केन्द्रीय विद्युत अनुसंधान संस्थान
(भारत सरकार की सोसाइटी, विद्युत मंत्रालय)
प्रो.सर.सी.वी. रामन रोड, सदाशिवनगर डाक घर, पो.बा.सं. 8066, बेंगलूरु – 560 080, भारत
CENTRAL POWER RESEARCH INSTITUTE
(A Government of India Society, Ministry of Power)
Prof. Sir C.V. Raman Road, Sadashivanagar Post Office, P.B. No. 8066, Bengaluru - 560 080, India
वेब सइट / website : http://www.cpri.in

60 CPRI 1960- 2020 Diamond Jubilee

TELE :080- 2207 2321
Email: tbs@cpri.in

CAPACITORS DIVISION

No. CD/CAP/285/2020 Date: 28.05.2020

To
M/s. ABPS Solution Pvt. Ltd
(Formerly known as AB Power System Solution),
Gat No.258/1,Plot No.8/2,Village Khalumbre,
Chakan-Talegaon Road, Tal.Khed, Near Lohr TSI Compound,
Dist. PUNE-411501, Maharashtra (INDIA)

Kind Attn.: Mr. Alok Kumar/Mr. Alok Ganvir
Sub: Test report of 200 kvar, 7.3 kV, 1Phase, Internal Fuse HT Capacitor unit.

Dear Sir,

Kindly refer to Customer request form dated: 24.12.2019 regarding Endurance test on 200 kvar, 7.3 kV, 1Phase, Internal Fuse HT Capacitor units as per IS 13925(Part-2):2002/IEC 60871-2-1999 and as per customer's requirement.

As requested, the tests have been completed and Test Report No CPRIBLRPCD20T0050 dated: 28.05.2020 is enclosed.

In order to prevent tampering of test report, CPRI has introduced Hologram on the first page of the test report (original copy) w.e.f. 01.10.2007.

Any discrepancies in the test reports may please be brought to the notice of the undersigned within forty five days from the date of issue of the test report.

The tested sample should be collected from our laboratory within 15 days from the date of issue of the test report otherwise the sample will be disposed as per CPRI norms.

The receipt of the test report may please be acknowledged.

Thanking you.

Yours faithfully,

(Dr. T. BHAVANI SHANKER)
JOINT DIRECTOR/HOD

Encl. Test report

CPRI

TEST REPORT

Central Power Research Institute

(A Govt.of India Society)
P.B. No.8066, Sadashivanagar Post Office,
Prof. Sir.C.V. Raman Road,
Bangalore - 560 080(INDIA)

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number	:	**CPRIBLRPCD20T0050 Date : 28 May 2020**
Name and Address of the Customer	:	M/s. ABPS Solution Pvt. Ltd (Formerly known as AB Power System Solution), Gat No.258/1,Plot No.8/2,Village Khalumbre, Chakan-Talegaon Road, Tal.Khed, Near Lohr TSI Compound,Dist. PUNE-411501, Maharashtra (INDIA)
Name and Address of the Manufacturer	:	M/s. ABPS Solution Pvt. Ltd (Formerly known as AB Power System Solution), Gat No.258/1,Plot No.8/2,Village Khalumbre, Chakan-Talegaon Road, Tal.Khed, Near Lohr TSI Compound,Dist. PUNE-411501, Maharashtra (INDIA)
Particulars of sample tested	:	200kvar, 7.3kV, 50Hz, 1Ø, Internal Fuse HV Capacitor Unit
Type	:	APP
Description of test sample	:	Refer sheet 2 of 12
Serial Number	:	SI 2K19-1920154, SI 2K19-1920155 and SI 2K19-1920156
Number of samples tested	:	THREE
Date(s) of Test(s)	:	14 January 2020 to 23 March 2020 and 27 April 2020 to 26 May 2020
CPRI Sample code Number(s)	:	PCDCAPH19S0190, PCDCAPH19S0191 and PCDCAPH19S0192
Particulars of tests conducted	:	Endurance Test
Test in accordance with Standard/Specification	:	IS 13925(Part-2):2002/IEC 60871-2-1999
Sampling Plan	:	Not applicable
Customer's Requirement	:	Refer Sheet 3 of 12
Deviations if any	:	Nil
Name of the witnessing persons		
Customers representative	:	None
Other than customer's representatives	:	None
Test subcontracted with address of the laboratory	:	Not Applicable
Documents constituting this report (in words)		
Number of Sheets	:	TWELVE
Number of Oscillogram(s)	:	ONE
Number of Graph(s)	:	Nil
Number of Photograph(s)	:	TWO
Number of Test Circuit Diagram(s)	:	Nil
Number of Drawing(s)	:	TWO

