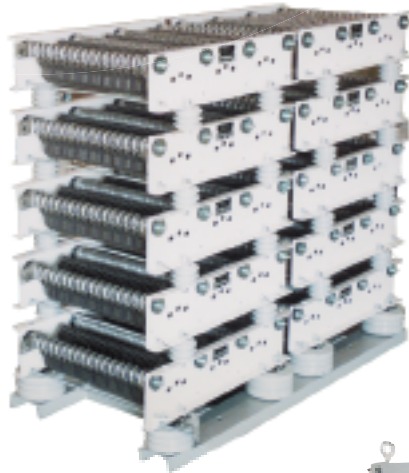
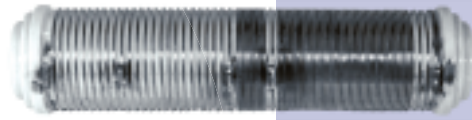




Power Resistors

*Filnor, Inc. Power Resistors are designed,
manufactured and tested for the ultimate
in safety, reliability and product life.*

Filnor, Inc.
P.O. Box 2328
227 N. Freedom Ave.
Alliance, OH 44601
U.S.A.
Phone: (330) 821-7667
Fax: (330) 829-3175
Website: www.filnor.com
Email: filnor@filnor.com



ISO 9001
Quality System Certified

Power Resistors

Power Resistor Designs

Proven Performance and Acceptability Throughout Industry

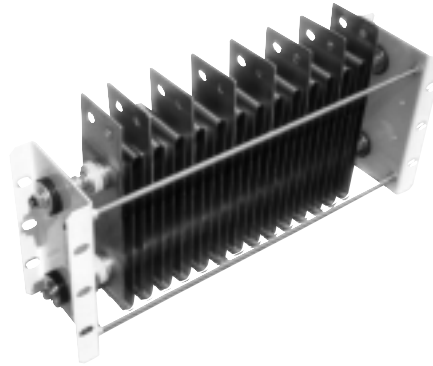
- Engineering Assistance
- Custom Applications
- Direct Replacement
- Competitive Pricing
- Durable Construction
- Reliable Design

Applications include:

- Crane Control
- Dynamic Braking
- Neutral Grounding
- Harmonic Filters
- Mining Equipment
- Transit
- Load Banks
- AC and DC Motor Acceleration



Grounding Transformer with Resistor



*High Current
Power Resistor*



Neutral Grounding Resistor



Neutral Grounding Resistor



*Crane Control Motor
Acceleration Resistor*

Receive Quotes Online

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Grid Resistors Class 9857

Class 9857

Stainless Steel Grid Resistors

- Standard grid resistors in stock to reduce costly down time
- All units are insulated for 1000 volts AC or DC
- Reliable stainless steel resistor elements and terminals
- Standard 26.5" dimensions for quick replacement of other brands
- Stable resistance over wide temperature ranges
- High wattage saves space, weight and cost

Grid Elements

Filnor grid elements are stamped out in our factory from stainless chromium alloy steel. Filnor standard lower capacity elements are welded together to allow for a continuous flow of current up to 165 amperes. Filnor standard high capacity grids are manufactured with one continuous ribbon or strip element between 180 and 525 amperes continuous.

Silicon Bonded Mica Insulating Washers

Gives a higher temperature rating than epoxy bonded.

End Frame Insulator

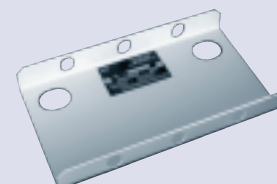
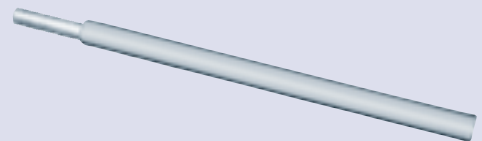
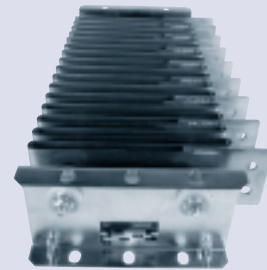
Molded fiberglass material is used to insulate the connection between the support rods and the end frame. This allows for the grid structure to be held securely together and double insulated to ground.

Support Rods

Threaded support rods are insulated with silicon bonded mica tubing to provide primary protection from grounding/shorting out.

