

सीएसआईआर- केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
बरवा रोड, धनबाद - 826015, झारखण्ड, भारत



CSIR-Central Institute of Mining & Fuel Research

(Council of Scientific & Industrial Research)
Barwa Road, Dhanbad - 826015, Jharkhand, India

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SPEED POST/COURIER SERVICE

Test & Assessment Report No.: IN/CIMFR/TR20/ 3305

Dated: 03 December, 2020

ULR No.: TC596220000000577F

CODE NO. FES/68D/20-21

To
M/S. KESHKAMAT & COMPANY
9/129, ADARSH NAGAR, PRABHADEVI,
MUMBAI - 400 030.

Subject: Type Examination Certificate along with test assessment report of Flameproof cum Weatherproof Junction Box for CCTV System, in cast Aluminium Alloy LM-6 construction designated by Cat. No. KK/JB/D/401, Model - JB2000 as per IS/IEC 60079-1:2014 for use in Gas Group: IIB, EPL Gb atmosphere.

- (Test Report)

Your Ref. Appli. No.: KK/CIMFR/REVALID/2021/05

Dated: 17/08/2020

Dear Sir,

Please find the enclosed Type Examination Certificate along with test assessment report of the above sample submitted by you.

This Institute reserves the right to review, amend or withdraw this 'Test Report' at any time, if considered necessary in the interest of safety.

Charges of Rs. 28,686/- (Rupees Twenty Eight Thousand Six Hundred Eighty Six Only) including applicable GST involved towards the testing have been adjusted against the advance deposit made by you.

Kindly acknowledge the receipt.

Thanking you.

Yours faithfully,

Mondal
02/12/2020

(S. K. MONDAL)
HOS
TESTING CELL

Encl: As above.

1. Test assessment report in Triplicate
 2. Type Examination Certificate
- Copy to: 1. Head, Flameproof & equipment Safety
2. Bill section



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(COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH)

बरवा रोड, धनबाद झारखंड - 826015, भारत

BARWA ROAD, DHANBAD, JHARKHAND - 826015, INDIA

ज्वालासह एवं उपकरण सुरक्षा / FLAMEPROOF EQUIPMENT SAFETY
परीक्षण प्रमाण पत्र / TEST CERTIFICATE



NABL Certificate No.
TC-5962

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FORMAT NO.: (CIMFR: DQM: FLP02: F-01:REV-01)

(Flameproof & Equipment Safety)

ULR NO.: TC596220000000577F

Code No.: FES/68D/20-21

Test & Assessment Report No.: IN/CIMFR/TR20/3305	Dated: 03 December, 2020
Application Ref. No.: KK/CIMFR/REVALID/2021/05	Dated: 17/08/2020

- Applicant : M/S. KESHKAMAT & COMPANY
9/129, ADARSH NAGAR, PRABHADEVI,
MUMBAI - 400 030
- Manufacturer : Same as above
- Equipment : Flameproof cum Weatherproof Junction Box for CCTV System.
- Designated by : Cat. No. KK/JB/D/401, Model - JB2000.
- Type of protection : Ex d for Gas Group: IIB, EPL Gb.
- Electrical ratings : Rated 110V AC/240V AC, 50Watts.
- Temperature Class : T6
- Degree of Ingress Protection : IP-65
- Material of Construction : Cast Aluminium Alloy LM-6 construction.
- Description of the equipment : Flameproof cum Weatherproof Junction Box for CCTV System.

Description/ dimension	Volume (in cc).		Min. Wall Thickness (mm)	Nos. & Size of Bolts/Fasteners in (mm)
	Gross	Net		
Single Enclosure	30000	2000	10mm	Nil

Glass details			Max no. of aperture on cover
Nil			Nil

10. Nature of Flameproof Joint: Type of joints and gaps (Spigot joint, Cylindrical, Flange Joint & Threaded Joint)

Sl. No.	Description (flamepath and location)	Type of joint	Min. Flamepath in mm		Threads Engaged	
			Req.	Spec.	Req.	Spec.
1.	Between single enclosure body and cover.	Spigot Joint	25	25	0.20	0.15
2.	Between single enclosure body and cover. (cover variation)	Threaded Joint	8	13.5	5 (1.25P)	10 (1.25pitch)

Max. No. & size of cable entries: Max. 15 nos. of cable entries of size either M20x1.5P or M25x1.5P (M20x1.5P-15 nos. or M25x1.5P-15 nos.) maintaining 25mm axial threaded length, 16 threads engaged may be used.

11. Name plate and warning inscription: The name-cum-warning inscription plate and rating plate made of Brass/SS is permanently fixed on the body of enclosure by hammer driven rivets leaving min. 3mm material thickness below the rivets. The warning inscription shall read as "ISOLATE SUPPLY BEFORE OPENING".

BH. Mohan

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ज्वालासह एवं उपकरण सुरक्षा / FLAMEPROOF & EQUIPMENT SAFETY

परीक्षण रिपोर्ट / TEST REPORT



मूल प्रति

FORMAT NO.: (CIMFR: DQM: FLP02: F-01:REV-01)
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12. Drawings: The unit is designed and constructed as flameproof and weatherproof in accordance with the following drawing conforming to the requirements of IS/IEC 60079-0:2017, IS/IEC 60079-1: 2014 and IS/IEC 60529-2001 (Reaffirmed 2014).

