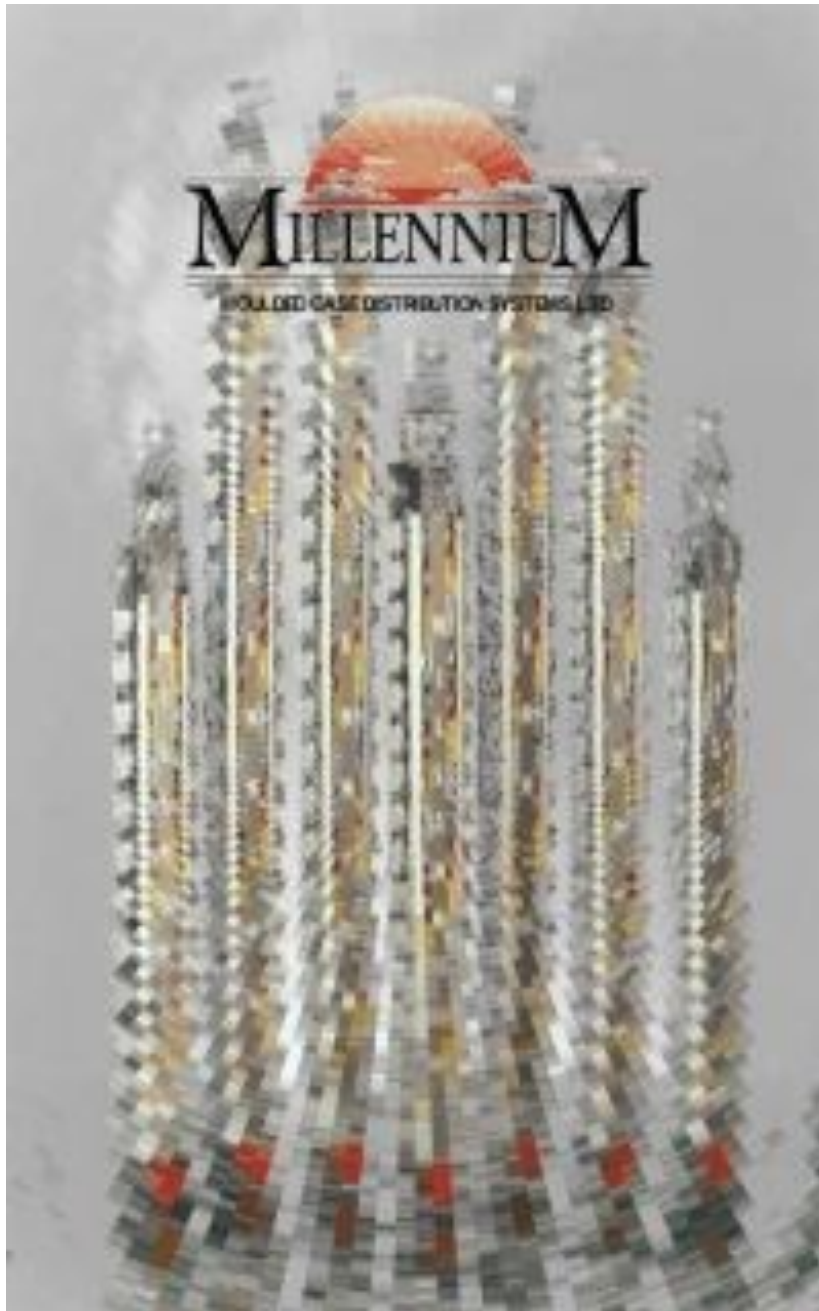


# MILLENNIUM




## MillenniumM Busbars

THE NOVA - 250A

THE BLOC - 400A

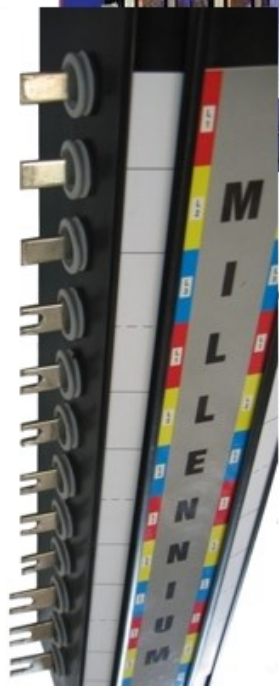
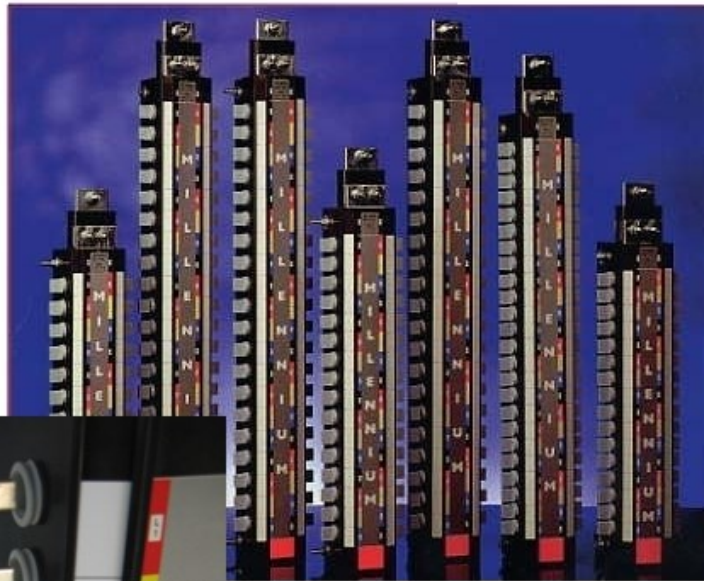
THE BLOC - 800A





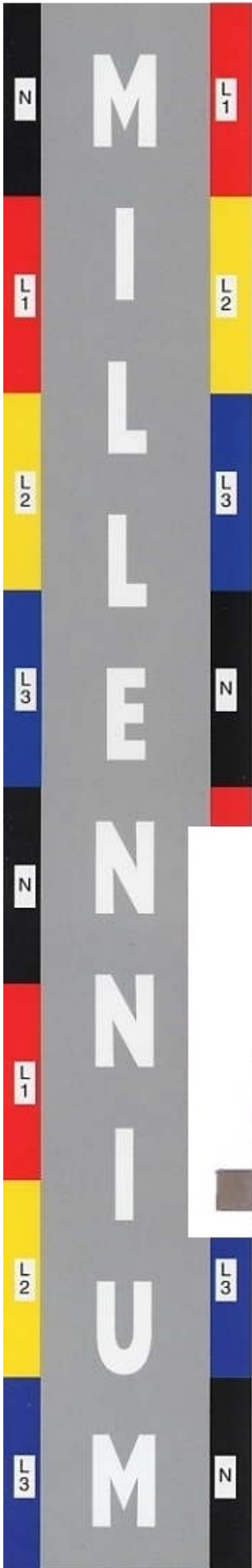
**MILLENNIUM**  
MOULDED CASE DISTRIBUTION SYSTEMS LTD

**A WORLD FIRST IN  
MULTIPOLE MOULDED CASE CIRCUIT BREAKER DISTRIBUTION SYSTEMS.**

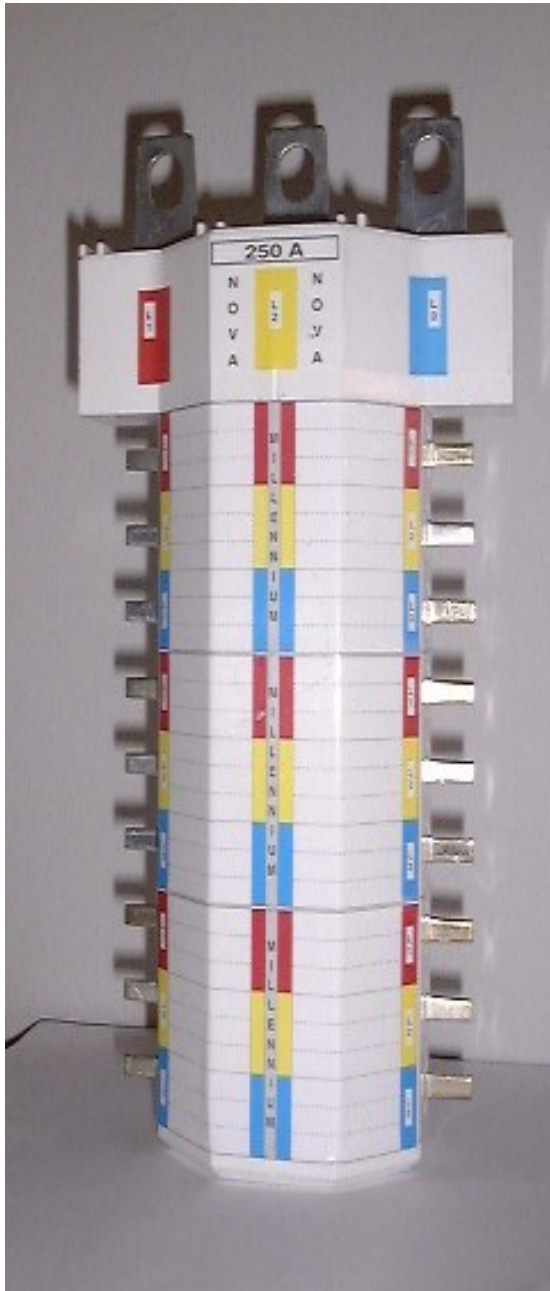


Available from 250A to 800A  
& rated up to 50 KA

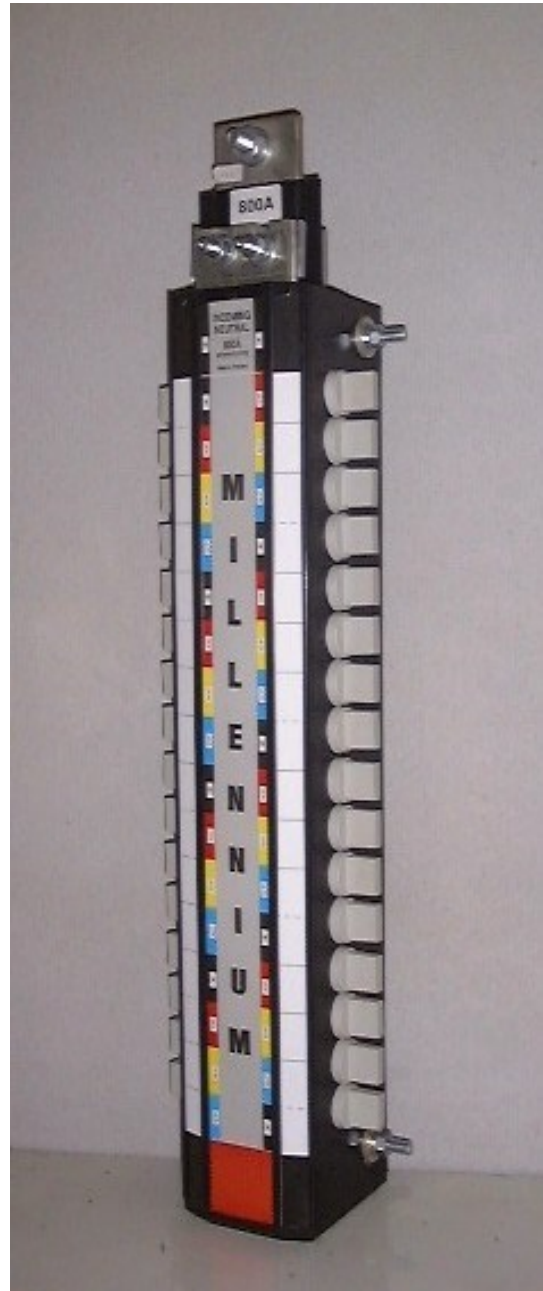
**TOTAL INNOVATIVE DESIGN**



## THE NOVA 250A



## THE BLOC 400A-800A



Visit our website at:

<http://www.millenniumbusbars.com>

Millennium products are under continuous improvement and development.

Drawings & dimensions shown are for general guidance only.

Before fabrication or commitment of any kind, please ask for the latest information from Millennium mclds Ltd.

Millennium mclds Ltd reserve the right to withdraw or amend models at their discretion without prior notice.

Millennium cannot be held responsible for any costs incurred as a result of errors or omissions in this document.

# THE MILLENNIUM SYSTEM

The **Millennium** System has two main units:

The **Bloc** is made as an 800A (50KA 1 sec fault rated) or a 400A (40KA 1 sec fault rated) busbar for main and secondary distribution boards. It will accommodate most MCCB's, switches, direct connections, switch fuses and neutral links without adaptors.

The **Nova** is a 250A busbar. It will accommodate MCB's, MCCB's, surge suppressors, earth leakage and other devices at standard 18 mm, 25 mm, 30mm or 35mm terminal centres.

All units are fully insulated and totally encapsulated in a composite proprietary matrix filler giving a fault free unit without nuts, bolts, rivets or other fault provoking components.

## Advantages

Safer than conventional systems.

The Millennium System is ASTA certified.

Cheaper and faster to install than conventional systems.

Saves space.

Fully protected from atmospheric conditions.

Maintenance free - no joints, nuts or bolts.

The Millennium System Accommodates - MCCB's, MCB's, switches, fused switches & direct connections.

Accommodates most major OEM's MCCB's, MCB's and other outgoing devices.

No adaptors needed for most manufacturers devices.

250A, 400A, 800A busbar with terminal centres at industry standards.

Other centres & mixed configurations can be supplied on request.



## The Bloc

A totally encapsulated, fully insulated up to 800A busbar system, including a fully rated (800A) neutral.

800A system ASTA certified 50KA for 1 second unconditional.

400A system ASTA certified 40KA for 1 second unconditional.

Standard models are 3 pole (BT) and full multipole (BM) systems, and are rated up to and including 800A.

Other options, and special configurations, are available on request, but may be subject to a minimum order requirement.

Colour coding for all connections.

The small and compact size (100 mm x 100 mm in cross section) with the length from 501 mm for the 6 way, to 806 mm for a full 12 way block, mean that additional space is available within the switchboard or, the cubicle size can be reduced by up to 25%.

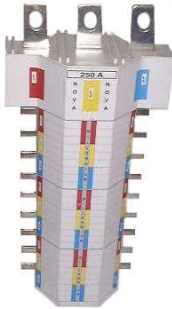
The **MillenniuM** Bloc will accommodate most major manufacturers MCCB's without the need for expensive adaptors. Thus saving not only cost, but time in installation.

- Incoming terminals designed to accept up to 800A incoming interconnections from fused switches, MCCB's, isolators or direct connections to main cubicle busbar systems 35 mm, 30 mm and 25 mm outgoing terminal centres as standard. Other centres and mixed configurations may be available on request.
- Suitable for BSEN/EN/IEC 60439-1 1999 form 1 - 4 switchboard construction.
- Outgoing neutral terminals on BM models eliminate the need for expensive, and time and space consuming, wiring of remote neutral assemblies.

## The Nova

- **Totally encapsulated, fully insulated 250A busbar system.**
- **The 250A Nova is ASTA certified with a fault rating of 60KA conditional.**
- **Standard models are triple pole. Single pole, double pole and full multipole systems, may be available on request. Mixed outgoing device options, and special configurations, may be available on request, but may be subject to a minimum order requirement.**
- **Colour coding for all connections.**
- **Small and compact size (67 mm x 61mm in cross section).**
- **The Millennium Nova will accommodate most major manufacturers standard MCB's.**
- **The Millennium Nova will also accommodate 125A MCB's & 125AF to 250AF MCCB's.**
- **Standard incoming terminals are designed to accept 250A incoming connections/devices at 35mm terminal centres.**
- **18 mm, 25 mm, 30 mm & 35 mm outgoing terminal centres are standard. Others and mixed configurations may be available on request.**
- **Shrouds for spare outgoing terminals included as standard.**
- **Suitable BSEN/EN/IEC 60439-1 1999 form 1 - 4 switchboard construction.**
- **Outgoing neutral terminals on full multipole, or triple pole units with integrated neutral assembly, eliminate the need for expensive, and time and space consuming, wiring of remote neutral assemblies.**

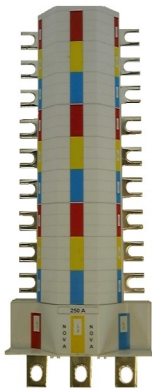
## SOME TYPICAL **NOVA** ARRANGEMENTS



### **VT - standard model for mcb devices**

Triple pole incoming supply, incoming terminals at 35 mm c/c to accommodate 250AF device, outgoing terminals at 18 mm c/c, from 2 to 26 triple pole outgoing ways. 250A rating.

Shown here **VT06/18/2.5C**



### **VT - standard model for 125AF mccb devices**

Triple pole incoming supply, incoming terminals at 35 mm c/c to accommodate 250AF device, outgoing terminals at 25 mm c/c, from 2 to 18 triple pole outgoing ways. Fork terminal shown here. 250A rating. Accommodates breakers up to 81 mm width.

Shown here **VT06/25/2.5F**



### **VD(70) - standard 2P 70 mm c/c incoming connections**

2 pole incoming supply, incoming terminals at 70 mm c/c, outgoing terminals at 18 mm c/c, from 2 to 36 double pole outgoing ways. 250A rating.

Shown here **VD(70)06/18/2.5CL\_36\_VC1**  
70 mm c/c incomers.



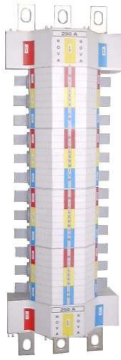
### **VML(D04+02(mcb+vigi))R/18/2.5C**

4 pole incoming supply, incoming terminals at 35 mm c/c, outgoing terminals at 18 mm c/c, Facility for 2 no. mcb+vigi devices and 4 no. 2P devices. 250A rating.

Shown here **VML(D04+02(mcb+vigi))R18/2.5C**



## MORE NOVA ARRANGEMENTS



### VT - tie unit

3P supply connections at 35 mm c/c at each end of the unit.  
Maximum number of outgoing will depend on type of attached devices.

Shown here:

VT08/18/2.5CD\_54\_VC1

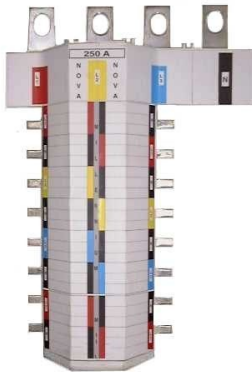


### VM - special

4 pole incoming supply, 2 no. N outgoing terminals at 35 pitch plus 6 no. triple pole outgoing ways.

250A rating.

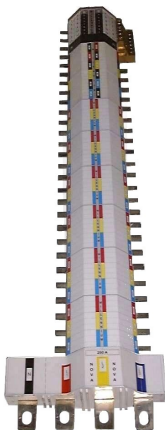
Shown here VML(02N/35/VH2+06T/18/VC1)2.5



### VM - double pole

4 pole incoming supply, incoming terminals to accommodate 250A incoming device, outgoing terminals at 18 mm c/c, from 2 to 36 double pole outgoing ways. 250A rating.

Shown here VML(D08R)18/2.5C—4 pole incoming connections with neutral on the left and 8 no. two pole outgoing with Neutral on the right.



### VM - special

4 pole incoming supply, incoming terminals to accommodate 250A incoming device, outgoing terminals at 18 mm c/c, mixed triple pole & double pole outgoing ways, N terminals to attaché N assembly, facility for 2 no. 4 pole devices. 250A rating.

Shown here VML(T12+D06+N08)18/2.5C



## **Nova VT - triple pole standard Models 250A**

Other configurations are available on request. These include:

- variations in the number/type (C, F or H) of outgoing ways,
- variation in incoming terminals.
- mixed configuration i.e. to accommodate a combination of devices - double pole, single pole, etc.

