

# Wire-wound Rubber Heaters



## Overview

These silicone rubber heaters have a wire-wound element and are economical in large sizes.

- Mean time between failure (MTBF) of 100,000 hours+ provides longer heater life under continuous operation
- Rugged construction and high ductility allows repeated flexing for easier installation
- Element wires sealed inside silicone rubber protects electrical connections from moisture preventing costly downtime for field repairs
- Uniform heating to 220°C (428°F)
- Heater lengths to 90" (1.8 m)
- Mount to flat or curved surfaces
- TÜV and UL component recognition marking are standard
- 2.5, 5, 10, 15 watts/in<sup>2</sup> (0.39, 0.78, 1.55, 2.33 watts/cm<sup>2</sup>) at 120 or 240 VAC
- Lower leakage current due to capacitive coupling

## Typical applications

- Prevent condensation in motors and generators
- Protect instrument cabinets from cold and humidity
- De-icing
- Control fluid viscosity in valves and vessels
- Industrial ovens and thermal processing equipment
- Platens
- Medical devices

Configure Minco heaters and order online at:

[www.minco.com/heater\\_config/](http://www.minco.com/heater_config/)

## Custom options

- Custom shapes and sizes to 22" × 90" (560 × 2285 mm)
- Custom resistance to 200 Ω/in<sup>2</sup> (31 Ω/cm<sup>2</sup>)
- Integral thermostats
- RoHS compliance
- Contact Access: Minco Sales and Support for custom design assistance

## Specifications

**Temperature range:** -45 to 235°C (-50 to 455°F).  
With UL component recognition: -45 to 220°C (-50 to 428°F).

**Thickness:** 0.055" ±0.005" (1.4 ±0.13 mm).  
0.250" (6.4 mm) maximum over leadwires.

**Maximum voltage rating:** UL rating is 600 VAC, TÜV recognition up to 250 VAC.

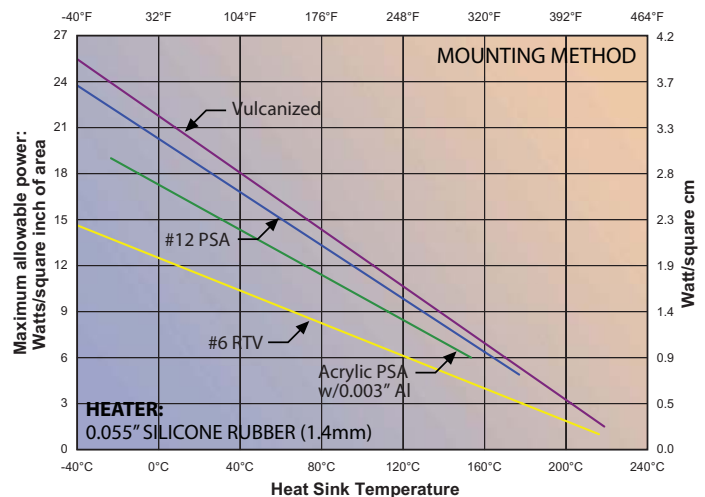
**Leadwires:** AWG 20 except where noted, PTFE insulated per UL 1199/CSA. Length on standard models is 12" (305 mm).

**Current capacity (based on 100°C max. ambient temp.):**  
AWG 20 - 13.5 A  
AWG 18 - 16.0 A

**Approvals:** All wire-wound models comply with UL Standard 499 and Canadian Standard C22.2, No. 72-M1984 and European Standard EN60335 and may bear the corresponding recognition marks.

**Wattage tolerance:** ±5%.

## Wire-wound Rubber Heaters Maximum Watt Density



Example: At 100°C, the maximum power of a heater mounted with #6 RTV is 7 W/in<sup>2</sup> (1.09 W/cm<sup>2</sup>).

Specifications subject to change

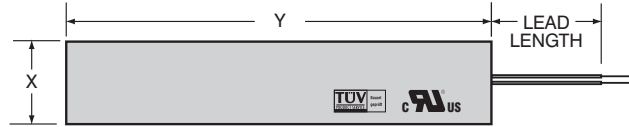
# Stock Wire-wound Rubber Heaters

Normally available from stock for immediate shipment.  
Order by complete model number (e.g. HR6870A)

## Specification options

HR6850	Model number
A	Heater backing A = No backing
HR6850A = Sample part number	

Lead length: 24" (610 mm)