Sl. No.	Drg. No.	Title	Rev.	Sheet	Date
1.	KK/CCTV/JB/401	FLAMEPROOF CUM WEATHERPROOF JUNCTION BOX FOR CCTV CAMERA	1	1 of 4 to 4 of 4	17/01/2020

13. Any other relevant information:

- As per Clause 4.2 Note - 2 of IS/IEC 60079-0:2017 the equipment mark IIB is suitable for application requiring IIA equipment.
- The material of construction of the enclosure may be CI Grade FG 150/SS/MS instead of cast aluminum alloy LM-6 construction.
- The above equipment has been earlier tested and certified by Karandikar vide test report no.: KLPL/ExR/KKMT-14/002 Dated: 05/03/2014 as per IS/IEC 60079-1: 2007.
- Equal and equivalent medium class fit NPT threads of medium class fit conforming to requirements of ANSI/ASME B1.20.1 may be used instead of metric threads conforming to ISO 965-1 & 965-3 as per Clause No. 5.3 & 13 of IS/IEC 60079-1:2014.

14. Declaration by the Applicant/Manufacturer:

(i) As to standards with which the equipment complies in respect of:

- Electrical equipment for Potentially Explosive atmosphere - General requirements: IS/IEC 60079-0: 2017
- As to flameproof protection IS/IEC 60079-1: 2014
- Ingress protection as per IS/IEC 60529: 2001(Reaffirmed 2014)

(ii) Composition of the cast aluminum alloy declared by the manufacturer: Composition of cast aluminum alloy purported to be forming the material of construction of the enclosure has been declared by the manufacturer in the drawing having not more than Mg. 7.5% is total of magnesium, titanium and zirconium.

However no sample of the alloy was drawn from the prototype enclosure for verifying its chemical composition declared by the manufacturer.

15. Documents/Samples Submitted : (1) Application form with previous documents (2) Drawings

17. Compliance of prototype or sample with documents: The test sample of electrical equipment submitted for the type tests complies with the manufacturers documents referred above.

Note: CIMFR has however not checked and tested the compliance of the equipment to any standard other than the above standards.

SCOPE OF THE TEST CERTIFICATE

The Test Certificate issued by CIMFR certifies that the equipment has been found to comply with the definition of Flameproof-Weatherproof equipment contained in the relevant Standard specifications. They do not vouch for the quality of the equipment in any other respect. The present test report pertains to the sample received only. The manufacturer of the equipment referred to in this report has the responsibility to ensure that the equipment conforms to the specifications laid down in this report and has satisfied the routine verifications and test referred to therein. CSIR-CIMFR reserves the right to publish the results in the interest of safety of the industries.

Testing authority takes no responsibility for and will not assume liability for damages resulting from the readers interpretation of the reproduced material due to its placement and context.

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B. Model

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Code No.: FES/68D/20-21

REPORT OF TEST

Result #A: Tests as per IS/IEC 60079-0: 2017:

Type Tests			
Clause	Tests	Remarks	Results (Complies, P- Pass, NA-Not Applicable, F-Fail) References
1	Scope		Complies
2	Normative references		Complies
3	Terms and definitions		Complies
4	Equipment grouping	Gas Group : IIB, EPL Gb.	Complies
5	Temperature		
5.1.1	Ambient Temperatures	- 20 °C to +40 °C Amb.	Complies
6	Requirements for all electrical equipment		Complies
6.6	Electromagnetic and ultrasonic energy radiating equipment.		NA
7	Non-metallic enclosures and non-metallic parts of enclosures		NA
7.2	Thermal Endurance		NA
8	Metallic Enclosure and metallic part of Enclosure	Cast aluminium alloy LM-6 construction	Complies
9	Fasteners		Complies
10	Interlocking devices		NA
11	Bushings		NA
12	Materials used for cementing		NA
13	Ex components		NA
14	Connection facilities		Complies
15	Connection facilities for earthing and bonding conductors		Complies
16	Entries into enclosures		Complies
17	Supplementary requirements for electric machines		NA
18	Supplementary requirements for switchgear		NA
19	Supplementary requirements for fuses		NA
20	Supplementary requirements for plugs and socket outlets and connectors for field wiring connection		NA
21	Supplementary requirements for luminaries		NA
22	Supplementary requirements for cap lights and hand lights		NA
23	Equipment incorporating cells and batteries		NA
24	Documentation		Complies
25	Compliance of prototype or sample with documents		Complies
26	Type tests		Complies
26.3	Tests in explosive test mixtures		Complies

[Signature]