(R. Shyam)
Test Engineer

(Dr. T. Bhavani Shanker)
Head of Division
Approved by

CPRI

TEST REPORT

Test Report Number: CPRIBLRPCD20T0050 **Dated : 28 May 2020**

DESCRIPTION OF SAMPLE TESTED
(As assigned by the manufacturer)

HV Capacitor Serial Numbers: SI 2K19-1920154, SI 2K19-1920155 and SI 2K19-1920156

Name Plate Details:

Fuse	:	Internal
Q_N	:	200 kvar
U_N	:	7.3kV
I_N	:	27.40 A
F_N	:	50 Hz
C_N	:	11.95 μF
Ins.Level	:	28kVrms/75kVpeak
Discharge device	:	—□—
Temp. Category	:	-5/C
Phase	:	1
Connection	:	-
Wt.	:	44 kg (Approx)
Ref. Standard	:	IS 13925(1)/IEC 60871(1)
Impregnant	:	NPCB
Dielectric	:	PP
DISCHARGE CAPACITOR BEFORE HANDLING		
Made in India		
ABPS Solution Pvt. Ltd, Pune, Maharashtra, India (Formerly known as AB Power System Solution)		

Nameplate details of three capacitors are same except serial numbers

(R. Shyam)
Test Engineer

CAPACITORS DIVISION
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PROF.SIR.C.V.RAMAN ROAD, BANGALORE - 560 080, INDIA
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CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number: CPRIBLRPCD20T0050 **Date: 28 May 2020**

SUMMARY OF TESTS CONDUCTED

1. Tests conducted : Endurance test
2. Rating for which tested : 200 kvar, 7.3kV, 50Hz, 1Ø, Internal Fuse HV Capacitor Units
3. Schedule of tests

Tests Conducted	Clause Numbers	Sheet
Routine test	2.1.2.1	5 of 12
Conditioning of units before the test	2.1.2.2	5 of 12
Initial Capacitance and Dielectric loss measurements before Over Voltage Cycling test	2.1.2.3	6 of 12
Over voltage Cycling test	2.1.3	7 of 12
Final Capacitance an Dielectric Loss Measurements after Over voltage test	2.1.3.2	8 of 12
Initial Capacitance and Dielectric loss measurements before Ageing test	2.1.2.3	9 of 12
Ageing test	2.1.4	9 of 12
Final Capacitance an Dielectric Loss Measurements after Ageing test	2.1.4.2	10 of 12

4. Customer's Requirement :
   a) The capacitor unit shall be conditioned for no less than 16 hours at $1.1U_N$ ac =8.03kV ac ≈ 8.0kV ac at prevailing ambient temperature.
   b) Capacitance and dielectric loss measurement at 60°C± 2°C and at 7.3kVac before and after overvoltage cycling test and ageing test.
   c) Over voltage test shall be carried out as per Cl.2.1.3 after conditioning the units at -5°C± 2°C for 12 hours(min.)
   d) Ageing test shall be carried out at 60°C± 2°C and at $1.4U_N$ for 1000 hours.
   e) Change in capacitance for breakdown of an element/operation of an internal fuse is 0.22μF
   f) Verification of External dimensions as per drawing No. ABPS/2019-2020/1920060 Sheet 1 of 1 Rev.0 date 21.12.2019
   g) Verification of Internal construction as per drawing No. ABPS/2019-2020/1920061 Sheet 1 of 1 Rev.0 date 21.12.2019
5. Oscillogram Numbers : CPRIBLRPCD20T0050S001
6. Graph Numbers : Nil
7. Photograph Numbers : CPRIBLRPCD20T0050P001 and CPRIBLRPCD20T0050P002
8. Test Circuit Diagram Numbers. : Nil
9. Drawing Numbers : Refer Sheet 4 of 12

(R. Shyam)
Test Engineer

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TEST REPORT

Test Report Number: CPRIBLRPCD20T0050 **Date: 28 May 2020**

LIST OF DRAWINGS

Drawing Numbers

The manufacturer has guaranteed that the sample submitted for the test(s) has been manufactured in accordance with the following drawing(s)

Sl. No.	Drawing Number	Sheet Number	Revision Number	Date
1.	ABPS/2019-2020/1920060	Sheet 1 of 1	Rev.0	21.12.2019
2.	ABPS/2019-2020/1920061	Sheet 1 of 1	Rev.0	21.12.2019

It is verified that these drawing(s) adequately represent the sample tested. Verification of these drawing(s) by CPRI is limited to dimensional check only wherever possible.