## 120 volt

Size (inches)		Size (mm)		Volts	Watts	Model number
X	Y	X	Y			
1	6	25.4	152.4	120	30	HR6870A
1	10	25.4	254.0	120	25	HR6877A
1	10	25.4	254.0	120	50	HR6850A
1	12	25.4	304.8	120	60	HR6871A
1	20	25.4	508.0	120	50	HR6878A
1	20	25.4	508.0	120	100	HR6852A
1	24	25.4	609.6	120	120	HR6873A
1	30	25.4	762.0	120	75	HR6880A
1	30	25.4	762.0	120	150	HR6854A
1	40	25.4	1016.0	120	100	HR6882A
1	40	25.4	1016.0	120	200	HR6856A
1	60	25.4	1524.0	120	150	HR6884A
1	60	25.4	1524.0	120	300	HR6858A
2	10	50.8	254.0	120	100	HR6860A
2	20	50.8	508.0	120	100	HR6886A
2	20	50.8	508.0	120	200	HR6862A
2	24	50.8	609.6	120	240	HR6875A
2	30	50.8	762.0	120	150	HR6888A
2	30	50.8	762.0	120	300	HR6864A
2	40	50.8	1016.0	120	200	HR6890A
2	40	50.8	1016.0	120	400	HR6866A
2	60	50.8	1524.0	120	600	HR6868A

## 240 volt

Size (inches)		Size (mm)		Volts	Watts	Model number
X	Y	X	Y			
1	10	25.4	254.0	240	50	HR6851A
1	12	25.4	304.8	240	60	HR6872A
1	20	25.4	508.0	240	50	HR6879A
1	20	25.4	508.0	240	100	HR6853A
1	24	25.4	609.6	240	120	HR6874A
1	30	25.4	762.0	240	75	HR6881A
1	30	25.4	762.0	240	150	HR6855A
1	40	25.4	1016.0	240	100	HR6883A
1	40	25.4	1016.0	240	200	HR6857A
1	60	25.4	1524.0	240	150	HR6885A
1	60	25.4	1524.0	240	300	HR6859A
2	10	50.8	254.0	240	100	HR6861A
2	20	50.8	508.0	240	100	HR6887A
2	20	50.8	508.0	240	200	HR6863A
2	24	50.8	609.6	240	240	HR6876A
2	30	50.8	762.0	240	150	HR6889A
2	30	50.8	762.0	240	300	HR6865A
2	40	50.8	1016.0	240	200	HR6891A
2	40	50.8	1016.0	240	400	HR6867A
2	60	50.8	1524.0	240	600	HR6869A

Rubber Heaters (wire-wound)

Specifications subject to change



# Standard Wire-wound Rubber Heaters

Minco has invested in the design time and fabrication tooling so you can jump immediately to your prototyping efforts. The following table outlines the benefits and specifications of previously designed Minco wire-wound rubber heaters.

Minco's build-to-order turnaround time is typically 3 weeks depending on quantity requirements. There is a limited available inventory of a variety of part configurations which generally allows us to meet your immediate delivery needs.

Contact Access: Minco Sales and Support to discuss mix and matching heater sizes and resistance values to help satisfy performance and leadtime demands.

## Specification options

HR6600	Model number
R576	Heater resistance in ohms
L12	Lead length in inches 12" (305 mm) is standard
A	Heater backing A = No backing -45 to 220°C B = #12 PSA backing -45 to 177°C D = Aluminum foil backing -45 to 220°C E = Aluminum foil with Acrylic PSA -32 to 150°C F = Aluminum foil with #12 PSA -45 to 204°C
HR6600R576L12A = Sample part number	