### **Triple pole 18mm outgoing centres**

VT04/18/2.5Y

VT08/18/2.5Y

VT12/18/2.5Y

VT16/18/2.5Y

VT20/18/2.5Y

VT24/18/2.5Y

Triple pole incomer/4-24 triple pole outgoing ways/18 mm outgoing terminal centres/250A/Y=C for clamp fixing, F for fork fixing to outgoing device.

### **Triple pole 25 mm outgoing centres**

VT04/25/2.5Y

VT08/25/2.5Y

VT12/25/2.5Y up to

VT18/25/2.5Y

Triple pole incomer/4-18 triple pole outgoing ways/25 mm outgoing terminal centres/250A/Y=C for clamp fixing, F for fork, H for hole fixing to outgoing device.

### **Triple pole 30 mm outgoing centres**

VT04/30/2.5Y

VT08/30/2.5Y

VT12/30/2.5Y up to

VT18/30/2.5Y

Triple pole incomer/4-18 triple pole outgoing ways/30 mm outgoing terminal centres/250A/Y=C for clamp fixing, F for fork, H for hole fixing to outgoing device..

### **Triple pole 35 mm outgoing centres**

VT04/35/2.5Y

VT08/35/2.5Y

VT12/35/2.5Y up to

VT16/35/2.5Y

Triple pole incomer/4-16 triple pole outgoing ways/35 mm outgoing terminal centres/250A/Y=C for clamp fixing, F for fork, H for hole fixing to outgoing device.



## **Nova VM - full 4 pole standard Models 250A**

Other configurations may be available on request. These include:

- variations in the number/type (C, F or H) of outgoing ways,
- variation in incoming terminals
- mixed configuration i.e. to accommodate a combination of devices - double pole, single pole, etc.

### **Multi pole 18mm outgoing centres**

**VM04/18/2.5C**

**VM08/18/2.5C**

**VM12/18/2.5C**

**VM16/18/2.5C**

**4 pole incomer. 2-18 no. 4 pole outgoing ways. 18 mm outgoing terminal centres. 250A.**

### **Multi pole 25 mm outgoing centres**

**VM04/25/2.5Y**

**VM08/25/2.5Y**

**VM12/25/2.5Y**

**4 pole incomer. 2-12 no. 4 pole outgoing ways. 25 mm outgoing terminal centres. 250A. Clamp, fork or hole fixing, i.e. Y may be C, H or F.**

**Some Multi pole 35 mm outgoing centres may be available on request. Please ask.**

**VM04/35/2.5Y**

**VM08/35/2.5Y**

**VM10/35/2.5Y**

**4 pole incomer. 2-10 no. 4 pole outgoing ways. 35 mm outgoing terminal centres. 250A. Clamp, fork or hole fixing, i.e. Y may be C, H or F.**

## SOME **BLOC** ARRANGEMENTS



### **BT standard model**

Triple pole incoming supply. Outgoing terminals at 25, 30 or 35 mm c/c, from 2 to 18 triple pole outgoing ways. 400 or 800A rating.

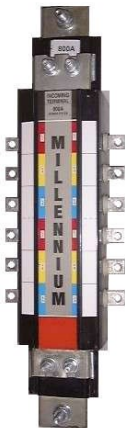
Shown here: **BT04/35/8C**



### **BM standard model**

Full 4 pole incoming supply. Outgoing terminals at 25, 30 or 35 mm c/c, from 2 to 12 triple pole outgoing ways. 400 or 800A rating.

Shown here: **BM08/25/8C**



### **BT — Tie/split unit**

3 pole incoming/outgoing supply connections. Outgoing terminals at 25, 30 or 35 mm c/c, from 2 to 18 triple pole outgoing ways. 400 or 800A rating.

Shown here special unit :

**BT04/35/8HD**



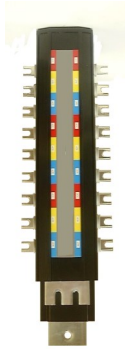
### **BT — unit with gap**

3 pole incoming supply. Outgoing terminals at 25, 30 or 35 mm c/c, from 2 to 18 triple pole outgoing ways.

400 or 800A rating.

Shown here special unit **BT06/35/8HG(35)** where 35 indicates space between adjacent outgoing devices.

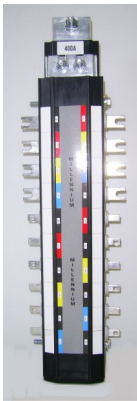
## SOME BLOC ARRANGEMENTS



### BT - Standard

Triple pole incoming supply. Outgoing terminals at 25, 30 or 35 mm c/c, from 2 to 18 triple pole outgoing ways. Clamp, fork or hole fixing to outgoing device. 400 or 800A rating.

Shown here: **BT06/35/4F**

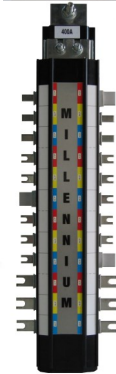


### BM – special.

4 pole incoming supply. Outgoing terminals at 35 mm c/c. 2 no 4P outgoing devices and 6 no. 2P devices. 400 or 800A rating. N on left.

Shown here special unit:

**BM(M02\_140BF5+D06\_70BC3)35/4L**

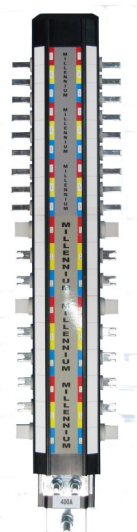


### BT - special

3 pole incoming supply. Outgoing terminals at 30 & 35 mm c/c, i.e. mixed outgoing ways. 3 different terminal fixings. 400A rating.

Shown here special unit :

**BT(02/30/BC3\_91+04/30/BF4\_91+02/35/BF5\_105.5)4**



### BT - special

3 pole incoming supply. 6 no TP outgoing ways at 25 mm c/c and 6 no. at 35 mm c/c. Clamp & fork fixings to outgoing devices.

400 or 800A rating.

Shown here:

**BT(0635\_105.5\_BF4+0625\_75.5\_BC11)4**

## **BLOC - BT TRIPLE POLE STANDARD MODELS 400A—800A**

Other configurations are available on request. These include:

- variations in the number/type of outgoing ways,
- a gap between devices.
- Tie or split units

### **Triple pole 25mm outgoing centres**

**BT04/25/XY**

**BT08/25/XY**

**BT12/25/XY**

**BT16/25/XY**

**BT20/25/XY**

Triple pole incomer 2-22 triple pole outgoing ways. 25 mm outgoing terminal centres. 400-800A. Clamp, fork or hole fixing to outgoing device. Y is C, F or H. X=4 for 400A & X=8 for 800A.

To accommodate devices up to 81 mm width.

### **Triple pole 30 mm outgoing centres**

**BT04/30/XY**

**BT08/30/XY**

**BT12/30/XY**

**BT16/30/XY**

**BT20/30/XY**

Triple pole incomer 2-20 triple pole outgoing ways. 30 mm outgoing terminal centres. 400-800A. Clamp, fork or hole fixing to outgoing device. Y is C, F or H. X=4 for 400A & X=8 for 800A.

To accommodate devices up to 91 mm width.

### **Triple pole 35 mm outgoing centres**

**BT04/35/XY**

**BT08/35/XY**

**BT12/35/XY**

**BT18/35/XY**

Triple pole incomer 2-18 triple pole outgoing ways. 35 mm outgoing terminal centres. 400-800A. Clamp, fork or hole fixing to outgoing device. Y is C, F or H. X=4 for 400A & X=8 for 800A.

To accommodate devices up to 105.5 mm width.



## **BLOC - BM FULL 4 POLE STANDARD MODELS 400A—800A**

Other configurations are available on request. These include:

- variations in the number of outgoing ways,
- a gap between devices.

### **Multi pole 25mm outgoing centres**

<b>BM04/25/XY</b>	<b>4 pole incomer. 2-14 no. 4 pole outgoing ways. 25 mm outgoing terminal centres. 400-800A. Clamp, fork or hole fixing to outgoing device i.e. Y is C, F or H. X=4 for 400A &amp; X=8 for 800A.</b>
<b>BM08/25/XY</b>	
<b>BM12/25/XY</b>	

### **Multi pole 30 mm outgoing centres**

<b>BM04/30/XY</b>	<b>4 pole incomer. 2-12 no. 4 pole outgoing ways. 30 mm outgoing terminal centres. 400-800A. Clamp, fork or hole fixing to outgoing device i.e. Y is C, F or H. X=4 for 400A &amp; X=8 for 800A.</b>
<b>BM08/30/XY</b>	
<b>BM12/30/XY</b>	

### **Multi pole 35 mm outgoing centres**

<b>BM04/35/XY</b>	<b>4 pole incomer. 2-12 no. 4 pole outgoing ways. 35 mm outgoing terminal centres. 400-800A. Clamp, fork or hole fixing to outgoing device i.e. Y is C, F or H. X=4 for 400A &amp; X=8 for 800A.</b>
<b>BM08/35/XY</b>	
<b>BM12/35/XY</b>	

## OTHER MODELS

The Millennium can be configured in a wide range of alternative configurations. Those shown in the preceding pages are the more popular models.

The Nova standard models are given on pages 9 & 10.

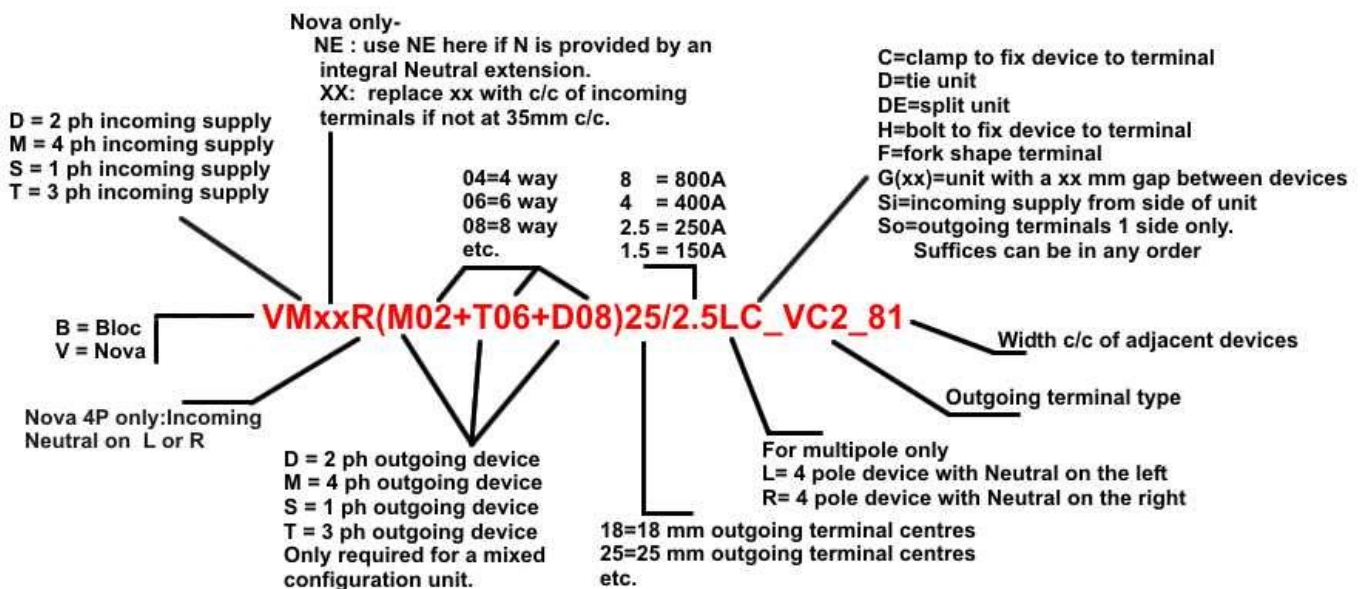
The Bloc basic alternatives are given on Pages 13 & 14.

The following pages show how to specify the basic models. Use the key chart below to specify bespoke or other models.

Visit <http://www.millenniumbusbars.com> for more details.

Options include single, double, triple or multipole incoming or outgoing connections or a mix of these. Fully integrated N bars or a N extension can be accommodated. Incoming supply, multipole, triple, double or single pole, from the side or end can be supplied.

Tie or split units to accommodate emergency or alternate incoming supply are available.



# Specifying basic models

## THE NOVA – 250A

### 1. CHOOSE:

incoming Terminal configuration: Standard incoming terminals are at 35mm c/c.  
Others may be available on request.

- A triple pole incomer
  - Specify VT model



- A multipole incomer
  - Specify VM model. N here is on the left — specify VML. If N on the right — specify VMR.



See page 42 for standard incoming terminal details.

### 2. THEN CHOOSE:

Outgoing terminal configuration:

- Multi-pole. VM should be followed by the number of outgoing 4 pole devices i.e. VM06 for 6 ways.
- Triple pole. VT should be followed by the number of outgoing 3 pole devices i.e. VT10 for 10 ways.

## **THE NOVA – 250A**

### **3. NEXT SELECT THE OUTGOING TERMINAL CENTRES:**

- **18mm c/c for most standard MCB's with 18 mm terminal centres.**  
Ex. VML06/18 is a unit with four pole incoming supply (N on left) and 6 no. outgoing 4P devices and outgoing terminal centres at 18 mm.  
Use VT06/18 for triple pole incoming supply and 6 no. TP outgoing.
- **25 mm c/c for the new 125A range of MCB's and standard 125AF MCCB's.**  
Ex. VT12/25 for triple pole incoming supply with 12 no. outgoing TP devices and outgoing terminal centres at 25 mm.
- **30 mm c/c for 160AF MCCB's.**  
For example VT04/30 for triple pole incomer with 4 no. outgoing TP devices and outgoing terminal centres at 30 mm.
- **35 mm c/c for 250AF MCCB's. Similar to above, just substitute 35 for the outgoing terminal centres required.**

### **4. NOVA STANDARD RATING IS 250A.**

Use suffix of 2.5 for 250A.

Example. Use VT12/35/2.5 for Nova 250A with triple pole incomer with 12 no. outgoing TP devices and outgoing terminal centres at 35 mm.

### **5. CHOOSE OUTGOING TERMINAL TYPE:**

See page 41 for some Nova outgoing terminal types.

- **C—suitable for devices that use a clamp fixing**
- **H—suitable for devices that use a bolt fixing**
- **F—suitable for devices that require a fork for fixing.**

Example: VT08/35/2.5F\_VF5 is Nova with 3 phase incoming supply, 8 no. TP outgoing devices with terminal centres at nominal 35 mm c/c, standard 250A rating and the outgoing terminal is a fork shaped (F) VF5.

Use L or R after the above to denote the outgoing neutrals are on the left or right.

## **THE NOVA – 250A**

### **6. FINALLY CHOOSE DEVICE WIDTH REQUIRED.**

- For mcb devices the standard width allowed for the SP device is 18 mm, 2P is 36mm, 54 mm for TP, and 72mm for 4P.

Ex. VT08/18/2.5C\_VC1\_54 is for a triple pole outgoing device.

- For devices with outgoing terminals at nominal 25 mm c/c the standard width allowed can be 75.5 mm or 81 mm.

Ex. VT08/25/2.5C\_VC3\_81

Would be a Nova with 3 phase incoming supply, 8 no. TP outgoing devices with terminal centres at nominal 25 mm c/c, standard 250A rating. The outgoing terminal is a solid VC3 terminal and allows 81 mm for the width of the device.

- For devices with outgoing terminals at nominal 30 mm c/c the standard width allowed is 95 mm in the Nova.

Ex. VT10/30/2.5F\_VF4\_95

- For devices with outgoing terminals at nominal 35 mm c/c standard width allowed can be 105.5 mm or 110 mm in the Nova.

Ex. VT12/35/2.5F\_VF6\_105.5

is a Nova with 3 phase incoming supply, 12 no. TP outgoing devices with terminal centres at nominal 35 mm c/c and standard 250A rating. The outgoing terminal is fork shaped VF6 and allows 105.5 mm for the width of the device.

See page 40 for some alternative Nova outgoing terminals.



## Specifying basic models

### The Bloc - standard models 400 & 800A

#### BLOC MODELS:

##### 1. CHOOSE—

Incoming terminal configuration

- **Multipole—3 phase incoming connections + N incoming connection on side of unit. Connections can be direct to the main incoming busbar or via an incoming device. Specify as BM.**

or

- **Triple pole—3 phase incoming connections. Connections can be direct to main incoming busbar or Via an incoming device. Specify as BT.**



##### 2. THEN CHOOSE:

Outgoing terminals:

Select the number of outgoing ways:

- **Multi-pole. BM should be followed by the number of outgoing 4 pole devices i.e. BM08 for 8 ways.**
- **Triple pole. BT should be followed by the number of outgoing 3 pole devices i.e. BT12 for 12 ways.**



# The Bloc - standard models 400 & 800A

## 3. NEXT SELECT THE OUTGOING TERMINAL CENTRES:

- 25 mm c/c for and standard 125AF MCCB's.  
Example. BT12/25 for triple pole incoming supply with 12 no. outgoing TP devices and outgoing terminal centres at 25 mm.
- 30 mm c/c for 160AF MCCB's.  
Example. BT04/30 for triple pole incoming supply with 4 no. outgoing TP devices and outgoing terminal centres at 30 mm.
- 35 mm c/c for 250AF MCCB's. Similar to above, just substitute 35 for the outgoing terminal centres required.

## 4. BLOC STANDARD RATINGS ARE 400A & 800A

Use suffix 4 for 400A & 8 for 800A.

Example. Use BT12/35/4 for Bloc with triple pole incoming supply with 12 no. outgoing TP devices and outgoing terminal centres at 35 mm and rated at 400A.

## 5. CHOOSE OUTGOING TERMINAL TYPE:

See page 30 for some Bloc outgoing terminal types.

- C—suitable for devices that use a clamp fixing
- H—suitable for devices that use a bolt fixing
- F—suitable for devices that require a fork for fixing.
- If multipole — place L or R after the above to show if the outgoing N is on left or right.

Example: BM08/35/8FL\_BF3

is a Bloc with 4 phase incoming supply, 8 no. 4P outgoing devices with terminal centres at nominal 35 mm c/c, 800A rating and the outgoing terminal is a fork shaped (F) BF3 terminal. Outgoing N is on the left (see BM unit on page 3 where the N is on the left).

## **THE BLOC – 400A & 800A**

### **6. FINALLY CHOOSE DEVICE WIDTH/SPACING REQUIRED.**

- For TP devices with outgoing terminals at nominal 25 mm c/c the standard width allowed is 75.5 mm or 81 mm.

**Ex. BT08/25/4C\_BC3\_75.5**

would be a Bloc with 3 phase incoming supply, 8 no. TP outgoing devices with terminal centres at nominal 25 mm c/c, 400A rating and the outgoing terminal is solid BC3 terminal and allows 75.5 mm between centres of the outgoing devices.

4P devices standard width would normally be 105 mm.

- For TP devices with outgoing terminals at nominal 30 mm c/c the standard width allowed is normally 91 mm. 4P would normally be 120/121mm.

Thus a BT08/30/8H\_BH2\_91 would be a Bloc with three phase supply, 8 no. outgoing TP devices with outgoing terminal centres at 30 mm, 800A rating with a BH2 type terminal and to provide 91 mm c/c of outgoing devices.

- For TP devices with outgoing terminals at nominal 35 mm c/c standard width allowed is 105.5 mm.

**Ex. BT12/35/8F\_BF3\_105.5**

is a Bloc with 3 phase incoming supply, 12 no. TP outgoing devices with terminal centres at nominal 35 mm c/c, 800A rating, the outgoing terminal is fork shaped BF3 and provides 105.5 mm between centres of the outgoing devices.

4P outgoing devices would normally have standard with at 140/140.5mm.

See Page 30 for some Bloc outgoing terminal types.

