



Mn-Zn

# Ferrite Cores for Switching Power Supplies

# PQ series

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**REMINDERS FOR USING THESE PRODUCTS**

Please be sure to read this manual thoroughly before using the products.

The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

When using the products for specific purposes, please first make confirmations in areas such as safety, reliability, and quality.

Please understand that we are not in a position to be held responsible for any damage or the like caused by any use exceeding the range or conditions of this specification sheet or by any use in the specific applications.

- |   |  |
|---|--|
| (1) Aerospace/Aviation equipment                            | (8) Public information-processing equipment                                  |
| (2) Transportation equipment (electric trains, ships, etc.) | (9) Military equipment   |
| (3) Medical equipment                                       | (10) Electric heating apparatus, burning equipment                           |
| (4) Power-generation control equipment                      | (11) Disaster prevention/crime prevention equipment                          |
| (5) Atomic energy-related equipment                         | (12) Safety equipment  |
| (6) Seabed equipment  | (13) Other applications that are not considered general-purpose applications |
| (7) Transportation control equipment                        |  |

When using this product in general-purpose standard applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc to ensure higher safety.

# Ferrite Core for Switching Power Supplies

Product compatible with RoHS directive  
Halogen-free

## Overview of the PQ Series

### FEATURES

- TDK's original shapes
- The PQ Core occupies a smaller mounted area, as a transformer, compared to the E-core and EER-Core

### APPLICATION

Transformers and coils for Switched-mode power supplies (High Mounting Density, Low Profile)

### PART NUMBER CONSTRUCTION

PC47	PQ20/16	Z	-	2	2
Material	Size of PQ core	AL-value (Z: without air gap)		Type	Number of lead slot
PC47	PQ20/16			1 Without air gap	
PC90	PQ20/20			2 With air gap	
PC95	PQ26/20				
	PQ26/25				
	PQ32/20				
	PQ32/30				
	PQ35/35				
	PQ40/40				
	PQ50/50				

### RANGE OF USE AND STORAGE TEMPERATURE

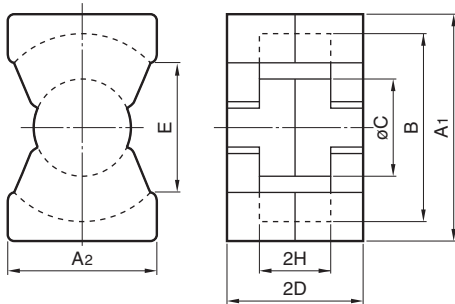
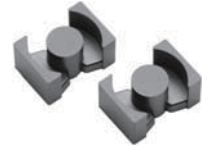
Temperature range	
Operating temperature (°C)	Storage temperature (°C)
-30 to +105	-30 to +85

- RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://www.tdk.co.jp/rohs/>
- Halogen-free: Indicates that Cl content is less than 900ppm, Br content is less than 900ppm, and that the total Cl and Br content is less than 1500ppm.

• All specifications are subject to change without notice.

# Mn-Zn PQ Cores

## SHAPES AND DIMENSIONS



PC47	PQ20/16	Z	-	1	2
<b>Material</b>	<b>Size of PQ core</b>	<b>AL-value (Z: without air gap)</b>		<b>Type</b>	<b>Number of lead slot</b>
				1 Without air gap	
				2 With air gap	

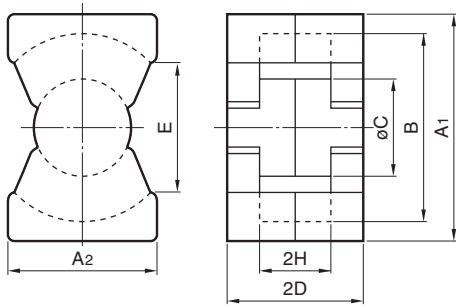
Part No.	Dimensions (mm)						
	A1	A2	B	øC	2D	E min.	2H
PC47PQ20/16Z-12 PC90PQ20/16Z-12 PC95PQ20/16Z-12	20.5±0.4	14.0±0.4	18.0±0.4	8.8±0.2	16.2±0.2	12.0	10.3±0.3
PC47PQ20/20Z-12 PC90PQ20/20Z-12 PC95PQ20/20Z-12	20.5±0.4	14.0±0.4	18.0±0.4	8.8±0.2	20.2±0.2	12.0	14.3±0.3
PC47PQ26/20Z-12 PC90PQ26/20Z-12 PC95PQ26/20Z-12	26.5±0.45	19.0±0.45	22.5±0.45	12.0±0.2	20.15±0.25	15.5	11.5±0.3
PC47PQ26/25Z-12 PC90PQ26/25Z-12 PC95PQ26/25Z-12	26.5±0.45	19.0±0.45	22.5±0.45	12.0±0.2	24.75±0.25	15.5	16.1±0.3
PC47PQ32/20Z-12 PC90PQ32/20Z-12 PC95PQ32/20Z-12	32.0±0.5	22.0±0.5	27.5±0.5	13.45±0.25	20.55±0.25	19.0	11.5±0.3

Part No.	Effective parameter					Electrical characteristics					
	Core factor $C_1(\text{mm}^{-1})$	Effective cross-sectional area $A_e(\text{mm}^2)$	Effective magnetic path length $\ell_e(\text{mm})$	Effective core volume $V_e(\text{mm}^3)$	Weigh (g)	AL-value		Core loss			
						(nH/N <sup>2</sup> ) 1kHz 0.5mA 100Ts		(W)max. 100kHz 200mT	100°C	25°C	80°C
PC47PQ20/16Z-12 PC90PQ20/16Z-12 PC95PQ20/16Z-12	0.605	62	37.4	2310	13	Without air gap	With air gap	100°C	25°C	80°C	120°C
3880±25%						100±5%	0.98	—	—	—	
3100±25%						250±7%	1.10	—	—	—	
PC47PQ20/20Z-12 PC90PQ20/20Z-12 PC95PQ20/20Z-12	0.738	62	45.4	2790	15	4480±25%	400±10%	—	1.14	0.96	1.14
3150±25%						100±5%	1.19	—	—	—	
2700±25%						160±5%	1.35	—	—	—	
PC47PQ26/20Z-12 PC90PQ26/20Z-12 PC95PQ26/20Z-12	0.391	119	46.3	5490	31	4000±25%	250±7%	—	1.38	1.16	1.38
6170±25%						160±5%	1.83	—	—	—	
5550±25%						315±5%	2.45	—	—	—	
PC47PQ26/25Z-12 PC90PQ26/25Z-12 PC95PQ26/25Z-12	0.472	118	55.5	6530	36	7470±25%	630±10%	—	2.62	2.20	2.62
5250±25%						160±5%	2.2	—	—	—	
4500±25%						315±5%	2.9	—	—	—	
PC47PQ32/20Z-12 PC90PQ32/20Z-12 PC95PQ32/20Z-12	0.326	170	55.5	9420	42	6520±25%	630±10%	—	3.14	2.63	3.14
7310±25%						160±5%	2.76	—	—	—	
6400±25%						315±5%	3.7	—	—	—	
						9120±25%	630±7%	—	3.94	3.31	3.94

• All specifications are subject to change without notice.

## Mn-Zn PQ Cores

## SHAPES AND DIMENSIONS



PC47	PQ32/30	Z	1	2
Material	Size of PQ core	AL-value (Z: without air gap)	Type	Number of lead slot
			1 Without air gap 2 With air gap	

Part No.	Dimensions (mm)						
	A1	A2	B	øC	2D	E min.	2H
PC47PQ32/30Z-12 PC90PQ32/30Z-12 PC95PQ32/30Z-12	32.0±0.5	22.0±0.5	27.5±0.5	13.45±0.25	30.35±0.25	19.0	21.3±0.3
PC47PQ35/35Z-12 PC90PQ35/35Z-12 PC95PQ35/35Z-12	35.1±0.6	26.0±0.5	32.0±0.5	14.35±0.25	34.75±0.25	23.5	25.0±0.3
PC47PQ40/40Z-12 PC90PQ40/40Z-12 PC95PQ40/40Z-12	40.5±0.9	28.0±0.6	37.0±0.6	14.9±0.3	39.75±0.25	28.0	29.5±0.3
PC47PQ50/50Z-12 PC90PQ50/50Z-12 PC95PQ50/50Z-12	50.0±0.7	32.0±0.5	44.0±0.7	20.0±0.35	49.95±0.25	31.5	36.1±0.3

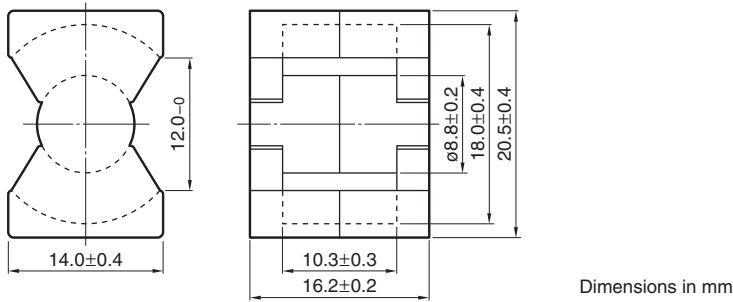
Part No.	Effective parameter					Electrical characteristics						
	Core factor $C_1(\text{mm}^{-1})$	Effective cross-sectional area $A_e(\text{mm}^2)$	Effective magnetic path length $\ell_e(\text{mm})$	Effective core volume $V_e(\text{mm}^3)$	Weigh (g)	AL-value		Core loss				
						(nH/N <sup>2</sup> ) 1kHz 0.5mA 100Ts		(W)max. 100kHz 200mT	100°C	25°C	80°C	120°C
PC47PQ32/30Z-12 PC90PQ32/30Z-12 PC95PQ32/30Z-12	0.464	161	74.6	12000	55	5140±25%	160±5%	3.71	—	—	—	
4900±25%						315±5%	4.90	—	—	—		
7000±25%						630±7%	—	5.30	4.45	5.30		
PC47PQ35/35Z-12 PC90PQ35/35Z-12 PC95PQ35/35Z-12	0.448	196	87.9	17300	73	4860±25%	160±5%	4.98	—	—	—	
4700±25%						315±5%	6.6	—	—	—		
7320±25%						630±7%	—	7.12	5.98	7.12		
PC47PQ40/40Z-12 PC90PQ40/40Z-12 PC95PQ40/40Z-12	0.508	201	102	20500	95	4300±25%	160±5%	6.21	—	—	—	
4300±25%						315±5%	8.2	—	—	—		
6400±25%						630±7%	—	8.87	7.45	8.87		
PC47PQ50/50Z-12 PC90PQ50/50Z-12 PC95PQ50/50Z-12	0.346	328	113	37200	195	6720±25%	250±5%	15.26	—	—	—	
6250±25%						400±5%	8.4*	—	—	—		
9700±25%						630±5%	—	9.00*	7.50*	9.00*		

\* 100kHz, 150mT

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# Mn-Zn PQ series Part No.: PC47PQ20/16Z-12

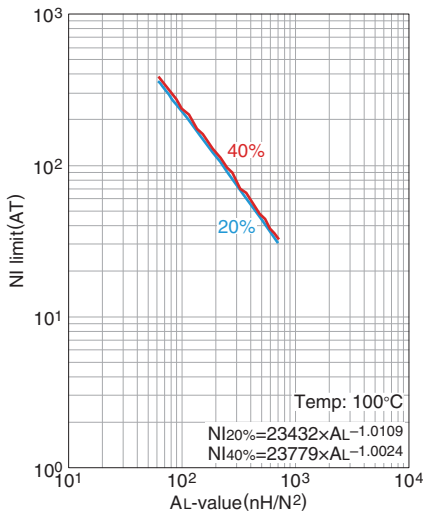
## ■ SHAPES AND DIMENSIONS



Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 1kHz 0.5mA 100°C
C <sub>1</sub> (mm <sup>-1</sup> )									
0.605	37.4	62	2310	60.8	58.1	47.4	13	3880±25%	0.98

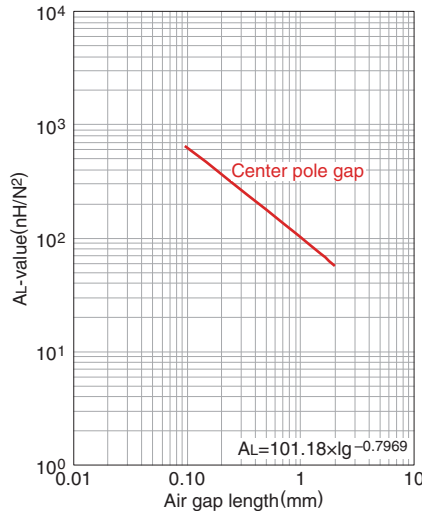
\* Coil : ø0.35 2UEW 100Ts  
 ○ Calculated output power (forward converter mode): 77W (100kHz)

NI limit vs. AL-value (Typ.)



