Fuses included by special request only.
Fuses are in compliance with DEC269:4.

Note: Fuse holder is adapted to hold GEC ALSTHOM "GSGB" style semiconductor fuses. For use or other fuse styles, consult factory.

DIMENSION INFORMATION

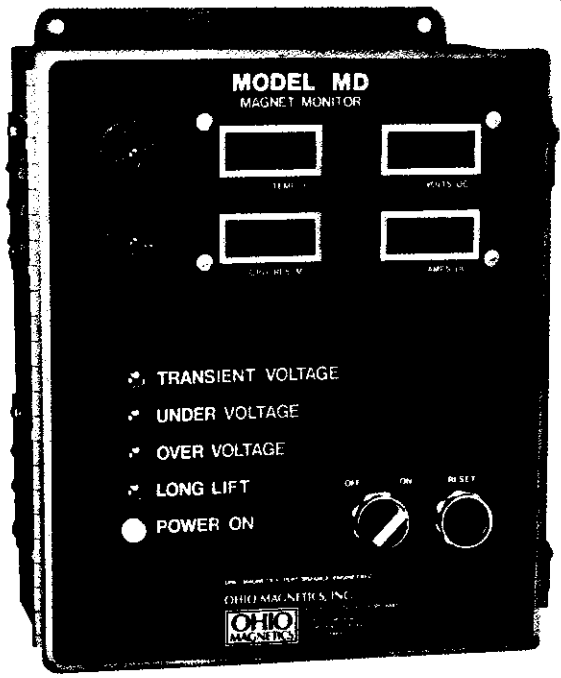


100 AND 200 AMP SWITCHES

60 AMP SWITCH

OHIO MAGNETICS MAINTENANCE DIAGNOSTICS MODULE

- Designed specifically to reduce the amount of time required to troubleshoot defective lifting magnet system.

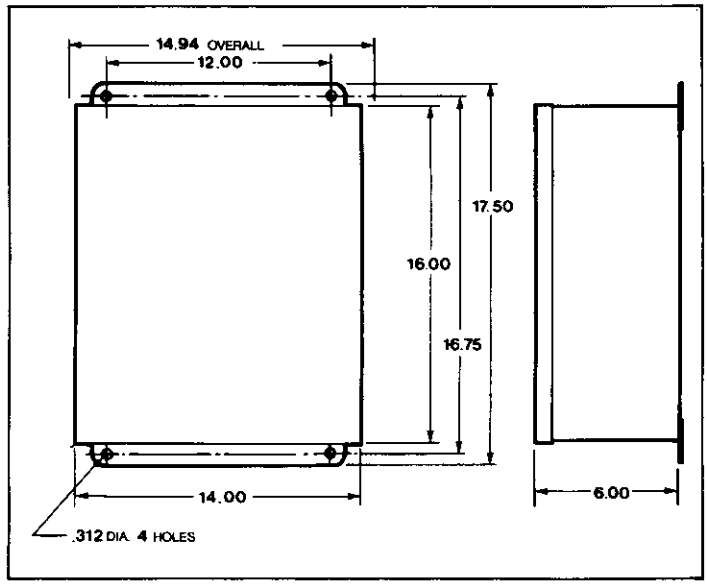


CALCULATES AND NOTIFIES OPERATING AND MAINTENANCE PERSONNEL OF:

- Overvoltage (VISUAL NOTIFICATION)
- Undervoltage (VISUAL NOTIFICATION)
- Magnet temperature—(VISUAL READOUT) (AUDIO ALARM FOR OVERHEATED CONDITION)
- Resistance to ground—(VISUAL READOUT) (AUDIO ALARM ON CONDITION APPROACHING GROUND)
- Long lift—(VISUAL NOTIFICATION)
- Transient over voltage (VISUAL NOTIFICATION)
- Voltage readout
- Current readout
- RS 232 C interface

FEATURES:

- Microprocessor based
- Suitable for use with controllers of any manufacture
- Suitable for wall mounting at operator's station
- 3 Duty-cycle settings
- Easily installed



