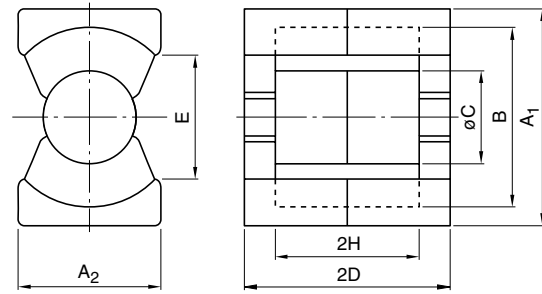


## PQ Series

### PQ CORE

#### CORE SHAPES AND DIMENSIONS/CHARACTERISTICS

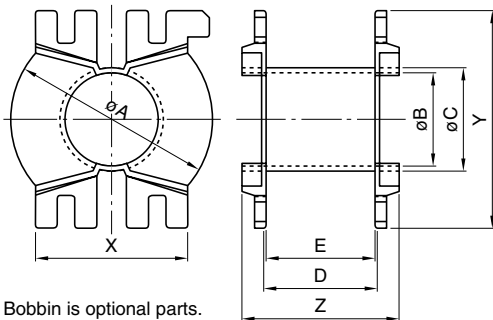


#### PRODUCT IDENTIFICATION

PE22	PQ	$\frac{78}{(3)}$	$\times \frac{39}{(4)}$	$\times \frac{42}{(5)}$
(1)	(2)	(3)	(4)	(5)

- (1) Material name
- (2) Shape
- (3) Dimension A<sub>1</sub>
- (4) Dimension 2D
- (5) Dimension A<sub>2</sub>

### PQ CORE BOBBIN



Bobbin is optional parts.

Part No.	AL*(nH/N <sup>2</sup> ) ±25%	Dimensions (mm)							
		A <sub>1</sub>	A <sub>2</sub>	B	ØC	2D	E	2H	
PE22 PQ78×39×42	7940								
PC40 PQ78×39×42	9790	78.5±1.5	42.0±0.8	69.0min.	25.5±0.5	39.4±0.6	60.0min.	25.8±1.0	
PE90 PQ78×39×42	9364								
PE22 PQ107×87×70	14570								
PC40 PQ107×87×70	18210	107.0±2.0	70.0±1.5	93.7min.	41.0±1.0	87.0±1.5	72.5min.	56.0±1.5	
PE90 PQ107×87×70	17418								

\* Measuring condition: T=23°C, f=1kHz, H<sub>m</sub>=0.4A/m

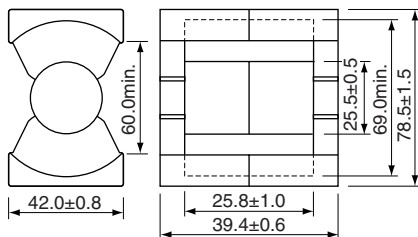
Part No.	Core factor						Weight(g)
	C <sub>1</sub> (mm <sup>-1</sup> )	C <sub>2</sub> ×10 <sup>-2</sup> (mm <sup>-3</sup> )	A <sub>e</sub> (mm <sup>2</sup> )	ℓ <sub>e</sub> (mm)	V <sub>e</sub> (mm <sup>3</sup> )		
PE22 PQ78×39×42						304	
PC40 PQ78×39×42	0.24730	0.051530	480	119	56900	304	
PE90 PQ78×39×42						310	
PE22 PQ107×87×70						1560	
PC40 PQ107×87×70	0.14260	0.009989	1428	204	290600	1560	
PE90 PQ107×87×70						1593	

### PQ CORE BOBBIN

Part No.	Dimensions (mm)								Cross-sectional winding area A <sub>w</sub> (mm <sup>2</sup> )	Average winding length ℓ <sub>w</sub> (mm)	Material
	ØA	ØB	ØC	D	E	X	Y	Z			
BPQ78	67.8±0.3	30.2±0.5	26.8±0.5	23.5±2.0	20.0±2.0	57.5±0.5	78.0±0.5	31.0±2.0	377	154	PBT
BPQ107	92.5±0.5	42.7±0.5	46.7±0.5	53.5±2.5	49.5±3.0	69.5±0.5	100.0±0.5	71.0±2.5	1140	218	PBT