End Frames

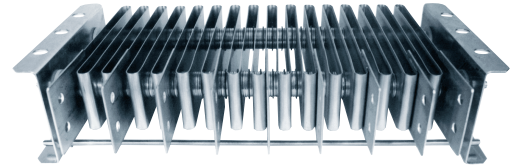
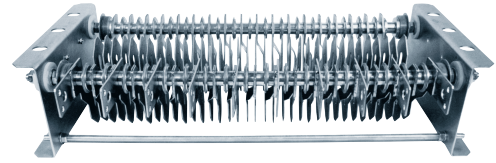
Filnor endframes are designed so that the resistors can be easily mounted in racks or stacked.



Grid Resistors Class 9857

Standard Grid Resistors

These stamped grid, chromium alloy stainless steel resistors range from 27 to 91 amps. Listed are our standard designed banks, but various grids may be combined to design a resistor to fill an application at absolute minimum cost. This configuration is most commonly found in lower horsepower motor acceleration resistors and magnet controllers.



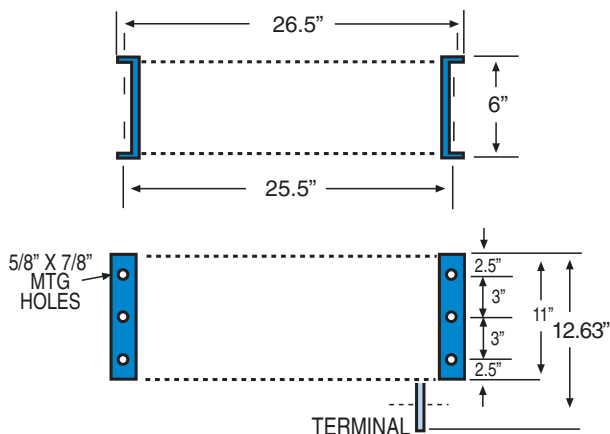
Heavy Duty Grid Resistors

These stamped grid, chromium alloy, stainless steel strip resistors range from 100 to 165 amps. The grids are welded together at their junctions which produces a continuous current carrying grid resistor. They are ideal for the medium and higher horsepower motor applications.

High Current Strip Resistors

These continuous stainless steel strip resistors range from 180 to 525 amps. The resistor element is formed by folding the stainless steel back and forth to produce a continuous and evenly spaced resistor bank.

*Replacement Grid Resistors of all Major Name Brands
Approximate Dimensions for Standard Resistor Bank*



*Also available in 12", 18", 22" & 25.5" banks to meet your requirements
Consult factory for technical data. Please contact Filnor.*

STANDARD GRID RESISTOR SPECIFICATIONS

Cat. Resistor #	Continuous Amp Capacity @ 375°C Rise	Ohmic Value	No. of Taps
FH27	27	9.4	13
FH30	30	7.87	11
FH37	37	6.09	11
FH41	41	5.15	11
FH46	46	3.61	10
FH50	50	2.94	11
FH57	57	2.02	11
FH63	63	1.82	10
FH73	73	1.22	10
FH80	80	1.01	10
FH85	85	.850	10
FH91	91	.700	8
FT100	100	.608	10
FT110	110	.468	10
FT120	120	.421	10
FT135	135	.360	10
FT150	150	.267	8
FT165	165	.242	8
FHC180	180	.226	9
FHC200	200	.209	9
FHC225	225	.184	9
FHC260	260	.164	9
FHC300	300	.132	9
FHC350	350	.096	9
FHC400	400	.076	8
FHC450	450	.056	8
FHC525	525	.039	8

Enclosures & Racks

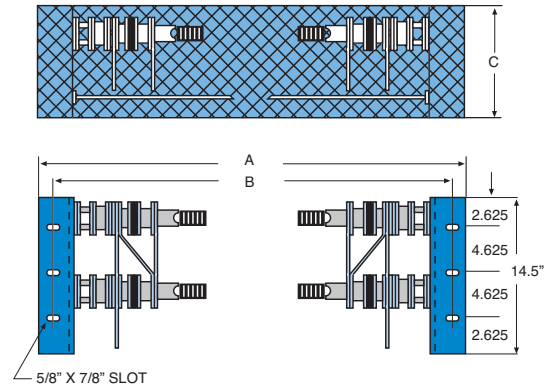
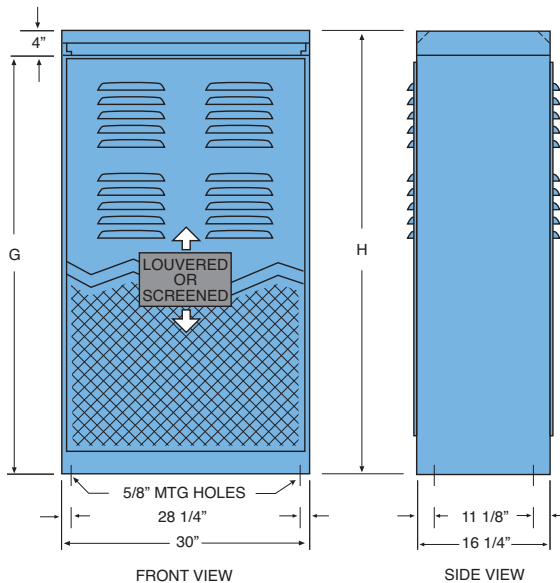
LS Covers

LS Covers are an economical solution for packaging your resistor requirements. They are available up to 4 resistor banks high. Consult factory for technical data.

