SONA COMSTAR

Application – In Wheel Traction Motor
Category – Electric Vehicle Motor
Product Code - AATC/XEV/TRAC/02/02
Model – U546 Electric Motor
Product Name - KE163680 - BLDC HUB MOTOR
Company Name – SONA BLW PRECISION FORGINGS LIMITED
Product as Per PLI Portal - Wheel Rim Integrated with Hub Motor

Index Reference Number	0004
Name of the Document	Photographs of the AAT component Drawings of the AAT Component
Annexure Number	-
Control / Document Number	SBPFL/PLI/PSA/2026/U546/0004

NAME : K.SANTHANA GOPALAN

[Authorized Signatory]

DESIGNATION : VP, FINANCE

DATE : 24-07-2026

Sona BLW Precision Forgings Ltd.

SONA BLW Precision Forgings Ltd.

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CIN L27300HR1995PLC083037

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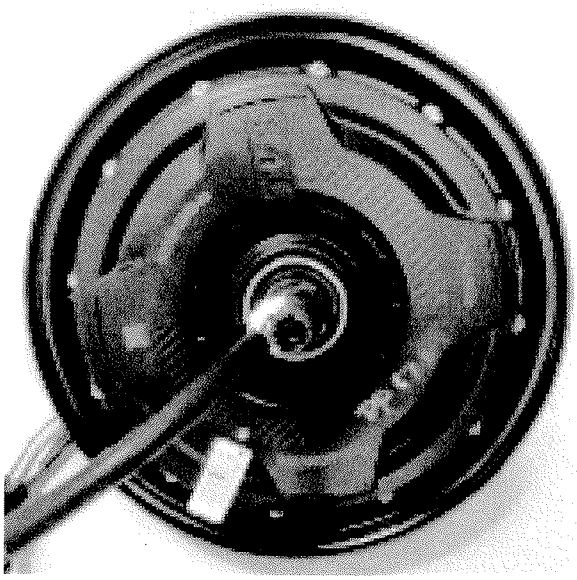
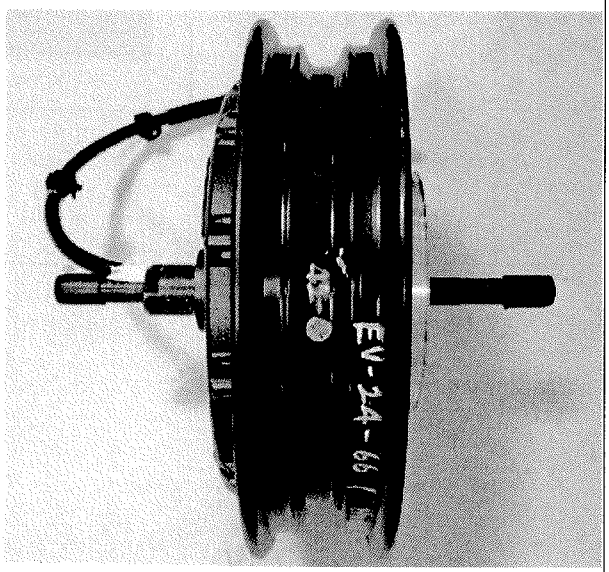
PRODUCT PHOTOS

Front View	
Side View	

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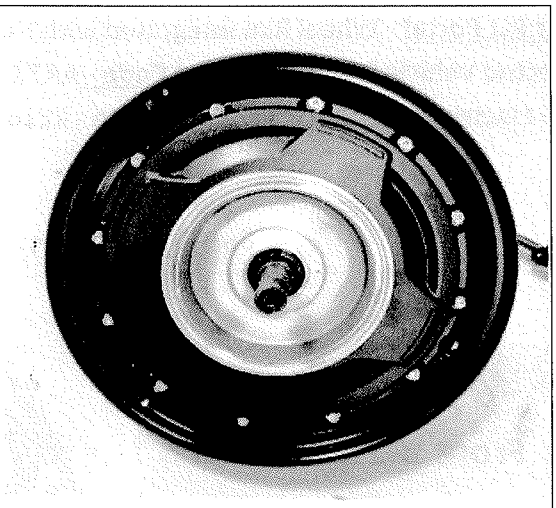
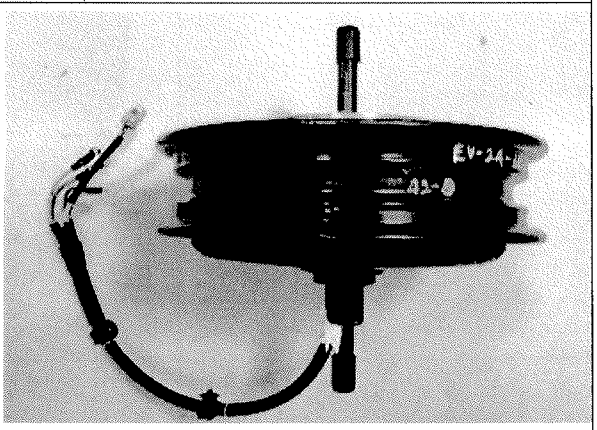
Rear View	
Top View	