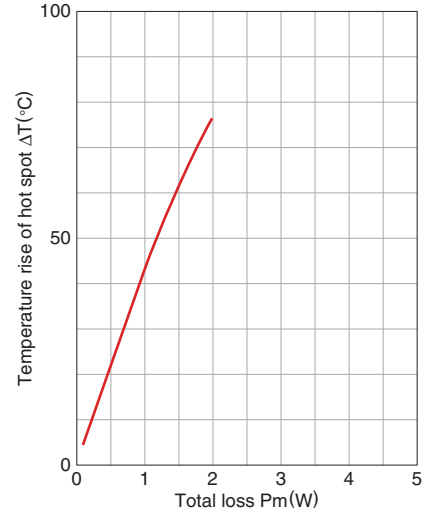
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

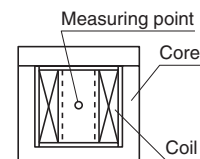


Measuring conditions  
 • Coil : ø0.35 2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



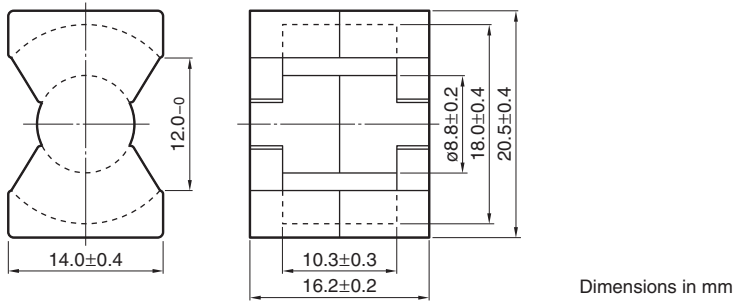
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity : 45%(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC90PQ20/16Z-12

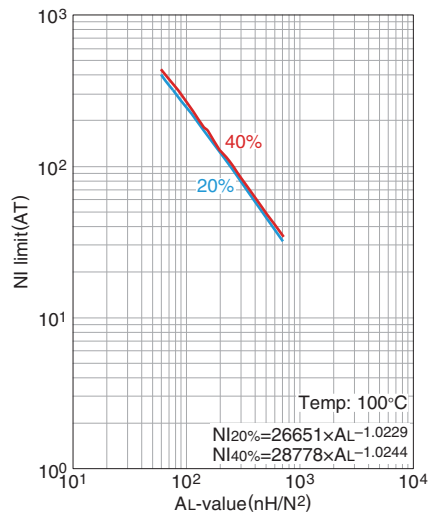
## ■ SHAPES AND DIMENSIONS



Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$	Effective cross-sectional area $A_e$	Effective core volume $V_e$	Cross-sectional center pole area $A_{cp}$	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$	Cross-sectional winding area of core $A_{cw}$	Weight	AL-value *	Core loss
$C_1$ (mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(g/set)	(nH/N <sup>2</sup> ) 1kHz 0.5mA	(W)max. 100kHz 200mT 100°C
0.605	37.4	62	2310	60.8	58.1	47.4	13	3100±25%	1.10

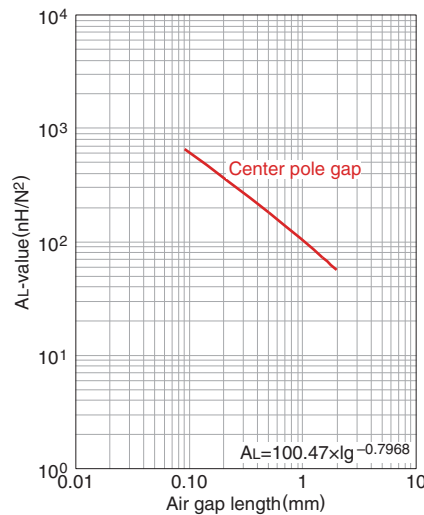
\* Coil :  $\phi 0.35$  2UEW 100Ts  
 ○ Calculated output power (forward converter mode): 70W

NI limit vs. AL-value (Typ.)



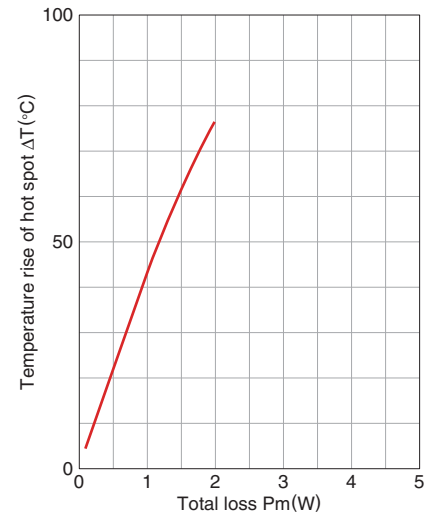
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

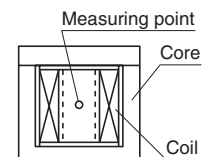


Measuring conditions  
 • Coil :  $\phi 0.35$  2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



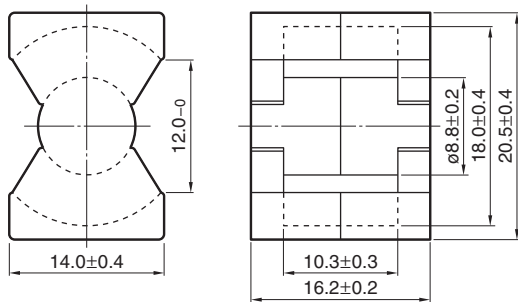
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity : 45(%)RH.



• All specifications are subject to change without notice.

Mn-Zn PQ series **Part No.: PC95PQ20/16Z-12**

## ■ SHAPES AND DIMENSIONS



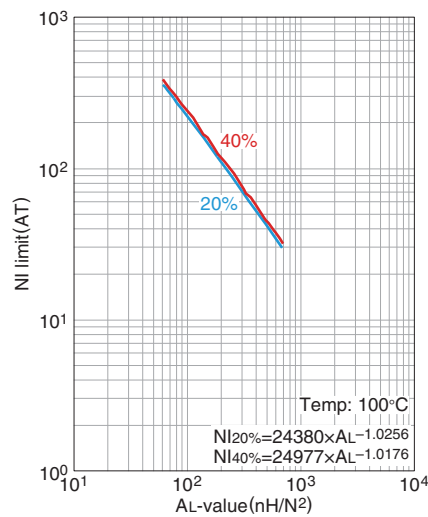
Dimensions in mm

Effective parameter								Electrical characteristics				
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value *	Core loss			
$C_1$	(mm <sup>-1</sup> )	(mm)	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(g/set)	(nH/N <sup>2</sup> ) 1kHz 0.5mA	(W)max. 100kHz 200mT 25°C   80°C   120°C			
0.605	37.4	62	2310	60.8	58.1	47.4	13	4480±25%	1.14	0.96	1.14	

\* Coil :  $\phi 0.35$  2UEW 100Ts

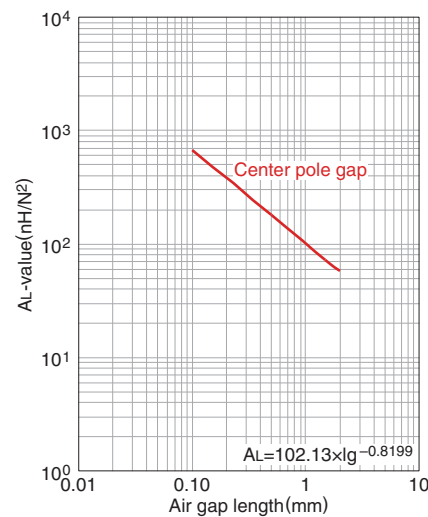
○ Calculated output power (forward converter mode): 74W

## NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

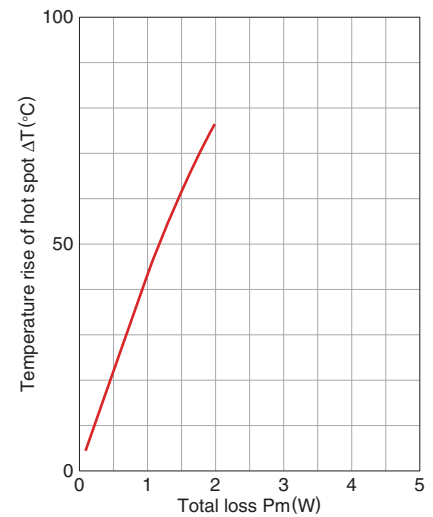
## AL-value vs. Air gap length (Typ.)



Measuring conditions

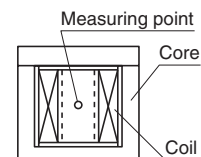
- Coil :  $\phi 0.35$  2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

## Temperature rise vs. Total loss (Typ.)



Measuring conditions

- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity : 45%(%)RH.

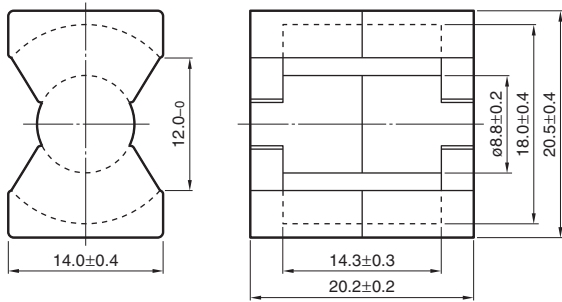


• All specifications are subject to change without notice.



# Mn-Zn PQ series Part No.: PC47PQ20/20Z-12

## ■ SHAPES AND DIMENSIONS



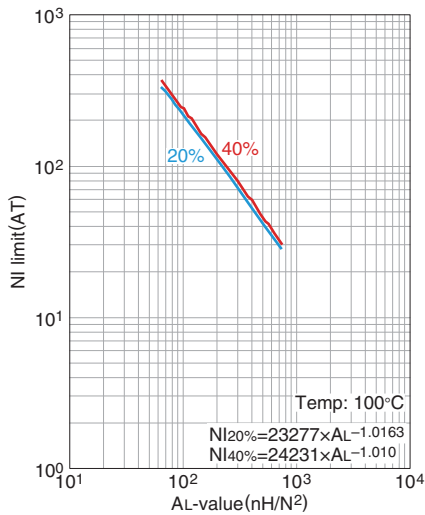
Dimensions in mm

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$	Effective cross-sectional area $A_e$	Effective core volume $V_e$	Cross-sectional center pole area $A_{cp}$	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$	Cross-sectional winding area of core $A_{cw}$	Weight	AL-value *	Core loss
$C_1$ (mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(g/set)	(nH/N <sup>2</sup> ) 1kHz 0.5mA	(W)max. 100kHz 200mT 100°C
0.738	45.4	62	2790	60.8	58.1	65.8	15	3150±25%	1.19

\* Coil : ø0.35 2UEW 100Ts

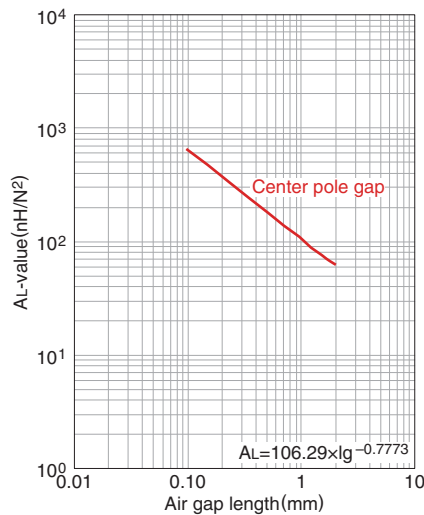
○ Calculated output power (forward converter mode): 99W (100kHz)

NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

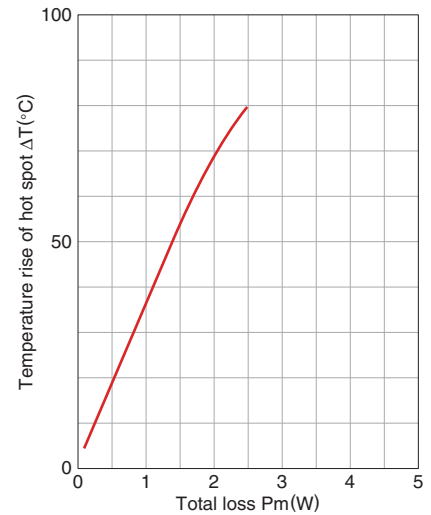
AL-value vs. Air gap length (Typ.)



Measuring conditions

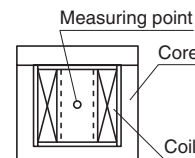
- Coil : ø0.35 2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



Measuring conditions

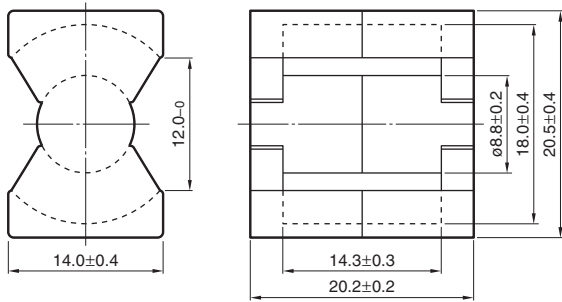
- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity : 45%(%)RH.



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# Mn-Zn PQ series Part No.: PC90PQ20/20Z-12

## SHAPES AND DIMENSIONS



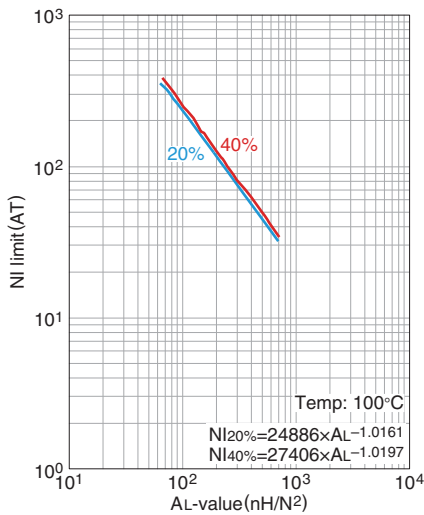
Dimensions in mm

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 1kHz 0.5mA 100°C
C <sub>1</sub> (mm <sup>-1</sup> )									
0.738	45.4	62	2790	60.8	58.1	65.8	15	2700±25%	1.35

\* Coil : ø0.35 2UEW 100Ts

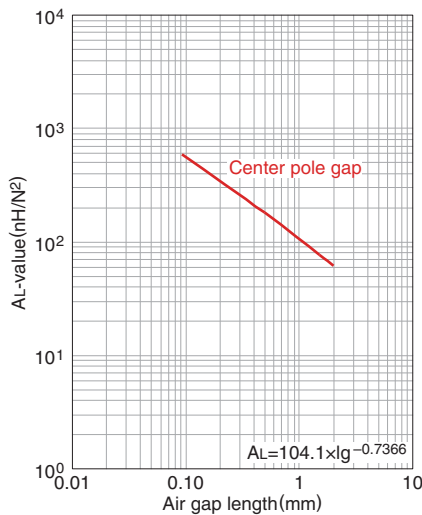
○ Calculated output power (forward converter mode): 92W

### NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

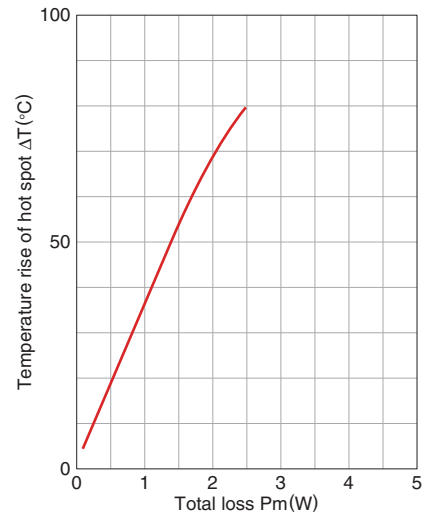
### AL-value vs. Air gap length (Typ.)