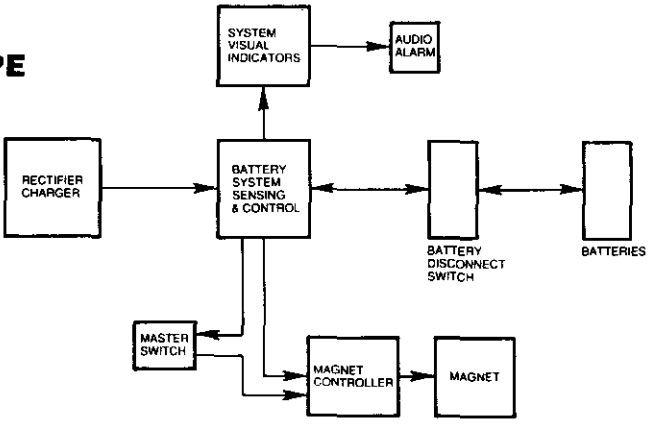
OTHER PRODUCTS AVAILABLE FROM OHIO MAGNETICS

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 in 10 ratings for 2 KW to 55 KW magnet system, 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:

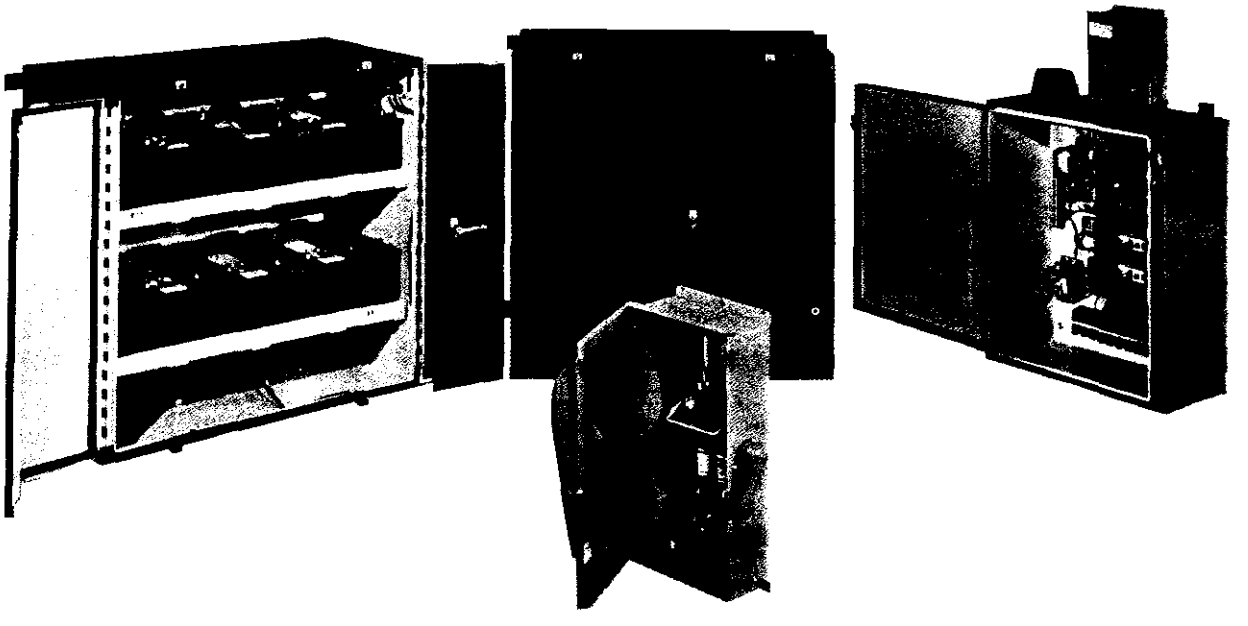
U.S.A./Canada:

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



SERVICES

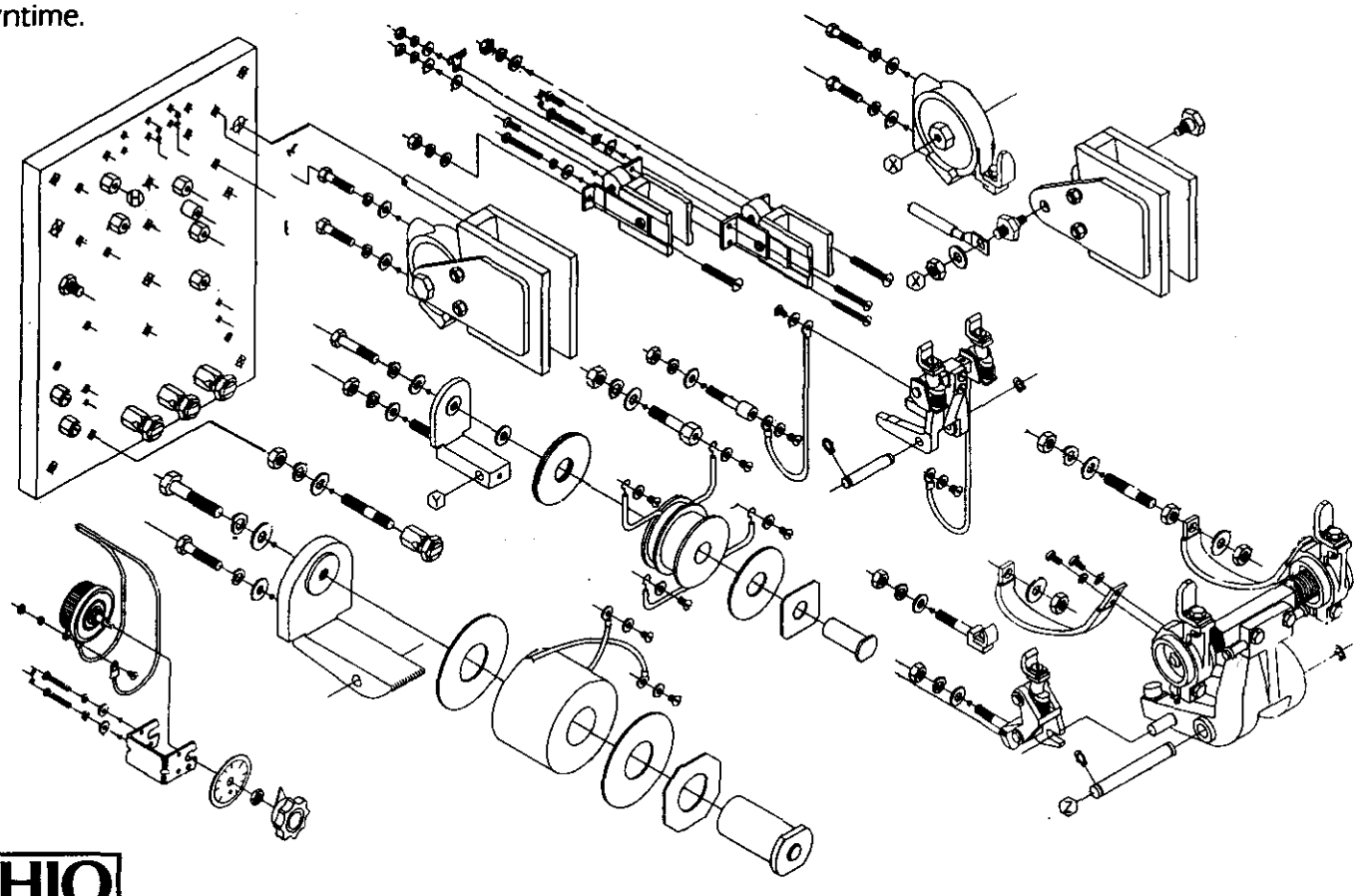
REPAIRS

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.

Your magnet can be repaired quickly and cost efficiently simply by calling the Ohio factory for a pickup.

PARTS

An unparalled stock of spare parts for all Ohio Magnetics products assures you of minimum downtime.