Size (in)		Size (mm)		120 volt heaters								Model Number
X	Y	X	Y	2.5 W/in <sup>2</sup> (0.39 W/cm <sup>2</sup> )		5 W/in <sup>2</sup> (0.78 W/cm <sup>2</sup> )		10 W/in <sup>2</sup> (1.55 W/cm <sup>2</sup> )		15 W/in <sup>2</sup> (2.33 W/cm <sup>2</sup> )		
				Watts	Resistance	Watts	Resistance	Watts	Resistance	Watts	Resistance	
1	5	25	127			25 W	576 Ω	50 W	288 Ω	75 W	192 Ω	HR6600
1	6	25	152			30 W	480 Ω	60 W	240 Ω	90 W	160 Ω	HR6693
1	10	25	254	25 W	576 Ω	50 W	288 Ω	100 W	144 Ω	150 W	96.0 Ω	HR6602
1	12	25	305	30 W	480 Ω	60 W	240 Ω	120 W	120 Ω	180 W	80.0 Ω	HR6694
1	15	25	381	38 W	384 Ω	75 W	192 Ω	150 W	96.0 Ω	225 W	64.0 Ω	HR6604
1	20	25	508	50 W	288 Ω	100 W	144 Ω	200 W	72.0 Ω	300 W	48.0 Ω	HR6606
1	24	25	610	60 W	240 Ω	120 W	120 Ω	240 W	60.0 Ω	360 W	40.0 Ω	HR6696
1	25	25	635	63 W	230 Ω	125 W	115 Ω	250 W	57.6 Ω	375 W	38.4 Ω	HR6608
1	30	25	762	75 W	192 Ω	150 W	96.0 Ω	300 W	48.0 Ω	450 W	32.0 Ω	HR6610
1	35	25	889	88 W	165 Ω	175 W	82.3 Ω	350 W	41.1 Ω	525 W	27.4 Ω	HR6612
1	40	25	1016	100 W	144 Ω	200 W	72.0 Ω	400 W	36.0 Ω	600 W	24.0 Ω	HR6614
1	60	25	1524	150 W	96.0 Ω	300 W	48.0 Ω	600 W	24.0 Ω	900 W	16.0 Ω	HR6616
1	70	25	1778	175 W	82.3 Ω	350 W	41.1 Ω	700 W	20.6 Ω			HR6618
2	5	51	127	25 W	576 Ω	50 W	288 Ω	100 W	144 Ω	150 W	96.0 Ω	HR6619
2	10	51	254	50 W	288 Ω	100 W	144 Ω	200 W	72.0 Ω	300 W	48.0 Ω	HR6621
2	15	51	381	75 W	192 Ω	150 W	96.0 Ω	300 W	48.0 Ω	450 W	32.0 Ω	HR6623
2	20	51	508	100 W	144 Ω	200 W	72.0 Ω	400 W	36.0 Ω	600 W	24.0 Ω	HR6625
2	24	51	610	120 W	120 Ω	240 W	60.0 Ω	480 W	30.0 Ω	720 W	20.0 Ω	HR6698
2	25	51	635	125 W	115 Ω	250 W	57.6 Ω	500 W	28.8 Ω	750 W	19.2 Ω	HR6627
2	30	51	762	150 W	96.0 Ω	300 W	48.0 Ω	600 W	24.0 Ω	900 W	16.0 Ω	HR6629
2	35	51	889	175 W	82.3 Ω	350 W	41.1 Ω	700 W	20.6 Ω	1050 W	13.7 Ω	HR6631
2	40	51	1016	200 W	72.0 Ω	400 W	36.0 Ω	800 W	18.0 Ω	1200 W	12.0 Ω	HR6633
2	60	51	1524	300 W	48.0 Ω	600 W	24.0 Ω	1200 W	12.0 Ω			HR6635
2	70	51	1778	350 W	41.1 Ω	700 W	20.6 Ω	1400 W	10.3 Ω			HR6637
3	5	76	127	38 W	384 Ω	75 W	192 Ω	150 W	96.0 Ω	225 W	64.0 Ω	HR6638
3	10	76	254	75 W	192 Ω	150 W	96.0 Ω	300 W	48.0 Ω	450 W	32.0 Ω	HR6640
3	15	76	381	113 W	128 Ω	225 W	64.0 Ω	450 W	32.0 Ω	675 W	21.3 Ω	HR6642
3	20	76	508	150 W	96.0 Ω	300 W	48.0 Ω	600 W	24.0 Ω	900 W	16.0 Ω	HR6644
3	25	76	635	188 W	76.8 Ω	375 W	38.4 Ω	750 W	19.2 Ω	1125 W	12.8 Ω	HR6646
3	30	76	762	225 W	64.0 Ω	450 W	32.0 Ω	900 W	16.0 Ω	1350 W	10.7 Ω	HR6648
3	35	76	889	263 W	54.9 Ω	525 W	27.4 Ω	1050 W	13.7 Ω	1575 W	9.1 Ω	HR6650*
3	40	76	1016	300 W	48.0 Ω	600 W	24.0 Ω	1200 W	12.0 Ω			HR6652
3	60	76	1524	450 W	32.0 Ω	900 W	16.0 Ω					HR6654
3	70	76	1778	525 W	27.4 Ω	1050 W	13.7 Ω					HR6655
4	5	102	127	50 W	288 Ω	100 W	144 Ω	200 W	72.0 Ω	300 W	48.0 Ω	HR6656
4	10	102	254	100 W	144 Ω	200 W	72.0 Ω	400 W	36.0 Ω	600 W	24.0 Ω	HR6658
4	15	102	381	150 W	96.0 Ω	300 W	48.0 Ω	600 W	24.0 Ω	900 W	16.0 Ω	HR6660
4	20	102	508	200 W	72.0 Ω	400 W	36.0 Ω	800 W	18.0 Ω	1200 W	12.0 Ω	HR6662
4	25	102	635	250 W	57.6 Ω	500 W	28.8 Ω	1000 W	14.4 Ω	1500 W	9.6 Ω	HR6664*
4	30	102	762	300 W	48.0 Ω	600 W	24.0 Ω	1200 W	12.0 Ω			HR6666