(R. Shyam)
Test Engineer

CPRI

TEST REPORT

Test Report Number: CPRIBLRPCD20T0050 **Date: 28 May 2020**

TEST RESULTS

Endurance test as per IS: 13925 (Part 2):2002/ IEC 60871-2-1999 and as per customer's requirement.

(A) OVER VOLTAGE CYCLING TEST (Cl. 2.1.3):

Serial Number of the capacitor tested: 1. SI 2K19-1920154,
2. SI 2K19-1920155 and
3. SI 2K19-1920156

A.1 ROUTINE VOLTAGE TEST BETWEEN TERMINALS (Cl.2.1.2.1):

Sl. No. of Capacitor	Voltage Applied (4.0 U_N)	Duration	Ambient Temperature
SI 2K19-1920154	29.2 kV dc	10 seconds	24°C
SI 2K19-1920155	29.2 kV dc	10 seconds	24°C
SI 2K19-1920156	29.2 kV dc	10 seconds	24°C

Result: All the three capacitors withstood the voltage application

A.2 CONDITIONING OF UNITS BEFORE TEST(Cl.2.1.2.2):

Capacitors were conditioned, as given below:

Sl. No. of Capacitor	Conditioning voltage (Between terminals) (1.1 U_N)	Duration of conditioning 16 hours (min)	Ambient temperature	
			Minimum	Maximum
SI 2K19-1920154	8.0 kV ac	18 hours	24 °C	26°C
SI 2K19-1920155	8.0 kV ac	18 hours	24 °C	26°C
SI 2K19-1920156	8.0 kV ac	18 hours	24 °C	26°C

(R. Shyam)
Test Engineer

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TEST RESULTS

A.3 INITIAL CAPACITANCE AND DIELECTRIC LOSS MEASUREMENT BEFORE OVER VOLTAGE CYCLING TEST (Cl. 2.1.2.3):

Capacitors were conditioned as follows for the measurement of initial capacitance & Dielectric loss (tanδ):

Sl. No. of Capacitor	Conditioning temperature	Duration of conditioning (minimum 12 hours)	Voltage applied during conditioning
Sl 2K19-1920154	60 ± 2°C	16 hours 10 Minutes	No voltage applied
Sl 2K19-1920155	60 ± 2°C	16 hours 20 Minutes	No voltage applied
Sl 2K19-1920156	60 ± 2°C	16 hours 30 Minutes	No voltage applied

At the end of conditioning at 60 ± 2° C for 12 hours (minimum), Capacitance and tan δ measurement was carried out. Measured values are as follows:

Sl. No. of the Capacitor	Voltage applied	Capacitance	tan δ (absolute value)
Sl 2K19-1920154	7.3 kV ac	12.371 μF	0.00014
Sl 2K19-1920155	7.3 kV ac	12.387 μF	0.00014
Sl 2K19-1920156	7.3 kV ac	12.367 μF	0.00014

(R. Shyam)
Test Engineer

TEST RESULTS

A.4 OVER VOLTAGE CYCLING TEST (Cl. 2.1.3):

Over voltage test was carried out in the order of sequence as follows:

(i). Capacitors were conditioned in a conditioning chamber for the lower temperature limit, as given below:

Lower temp. limit of capacitor	Cold chamber temperature	Duration
- 5°C	(-5) ±2°C	12 hrs minimum

(ii). The capacitors were then brought out of the conditioning chamber and kept in the ambient conditions.

(iii). Within five minutes after taking the capacitors out of the conditioning chamber, the capacitors were subjected to over voltage cycling test as detailed below:

The capacitors were energised to a voltage of 8.03 kV ac ($1.1U_N$ rms) for a period of ninety seconds. At the end of ninety seconds, a voltage of 16.425 kV ac ($2.25\ U_N$ rms) was applied for a period of 15 ± 2 cycles. Immediately after 15 ± 2 cycles, 8.03 kV ac ($1.1U_N$ rms) was maintained again without any voltage interruption. This constituted one over voltage period. After an interval of ninety seconds at $1.1U_N$, another equal over-voltage was applied and the procedure repeated. The capacitors were subjected to such 170 over-voltage periods per day.