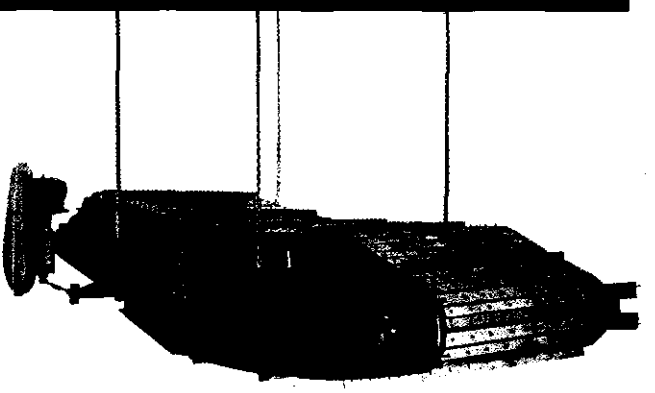
OHIO MAGNETICS

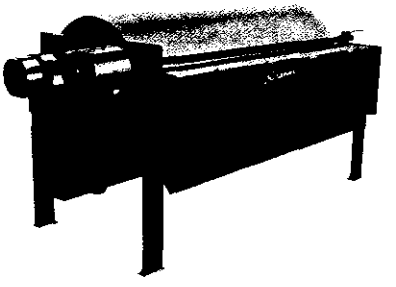
STEARNS MAGNETICS PRODUCTS

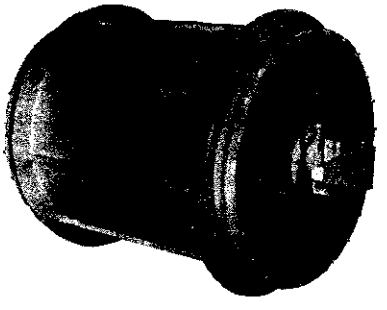
The Stearns' product lines cover the entire spectrum from municipal refuse and scrap handling systems; to systems for removing tramp iron to protect processing equipment; to a revolutionary, ultra sensitive metal detection system that combines advanced electronics and super sophisticated microprocessor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

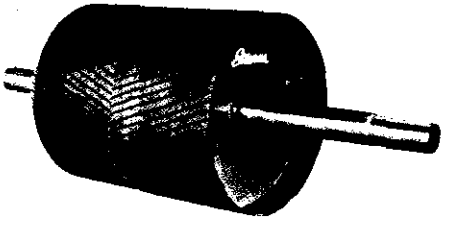
Stearns Magnetics' Repair Program will rebuild any manufacturer's electro-separation equipment, supplying you with the equivalent of a new unit.

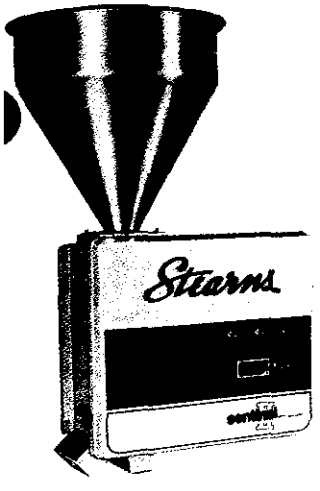
Markets attracted to Stearns' products include food processing, iron ore mining, textiles, refuse and waste treatment, coal and quarry, pharmaceuticals, tobacco, chemicals and plastics, rubber, wood and paper.

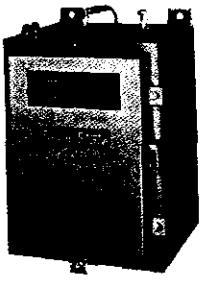


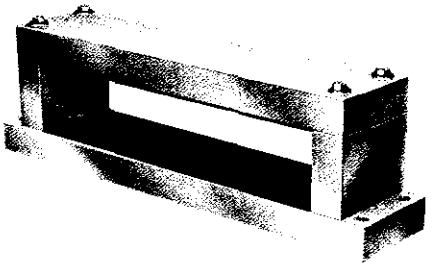


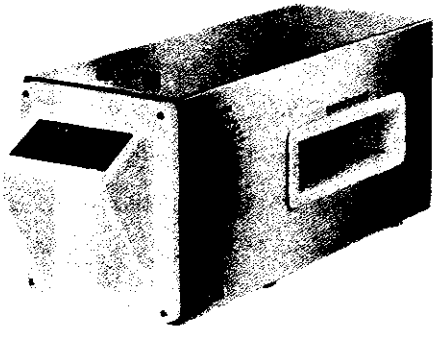












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Stearns magnetics

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