## **MILLENNIUM**

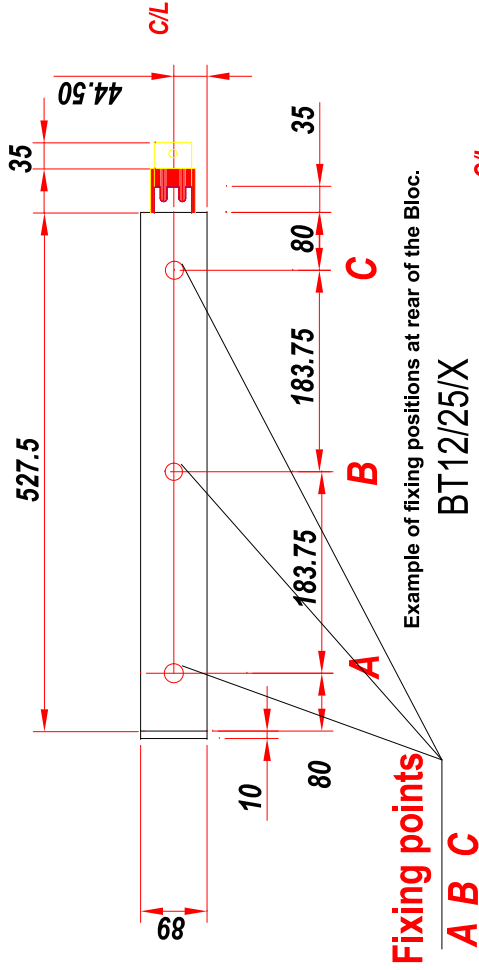
### **Disclaimer.**

Millennium products are under continuous improvement and development. Drawings & dimensions shown are for general guidance only.

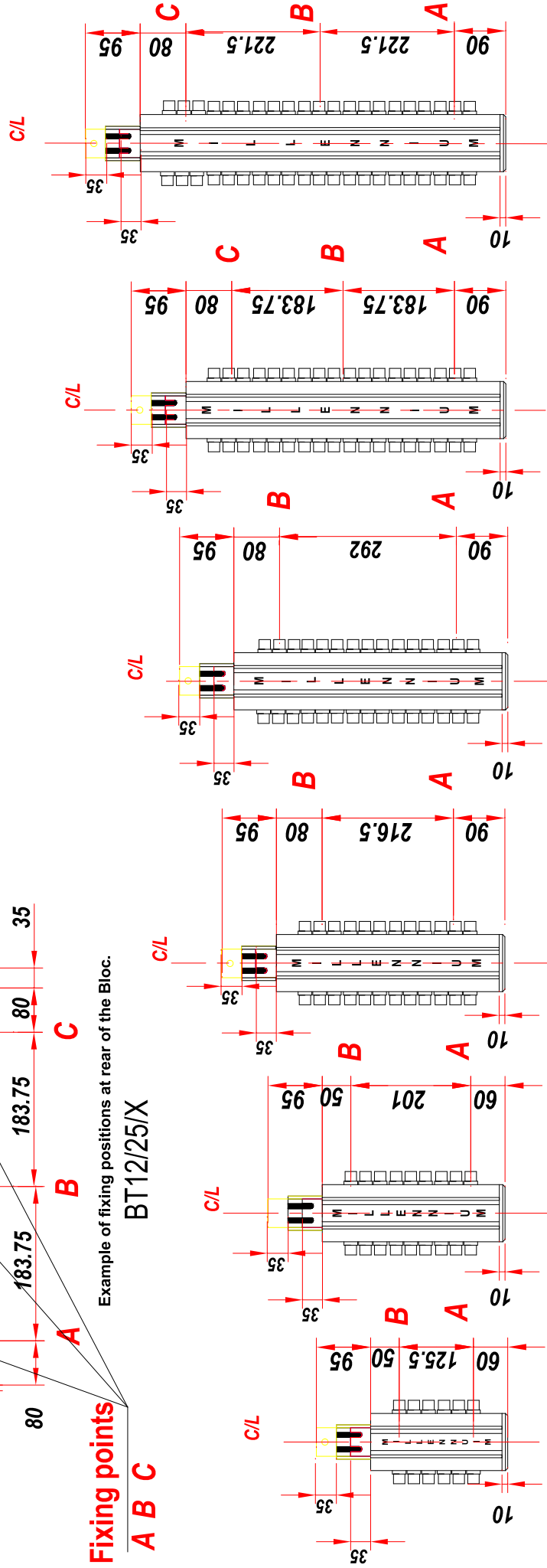
Before fabrication or commitment of any kind, please ask for the latest information from Millennium mcds Ltd.

Millennium mcds Ltd reserve the right to withdraw or amend models at their discretion without prior notice.

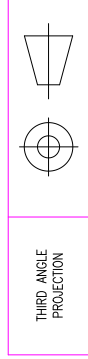
Millennium cannot be held responsible for any costs incurred as a result of errors or omissions in this document.



Where X = 4 for 400A and 8 for 800A  
Drawings are not to scale and are for guidance only.

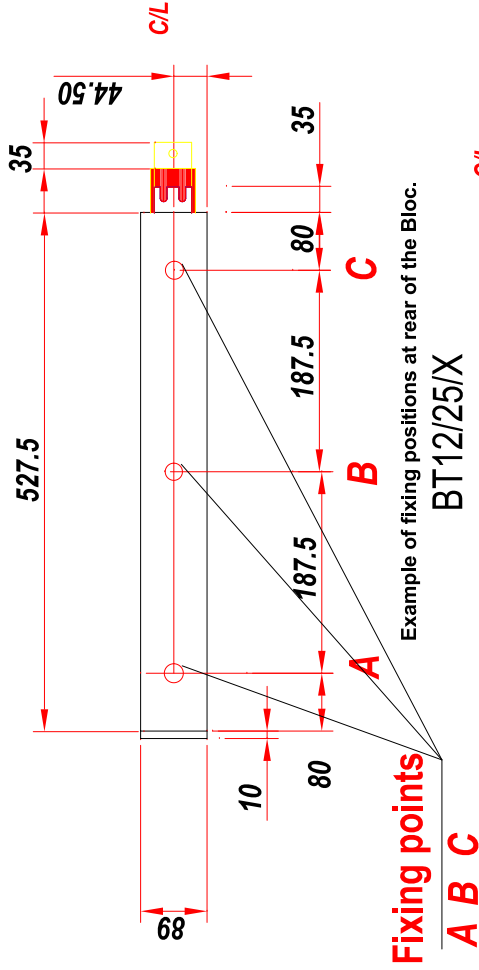


**Millennium Bloc BT (125AF) models 75.5 mm module - Fixing & overall dimensions**  
**Outgoing connections at 25 mm c/c**  
**400A & 800A dimensions are identical**

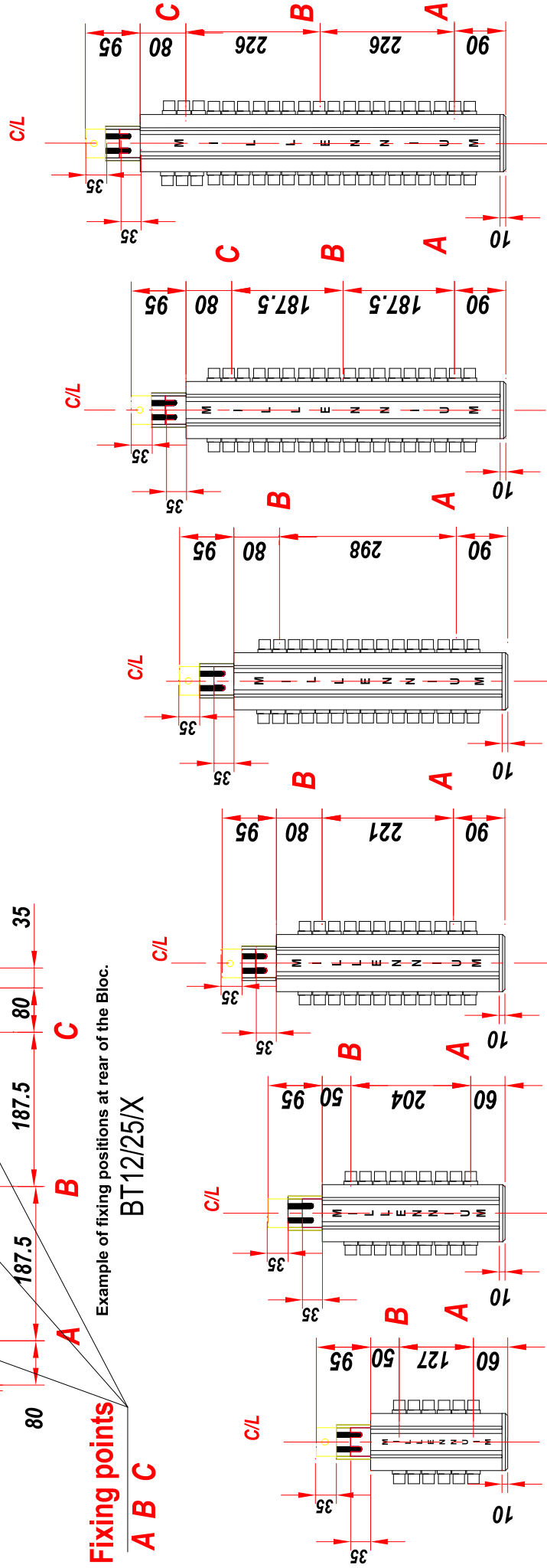


MILLENNIUM MOULDED CASE DISTRIBUTION SYSTEMS LTD.		144, M. 1, Banglamung, Cherburu, Thailand, Tel: 038 240 884		DRAWING TITLE BT 125AF models - (75.5 mm) Fixings & overall dimensions		DEPT. Millennium Production	
				DATE 23 May 2004	SCALE NTS		
				DRAWN BT	TRACED		
				REVISIONS 1 5	2 6	3 7	4 8
				DRAWING NO. BT25/75.5/fgs			
				CHECKED		bb	





Where X = 4 for 400A and 8 for 800A  
 Drawings are not to scale and are for guidance  
 only. Check before fabrication.



### Millennium Bloc BT models (77 mm) - Fixing & overall dimensions

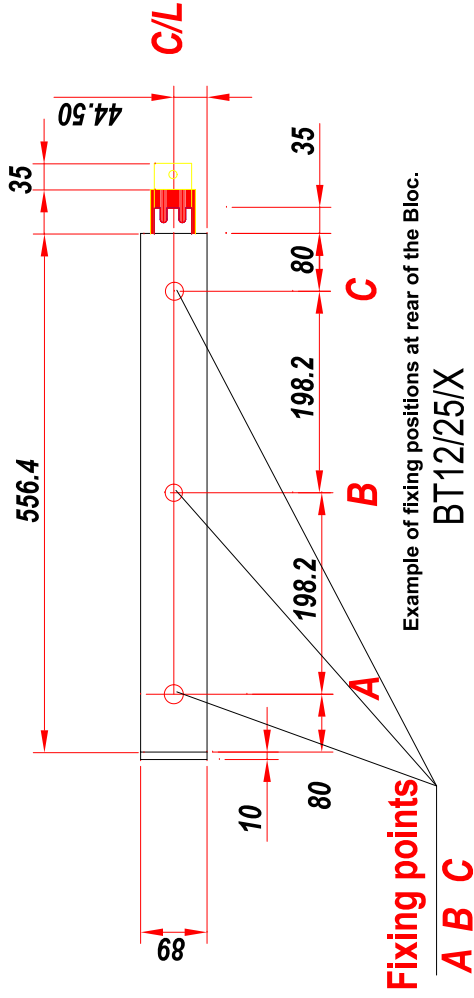
**400A & 800A dimensions are identical**

REVISONS	1	2	3	4	5	6	7	8

DATE	12 Sept. 2014
DRAWN	BT
TRACED	
CHECKED	bb

DEPT.	Millennium Production
SCALE	NTS
DRAWING NO.	BT25777/fgs





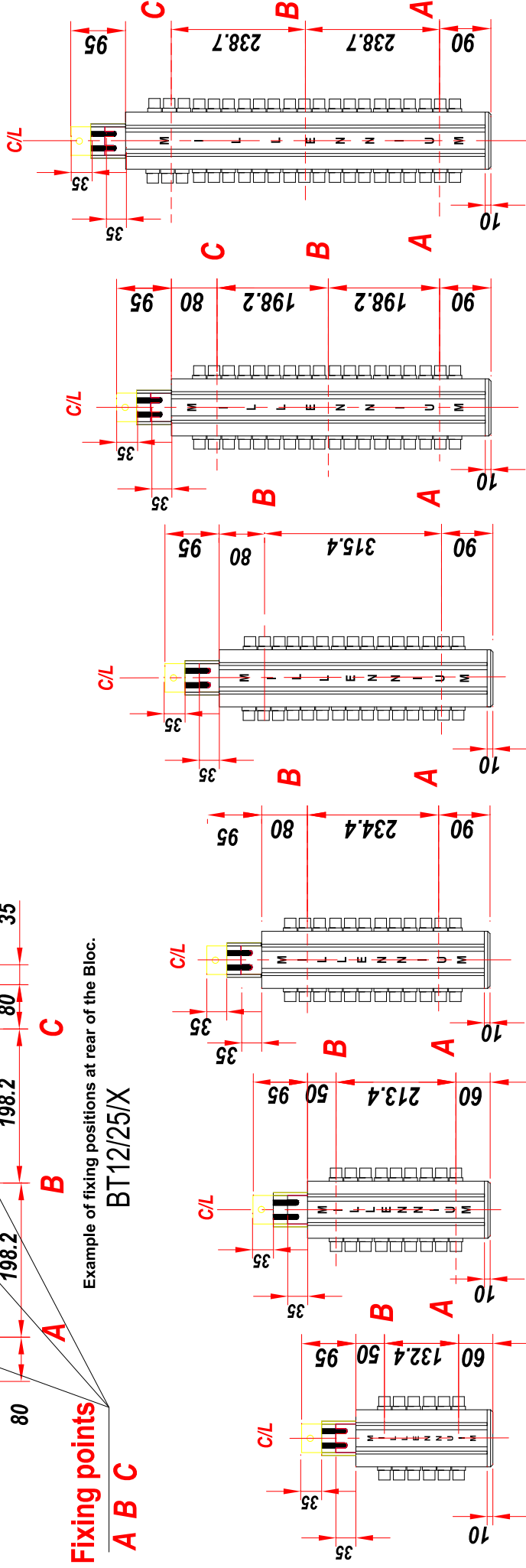
Where X = 4 for 400A and 8 for 800A

**Fixing points**

**A B C**

Example of fixing positions at rear of the Bloc.

BT12/25/X



BT04/25/X

BT06/25/X

BT08/25/X

BT10/25/X

BT12/25/X

BT14/25/X

Millennium Bloc BT (125AF) models 81 mm module - Fixing & overall dimensions

Outgoing connections at 25 mm c/c.

400A & 800A dimensions are identical



THIRD ANGLE PROJECTION

144, M. 1., Banglamung,  
Cherburui, Thailand,  
Tel: 038 240 884

**MILLENNIUM**  
MOULDED CASE DISTRIBUTION SYSTEMS LTD.

DRAWING TITLE  
BT 125AF models - (81 mm) Fixings & overall dimensions

REVISONS	1	2	3	4	5	6	7	8

DATE 18 April 2004  
DRAWN BT  
TRACED  
CHECKED bb

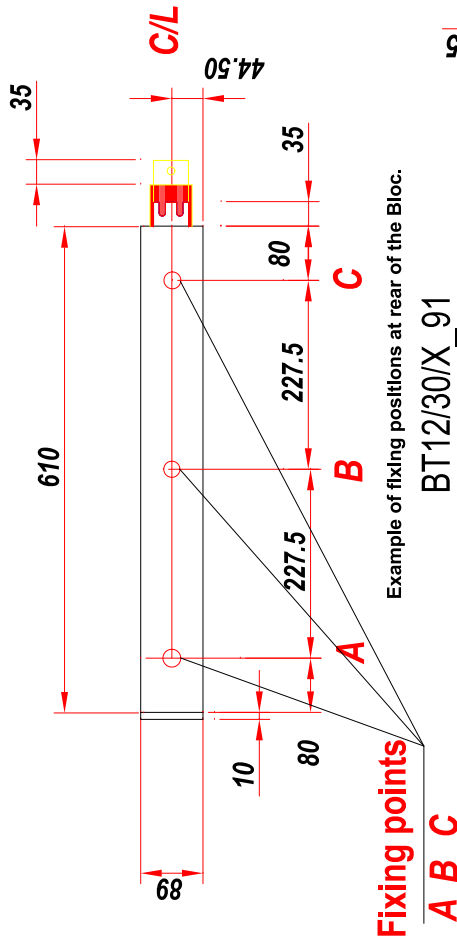
DEPT. Millennium Production

SCALE

DRAWING NO.

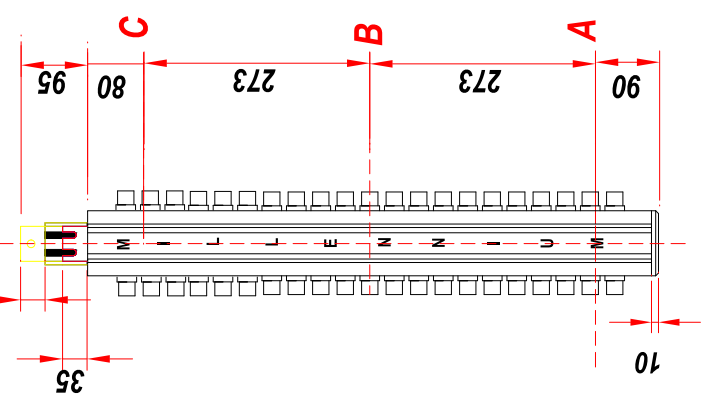
BT25/81/fixgs

Where X = 4 for 400A and 8 for 800A

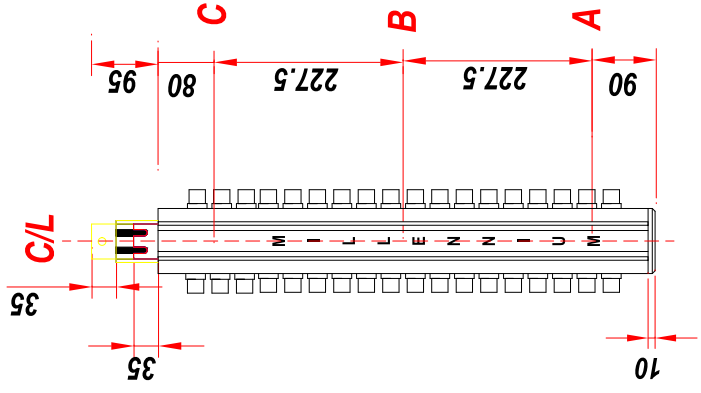


Example of fixing positions at rear of the Bloc.

