

Type Test Certificate of	Complete type test
Apparatus	Three-phase vacuum circuit-breaker for fixed & withdrawable set-up and for grounded & ungrounded neutral systems
Designation	120W-VACi R26 (for the fixed set-up) 120W-VACi 26 (for the withdrawable set-up) Rated voltage 12 kV ; Rated normal current 630 A ; Rated frequency 50/60 Hz
Manufacturer	Eaton Corporation - Moon Township, Pennsylvania (USA)
Tested for	Eaton Corporation - Moon Township, Pennsylvania (USA)
Date(s) of tests	from November 11, 2009 to December 11, 2009
Tested by	CESI S.p.A. - Milan - ITALY

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in the reference documents, identified in this certificate, has been subjected to the series of proving tests in accordance with

IEC 62271-100 Edition 2.0 (2008-04)
Clauses 6.2, 6.4, 6.5, 6.6, 6.101.2, 6.102 to 6.106, 6.108 & 6.111

This Type Test Certificate has been issued by CESI following exclusively the STL Guides.

The results are shown in the record of Proving Tests and the oscillograms attached in the Test Reports. The values obtained and the general performance are considered to comply with the above Standards and to justify the ratings assigned by the Manufacturer as listed on page No.2.

The Certificate applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

Only integral reproduction of this Certificate, or reproductions of this page accompanied by any pages on which are stated the endorsed ratings of the apparatus tested, are permitted without written permission from CESI.

No. of pages	3	No. of pages annexed	-
Issue date	March 29, 2011		
Prepared	PPR - Arneodo Giorgio <small>B1010541 2965 ALT</small>		
Verified	TPI - Sironi Alberto <small>B1010541 3025 VER</small>		
Approved	PMI - The Manager - Arcidiaco Lorenzo <small>B1010541 821814 APP</small>		

CESI S.p.A.
Testing & Certification Division
Testing Operations Area
"Milan Platform"
Manager
Lorenzo Arcidiaco

1 - Ratings assigned by the Manufacturer as proved by the tests

Circuit-breaker	
Manufacturer	Eaton Corporation, Moon Township, Pennsylvania, USA
Type (for all tests)	120W-VACi R26 (for the fixed set-up) 120W-VACi 26 / 175W-VACi 26 (for the withdrawable set-up)
Serial number (for all tests)	090800002, 090800003, 090800005, 09080005a
Class	E2 (intended to be used without auto-reclosing duty) C2 (for cable charging and single capacitor bank), C1 (for back-to-back capacitor bank)
	M2
	S1
Voltage	12 kV
Normal current	630 A
Frequency	50/60 Hz
Lightning impulse withstand voltage	75 kV
Power frequency withstand voltage	28 kV
Short-circuit making current	66 kA at 50 Hz 65 kA at 60 Hz
Short-circuit breaking current	26,4 kA at 50 Hz 25 kA at 60 Hz
d.c. component (referred to time constant = 45 ms)	30 %
Minimum opening time	44 ms
Transient recovery voltage (TRV)	
First-pole-to-clear factor	1,5
Peak value (U_c)	30 kV
Rate of rise (U/t)	0,42 kV/ μ s
Operating sequence	O-0,3s-CO-15s-CO
Short-circuit duration	3 s
Cable charging breaking current (class C2)	31,5 A (rating proved only for ungrounded systems)
Single capacitor bank breaking current (class C2)	400 A
Back-to-back capacitor bank breaking current (class C1)	400 A
Back-to-back capacitor bank inrush making current	6 kA
Vacuum interrupters	
Manufacturer	Eaton Corporation
Type	WL-36193
Serial numbers (only for short circuit and switching test)	(R) H32057; (S) H32486; (T) H32489 (R) H18900 ; (S) H32508 (T) H24943 (R) H32494 ; (S) H32504 (T) H32482
Opening gap dimension	8,5 mm
Maximum permissible wear	3 mm
Operating mechanism	
Supply voltage	
Closing device	220 V d.c.
Opening device	220 V d.c.
Motor	220 V d.c.