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26.3	Tests for Flameproof (Ex 'd') protection	Verification for Compliance to Ex 'd' requirements as per IS/IEC 60079-1: 2014	Complies
26.4	Test of enclosures		
26.4.2	Resistance to Impact		Complies
26.4.3/ 26.4.4	Drop test	(not a handheld equipment or portable device) NA	
26.4.5	Degree of protection (IP) by Enclosures		
26.4.5	Test of IP of equipment	IP-65	Complies
26.5	Thermal tests		
26.5.1	Temperature measurement	T6	Complies
26.5.2	Thermal shock test		NA
26.6	Torque test for bushings		NA
26.7	Non-metallic enclosures or non-metallic parts of enclosures		
26.8	Thermal endurance to heat		NA
26.9	Thermal endurance to cold		
26.10	Resistance to U. V light		NA
26.11	Resistance to chemical agents for Group I Equipment	-----	NA
26.12	Earth continuity test in non-metallic enclosure		NA
26.13	Surface resistance test of parts of enclosures of Non metallic materials	-----	NA
26.14	Measurement of capacitance		NA
26.15	Verification of ratings of ventilating fans		NA
26.16	Alternative qualification of elastomeric sealing O-rings		NA
27	Routine tests	Manufacturer's responsibility: Compliance to prototype of the product and physical measurement of gap and flamepath and overpressure at the pressure 11kg/cm ² for every sample.	
28	Manufacturer's responsibility	Conformity of the equipment to the applicable standards	Complies
29	Marking	Ex d IIB T6 Gb	
30	Instructions	Instruction related to use, installation, maintenance, adjustment to be provided by the manufacturer along with the equipment.	

Signature

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ULR NO.: TC596220000000577F

Code No.: FES/68D/20-21

Result #B: Tests in explosive mixtures: Tests for type of protection Ex 'd' as per IS/IEC 60079-1:2014.

Type Tests			
Clause No.	Description and relevant tests	Remarks	Results (Complies, P- Pass, NA-Not Applicable, F-Fail) References
1	Scope		Complies
2	Normative references		Complies
3	Terms and definitions		Complies
4	Level of protection (Equipment Protection Level, EPL)	Gas Group: IIB, EPL Gb.	Complies
5	Flameproof joints	Threaded joint, spigot joint	Complies
6	Sealed joints		
6.1	Cemented joints		NA
6.1.2	Mechanical strength:		NA
7	Operating rods		NA
8	Supplementary requirements for shafts and bearings		NA
9	Light transmitting parts (other than glass)		NA
10	Breathing and draining devices which form part of a flameproof enclosure		NA
11	Fasteners and openings		Complies
12	Materials	Cast aluminium alloy LM-6 construction	Complies
13	Entries for flameproof enclosures		Complies
14	Verification and tests		Complies
15	Type Tests		
15.1	General		Complies
15.2	Tests of ability of the enclosure to withstand pressure		
15.2.1	General		Complies
15.2.2	Determination of Explosion Pressure (Reference Pressure)		Complies
15.2.3	Overpressure Test		Complies
15.3	Test for non-transmission of an internal ignition		
15.3.1	General		Complies
15.3.2	Electrical equipment of Groups IIB		Complies
15.3.3	Electrical equipment of Group IIC		NA
15.4	Tests of flameproof enclosures with breathing and draining devices		
15.4.1	General		NA
16	Routine tests	To be conducted by the manufacturer As per earlier test report. (11Kg/cm ²)	
17	Switchgear for Group I		NA
18	Lamp holders and lamp caps		NA
19	Non-metallic enclosures and non-metallic parts of enclosures		
19.1	General		NA
19.2	Resistance to tracking and creepage distances on internal surfaces of the enclosure walls		NA
19.3	Requirements for type test		NA

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ज्वालासह एवं उपकरण सुरक्षा / FLAMEPROOFING AND EQUIPMENT SAFETY

परीक्षण रिपोर्ट / TEST REPORT



मूल प्रति

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(Flameproof & Equipment Safety)

ULR NO.: TC596220000000577F

Code No.: FES/68D/20-21

19.4	Test of erosion by flame	NA
20	Marking	Ex d IIB T6 Gb
20.2	Caution and warning markings	"ISOLATE SUPPLY BEFORE OPENING"
21	Instruction	The manufacturer shall supply instruction regarding flamepath etc. As per required by IS/IEC 60079-0:2017

CONCLUSION: The Flameproof cum Weatherproof Junction Box for CCTV System, in cast Aluminium Alloy LM-6 construction designated by Cat. No. KK/JB/D/401, Model – JB2000, based on mentioned above standard, meets the test requirement of flameproofness as per IS/IEC 60079-1:2014 and general requirements as per IS/IEC 60079-0:2017 and is deemed to be suitable for use in Gas Group: IIB, EPL Gb atmosphere

Reported By

Checked & Approved By

B. Modak
01/12/2020
(B. MODAK)

Technical Officer

Dated: 01st December, 2020

Flameproof & Equipment Safety

CSIR - Central Institute of Mining & Fuel Research

Barwa Road, DHANBAD – 826 015,

(JHARKHAND), INDIA

A. K. Singh
01/12/2020
(A. K. SINGH)

Chief Scientist & HORG

Flameproof & Equipment Safety



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परीक्षण प्रमाण पत्र / TEST CERTIFICATE



NABL Certificate No.
TC-5962

TYPE EXAMINATION CERTIFICATE

FORMAT NO.: (CIMFR: DQM: FLP02: F-01: REV-01)
(Flameproof & Equipment Safety)

Report No.: CMF 20 INEx 0419
ULR No.: TC596220000000577F

Dated: 01/12/2020
(Issue No. 0)

1. Applicant : M/S. KESHKAMAT & COMPANY
9/129, ADARSH NAGAR, PRABHADEVI,
MUMBAI - 400 030
2. Manufacturer : Same as above
3. Equipment : Flameproof cum Weatherproof Junction Box for CCTV System.
4. Designated by : Cat. No. KK/JB/D/401, Model - JB2000.
5. Type of protection : Ex d for Gas Group IIB EPL Gb.
6. Marking : Ex d IIB T6 Gb.
7. Material of Construction : Cast Aluminium Alloy LM-6 Construction.

