Date of Issue: 16/12/2022

SPECIFICATION

(For Approval)

Commodity	**Low Voltage Power Capacitor (Oil Filled)**
Rating	**440V AC 3PH 50Hz**
Ambient Temperature	**55°C**
Part No.	**HD-VAR Series**

Approved	

SHREEM ELECTRIC LTD.

Prepared	Checked	Approved

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SPECIFICATION	**CAPACITOR UNIT**	**1 / 6**

1.Scope

This Specification Covers the design ,manufacture and test of low voltage power capacitor unit intended to be used Particular for power factor correction AC Power System

2.Type and Ratings

Type	HD-VAR Series
Rated Voltage	440 V
Rated Capacity (kVAr)	28
Rated Current (A)	36.60
Rated Capacitance (μF)	3 X 153.54
Phase (ϕ)	3
Frequency (Hz)	50
Installation	Indoor
Impregnation	Epoxy

3.Service Conditions

Residual Voltage at energization	Not exceed 10% of rated voltage
Altitude	Not exceeding 1,000 m
Location	Indoor
Ambient air temperature	Please see following table

Symbol	Ambient air temperature (°C)			
	Maximum	Minimum	Highest mean over any period	
			24 h	1 year
D	+55	-25	+45	+35

Attention should be paid to the upper operating temperature of the capacitor, because this has a great influence on its life

When the capacitor dielectric reaches a temperature below the lower limit of its category , there may be the danger of initiating partial discharges in the dielectric when the capacitor is initially energized.

4. Test and Electrical Performances

4-1. Test Condition

Unless otherwise specified for a particular test or measurement, the temperature of the capacitor dielectric shall be in the range +5 °C to +35 °C

4-2. Routine tests

a) Capacitance Measurement

The capacitance shall be measured at 09 to 1.1 times the rated voltage and rated frequency.

The capacitance tolerance: -5% to +10% of rated capacity

b) Capacitor loss tangent (tand) shall be measured at 09 to 1.1 times the rated voltage And the frequency

Dielectric loss	less than 0.2 W/kVAr
Power loss with discharge device	less than 0.5 W/kVAr

c) Voltage test between terminal

Voltage test between terminal shall be carried out with a voltage of

U_T = 2.15 U N

T_T = 10 sec.

where

U_T is testing voltage (AC)

U_N is rated voltage of the capacitor

T_T is testing time

During the test, neither puncture nor flashover shall occur.

d) AC voltage test between terminal and container

Voltage test between terminal and container shall be carried out with a substantially sinusoidal voltage of

U_T = 3 kV

T_T = 10 sec.

where

U_T is testing voltage (AC)

T_T is testing time

During the test, neither puncture nor flashover shall occur.

e) Test of internal discharge device

The resistance of internal discharge device shall be checked by a resistance measurement.
The capacitor shall be provided with a means for reducing the residual voltage to 75 volts or less within three (3) minutes after the capacitor is disconnected from the source of supply.

f) Sealing test
Un energized capacitor units shall be heated throughout so that all part reaches a temperature of at least equal to the maximum operating internal mean temperature,
But less than 65°C. This internal temperature shall be maintained 3h.
No leakage shall occur.

5. Overloads

5-1. Maximum permissible voltage

Capacitor units shall be suitable for operation at voltage level according to table

Type	Volt. Factor XU_N(r.m.s.)	Maximum Duration
Power Frequency	1.00	Continuous
	1.10	8 h in every 24h
	1.15	30 min. in every 24h
	1.20	5 min. in every 24h
	1.30	1 min. in every 24h

5-2. Maximum Permissible current

A capacitor unit shall be suitable for continuous operation at r.m.s. current of 1.3 time the rated current that occurs at

rated sinusoidal voltage and rate frequency, excluding transients.

5-2. Maximum Permissible reactive power

A capacitor unit shall be suitable for continuous operation at 1.3 Qn.

6. Markings

a) Name of manufacturer
b) Identification number and manufacturing year
c) Rated output Q_N in Kilovars
d) Rated voltage U_N in Volts
e) Rated frequency f_N in hertz
f) Application standard
g) Discharge device
h) Insulation level
i) Chemical or trade name of impregnation

7. Application Standard

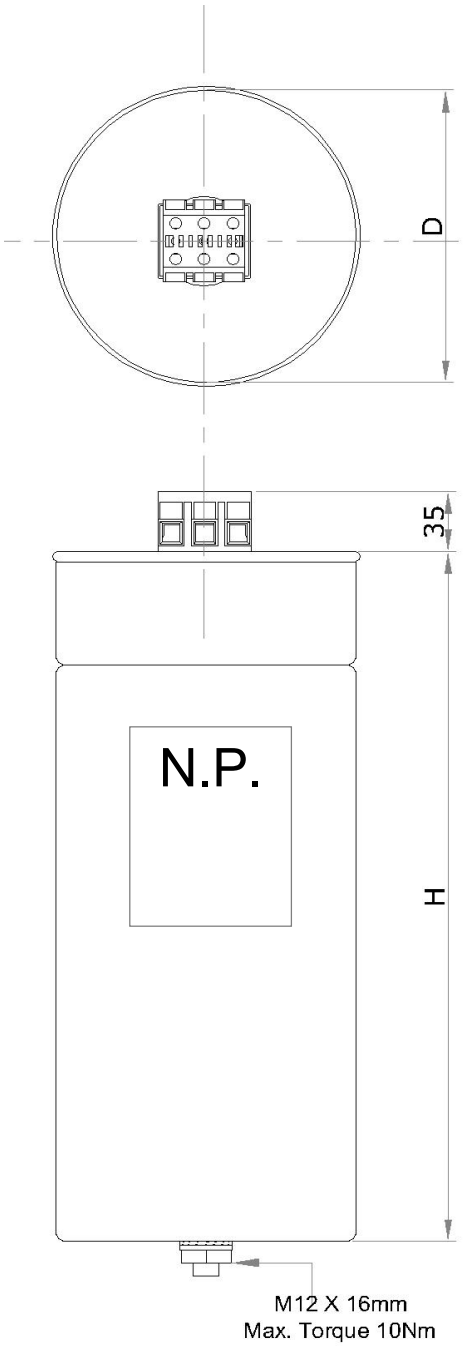
All capacitor furnished under this specification shall meet the design and testing requirement of IEC 6083-1

8. Warranty

We, the manufacturers , guarantee the quality and satisfactory operating when operated and maintained properly of the

equipment supplied by us under this specification for the period of one year following the delivery date

The guarantee shall be restricted to any damage of the equipment arising out of faulty materials or bad design or poor workmanship under proper use of equipment but not otherwise



FLEXIBLE COPPER CABLE 300MM IN EACH PAHSE

	CAPACITOR CODE	MODEL	D (mm)	H (mm)	REMARK
1	FT-H280-R0440-S1R3	440VAC 3PH 50Hz 2.5kVAr	116	284	

Note: All Dimension Tolerance is ± 5%