

1853687/2023/HEP-SWM20915



INTEGRAL COACH FACTORY, CHENNAI: 600 038

Fax No. 044-26262795

Office of the CDE/Elec.

No. MD/DPD/OHE/DETC/US/157B dt. 24-04-2023

Email: dyceedicf@gmail.com

M/s. Bharat Heavy Electricals Ltd.,
Bhopal – 462 022.

(Kind attention: Shri. Sanjay Kumar Rai, Sr.DGM/CEE)

Dear Sir,

Sub: Remarks on submission of EPDM cable sealing system module drawings for
DETC

Ref : 1. ICF PO No. 08221635D03964 dt. 3.11.22

2. BHEL Lr.no. CEE/5.3/D/Vendor approval dt. 8.4.23

The following drawings submitted vide reference (2) above for PO under (1) have
been examined and following remarks are given:

SN	Description	Drg.No.	Remarks
1	CZ003- Flanged frame 40-240 1 x 1 SS AISI 304-06 (Rectifier - 1)	7012418003- 00 Rev.00	Provisionally approved, subject to compliance of remarks shown in red in the drawing and general conditions given below.
2	CZ003- Flanged frame 40-240 1 x 1 SS AISI 304-06 (Rectifier - 2)	7012418004- 00 Rev.00	
3	CZ003- Flanged frame 40-240 1 x 1 SS AISI 304-06 (Rectifier - 1)	7012418003- 00 Rev.00	The EPDM sealing arrangement drawings for hydraulic system and mechanical areas shall be submitted to ICF for approval, after successful installation in first coach of this PO.
4	CZ003- Flanged frame 40-240 1 x 1 SS AISI 304-06 (Rectifier - 1)	7012418003- 00 Rev.00	
5	CZ003- Flanged frame 40-240 1 x 1 SS AISI 304-06 (Rectifier - 1)	7012418003- 00 Rev.00	
6	CZ003- Flanged frame 40-240 1 x 1 SS AISI 304-06 (Rectifier - 1)	7012418003- 00 Rev.00	
7	CZ003- Flanged frame 40-240 1 x 1 SS AISI 304-06 (Rectifier - 1)	7012418003- 00 Rev.00	

General conditions of compliance:

- i. The supply will generally meet the requirement of the specification/drawing.
- ii. No design change or the change in Bill of Material shall be made without the prior approval of ICF.
- iii. Notwithstanding this approval, vendor is wholly and completely responsible for quality of the performance, reliability and life of the item/items supplied by him.
- iv. Complete compliance to the conditions given in purchase order of Railway Board/Railways/Production units/any coach manufacturing unit assigned by Railways.
- v. Firm shall submit the feedback of service engineer's visits in field units of railways and failure analysis of the equipment every six months to ICF.

Approved drawings are attached.

Encl: as above



(K. EZHILARASU)
Dy. Chief Electrical Engineer/Design
for Chief Design Engineer/Elec.

CONFIGURATION DRAWING

Client Name	
Location	RECTIFIER - 1

BILL OF MATERIAL

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	7112412411_02	CZ003-FLANGED FRAME 40-240 1x1 SS AISI 304	SS AISI 304	1
2	7160410004	WRP 40 AISI 316	SS AISI 316	7
3	7160210004	WE 40 AISI 316	EPDM + SS AISI 316L	1
4	7160001040	WMR 40 10-34	EPDM	6
5	7160031040	WMS 10x40	EPDM	4
6	2281000270	RECTANGULAR FLANGE TYPE_0125	SS AISI 304	1
7	2280940117	GASKET, EPDM, TYPE_00100	EPDM SPONGE	1

ACCESSORIES DETAILS

SL NO	ITEM DESCRIPTION	QTY
1	CSK SCREW M5 WITH WASHER etc.	12 SETS.
2	INSTALLATION INSTRUCTION	1 PC.
3	WALLMAX SEALING STRIP, WSS 15x6 mm	3 MTR
4	WMIub 25 ML	1 PKT.