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CIN L27300HR1995PLC083037

DESCRIPTION	MAJOR FIT / FUNCTION	CRITICAL FIT / FUNCTION	SAFETY	REGULATORY	APPEARANCE
TVSM REPRESENTATION					A
SONA CONSTAR REPRESENTATION					A

SPECIFICATION FOR HALLSENSOR

1	TYPE	TO92-3 (TH)
2	OUTPUT	OPEN DRAIN
3	MOUNTING	PCB MOUNTED, FINALLY MOUNTED ON STATOR
4	OPERATING TEMPERATURE	-40°C TO 150°C
5	OPERATING VOLTAGE	5V
6	OPERATING CURRENT FOR HALL IC	20 mA

VIEW IN CIRCLE C
SCALE 2:1

VIEW IN CIRCLE D
SCALE 2:1

ISOMETRIC VIEW
SCALE 1:4

DIRECTION OF ROTATION FOR FORWARD PROPULSION OF VEHICLE
(COUNTER CLOCKWISE ROTATION OF MOTOR VIEWING FROM WIRE END)

ENGRAVE/STAMP/IMPRESS MARKING AS SHOWN.
"ISI" MONOGRAM SIZE AS PER ANNEX 'SOF' BIS OPERATING MANUAL FOR PRODUCT CERTIFICATION - 1994
XXXXXXXXX : BIS LICENCE NUMBER OF SUPPLIER

MARKING 1: "SUITABLE FOR TUBELESS TYRE" SHALL BE IMPRESSED AS PER NOTE 2

MARKING 2: "MT2 15X12" SHALL BE IMPRESSED AS PER NOTE 2

MARKING 3: "NAME OR TRADEMARK OF RIM MANUFACTURER SHALL BE IMPRESSED AS PER NOTE 2

QR CODE
TRACKING NUMBER
SONA BLW PART NUMBER
LABEL
CUSTOMER PART NUMBER
M5x12 THREAD LOCK SHALL BE APPLIED

SLEEVE SHALL WITHSTAND TEMPERATURE 150°C
PULL OUT FORCE FOR TERMINAL : >350N
VIEW D
WITHOUT WIRING HARNESS
MODVAK ENGINEERING PART NO-ME-2002
CONNECTOR DETAILS: SUMITOMO(090SERIES) 6180-6181 (SEALED CONNECTOR) 6 POLE FEMALE CONNECTOR COLOR:NATURAL
MATING CONNECTOR DETAILS:SUMITOMO 6189-6171
PULL OUT FORCE FOR TERMINAL :>70N
WIRE SEAL - TYCO 281934-4
JELLY FILLED HST SLEEVE FOR U,V,W WIRE DETAILS : AS PER ISO6722 CLASS D
HEAT SHRINKABLE SLEEVE SHALL BE PROVIDED FOR COMPLETE INSULATION OF PHASE TERMINAL WIRES. COPPER/ALUMINIUM STRANDS SHALL NOT BE VISIBLE
4-WAY BREAKOUT BOOT (JELLY FILLED ON BOTH THE ENDS) ALT:OVER MOULDSLEEVE

M18X1 5.6g AFTER PLATING SHAFT THREAD AREA SHALL BE FREE FROM BURR,RUST,DAMAGE&DENT

0.5 MAX AXIAL FLOAT OF ROTATING PARTS INCLUDE IN THIS DIMENSION & SHALL BE MAINTAINED AT BOTH EXTREME POSITIONS (LEFT&RIGHT OF MOTOR FLOAT)

