

Wave-type Tubular Wirewound Power Resistors

Wave-Shape Ribbon-Wound Design Neutralize Inductance Parasitoid (DQ)

► Preview

Ribbon-Wound Power Resistor Construction:

- A tubular ceramic has two terminals, and is wound with a resistance element consisting of a wave-shaped alloy ribbon.
- Terminal bands are spot welded after installation on the core and then a resistance-alloy ribbon wire is crimped and edgewound onto the core.
- Non-flammable resin insulation is applied after cooling and drying through a temperature process and then the component mounts are attached.
- The resistance value range is relatively low due to alloy material limitations; see the DR series if upper resistance values required.



Features:

- Fixed, tapped styles, or adjustable type are available.
- Special terminals are available for unusual applications.
- Special tolerances, temperature coefficients, and resistance value can be specified.
- Ayrton Perry type non-inductive winding formats are available. See DQS Series when required.
- Standard resistance tolerance is H($\pm 3\%$), J($\pm 5\%$) and K($\pm 10\%$). Closer tolerances are available upon request.
- The wire is spot welded to the terminal bands and then “fastened” onto the core with a silicone, cement, or vitreous enamel coating.
- Standard lug terminals available with or without terminal hardware. Single and double quick connect terminals can be specified.
- DQ Series Design allows for efficient heat dissipation at higher temperature ranges so the resistor is half the physical size of an equivalent rated roundwire resistor.

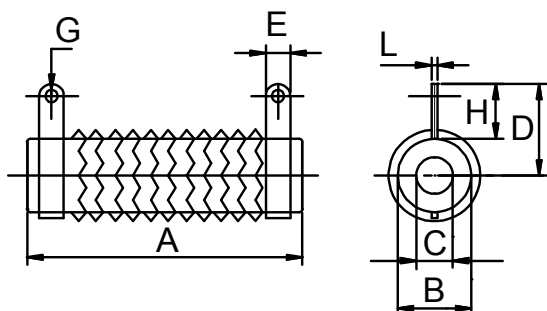
Applications:

- The Power Ribwound DQ Series is suitable for educational modeling applications, load testing, industrial machinery, electric power distribution, instruments, automation control installations, lift trucks, overhead cranes, elevators, arc and spot welders, battery chargers, machine tools, conveyors, and UPS systems.

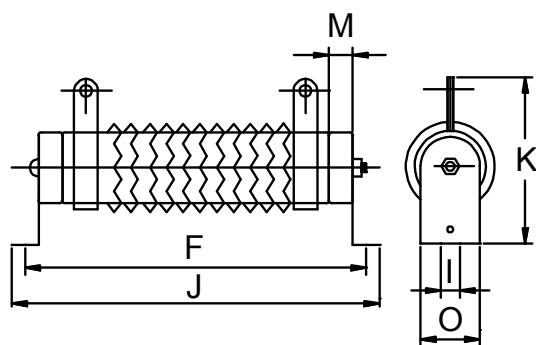
Power Wave-Shape Ribwound Resistor supports the use of numerous taps, has low impedance, and can be fabricated in various shapes to support a wide range of applications.

The DQ Series is RoHS compliant and lead free. For custom specifications, or order individual replacement units, entire grids with various mounting configurations, please contact us to discuss the details.

Wave Ribbon Wire (DQ-A) 75W ~ 2000W Dimensions



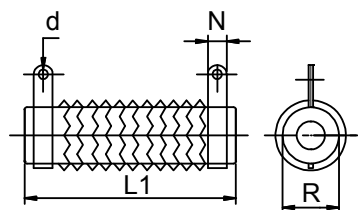
Wave Ribbon Wire (DQ-A)
N - No mount Dimensions



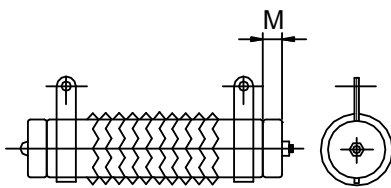
Wave Ribbon Wire (DQ-A)
G - Horizontal mount Dimensions