A typical waveform recorded during the over-voltage cycling test is enclosed.

(iv). Conditioning of the capacitors at the lowest temperature limit of the capacitor for 12 hours (minimum) in an un-energized state followed by application of over voltage for 170 over voltage periods per day was carried out for 5 days. Thus totalling to 850 over voltage periods.

The capacitors (3Nos.) were subjected to Over Voltage Cycling test. The details of Over Voltage Cycling test are tabulated below:

Sl. No. of Capacitor	Total number of Over voltage periods performed	Result
Sl 2K19-1920154	850	Withstood
Sl 2K19-1920155	68	Failed during 69th over voltage cycle
Sl 2K19-1920156	850	Withstood

RESULT: TWO capacitors out of THREE capacitors tested have withstood over voltage cycling test.

R.Sh

(R. Shyam)
Test Engineer

TEST RESULTS

A.5 FINAL CAPACITANCE AND DIELECTRIC LOSS MEASUREMENT AFTER OVER VOLTAGE CYCLING TEST (Cl. 2.1.3.2):

After completing the over voltage cycling test, the capacitance and tanδ were measured under identical conditions as in Cl.2.1.2.3 above.

The capacitors were conditioned as follows for the measurement of final capacitance & tan δ :

Sl. No. of Capacitor	Conditioning temperature	Duration of conditioning (minimum 12 hours)	Voltage applied during conditioning
Sl 2K19-1920154	60 ± 2° C	15 hours 25 minutes	No voltage applied
Sl 2K19-1920155	60 ± 2° C	15 hours 35 minutes	No voltage applied
Sl 2K19-1920156	60 ± 2° C	15 hours 45 minutes	No voltage applied

Capacitance and tan δ measurement was carried out at 60 ± 2 °C after 5 minutes of voltage application. Measured values are as follows:

Sl. No. of the Capacitor	Voltage applied	Capacitance	tan δ (absolute value)
Sl 2K19-1920154	7.3 kV ac	12.368 μF	0.00013
Sl 2K19-1920155	7.3 kV ac	11.244 μF	0.00013
Sl 2K19-1920156	7.3 kV ac	12.364 μF	0.00013

Change in capacitance before and after Over voltage Cycling test

Voltage Applied	Sl. No. of the capacitor	Measured value of the capacitance		Change in Capacitance for breakdown of an element/operation of an Internal fuse	
		Before Over Voltage Cycling test	After Over Voltage Cycling test	Observed Change	Specified by the manufacturer
7.3 kV ac	Sl 2K19-1920154	12.371 μF	12.368 μF	0.003 μF	0.22μF
7.3 kV ac	Sl 2K19-1920155	12.387 μF	11.244 μF	1.143 μF	0.22μF
7.3 kV ac	Sl 2K19-1920156	12.367 μF	12.364 μF	0.003 μF	0.22μF

Summary of Over Voltage Cycling test: As per the acceptance criteria at Cl.2.1.3.3, breakdown of one capacitor is accepted when three units are tested. Hence, the batch of capacitors tested has Withstood Over voltage cycling test.

(R. Shyam)
Test Engineer

CPRI

TEST REPORT

Test Report Number: CPRIBLRPCD20T0050 **Date: 28 May 2020**

TEST RESULTS

(B). AGEING TEST (Cl. 2.1.4):

After completing over voltage cycling test on TWO capacitor units that have withstood, ageing test was carried out on these two units.

Serial Number of the capacitor tested: 1. SI 2K19-1920154 and
2. SI 2K19-1920156

B.1 INITIAL CAPACITANCE AND DIELECTRIC LOSS MEASUREMENT BEFORE AGEING TEST (Cl. 2.1.2.3):

After completing the over voltage cycling test, the capacitance and tanδ were measured
The capacitors were conditioned as follows for the measurement of initial capacitance & tan δ :

Sl. No. of Capacitor	Conditioning temperature	Duration of conditioning (minimum 12 hours)	Voltage applied during conditioning
SI 2K19-1920154	60 ± 2° C	15 hours 25 minutes	No voltage applied
SI 2K19-1920156	60 ± 2° C	15 hours 45 minutes	No voltage applied