This certificate is issued as verification that a sample/documentation was assessed and found to comply with the IS/IEC Standard listed below.

This certificate relates to only design and construction of the equipment. It does not cover requirement related to manufacturing process and usage.

8. Standards

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

- IS/IEC 60079-0:2017 Explosive atmospheres - Part 0: General requirements.
IS/IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d".

This type test certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the standards listed above.

9. Degree of ingress protection: IP-65 according to IS/IEC 60529:2001 (Reaffirmed 2014).

10. Test & Assessment Reports:

A sample(s)/documents of the equipment listed have successfully met the examination and test requirements as recorded in IN/CIMFR/TR20/3305 Dated: 03 November, 2020.



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NABL Certificate No.
 TC-5962

TYPE EXAMINATION CERTIFICATE

Report No.: CMF 20 INEx 0419
 ULR No.: TC596220000000577F

Dated: 01/12/2020
 (Issue No. 0)

SCHEDULE

11. Description of equipment: Flameproof cum Weatherproof Junction Box for CCTV System, Cat. No. KK/JB/D/401, Model – JB2000, Rated 110V AC/240V AC, 50Watts. the material of construction cast Aluminium Alloy LM-6.

Enclosure	Volume (in cc)		Rating	T-Class
	Gross	Nett		
Single Enclosure	30000	2000	50Watt	T6

12. Drawing and documents:

Sl. No.	Drg. No.	Title	Rev.	Sheet	Date
1.	KK/CCTV/JB/401	FLAMEPROOF CUM WEATHERPROOF JUNCTION BOX FOR CCTV CAMERA	1	1 of 4 to 4 of 4	17/01/2020

13. Routine Testing: A routine overpressure test in accordance with IS IEC 60079-1:2014 clause 16 shall be carried out at a pressure of 11Kg/cm² for a period of at least 10 seconds and test results must be recorded. The overpressure test shall be considered satisfactory, if no permanent deformation or damage invalidating type of protection is observed, the joints shall in no place have been permanently enlarged and no leakage through the walls of the enclosure is observed.

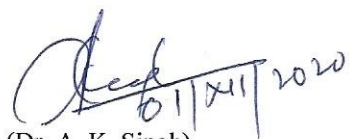
14. Specific conditions of use: Not Applicable

15. Details of certificate changes (for issue 1 and above): Not Applicable.

16. Additional Information: Not Applicable

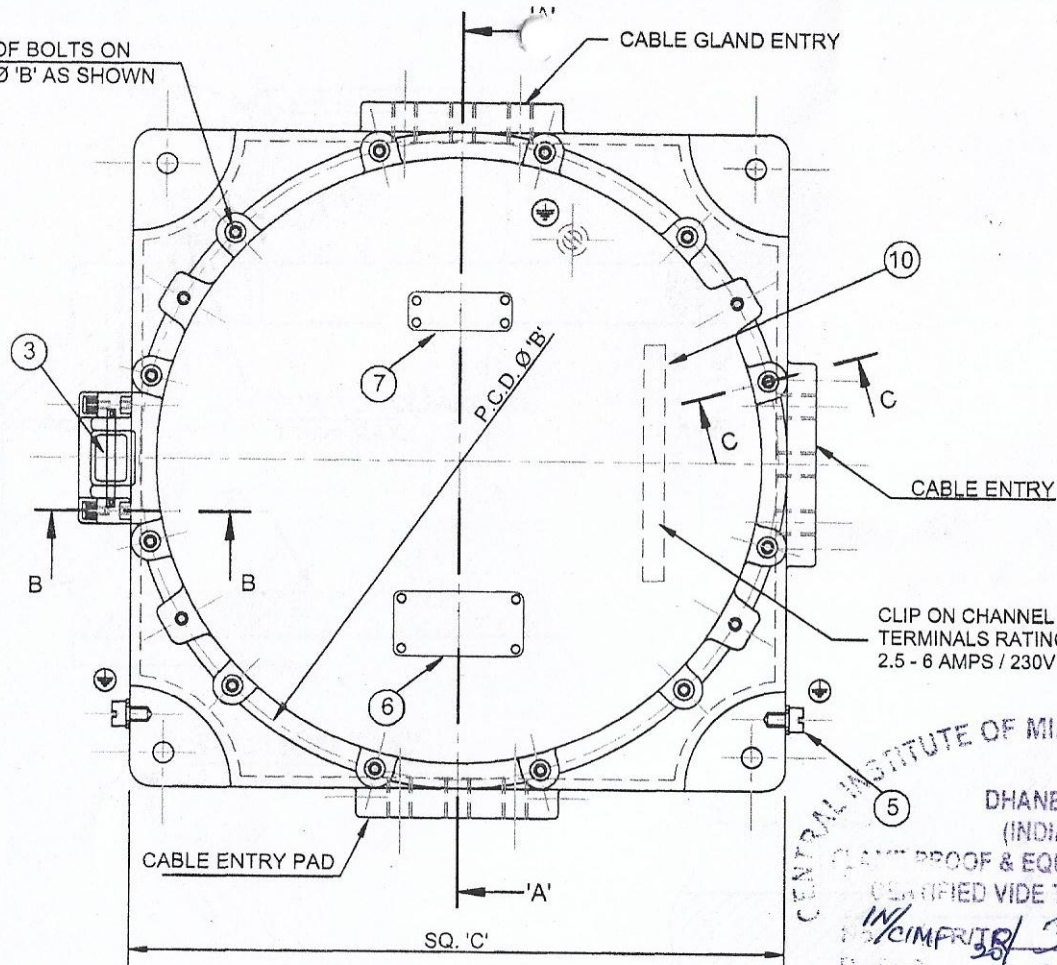
17. History: The above equipment has been earlier tested and certified by Karandikar vide test report no.: KLPL/ExR/KKMT-14/002 Dated: 05/03/2014 as per IS/IEC 60079-1: 2007. This certificate (CMF 20 INEx 0419, Issue No. 0, Dated: 01/12/2020) supersedes the above mentioned test reports.

