Erich Circular Lifting Magnets (ELRH 76% DUTY CYCLES)

ERICH CIRCULAR LIFTING MAGNETS are extremely convenient and economical and find wide application in handling different kinds of scrap such as pig-iron, steel turnings, ingots, slab, cut-pieces of plates, channel beams etc.

Lifting capacity of the magnet depends upon the size of the magnet, power rating, shape and size and typical bulk density of scrap material, amount of the load in direct contact with pole faces, storage distribution and piling of scrap, temperature of scrap material and above all the skills of the crane-operator. To achieve optimum lifting capacity and the overall efficiency of the magnet it is strongly recommended that the magnet is allowed to properly rest on the scrap before switching 'ON' the magnet.

Lifting capacity of the magnet is strongly influenced by air gaps between the loose pieces of scrap. Therefore, the Circular Lifting Magnets have larger diameter to overcome the effect of air-gaps introduced by loose scrap. Lifting capacity is also reduced drastically if the scrap material is highly porous or it contains high percentage of carbon as the magnetic property reduces due to high carbon content.

MAGNET BODY : The Magnet body is designed so as to generate optimum magnetic field and at the same time to provide the most efficient magnetic circuit, keeping the magnet weight to the minimum, without loss of performance making these magnets most suitable for attaching to the mobile cranes in the scrap yard. The magnet body is fabricated from high permeability low carbon steel for minimum leakage and maximum magnetic lifting & holding efficiency with utmost toughness. Heat treated fully annealed centre pole, integrated outer pole, terminal box, and extra heavy duty lifting lugs are parts of the magnet body.

CENTER POLE : This is cast from high permeability low carbon steel for minimum leakage and maximum lifting capacity.

COIL : The coil is of Copper or Aluminium material and is designed for 'H' class insulation. The coil is insulated from the body by high quality epoxy compound having excellent thermal properties so as to withstand high temperatures.

MAGNET CHAIN : The standard 3 legged alloy steel chains for maximum safety and life with common bull ring has been designed to suit all normal duty loads as well as for extra heavy lifting such as slab handling is provided.

DUTY CYCLE : The permissible relative duty cycle is 70%/ 10 minutes i.e. 7 minutes ON and 3 minutes OFF in 10 minutes.

Erich Circular lifting magnets are available in 3 Models : Light Duty, Heavy Duty and Extra Heavy Duty and diameters from 400mm to 2200mm.

MAGNET ACCESSORIES : Cable Reeling Drum: ERICH make spring operated CRD'S which find wide application in supplying power to the lifting magnets. The selection of the CRD'S depends on the magnet KW and height of lift. These CRD'S are provided with slip rings and carbon brush with holder of adequate rating.

TABLE FOR ERICH CIRCULAR LIFTING MAGNETS TYPE : ELRH…DUTY CYCLES: 70%

Magnet Type	Rated Power Input (Cold Magnet) KW	Approx. weight Kg	DIMENSIONS IN MM d	e	f	g	h
	1	2	3	4	5	6	7
ELRH 7	2.57	360	710	590	160	22	90
ELRH 9	4.10	650	900	685	180	25	100
ELRH 10	4.7	875	1000	700	180	26	100
ELRH 11	5.94	1250	1140	900	260	36	140
ELRH 13	8.48	1830	1330	975	260	36	140
ELRH 15	10.3	2630	1500	1075	340	45	180
ELRH 17	13	3460	1700	1222	350	51	190
ELRH 19	17.3	4800	1900	1291	350	51	190

	TEAR –OFF FORCE			LOAD		APPROXIMATE LIFTING CAPACITIES				
	D	d	d	capacity						
Magnet Type	300 Magnet Cold Kg.	300 Magnet Warm Kg.	20 Magnet Warm Kg.	of chain Max. Kg.	Slab Ingot Kg.	Skull cracker Ball Kg.	Pig Kg.	Cast Iron Scrap Grade 3a Kg.	Solid Scrap Grade 24 Kg.	Short Steel Grade 40 Kg.
	8	9	10	11	12	13	14	15	16	17
ELRH 7	9120	8160	870	4250	4000	_	217	175	165	75
ELRH 9	15690	14170	1710	5000	6950	_	375	300	285	135
ELRH 10	19930	17980	1900	5000	8815	3000	485	390	370	170
ELRH 11	25670	23140	2450	12600	11345	4000	645	518	490	227
ELRH 13	36800	33180	3510	12600	16265	6000	975	785	745	345
ELRH 15	48550	43725	4620	17000	21400	8000	1365	1100	1030	480
ELRH 17	63485	57140	6040	25000	28000	10000	1900	1535	1450	670
ELRH 19	80370	72300	7650	25000	35450	12000	2575	2075	1960	910

NOTES ON ABOVE TABLE

Standard operating voltage is 220 V DC. Rated power input for cold magnets listed in column 1 governs selection of suitable electrical switchgear, rectifier, etc. The continuous service heating of the exciter windings reduces power input. Permissible relative duty cycle is 70%/ 10 min. i.e. 7 min. ON and 3 min OFF. The tear-off force listed in the table relate to a level solid thick slab and a air gap corresponding to 1/300 or 1/20 of outer magnet diameter d. (column 3).

The figure in column 11 for each magnet size represents the permissible load which can b e suspended with standard chain arrangement, taking into account safety requirement. Where load exceeding these limit are to be handled, please order special- purpose chains, quoting the maximum weight to be lifted.

Listed lifting capacity values in columns 12 to 17 apply to magnets at service temperature.

Lifting capacities for various types of bulk material listed in table are average values, which may be exceeded o not be reached in actual duty, since the volume seized in each lifting operation depends largely on type, shape, alloy composition, distribution and storage of the material.

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