\*AWG 18 leads (AWG 20 is standard)

Specifications subject to change

# Standard Wire-wound Rubber Heaters

Size (in)		Size (mm)		120 volt heaters								Model Number
				2.5 W/in <sup>2</sup> (0.39 W/cm <sup>2</sup> )		5 W/in <sup>2</sup> (0.78 W/cm <sup>2</sup> )		10 W/in <sup>2</sup> (1.55 W/cm <sup>2</sup> )		15 W/in <sup>2</sup> (2.33 W/cm <sup>2</sup> )		
X	Y	X	Y	Watts	Resistance	Watts	Resistance	Watts	Resistance	Watts	Resistance	
4	35	102	889	350 W	41.1 Ω	700 W	20.6 Ω	1400 W	10.3 Ω			HR6668
4	40	102	1016	400 W	36.0 Ω	800 W	18.0 Ω	1600 W	9.0 Ω			HR6670*
4	60	102	1524	600 W	24.0 Ω	1200 W	12.0 Ω					HR6672
4	70	102	1778	700 W	20.6 Ω	1400 W	10.3 Ω					HR6673
5	5	127	127	63 W	230 Ω	125 W	115 Ω	250 W	57.6 Ω	375 W	38.4 Ω	HR6674
5	10	127	254	125 W	115 Ω	250 W	57.6 Ω	500 W	28.8 Ω	750 W	19.2 Ω	HR6676
5	15	127	381	188 W	76.8 Ω	375 W	38.4 Ω	750 W	19.2 Ω	1125 W	12.8 Ω	HR6678
5	20	127	508	250 W	57.6 Ω	500 W	28.8 Ω	1000 W	14.4 Ω	1500 W	9.6 Ω	HR6680*
5	25	127	635	313 W	46.1 Ω	625 W	23.0 Ω	1250 W	11.5 Ω			HR6682
5	30	127	762	375 W	38.4 Ω	750 W	19.2 Ω	1500 W	9.6 Ω			HR6684*
5	35	127	889	438 W	32.9 Ω	875 W	16.5 Ω					HR6686
5	40	127	1016	500 W	28.8 Ω	1000 W	14.4 Ω					HR6688
5	60	127	1524	750 W	19.2 Ω	1500 W	9.6 Ω					HR6690*
5	70	127	1778	875 W	16.5 Ω	1750 W	8.2 Ω					HR6691*
240 volt heaters												
1	10	25	254			50 W	1152 Ω	100 W	576 Ω	150 W	384 Ω	HR6603
1	12	25	305			60 W	960 Ω	120 W	480 Ω	180 W	320 Ω	HR6695
1	15	25	381	38 W	1536 Ω	75 W	768 Ω	150 W	384 Ω	225 W	256 Ω	HR6605
1	20	25	508	50 W	1152 Ω	100 W	576 Ω	200 W	288 Ω	300 W	192 Ω	HR6607
1	24	25	610	60 W	960 Ω	120 W	480 Ω	240 W	240 Ω	360 W	160 Ω	HR6697
1	25	25	635	63 W	922 Ω	125 W	461 Ω	250 W	230 Ω	375 W	154 Ω	HR6609
1	30	25	762	75 W	768 Ω	150 W	384 Ω	300 W	192 Ω	450 W	128 Ω	HR6611
1	35	25	889	88 W	658 Ω	175 W	329 Ω	350 W	165 Ω	525 W	110 Ω	HR6613
1	40	25	1016	100 W	576 Ω	200 W	288 Ω	400 W	144 Ω	600 W	96.0 Ω	HR6615
1	60	25	1524	150 W	384 Ω	300 W	192 Ω	600 W	96.0 Ω	900 W	64.0 Ω	HR6617
2	5	51	127			50 W	1152 Ω	100 W	576 Ω	150 W	384 Ω	HR6620
2	10	51	254	50 W	1152 Ω	100 W	576 Ω	200 W	288 Ω	300 W	192 Ω	HR6622
2	15	51	381	75 W	768 Ω	150 W	384 Ω	300 W	192 Ω	450 W	128 Ω	HR6624