Approved & issued on behalf of CSIR-CIMFR

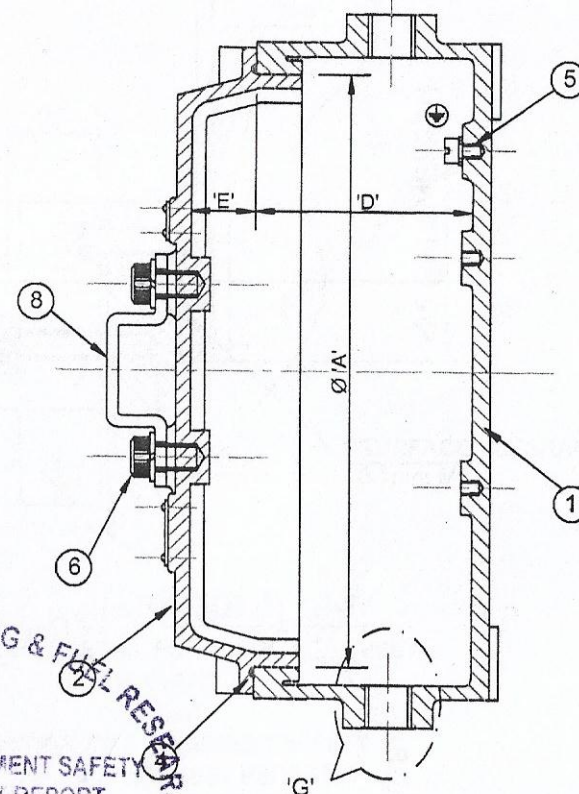

 (Dr. A. K. Singh)
 Chief Scientist & HORG

This Institute reserves the right to review, amend or withdraw this Type Examination certificate at any time if considered necessary in the interest of safety.

'F' No. OF BOLTS ON
P.C.D. Ø 'B' AS SHOWN



FRONT VIEW



SECTION A-A

CENTRAL INSTITUTE OF MINING & FUEL RESEARCH
DHANBAD
(INDIA)
FLAMEPROOF & EQUIPMENT SAFETY
CERTIFIED VIDE TEST REPORT
IN/CIMFR/3305
Dated 03/12/2020
Bismit Khatke
Certifying Officer

ALL DIMENSIONS ARE IN mm.
TOLERANCE IN OVERALL DIMENSIONS ± 10 mm.
EXCEPT FOR FLAME PATH & GAP

ALTERNATIVE VARIATIONS

1. JUNCTION BOX OPENING DIAMETERS CAN VARY IN THREE SIZES AS PER FOLLOWING TABLE :-

SR.	ØA	ØB	C	D	E	F
1	200	220	245	100	25	8
2	300	320	350	110	25	8
3	475	496	512	125	35	12

2. 200 & 300 JUNCTION BOXES WILL NOT PROVIDED WITH THE HINGES ARRANGEMENT.

1	17.01.2020	AS PER AMENDED STANDARD		
0	30.01.2014	ORIGINAL		
REV. NO.	REV. DATE	CHANGE	APPD.	
	DOC. GA	DIM mm	SCALE N.T.S.	
DRAWN Seemson	CHECKED	ENGINEER		