Wattage Rating	Dimensions (Unit: mm)														Resistance Range
	A	B	C	D	E	F	G	H	I	J	K	L	M	O	
75W	110	25	16	30	8	150	5	18	6	166	58	1.2	6	27	0.1~8Ω
90W	90	28	18	32	8	130	5	19	6	146	60	1.2	6	27	0.1~9Ω
120W	110	28	18	32	8	150	5	19	6	166	60	1.2	6	27	0.1~12Ω
150W	140	28	18	32	8	180	5	19	6	196	60	1.2	6	27	0.1~15Ω
180W	160	28	18	32	8	200	5	19	6	216	60	1.2	6	27	0.1~18Ω
225W	195	28	18	32	8	235	5	19	6	251	60	1.2	6	27	0.1~23Ω
240W	185	35	24	36	10	225	5	19	8	245	76	1.6	6	34	0.1~24Ω
300W	210	35	24	36	10	250	5	19	8	274	76	1.6	6	34	0.3~30Ω
375W	210	40	25	38	12	250	5	20	8	274	78	1.6	6	34	0.3~38Ω
450W	260	40	25	38	12	300	5	20	8	320	78	1.6	6	34	0.3~45Ω
600W	330	40	25	38	12	370	5	20	8	395	78	1.6	6	34	0.3~60Ω
750W	330	50	35	50	12	380	6	25	9	400	100	1.6	8	40	0.3~75Ω
900W	400	50	35	50	12	450	6	25	9	470	100	1.6	8	40	0.3~90Ω
1000W	460	50	35	50	12	510	6	25	9	530	100	1.6	8	40	0.5~100Ω
1200W	460	60	40	55	15	515	6	30	10	535	110	1.6	10	50	0.5~120Ω
1500W	540	60	40	55	15	595	6	30	10	615	110	1.6	10	50	0.5~150Ω
2000W	650	65	42	62	15	702	6	30	10	722	115	1.6	10	50	0.5~200Ω

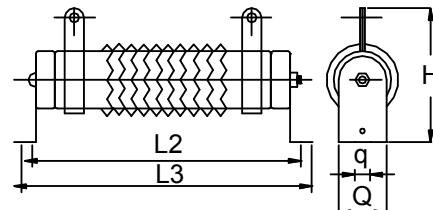
▶ (DQ-B) 30W ~ 20000W Dimensions



Wave Power Resistor (DQ-B)
N - No mount Dimensions



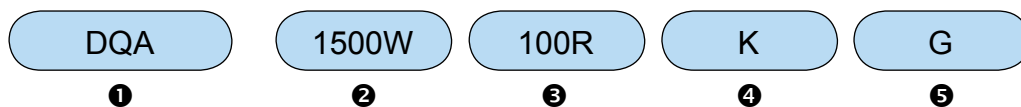
Wave Power Resistor (DQ-B)
Z - Vertical mount Dimensions



Wave Power Resistor (DQ-B)
G - Horizontal mount Dimensions

Wattage Rating	Dimensions (mm)										Resistance Range
	R	L1	L2	L3	H	N	d	M	q	Q	
30W	20	70	100	120	50	6	3.5	5	5	20	2~1KΩ
40W	20	87	115	137	50	6	3.5	5	5	20	2~1KΩ
50W	28	90	115	143	68	9	4.5	5.5	6	27	5~1KΩ
80W	28	90	115	143	68	9	4.5	5.5	6	27	5~2KΩ
100W	28	170	195	223	68	9	4.5	5.5	6	27	10~3KΩ
150W	28	215	240	268	68	9	4.5	5.5	6	27	10~3KΩ
200W	28	267	292	320	68	9	4.5	5.5	6	27	10~5KΩ
250W	28	267	292	320	68	9	4.5	5.5	6	27	10~5KΩ
300W	40	267	300	343	90	10	4.5	6	6	39	20~5KΩ
400W	40	330	365	406	90	10	4.5	6	6	39	20~5KΩ
500W	50	330	365	415	98	10	6	8.5	8	49	20~5KΩ
600W	50	330	365	415	98	10	6	8.5	8	49	20~5KΩ
700W	50	400	435	485	95	10	6	8.5	8	49	20~5KΩ
800W	70	300	320	362	138	15	8	-	8	69	40~500Ω
1000W	70	300	320	362	138	15	8	-	8	69	40~500Ω
1500W	70	415	435	477	138	15	8	-	8	69	40~500Ω
2000W	70	510	530	572	138	15	8	-	8	69	40~500Ω
2500W	70	600	620	662	138	15	8	-	8	69	40~500Ω
3000W	70	600	620	662	138	18	8	-	8	69	40~500Ω
4000W	100	430	450	521	185	15	8	-	8	99	40~500Ω
5000W	100	500	620	691	185	15	8	-	8	99	40~500Ω
6000W	100	600	720	791	185	15	8	-	8	99	40~500Ω
10000W	150	600	625	720	350	30	8	-	10	150	40~500Ω
12000W	150	660	685	780	350	30	8	-	10	150	40~500Ω
15000W	150	660	685	780	350	30	8	-	10	150	40~500Ω
20000W	150	1000	1030	1120	350	30	8	-	10	150	40~500Ω

How to Order



❶ Part Number: DQA
DQB
DQAN
DQBN

❷ Rated Power (W): 75W~2000W
30W~20000W
75W~2000W
30W~20000W

❸ Resistance Value (Ω):

Code	Resistance Value
0R1	0.1Ω
1R	1Ω
10R	10Ω
12R	12Ω
100R	100Ω

❹ Resistance Tolerance (%)

Code	Resistance Tolerance
H	±3%
J	±5%
K	±10%

❺ Assembly Method

Code	Assembly Method
N	No mount.
C	Clip mount.
G	Horizontal mount.
Z	Vertical mount.