CABLE DETAILS

Pos.	Cable Details	Dia(mm)	Cable QTY.	Module type
1	Conduit	30 mm	6	WMR 40 10-34

SPECIFICATION

Mounting Method	Bolting
Wall Opening (HxW)	304 mm x 66 mm
Frame Size (HxWxD)	690 mm x 360 mm x 60 mm
Packing Space For Module (HxW)	280 mm x 40 mm - 1x

CABLE / PIPE DETAILS

Sl. No.	Range of Cable / Pipe Dia	Qty. of Cable / Pipe to be accommodated	Module Type
01	Ø10.0 mm to Ø34.5 mm = Ø0.394 inch to Ø1.358 inch	06 Nos.	WMR 40 10-34

सत्यापित / VERIFIED
 * Provisionally
 अनुमोदित / APPROVED
 दिनांक / Date 4/23
 उप मु बि इ / आमि / DY.CEE / Design
 कृते मु बि इ / For CEE
 मयारी डिब्बा कारखाना / INTEGRAL COACH FACTORY

★ Subject to remarks shown in 'P&O' in drawing.




⇒ If any changes required at site for this item it shall be done by M/S. BHEL and same to be intimated to ICF.

\Rightarrow Necessary mounting holes on housing structure
of coach shall be drilled and tapped by
M/S.BHEL for mounting this EPDM plate.





SCALLO 1:2

LEGEND:

		
Module with Cable	Module with Pipe	Spare Module

MODULE DETAILS

MODULE WITH CABLE		SPARE MODULE	
WMR 40 10-34	06	WMR 40 10-34	00

ALL DIMENSIONS ARE IN MM. GEN TOL. ± 2.0 MM	Material: SS AISI 304	APPV'D	AVINASH K		23-02-23							
	Hardness: STD	CHK'D	AVINASH K		23-02-23							
		DRAWN	AJVIIT		23-02-23	00	23-02-23	INITIAL OFFER TO CUSTOMER				
Family:- WMR	Surface Finish: N/A		Name	Signature	Date	Rev. No.	Rev. Date	Description of Revision				
 WALLMAX WallMax India Enterprises Pvt. Ltd. Faridabad, Haryana Info@wallmax.it	Part No:	7012418003			Drawing Type:	CONFIGURATION DRAWING		Sheet:	A3	Scale:	1:1	
	Dwg No.:	7012418003_00			Description:						Product Group:	
	Colour:	STD			CZ003-FLANGED FRAME 40-240 1x1 SS AISI 304 - 06					CZ 40		
										Rev 00		

CONFIGURATION DRAWING

Client Name	
Location	RECTIFIER - 2

* This Cut-out shall be inline with hot air duct arrangement of power rectifier to avoid hot air escape inside the coach.

⇒ All mounting hardware shall be of Stainless Steel and shall be supplied by M/S BHEL.

BILL OF MATERIAL

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	7112412411_02	CZ003-FLANGED FRAME 40-240 1x1 SS AISI 304	SS AISI 304	1
2	7160410004	WRP 40 AISI 316	SS AISI 316	7
3	7160210004	WE 40 AISI 316	EPDM + SS AISI 316L	1
4	7160001040	WMR 40 10-34	EPDM	6
5	7160031040	WMS 10x40	EPDM	4
6	2281000271	RECTANGULAR FLANGE TYPE_0126	SS AISI 304	1
7	2280940117	GASKET, EPDM, TYPE_00100	EPDM SPONGE	1

⇒ The cable routing between this EPDM module and power rectifier glands shall be done without any over strain of cables.

ACCESSORIES DETAILS

SL NO	ITEM DESCRIPTION	QTY
1	CSK SCREW M5 WITH WASHER etc.	12 SETS.
2	INSTALLATION INSTRUCTION	1 PC.
3	WALLMAX SEALING STRIP, W55 15x6 mm	3 MTR
4	WMLub 25 ML	1 PKT.

CABLE DETAILS

Pos.	Cable Details	Dia(mm)	Cable QTY.	Module type
1	Conduit	30 mm	6	WMR 40 10-34

SPECIFICATION

Mounting Method	Bolting
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CABLE / PIPE DETAILS

Sl. No.	Range of Cable / Pipe Dia	Qty. of Cable / Pipe to be accommodated	Module Type
01	Ø10.0 mm to Ø34.5 mm ≈ Ø0.394 inch to Ø1.358 inch	06 Nos.	WMR 40 10-34

01 $\varnothing 10.0 \text{ mm to } \varnothing 34.5 \text{ mm} \approx \varnothing 0.394 \text{ inch to } \varnothing 1.358 \text{ inch}$




⇒ If any changes required at site for this item it shall be done by M/S BHEL and same to be intimated to ICF.