LS COVER	A"	B"	C"
1 Resistor	26.5	25.25	7.75
2 Resistor	26.5	25.25	15.5
3 Resistor	26.5	25.25	23.25
4 Resistor	26.5	25.25	31

Enclosure for Standard Grid Resistor

- Screened for indoor applications
- Louvered for outdoor applications
- Forged eyebolts for easy hoisting
- Removable front and rear louvered covers allow easy access for connection and inspection
- Corrosion resistant nameplate provides complete ratings and manufacturer's information
- Heavy powder coat finish provides maximum protection
- Options: stainless steel, aluminum, mill galvanized, hot dipped galvanized, custom paint finishes available



Box assemblies are available both louvered or screened.

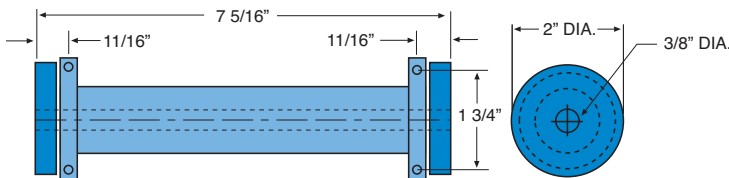
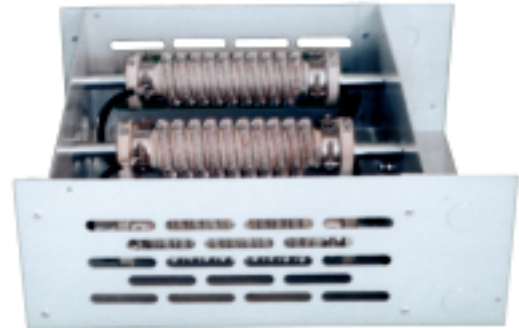
Banks	G" Screened	H" Louvered
2	23 1/8	27 1/8
3	32 1/8	36 1/8
4	41 1/8	45 1/8
5	50 1/8	54 1/8
6	59 1/8	63 1/8
7	68 1/8	72 1/8
8	77 1/8	81 1/8
9	86 1/8	90 1/8

* Add 3/4" for covers

Optional Equipment & Services

- Complete stainless steel resistors (end frames, racks, and hardware).
- Interconnecting jumper installation at our factory.
- All connections wired to the bottom space of the rack using 200°C rated wire or copper bus.

Helicoil Wirewound Resistors Class 9855



Applications Including:

- Dynamic Braking Resistors for AC or DC drives
- Neutral Grounding Resistors
- Starting and speed regulation uses
- Ballast resistors and heaters
- Load Banks

Helicoil Wirewound Resistor Specifications

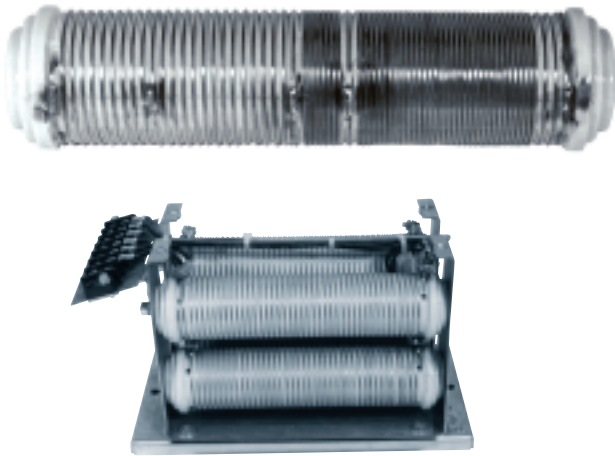
The maximum power ratings specified are for resistors mounted in an open air atmosphere. If units are to be mounted close together or in a restricted ventilation condition, the maximum power rating should be de-rated as follows: Resistors in a well ventilated enclosure should be rated at approximately 82% and in an unventilated enclosure at approximately 67% of their maximum power rating.

Consult Filnor for assistance with your application.

