


INVESTIGATION REPORT

Our ref. 270618-2

Report No. 17212 M1

Product	UPS
Type	93PM-50(50)-MBS-BB-0
Trade mark	Eaton 93PM
Applicant	Eaton Power Quality Oy, Koskelontie 13, FI-02920 ESPOO, FINLAND
Manufacturer / Manufacturing site	Same as applicant
Technical information	380/400/415Vac, 95/90/86 A, 50/60Hz
The product has been tested according to standard	IEC 62040-3:2011 Uninterruptible power systems (UPS) - Part 3: Methods of specifying the performance and test requirements.
The product has been tested according to following parts of the standard	Annex J UPS efficiency – Methods of measurement
Investigation result	See tables on page 2
Other information	This investigation report of test result has been granted to the applicant based on tests performed by the manufacturer under supervision of SGS Fimko Ltd. This report replaces previous one no. 17212, dated 2 July due to added non-standard measurements with lagging and leading loads
Date	13 December 2013
Signature	SGS Fimko Ltd  Jari Karlsson Team Leader

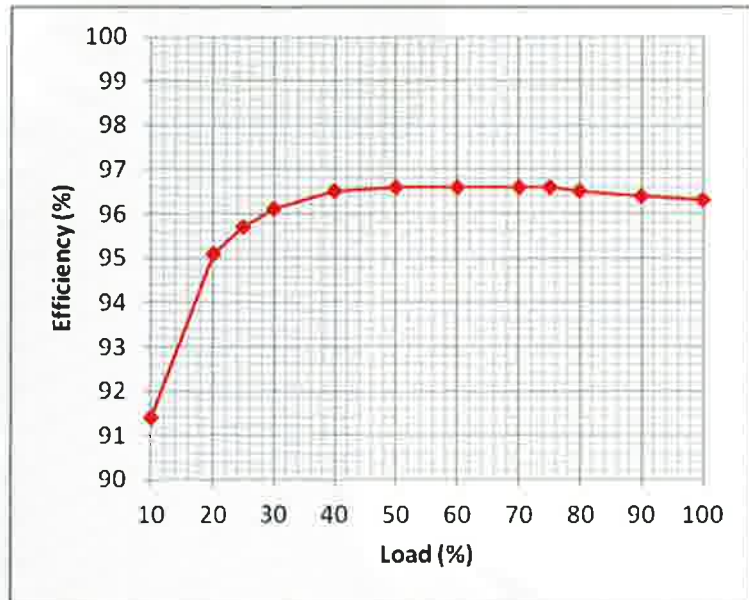
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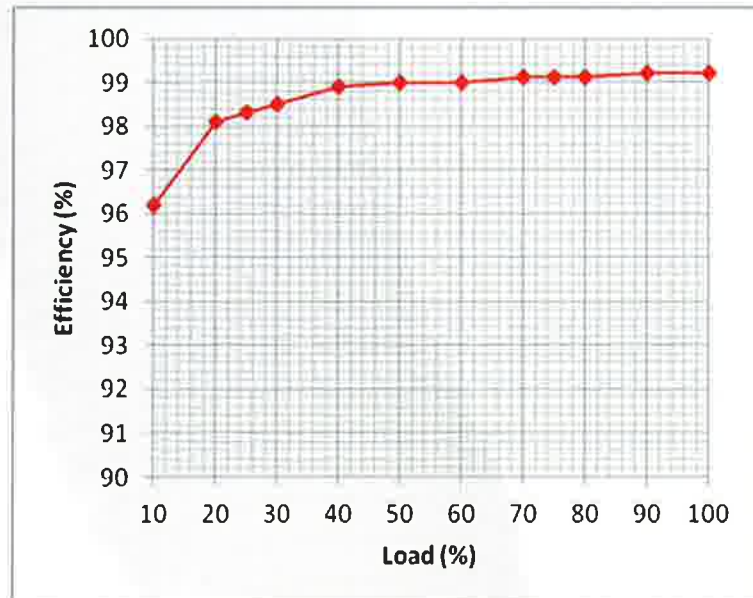
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Resistive load PF = 1,0