Measuring conditions

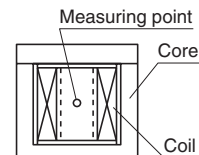
- Coil : ø0.35 2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

### Temperature rise vs. Total loss (Typ.)



Measuring conditions

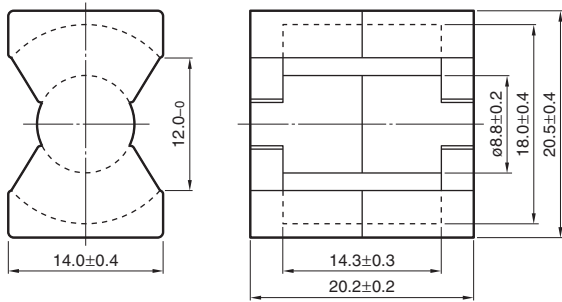
- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity : 45(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC95PQ20/20Z-12

## ■ SHAPES AND DIMENSIONS



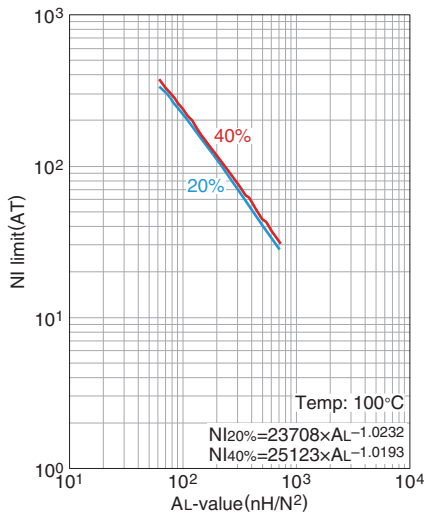
Dimensions in mm

Effective parameter								Electrical characteristics			
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max.		
$C_1$ (mm <sup>-1</sup> )								1kHz 0.5mA	25°C	80°C	120°C
0.738	45.4	62	2790	60.8	58.1	65.8	15	4000±25%	1.38	1.16	1.38

\* Coil : ø0.35 2UEW 100Ts

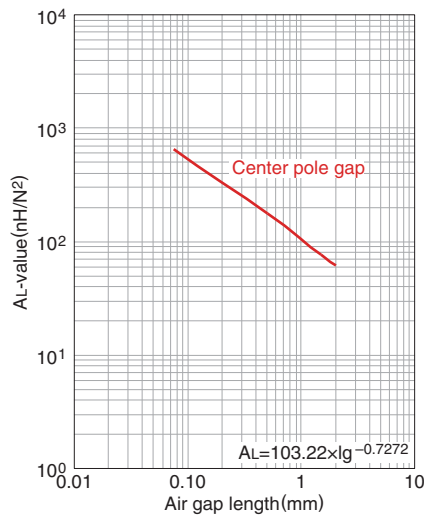
○ Calculated output power (forward converter mode): 96W

NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

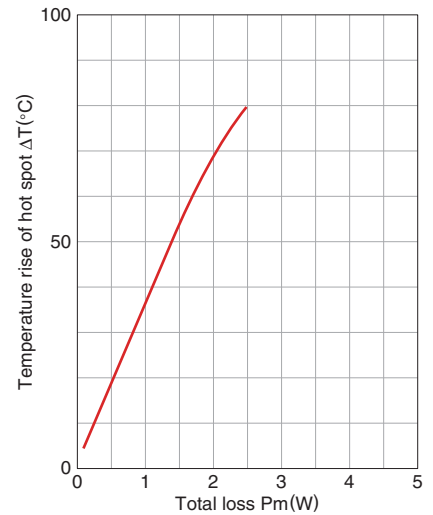
AL-value vs. Air gap length (Typ.)



Measuring conditions

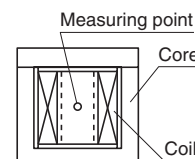
- Coil : ø0.35 2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



Measuring conditions

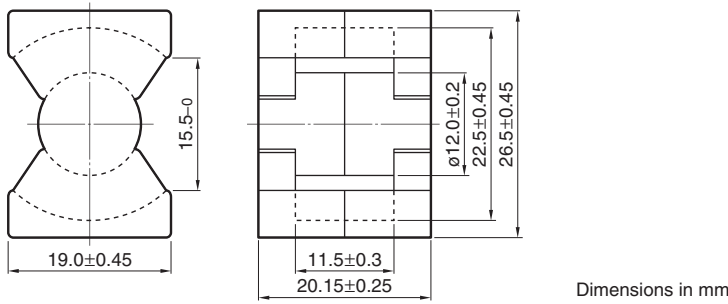
- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity: 45(%RH).



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC47PQ26/20Z-12

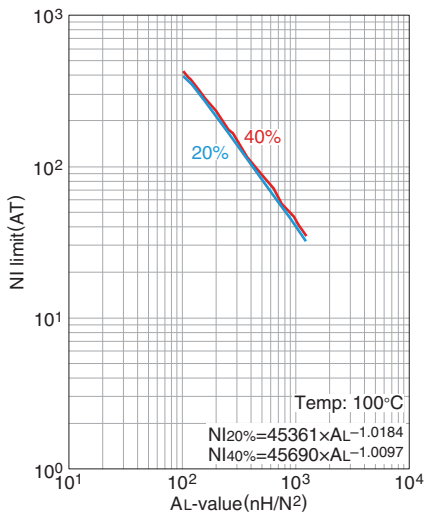
## SHAPES AND DIMENSIONS



Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 1kHz 0.5mA 100°C
C <sub>1</sub> (mm <sup>-1</sup> )									
0.391	46.3	119	5490	113	109	60.4	31	6170±25%	1.83

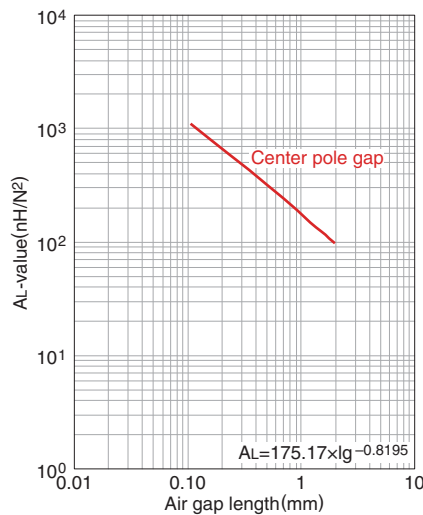
\* Coil :  $\phi 0.35$  2UEW 100Ts  
 ○ Calculated output power (forward converter mode): 170W (100kHz)

NI limit vs. AL-value (Typ.)



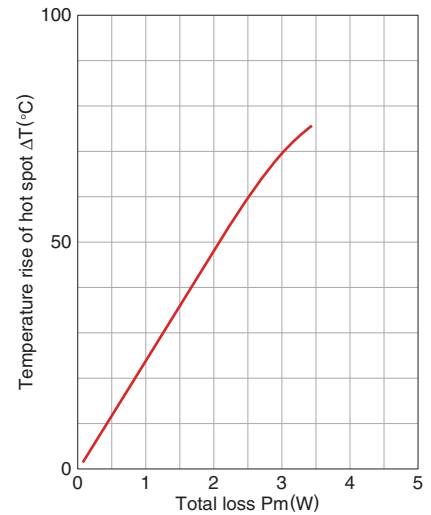
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

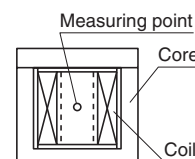


Measuring conditions  
 • Coil :  $\phi 0.35$  2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



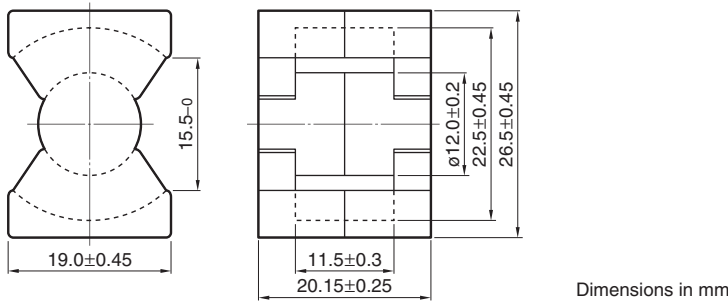
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity: 45(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC90PQ26/20Z-12

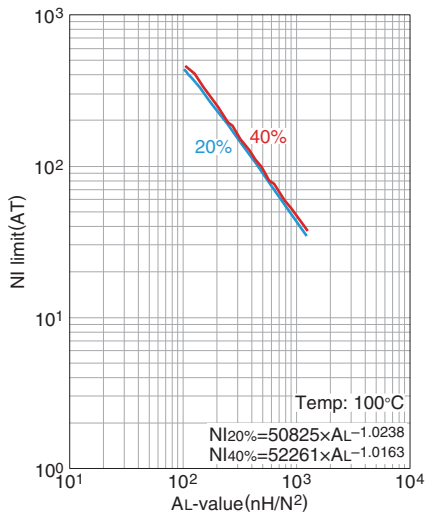
## SHAPES AND DIMENSIONS



Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 1kHz 0.5mA 100°C
C <sub>1</sub> (mm <sup>-1</sup> )									
0.391	46.3	119	5490	113	109	60.4	31	5500±25%	2.45

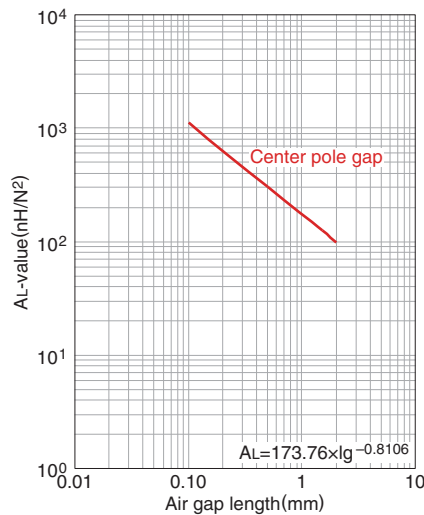
\* Coil :  $\phi 0.35$  2UEW 100Ts  
 ○ Calculated output power (forward converter mode): 145W

NI limit vs. AL-value (Typ.)



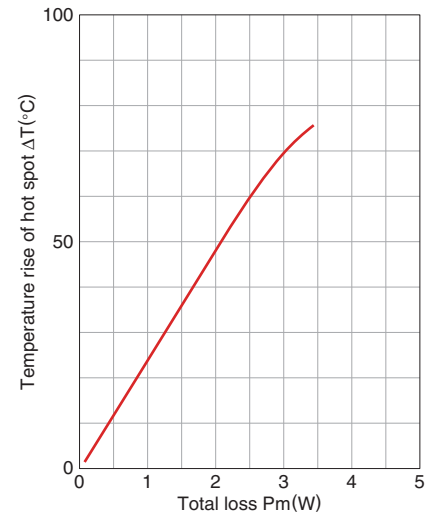
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

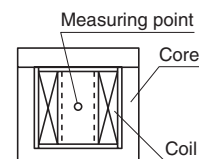


Measuring conditions  
 • Coil :  $\phi 0.35$  2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



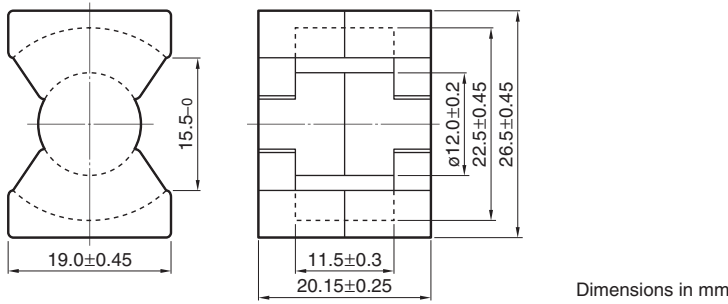
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity: 45%(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC95PQ26/20Z-12

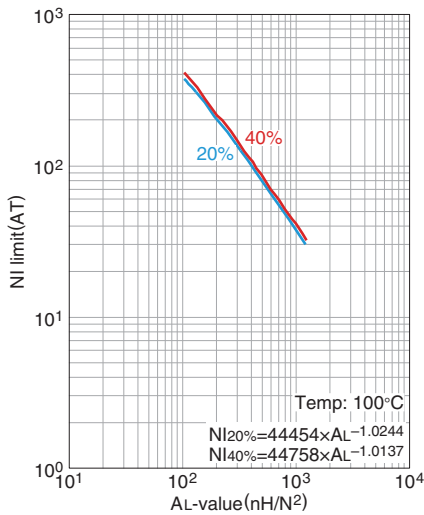
## SHAPES AND DIMENSIONS



Effective parameter								Electrical characteristics			
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max.		
$C_1$								1kHz 0.5mA	25°C	80°C	120°C
0.391	46.3	119	5490	113	109	60.4	31	7470±25%	2.62	2.20	2.62

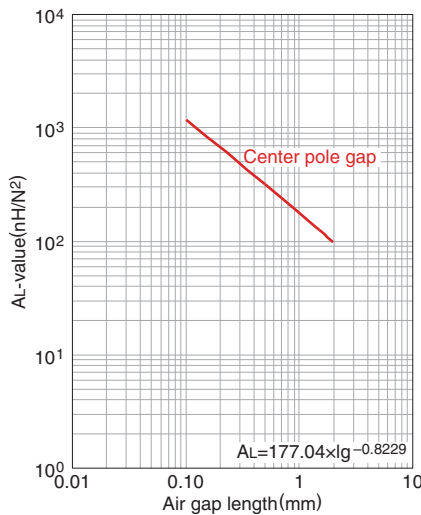
\* Coil :  $\phi 0.35$  2UEW 100Ts  
 ○ Calculated output power (forward converter mode): 160W

NI limit vs. AL-value (Typ.)