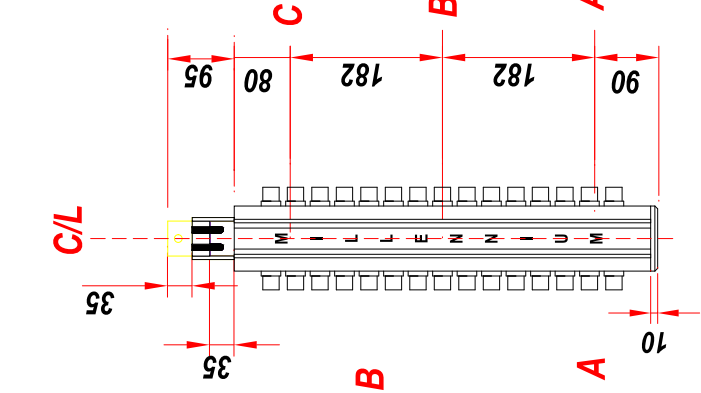
BT12/30/X\_91



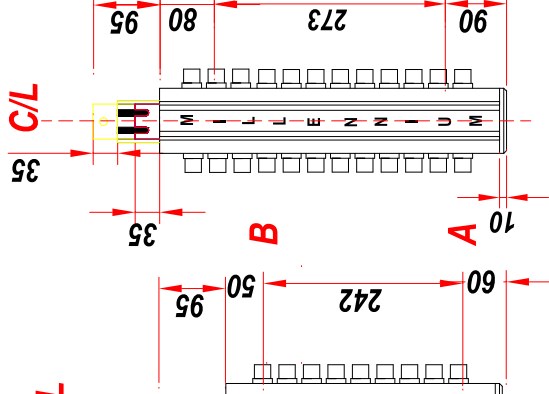
BT14/30/X\_91



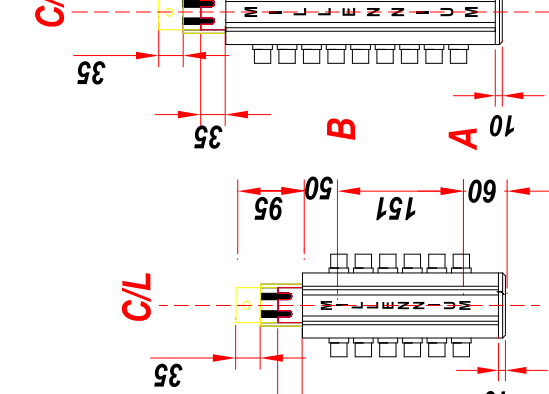
BT12/30/X\_91



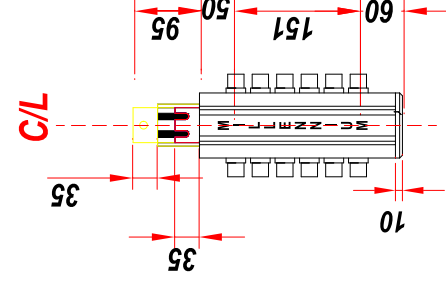
BT10/30/X\_91



BT08/30/X\_91

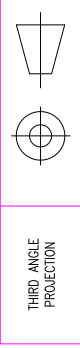


BT06/30/X\_91



BT04/30/X\_91

**Millennium Bloc BT (160AF) frame models - Fixing & overall dimensions  
91 mm module  
400A & 800A dimensions are identical**



THIRD ANGLE PROJECTION	DEPT. Millennium Production
	SCALE
	DRAWING NO.
	BT30/91/ fxgs

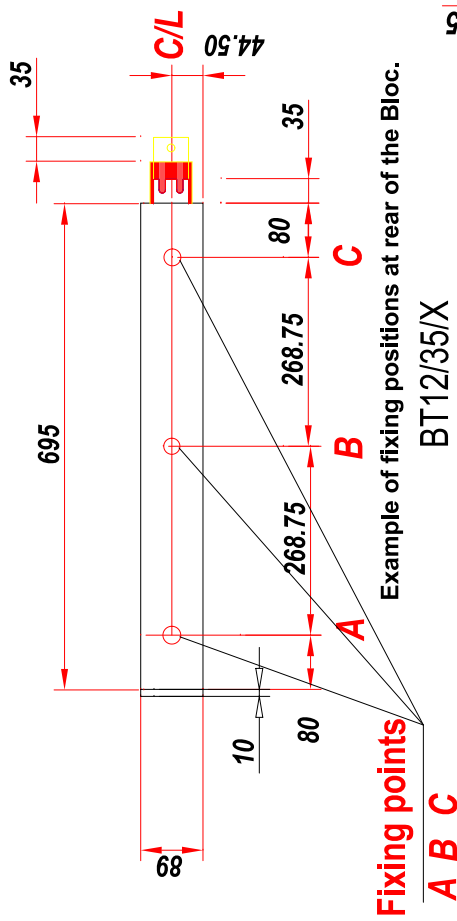
DATE 27 Nov 2009	bt
DRAWN	TRACED
CHECKED	bb

DRAWING TITLE BT 160AF models - fixings & overall dimensions - 91 mm				
REVISIONS 1	2	3	4	8
5	6	7	8	

144 M 1, Banglamung,  
Chonburi, Thailand,  
Tel 038 240 864

Where X = 4 for 400A and 8 for 800A

Drawings are not to scale and are for guidance only.

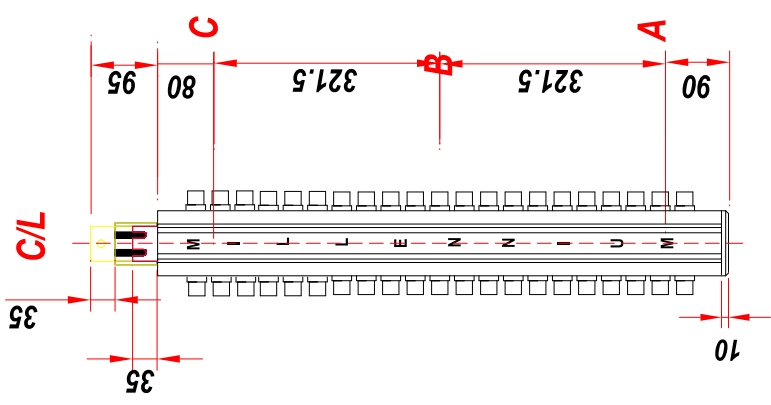


**Fixing points**

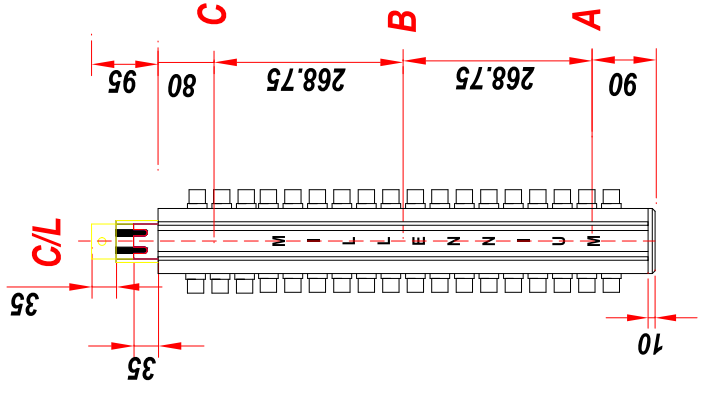
A B C

Example of fixing positions at rear of the Bloc.

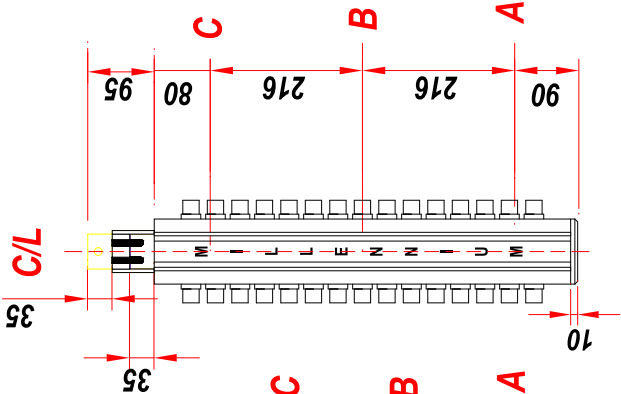
BT12/35/X



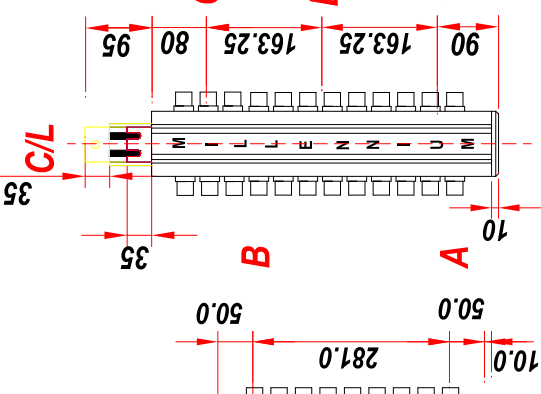
BT14/35/X



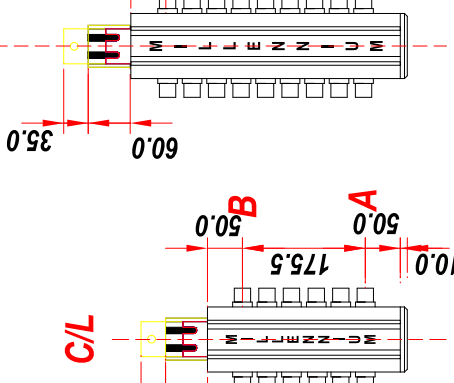
BT12/35/X



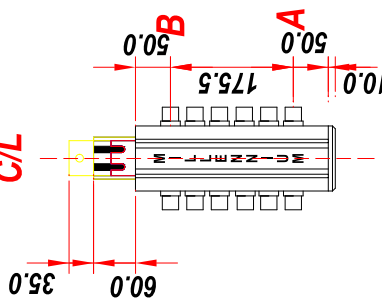
BT10/35/X



BT08/35/X



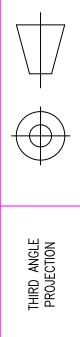
BT06/35/X



BT04/35/X

**Millennium Bloc BT (250AF) models - Fixing & overall dimensions 105.5 mm module**

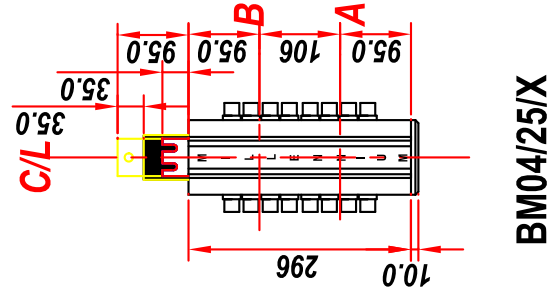
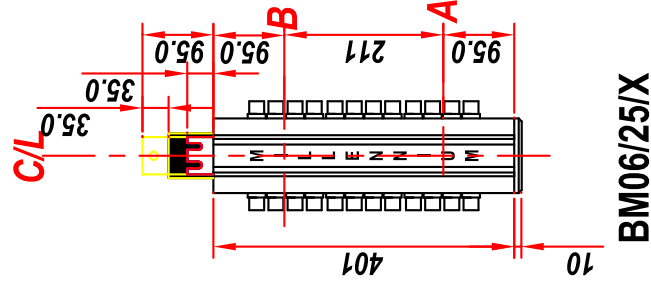
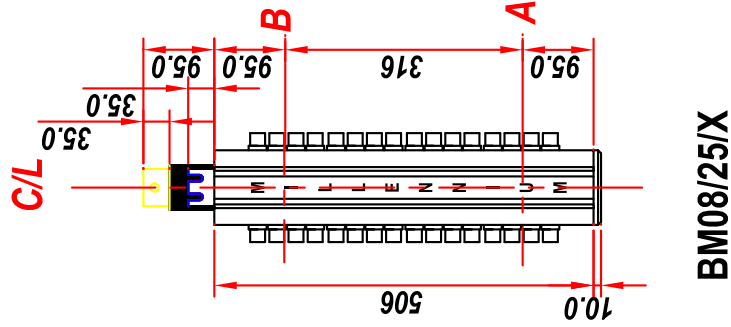
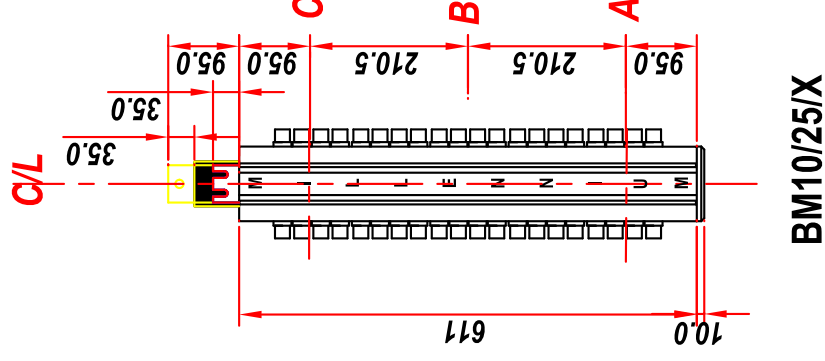
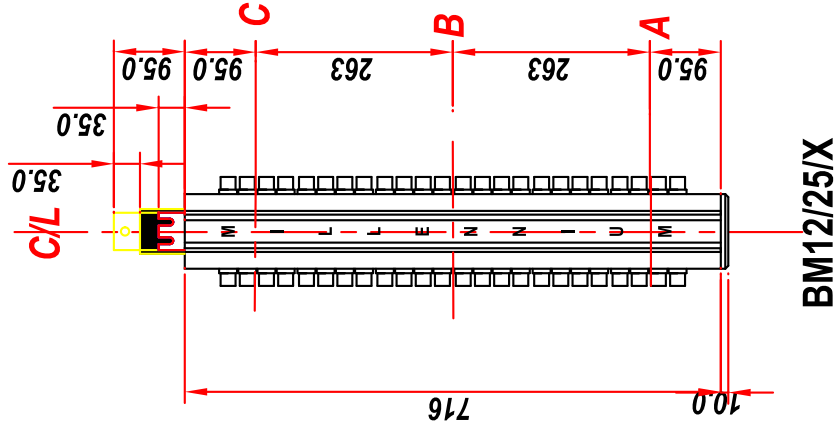
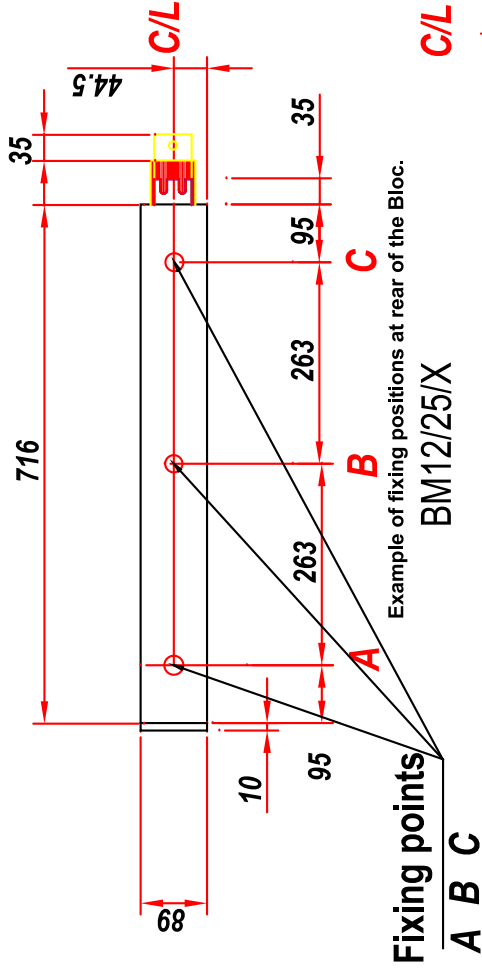
**400A & 800A dimensions are identical.**



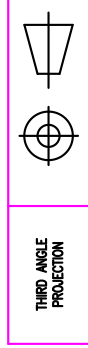
THIRD ANGLE PROJECTION	DEPT. Millennium Production
	SCALE nts
	DRAWING NO. BT35/105.5fxgs

DATE 23 Nov 2005	DEPT. Millennium Production
DRAWN bt	SCALE nts
TRACED	DRAWING NO. BT35/105.5fxgs
CHECKED	bb

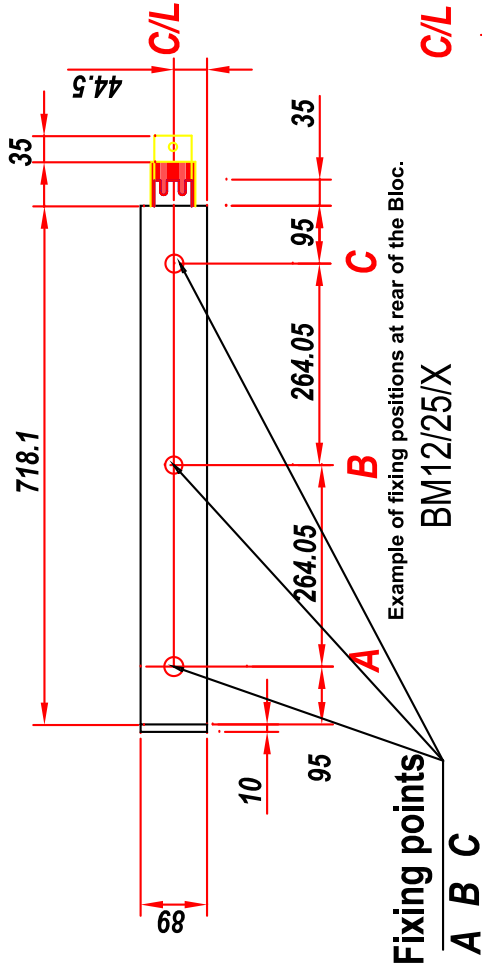
DRAWING TITLE BT 250AF models - fixings & overall dimensions 105.5 mm module				
REVISIONS 1	2	3	4	8
5	6	7		



**Millennium Bloc 4 Pole BM (125AF) models - Fixing & overall dimensions**  
**Outgoing connections at 25, 25, 25, 30 mm c/c. 105 module.**  
**400A & 800A dimensions are identical.**

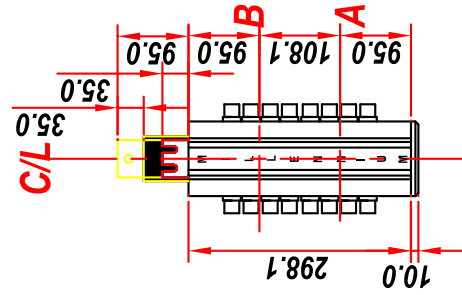
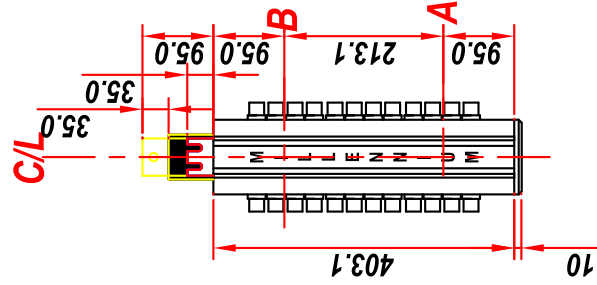
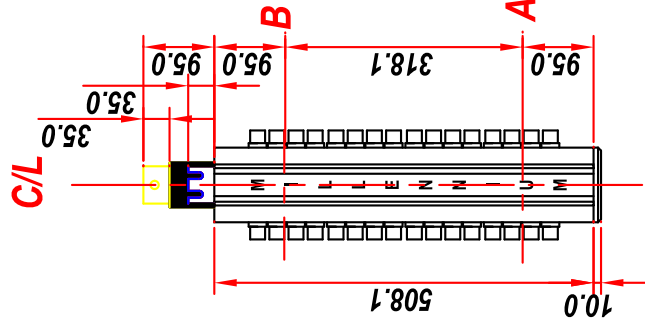
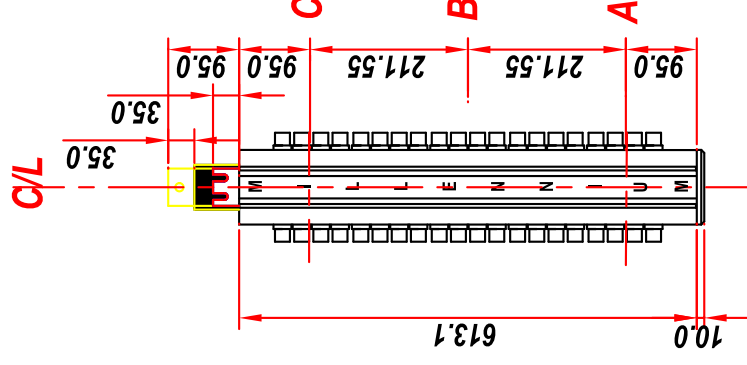
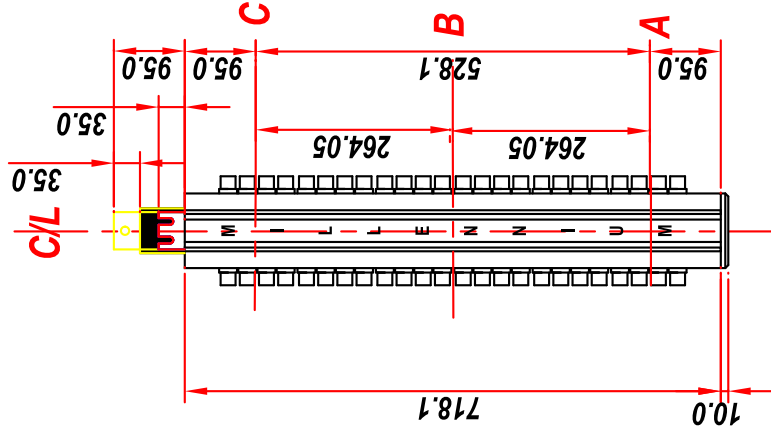


MILLENNIUM MOULDED CASE DISTRIBUTION SYSTEMS LTD.		144, M. 1, Banglamung, Chonburi, Thailand, Tel. 038 240 884		DRAWING TITLE BM 125AF models - (105 mm) Fixings & overall dimensions		DEPT. Millennium Production	
REVISIONS	1	2	3	4	5	6	7
DATE	21 Nov 2014	DATE	21 Nov 2014	DEPT.	Millennium Production	SCALE	bt
DRAWN	TRACED	CHECKED	bb	DRAWING NO.	BM25/105/25/25/25/30/fgs		



Example of fixing positions at rear of the Bloc.