PROTECTIVE COVER SHALL BE PROVIDED TO AT BOTH ENDS OF SHAFT

M18x 1.5 6g AFTER PLATING
SHAFT THREAD AREA SHALL BE FREE FROM BURR,RUST,DAMAGE & DENT

(12.5) MIN FLAT SURFACE NO RADIAL STRIATIONS

Ø8.8 FREE FROM BURR

0.5X45° MAX ENTIRE VALVE HOLE SHALL BE FREE FROM BURR & SHARP CORNERS

SURFACE X
CIRCLE A
CIRCLE B
CIRCLE C
CIRCLE D

VIEW E

DETAIL
PHASE CONNECTOR
(VIEW WITH OUT CRIMP)

VIEW IN CIRCLE A
SCALE 1:1

CONTROLLER DETAILS	
MAKE	SEDEMAC
MODEL NUMBER	ME163680
SOFTWARE VERSION	1.0.5
HARDWARE VERSION	3.0

NO SHARP EDGE & BURRS ALLOWED ON SHAFT HOLE EDGE TO AVOID PHASE CABLES SLEEVE DAMAGE DUE TO RUBBING

WATER TIGHT HARD SEALENT SHALL BE USED TO PREVENT WATER ENTRY NO SHARP EDGE

CHAMFER (-2mm TO BE MAINTAINED AT ENTIRE CONTOUR OF CABLE INSERT OPENING)

DEBURR

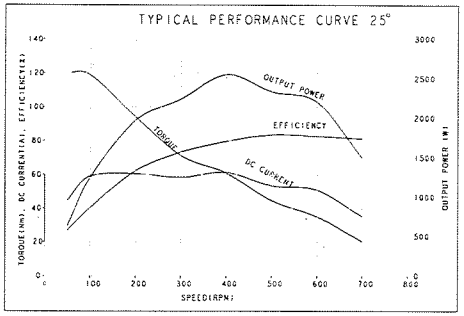
VIEW IN DIRECTION OF ARROW F

VIEW IN CIRCLE B
SCALE 1:1

ANTI ROTATION FEATURE ON BRAKE DRUM OUTER SIDE TYP AT 4 PLACES ON (Ø138)

SIDE VIEW OF BRAKE DRUM WITH LUGS

TYPICAL PERFORMANCE CURVE 25°



(B2) *THIS PERFORMANCE CHARACTERISTICS & SPECIFICATION WILL BE UPDATED BASED ON TOOLED UP PRODUCTION SAMPLE WITH INTENDED CONTROLLER

QR CODE & TRACKING NUMBER DETAILS

DETAILS	HEIGHT	LENGTH
SONA BLW PART NO.	5.2	47
CUSTOMER PART NO.	5.2	32
TRACKING NUMBER	5.2	51
QR CODE	12	12
TEXT STYLE	CAPITAL ROMAN	

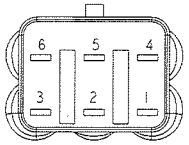
CUSTOMER TRACKING NUMBER

AM4XYC #00001 (B2)

- RUNNING SERIAL NUMBER 00001 TO 99999
- CHECK DIGIT IS 0-ZERO (THIS WILL BECOME 1, AFTER RUNNING SERIAL NUMBER 99999 !)
- MOTOR SUPPLIER CODE
- MONTH & YEAR CODE
- ELECTRIC MOTOR 1800W
- VARIANT TYPE

NOTE: RUNNING NUMBER WILL BE RESET WHILE BEGINNING OF EACH MONTH

VIEW FROM COUPLER END



CABLE DETAILS:

TERMINAL		
WIRE COLOUR	WIRE TYPE	WIRE SIZE
BLUE(W)	ACW	6 sq.mm

TERMINAL		
WIRE COLOUR	WIRE TYPE	WIRE SIZE
GREEN(V)	ACW	6 sq.mm

TERMINAL		
WIRE COLOUR	WIRE TYPE	WIRE SIZE
YELLOW(U)	ACW	6 sq.mm

PIN NUMBER	HALL SENSOR PIN DETAILS	COUPLER DETAILS: TYPE	COUPLER DETAILS: COLOUR	WIRE DETAILS: WIRE TYPE	WIRE DETAILS: WIRE SIZE	WIRE DETAILS: WIRE COLOUR
1	HALL A	90 SERIES FEMALE 6 POLE	NATURAL	FLRYB AS PER ISO 6722 CLASS D	0.5 sq.mm	YELLOW
2	HALL B				0.5 sq.mm	GREEN
3	HALL C				0.5 sq.mm	BLUE
4	GROUND				0.5 sq.mm	BLACK
5	THERMAL SENSOR+ve				0.5 sq.mm	WHITE
6	5V SUPPLY				0.5 sq.mm	RED