• Soldering condition: 350°C max./2s

**PQ78X39X42**



**Parameter**

Core constant	C1	mm <sup>-1</sup>	0.2473
	C2×10 <sup>-2</sup>	mm <sup>-3</sup>	0.05153
Effective magnetic path length	ℓ <sub>e</sub>	mm	119
Effective cross-sectional area	A <sub>e</sub>	mm <sup>2</sup>	480
Effective core volume	V <sub>e</sub>	mm <sup>3</sup>	56900
Cross-sectional center leg area	A <sub>c</sub>	mm <sup>2</sup>	510
Minimum cross-sectional area	A <sub>min.*</sub>	mm <sup>2</sup>	510C*
Winding cross-sectional area	A <sub>cw</sub>	mm <sup>2</sup>	570
Weight(approx.)	g		304

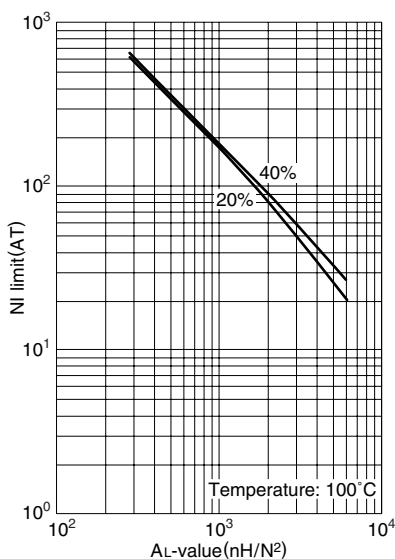
\* The symbol followed A min. value shows minimum cross-sectional area part.  
C is center pole part, L is outer pole part, B is the back part.

Part No.	AL-value*(nH/N <sup>2</sup> )	Calculated output power(kW) (forward converter mode)
PE22 PQ78X39X42	7940±25%	1.6(100kHz)
PC40 PQ78X39X42	9790±25%	1.7(100kHz)

\* AL-value: T=23°C, f=1kHz, H<sub>m</sub>=0.4A/m

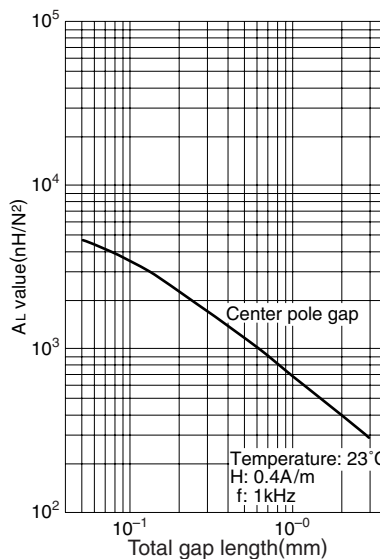
• Available customize core like this. Please specify when ordering.

**NI limit vs. AL-value for PE22 PQ78X39X42**

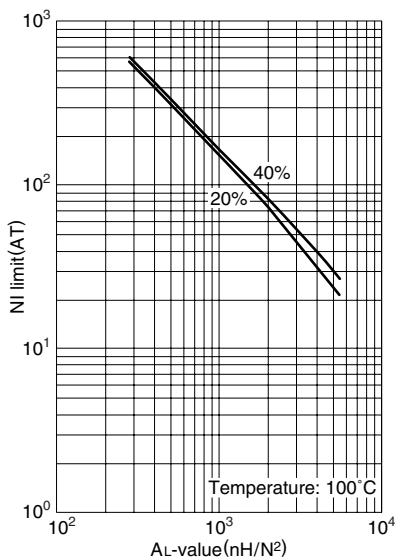


When applied mag field providing NI t setting core for art value, show each when decreased ± 40% from initial At

**AL-value vs. Air gap length for PE22 PQ78X39X42**

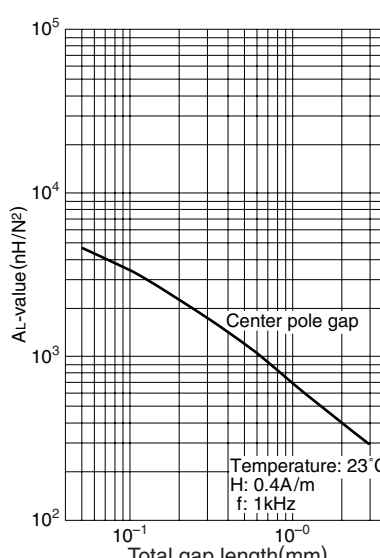


**NI limit vs. AL-value for PC40 PQ78X39X42**

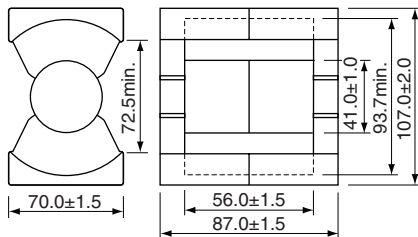


When applied magnetic field providing NI to a setting core for arbitrary AL-value, show each NI value when decreased 20% and 40% from initial AL-value.