STANDARD HELICOIL RESISTOR SPECIFICATIONS

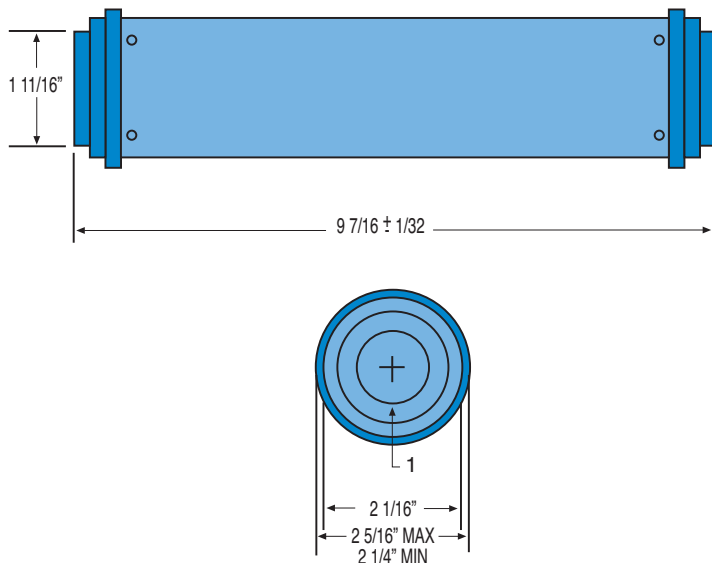
PIN	Continuous Amperes	Ohms	Watts	Class 160 15 sec on 30 sec off	Class 150 15 sec on 30 sec off
9855-0.50	27.0	0.50	365	45.0	49.0
9855-0.70	20.0	0.70	280	35.0	39.0
9855-1.0	17.0	1.0	289	30.0	32.0
9855-1.4	14.5	1.4	294	23.0	26.0
9855-2.0	13.0	2.0	338	20.0	24.0
9855-2.6	11.5	2.6	344	18.0	20.0
9855-3.5	10.5	3.5	386	16.0	17.2
9855-4.8	9.2	4.8	406	13.5	14.5
9855-5.0	8.1	5.0	328	12.5	14.0
9855-5.5	7.9	5.5	343	12.2	13.5
9855-6.0	7.6	6.0	347	12.0	13.0
9855-6.5	8.1	6.5	426	11.2	11.7
9855-8.6	7.0	8.6	421	9.5	10.2
9855-11.0	6.1	11.0	409	8.7	9.5
9855-12.0	5.8	12.0	403	8.5	9.0
9855-15.0	5.3	15.0	421	7.3	7.7
9855-20.0	4.6	20.0	423	6.3	6.6
9855-27.0	3.6	27.0	350	5.0	5.5
9855-36.0	3.0	36.0	324	4.0	4.1
9855-45.0	2.2	45.0	218	3.0	3.2
9855-62.0	2.0	62.0	256	2.6	2.7
9855-81.0	1.7	81.0	234	2.1	2.2

Smooth Wirewound Resistors Class 9856



Applications Include

- Dynamic Braking Resistor for AC or DC drives
- Neutral Grounding Resistors
- Starting and speed regulation uses
- Ballast resistors and heaters
- Load Banks



STANDARD WIREWOUND SPECIFICATIONS

PIN	Continuous Amperes	Ohms	Watts
9856-B 4	24	0.52	300
9856-B 5	21.2	0.65	293
9856-B 6	19	0.82	296
9856-B 7	17	1.03	298
9856-B 20	15.7	1.16	286
9856-B 8	15	1.29	290
9856-B 21	14	1.46	286
9856-B 9	13.3	1.62	287
9856-B 22	12.5	1.83	286
9856-B 10	11.9	2.04	289
9856-B 23	11.1	2.35	290
9856-B 11	10.6	2.57	289
9856-B 24	9.9	2.96	290
9856-B 12	9.35	3.21	281
9856-B 25	8.8	3.70	287
9856-B 13	8.33	4.07	282
9856-A 1	8	5.00	320
9856-B 26	7.6	4.66	269
9856-B 14	7.49	5.10	286
9856-A 2	7.2	6.27	325
9856-B 27	6.8	5.88	272
9856-B 15	6.66	6.43	285
9856-A 3	6.3	7.77	308
9856-B 28	6	7.37	265
9856-B 16	5.95	8.09	286
9856-A 4	5.64	9.81	312
9856-A 27	5.3	11.43	321
9856-B 29	5.31	93	261
9856-A 5	5	12.21	305
9856-A 28	4.7	14.38	318
9856-A 6	4.5	15.33	310
9856-A 29	4.15	17.85	307
9856-A 7	4	19.29	309
9856-A 30	3.7	22.45	307
9856-A 8	3.56	24.28	308
9856-A 31	3.34	27.95	312
9856-A 9	3.18	30.58	309
9856-A 32	2.97	35.07	309
9856-A 10	2.8	38.46	302
9856-A 33	2.65	44.10	310
9856-A 11	2.51	48.48	305
9856-A 34	2.35	55.58	307
9856-A 12	2.25	61.05	309
9856-A 35	2.1	69.97	309
9856-A13	2	76.68	307
9856-A 20	1.85	87.97	301
9856-A 14	1.77	96.72	303
9856-A 21	1.65	110.90	302
9856-A 15	1.59	121.70	308
9856-A 22	1.48	139.70	306
9856-A 16	1.4	153.00	300
9856-A 23	1.32	175.40	306
9856-A 17	1.25	193.80	303
9856-A 24	1.17	221.30	303
9856-A 18	1.12	278.70	307
9856-A 25	1.05	278.70	307
9856-A 19	1	307.90	308
9856-A 26	0.92	350.20	293