#SPECIFICATION: (B3)

1	MOTOR TYPE	PMSM (PERMANENT MAGNET SYNCHRONOUS MOTOR)
2	NUMBER OF PHASES	3
3	POWER RATING	27.8 KW
4	NOMINAL VOLTAGE	52±0.5 V
5	NO- LOAD SPEED	750±50 RPM
6	NO LOAD CURRENT	≤10A
7	RATED TORQUE	36 Nm
8	RATED SPEED	550 RPM MIN
9	PEAK POWER	12.4KW @45Nm,350 TO 550RPM FOR 10 MINUTES
10	PEAK TORQUE	2120 Nm AT 100 RPM FOR 30 SECONDS AND 1160Nm @ ≥150RPM FOR 2 MINUTES
11	RATED CURRENT	453 A DC
12	PEAK CURRENT	655±35
13	OPERATING SPEED RANGE	0 TO 750 RPM
14	INSULATION RESISTANCE	>100 MΩ AT 1000 V DC
15	DIELECTRIC STRENGTH	SHALL WITHSTAND 1000 V DC
16	DIRECTION OF ROTATION	COUNTERCLOCKWISE WHEN VIEW FROM WIRE OUT SIDE FOR FORWARD PROPULSION
17	OPERATING TEMPERATURE	-10°C TO 60°C (AMBIENT TEMPERATURE)
18	PHASE CURRENT	135±3±
19	MOTOR MAX EFFICIENCY	>88% AT 500 TO 600 RPM @ 40 TO 50 Nm

LTRS	REVISIONS			
ORIGINATOR	REVIEWER	ENGR APP	MATL APP	
P-RELEASE				
EVGO E 50022996160			20230828	
SKAMALI	KJMOHAMMED	MSATISHK	GSIVA	

A1 WAS Ø130 +0.025 -0.025
A2 2X REVISED TABLE
A3 2X REVISED NOTE
A4 2X REVISED QDAT
EVGO E 50022996 171 — 20230912

SKAMALI	KJMOHAMMED	MSATISHK	GSIVA

B1 2X REVISED QDAT
B2 3X REVISED NOTE IN SHEET 1
B3 2X REVISED TABLE
B4 REVISED PICTORIALLY INLINE WITH CHANGES IN LH COVER
B5 WAS 325
B6 WAS 535
B7 WAS 170
B8 WAS 135
B9 REVISED NOTE IN SHEET 2
B10 REVISED WEIGHT
B11 REVISED TABLE IN SHEET 2
B12 ADDED NOTE
B13 REMOVE NOTE
D14 ADDED TABLE
EVGO E 50022996 182 — 20240223

SKAMALI	KJMOHAMMED	DSHANKAR	KSIVA

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OPERATION	UNIT	PLANT	SAFETY
N/A	N/A	N/A	N/A

DRAFTED IN ACCORDANCE WITH SONA BLW ENGINEERING CAD STANDARDS CURRENT AT INITIAL RELEASE

MUST COMPLY WITH SONA BLW AND APPLICABLE OEM RESTRICTED SUBSTANCE MANAGEMENT STANDARDS

INITIAL / ORIGINATOR	DATE	INITIAL / REVIEWER	DATE	INITIAL / ENGINEER	DATE
SKAMALI	20230828	KJMOHAMMED	20230828	MSATISHK	20230828

3RD ANGLE PROJ.

CUSTOMER DATA TYPE — SCALE: 1:2 — UNITS: mm — SHT 1 OF 2

CUSTOMER NUMBER: ME163680 — P RELEASE

DIM IS MASTER

NAME

HUB MOTOR ASSEMBLY

UNLESS OTHERWISE SPECIFIED
MACHINED DIM± ANGULAR DIM±
STAMPED DIM± ALL DIMS± 25

*WILL BE UPDATED AFTER CUSTOMER CONFIRMATION
#WILL BE UPDATED AFTER INITIAL PRODUCTION SAMPLES

(B10) WEIGHT: 12.9kg ±0.2

DIMENSION MARK AS (.) IS ONLY FOR REFERENCES NOT FOR MEASUREMENT

CHANGES AFFECTING DESIGN, COMPOSITION OR PROCESSING OF THE PART PREVIOUSLY APPROVED FOR PRODUCTION REQUIRE PRIOR APPROVAL FROM SONA BLW PRODUCT ENGINEERING. REFER TO IATF 16949 (LATEST)

ENGINEERING APPROVAL OF PRODUCTION SAMPLES FROM EACH SUPPLIER IS REQUIRED PRIOR TO AUTHORIZATION OF INITIAL PRODUCTION

CAD FILE	CPNV3H-26000-A
DWG FILE	CPNV3H-26000-A
DATA LOC	WINDCHILL PDM
DATA TYPE	
PRODUCT NUMBER	xEV
PRO/E	

CPNV3H-26000-AA

SONA CONSTAR

SONA BLW Precision Forgings Ltd.