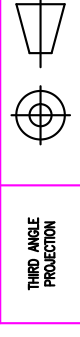
**BM12/25/X**



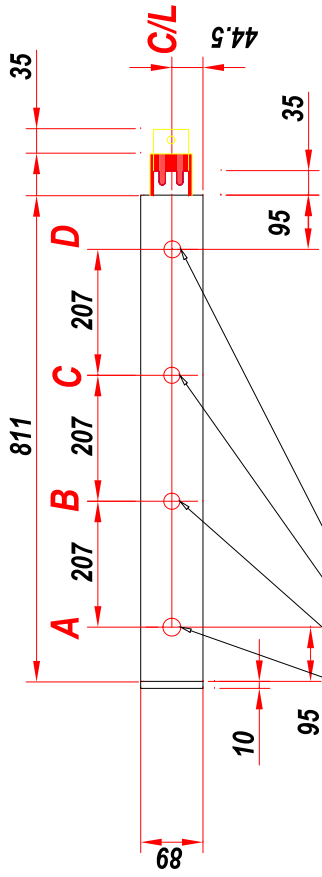
**Millennium Bloc 4 Pole BM (125AF) models - Fixing & overall dimensions**

**Outgoing connections at 25.7, 25.7, 25.7, 27.9 mm c/c. 105 module.**

**400A & 800A dimensions are identical.**



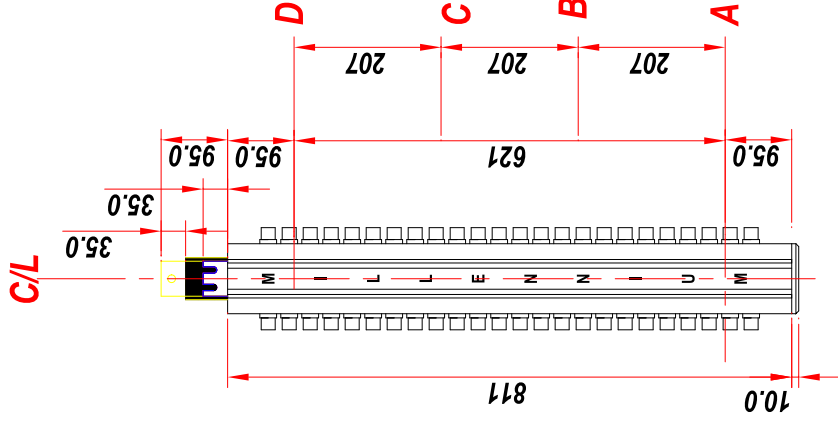
DRAWING TITLE		BM 125AF models - (105 mm) Fixings & overall dimensions		DATE	13 Feb 2006	DEPT.	Millennium Production
REVISIONS	1	2	3	4	DRAWN	bt	SCALE
	5	6	7	8	TRACED		DRAWING NO.
					CHECKED	bb	BM25/105/25.7/25.7/25.7/27.9/fixgs



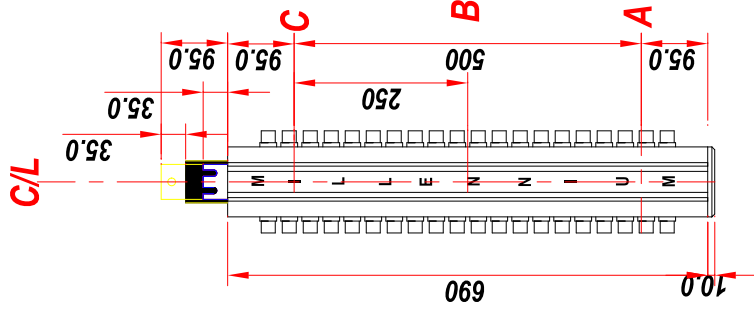
**Fixing points**  
A B C D

Example of fixing positions at rear of the Bloc.

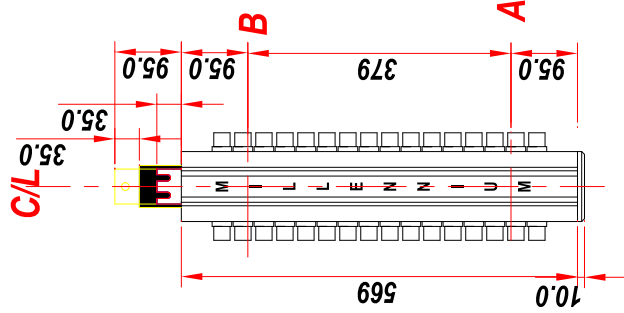
BM12/30/X\_121



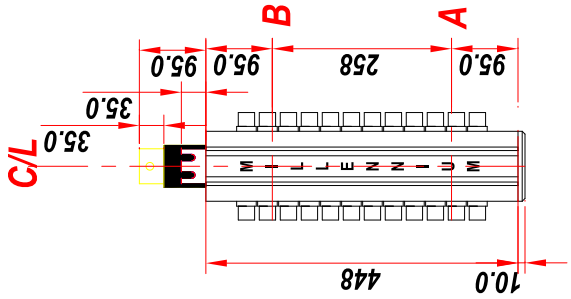
BM12/30/X\_121



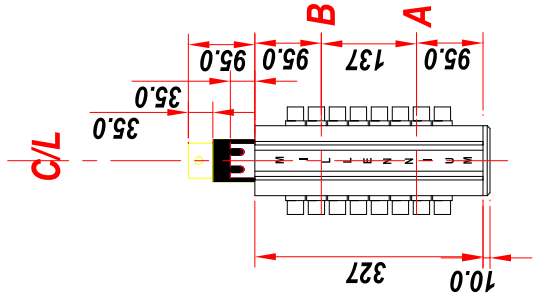
BM10/30/X\_121



BM08/30/X\_121



BM06/30/X\_121

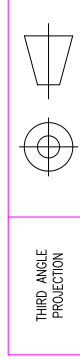


BM04/30/X\_121

### Millennium Bloc BM 160AF frame models - Fixing & overall dimensions

Outgoing connections at 30m c/c. 121 mm module.

400A & 800A dimensions are identical.



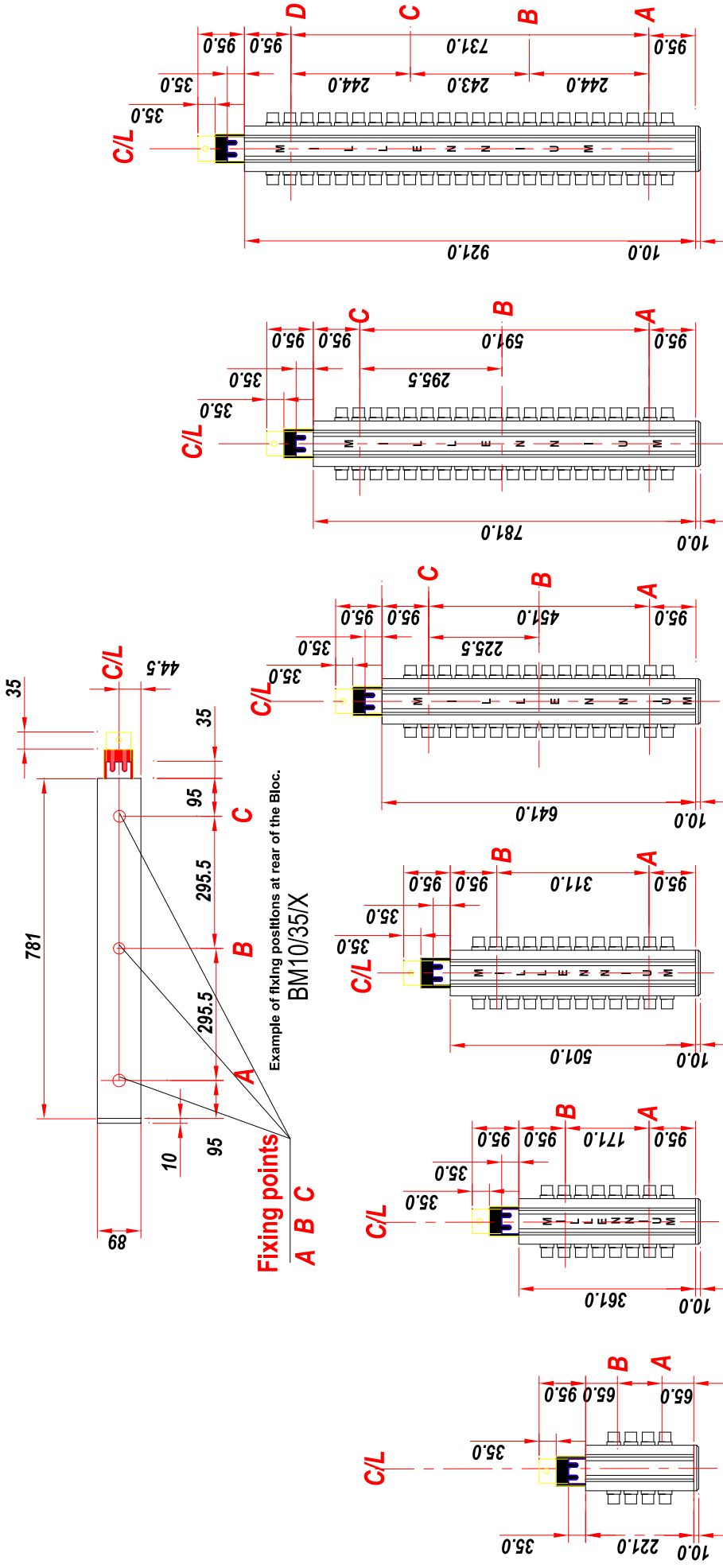
THIRD ANGLE PROJECTION

DRAWING TITLE		BM 160AF models - fixings & overall dimensions - 121 mm						
REVISIONS	1	2	3	4	5	6	7	8
DATE	30 Oct 2009	bt						
DRAWN		TRACED						
CHECKED								

DEPT.	Millennium Production
SCALE	
DRAWING NO.	BM30/121/fixgs

144, M. 1, Banglamung,  
Chonburi, Thailand,  
Tel 038 240 864

**MILLENNIUM**  
MOULDED CASE DISTRIBUTION SYSTEMS LTD.



BM02/35/X

BM04/35/X

BM06/35/X

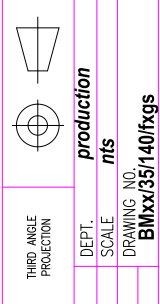
BM08/35/X

BM10/35/X

BM12/35/X

**Millennium Bloc 4P BM for 250AF devices - Fixing & overall dimensions - 140 mm module**

400A & 800A dimensions are identical.



DRAWING TITLE		BMxx/35 fixing positions and overall dimensions			
1	2	3	4	5	6
REVISIONS	1	2	3	4	5
DATE	07/02/2014	DATE	07/02/2014	DEPT.	production
DRAWN	bt	DRAWN	bt	SCALE	nts
TRACED		TRACED		DRAWING NO.	BMxx/35/140fxgs
CHECKED		CHECKED			





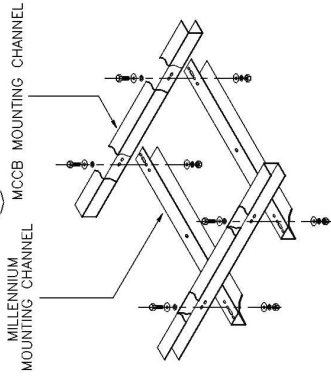
# ASSEMBLY INSTRUCTIONS - REQUIRING 2 M FRAMES

①

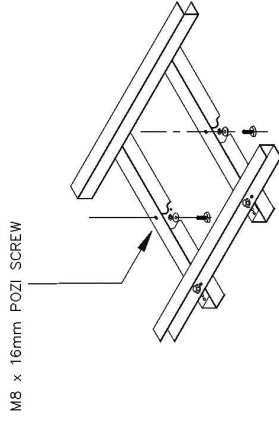
**COMPONENT LIST**

- 1 - 3 OFF MILLENNIUM MOUNTING CHANNEL
- 2 - 2 OFF MCCB MOUNTING CHANNEL
- 3 - 8 WAY MILLENNIUM BUSBAR SYSTEM
- 4 - 8 OFF M5 CAGED NUT
- 5 - 4 OFF M8 x 16mm BOLTS
- 6 - 14 OFF M8 WASHERS
- 7 - 10 OFF M8 SPRING WASHERS
- 8 - 8 OFF M8 NUTS
- 9 - 2 OFF INCOMER BRACKETS  
c/w Bolts, Nuts & Washers
- 10 - 1 OFF M10x 40mm BOLT
- 11 - 2 OFF M10 WASHERS
- 12 - 1 OFF M10 SPRING WASHER
- 13 - 1 OFF M10 NUT
- 14 - 2 OFF M8 x 16mm SCREW

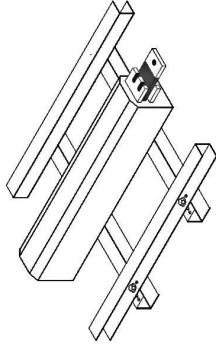
②



③



④

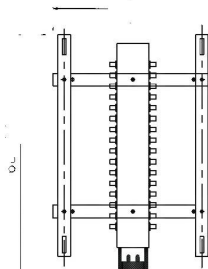


FIX MCCB MOUNTING CHANNEL ON TOP OF MILLENNIUM MOUNTING CHANNEL USING M8 BOLTS, WASHERS, SPRING WASHERS AND NUTS. ADJUST FRAME TO SUIT MCCB TYPE BEING USED.

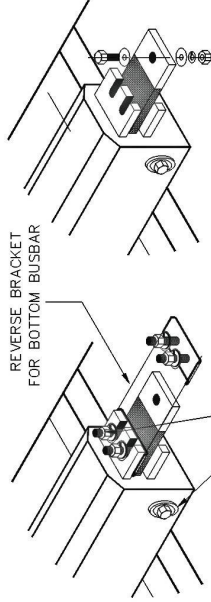
ASSEMBLE BOTH POZI SCREWS LOOSELY IN MILLENNIUM FIXING POINTS.

TIGHTEN FRAMEWORK AND LOCATE MILLENNIUM AT POSITIONS INDICATED ON UNDERSIDE OF THE BLOCK - THEN TIGHTEN POZI SCREW FIXINGS.

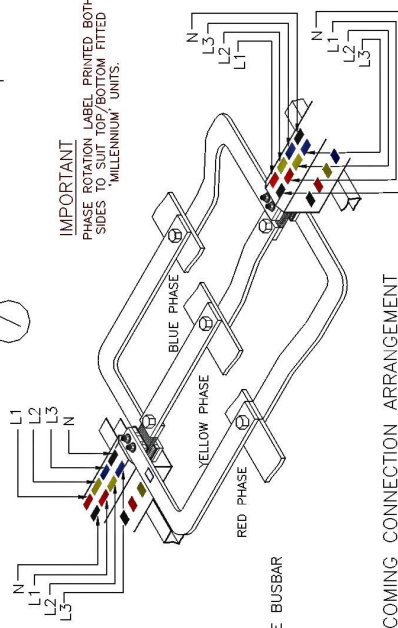
⑤



⑥



⑦



REVERSE BRACKET FOR BOTTOM BUSBAR

IMPORTANT  
PHASE ROTATION LABEL PRINTED BOTH SIDES TO SUIT TOP/BOTTOM FITTED 'MILLENNIUM' UNITS.

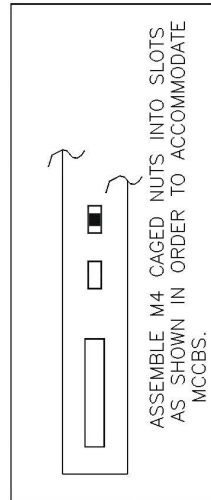
M10 BOLT ASSEMBLY DETAILS - CENTRE BUSBAR  
(TORQUE 51 Nm)

M8 INCOMING NEUTRAL & CONNECTION BRACKET ASSEMBLY DETAILS  
(TORQUE 20 Nm)

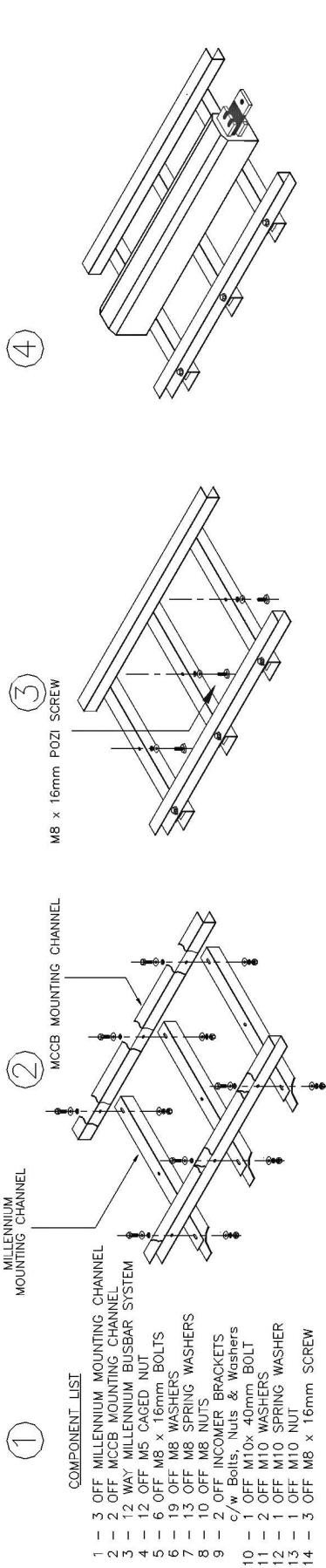
ASSEMBLE INCOMING BRACKETS TO TOP & BOTTOM BUSBARS. ASSEMBLE M10 BOLT, WASHERS, SPRING WASHER AND NUT TO CENTRE BUSBAR

TYPICAL INCOMING CONNECTION ARRANGEMENT FOR OPPOSING 4 POLE 'MILLENNIUM' UNITS TO ENSURE CORRECT COMMON PHASE ROTATION OF OUTGOING MCCB's. (INTERCONNECTIONS BY OTHERS)

NOTE: RED PHASE ON TOP FOR TOP UNIT,  
BOTTOM FOR BOTTOM UNIT



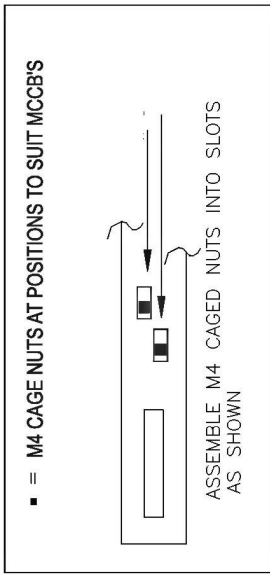
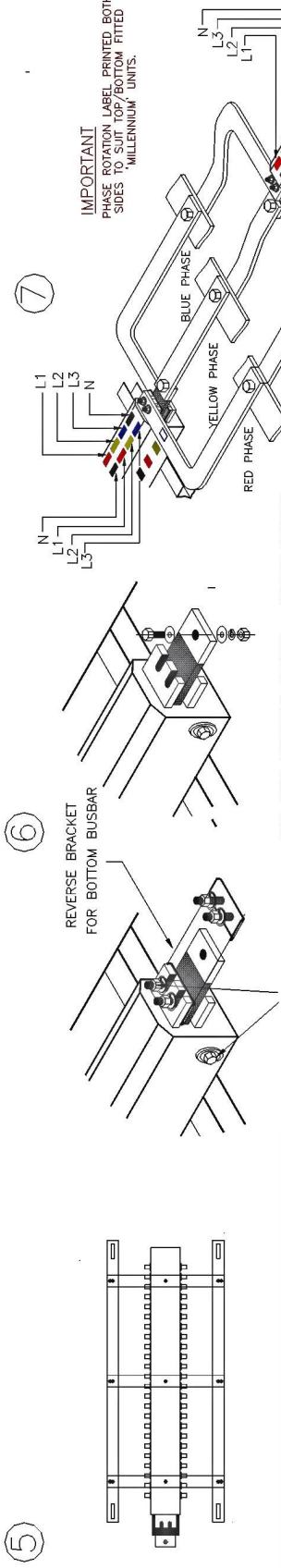
# MILLENNIUM MOULDED CASE SYSTEMS ASSEMBLY INSTRUCTIONS - REQUIRING 3 M FRAMES



FIX MCCB MOUNTING CHANNEL ON TOP OF MILLENNIUM MOUNTING CHANNEL USING M8 BOLTS, WASHERS, SPRING WASHERS AND NUTS. ADJUST FRAME TO SUIT MCCB TYPE BEING USED.