2 – This Certificate also verifies

Mechanical operation at ambient air temperature

3 – Reference documents

The following reference documents are integral part of this Certificate

No.	Description	CESI registration
1	Test report	B0012087
2	Test report	B0014792
3	Test report	B0022941
4	Test report	B0031186
5	Test report	B0031535
6	Manufacturer' s drawing (fixed set-up)	B0010989
7	Manufacturer' s drawing (withdrawable set-up)	B0010985

4 – Additional references

The conformity of the product is attested with reference to the Standard mentioned in the front sheet and to the following documents: IEC 62271-200 First edition (2003-11)

5 – Record of proving tests

The table below lists all the tests performed and the references to the relevant Test Reports containing the test values.

No. Standard and clause	Description of tests	Reference documents
IEC 62271-100 & IEC 62271-200 - 6.2	Dielectric test	B0031186
IEC 62271-100 & IEC 62271-200 - 6.4 & 6.5	Measurement of the resistance & Temperature rise test (60 Hz)	B0031535
IEC 62271-100 - 6.6	Short-time withstand current and peak withstand current test - Test at 50 Hz	B0014792
IEC 62271-100 & IEC 62271-200 - 6.6	Short-time withstand current and peak withstand test - Additional test at 60 Hz	B0012087
IEC 62271-100 - 6.101.2	Mechanical operation test at ambient air temperature	B0022941
IEC 62271-100 - 6.102 to 6.106	Basic short-circuit test-duties - Test at 50 Hz	B0014792
IEC 62271-100 - 6.102 to 6.106 & IEC 62271-200 - 6.101	Basic short-circuit test-duties - additional test at 60 Hz	B0012087
IEC 62271-100 - 6.108	Single-phase and double-earth fault tests (50 Hz)	B0014792
IEC 62271-100 - 6.111	Cable charging current switching test (60 Hz)	B0014792
IEC 62271-100 - 6.111	Single capacitor bank current switching test (60 Hz)	B0014792
IEC 62271-100 - 6.111	Back-to-back charging current switching test (60 Hz)	B0014792

6 – Identification of the sample

The Manufacturer guarantees that the tested object is manufactured according to the submitted drawings. CESI checked that these drawings adequately represent in shape and dimensions the essential details and the parts of the tested object.

These drawings identified by CESI and numbered:

- B0010989 No.1 to 11 (for the fixed set-up)
 - B0010985 No.1 to 14 (for the withdrawable set-up)
- have been returned to the Client.

Type Test Certificate of	Complete type test
Apparatus	Three-phase vacuum circuit-breaker for fixed & withdrawable set-up and for grounded & ungrounded neutral systems
Designation	120W-VACiR 32 (for the fixed set-up) 120W-VACi 32 (for the withdrawable set-up) Rated voltage 12 kV ; Rated normal current 1250 A ; Rated frequency 50/60 Hz
Manufacturer	Eaton Corporation - Moon Township, Pennsylvania (USA)
Tested for	Eaton Corporation - Moon Township, Pennsylvania (USA)
Date(s) of tests	from October 26, 2009 to December 10, 2009
Tested by	CESI S.p.A. - Milan - ITALY

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in the reference documents, identified in this certificate, has been subjected to the series of proving tests in accordance with

IEC 62271-100 Edition 2.0 (2008-04)

Clauses 6.2, 6.4, 6.5, 6.6, 6.101.2, 6.102 to 6.106, 6.108 & 6.111

This Type Test Certificate has been issued by CESI following exclusively the STL Guides.

The results are shown in the record of Proving Tests and the oscillograms attached in the Test Reports. The values obtained and the general performance are considered to comply with the above Standards and to justify the ratings assigned by the Manufacturer as listed on page No.2.