Capacitance and tan δ measurement was carried out at 60 ± 2 °C after 5 minutes of voltage application. Measured values are as follows:

Sl. No. of the Capacitor	Voltage applied	Capacitance	tan δ (absolute value)
SI 2K19-1920154	7.3 kV ac	12.368 μF	0.00013
SI 2K19-1920156	7.3 kV ac	12.364 μF	0.00013

B.4 AGEING TEST (Cl. 2.1.4):

The capacitors (2Nos.) were subjected to ageing test. The details of Ageing test are tabulated below:

Sl. No. of the capacitor	Test voltage between terminals (1.4 U_N)	Oven Temperature	Duration	Capacitor Case temperature		Result
				Minimum	Maximum	
SI 2K19-1920154	10.3 kV ac	60±2°C	1000 hours	60°C	64.1°C	Withstood
SI 2K19-1920156	10.3 kV ac	60±2°C	1000 hours	60°C	63.8°C	Withstood

RESULT: No breakdown of the capacitors was observed during Ageing test.

R.Sh

(R. Shyam)
Test Engineer

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TEST RESULTS

B.5 FINAL CAPACITANCE AND DIELECTRIC LOSS MEASUREMENT AFTER AGEING TEST (Cl.2.1.4.2):

After completing the Ageing test as per Cl.2.1.4. the capacitance and tanδ were measured under identical conditions as in Cl.2.1.2.3 above.

The capacitors were conditioned as follows for the measurement of final capacitance & tan δ:

Sl. No. of Capacitor	Conditioning temperature	Duration of conditioning (minimum 12 hours)	Voltage applied during conditioning
Sl 2K19-1920154	60 ± 2° C	19 hours 10 Minutes	No voltage applied
Sl 2K19-1920156	60 ± 2° C	19 hours 30 minutes	No voltage applied

Capacitance and tan δ measurement was carried out at 60 ± 2 ° C after 5 minutes of voltage application. Measured values are as follows:

Sl. No. of the Capacitor	Voltage applied	Capacitance	tan δ (absolute value)
Sl 2K19-1920154	7.3 kV ac	12.463 μF	0.00014
Sl 2K19-1920156	7.3 kV ac	12.456 μF	0.00014

Change in Capacitance before and after ageing test

Voltage Applied	Sl. No. of the capacitor	Measured value of the capacitance		Change in Capacitance for breakdown of an element/operation of an Internal fuse	
		Before Ageing test	After Ageing test	Observed Change	Specified by the manufacturer
7.3 kV ac	Sl 2K19-1920154	12.368 μF	12.463 μF	0.095 μF	0.22μF
7.3 kV ac	Sl 2K19-1920156	12.364 μF	12.456 μF	0.092 μF	0.22μF

Summary of Ageing test: As per the acceptance criteria at Cl.2.1.3.3, no breakdown shall occur when two units have been tested. Hence the two capacitors tested have Withstood Ageing test.

(R. Shyam)
Test Engineer

TEST RESULTS

C. VERIFICATION OF EXTERNAL DIMENSIONS (As per Customer's Requirement)

External dimensions of the capacitors generally comply with the drawing of No. ABPS/2019-2020/1920060 Sheet 1 of 1 Rev.0 Date:21.12.2019

D. VERIFICATION OF INTERNAL CONSTRUCTION (As per Annex B of IS-13925 (Part 2):2002/ IEC 60871-2-1999, and as per customer's requirement)

(Reference drawing No. ABPS/2019-2020/1920061 Sheet 1 of 1 Rev.0 Date:21.12.2019)

After completing the Over voltage cycling test and Ageing test, the capacitors bearing Serial number: Sl 2K19-1920156 was cut open for physical verification of internal Construction

The observed internal construction details are as follows:

Sl. No.	Parameter details	Specified in the Drawing	Verified
1	Internal Element fuses	Provided	Provided
2	Number of series groups / unit	4	4
3	Number of parallel elements/series group	14	14
4	Width of PP film	310 mm±2mm	310 mm
5	Width of Al. Foil	300 mm±2mm	300 mm
6	Edge folding	5 mm±2mm	5 mm
7	End folding	20 mm±7mm	23mm
8	Active width of Al. foil	270 mm±3mm	270 mm
9	Exposed(Extended) Al. foil	5 mm±2mm	5 mm
10	Discharge device/series section	1.5MΩ±10%	1.485MΩ
11	Thickness of Al foil	5 microns ±5%	Not Verified
12	Number of PP layers	3 Nos.	3 Nos.
13	Total Thickness of PP	3x10microns±6%	Not Verified
14	Active length of the element	11.5meters to 13.5meters	11.93meters
15	Element Connection	Soldering	Soldering
16	Type of Bushing	Porcelain, weldable type	Porcelain, weldable type