Back to 1st Page - Power Wirewound Resistors (DQ)

Non-Inductive Ribbon Wirewound Power Resistors

► Preview

DQ-*N Power-Rib resistor applies Ayrton Perry non-inductive winding method to compensate residual inductance and to allow for efficient heat dissipation at higher temperature ranges, so the resistor is half the physical size of an equivalent rated round wire wound DR resistors.

Non-Inductance :

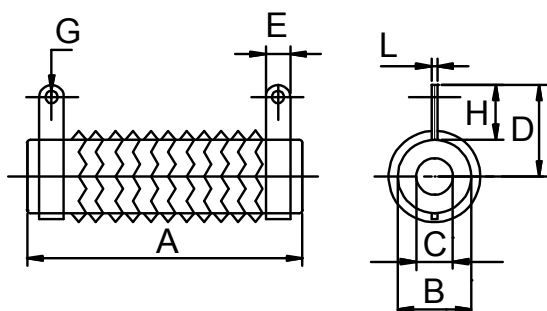
Ayrton Perry type non-inductive winding is applied. When required add “N” to the part number.

Resistance Tolerance :

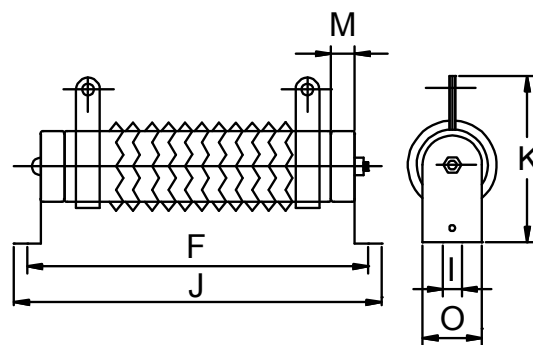
K($\pm 10\%$), J($\pm 5\%$), H($\pm 3\%$)

The power DQ-*N Wave-Ribbon Series is lead-free and RoHS compliant. Please contact us for details with your specific needs.

▶ (DQAN) 75W ~ 2000W Dimensions



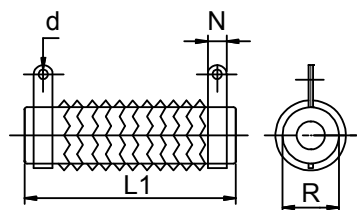
Non-Inductive Ribbon Wirewound
(DQAN) N - No mount Dimensions



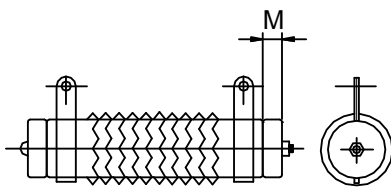
Non-Inductive Ribbon Wirewound
(DQAN) G - Horizontal mount Dimensions

Wattage Rating	Dimensions (Unit: mm)														Resistance Range
	A	B	C	D	E	F	G	H	I	J	K	L	M	O	
75W	110	25	16	30	8	150	5	18	6	166	58	1.2	6	27	0.1~8Ω
90W	90	28	18	32	8	130	5	19	6	146	60	1.2	6	27	0.1~9Ω
120W	110	28	18	32	8	150	5	19	6	166	60	1.2	6	27	0.1~12Ω
150W	140	28	18	32	8	180	5	19	6	196	60	1.2	6	27	0.1~15Ω
180W	160	28	18	32	8	200	5	19	6	216	60	1.2	6	27	0.1~18Ω
225W	195	28	18	32	8	235	5	19	6	251	60	1.2	6	27	0.1~23Ω
240W	185	35	24	36	10	225	5	19	8	245	76	1.6	6	34	0.1~24Ω
300W	210	35	24	36	10	250	5	19	8	274	76	1.6	6	34	0.3~30Ω
375W	210	40	25	38	12	250	5	20	8	274	78	1.6	6	34	0.3~38Ω
450W	260	40	25	38	12	300	5	20	8	320	78	1.6	6	34	0.3~45Ω
600W	330	40	25	38	12	370	5	20	8	395	78	1.6	6	34	0.3~60Ω
750W	330	50	35	50	12	380	6	25	9	400	100	1.6	8	40	0.3~75Ω
900W	400	50	35	50	12	450	6	25	9	470	100	1.6	8	40	0.3~90Ω
1000W	460	50	35	50	12	510	6	25	9	530	100	1.6	8	40	0.5~100Ω
1200W	460	60	40	55	15	515	6	30	10	535	110	1.6	10	50	0.5~120Ω
1500W	540	60	40	55	15	595	6	30	10	615	110	1.6	10	50	0.5~150Ω
2000W	650	65	42	62	15	702	6	30	10	722	115	1.6	10	50	0.5~200Ω