Double conversion Mode Resistive load		
Load (%)	Power (kW)	Efficiency (%)
100	50	96,3
90	45	96,4
80	40	96,5
75	37,5	96,6
70	35	96,6
60	30	96,6
50	25	96,6
40	20	96,5
30	15	96,1
25	12,5	95,7
20	10	95,1
10	5	91,4



ESS Mode Resistive load		
Load (%)	Power (kW)	Efficiency (%)
100	50	99,2
90	45	99,2
80	40	99,1
75	37,5	99,1
70	35	99,1
60	30	99,0
50	25	99,0
40	20	98,9
30	15	98,5
25	12,5	98,3
20	10	98,1
10	5	96,2

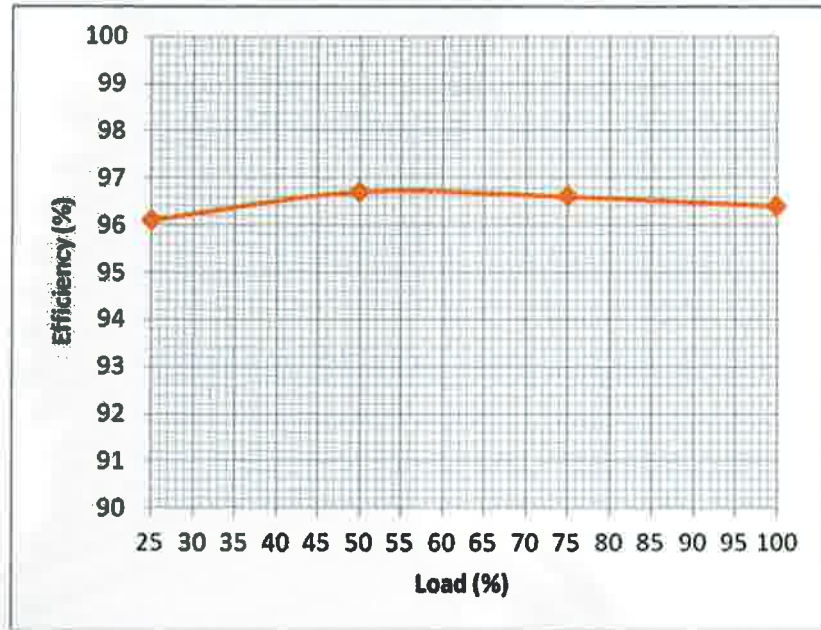


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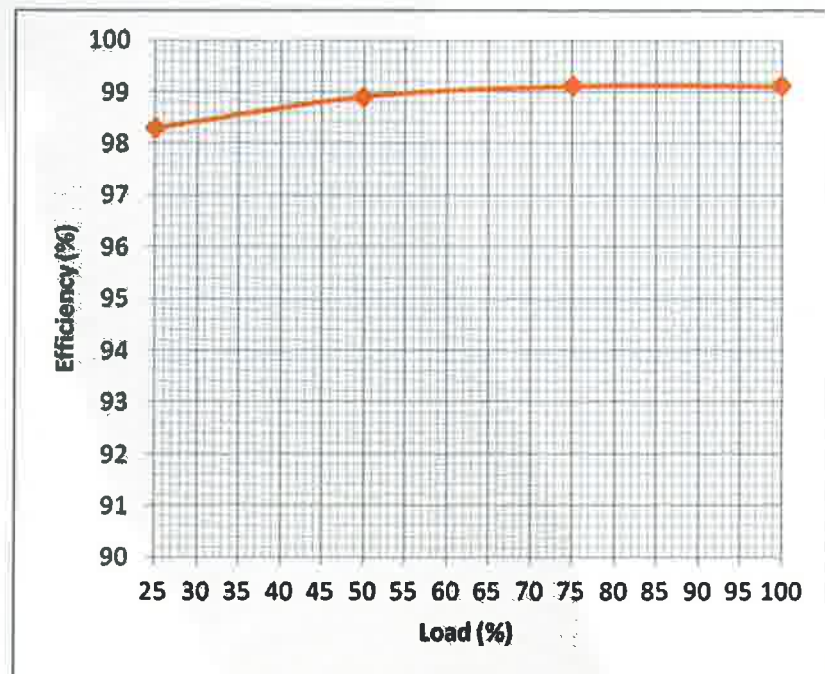
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Inductive-resistive load PF = 0,9 lagging