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No. of pages	3	No. of pages annexed	-
Issue date	March 29, 2011		
Prepared	PPR - Arneodo Giorgio <small>B1010583 2965 ALIT</small>		
Verified	TPI - Sironi Alberto <small>B1010583 3025 VER</small>		
Approved	PMI - The Manager - Arcidiaco Lorenzo <small>B1010583 821814 APP</small>		

CESI S.p.A.
Testing & Certification Division
Testing Operations Area
"Milan Platform"
Manager



1 - Ratings assigned by the Manufacturer as proved by the tests

Circuit-breaker	
Manufacturer	Eaton Corporation, Moon Township, Pennsylvania, USA
Type (for all tests)	120W-VACi R32 (for the fixed set-up) 120W-VACi 32 / 175W-VACi 32 (for the withdrawable set-up)
Serial number (for all tests)	090700001, 090700001a, 090700002, 090700006, 090700007
Class	E2 (intended to be used without auto-reclosing duty)
	C2
	M2
	S1
Voltage	12 kV
Normal current	1250 A
Frequency	50/60 Hz
Lightning impulse withstand voltage	75 kV
Power frequency withstand voltage	28 kV
Short-circuit making current	79 kA at 50 Hz 82 kA at 60 Hz
Short-circuit breaking current	31,5 kA
d.c. component (referred to time constant = 45 ms)	30 %
Minimum opening time	44 ms
Transient recovery voltage (TRV)	
First-pole-to-clear factor	1,5
Peak value (U_c)	30 kV
Rate of rise (U/t)	0,42 kV/ μ s
Operating sequence	O-0,3s-CO-15s-CO
Short-circuit duration	3 s
Cable charging breaking current	31,5 A (rating proved only for ungrounded systems)
Vacuum interrupters	
Manufacturer	Eaton Corporation
Type	WL-39939
Serial numbers (only for short circuit and switching test)	(R) 0804G14596 ; (S) 0804G14360 ; (T) 0804G14352 (R) F41301 ; (S) G18921 (T) G14374
Opening gap dimension	8,5 mm
Maximum permissible wear	3 mm
Operating mechanism	
Supply voltage	
Closing device	220 V d.c.
Opening device	220 V d.c.
Motor	220 V d.c.

2 – This Certificate also verifies

Mechanical operation at ambient air temperature

3 – Reference documents

The following reference documents are integral part of this Certificate

No.	Description	CESI registration
1	Test report	B0012088
2	Test report	B0014793
3	Test report	B0022965
4	Test report	B0031185
5	Test report	B0031542
6	Manufacturer' s drawing (fixed set-up)	B0010990
7	Manufacturer' s drawing (withdrawable set-up)	B0010986

4 – Additional references

The conformity of the product is attested with reference to the Standard mentioned in the front sheet and to the following documents: IEC 62271-200 First edition (2003-11)

5 – Record of proving tests

The table below lists all the tests performed and the references to the relevant Test Reports containing the test values.

No. Standard and clause	Description of tests	Reference documents
IEC 62271-100 & IEC 62271-200 - 6.2	Dielectric test	B0031185
IEC 62271-100 & IEC 62271-200 - 6.4 & 6.5	Measurement of the resistance & Temperature rise test (60 Hz)	B0031542
IEC 62271-100 - 6.6	Short-time withstand current and peak withstand current test - Test at 50 Hz	B0014793
IEC 62271-100 & IEC 62271-200 - 6.6	Short-time withstand current and peak withstand test - Additional test at 60 Hz	B0012088
IEC 62271-100 - 6.101.2	Mechanical operation test at ambient air temperature	B0022965
IEC 62271-100 - 6.102 to 6.106	Basic short-circuit test-duties - Test at 50 Hz	B0014793
IEC 62271-100 - 6.102 to 6.106 & IEC 62271-200 - 6.101	Basic short-circuit test-duties - additional test at 60 Hz	B0012088
IEC 62271-100 - 6.108	Single-phase and double-earth fault tests (50 Hz)	B0014793
IEC 62271-100 - 6.111	Cable charging current switching test (60 Hz)	B0014793

6 – Identification of the sample

The Manufacturer guarantees that the tested object is manufactured according to the submitted drawings. CESI checked that these drawings adequately represent in shape and dimensions the essential details and the parts of the tested object.

These drawings identified by CESI and numbered:

- B0010990 No.1 to 11 (for the fixed set-up)
- B0010986 No.1 to 11 (for the withdrawable set-up)

have been returned to the Client.