ASSEMBLE BOTH POZI SCREWS LOOSELY IN MILLENNIUM FIXING POINTS.

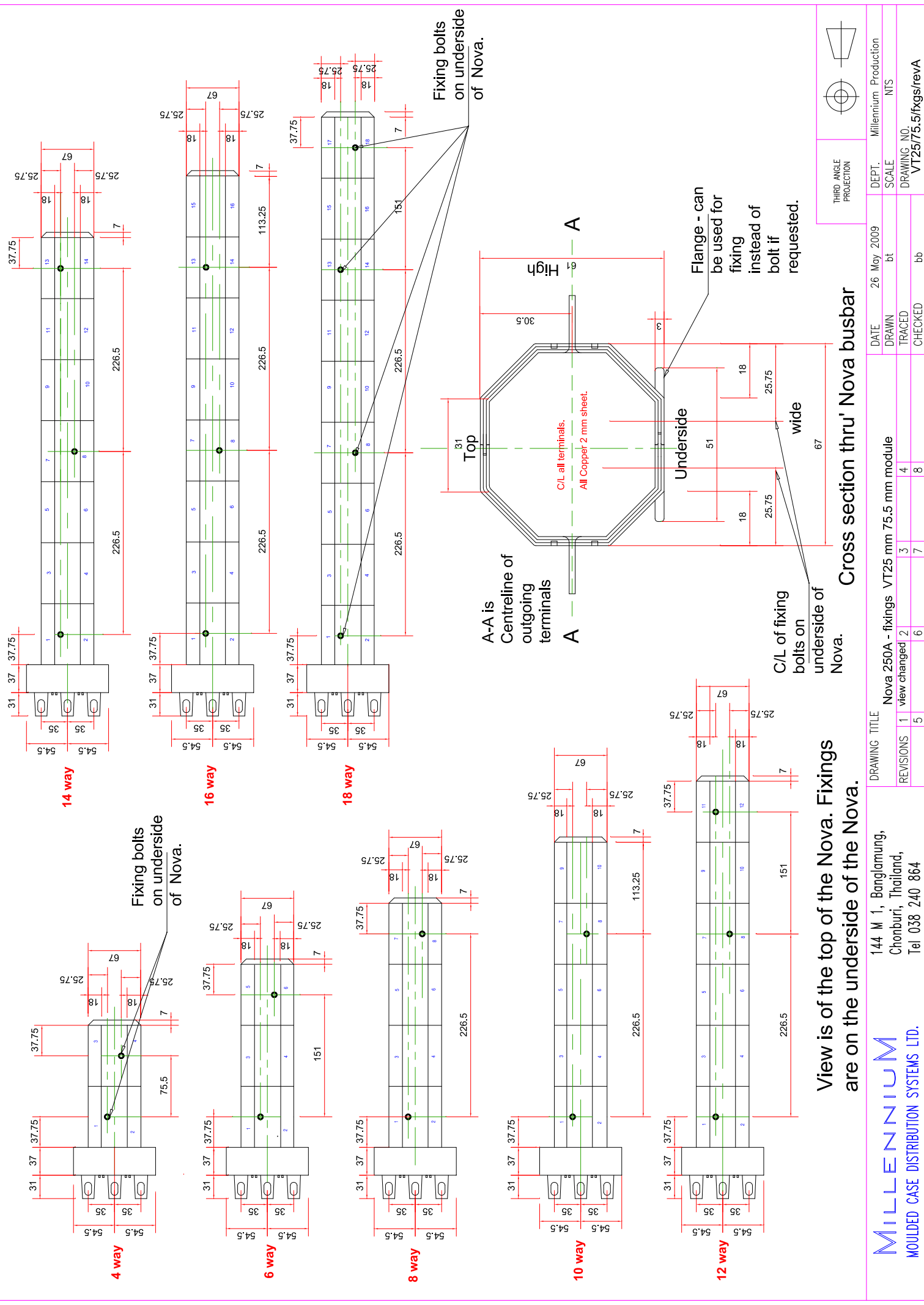
TIGHTEN FRAMEWORK AND LOCATE MILLENNIUM AT POSITIONS INDICATED ON UNDERSIDE OF THE BLOCK - THEN TIGHTEN POZI SCREW FIXINGS.



TYPICAL INCOMING CONNECTION ARRANGEMENT FOR OPPOSING 4 POLE 'MILLENNIUM' UNITS TO ENSURE CORRECT COMMON PHASE ROTATION OF OUTGOING MCCB's. (INTERCONNECTIONS BY OTHERS)

NOTE: RED PHASE ON TOP FOR TOP UNIT, BOTTOM FOR BOTTOM UNIT





**14 way**

**16 way**

**18 way**

**4 way**

**6 way**

**8 way**

**10 way**

**12 way**

View is of the top of the Nova. Fixings are on the underside of the Nova.

Flange - can be used for fixing instead of bolt if requested.

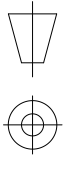
Fixing bolts on underside of Nova.

A-A is Centreline of outgoing terminals

High

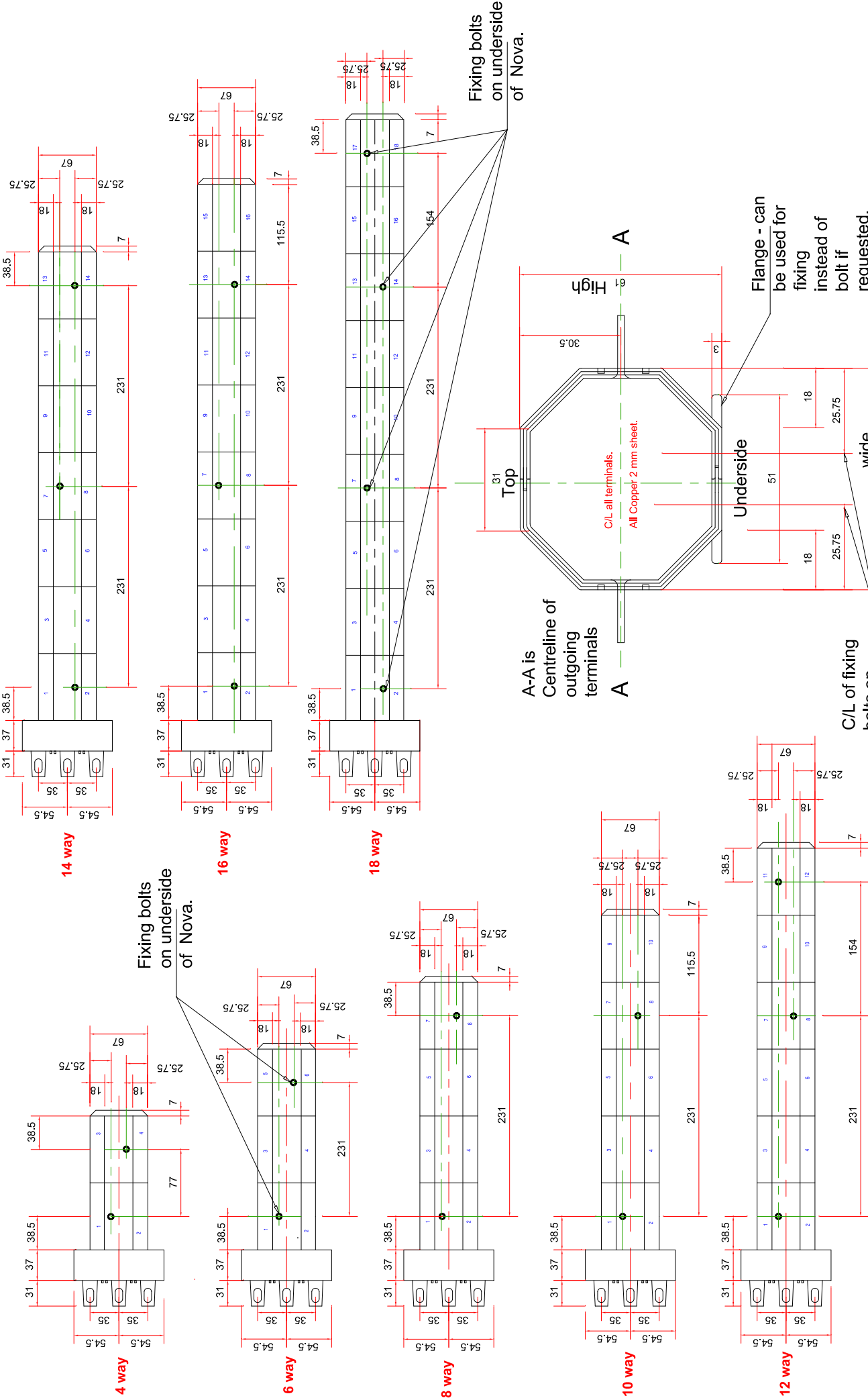
C/L of fixing bolts on underside of Nova.

Cross section thru' Nova busbar



THIRD ANGLE PROJECTION

DRAWING TITLE		NOVA 250A - FIXINGS VT25 mm 75.5 mm MODULE	
DRAWING NO.		VT25/75.5/fxgs/revA	
DEPT.		MILLENNIUM PRODUCTION	
DATE		26 May 2009	
DRAWN		bt	
TRACED		4	
CHECKED		8	
REVISIONS		1	view changed
		2	
		3	
		4	
		5	
		6	
		7	
		8	



**View is of the top of the Nova.**  
**Fixings are on the underside of the nova.**



THIRD ANGLE PROJECTION

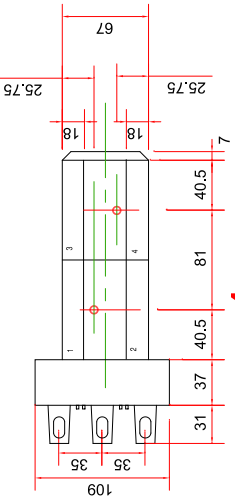
**Cross section thru' Nova busbar**

DRAWING TITLE	
Nova 250A - fixings VT25 mm 77 mm module	

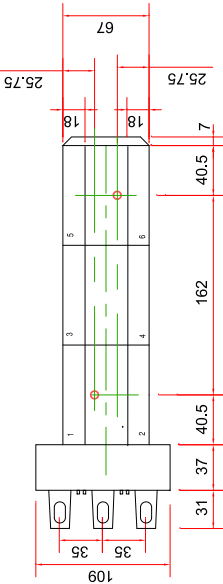
NO.	DESCRIPTION	DATE	BY	CHECKED
1				
2				
3				
4				
5				
6				
7				
8				

DATE	DEPT.	DRAWING NO.
19 April 2014	Millennium Production	VT25177/fixgs
SCALE	NTS	
TRACED		
CHECKED		

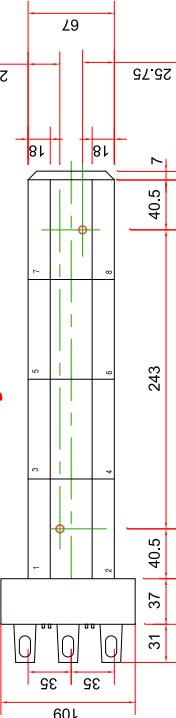
View is of the top of the Nova unit.  
The fixing positions are on the underside of the Nova.



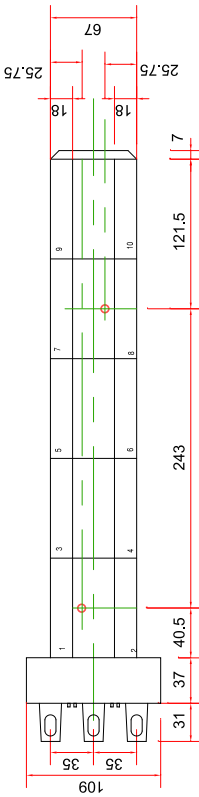
**4 way**



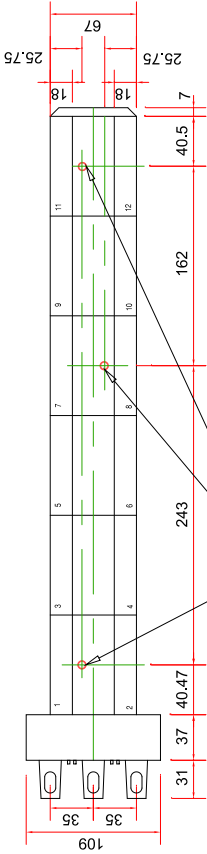
**6 way**



**8 way**

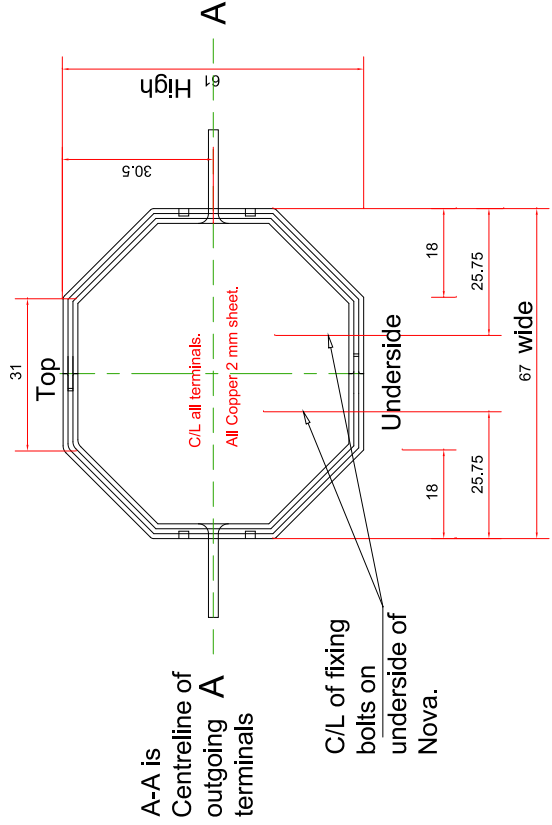


**10 way**

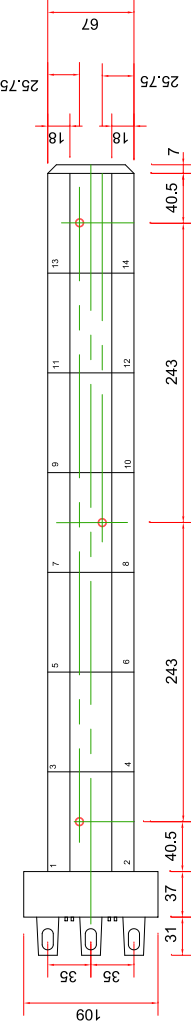


Fixing Bolt positions.  
Bolt is M6 on underside of Nova.

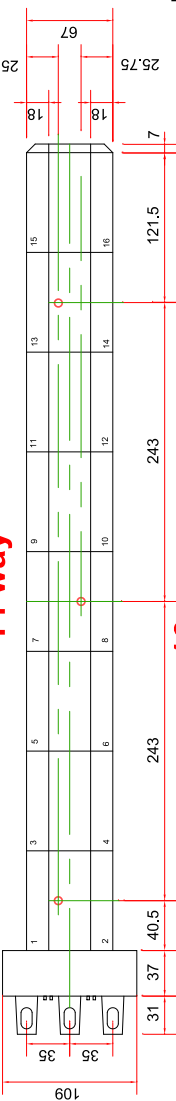
**12 way**



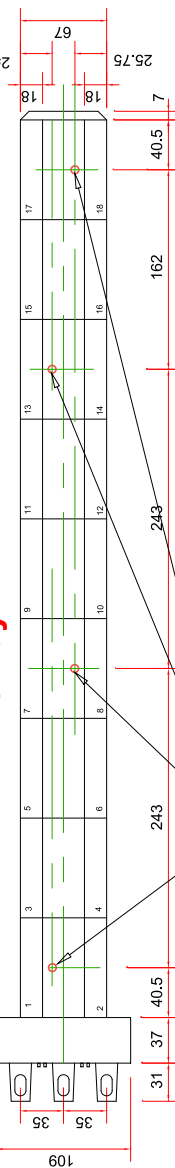
Cross section thru' Nova busbar



**14 way**



**16 way**



Fixing Bolt positions.  
Bolt is M6 on underside of Nova.

**18 way**

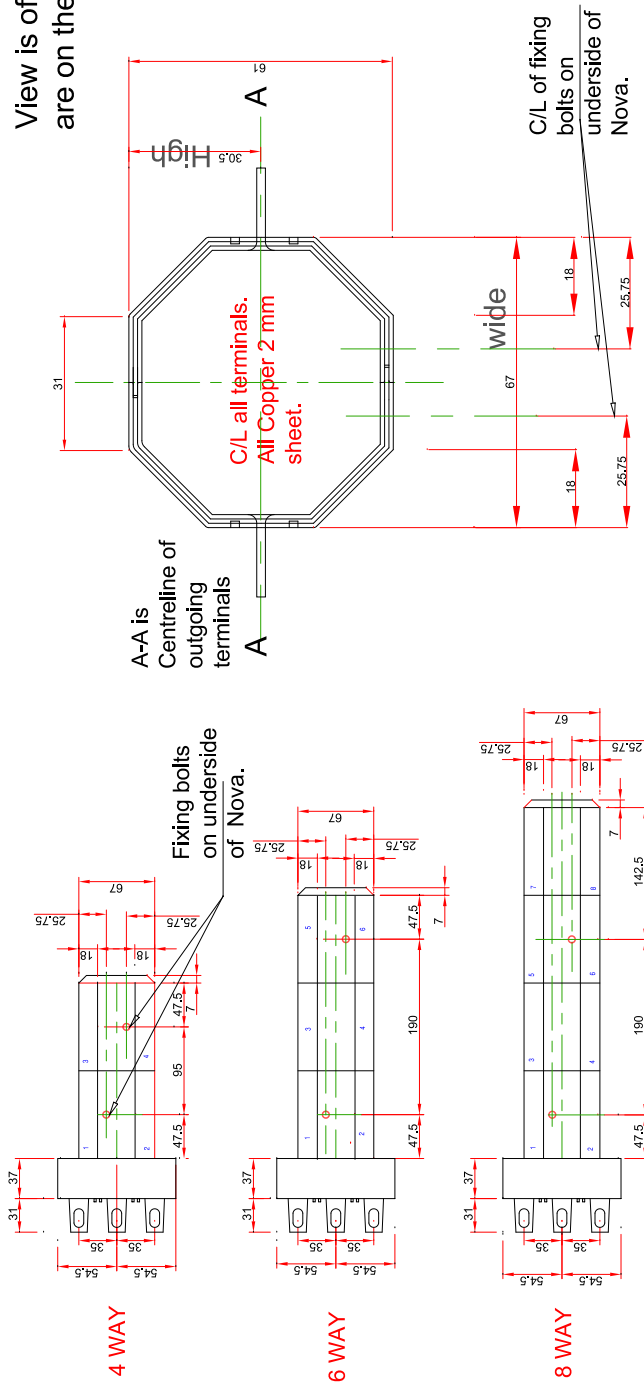
View is of the top of the Nova unit.  
The fixing positions are on the underside of the Nova.