Double conversion Mode		
Load (%)	Power (kVA)	Efficiency (%)
100	50	96,4
75	37,5	96,6
50	25	96,7
25	12,5	96,1



ESS Mode		
Load (%)	Power (kVA)	Efficiency (%)
100	50	99,1
75	37,5	99,1
50	25	98,9
25	12,5	98,3

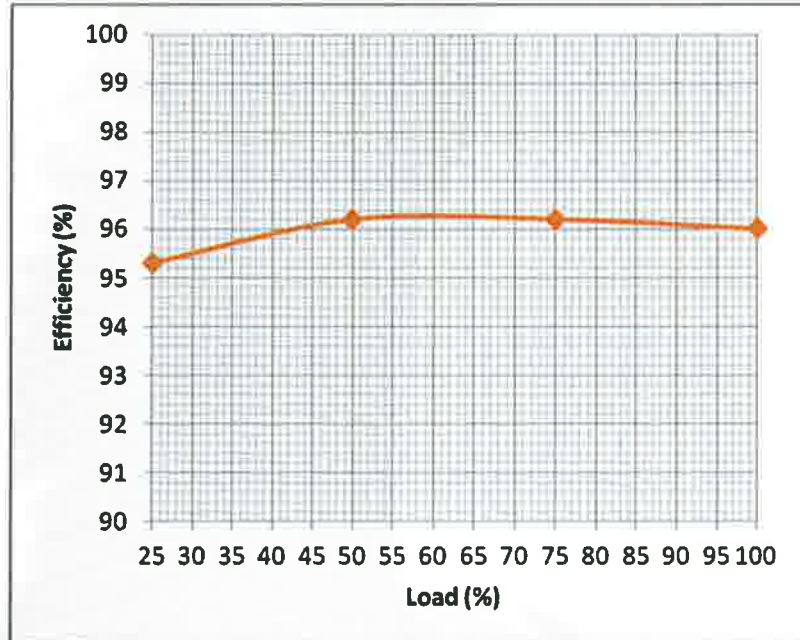


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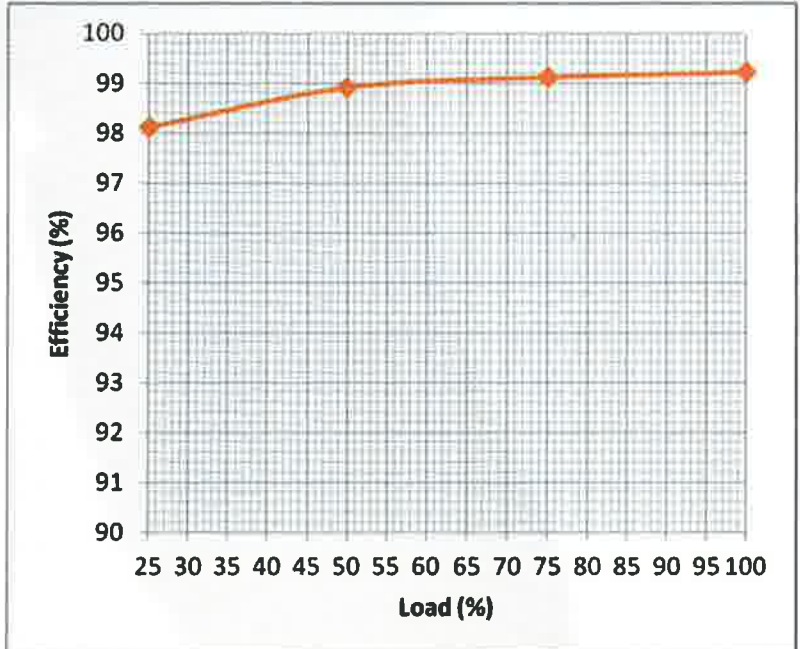
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Capacitive-resistive load PF = 0,9 leading

Double conversion Mode		
Load (%)	Power (kVA)	Efficiency (%)
100	50	96,0
75	37,5	96,2
50	25	96,2
25	12,5	95,3



ESS Mode		
Load (%)	Power (kVA)	Efficiency (%)
100	50	99,2
75	37,5	99,1
50	25	98,9
25	12,5	98,1



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