Type Test Certificate of Complete type test

Apparatus Three-phase vacuum circuit-breaker for fixed & withdrawable set-up and for grounded & ungrounded neutral systems

Designation 120W-VACi R40 (for the fixed set-up)
120W-VACi 40 (for the withdrawable set-up)
Rated voltage 12 kV ; Rated normal current 2000 A ; Rated frequency 50/60 Hz

Manufacturer Eaton Corporation - Moon Township, Pennsylvania (USA)

Tested for Eaton Corporation - Moon Township, Pennsylvania (USA)

Date(s) of tests **from** October 26, 2009 **to** October 20, 2010

Tested by CESI S.p.A. - Milan - ITALY

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in the reference documents, identified in this certificate, has been subjected to the series of proving tests in accordance with

IEC 62271-100 Edition 2.0 (2008-04)
Clauses 6.2, 6.4, 6.5, 6.6, 6.101.2, 6.102 to 6.106, 6.108, 6.110 & 6.111

This Type Test Certificate has been issued by CESI following exclusively the STL Guides.

The results are shown in the record of Proving Tests and the oscillograms attached in the Test Reports. The values obtained and the general performance are considered to comply with the above Standards and to justify the ratings assigned by the Manufacturer as listed on page No.2.

The Certificate applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

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No. of pages 3 **No. of pages annexed** -

Issue date March 29, 2011

Prepared PPR - Arneodo Giorgio
B1010599 2965 ALT

Verified TPI - Sironi Alberto
B1010599 3025 VER

Approved PMI - The Manager - Arcidiaco Lorenzo
B1010599 821814 APP

CESI S.p.A.
Testing & Certification Division
Testing Operations Area
"Milan Platform"
Manager



1 - Ratings assigned by the Manufacturer as proved by the tests

Circuit-breaker	
Manufacturer	Eaton Corporation, Moon Township, Pennsylvania, USA
Type (for all tests)	120W-VACi R40 (for the fixed set-up) 120W-VACi 40 / 175W-VACi 40 (for the withdrawable set-up)
Serial number (for all tests)	090700003, 090700004, 090700009, 2010/090200
Class	E2 (intended to be used without auto-reclosing duty)
	C2
	M2
	S1
Voltage	12 kV
Normal current	2000 A
Frequency	50/60 Hz
Lightning impulse withstand voltage	75 kV
Power frequency withstand voltage	28 kV
Short-circuit making current	100 kA at 50 Hz 104 kA at 60 Hz
Short-circuit breaking current	40 kA
d.c. component (referred to time constant = 45 ms)	33 %
Minimum opening time	40 ms
Transient recovery voltage (TRV)	
First-pole-to-clear factor	1,5
Peak value (U_c)	30 kV
Rate of rise (U/t)	0,42 kV/ μ s
Operating sequence	O-0,3s-CO-15s-CO
Short-circuit duration	3 s
Out-of-phase breaking current (voltage factor 2,5)	10 kA
Cable charging breaking current	31,5 A (rating proved only for ungrounded systems)
Vacuum interrupters	
Manufacturer	Eaton Corporation
Type	WL-39356
Serial numbers (only for short circuit and switching test)	(R) G67134 ; (S) H03098 ; (T) H00096 (R) I33151 ; (S) I33145 ; (T) I33136
Opening gap dimension	8,5 mm
Maximum permissible wear	3 mm
Operating mechanism	
Supply voltage	
Closing device	220 V d.c.
Opening device	220 V d.c.
Motor	220 V d.c.

2 – This Certificate also verifies

Mechanical operation at ambient air temperature

3 – Reference documents

The following reference documents are integral part of this Certificate

No.	Description	CESI registration
1	Test report	B0014794
2	Test report	B0022966
3	Test report	B0031184
4	Test report	B0031479
5	Test report	B0031539
6	Manufacturer' s drawing (fixed set-up)	B0010991
7	Manufacturer' s drawing (withdrawable set-up)	B0010988

4 – Additional references

The conformity of the product is attested with reference to the Standard mentioned in the front sheet and to the following documents: IEC 62271-200 First edition (2003-11)

5 – Record of proving tests

The table below lists all the tests performed and the references to the relevant Test Reports containing the test values.