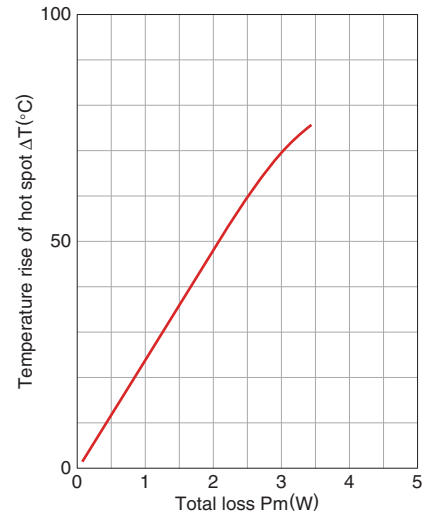
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

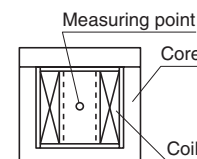


Measuring conditions  
 • Coil :  $\phi 0.35$  2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



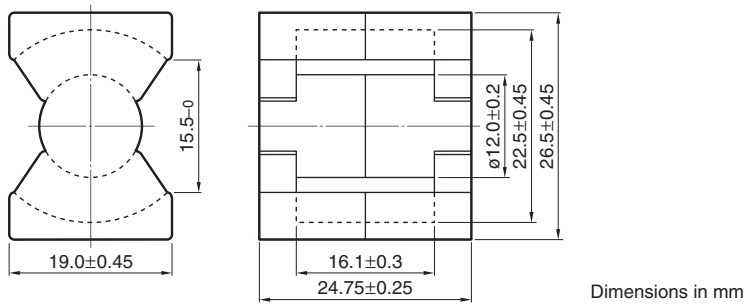
Measuring conditions  
 • Room space: approx. 400x300x300cm  
 • Ambient temperature : 25°C  
 • Humidity: 45%RH.



• All specifications are subject to change without notice.

Mn-Zn PQ series **Part No.: PC47PQ26/25Z-12**

## ■ SHAPES AND DIMENSIONS

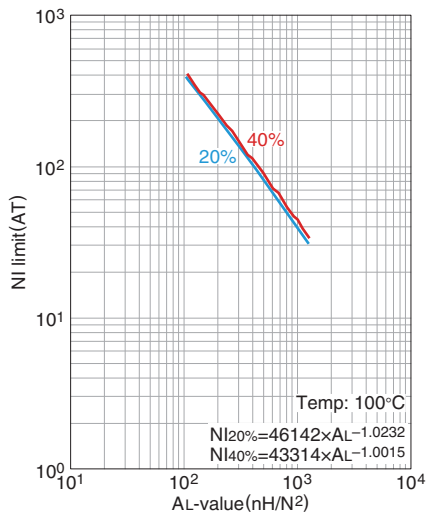


Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 1kHz 0.5mA 100°C
C <sub>1</sub> (mm <sup>-1</sup> )									
0.472	55.5	118	6530	113	109	84.5	36	5250±25%	2.2

\* Coil :  $\phi 0.35$  2UEW 100Ts

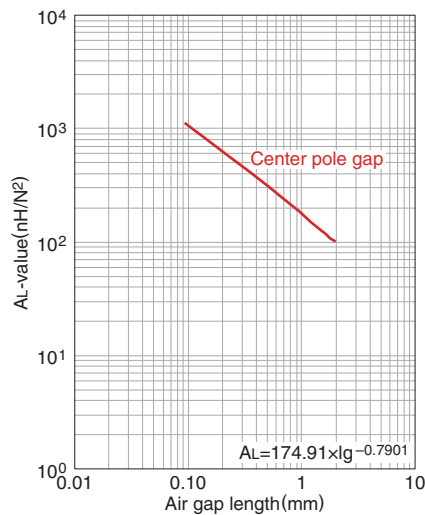
○ Calculated output power (forward converter mode): 221W (100kHz)

## NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

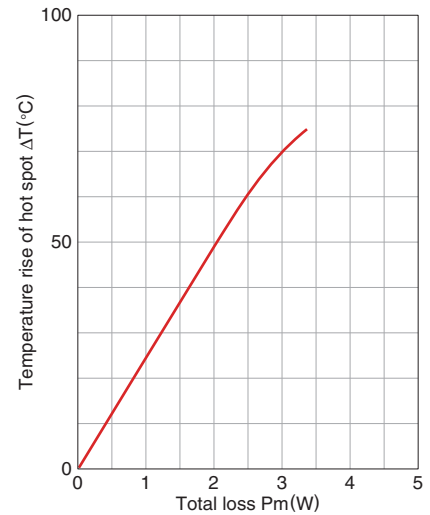
## AL-value vs. Air gap length (Typ.)



Measuring conditions

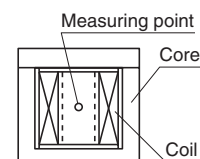
- Coil :  $\phi 0.35$  2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

## Temperature rise vs. Total loss (Typ.)



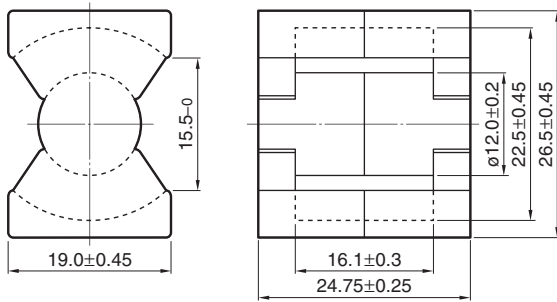
Measuring conditions

- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity : 45%(%)RH.



# Mn-Zn PQ series Part No.: PC90PQ26/25Z-12

## SHAPES AND DIMENSIONS



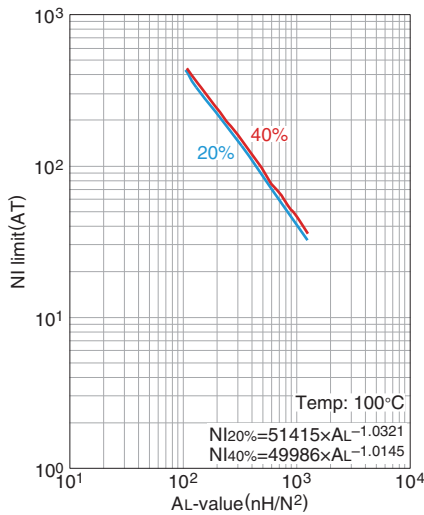
Dimensions in mm

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 1kHz 0.5mA 100°C
C <sub>1</sub> (mm <sup>-1</sup> )									
0.472	55.5	118	6530	113	109	84.5	36	4500±25%	2.9

\* Coil :  $\phi 0.35$  2UEW 100Ts

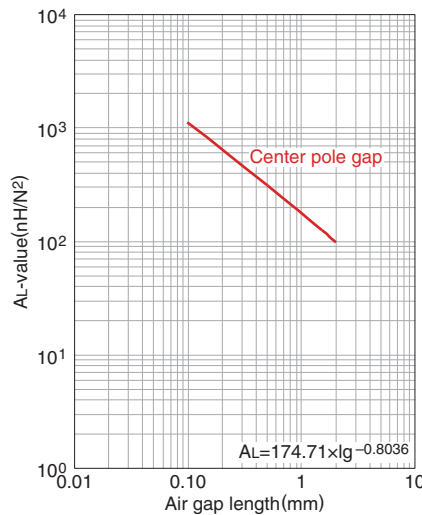
○ Calculated output power (forward converter mode): 195W

### NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

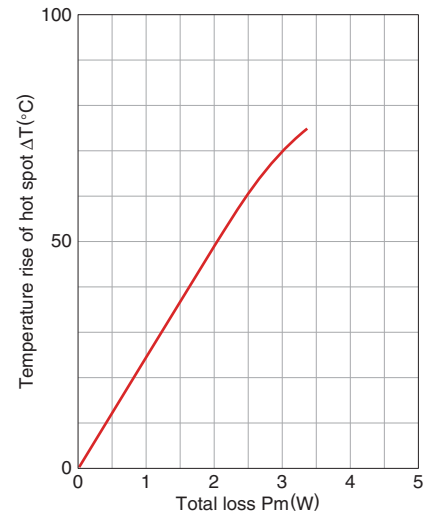
### AL-value vs. Air gap length (Typ.)



Measuring conditions

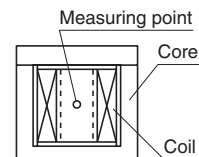
- Coil :  $\phi 0.35$  2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

### Temperature rise vs. Total loss (Typ.)



Measuring conditions

- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity : 45(%)RH.

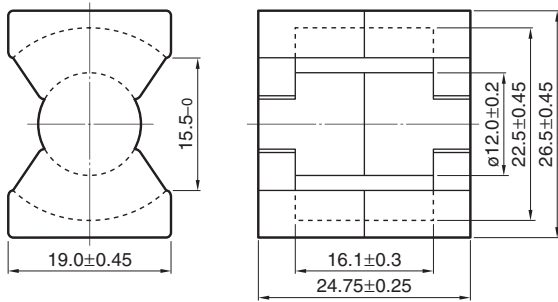


• All specifications are subject to change without notice.



# Mn-Zn PQ series Part No.: PC95PQ26/25Z-12

## SHAPES AND DIMENSIONS



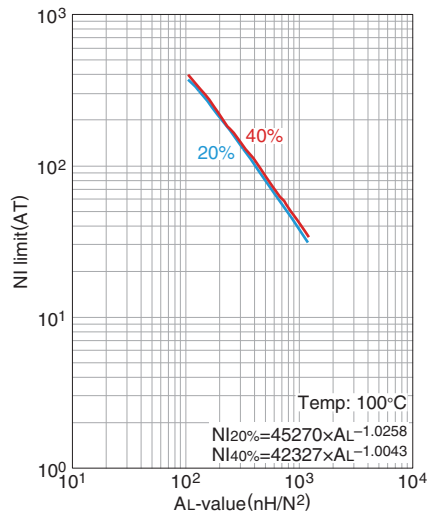
Dimensions in mm

Effective parameter								Electrical characteristics				
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max.			
$C_1$ (mm <sup>-1</sup> )								1kHz 0.5mA	100kHz 200mT	25°C	80°C	120°C
0.472	55.5	118	6530	113	109	84.5	36	6520±25%	3.14	2.63	3.14	

\* Coil :  $\phi 0.35$  2UEW 100Ts

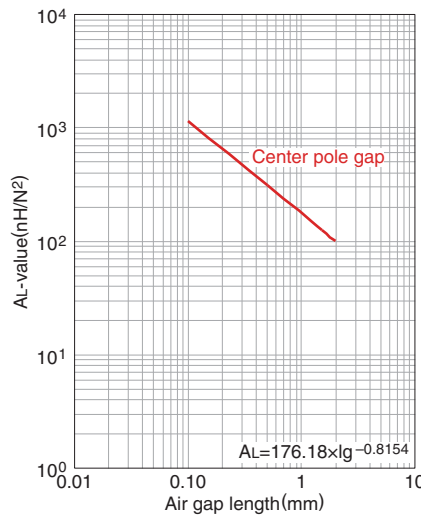
○ Calculated output power (forward converter mode): 206W

NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

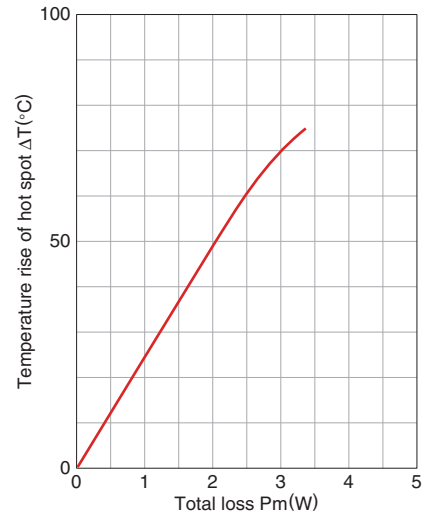
AL-value vs. Air gap length (Typ.)