**AL-value vs. Air gap length for PC40 PQ78X39X42**



**PQ107X87X70**



**Parameter**

Core constant	C1	mm <sup>-1</sup>	0.1426
	C2×10 <sup>-2</sup>	mm <sup>-3</sup>	0.009989
Effective magnetic path length	ℓ <sub>e</sub>	mm	204
Effective cross-sectional area	A <sub>e</sub>	mm <sup>2</sup>	1428
Effective core volume	V <sub>e</sub>	mm <sup>3</sup>	290600
Cross-sectional center leg area	A <sub>c</sub>	mm <sup>2</sup>	1320
Minimum cross-sectional area	A <sub>min.*</sub>	mm <sup>2</sup>	1320C*
Winding cross-sectional area	A <sub>cw</sub>	mm <sup>2</sup>	1540
Weight(approx.)	g		1560

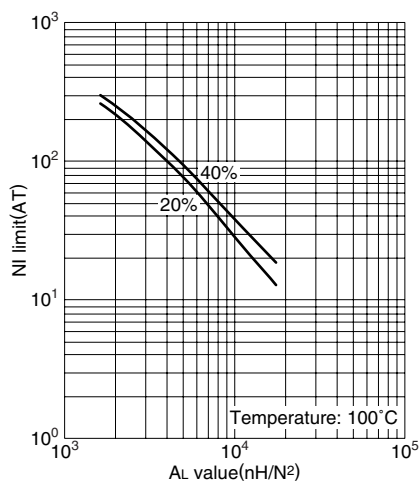
\* The symbol followed A min. value shows minimum cross-sectional area part.  
C is center pole part, L is outer pole part, B is the back part.

Part No.	AL-value*(nH/N <sup>2</sup> )	Calculated output power(kW) (forward converter mode)
PE22 PQ107X87X70	14570±25%	8.3(100kHz)
PC40 PQ107X87X70	18210±25%	9.0(100kHz)

\* AL-value: T=23°C, f=1kHz, H<sub>m</sub>=0.4A/m

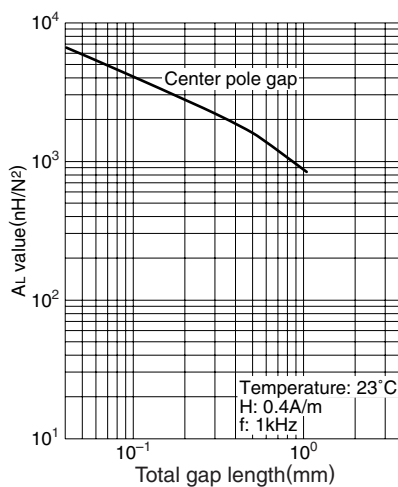
• Available customize core like this. Please specify when ordering.

**NI limit vs. AL-value for PE22 PQ107X87X70**

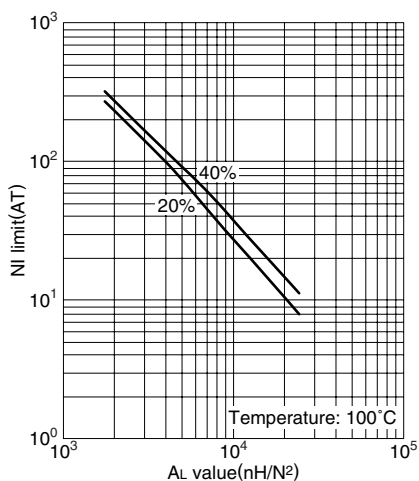


When applied magnetic field providing NI to a setting core for arbitrary AL-value, show each NI value when decreased 20% and 40% from initial AL-value.

**AL-value vs. Air gap length for PE22 PQ107X87X70**



**NI limit vs. AL-value for PC40 PQ107X87X70**



When applied magnetic field providing NI to a setting core for arbitrary AL-value, show each NI value when decreased 20% and 40% from initial AL-value.

**AL-value vs. Air gap length for PC40 PQ107X87X70**