No. Standard and clause	Description of tests	Reference documents
IEC 62271-100 & IEC 62271-200 - 6.2	Dielectric test	B0031184
IEC 62271-100 & IEC 62271-200 - 6.4 & 6.5	Measurement of the resistance & Temperature rise test (60 Hz)	B0031539
IEC 62271-100 - 6.6	Short-time withstand current and peak withstand current test - Test at 50 Hz	B0014794
IEC 62271-100 & IEC 62271-200 - 6.6	Short-time withstand current and peak withstand test - Additional test at 60 Hz	B0031479
IEC 62271-100 - 6.101.2	Mechanical operation test at ambient air temperature	B0022966
IEC 62271-100 - 6.102 to 6.106	Basic short-circuit test-duties - Test at 50 Hz	B0014794
IEC 62271-100 - 6.102 to 6.106 & IEC 62271-200 - 6.101	Basic short-circuit test-duties - additional test at 60 Hz	B0031479
IEC 62271-100 - 6.108	Single-phase and double-earth fault tests (50 Hz)	B0014794
IEC 62271-100 - 6.110	Out-of-phase making and breaking tests (50 Hz)	B0014794
IEC 62271-100 - 6.111	Cable charging current switching test (60 Hz)	B0014794

6 – Identification of the sample

The Manufacturer guarantees that the tested object is manufactured according to the submitted drawings. CESI checked that these drawings adequately represent in shape and dimensions the essential details and the parts of the tested object.

These drawings identified by CESI and numbered:

- B0010991 No.1 to 11 (for the fixed set-up)
 - B0010988 No.1 to 16 (for the withdrawable set-up)
- have been returned to the Client.

Type Test Certificate of	Complete type test
Apparatus	Three-phase vacuum circuit-breaker for fixed & withdrawable set-up and for grounded & ungrounded neutral systems
Designation	240W-VACiR20 (for the fixed set-up) 240W-VACi 20 (for the withdrawable set-up) Rated voltage 24 kV ; Rated normal current 800 A ; Rated frequency 50/60 Hz
Manufacturer	Eaton Corporation - Moon Township, Pennsylvania (USA)
Tested for	Eaton Corporation - Moon Township, Pennsylvania (USA)
Date(s) of tests	from October 26, 2009 to December 4, 2009
Tested by	CESI S.p.A. - Milan - ITALY

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in the reference documents, identified in this certificate, has been subjected to the series of proving tests in accordance with

IEC 62271-100 Edition 2.0 (2008-04)

Clauses 6.2, 6.4, 6.5, 6.6, 6.101.2, 6.102 to 6.106, 6.108 & 6.111

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No. of pages	3	No. of pages annexed	-
Issue date	December 13, 2010		
Prepared	PPR - Beccarini Pierangelo <small>B0034338 2925 ALT</small>		
Verified	PPR - Arneodo Giorgio, TPI - Sironi Alberto <small>B0034338 503478 VER B0034338 3025 VER</small>		
Approved	PMI - The Manager - Arcidiaco Lorenzo <small>B0034338 821814 APP</small>		

CESI S.p.A.
Energy Division
Technical Area Components
"Testing Laboratories"
Manager
Lorenzo Arcidiaco

1 - Ratings assigned by the Manufacturer as proved by the tests

Circuit-breaker	
Manufacturer	Eaton Corporation, Moon Township, Pennsylvania, USA
Type	240W-VACi R20 (for the fixed set-up) 240W-VACi 20 (for the withdrawable set-up)
Serial number (for all test)	090800012, 090800013, 090800014, 090800015
Class	E2 (intended to be used without auto-reclosing duty)
	C2
	M2
	S1
Voltage	24 kV
Normal current	800 A
Frequency	50/60 Hz
Lightning impulse withstand voltage	125 kV
Power frequency withstand voltage	50 kV
Short-circuit making current	50 kA at 50 Hz 52 kA at 60 Hz
Short-circuit breaking current	20 kA
d.c. component (referred to time constant = 45 ms)	33 %
Minimum opening time	40 ms
Transient recovery voltage (TRV)	
First-pole-to-clear factor	1,5
Peak value (U _c)	41 kV
Rate of rise (U/t)	0,47 kV/μs
Operating sequence	O-0,3s-CO-15s-CO
Short-circuit duration	3 s
Cable charging breaking current	31,5 A (rating proved only for ungrounded systems)
Vacuum interrupters	
Manufacturer	Eaton Corporation
Type	WL-39467
Serial numbers (only for short circuit and switching test)	(R) H10071; (S) H10072; (T) H10069 (R) H10037 ; (S) H10014 (T) H10006
Opening gap dimension	9,5 mm
Maximum permissible wear	3 mm
Operating mechanism	
Supply voltage	
Closing device	220 V d.c.
Opening device	220 V d.c.
Motor	220 V d.c.