Measuring conditions

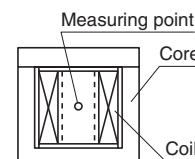
- Coil :  $\phi 0.35$  2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



Measuring conditions

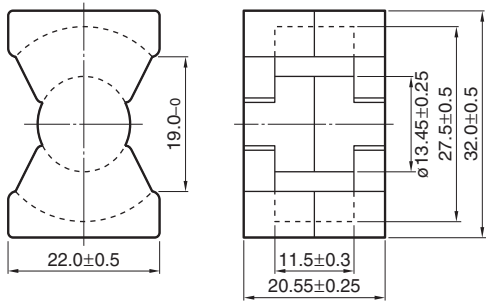
- Room space: approx. 400x300x300cm
- Ambient temperature : 25°C
- Humidity: 45%RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC47PQ32/20Z-12

## SHAPES AND DIMENSIONS



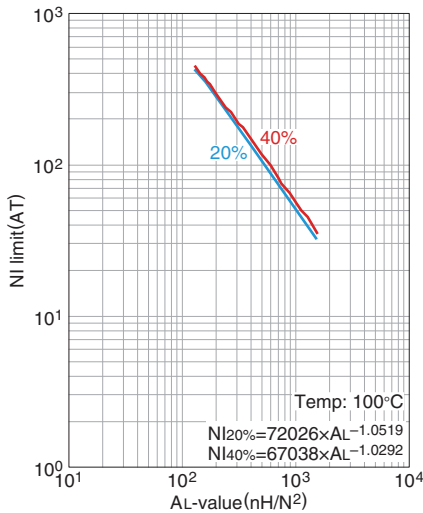
Dimensions in mm

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$	Effective cross-sectional area $A_e$	Effective core volume $V_e$	Cross-sectional center pole area $A_{cp}$	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$	Cross-sectional winding area of core $A_{cw}$	Weight	AL-value *	Core loss
$C_1$ (mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(g/set)	(nH/N <sup>2</sup> ) 1kHz 0.5mA	(W)max. 100kHz 200mT 100°C
0.326	55.5	170	9420	142	137	80.8	42	7310±25%	2.76

\* Coil :  $\phi 0.35$  2UEW 100Ts

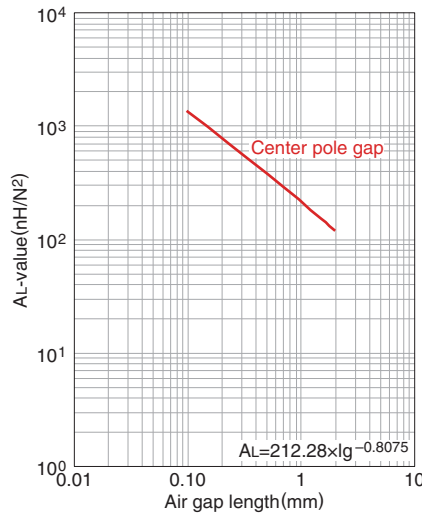
○ Calculated output power (forward converter mode): 245W (100kHz)

NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

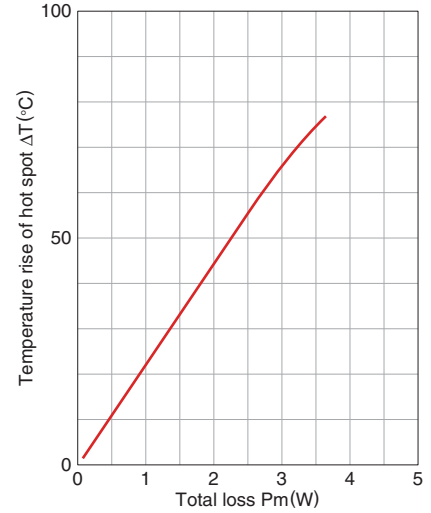
AL-value vs. Air gap length (Typ.)



Measuring conditions

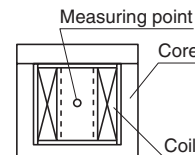
- Coil :  $\phi 0.35$  2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



Measuring conditions

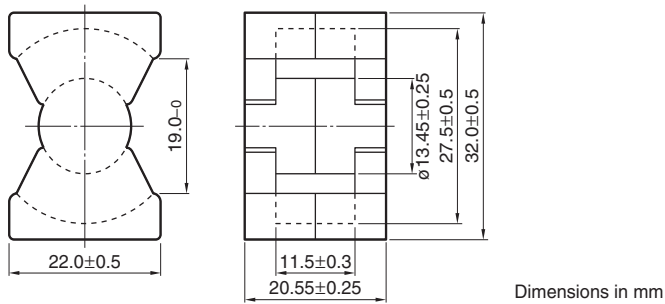
- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity : 45(% )RH.



• All specifications are subject to change without notice.

Mn-Zn PQ series **Part No.: PC90PQ32/20Z-12**

## ■ SHAPES AND DIMENSIONS

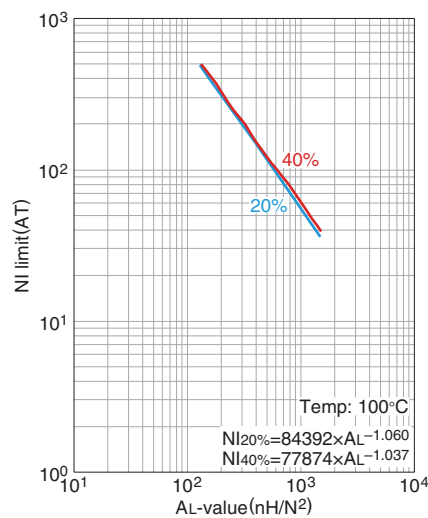


Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 1kHz 0.5mA 100°C
0.326	55.5	170	9420	142	137	80.8	42	6400±25%	3.7

\* Coil :  $\phi 0.35$  2UEW 100Ts

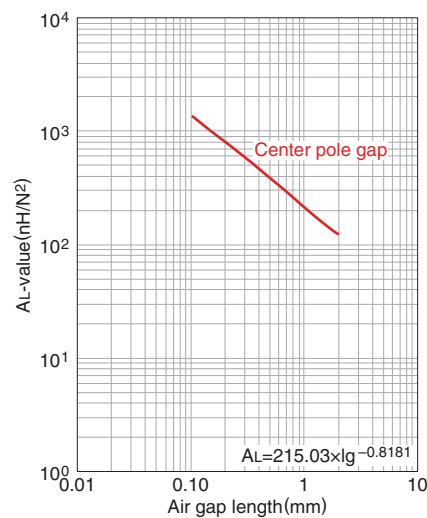
○ Calculated output power (forward converter mode): 224W

## NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

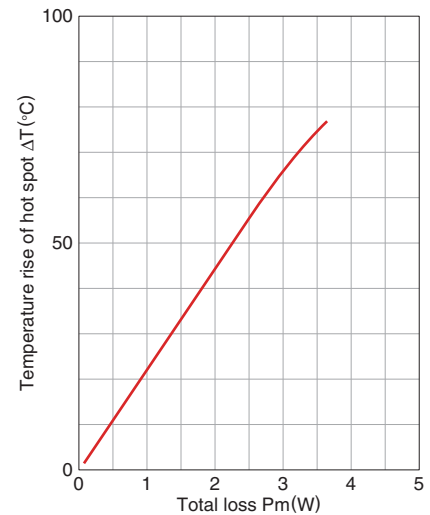
## AL-value vs. Air gap length (Typ.)



Measuring conditions

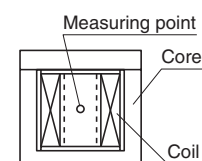
- Coil :  $\phi 0.35$  2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

## Temperature rise vs. Total loss (Typ.)



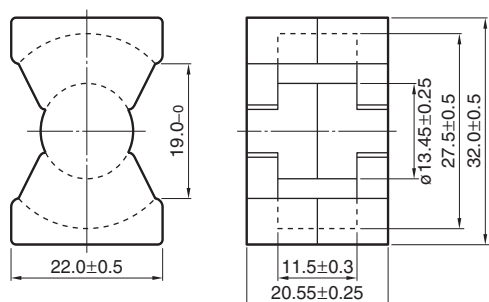
Measuring conditions

- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity : 45%(%)RH.



Mn-Zn PQ series **Part No.: PC95PQ32/20Z-12**

## ■ SHAPES AND DIMENSIONS



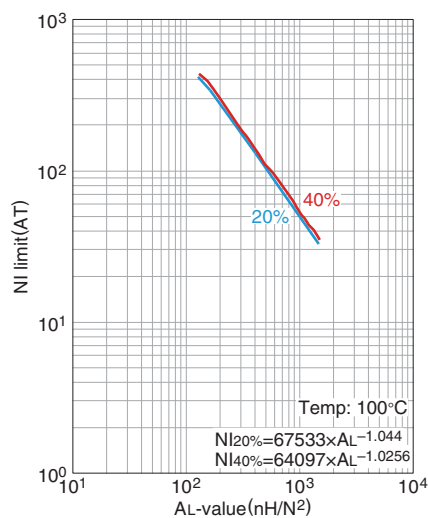
Dimensions in mm

Effective parameter								Electrical characteristics				
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value *	Core loss			
$C_1$	(mm <sup>-1</sup> )	(mm)	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(g/set)	(nH/N <sup>2</sup> ) 1kHz 0.5mA	(W)max. 100kHz 200mT	25°C	80°C	120°C
0.326	55.5	170	9420	142	137	80.8	42	9120±25%	3.94	3.31	3.94	

\* Coil :  $\phi 0.35$  2UEW 100Ts

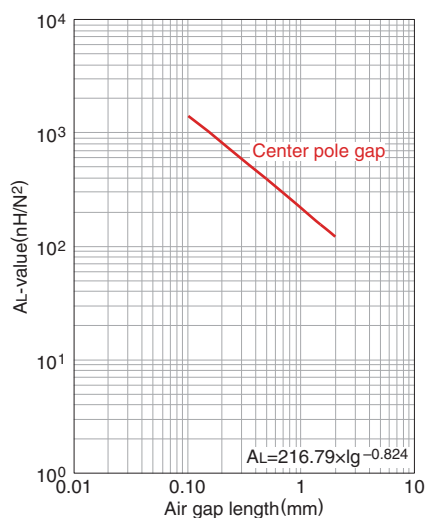
○ Calculated output power (forward converter mode): 237W

## NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

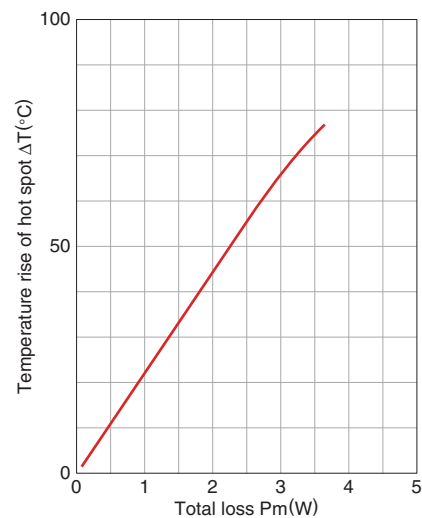
## AL-value vs. Air gap length (Typ.)



Measuring conditions

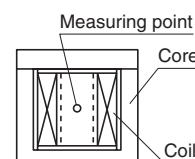
- Coil :  $\phi 0.35$  2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

## Temperature rise vs. Total loss (Typ.)



Measuring conditions

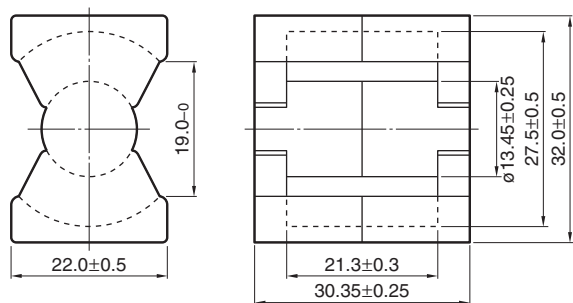
- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity: 45%(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC47PQ32/30Z-12

## SHAPES AND DIMENSIONS



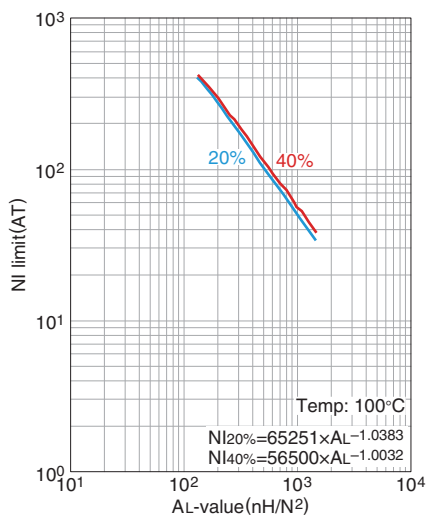
Dimensions in mm

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 1kHz 0.5mA 100°C
C <sub>1</sub> (mm <sup>-1</sup> )									
0.464	74.6	161	12000	142	137	149.6	55	5140±25%	3.71

\* Coil :  $\phi 0.4$  2UEW 100Ts

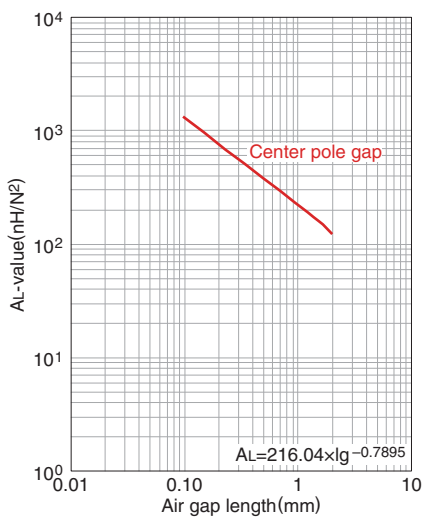
○ Calculated output power (forward converter mode): 374W (100kHz)

NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

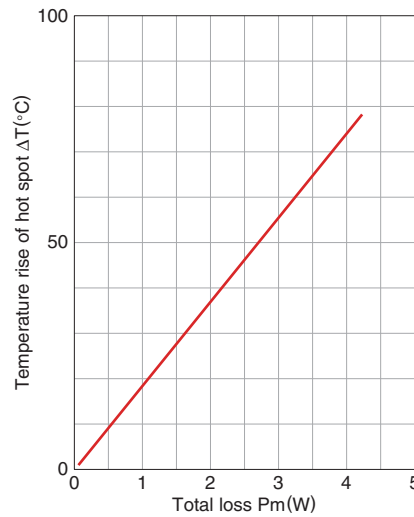
AL-value vs. Air gap length (Typ.)



Measuring conditions

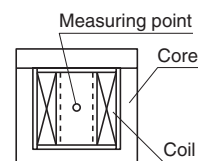
- Coil :  $\phi 0.4$  2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



Measuring conditions

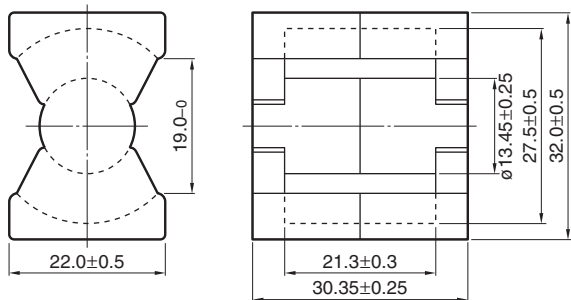
- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity : 45%(%)RH.