Keshkamat & Company

MUMBAI - 400 030

TITLE: FLAMEPROOF CUM WEATHERPROOF
JUNCTION BOX FOR CCTV SYSTEM

MODEL: JB2000

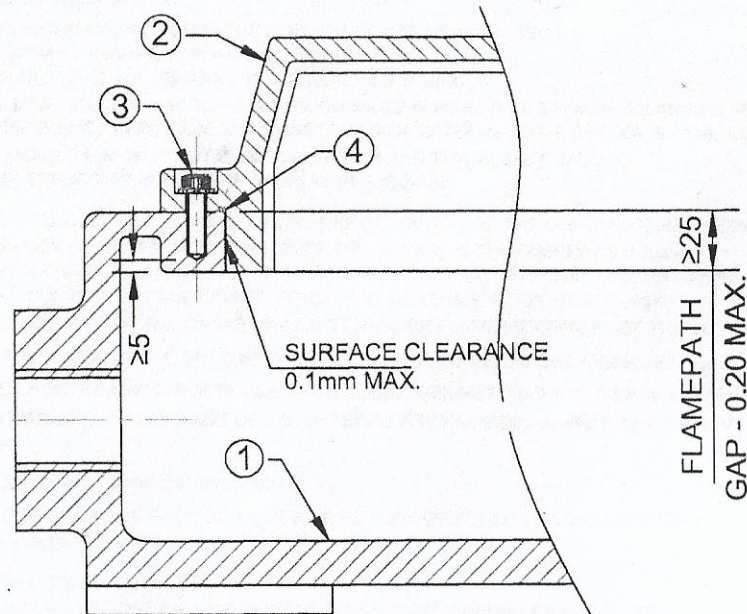
AS PER: IS/IEC: 60079-1 (2014)
IS/IEC: 60079-0 (2011)
IS/IEC: 60529 (2001)

CAT NO. KK/JB/D/401

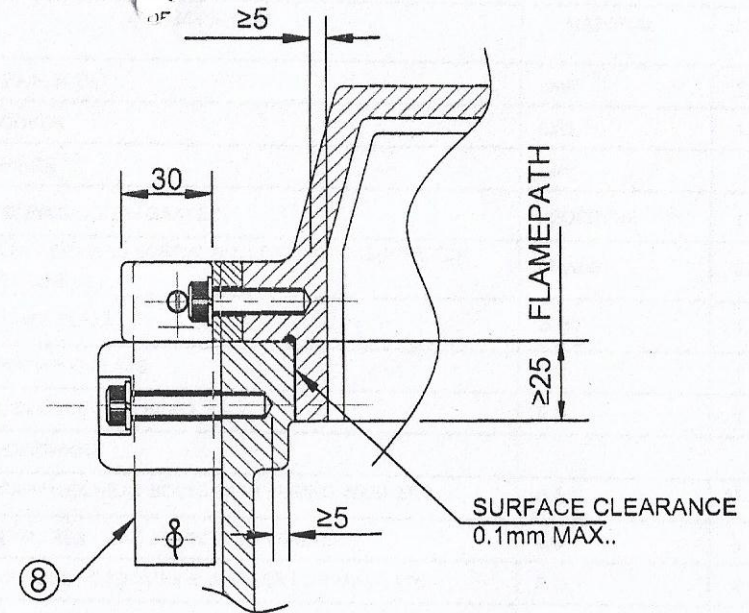
DRG. NO. KK/CCTV/JB/401

SHEET
1 OF 4

SIZE
B

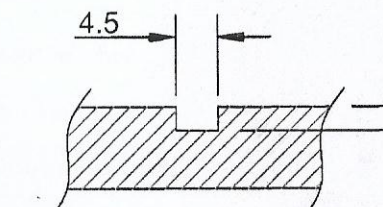


SECTION 'C-C'
(DETAIL FOR COVER BOLTING)

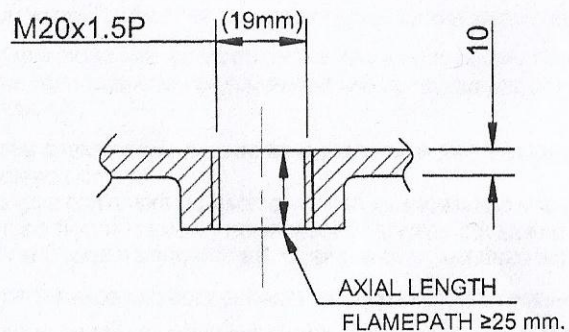


SECTION 'B-B'

(DETAIL FOR HINGE ASSEMBLY)



DETAILS FOR GASKET GROOVE



DETAIL 'G'
(DETAIL FOR CABLE ENTRY)

INSTITUTE OF FIRE RESEARCH
DHANBAD
(INDIA)
FLAME PROOF & EQUIPMENT SAFETY
CERTIFIED VIDE TEST REPORT
IN/CIMPRTR20/3305
DATE 03/12/2022
Bhargat Thode
Testing Officer

ALL DIMENSIONS ARE IN mm.
TOLERANCE IN OVERALL DIMENSIONS ± 10 mm.
EXCEPT FOR FLAME PATH & GAP

REV. NO.	REV. DATE	CHANGE	APPD.
1	17.01.2020	AS PER AMENDED STANDARD	
0	30.01.2014	ORIGINAL	
DOC. GA	DIM mm	SCALE N.T.S.	
DRAWN Seemson	CHECKED [Signature]	ENGINEER [Signature]	
Keshkamat & Company MUMBAI - 400 030			