2 – This Certificate also verifies

Mechanical operation at ambient air temperature

3 – Reference documents

The following reference documents are integral part of this Certificate

No.	Description	CESI registration
1	Test report	B0009981
2	Test report	B0012089
3	Test report	B0022934
4	Test report	B0031182
5	Test report	B0031544
6	Manufacturer' s drawing (fixed set-up)	A9034091
7	Manufacturer' s drawing (withdrawable set-up)	A9036687

4 – Additional references

The conformity of the product is attested with reference to the Standard mentioned in the front sheet and to the following documents: IEC 62271-200 First edition (2003-11)

5 – Record of proving tests

The table below lists all the tests performed and the references to the relevant Test Reports containing the test values.

No. Standard and clause	Description of tests	Reference documents
IEC 62271-100 & IEC 62271-200 - 6.2	Dielectric test	B0031182
IEC 62271-100 & IEC 62271-200 - 6.4 & 6.5	Measurement of the resistance & Temperature rise test (60 Hz)	B0031544
IEC 62271-100 - 6.6	Short-time withstand current and peak withstand current test - Test at 50 Hz	B0009981
IEC 62271-100 & IEC 62271-200 - 6.6	Short-time withstand current and peak withstand test - Additional test at 60 Hz	B0012089
IEC 62271-100 - 6.101.2	Mechanical operation test at ambient air temperature	B0022934
IEC 62271-100 - 6.102 to 6.106	Basic short-circuit test-duties - Test at 50 Hz	B0009981
IEC 62271-100 - 6.102 to 6.106 & IEC 62271-200 - 6.101	Basic short-circuit test-duties - additional test at 60 Hz	B0012089
IEC 62271-100 - 6.108	Single-phase and double-earth fault tests (50 Hz)	B0009981
IEC 62271-100 - 6.111	Cable charging current switching test (60 Hz)	B0009981

6 – Identification of the sample

The Manufacturer guarantees that the tested object is manufactured according to the submitted drawings.

CESI checked that these drawings adequately represent in shape and dimensions the essential details and the parts of the tested object.

These drawings identified by CESI and numbered:

- A9034091 No.1 to 12 (for the fixed set-up)
- A9036687 No.1 to 18 (for the withdrawable set-up)

have been returned to the Client.

Type Test Certificate of	Complete type test
Apparatus	Three-phase vacuum circuit-breaker for fixed & withdrawable set-up and for grounded & ungrounded neutral systems
Designation	240W-VACiR25 (for the fixed set-up) 240W-VACi 25 (for the withdrawable set-up) Rated voltage 24 kV ; Rated normal current 2000 A ; Rated frequency 50/60 Hz
Manufacturer	Eaton Corporation - Moon Township, Pennsylvania (USA)
Tested for	Eaton Corporation - Moon Township, Pennsylvania (USA)
Date(s) of tests	from October 26, 2009 to December 11, 2009
Tested by	CESI S.p.A. - Milan - ITALY

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in the reference documents, identified in this certificate, has been subjected to the series of proving tests in accordance with

IEC 62271-100 Edition 2.0 (2008-04)
Clauses 6.2, 6.4, 6.5, 6.6, 6.101.2, 6.102 to 6.106, 6.108, 6.110 & 6.111

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No. of pages	3	No. of pages annexed	-
Issue date	November 17, 2010		
Prepared	PPR - Beccarini Pierangelo <small>B0031653 2925 ALT</small>		
Verified	PPR - Arneodo Giorgio, TPI - Sironi Alberto <small>B0031653 503478 VER B0031653 3025 VER</small>		
Approved	PMI - The Manager - Arcidiaco Lorenzo <small>B0031653 821814 APP</small>		