All specifications are subject to change without notice.

# Mn-Zn PQ series **Part No.: PC90PQ32/30Z-12**

## SHAPES AND DIMENSIONS



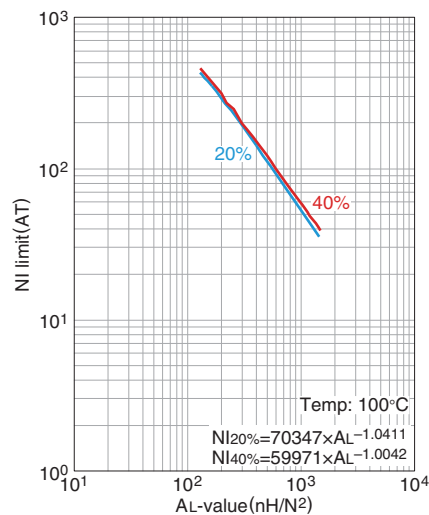
Dimensions in mm

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 1kHz 200mT 100°C
C <sub>1</sub> (mm <sup>-1</sup> )								(nH/N <sup>2</sup> ) 1kHz 0.5mA	(W)max. 100kHz 200mT 100°C
0.464	74.6	161	12000	142	137	149.6	55	4900±25%	4.90

\* Coil :  $\phi 0.4$  2UEW 100Ts

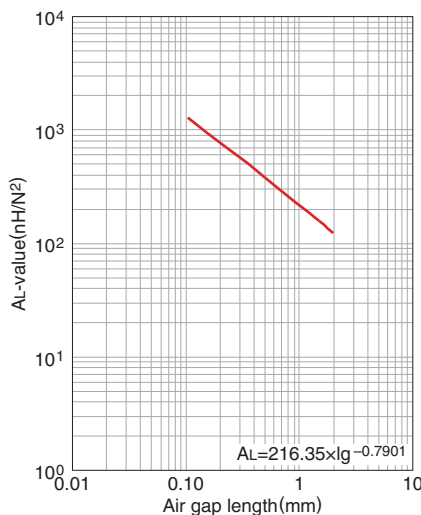
○ Calculated output power (forward converter mode): 348W

NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

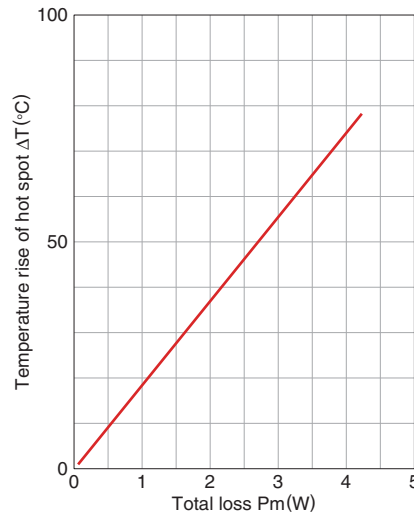
AL-value vs. Air gap length (Typ.)



Measuring conditions

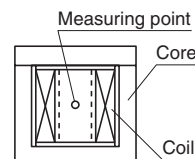
- Coil :  $\phi 0.4$  2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



Measuring conditions

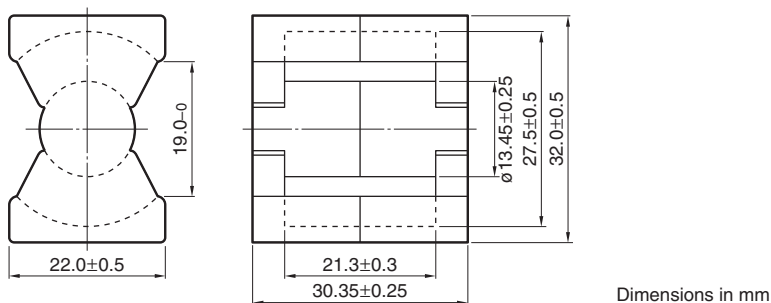
- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity : 45%(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series **Part No.: PC95PQ32/30Z-12**

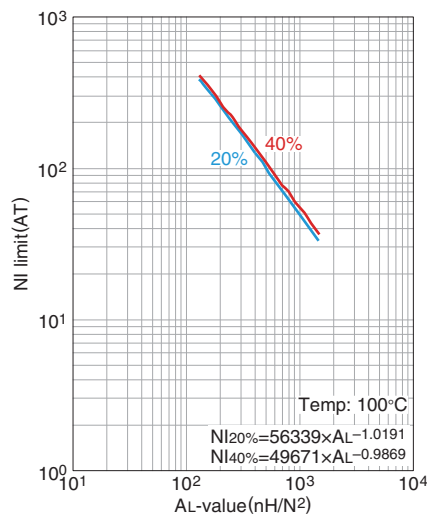
## ■ SHAPES AND DIMENSIONS



Effective parameter								Electrical characteristics			
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max.		
$C_1$	$l_e$	$A_e$	$V_e$	$A_{cp}$	$A_{cp \text{ min.}}$	$A_{cw}$		1kHz 0.5mA	25°C	80°C	120°C
0.464	74.6	161	12000	142	137	149.6	55	7000±25%	5.30	4.45	5.30

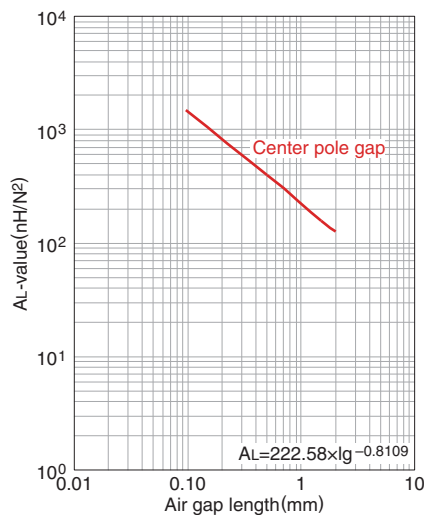
\* Coil : ø0.4 2UEW 100Ts  
 ○ Calculated output power (forward converter mode): 365W

**NI limit vs. AL-value (Typ.)**



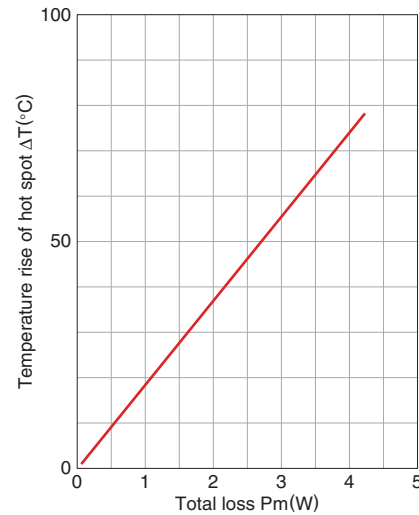
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

**AL-value vs. Air gap length (Typ.)**

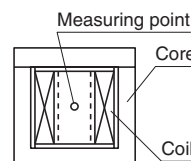


Measuring conditions  
 • Coil : ø0.4 2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

**Temperature rise vs. Total loss (Typ.)**



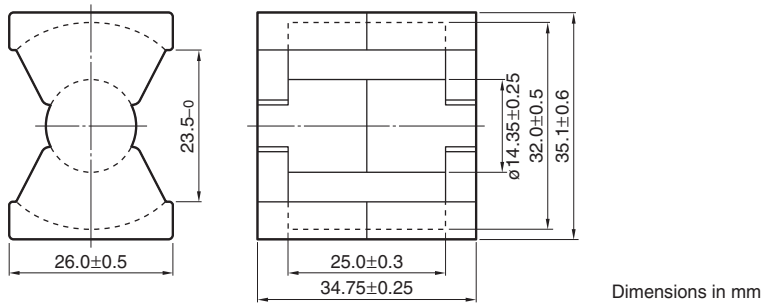
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity: 45%(%)RH.



• All specifications are subject to change without notice.

Mn-Zn PQ series **Part No.: PC47PQ35/35Z-12**

## ■ SHAPES AND DIMENSIONS

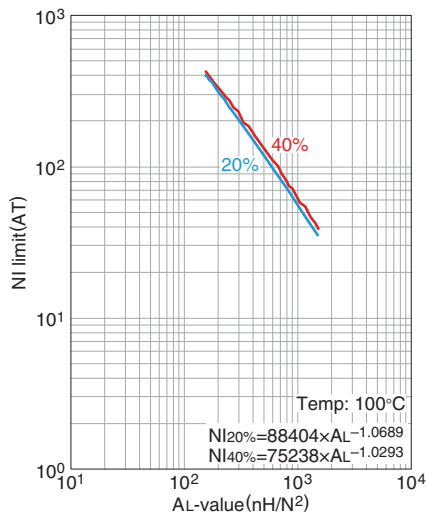


Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 100kHz 200mT 100°C
C <sub>1</sub> (mm <sup>-1</sup> )								(nH/N <sup>2</sup> ) 1kHz 0.5mA	
0.448	87.9	196	17300	162	156	220.6	73	4860±25%	4.98

\* Coil :  $\phi 0.4$  2UEW 100Ts

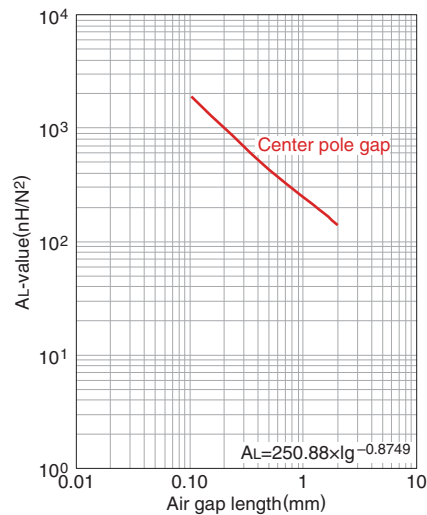
○ Calculated output power (forward converter mode): 495W (100kHz)

## NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

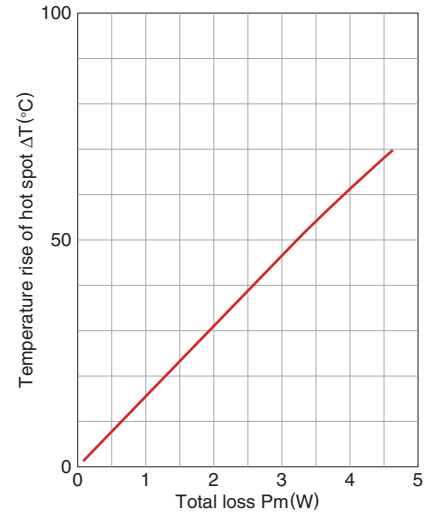
## AL-value vs. Air gap length (Typ.)



Measuring conditions

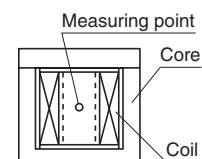
- Coil :  $\phi 0.4$  2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

## Temperature rise vs. Total loss (Typ.)



Measuring conditions

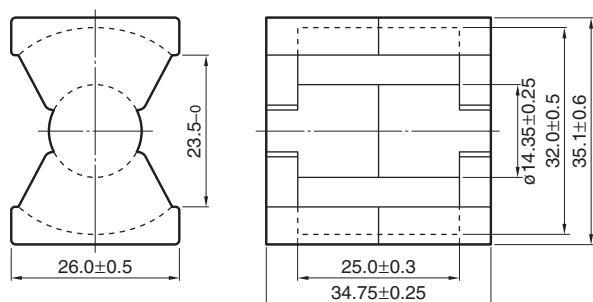
- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity : 45%(%)RH.





# Mn-Zn PQ series Part No.: PC90PQ35/35Z-12

## SHAPES AND DIMENSIONS



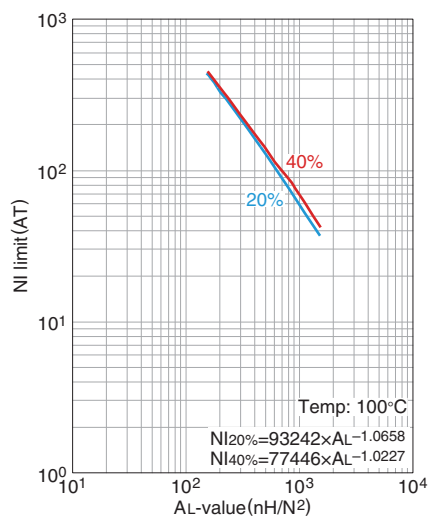
Dimensions in mm

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 100kHz 200mT 100°C
C <sub>1</sub> (mm <sup>-1</sup> )								(nH/N <sup>2</sup> ) 1kHz 0.5mA	
0.448	87.9	196	17300	162	156	220.6	73	4700±25%	6.6

\* Coil : ø0.4 2UEW 100Ts

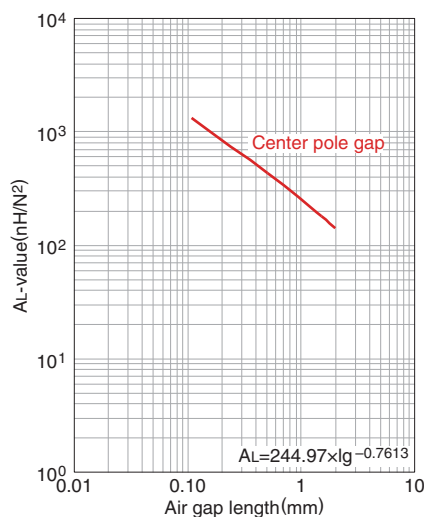
○ Calculated output power (forward converter mode): 476W

NI limit vs. AL-value (Typ.)



