

# Type GL, GM & RH Resistors - 27 to 525 Amps

## APPLICATION

Powerohm's grid and ribbon resistors can be used for any AC or DC power application. Units are most commonly used for motor acceleration and braking, but are also suitable for load banks, harmonic filtering and some neutral grounding applications.

The combination of stainless steel elements and rugged features make these units suitable for use in almost any environment. These designs are ideal for high vibration areas such as overhead cranes operated in steel mills and manufacturing plants.

## BASIC CONSTRUCTION

Powerohm's grid and ribbon resistors are the most well designed resistor banks on the market. All banks feature stainless steel elements, stainless steel terminals, double insulation from the endframes, and most importantly, offset grid elements to eliminate current carrying washers. We offer three basic designs:

**Type GL Grid Resistor:** The Type GL resistor consists of stainless steel stamped grid elements. The elements are offset and supported on mica tubes and compressed between the endframes with threaded rods. All banks with a current rating greater than 40 amps are tig welded to form a continuous, unbreakable current path. These units are most commonly used in lower and medium horsepower motor control applications.

**Type GM Grid Resistor:** The Type GM resistor features a wider, heavier duty stainless steel stamped grid element than the GL. All elements are offset and tig welded to form an unbreakable current path. These units are most commonly used in medium and higher horsepower motor control applications.

**Type RH Ribbon Resistor:** The Type RH resistor consists of a continuous stainless steel ribbon element. The ribbon element is formed by folding a wide strip of stainless alloy back and forth to produce an evenly spaced bank. Heavy duty stainless terminals are welded to the element to form a solid connection. These units are virtually indestructible and ideal for any high current application.

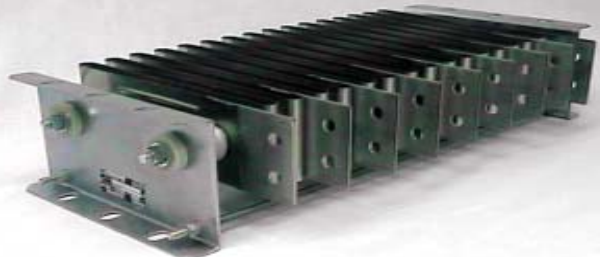
Type GL Grid Resistor - 27 thru 91 amps



Type GM Grid Resistor - 100 thru 165 amps



Type RH Grid Resistor - 180 thru 525 amps



## CUSTOM DESIGNS

Powerohm offers a complete selection of standard size designs. These banks cover a wide range of resistance and current values and contain numerous fixed taps. Other variations are available to meet almost any application, including custom lengths and tapered designs. Tapered resistor banks, which are normally used for motor starting, contain grids with different current ratings to reduce size and cost.

# Electrical Ratings & Bank Weights

**RATINGS:** The continuous current ratings are based on a 375°C temperature rise. The resistance values are measured at 25°C and have a + 10% tolerance.

ELECTRICAL RATINGS AND WEIGHTS OF STANDARD SIZE RESISTOR BANKS					
PART NUMBER	RESISTANCE IN OHMS	CONTINUOUS AMP RATING	WATTAGE RATING	NUMBER OF TERMINALS	APPROXIMATE WEIGHT
GL27	9.36	27	6820	13	30
GL30	7.80	30	7020	11	28
GL37	6.16	37	8430	11	29
GL41	5.10	41	8570	11	32
GL46	3.92	46	8290	10	29
GL50	2.94	50	7350	11	24
GL57	2.02	57	6560	11	27
GL63	1.82	63	7220	10	26
GL73	1.22	73	6500	10	29
GL80	1.03	80	6590	10	32
GL85	.850	85	6140	9	31
GL91	.705	91	5830	8	31
GM100	.608	100	6080	10	26
GM110	.468	110	5660	10	28
GM120	.421	120	6060	10	29
GM135	.360	135	6560	10	32
GM150	.267	150	6000	8	31
GM165	.240	165	6530	8	33
RH180	.226	180	7320	10	36
RH200	.209	200	8360	8	37
RH225	.184	225	9310	8	38
RH260	.164	260	11080	8	40
RH300	.132	300	11880	8	43
RH350	.096	350	11760	8	42
RH400	.076	400	12160	7	46
RH450	.056	450	11340	7	47
RH525	.039	525	10750	7	48

**CUSTOM DESIGNS:** The above table contains our standard selection of grid bank designs. These banks cover a wide range of resistance and current values and contain numerous fixed taps for maximum flexibility. Other variations are available for any application, including custom lengths, widths and tapered designs. Tapered resistor banks, which are normally used for motor starting, contain grids with different current ratings to reduce size and cost.

# Master Cross Reference

The following table contains all the major resistor manufacturers and the part numbers that can be replaced with Powerohm's standard resistor bank designs.