CESI S.p.A.
Energy Division
Technical Area Components
"Testing Laboratories"
Manager
Lorenzo Arcidiaco

1 - Ratings assigned by the Manufacturer as proved by the tests

Circuit-breaker	
Manufacturer	Eaton Corporation, Moon Township, Pennsylvania, USA
Type	240W-VACi R25 (for the fixed set-up) 240W-VACi 25 (for the withdrawable set-up)
Serial number (for all test)	090800022, 090800023, 090800024
Class	E2 (intended to be used without auto-reclosing duty)
	C2
	M2
	S1
Voltage	24 kV
Normal current	2000 A
Frequency	50/60 Hz
Lightning impulse withstand voltage	125 kV
Power frequency withstand voltage	50 kV
Short-circuit making current	63 kA at 50 Hz 65 kA at 60 Hz
Short-circuit breaking current	25 kA
d.c. component (referred to time constant = 45 ms)	33 %
Minimum opening time	40 ms
Transient recovery voltage (TRV)	
First-pole-to-clear factor	1,5
Peak value (U _c)	41 kV
Rate of rise (U/t)	0,47 kV/μs
Operating sequence	O-0,3s-CO-15s-CO
Short-circuit duration	3 s
Out-of-phase breaking current (voltage factor 2,5)	6,25 kA
Cable charging breaking current	31,5 A (rating proved only for ungrounded systems)
Vacuum interrupters	
Manufacturer	Eaton Corporation
Type	WL-39356
Serial numbers (only for short circuit and switching test)	(R) H12921; (S) H12917; (T) H12908 (R) H12925 ; (S) H03104 (T) H00121
Opening gap dimension	9,5 mm
Maximum permissible wear	3 mm
Operating mechanism	
Supply voltage	
Closing device	220 V d.c.
Opening device	220 V d.c.
Motor	220 V d.c.

2 – This Certificate also verifies

Mechanical operation at ambient air temperature

3 – Reference documents

The following reference documents are integral part of this Certificate

No.	Description	CESI registration
1	Test report	B0009982
2	Test report	B0012090
3	Test report	B0022935
4	Test report	B0031183
5	Test report	B0031548
6	Manufacturer' s drawing (fixed set-up)	A9034092
7	Manufacturer' s drawing (withdrawable set-up)	A9036685

4 – Additional references

The conformity of the product is attested with reference to the Standard mentioned in the front sheet and to the following documents: IEC 62271-200 First edition (2003-11)

5 – Record of proving tests

The table below lists all the tests performed and the references to the relevant Test Reports containing the test values.

No. Standard and clause	Description of tests	Reference documents
IEC 62271-100 & IEC 62271-200 - 6.2	Dielectric test	B0031183
IEC 62271-100 & IEC 62271-200 - 6.4 & 6.5	Measurement of the resistance & Temperature rise test (60 Hz)	B0031548
IEC 62271-100 - 6.6	Short-time withstand current and peak withstand current test - Test at 50 Hz	B0009982
IEC 62271-100 & IEC 62271-200 - 6.6	Short-time withstand current and peak withstand test - Additional test at 60 Hz	B0012090
IEC 62271-100 - 6.101.2	Mechanical operation test at ambient air temperature	B0022935
IEC 62271-100 - 6.102 to 6.106	Basic short-circuit test-duties - Test at 50 Hz	B0009982
IEC 62271-100 - 6.102 to 6.106 & IEC 62271-200 - 6.101	Basic short-circuit test-duties - additional test at 60 Hz	B0012090
IEC 62271-100 - 6.108	Single-phase and double-earth fault tests (50 Hz)	B0009982
IEC 62271-100 - 6.110	Out-of-phase making and breaking tests (50 Hz)	B0009982
IEC 62271-100 - 6.111	Cable charging current switching test (60 Hz)	B0009982

6 – Identification of the sample

The Manufacturer guarantees that the tested object is manufactured according to the submitted drawings. CESI checked that these drawings adequately represent in shape and dimensions the essential details and the parts of the tested object.

These drawings identified by CESI and numbered:

- A9034092 No.1 to 10 (for the fixed set-up)
 - A9036685 No.1 to 14 (for the withdrawable set-up)
- have been returned to the Client.