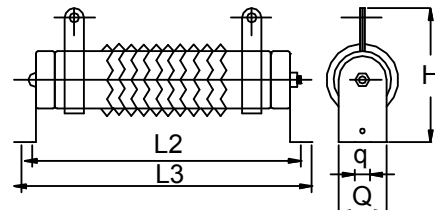
(DQBN) 30W ~ 20000W Dimensions



Non-Inductive Power Resistors
(DQBN) N - No mount Dimensions



Non-Inductive Power Resistors
(DQBN) Z - Vertical mount Dimensions



Non-Inductive Power Resistors (DQBN)
G - Horizontal mount Dimensions

Wattage Rating	Dimensions (mm)										Resistance Range
	R	L1	L2	L3	H	N	d	M	q	Q	
30W	20	70	100	120	50	6	3.5	5	5	20	2~1KΩ
40W	20	87	115	137	50	6	3.5	5	5	20	2~1KΩ
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100W	28	170	195	223	68	9	4.5	5.5	6	27	10~3KΩ
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2000W	70	510	530	572	138	15	8	-	8	69	40~500Ω
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12000W	150	660	685	780	350	30	8	-	10	150	40~500Ω
15000W	150	660	685	780	350	30	8	-	10	150	40~500Ω
20000W	150	1000	1030	1120	350	30	8	-	10	150	40~500Ω

▶ Power-Rib Wirewound (DQ) Specifications

Test Item	Test Methods	Characteristics
Resistance tolerance	JIS-C-5202 5-1	Resistance Nominal Tolerance $1 \leq R$ $1 > R$ $\pm 5\%(J) \pm 10\%(K)$
Temperature coefficient	JIS-C-5202 5-2	$\pm 400 \text{PPM}/^{\circ}\text{C}$ MAX
Load rating	JIS-C-5202 5-4	$\Delta R/R \leq \pm(0.5\% + 0.1\Omega)$ Surface temperature up 350°C MAX
Short-term overload	JIS-C-5202 5-5 500% rated wattage 5 seconds	Free of appearance or structural irregularity $\Delta R/R \leq \pm(2\% + 0.1\Omega)$
Insulation resistance	JIS-C-5202 5-6 500VDC	100M Ω min
Dielectric withstanding voltage	JIS-C-5202 5-7 1000VDC 1 minute Between terminal and anchor stand	Free of appearance or structural irregularity $\Delta R/R \leq \pm(0.1\% + 0.05\Omega)$
Terminal strength	JIS-C-5202 6-1 8kg 30 seconds	Free of appearance or structural irregularity
Vibration	JIS-C-5202 6-3; 1.5m/m 10 ~ 50 ~ 10 Hz/min X-Y-Z 2 hours each	Free of appearance or structural irregularity Surface coating crack $\Delta R/R \leq \pm(1\% + 0.05\Omega)$
Thermal shock	JIS-C-5202 7-3 Room temp 30 minutes ON- 55°C 15 minutes OFF	Free of structural irregularity $\Delta R/R \leq \pm(1\% + 0.05\Omega)$
Humidity	JIS-C-5202 7-5 40°C 90%RH 240 hours	Free of appearance or structural irregularity Surface coating crack $\Delta R/R \leq \pm(3\% + 0.1\Omega)$
Load life	JIS-C-5202 7-10 90 minutes ON - 30 minutes OFF 500 hours	Free of appearance or structural irregularity Surface coating crack $\Delta R/R \leq \pm(5\% + 0.1\Omega)$
Flame retardation	JIS-C-5202 7-13-3-2 100% - 600% rated wattage load	US UL-94 flame retardation test V-0 grade noncombustible
REMARKS:	1. Resistance and resistance tolerance were tested in-house with micro resistance meter. 2. Coating refers to UL-certified data provided by supplier	

▶ How to Order

DQAN

❶

1500W

❷

100R

❸

K

❹

G

❺

❶ Part Number: DQA, DQB, DQAN, DQBN

❷ Rated Power (W): 75W~2000W
30W~20000W
75W~2000W
30W~20000W

❸ Resistance Value (Ω):

Code	Resistance Value
0R1	0.1 Ω
1R	1 Ω
10R	10 Ω
12R	12 Ω
100R	100 Ω

❹ Resistance Tolerance (%)

Code	Rated Power
H	$\pm 3\%$
J	$\pm 5\%$
K	$\pm 10\%$

❺ Assembly Method

Code	Rated Power
N	No mount.
C	Clip mount.
G	Horizontal mount.
Z	Vertical mount.

Back to 1st Page - Non-Inductive Power Resistors (DQN)