POWEROHM REPLACEMENT RESISTOR BANKS FOR OTHER MAJOR MANUFACTURERS							
POWEROHM	GENERAL ELECTRIC	CUTLER HAMMER	SQUARE D	HUBBELL	WESTINGHOUSE	POST GLOVER	CLARK - CHALLENGER
GL27 GL30 GL37	A001A210 A001A209	G11WL800 G11WL625	TW27D TW32D	SSR22 SSR24 SSR27	44A6415G01 44A6412G03	G111R-G G0111-G	
GL41 GL46 GL50	A001A208 A001A207	G11WL500 G11WL400 G11WL320	TW37D TW42D TW50D	SSR30 Z41W3900GB Z53W2500GB	44A6412G02 44A6412G01 44A6413G01	G110-G G19-G G019-G	112A38 112A44
GL57 GL63 GL73	A001A206 A001A205	G11WL200 G11WL160 G11WL125	TW62D	Z62W1990GB Z66W1620GB Z77W1210GB	44A6410G03 44A6411G01	G018-G G17-G G16R-G	112A53 112A63
GL80 GL85 GL91	A001A104	G11WL100 G11WL80	TW72D TW85D	Z80W1020GB Z95W808GB Z98W680GB	44A6410G02 44A6410G01 44A6409G03	G16-G G016-G G15-G	112A75 112A90
GM100 GM110 GM120	A001A103	G11WL62 G11WL50 G11WL40	TW100D	Z101W595GB Z117W463GB Z120W405GB	44A6408G03	G015H-G G14H-G G014H-G	112A110 112A120
GM135 GM150 GM165	A001A102	G11WL32 G11WL25	TW120D TW150D	Z124W357GB HHC150Z	44A6408G02 44A6408G01	G13H-G G58R-G	112A140 112A155
RH180 RH200 RH225		G11WL20	TW180D	Z171W206GB		G55R-G	
RH260 RH300 RH350	A001A101 A002A103	G11WL16 G11WL12		HHC200Z HHC225Z HHC295Z		HC180-G HC225-G HC300-G	
RH400 RH450 RH525	A002A102 A002A101 A004A103	G14WL06 G14WL05 G14WL03	TW280D TW360D TW430D	HHC350Z HHC395Z HHC500Z		HC350-G HC400-G HC525-G	

**ELECTRICAL RATINGS:** Powerohm resistor banks are designed to replace all of the major manufacturers. These units are electrically equivalent and are designed to have the same resistance rating. In most cases, our banks will have a higher current rating, allowing the unit to operate cooler and last longer.

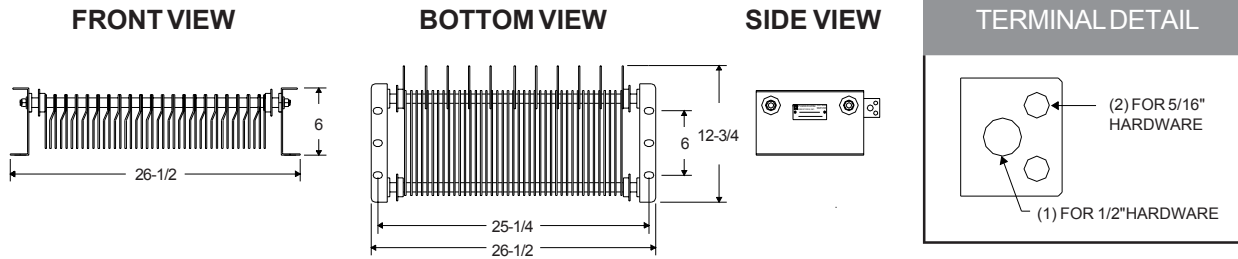
**DIMENSIONS:** Powerohm banks feature universal "mill-frames" and are physically interchangeable with the competitive unit. Please refer to the previous page for specific mounting dimensions.

**TERMINAL CONFIGURATION:** In some cases, the location and number of the terminals may vary from the unit being replaced. Please specify if your application requires special terminal configurations.

# Bank Dimensions & Terminal Details

## TYPE GL AND GM GRID BANK DIMENSIONS AND TERMINAL DETAIL

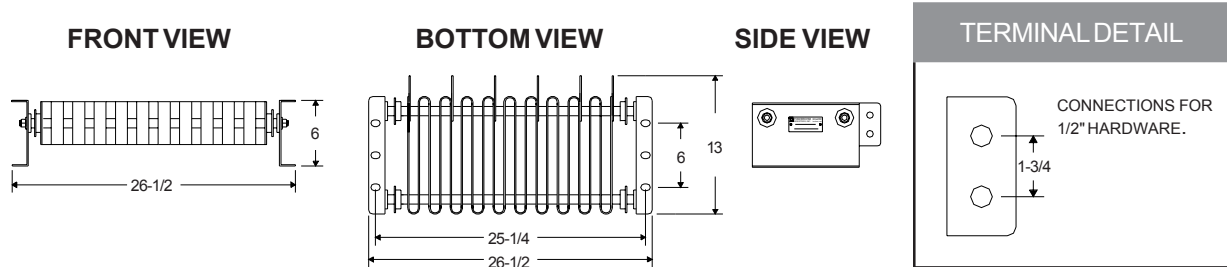
**BANK DIMENSIONS:** The listed dimensions are for standard size banks. Other size variations are available for special applications or space constraints.



Type **GL** and **GM** terminals are designed to accept either (2) 5/16 or (1) 1/2 inch hardware. All banks have stainless steel terminals.

## TYPE RH RIBBON BANK DIMENSIONS AND TERMINAL DETAIL

**BANK DIMENSIONS:** The listed dimensions are for standard size banks. Other size variations are available for special applications or space constraints.



Type **RH** terminals are designed to accept 1/2 inch hardware only. All banks have stainless steel terminals.

## LS STYLE RESISTOR ASSEMBLIES

LS style resistor assemblies are an economical way to enclose one to three banks. LS style endframes are larger than standard frames to provide required electrical clearances, and have four flanges allowing the banks to be bolted together. Assemblies come complete with a perforated or louvered cover and all necessary bank-to-bank connections.