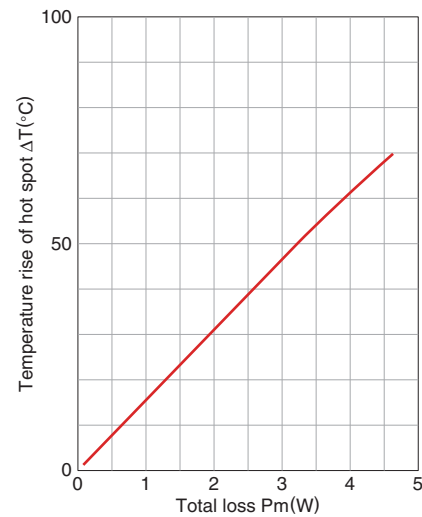
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

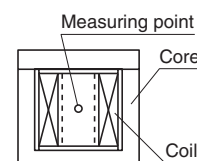


Measuring conditions  
 • Coil : ø0.4 2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



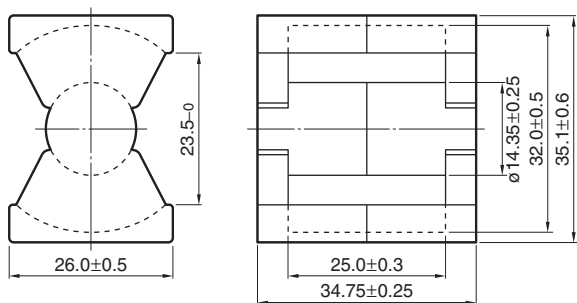
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity : 45%(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC95PQ35/35Z-12

## ■ SHAPES AND DIMENSIONS



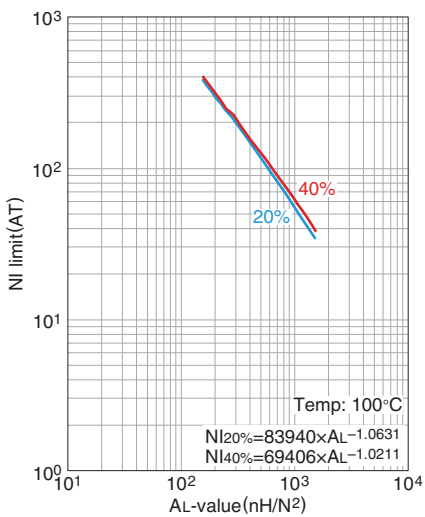
Dimensions in mm

Effective parameter								Electrical characteristics			
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max.		
$C_1$ (mm <sup>-1</sup> )								1kHz 0.5mA	25°C	80°C	120°C
0.448	87.9	196	17300	162	156	220.6	73	7320±25%	7.12	5.98	7.12

\* Coil : ø0.4 2UEW 100Ts

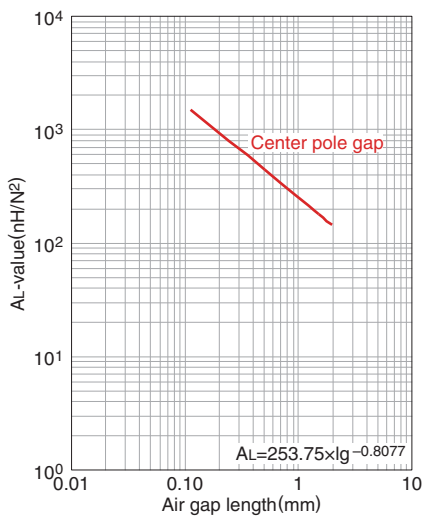
○ Calculated output power (forward converter mode): 512W

NI limit vs. AL-value (Typ.)



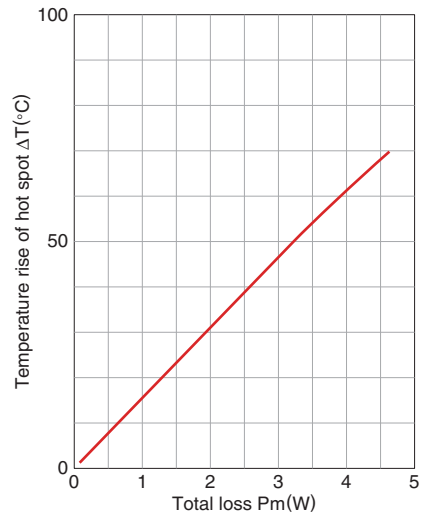
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

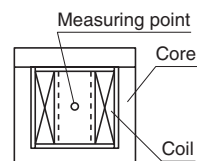


Measuring conditions  
 • Coil : ø0.4 2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



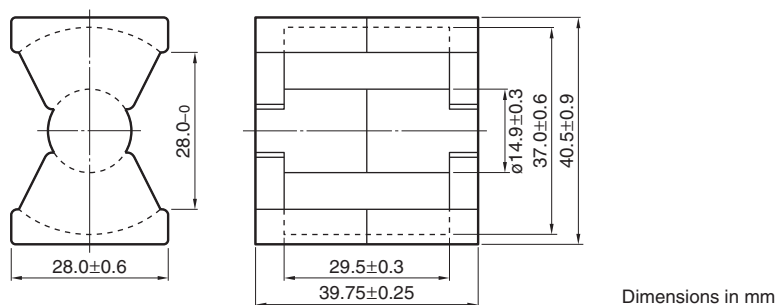
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity: 45%(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC47PQ40/40Z-12

## SHAPES AND DIMENSIONS



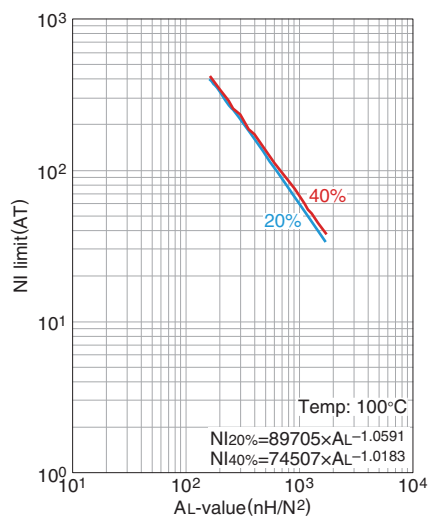
Dimensions in mm

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$	Effective cross-sectional area $A_e$	Effective core volume $V_e$	Cross-sectional center pole area $A_{cp}$	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$	Cross-sectional winding area of core $A_{cw}$	Weight	AL-value *	Core loss
$C_1$ (mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(g/set)	(nH/N <sup>2</sup> ) 1kHz 0.5mA	(W)max. 100kHz 200mT 100°C
0.508	102	201	20500	174	167	326	95	4300±25%	6.21

\* Coil :  $\phi 0.4$  2UEW 100Ts

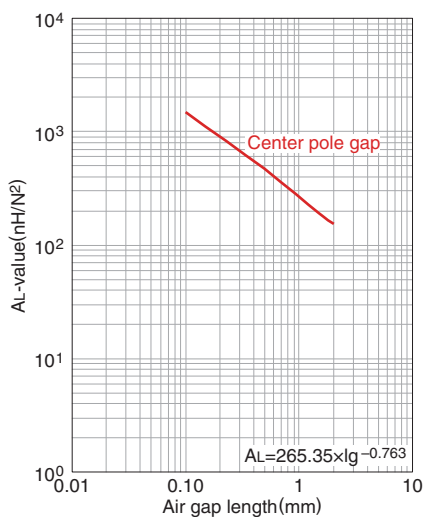
○ Calculated output power (forward converter mode): 708W (100kHz)

NI limit vs. AL-value (Typ.)



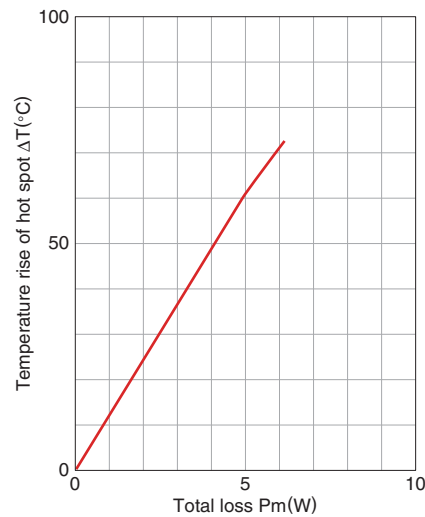
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

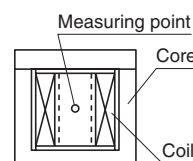


Measuring conditions  
 • Coil :  $\phi 0.4$  2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



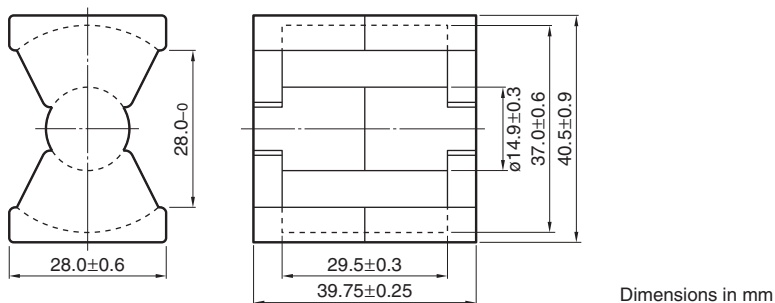
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity : 45%(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC90PQ40/40Z-12

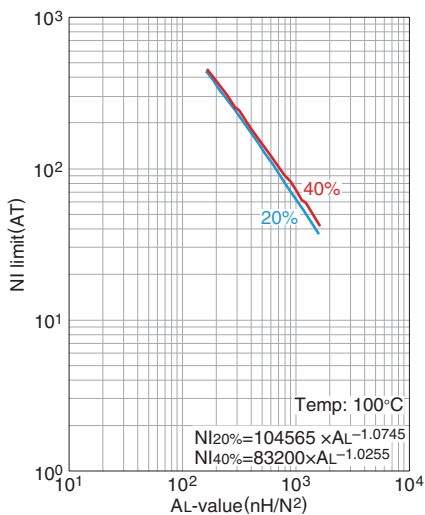
## ■ SHAPES AND DIMENSIONS



Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 1kHz 0.5mA 100°C
C <sub>1</sub> (mm <sup>-1</sup> )									
0.508	102	201	20500	174	167	326	95	4300±25%	8.2

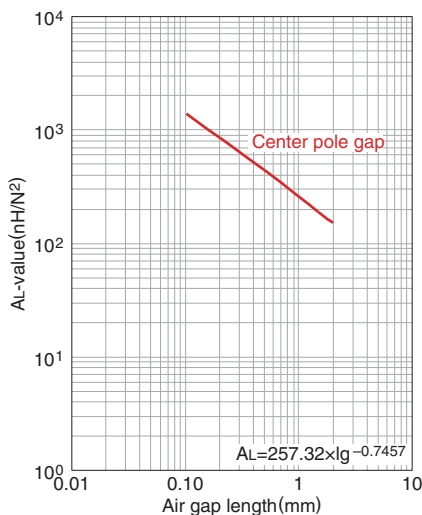
\* Coil : ø0.4 2UEW 100Ts  
 ○ Calculated output power (forward converter mode): 692W

NI limit vs. AL-value (Typ.)



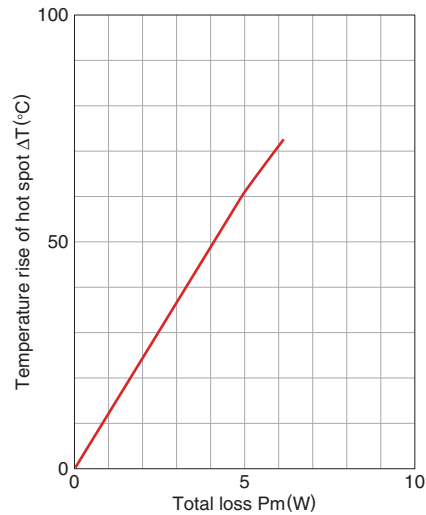
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

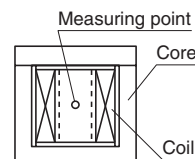


Measuring conditions  
 • Coil : ø0.4 2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



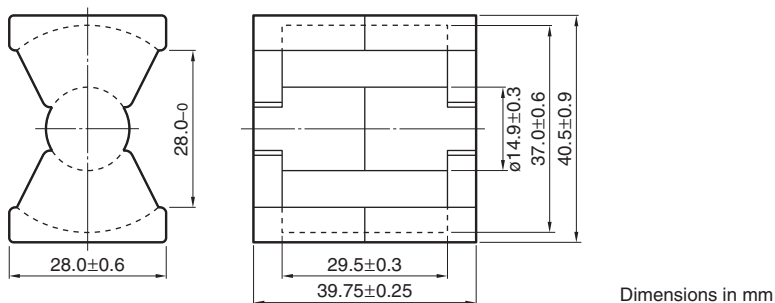
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity: 45%(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC95PQ40/40Z-12

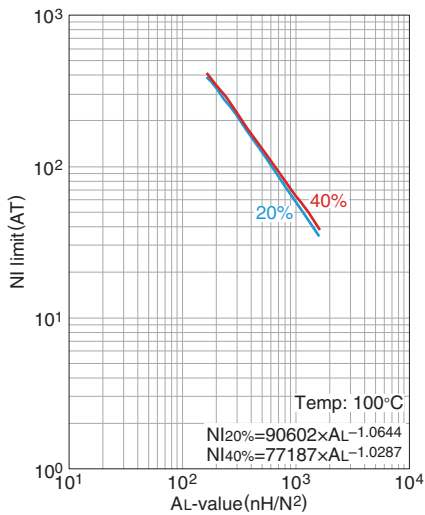
## ■ SHAPES AND DIMENSIONS



Effective parameter								Electrical characteristics			
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value *	Core loss		
$C_1$ (mm <sup>-1</sup> )								(nH/N <sup>2</sup> ) 1kHz 0.5mA	(W)max. 100kHz 200mT		
0.508	102	201	20500	174	167	326	95	6400±25%	25°C	80°C	120°C
									8.87	7.45	8.87

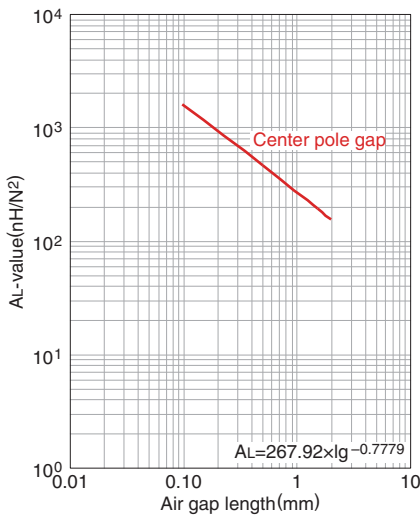
\* Coil :  $\phi 0.4$  2UEW 100Ts  
 ○ Calculated output power (forward converter mode): 747W

NI limit vs. AL-value (Typ.)