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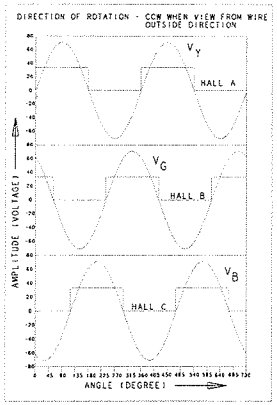
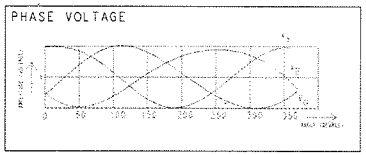
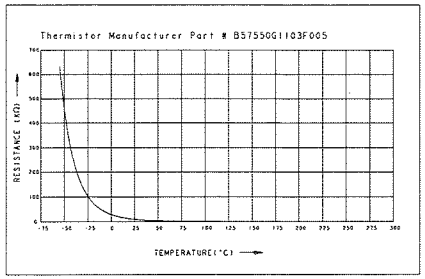
DESCRIPTION	MAJOR FIT/ FUNCTION	CRITICAL FIT/ FUNCTION	SAFETY	REGULATORY	APPERANCE
TVSM REPRESENTATION					A
SONA COMSTAR REPRESENTATION					A

PHASE-HALL SENSOR SEQUENSE (LINE VOLTAGE)





TEMPERATURE Vs RESISTANCE GRAPH

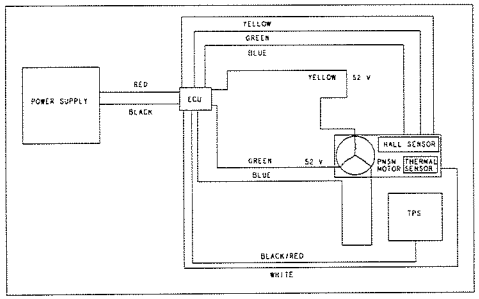


LTRS	REVISIONS			
ORIGINATOR	REVIEWER	ENGR APP	MATL APP	
P-RELEASE				
EVOO E S0022996160		20230828		
SKAMAL1	KJMOHAMMED	MSATISHK	GSIVA	
A1 WAS Ø130°0 025 / °0 025				
A2 2X REVISED TABLE				
A3 2X REVISED NOTE				
A4 2X REVISED GD&T				
EVOO E S0022996 171		20230912		
SKAMAL1	KJMOHAMMED	MSATISHK	GSIVA	
B1 2X REVISED GD&T				
B2 3X REVISED NOTE IN SHEET 1				
B3 2X REVISED TABLE				
B4 REVISED PICTORIALLY INLINE WITH CHANGES IN LH COVER				
B5 WAS 325				
B6 WAS 535				
B7 WAS 118				
B8 WAS 135				
B9 REVISED NOTE IN SHEET 2				
B10 REVISED WEIGHT				
B11 REVISED TABLE IN SHEET 2				
B12 ADDED NOTE				
B13 REMOVE NOTE				
B14 ADDED TABLE				
EVOO E S0022996 182		20240223		
SKAMAL1	KJMOHAMMED	DSHANKAR	KSIVA	