(R. Shyam)
Test Engineer

CPRI

TEST REPORT

Test Report Number: CPRIBLRPCD20T0050 **Date: 28 May 2020**

NOTE

a) The Test results relate only to the sample(s) tested.

b) Publication or reproduction of this Test Report /Test Certificate in any form other than by complete set of the whole Test Report /Test Certificate and in the language written is not permitted without the written consent of CPRI.

c) Any Corrections/erasure invalidates the Test Report/Test Certificate

d) NABL has Accredited this laboratory as per ISO/IEC17025:2017, vide certificate no.TC-5452 for the tests carried out.

e) Any anomaly/discrepancy in the Test Report / Test Certificate should be brought to the notice of CPRI within 45 days from the date of issue.

(R. Shyam)
Test Engineer

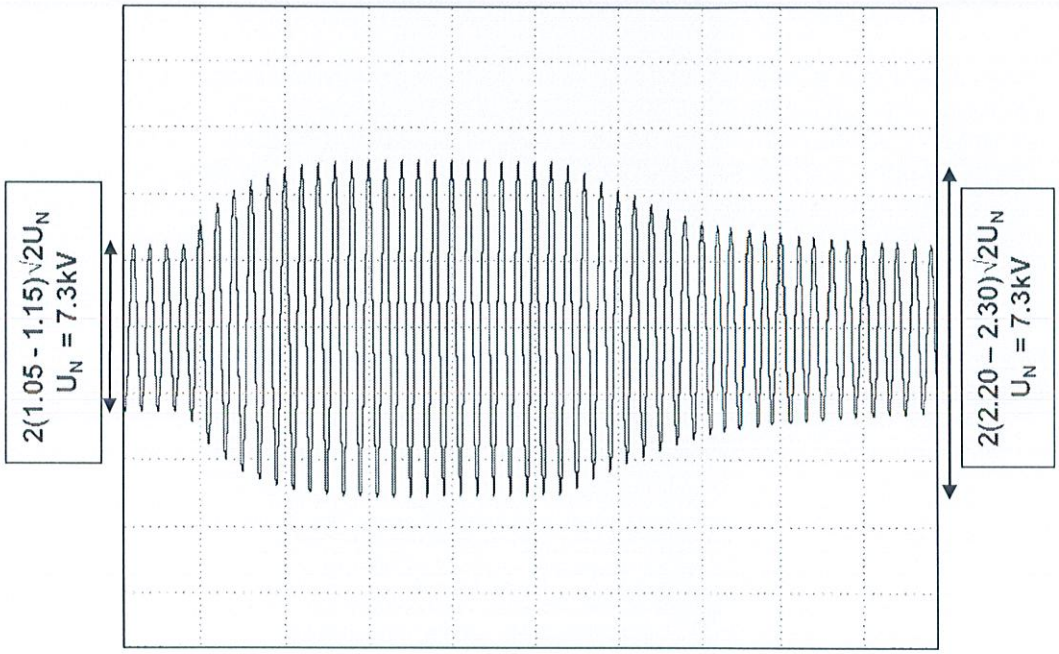
CENTRAL POWER RESEARCH INSTITUTE

CPRI

TEST REPORT

Test Report Number: CPRIBLRPCD20T0050 **Date: 28 May 2020**

Customer Name & address: M/s. ABPS Solution Pvt. Ltd
(Formerly known as AB Power System Solution),
Gat No.258/1,Plot No.8/2,Village Khalumbre,
Chakan-Talegaon Road, Tal.Khed, Near Lohr TSI Compound,
Dist. PUNE-411501, Maharashtra (INDIA)



Oscillogram Number: CPRIBLRPCD20T0050S001
TYPICAL WAVE-FORM OF ONE CYCLE OF OVER-VOLTAGE CYCLING TEST

(R. Shyam)
Test Engineer

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TEST REPORT

Test Report Number: CPRIBLRPCD20T0050 **28 May 2020**

Photograph Number: CPRIBLRPCD20T0050P001
A VIEW OF CAPACITORS UNDERGOING OVC TEST