TITLE: FLAMEPROOF CUM WEATHERPROOF JUNCTION BOX FOR CCTV SYSTEM	
MODEL: JB2000	
AS PER: IS/IEC: 60079-1 (2014) IS/IEC: 60079-0 (2011) IS/IEC: 60529 (2001)	
CAT NO. KK/JB/D/401	SHEET 2 OF 4
DRG. NO. KK/CCTV/JB/401	SIZE B

NOTE DETAILS :-

FLAMEPROOF, WEATHERPROOF JUNCTION BOX IS MADE AS PER SPECIFICATIONS GIVEN BELOW:

- MATERIAL OF CONSTRUCTION - IS LM6 THE COMBINATION IS AS GIVEN BELOW.
COPPER = 0.1 % MAX., MAGNESIUM = 0.1 %, IRON = 0.6 %, ZINC = 0.1 % MAX., LEAD = 0.1 % MAX., MAGANESE = 0.5 % MAX., NICKEL = 0.1 % MAX., SILICON = 10 TO 13 %, TITANIUM = 0.2 % MAX., TIN 0.5 % MAX. ALUMINIUM = 85 % TO 88 % MAX. DIFFERENCE VARIATION. THE CONSTRUCTION MATERIAL CAN BE SS 304, SS 316, MAGNESIUM CONTENT NOT MORE THAN 6% IN TOTAL OF MAGNESIUM AND TITANIUM BY MASS. SURFACE FINISH CANNOT BE MORE THAN 6.3µm AS PER ISO-468.
- 25mm IS MAINTAINED AS FLAMEPATH ALONG THE SPIGOT JOINTS AND THE CLEARANCE BETWEEN THE SPIGOT PORTION (ID OF THE BODY AND OD OF THE COVER) IS MAINTAINED AS 0.20mm. NEOPRENE RUBBER GASKET IS PROVIDED ON THE FLANGE PORTIONS FOR WEATHERPROOFING. THESE ARE ONLY SUPPLEMENT AND DO NOT FORM PART OF FLAMEPROOF JOINTS. ANY DESPLACEMENT / CHANGE OF THE GASKET WILL NOT HAMPER FLAMEPROOFNESS OF THE EQUIPMENT.
- THE MATERIAL THICKNESS AT THE BOTTOM AND AROUND THE TAPPED HOLES AND BLIND HOLES IS 5mm.
- THE ALLEN / HEX HEAD SCREWS / BOLTS USED HAVE YIELD STRENGTH 240 N/mm² AS PER ISO 4762.
- NAME PLATE & WARNING PLATES MADE OF S.S. MATERIAL ARE PROVIDED & ARE FIXED WITH HAMMER DRIVEN RIVETS.
- WALL THICKNESS IS MAINTAINED = 10mm MIN.
- 15 NOS. - CABLE ENTRIES ARE PROVIDED FOR CABLES FOR 3 SIDES (M19 & M25 x 1.5 PITCH) 6H AS PER ISO 965-1 & ISO 965-3.
- HYDRO TEST PROCEDURE DETAILS :
STATIC PRESSURE = 10 Kg/Cm² OR 1.5 TIMES TEST PRESSURE, WHICHEVER IS GREATER.
- INGRESS PROTECTION = IP : 66.
- VOLUME AND DIAMENSION DETAILS :
1) GROSS VOLUME = 30000 CC.
2) EFFECTIVE VOLUME = 2000 CC.
- TEMPERATURE CLASS = T6 (-20° C TO +40° C). THE SURFACE TEMP. OF THE EQUIPMENT WILL NOT GO ABOVE 85° C.
- MIN. THICKNESS AROUND ALL THREADED HOLES / BLIND HOLES FOR BOLT / SCREW = 5 mm.
- EARTHING OF THE MACHIN IS DONE AT INSIDE AND OUTSIDE AS SHOWN. BY USING M6 x 10 CHEESE HEAD SCREWS WHICH HAS THREADED AND FIRM NON CORROSIVE BONDING. EARTHING CONDUCTOR USED SHALL BE 4 mm² EXTERNALLY.
- MAXIMUM WIDTH / GAP OF THE FLANGED PORTION OF THE SPIGOTTED JOINT = 5 mm.
- THE TERMINATIONS ARE PROVIDED ON THE TERMINAL BLOCK AS THIS IS A DIRECT CABLE ENTRY IN TO THE JB. TERMINATION OF EQUIPMENT AND OUTGOING ARE DONE ON THIS TERMINAL BLOCK ONLY.
- NEOPRENE GASKET Ø 4mm THICKNESS IS USED FOR IP PROTECTION OF IP: 66 ON THE JUNCTION BOX COVER.
THE GROOVE FOR GASKET IS MADE ON COVER AS SHOWN AND MADE TO THE DIMENSIONS OF GASKET, SO THAT IT IS EVENLY COMPRESSED BETWEEN COVER AND BODY. THIS WILL NOT GET LOOSEN AND LOSE ITS PROPERTIES. "O" RING WILL BE RETAINED WITH COVER.
- DEPTH OF THREADS AND BOLT ENGAGEMENT IS MAINTAINED TO 20mm.
- PITCH BETWEEN TWO CABLE GLAND ENTRY = 55mm. AS SHOWN IN THE DRAWING.
- TOLERANCE FOR ALL THREADS ARE 6H AS PER ISO 965-1 & ISO 965-3.
- ELECTRICAL RATING : 110 VAC / 240 VAC, 50 WATTS.
- WEIGHT OF THE JUNCTION BOX - 40kg.