⇒ Necessary mounting holes on housing structure of Coch shall be drilled and tapped by M/S BHEL for mounting this EPDM plate





SCALE 1:2

LEGEND:

		
Module with Cable	Module with Pine	Spare Module

MODULE DETAILS

MODULE WITH CABLE		SPARE MODULE	
WMR 40 10-34	06	WMR 40 10-34	00

ALL DIMENSIONS ARE IN MM GEN. TOL. ± 20 MM		Material: SS AISI 304	APPV'D AVINASH K	23-02-23			
		Hardness: STD	CHK'D AVINASH K	23-02-23			
Family:- WMR	Surface Finish: N/A	DRAWN AVIJIT	23-02-23	00	23-02-23	INITIAL OFFER TO CUSTOMER	
		Name	Signature	Date	Rev. No.	Rev. Date	Description of Revision
 WALLMAX WallMax India Enterprises Pvt. Ltd Faridabad, Haryana Info@wallmax.it		Part No: 7012418004	Drawing Type: CONFIGURATION DRAWING		Sheet: A3	Scale: 1:1	
		Dwg No.: 7012418004 _00	Description:				Product Group:
		Colour: STD	CZ003-FLANGED FRAME 40-240 1x1 SS AISI 304 - 06				CZ 40
							Rev 00

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7	CZ003- Flanged frame 40-240 1 x 1 SS AISI 304-06 (Rectifier - 1)	7012418003- 00 Rev.00	

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- v. Firm shall submit the feedback of service engineer's visits in field units of railways and failure analysis of the equipment every six months to ICF.

Approved drawings are attached.

Encl: as above



(K. EZHILARASU)

Dy. Chief Electrical Engineer/Design
for Chief Design Engineer/Elec.

BILL OF MATERIAL

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	QTY
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2	7160410004	WRP 40 AISI 316	SS AISI 316	7
3	7160210004	WE 40 AISI 316	EPDM + SS AISI 316L	1
4	7160001040	WMR 40 10-34	EPDM	6
5	7160031040	WMS 10x40	EPDM	4
6	2281000271	RECTANGULAR FLANGE TYPE_0126	SS AISI 304	1
7	2280940117	GASKET, EPDM, TYPE_00100	EPDM SPONGE	1

ACCESSORIES DETAILS

SL NO	ITEM DESCRIPTION	QTY
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2	INSTALLATION INSTRUCTION	1 PC.
3	WALLMAX SEALING STRIP, WSS 15x6 mm	3 MTR
4	WMLub 25 ML	1 PKT.

CABLE DETAILS

Pos.	Cable Details	Dia(mm)	Cable QTY.	Module type
1	Conduit	30 mm	6	WMR 40 10-34

SPECIFICATION

Mounting Method	Bolting
Wall Opening (HxW)	304 mm x 66 mm
Frame Size (HxWxD)	690 mm x 360 mm x 60 mm
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CABLE / PIPE DETAILS

Sl. No.	Range of Cable / Pipe Dia	Qty. of Cable / Pipe to be accommodated	Module Type
01	Ø10.0 mm to Ø34.5 mm ≈ Ø0.394 inch to Ø1.358 inch	06 Nos.	WMR 40 10-34

सत्यापित / VERIFIED
* Provisionally
अनुमोदित / APPROVED
दिनांक / Date 24/04/23
उप मु बि इ / आमि / DY.CEE / Design
कृते मु बि इ / For CEE
सञ्चारी विद्या कागजाला / INTEGRAL COACH FACTORY

* Subject +
remembers
shown in
'RED' in
drawing.

⇒ If any changes required at site for this item it shall be done by M/S BHEL and same to be intimated to ICF.

⇒ Necessary mounting holes on housing structure of each shall be drilled and tapped by M/S BNEL for mounting this EPDM plate.



Client Name	
Location	RECTIFIER - 2

* This Cut-out shall be inline with hot air duct arrangement of power rectifier to avoid hot air escape inside the coach.

⇒ All mounting hardware shall be of Stainless Steel and shall be supplied by M/S BHEL.

WELD WIRE MESH THIS EXITING AREA
(610mm x 110mm) - This shall
be provided by M/S BHEL.

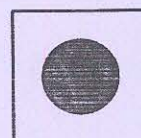
6xM8 Nut & Bolting with flange

⇒ The cable routing between this EPDM module and power rectifier glands shall be done without any over strain of cables.