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ORDERING INFORMATION REQUIRED:

STANDARD RESISTORS

- Class 9855, 9856 & 9857

ACCELERATION RESISTORS

- Motor nameplate data
(Include secondary data if AC wound rotor)
- Values required per step
(Ohms & Amps)
- Nema resistor classification
- Type of controller used and/or wiring diagram
- Terminal designations
- Enclosure type (NEMA 1 or NEMA 3R)

BALLAST RESISTORS

- Primary voltage
- Primary amps
- Number of speeds
- Number of motors
- Single or dual wound motor
- Torque
- Enclosure type (NEMA 1 or NEMA 3R)

DYNAMIC BRAKING RESISTORS

- Wattage
- Ohms
- Current
- Duty cycle (on time - off time)
- Enclosure type (NEMA 1 or NEMA 3R)
- Thermostat required

NEUTRAL GROUNDING RESISTORS

- Rated voltage line to neutral or system voltage
- Rated fault current
- Rated "time on" of the line to neutral voltage
- Enclosure type (NEMA 1 or NEMA 3R)

LOAD BANKS

- Contact Factory

CUSTOM ASSEMBLIES

- Submit your application to our engineering department, along with the specifications, and we will gladly respond with a practical and economical solution to fit your needs.

SPECIAL RESISTORS

- Resistance between terminals
- Continuous ampere rating required between terminals
- Terminal designations
- Size requirements

REPLACEMENT OF MAJOR RESISTOR BRANDS

- Brand name & part no.



Please Contact Filnor, Inc. at:

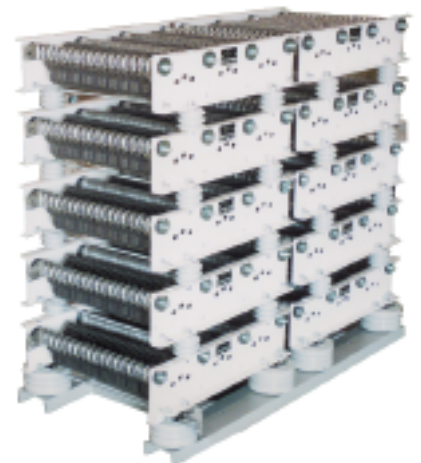
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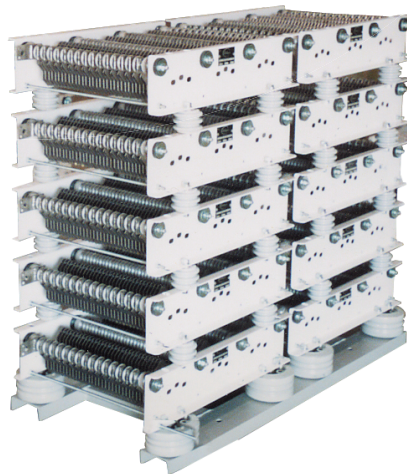
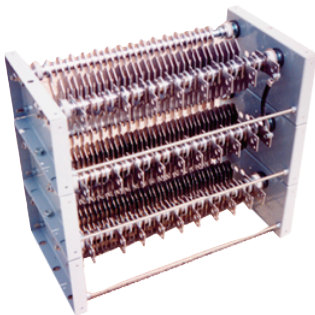
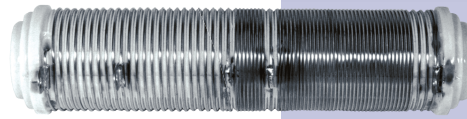




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