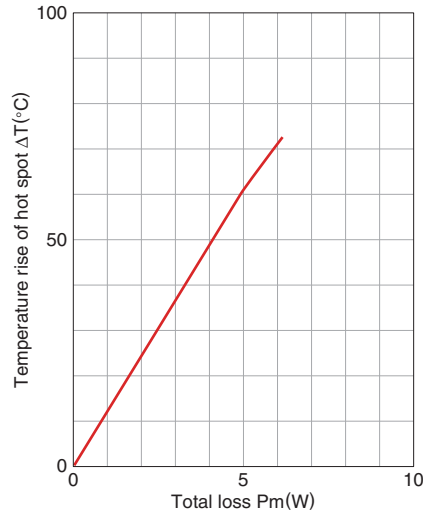
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

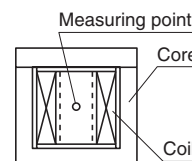


Measuring conditions  
 • Coil :  $\phi 0.4$  2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



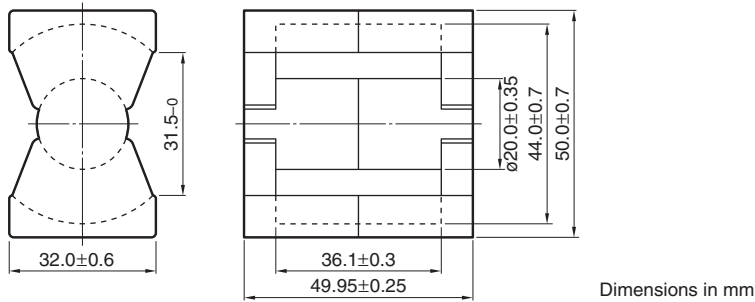
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity: 45(%)RH.



• All specifications are subject to change without notice.

Mn-Zn PQ series **Part No.: PC47PQ50/50Z-12**

## ■ SHAPES AND DIMENSIONS

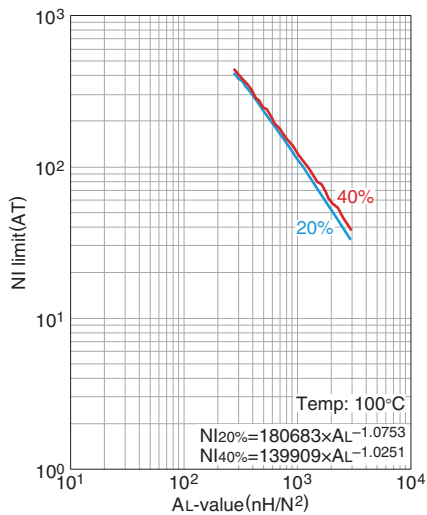


Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max. 100kHz 200mT 100°C
C <sub>1</sub> (mm <sup>-1</sup> )								(nH/N <sup>2</sup> ) 1kHz 0.5mA	
0.346	113	328	37200	314	303	433	195	6720±25%	15.26

\* Coil : ø0.4 2UEW 100Ts

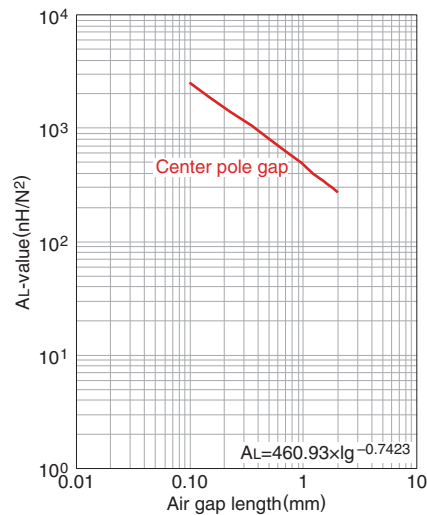
○ Calculated output power (forward converter mode): 1046W (100kHz)

## NI limit vs. AL-value (Typ.)



The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

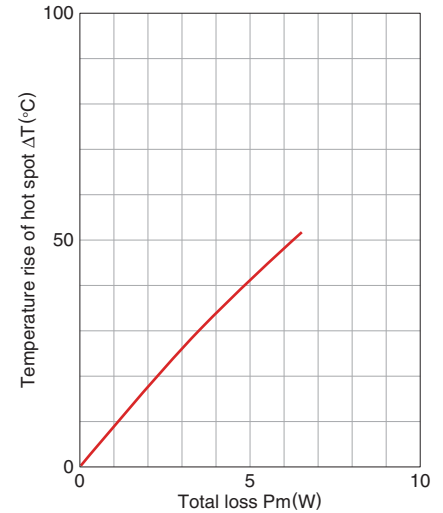
## AL-value vs. Air gap length (Typ.)



Measuring conditions

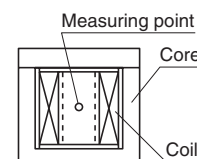
- Coil : ø0.4 2UEW 100Ts
- Frequency : 1kHz
- Current level : 0.5mA
- Ambient temperature : 25°C

## Temperature rise vs. Total loss (Typ.)



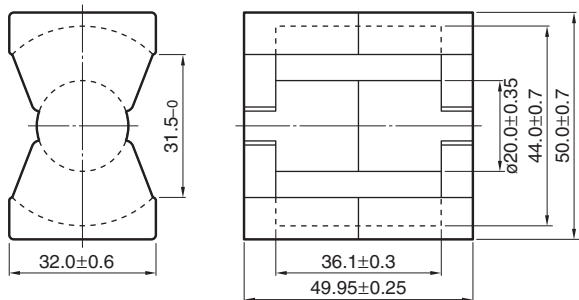
Measuring conditions

- Room space: approx. 400x300x 300cm
- Ambient temperature : 25°C
- Humidity: 45%(%)RH.



# Mn-Zn PQ series **Part No.: PC90PQ50/50Z-12**

## ■ SHAPES AND DIMENSIONS



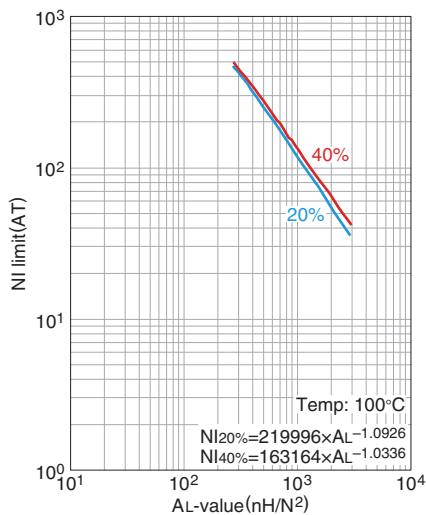
Dimensions in mm

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> ) 1kHz 0.5mA	Core loss (W)max. 100kHz 200mT 100°C
C <sub>1</sub> (mm <sup>-1</sup> )									
0.346	113	328	37200	314	303	433	195	6250±25%	8.4

\* Coil :  $\phi 0.4$  2UEW 100Ts

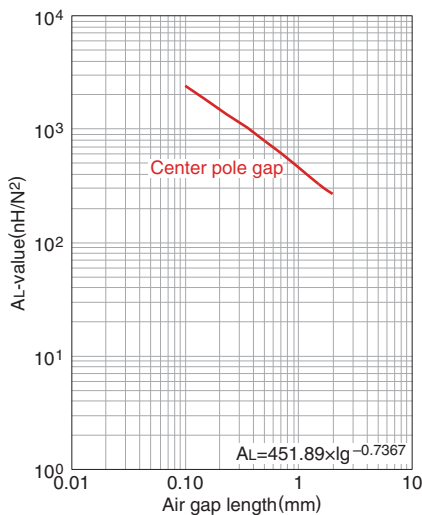
○ Calculated output power (forward converter mode): 1045W

NI limit vs. AL-value (Typ.)



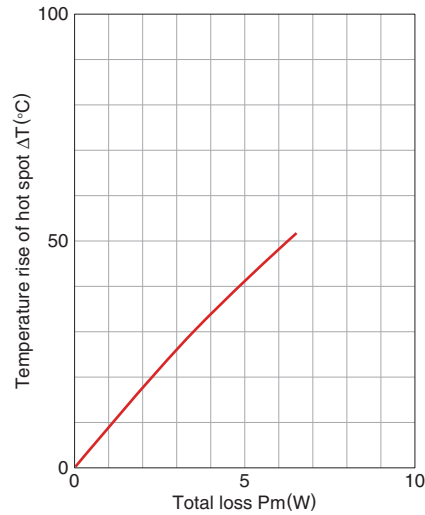
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

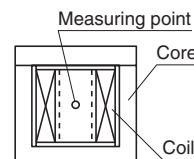


Measuring conditions  
 • Coil :  $\phi 0.4$  2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



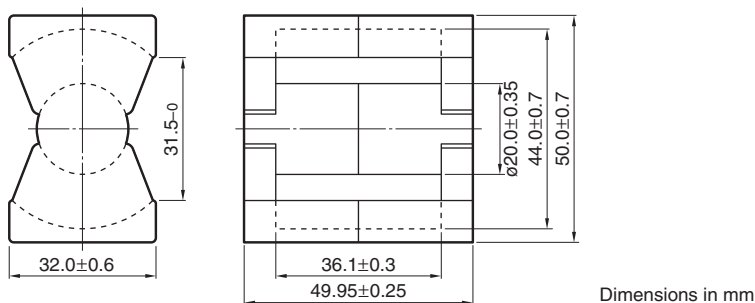
Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity: 45(%)RH.



• All specifications are subject to change without notice.

# Mn-Zn PQ series Part No.: PC95PQ50/50Z-12

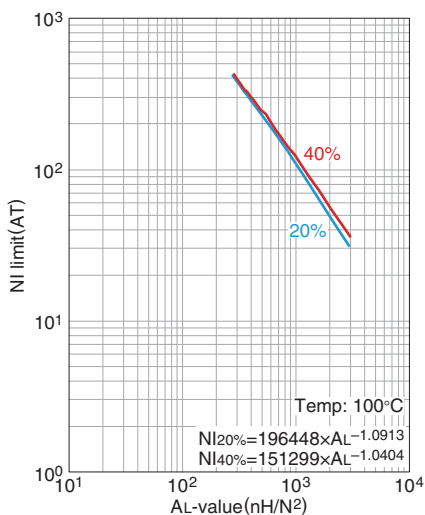
## ■ SHAPES AND DIMENSIONS



Effective parameter								Electrical characteristics			
Core factor	Effective magnetic path length $l_e$ (mm)	Effective cross-sectional area $A_e$ (mm <sup>2</sup> )	Effective core volume $V_e$ (mm <sup>3</sup> )	Cross-sectional center pole area $A_{cp}$ (mm <sup>2</sup> )	Minimum cross-sectional center pole area $A_{cp \text{ min.}}$ (mm <sup>2</sup> )	Cross-sectional winding area of core $A_{cw}$ (mm <sup>2</sup> )	Weight (g/set)	AL-value * (nH/N <sup>2</sup> )	Core loss (W)max.		
$C_1$ (mm <sup>-1</sup> )								1kHz 0.5mA	25°C	80°C	120°C
0.346	113	328	37200	314	303	433	195	9700±25%	9.00	7.50	9.00

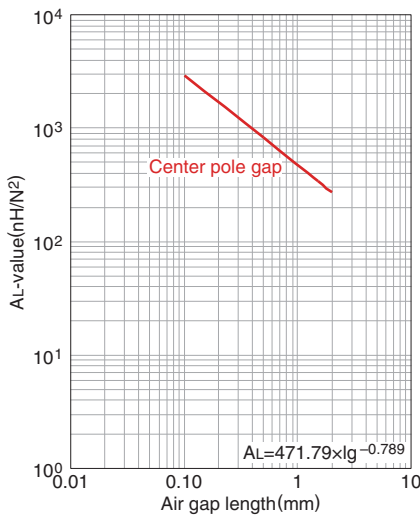
\* Coil :  $\phi 0.4$  2UEW 100Ts  
 ○ Calculated output power (forward converter mode): 1078W

NI limit vs. AL-value (Typ.)



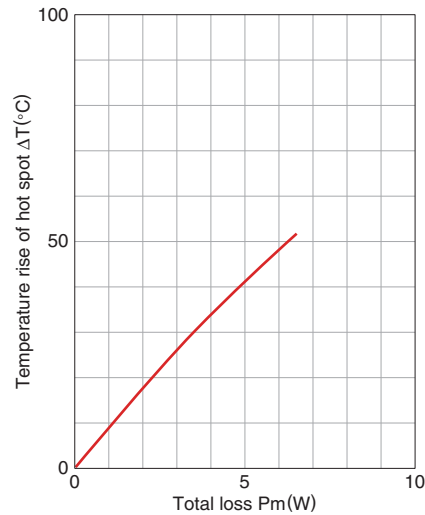
The 20% and 40% graph shows when a 20% and 40% drop from the initial AL-value has been made due to the DC superimposition.

AL-value vs. Air gap length (Typ.)

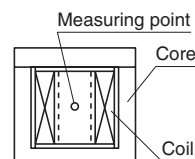


Measuring conditions  
 • Coil :  $\phi 0.4$  2UEW 100Ts  
 • Frequency : 1kHz  
 • Current level : 0.5mA  
 • Ambient temperature : 25°C

Temperature rise vs. Total loss (Typ.)



Measuring conditions  
 • Room space: approx. 400x300x 300cm  
 • Ambient temperature : 25°C  
 • Humidity : 45(%)RH.



• All specifications are subject to change without notice.