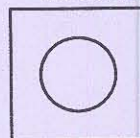
EPDM rubber gasket shall be provided as shown, over which the bottom flange of hot air duct to be rested to avoid any leakage of hot air.

SCALE 1:2

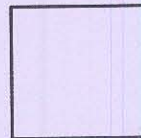
LEGEND:



Module with Cable




Module with Pipe



Spare Module

MODULE DETAILS

MODULE WITH CABLE		SPARE MODULE	
WMR 40 10-34	06	WMR 40 10-34	00

ALL DIMENSIONS ARE IN MM GEN. TOL. ± 2.0 MM	Material: SS AISI 304	APPV'D AVINASH K	23-02-23				
	Hardness: STD	CHK'D AVINASH K	23-02-23				
Family:- WMR	Surface Finish: N/A	DRAWN AVIJIT	23-02-23	00	23-02-23	INITIAL OFFER TO CUSTOMER	
		Name	Signature	Date	Rev. No.	Rev. Date	Description of Revision
 WALLMAX WallMax India Enterprises Pvt. Ltd. Faridabad, Haryana Info@wallmax.it		Part No:	7012418004	Drawing Type:	CONFIGURATION DRAWING		Sheet: A3
		Dwg No.:	7012418004_00	Description:	CZ003-FLANGED FRAME 40-240 1x1 SS AISI 304 - 06		Scale: 1:1
		Colour:	STD	Product Group:			CZ 40
							Rev_00

CONFIGURATION DRAWING

Client Name

Location

RECTIFIER - 1

BILL OF MATERIAL

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1	7112412411_02	CZ003-FLANGED FRAME 40-240 1x1 SS AISI 304	SS AISI 304	1
2	7160410004	WRP 40 AISI 316	SS AISI 316	7
3	7160210004	WE 40 AISI 316	EPDM + SS AISI 316L	1
4	7160001040	WMR 40 10-34	EPDM	6
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6	2281000270	RECTANGULAR FLANGE TYPE_0125	SS AISI 304	1
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ACCESSORIES DETAILS

SL NO.	ITEM DESCRIPTION	QTY
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2	INSTALLATION INSTRUCTION	1 PC.
3	WALLMAX SEALING STRIP, WSS 15x6 mm	3 MTR
4	WMIub 25 ML	1 PKT.

CABLE DETAILS

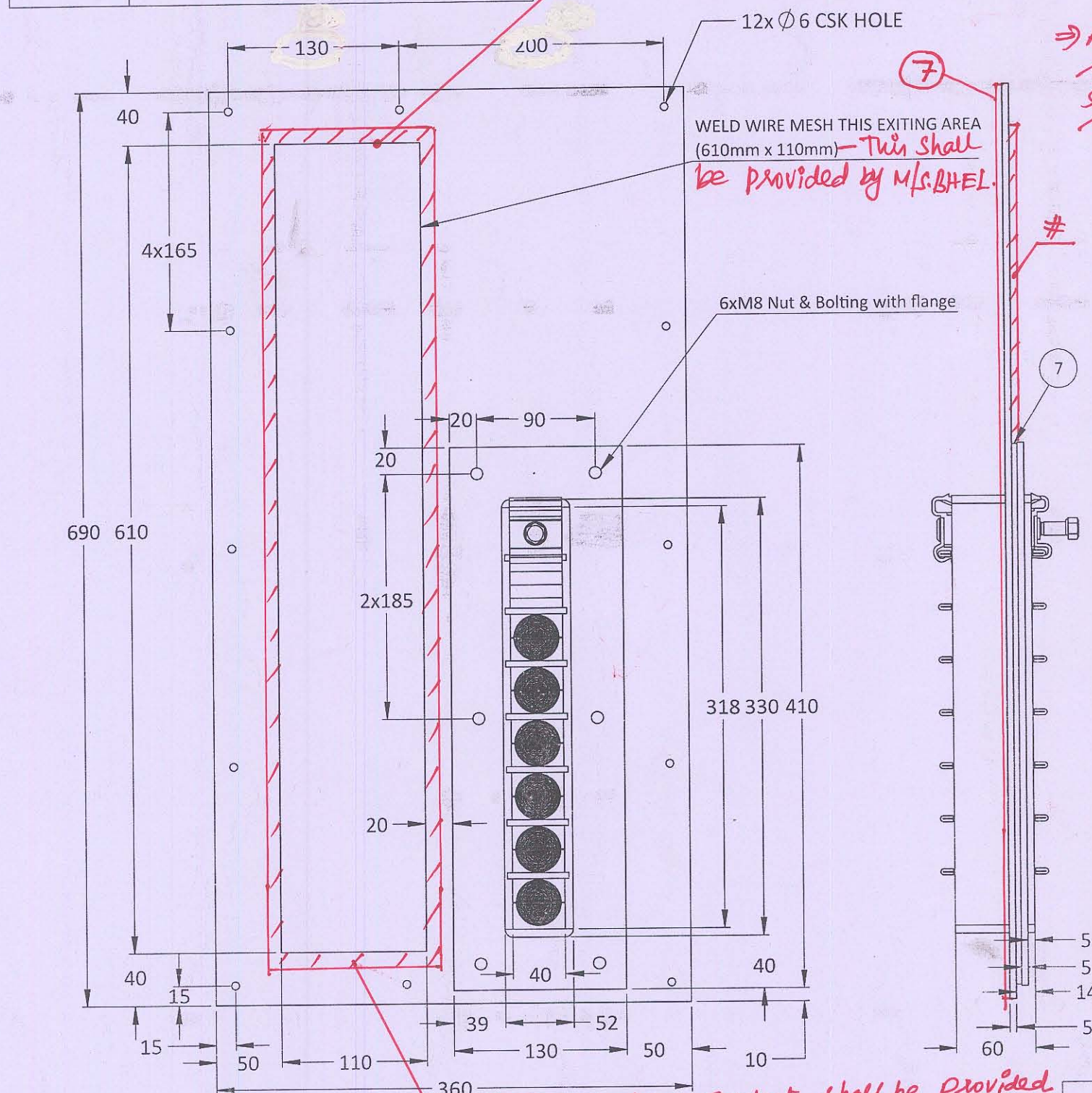
Pos.	Cable Details	Dia(mm)	Cable QTY.	Module type
1	Conduit	30 mm	6	WMR 40 10-34