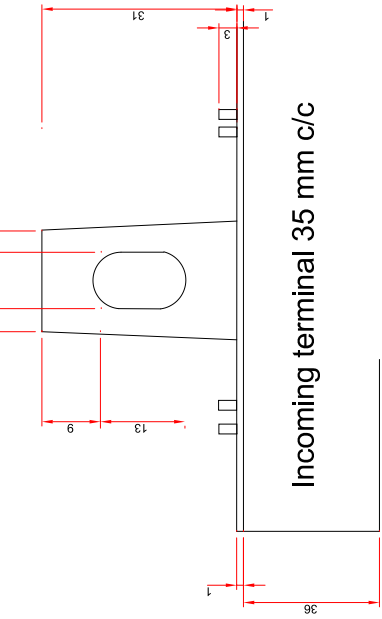
MILLENNIUM MOULDED CASE DISTRIBUTION SYSTEMS LTD.		144 M 1, Banglamung, Chonburi, Thailand, Tel. 038 240 864		DRAWING TITLE Nova 250A - fixings 25 mm outgoing terminal units-81 mm		DATE 12 Sept 2014		DEPT. Millennium Production	
REVISIONS		1 view changed		DRAWN bt		SCALE		DRAWING NO. VT25fxgs/81/revA	
5	6	7	8	CHECKED		bb			



View is of the top of the Nova. Fixings are on the underside of the Nova.

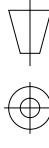


Cross section thru' Nova busbar



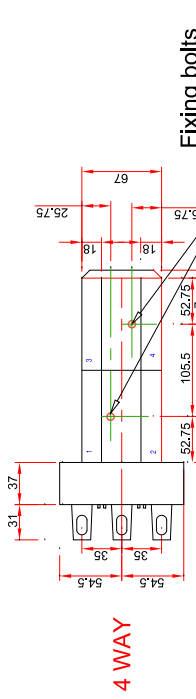
View is of the top of the Nova. Fixings are on the underside of the Nova.

Dimensions for 4 to 12 way 250A Nova 30 mm c/c outgoing terminals Units with 95 mm shell module -

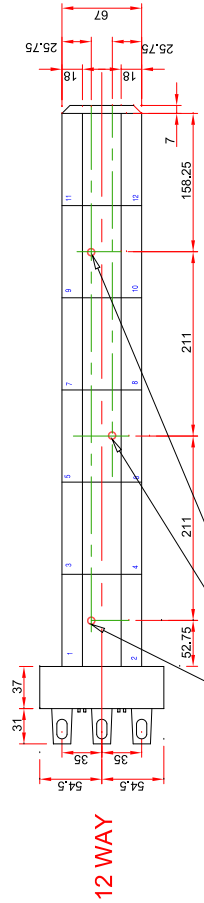
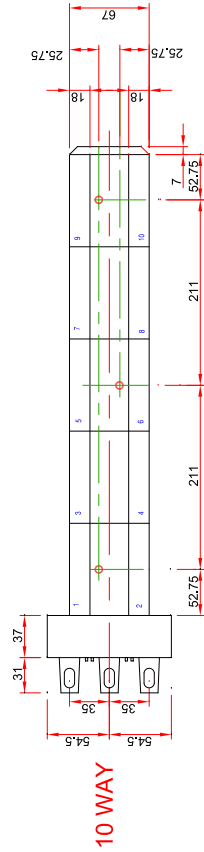
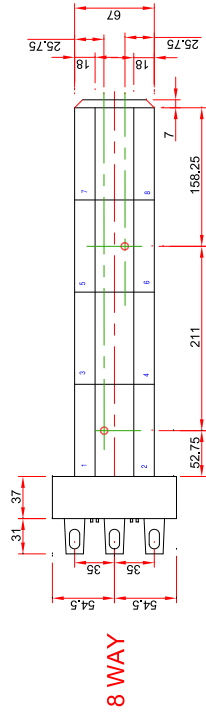
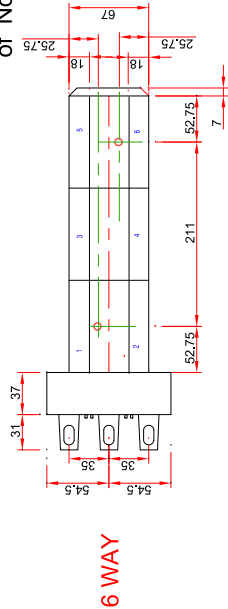


<b>MILLENNIUM</b> MOULDED CASE DISTRIBUTION SYSTEMS LTD.		144 M 1, Banglamung, Chonburi, Thailand, Tel. 038 240 864		DRAWING TITLE Nova 250A - r fixings for 4 to 12 way units - 30 mm c/c outgoing terminals - module 95 mm		DATE 13 Sept 2014		DEPT. Millennium Production	
REVISIONS		1	View changed	2	3	4	5	6	7
CHECKED		bb		TRACED		bt		SCALE NTS	
DRAWING NO		VT30/95/fixgs/RevA		DRAWING		DATE		DEPT.	



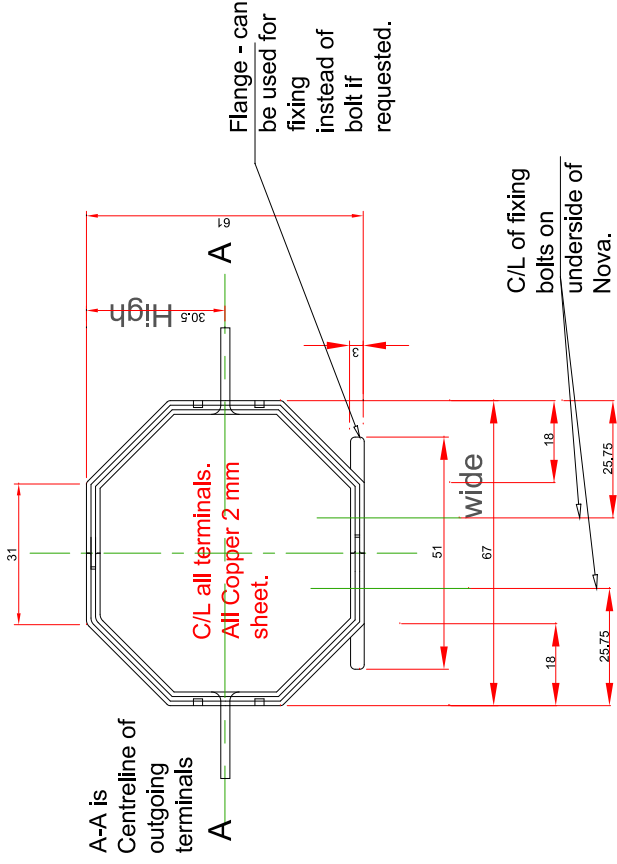


Fixing bolts on underside of Nova.

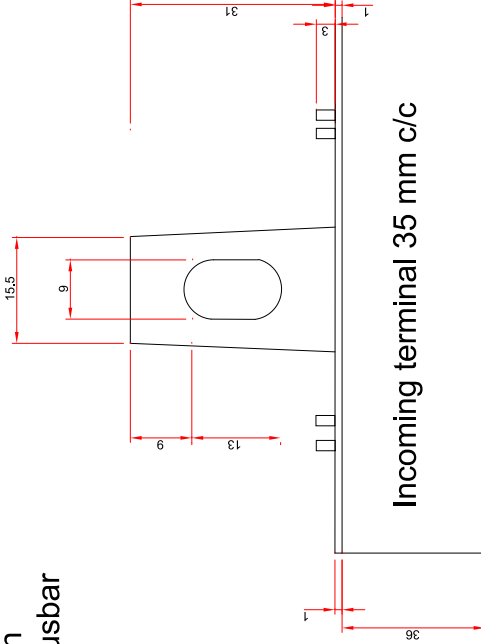


Fixing bolts on underside of Nova.

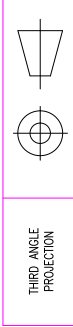
Dimensions for 4 to 12 way 250A Nova 35 mm c/c outgoing terminals Units with 105.5 mm shell module.



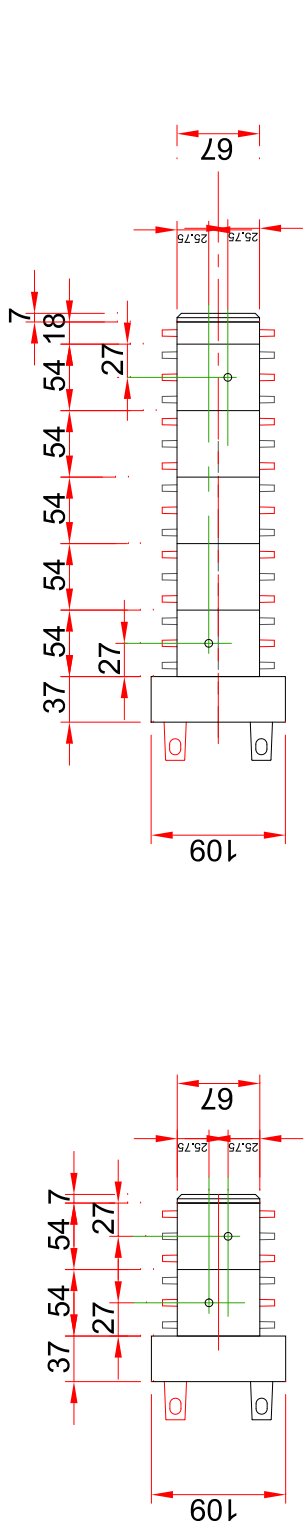
Cross section thru' Nova busbar



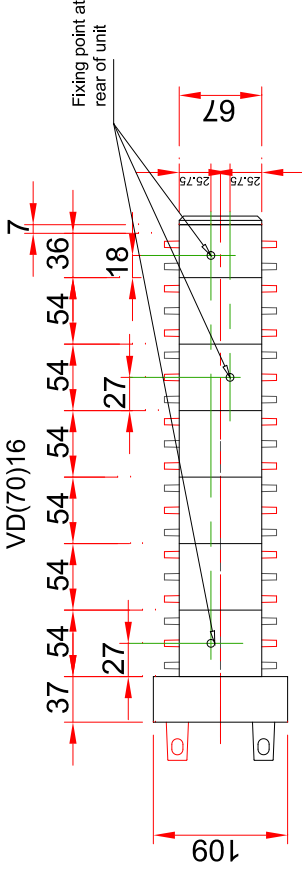
View is of the top of the Nova. Fixings are on the underside of the Nova.



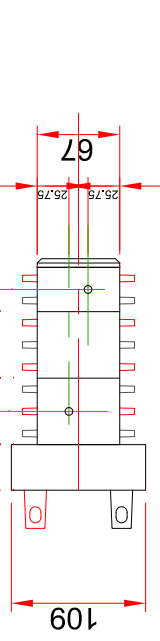
<b>MILLENNIUM</b> MOULDED CASE DISTRIBUTION SYSTEMS LTD.		144 M 1, Banglamung, Chonburi, Thailand, Tel 038 240 864		DRAWING TITLE Nova 250A - fixings for 4 to 12 way, 35 mm outgoing terminal units 105.5 mm		DATE 15 Sept. 2014		DEPT. Millennium Production	
		REVISIONS 1 View changed 2 3 4 5 6 7 8		SCALE NTS		DRAWING NO. VT35/105.5/fixgs/RevA		CHECKED bb	



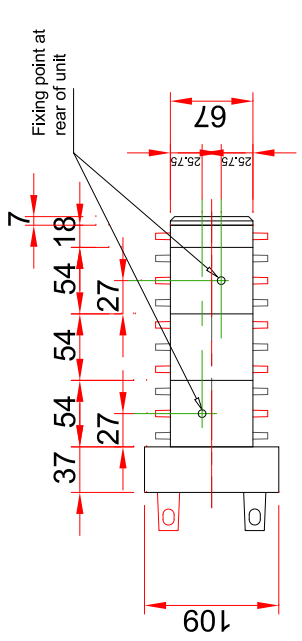
VD(70)06



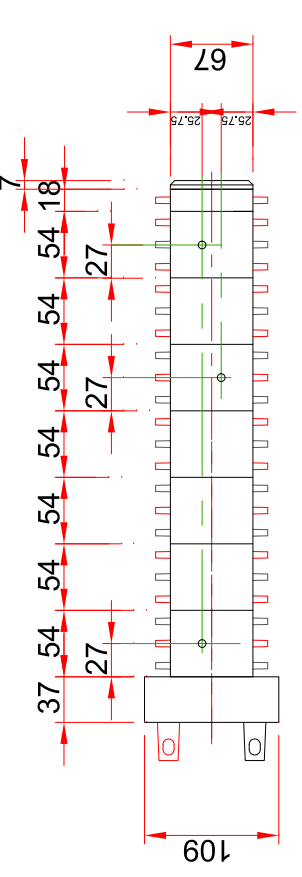
VD(70)16



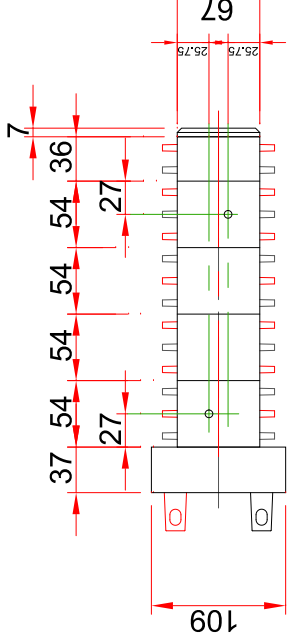
VD(70)08



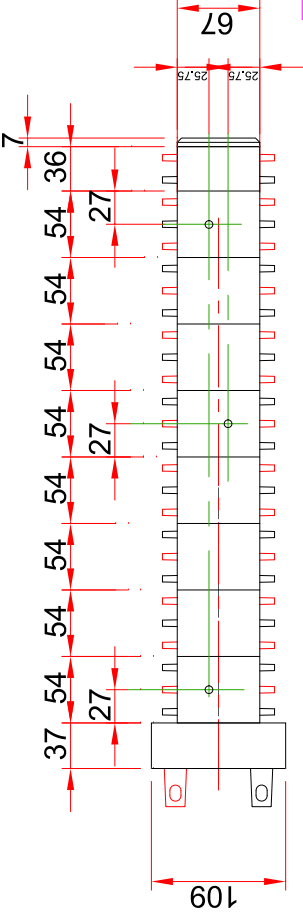
VD(70)10



VD(70)20



VD(70)14

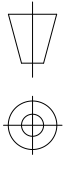


VD(70)22

VD(70)26

Fixing is via M6 bolt embedded in the Nova at rear of unit.

View is of the top of the Nova unit.



THIRD ANGLE PROJECTION

144 M.1, Banglamung, Chonburi, Thailand.  
Tel 038 240 864

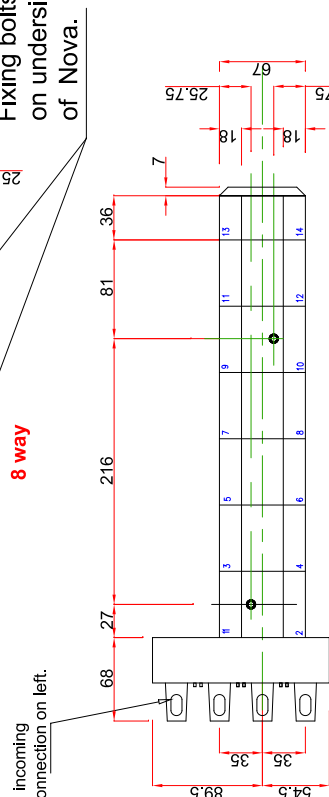
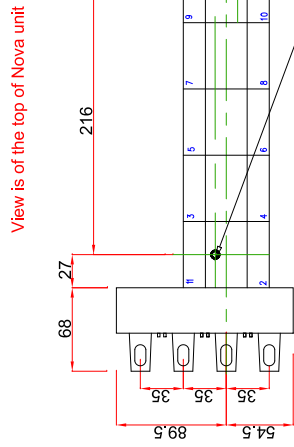
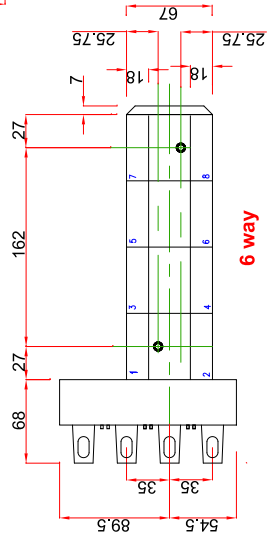
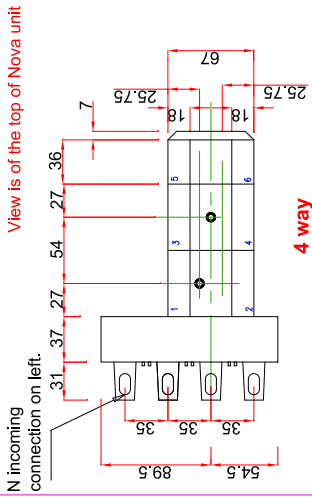
**MILLENNIUM**  
MOULDED CASE DISTRIBUTION SYSTEMS LTD.

DRAWING TITLE  
Nova VD(70) 18mm c/c fixing dimensions.