BILL OF MATERIAL

SR. NO.	DESCRIPTION	MATERIAL	QTY.	REMARKS
1	MAIN BODY	LM6	1	
2	COVER	LM6	1	
3	HINGE	LM6	1	
4	'O' RING/CORD / GASKET	NEOPRENE	1	Ø4mm
5	CHEESE HEAD SCREW WITH SPRING WASHERS FOR EARTHING	BRASS	3	M6 x 10 LG
6	NAME PLATE	S. S.	1	
7	WARNING PLATE	S.S.	1	
8	COVER LIFTING HANDLES	S.S.	2	
9	HARDWARE			
	CAP / HEX HEAD BOLTS WITH SPRING WASHERS	S.S.	12	M8 x 25 LG
	CAP / HEX HEAD BOLTS WITH WASHERS	S.S.	6	M8 x 50 LG
	CHEESE HEAD SCREW WASHER FOR MS PLATE	S.S.	6	M6 x 12 LG
	PLATE FOR FIXING RECEIVER UNIT	M.S.	1	450x400x1.5
10	TERMINAL BLOCK	CHANNEL CLIPON CONNECTOR	1	FOR TERMINATING WIRE / CABLE

CENTRAL INSTITUTE OF MINING & FUEL RESEARCH
DHANBAD
(INDIA)
FLAME PROOF & EQUIPMENT SAFETY
CERTIFIED VIDE TEST REPORT
IN / CERTIFICATE NO. 3305
DATED 03/12/2020
Bishwajit Bhodele
Sr. Testing Officer

ALL DIMENSIONS ARE IN mm.
TOLERANCE IN OVERALL DIMENSIONS +/-10mm.
EXCEPT FOR FLAME PATH & GAP


Settleship Officer				TITLE: FLAMEPROOF CUM WEATHERPROOF JUNCTION BOX FOR CCTV CAMERA	
				MODEL : JB2000	
				AS PER : IS/IEC: 60079-1 (2014) IS/IEC: 60079-0 (2011) IS/IEC: 60529 (2001)	
1		17.01.2020		AS PER AMENDED STANDARD	
0		30.01.2014		ORIGINAL	
REV. NO.		REV. DATE		CHANGE	
				APPD.	
		DOC. GA	DIM mm	SCALE N.T.S.	
DRAWN <i>Seemson</i>		CHECKED <i>[Signature]</i>	ENGINEER <i>[Signature]</i>		
				CAT NO. KK/JB/D/401	
Keshkamat & Company				DRG. NO. KK/CCTV/JB/401	
MUMBAI - 400 030				SHEET 3 OF 4 SIZE B	

 KESHKAMAT & COMPANY 9/129, ADARSH NAGAR, PRABHADEVI, MUMBAI-400 030, INDIA		
TYPE : FLAMEPROOF CUM WEATHERPROOF JUNCTION BOX FOR CCTV CAMERA "Ex db II B T6 Gb"		MODEL : JB2000
CAT NO.: KK/JB/D/401	SR. NO. :	
DRG. NO.: KK/CCTV/JB/401	AS PER : IS/IEC: 60079-1 (2014) IS/IEC: 60079-0 (2011) IS/IEC: 60529 (2001)	
CIMFR CERT. NO. :		
ISOLATE SUPPLY BEFORE OPENING		

50

100

NAME PLATE
(ITEM No. 6)

 WARNING ISOLATE SUPPLY BEFORE OPENING

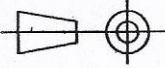

20

60

WARNING PLATE
(ITEM No. 7)

CENTRAL INSTITUTE OF MINING & FUEL RESEARCH
 DHANBAD
 (INDIA)
 FLAME PROOF & EQUIPMENT SAFETY
 CERTIFIED VIDE TEST REPORT
 IN/ NO. CIMFR/R20/3305
 DATED 03/12/2020
Brahmjit Thakur
 Sci. Testing Officer

ALL DIMENSIONS ARE IN mm.
 TOLERANCE IN OVERALL DIMENSIONS +/-10mm.
 EXCEPT FOR FLAME PATH & GAP

1	17.01.2020	AS PER AMENDED STANDARD	
0	30.01.2014	ORIGINAL	
REV. NO.	REV. DATE	CHANGE	APPD.
		DOC. GA	DIM mm
		SCALE N.T.S.	
DRAWN <i>Seemson</i>		CHECKED <i>[Signature]</i>	ENGINEER <i>[Signature]</i>
 Keshkamat & Company MUMBAI - 400 030			

TITLE : FLAMEPROOF CUM WEATHERPROOF
 JUNCTION BOX FOR CCTV CAMERA

MODEL : JB2000

AS PER: IS/IEC: 60079-1 (2014)
 IS/IEC: 60079-0 (2011)
 IS/IEC: 60529 (2001)

CAT NO. KK/JB/D/401

SHEET
4 OF 4

DRG. NO. KK/CCTV/JB/401

SIZE
A