SPECIFICATION

Mounting Method	Bolting
Wall Opening (HxW)	304 mm x 66 mm
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CABLE / PIPE DETAILS

Sl. No.	Range of Cable / Pipe Dia	Qty. of Cable / Pipe to be accommodated	Module Type
01	Ø10.0 mm to Ø34.5 mm ≈ Ø0.394 inch to Ø1.358 inch	06 Nos.	WMR 40 10-34



⇒ All mounting hardware shall be of stainless steel and shall be supplied by M/S.BHEL.

⇒ The cable routing between this EPDM module and power rectifier glands shall be done without any overstrain of cables.

* Subject to remarks shown in 'RED' in drawing.

सत्यापित / VERIFIED
* Provisionally अनुमोदित / APPROVED
दिनांक / Date 4/23
उप मु बि इ / आमि / DY.CEE / Design
कृते मु बि इ / For CEE
सवारी डिवा कारखाना / INTEGRAL COACH FACTORY

⇒ If any changes required at site for this item it shall be done by M/S.BHEL and same to be intimated to ICF.

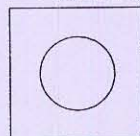
⇒ Necessary mounting holes on routing structure of coach shall be drilled and tapped by M/S.BHEL for mounting this EPDM plate.

SCALE 1:2

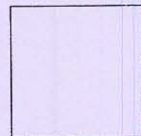
LEGEND:



Module with Cable



Module with Pipe



Spare Module

MODULE DETAILS

MODULE WITH CABLE		SPARE MODULE	
WMR 40 10-34	06	WMR 40 10-34	00

WALLMAX WallMax India Enterprises Pvt. Ltd. Faridabad, Haryana Info@wallmax.it	Material:	SS AISI 304	APPV'D	AVINASH K	23-02-23				
	Hardness:	STD	CHK'D	AVINASH K	23-02-23				
	Surface Finish:	N/A	DRAWN	AVIJIT	23-02-23	00	23-02-23		
	Family:	WMR		Name	Signature	Date	Rev. No.	Rev. Date	
Description of Revision									
Part No: 7012418003								Drawing Type: CONFIGURATION DRAWING	Sheet: A3
Dwg No.: 7012418003_00								Description: CZ003-FLANGED FRAME 40-240 1x1 SS AISI 304 - 06	Scale: 1:1
Colour: STD								Product Group: CZ 40	Rev_00