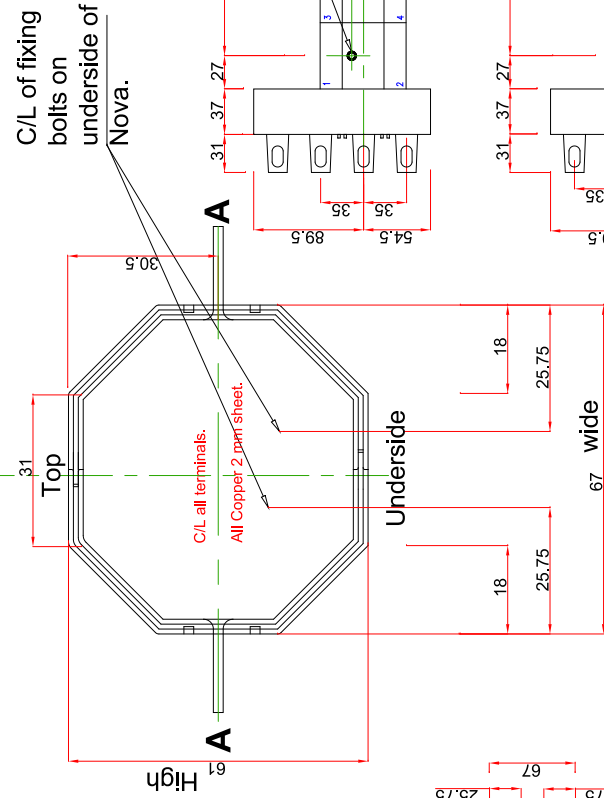
REVISIONS	1	2	3	4	5
view changed	6	7	8		

DATE	13 Sept. 2014
DRAWN	bt
TRACED	
CHECKED	bb

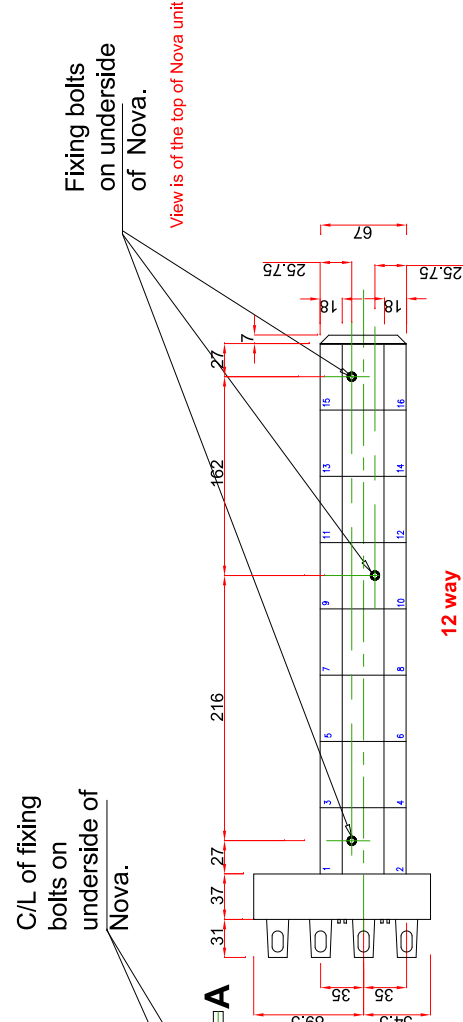
DEPT.	Millennium Production
SCALE	nts
DRAWING	VD(70)18/fxgs/revA



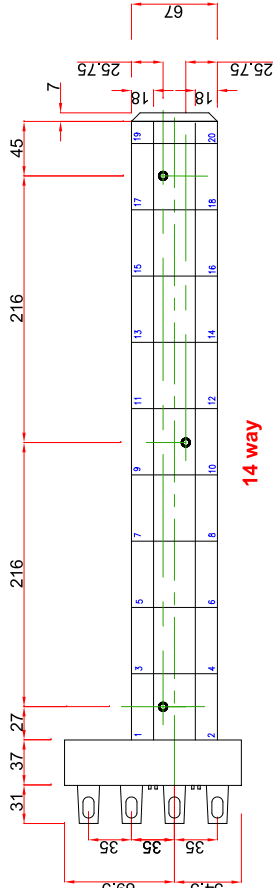
10 way



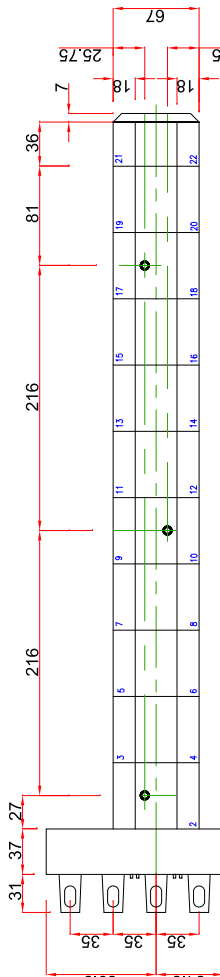
Cross section thru' Nova busbar



12 way

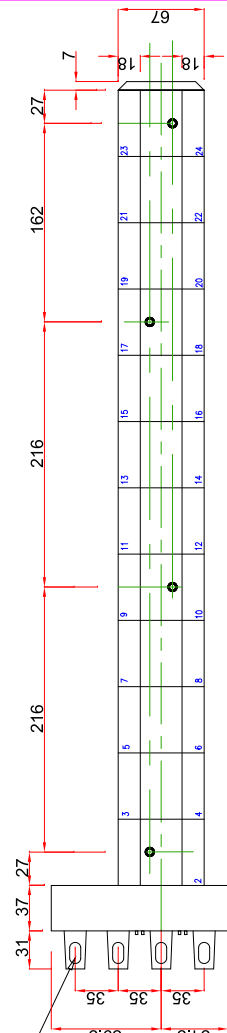


14 way



16 way

View is of the top of Nova unit



18 way

View is of the top of the Nova unit.  
Fixings are on the underside.

N incoming connection on left.

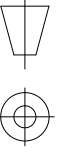
N incoming connection on left.

N incoming connection on left.

C/L all terminals.  
All Copper 2 ppm sheet.

Fixing bolts on underside of Nova.

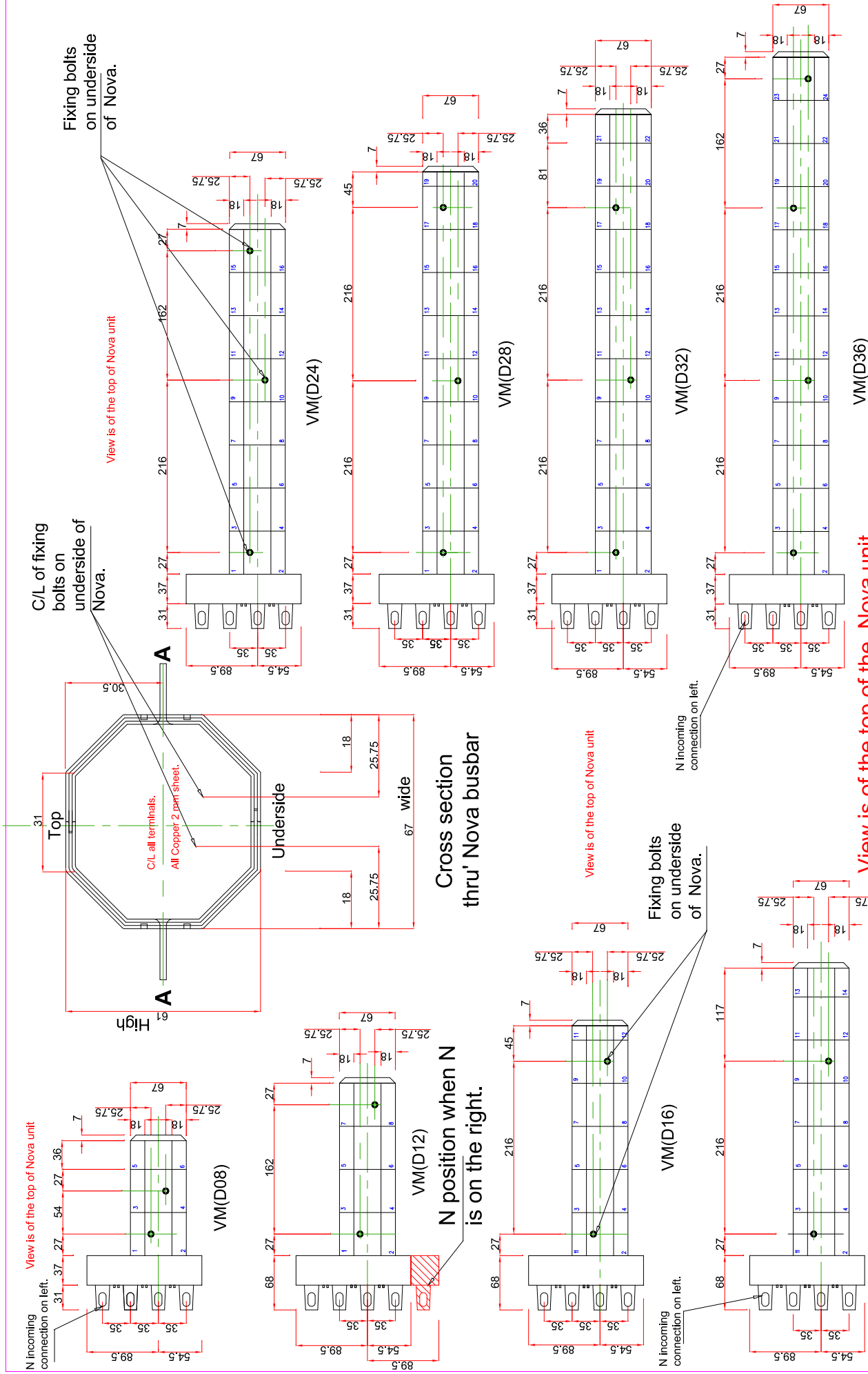
View is of the top of Nova unit



THIRD ANGLE PROJECTION

REVISIONS	1	view changed.	2	3	4	8
	5		6	7	8	

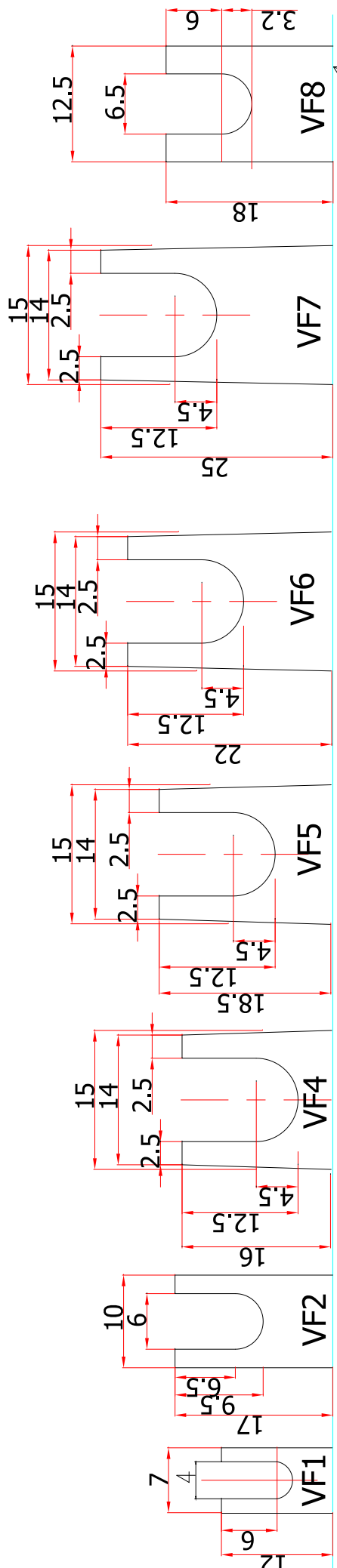
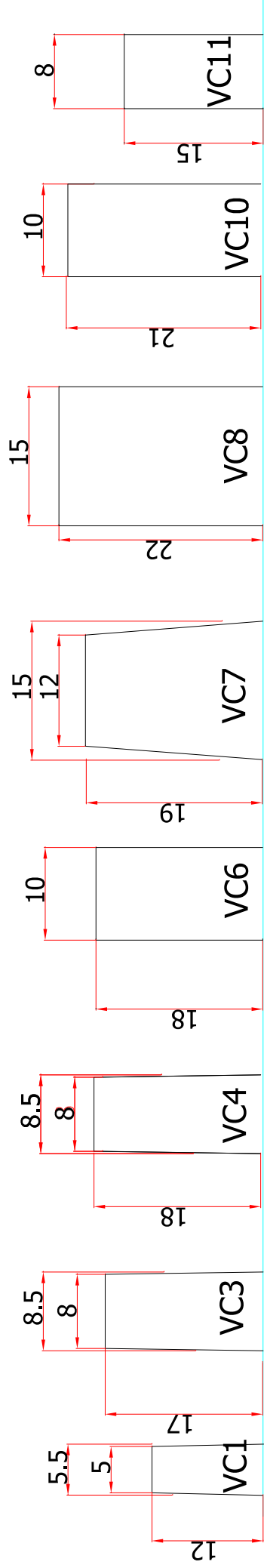
DATE	12 Sept 2014	DEPT.	Millennium Production
DRAWN	bt	SCALE	nts
TRACED		DRAWING NO.	VMxxx/18/2.5 fixings revA
CHECKED	bb		



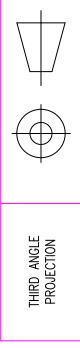
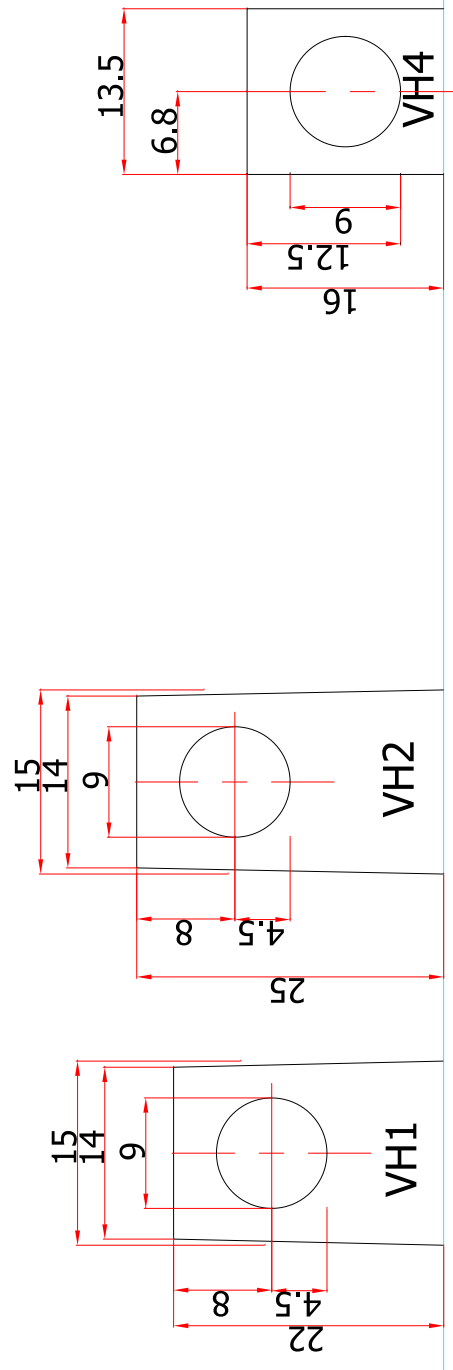
**View is of the top of the Nova unit.  
Fixings are on the underside.**



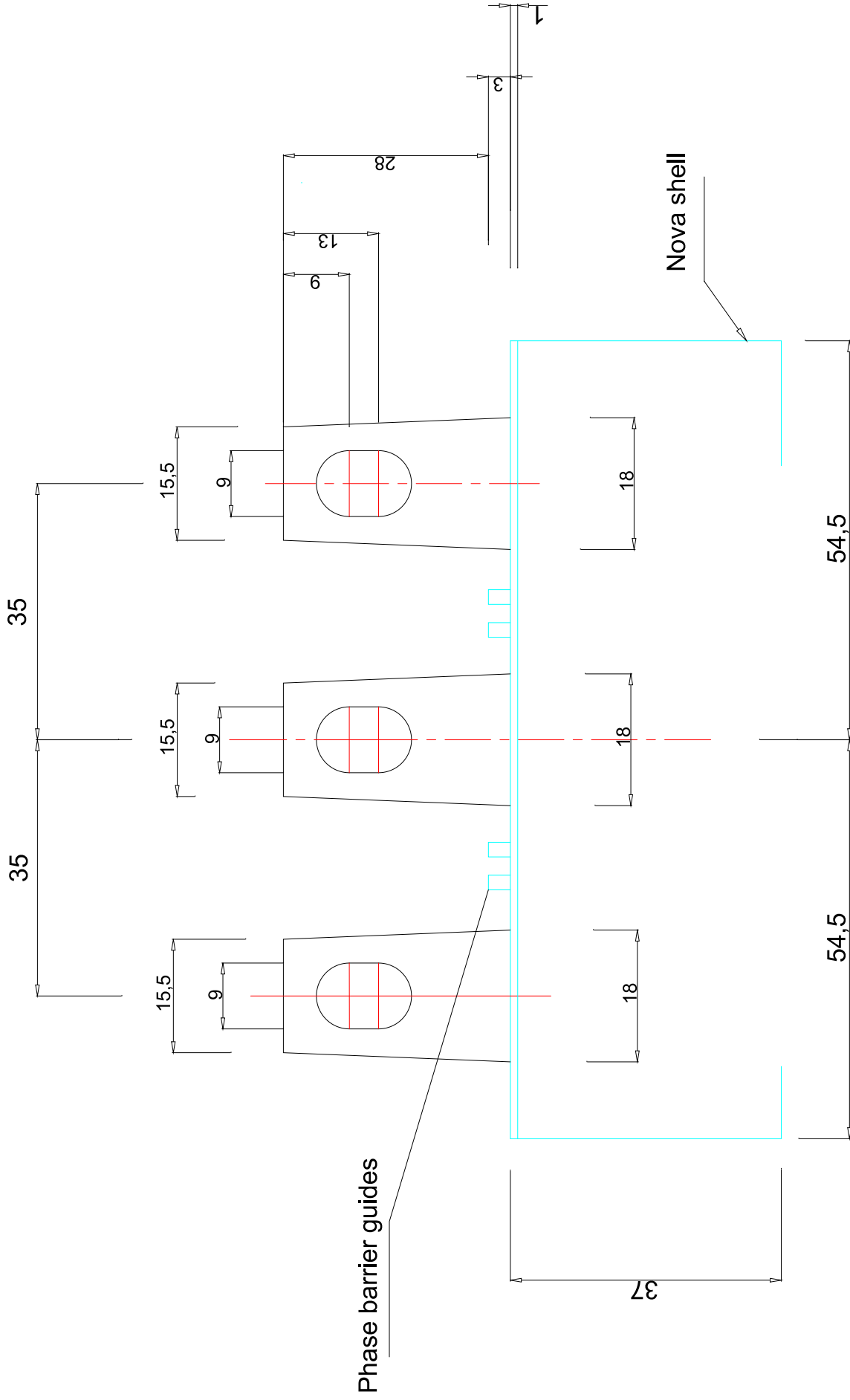
<b>MILLENNIUM</b> MOULDED CASE DISTRIBUTION SYSTEMS LTD.		144 M 1, Banglamung, Chonburi, Thailand, Tel. 038 240 864		DRAWING TITLE Nova VM(Dxxx)18/2.5 fixing dimensions 3Ph+N incoming supply, 2P outgoing units		DATE 12 Sept 2014		DEPT. Millennium Production	
REVISIONS 1 view changed 2 3 4 5 6 7 8		DRAWN bt		SCALE nts		CHECKED bb		DRAWING NO. VM(Dxxx)18/2.5 fgs/revA	



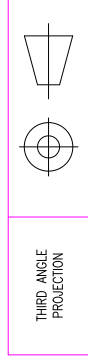
This is the face of the Nova shell



DRAWING TITLE		DATE		DEPT.		MILLENNIUM PRODUCTION	
Some Nova outgoing terminals		1 Sept 2012		SCALE		nts	
REVISIONS		DRAWN		TRACED		DRAWING NO.	
1	2	3	4	5	6	7	8
5	6	7	8	bb	bb	bb	bb
144 M 1, Banglamung, Chonburi, Thailand, Tel 038 240 864				MILLENNIUM MOULDED CASE DISTRIBUTION SYSTEMS LTD.			



# Standard Nova incoming terminals.



MILLENNIUM MOULDED CASE DISTRIBUTION SYSTEMS LTD.		144 M 1, Banglamung, Chonburi, Thailand, Tel. 038 240 864		DRAWING TITLE Standard Nova TP Incoming terminals		DATE 1 Sept 2013		DEPT. Millennium Production	
				REVISIONS		DRAWN bt		SCALE nts	
				1 5		TRACED 7		DRAWING NO. Nova TP incoming terminals	
				2 6		CHECKED bb			
				3 7					
				4 8					



144 Moo 1, Banglamung, Chonburi, 20150, Thailand  
Tel: +66 38 240864; Fax: +66 38 240865; email: [mmcde@millenniumbusbars.com](mailto:mmcde@millenniumbusbars.com)