(R. Shyam)
Test Engineer

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TEST REPORT

Test Report Number: CPRIBLRPCD20T0050 **28 May 2020**

Photograph Number:CPRIBLRPCD20T0050P002
A VIEW OF CAPACITORS UNDERGOING AGEING TEST

(R. Shyam)
Test Engineer

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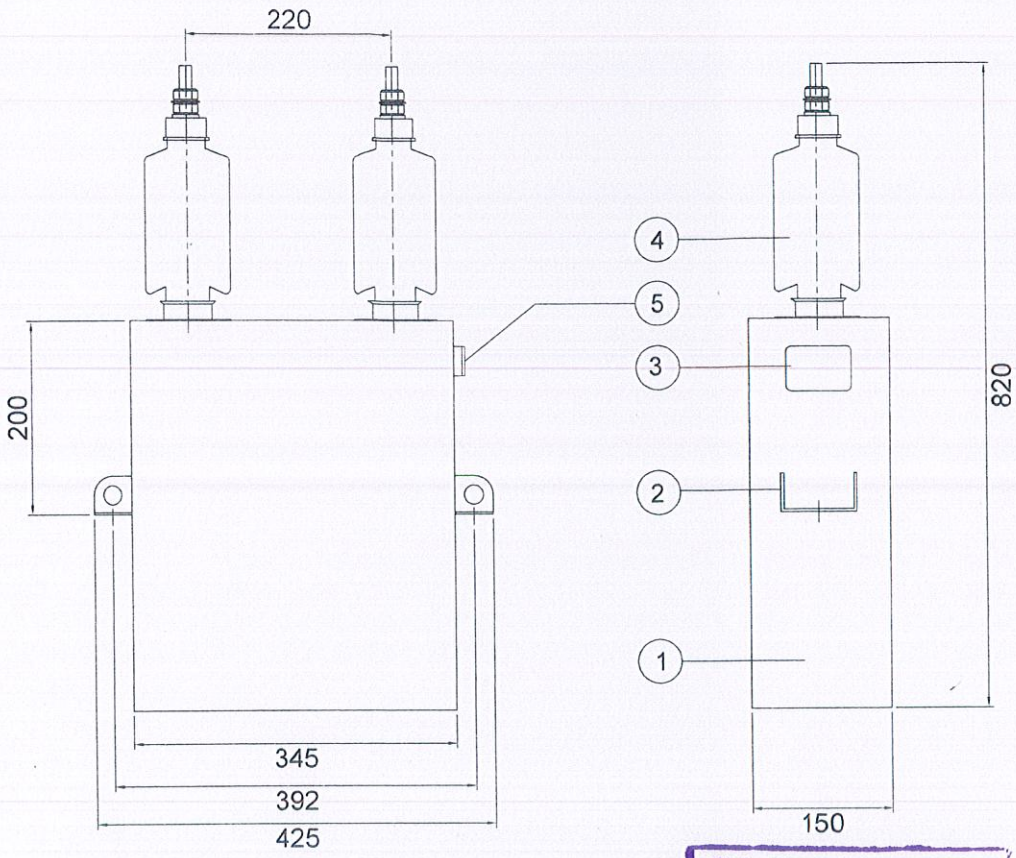


This Drawing Pertains to CPRI Test Report No. CPRI BLR PCD20T0050 Dt. 28.05.2020

1. CONTAINER
2. MOUNTING BRACKET
3. NAME PLATE
4. HT BUSHING BIL 28 KVRMS / 75 KVP
5. EARTH TERMINAL

R.Sh.

[R. SHYAM]
TEST ENGINEER

* ALL DIMENSION ARE IN mm.
* DIMENSIONS INDICATED ARE APPROXIMATE, MAY CHANGE DUE TO IMPROVEMENT IN DESIGN WITHOUT AFFECTING ANY FUNCTIONAL PARAMETERS.
* INTERNAL FUSE DESIGN
* DIMENSIONAL TOLERANCE : ±10%.