ITEM NO	PART NAME	PART NUMBER	MATERIAL	QTY	FINISH	REMARK	CORROSION RESISTANCE IN HOURS WHEN TESTED UNDER ASTM B 117
1	LH PLATE	CPNV3H-26051-A	ALUMINIUM ADC12	1	CED COATING		300
2	CABLE ASSY	CPNV3H-24306-A	9 CORE MOULDED CABLE CLASS D	1			
3	STATOR ASSY	CPNV3H-26836B-B	SILICON STEEL	1			
4	PCB ASSY	CPNV4H-26H067-A	FR4	1	CONFORMAL COATING		
5	RIM & RING ASSY	CPNV3H-26R30-A	GRADE SPFH590 AS PER JIS G3134 SHEET THICKNESS : 2.5mm MAGNET RING : STEEL AS PER SAE J403 1018 OR EQUIVALENT	1	CED COATING	2.15X12" RIM AS PER JATMA R16-2 (NT TYPE)	500
6	RH PLATE	CPNV3H-26131-A	ALUMINIUM ADC12	1	CED COATING		300
7	MOUNTING SCREW	CPNV4H-26091-A	STAINLESS STEEL A1	24	ALT: ZINC NICKEL PLATING		500
8	LH BEARING	CPNV4H-26448-B	6007 2RS	1			
9	RH BEARING	CPNV4H-26448-A	6305 2RS	1			
10	RH DUST SEAL	CPNV4H-26A035-A	NITRILE WITH SPRING	1			
11	FLANGE SEALANT	-	SILICON SEALANT	AS REQD			
12	MAGNET	CPNV3H-26A168-A	NdFeB	60			
13	SHAFT	CPNV3H-26010-B	STEEL PER BS970 EN18/42Cr4, HRC.28-35 (260-322 BHN) ALT AISI 1525/SCM 435/40Cr OR EQUIVALENT	1	Zn-Ni PLATING, TRIVALENT PASSIVATION,COLOR BLACK AS PER TSES 755	HYDROGEN DEEMBRITLEMENT PROCESS SHALL BE DONE. TEMPERATURE 200 C DURATION 2 hrs	500
14	EYLET	CPNV3H-26102-A	COPPER RING TERMINAL	3	TIN PLATING		
15	SEALED CONNECTOR	SUMITOMO 6180-6181 6 POLE FEMALE	PA 66,COLOR:NATURAL	1			
16	CABLE GUIDE	CPNV4H-26B163-A	PA 66,COLOR:BLACK	2			
17	LH DUST SEAL	CPNV4H-26A035-B	NITRILE WITH SPRING	1			
18	BRAKE DRUM	CPNV4H-26113-A	FG200 AS PER IS:6331 . FREE FERRITE CONTENT SHALL BE LESS THAN 5%,COLOR:NATURAL OR EQUIVALENT	1			

NOTE
CORROSION RESISTANCE TEST SHOULD BE CONDUCTED AT COMPONENT LEVEL

CIRCUIT DIAGRAM(WHEN TESTED WITH WIRE HARDNESS)



NOTES-01.