2	20	51	508	100 W	576 Ω	200 W	288 Ω	400 W	144 Ω	600 W	96.0 Ω	HR6626
2	24	51	610	120 W	480 Ω	240 W	240 Ω	480 W	120 Ω	720 W	80.0 Ω	HR6699
2	25	51	635	125 W	461 Ω	250 W	230 Ω	500 W	115 Ω	750 W	76.8 Ω	HR6628
2	30	51	762	150 W	384 Ω	300 W	192 Ω	600 W	96.0 Ω	900 W	64.0 Ω	HR6630
2	35	51	889	175 W	329 Ω	350 W	165 Ω	700 W	82.3 Ω	1050 W	54.9 Ω	HR6632
2	40	51	1016	200 W	288 Ω	400 W	144 Ω	800 W	72.0 Ω	1200 W	48.0 Ω	HR6634
2	60	51	1524	300 W	192 Ω	600 W	96.0 Ω	1200 W	48.0 Ω	1800 W	32.0 Ω	HR6636
3	5	76	127	38 W	1536 Ω	75 W	768 Ω	150 W	384 Ω	225 W	256 Ω	HR6639
3	10	76	254	75 W	768 Ω	150 W	384 Ω	300 W	192 Ω	450 W	128 Ω	HR6641
3	15	76	381	113 W	512 Ω	225 W	256 Ω	450 W	128 Ω	675 W	85.3 Ω	HR6643
3	20	76	508	150 W	384 Ω	300 W	192 Ω	600 W	96.0 Ω	900 W	64.0 Ω	HR6645
3	25	76	635	188 W	307 Ω	375 W	154 Ω	750 W	76.8 Ω	1125 W	51.2 Ω	HR6647
3	30	76	762	225 W	256 Ω	450 W	128 Ω	900 W	64.0 Ω	1350 W	42.7 Ω	HR6649
3	35	76	889	263 W	219 Ω	525 W	110 Ω	1050 W	54.9 Ω	1575 W	36.6 Ω	HR6651
3	40	76	1016	300 W	192 Ω	600 W	96.0 Ω	1200 W	48.0 Ω	1800 W	32.0 Ω	HR6653
4	5	102	127	50 W	1152 Ω	100 W	576 Ω	200 W	288 Ω	300 W	192 Ω	HR6657
4	10	102	254	100 W	576 Ω	200 W	288 Ω	400 W	144 Ω	600 W	96.0 Ω	HR6659
4	15	102	381	150 W	384 Ω	300 W	192 Ω	600 W	96.0 Ω	900 W	64.0 Ω	HR6661
4	20	102	508	200 W	288 Ω	400 W	144 Ω	800 W	72.0 Ω	1200 W	48.0 Ω	HR6663
4	25	102	635	250 W	230 Ω	500 W	115 Ω	1000 W	57.6 Ω	1500 W	38.4 Ω	HR6665
4	30	102	762	300 W	192 Ω	600 W	96.0 Ω	1200 W	48.0 Ω	1800 W	32.0 Ω	HR6667
4	35	102	889	350 W	165 Ω	700 W	82.3 Ω	1400 W	41.1 Ω	2100 W	27.4 Ω	HR6669
4	40	102	1016	400 W	144 Ω	800 W	72.0 Ω	1600 W	36.0 Ω	2400 W	24.0 Ω	HR6671
5	5	127	127	63 W	922 Ω	125 W	461 Ω	250 W	230 Ω	375 W	154 Ω	HR6675
5	10	127	254	125 W	461 Ω	250 W	230 Ω	500 W	115 Ω	750 W	76.8 Ω	HR6677
5	15	127	381	188 W	307 Ω	375 W	154 Ω	750 W	76.8 Ω	1125 W	51.2 Ω	HR6679
5	20	127	508	250 W	230 Ω	500 W	115 Ω	1000 W	57.6 Ω	1500 W	38.4 Ω	HR6681
5	25	127	635	313 W	184 Ω	625 W	92.2 Ω	1250 W	46.1 Ω	1875 W	30.7 Ω	HR6683
5	30	127	762	375 W	154 Ω	750 W	76.8 Ω	1500 W	38.4 Ω	2250 W	25.6 Ω	HR6685
5	35	127	889	438 W	132 Ω	875 W	65.8 Ω	1750 W	32.9 Ω	2625 W	21.9 Ω	HR6687
5	40	127	1016	500 W	115 Ω	1000 W	57.6 Ω	2000 W	28.8 Ω	3000 W	19.2 Ω	HR6689*

Rubber Heaters (wire-wound)