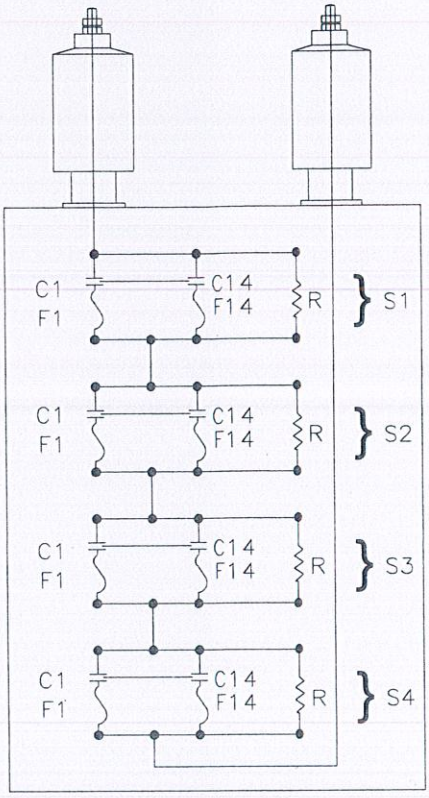
RATED OUTPUT	200 KVAR
RATED VOLTAGE	7.3 KV
NO OF PHASE	SINGLE
DISCHARGE TIME	600 SECONDS
RESIDUAL VOLTS	75 VOLTS
PAINT SHADE	RAL 7031

PREPARED BY	A.G.	ABPS SOLUTION PVT. LTD. (FORMERLY KNOWN AS : AB POWER SYSTEM SOLUTION) Factory : Gat.No. 258/1, Plot No.-8/2, Vill.- Khalumbre, Chakan Talegaon Road, Tal.-Khed, Chakan, Pune, India e-mail: ablifasa@gmail.com Website : www.abpowerindia.com	TITLE- 200KVAR, 7.3KV, 1PH, 50HZ, CAPACITOR UNIT.
CHECK BY	U.N.		
FILE NAME			

DRAWING NO.- ABPS/2019-2020/1920060
DATE-21/12/2019
REV.-0 SHEET NO.-1 OF 1

INTERNAL CONSTRUCTIONAL DETAILS OF CAPACITOR

OUTPUT : 200KVAR
VOLTAGE : 7.3KV
NO OF PH : SINGLE
FUSE : INTERNAL ELEMENT



C=CAPACITOT ELEMENT
F=ELEMENT FUSE
R=DISCHARGE RESISTOR
S1 TO S4=SERIES GROUP

This Drawing Pertains to CPRI Test Report No. CPRI BLR PCD 20T0050 Dt: 28.05.2020

[R. SHYAM]
TEST ENGINEER

SR. NO.	DESCRIPTION	REMARK
1	INTERNAL ELEMENT FUSES	PROVIDED
2	NO OF SERIES GROUP	FOUR
3	NO OF PARALLEL ELEMENTS PER SERIES GROUP	FOURTEEN
4	WIDTH OF PP FILM	310MM ±2 MM
5	WIDTH OF ALUMINIUM FOIL	300MM ±2 MM
6	EDGE FOLDING OF ALUMINIUM FOIL	5MM ±2 MM
7	END FOLDING OF ALUMINIUM FOIL	20MM ±7 MM
8	ACTIVE WIDTH OF ALUMINIUM FOIL	270MM ±3 MM
9	EXPOSED (EXTENDED) ALUMINIUM FOIL	5MM ±2 MM
10	DISCHARGE DEVICE PER SERIES SECTION	1.5M OHMS, ±10%
11	THICKNESS OF ALUMINIUM FOIL	5µm ±5%
12	ACTIVE LENGTH OF ALUMINIUM FOIL / ELEMENT	11.5 TO 13.5 METER
13	THICKNESS OF PP (TOTAL)	3X10µm ±6%
14	NO.OF PP LAYERS	THREE
15	ELEMENT CONNECTION	SOLDERING
16	TYPE OF BUSHING	PORCELAIN,WELDABLE TYPE

PREPARED BY	A.G.	ABPS SOLUTION PVT. LTD. (FORMERLY KNOWN AS : AB POWER SYSTEM SOLUTION) Factory : Gat.No. 258/1, Plot No.-8/2, Vill.- Khalumbre, Chakan Talegaon Road, Tal.-Khed, Chakan, Pune, India e-mail: ablifasa@gmail.com Website : www.abpowerindia.com	TITLE- 200KVAR, 7.3KV, 1PH, 50HZ, CAPACITOR UNIT.
CHECK BY	U.M.		DRAWING NO.- ABPS/2019-2020/1920061
FILE NAME			DATE-21/12/2019
			REV.-0 SHEET NO.-1 OF 1