1. ENVIRONMENTAL REQUIREMENTS : IP67
2. SHAFT SHALL WITHSTAND REGENERATIVE BRAKING TORQUE (MAXIMUM BRAKING TORQUE : 420 Nm)
3. THE TRACTION MOTOR SHALL WITHSTAND THE MECHANICAL STRESS IN OPERATING CONDITION AND IN ADVERSE ROAD CONDITION
4. THE ASSEMBLY SHALL WITHSTAND STONE HIT FROM ROAD WITHOUT ANY DEFORMATION OR FAILURE
5. THE ASSEMBLY OR ANY OF THE COMPONENTS SHALL NOT MELT, DEFORM AND CRACK, DUE TO THE HEAT GENERATED DUE TO BRAKING
6. THERE SHALL BE NO FATIGUE CRACK IN THE SHAFT THROUGHOUT THE PRODUCT LIFE CYCLE (AS PER SRS_KE163680 REV.3)
7. THE MOTOR SHALL MEET THE TEST REQUIREMENTS AS PER AIS-041.
8. THE HALL SENSOR, PCB AND THERMAL SENSOR SHALL NOT GET DISLODGED DUE TO THE WHEEL ROTATION AND VIBRATIONS
9. THE COMPONENT SHALL PASS AS SRS KE163680 REV3
10. ACCEPTED VARIATION OF RESISTANCE, INDUCTANCE AND BACK EMF CONSTANT AFTER ENDURANCE TESTING. 5% AND 10% FOR BACK EMF
11. TIGHTENING TORQUE FOR PHASE TERMINALS IS 6±1 Nm
12. ALL OTHER DESIGN DETAILS SHALL MEET SRS
13. MOTOR SHALL BE OPERATED IN ALL FOUR QUADRANTS OF OPERATIONS
14. SEALANT OR SHAFT HOLE AND BOTH MOTOR END COVERS SHALL BE APPLIED UNIFORMLY TO AVOID WATER ENTRY
15. THREAD LOCK SHALL BE PROVIDED FOR ALL 12 SCREWS ON BOTH END COVERS
16. PULL OUT LOAD OF TRACTION MOTOR CABLE SHALL BE 30 Kg
17. PHASE WIRES, HALL SENSOR AND THERMAL SENSOR WIRES SHALL NOT GET DAMAGED WHILE ROUTING THROUGH SHAFT HOLE
18. IN SEALANT THERE SHALL NOT BE ANY AIR HOLE .IT SHOULD NOT ALLOW WATER TO ENTER. IF WIRE IS MOVED AND IT SHOULD WITHSTAND THE TEMPERATURE OF 150°
19. RIM & ENTIRE MOTOR ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF AIS 073 (PART 1). IN CONJUNCTION WITH 90/90-12 54J TUBELESS TYRE & TR438/V2.03.10 SNAP-IN VALVE.
20. ACCEPTABLE RESIDUAL UNBALANCE SHALL BE LESS THAN 400 gmm/kg AT 1000 rpm (BALANCE QUALITY GRADE-G40) AS PER IS: 11723 (PART 1)
21. POWDER COATING/PLATING SHALL BE PROVIDED IN THE SHAFT EXCEPT THE BEARING AREA
22. WHEEL SIZE: 90/90-12 INCH (TUBELESS TYRE)
23. ALL OTHER DETAILS SHALL BE AS PER APPROVED SUPPLIER DRAWING
24. HOMOLOGATION MARKING AS PER AIS 065
25. CHANGE IN INTERNAL DIMENSIONS SHALL NOT AFFECT MOTOR PARAMETERS.
26. MOTOR SHALL COMPLY WITH AIS038 REV.01
27. RECYCLABILITY PRECENTAGE OF THE MOTOR SHALL BE SHARED BY SUPPLIER.THE MOTOR SHALL BE FUNCTION FOR 100000 km
28. SUPPLIER SHALL PROVIDE BILL OF MATERIAL WITH MATERIAL & FINISH
29. BACK EMF CONSTANT OF MOTOR IS 85 V Pk /K$_{rpm}$(TOLERANCE FOR BACK EMF:5%)
30. LINE - LINE RESISTANCE : 47mΩ±5% AT 25°C(MOTOR ASSEMBLY LEVEL) (A3) (B9)
31. LINE - LINE INDUCTANCE : 170µH±5% AT 1 kHz FREQUENCY(STATOR ASSEMBLY LEVEL)
32. MOTOR STATOR CUTOFF TEMPERATURE : 130°C
33. STATOR WINDING INSULATION CLASS : CLASS H
34. PCB MAXIMUM TEMPERATURE :50°C
35. HALL SENSOR ESD PROTECTION : 1k kV
36. NOISE LEVEL : 65dB MAX AT 1 METER DISTANCE & NO LOAD CONDITION BEFORE FOC
37. MOULDED WIRES TO BE USED FOR PHASE WIRES

NOTES-02.

1. ENTIRE RIM INCLUDING VALVE HOLE SHALL BE FREE FROM CRACKS, BURRS, SHARP EDGES & HARMFUL DEFECTS.
2. MAXIMUM THINNING AT ANY SECTION OF RIM DUE TO PROCESS SHALL BE 10% OF WALL THICKNESS.
3. RIM MARKINGS 1 & 3 SHALL BE IMPRESSED AS BELOW (AIS 073 (PART-2))
   LETTER HEIGHT : 3MM MIN
   LETTER DEPTH : 0.13MM TO 0.3MM
4. VALVE HOLE SHALL NOT BE LOCATED AT ANY WELD ZONE AND UNSPECIFIED DETAILS AS PER APPROVED SUPPLIER DRAWING
5. UNSPECIFIED DETAILS OF WELDMENT SPECIFICATION SHALL BE AS PER TVSM APPROVED SUPPLIER DRAWING.
6. RIM SHALL BE FREE FROM AIR LEAKAGE AT WELD ZONE FOR ACCEPTANCE, WHEN TESTED AT AN AIR PRESSURE OF 60 PSI (414 kPa / 4.2 kgf/cm2).
7. RIM SHALL BE FREE FROM LACK OF FUSION / CRACKS / DEFECTS IN THE WELD ZONE WHEN CHECKED BY DYE PENETRANT TEST AFTER COMPLETION OF ALL OPERATIONS POST WELDING.
8. PART SHALL BE FREE FROM WELD SCALE & SPATTER
9. ALL WELD METAL SHALL BE FREE FROM OXIDE.
10. WELDMENT SHALL BE CLEANED BY SUITABLE METHOD BEFORE POWDER COATING
11. WELDING SHALL BE DONE AT OPPOSITE SIDES SIMULTANEOUSLY TO MINIMIZE THERMAL DISTORTION
12. ALL CYLINDRICAL SURFACES OF COVER LH AND COVER RH SHALL BE Ø0.1 WITH RESPECT TO DATUM A-B UNLESS OTHERWISE SPECIFIED IN DRAWING VIEW.
13. UNSPECIFIED DRAFT ANGLE OF CASTING SHALL BE 1.5° TO 3°.
14. UNSPECIFIED FILLET RADIUS SHALL BE R6.5 TO R1.
15. THE ROUGHNESS OF CAST SURFACE SHALL BE AS PER LIMIT SAMPLE.
16. CASTING PARTS SHALL BE FREE FROM CAST DEFECTS SUCH AS INCLUSIONS, BLOWHOLES, DRAGS, CRACKS, PIN HOLES, ETC.
17. THE ENTIRE ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF AIS 073 (PART 1),TSES 683 & IS 16192 (PART 1),TSES 755,TSES 525 AND TSES 040 (A3)
18. ALL UNSPECIFIED DETAILS SHALL CONFORM TO TVSM APPROVED SUPPLIER DRAWING AND 3D CAD DATA.
19. POWDER COATED SURFACES OF TRACTION MOTOR ASSEMBLY SHALL BE FREE FROM SCRATCH / DAMAGE / PEEL/RUST OFF OR ANY OTHER HARMFUL EFFECTS DURING AND AFTER ASSEMBLY OF PARTS.
20. ALL INTERFACING SURFACES OF CHILDPARTS IN TRACTION MOTOR ASSEMBLY SHALL BE FREE FROM PAINT / POWDER COATING UNLESS OTHERWISE SPECIFIED.
21. BRAKE DRUM SURFACE SHALL BE FREE FROM PAINT/POWDER COATING, DUST, RUST, OIL, GREASE AND DAMAGE.
22. AS PER AIS073 PART (1) RIM FLANGE OPENING/LOCAL RIM WIDTH INCREASE DUE TO RIM BEND SHALL BE LESS THAN 4mm. (DEAD WEIGHT : 163 Kg, HEIGHT OF DROP : 170mm, TYRE PRESSURE: 36 psi)
23. TRACTION MOTOR HOMOLOGATION NUMBER (SAMEJ SHALL BE ENGRAVED INHOUSE AT TVSM TO MEET WARRANTY CLAIMS
24. UNSPECIFIED TOLERANCE SHALL CONFORM TO TVSM TSDS 0407 CLASS-1
25. WELD QUALITY SHALL CONFORM TO TSES 525

NOTE-03:

1. THE PART SURFACE RELATED TO THIS DIMENSION OR GEOMETRICAL TOLERANCE SHALL BE FREE FROM PAINT / POWDER COATING THAT SURFACE MAYBE WASKED DURING PAINTING / POWDER COATING.

* WILL BE UPDATED AFTER CUSTOMER CONFIRMATION
* WILL BE UPDATED AFTER INITIAL PRODUCTION SAMPLES

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OPERATION	UNIT	PLANT	SAFETY
N/A	N/A	N/A	N/A

DRAFTED IN ACCORDANCE WITH SONA BLW ENGINEERING CAD STANDARDS CURRENT AT INITIAL RELEASE

MUST COMPLY WITH SONA BLW AND APPLICABLE OEM RESTRICTED SUBSTANCE MANAGEMENT STANDARDS

INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
ORIGINATOR	20230828	REVIEWER	20230828	ENGINEER	20230828
SKAMAL1		KJMOHAMMED		MSATISHK	

3RD ANGLE PROJ	CUSTOMER DATA TYPE	SCALE:1:2 UNITS:mm
		SHT 2 OF 5
	CUSTOMER NUMBER KE163680	P-RELEASE
		DIM IS MASTER

NAME

HUB MOTOR ASSEMBLY

CAD FILE	CPNV3H-26000-A
DWG FILE	CPNV3H-26000-A
DATA LOC	WINDCHILL PDM
DATA TYPE	
PRODUCT NUMBER	eEV
	PRO/E

CPNV3H-26000-AA

SONA COMSTAR

DWG SIZE A0/E

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