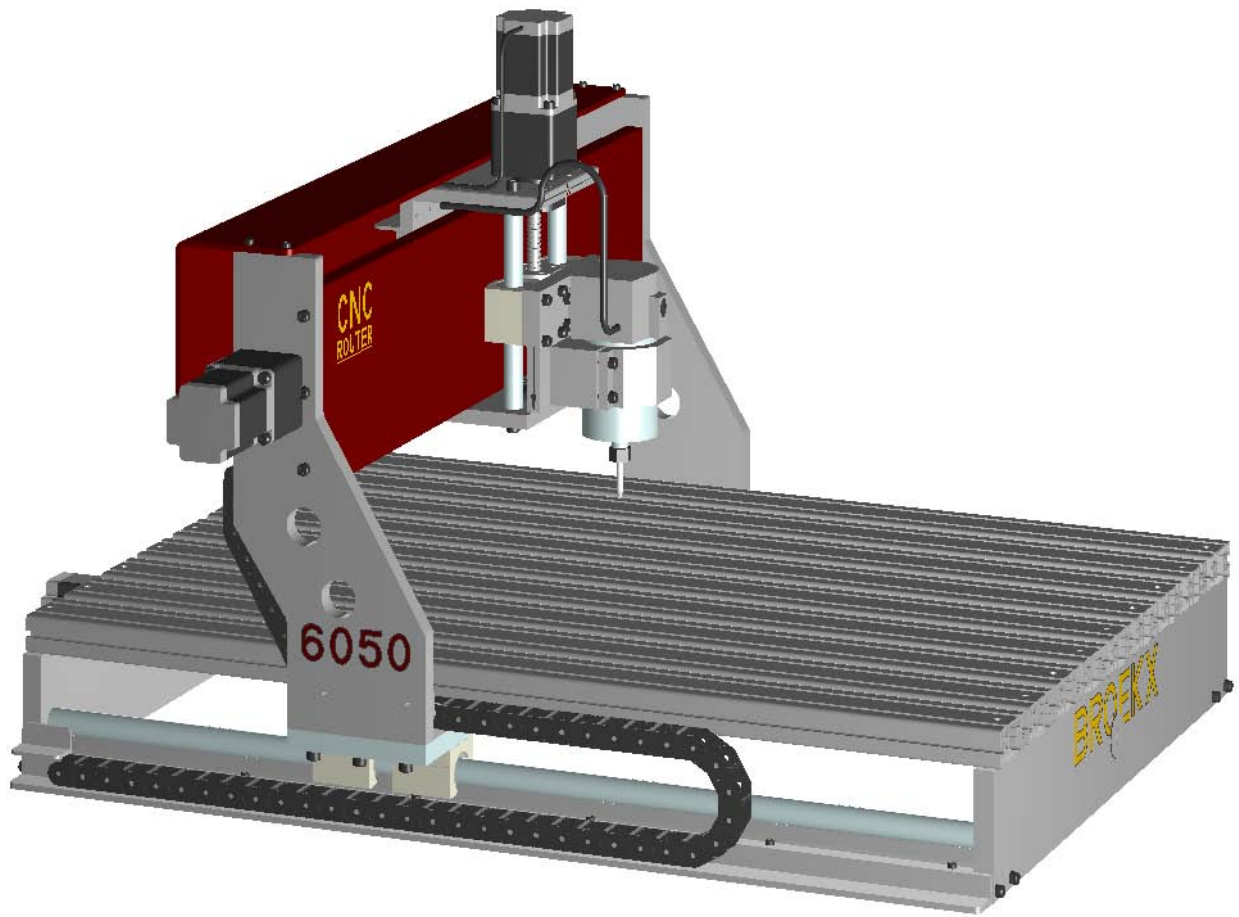


# ***Broekx D.I.Y. Project***

## ***CNC Router 6050***



Designed by Martin Broekx  
Project Number CNC-6050

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# CNC Router 6050

## Material List

Quantity	Description	Size
<b>Base Assembly</b>		
2	Front and Back - Flat Bar Aluminium	630x100x12mm
2	Linear Rail Support - Flat Bar Aluminium	800x100x16mm
9	Work Top - Aluminium Extrusion	836x60x30mm
1	Drag Chain Guide - Angle	830-30x25x3mm
2	SBR20mm Linear Rail	800mm
4	Linear Bearings - SBR20UU	
1	1605 Ball screw and Nut	
1	Ball screw Nut Housing	
1 Set	Bearing FK-12 FF-12	
8	Socket Head Screws	M8x35
8	Socket Head Screws	M6x35
12	Socket Head Screws	M5X25
48	Socket Head Screws	M5X15
<b>X Axis Assembly</b>		
1	Top Plate Flat Bar Aluminium	156x150x16mm
1	Bottom Plate - Aluminium	122x150x16mm
1	Back Plate - Aluminium	208x150x16mm
1	Drag Chain Clamp Aluminium Angle	140-25x20x3mm
2	16mm Linear Rail	208mm
2	Linear Bearings - SC16LUU	
1	1605 Ball screw and Nut	
1	Ball screw Nut Housing	
1 Set	Bearing FK-12 FF-12	
6	Socket Head Screws	M8x35
3	Socket Head Screws	M6x35
3	Socket Head Screws Countersunk	M6x35
32	Socket Head Screws	M5X25
2	Socket Head Screws	M5X15
<b>Y Axis Assembly</b>		
1	Mounting Plate - Aluminium	732x120x16
2	Side Supports - Aluminium	425x165x16
1	Linear Rail Support	700x200x16mm
1	Drag Chain Guide - Aluminium Channel	710 - 30x25x3mm
1	Top Guard - Aluminium Flat Plate	710x230x3mm
1	Drag Chain Clamp Aluminium Angle	96-25x20x3mm
2	SBR16mm Linear Rail	700mm
4	Linear Bearings - SBR16UU	
1	1605 Ball screw	
1	Ball screw Nut	
1	Ball screw Nut Housing	
1 Set	Bearing FK-12 FF-12	
10	Socket Head Screws	M8X35
6	Socket Head Screws	M6X35
20	Socket Head Screws	M5X30
12	Socket Head Screws	M5X25
22	Socket Head Screws	M5X15

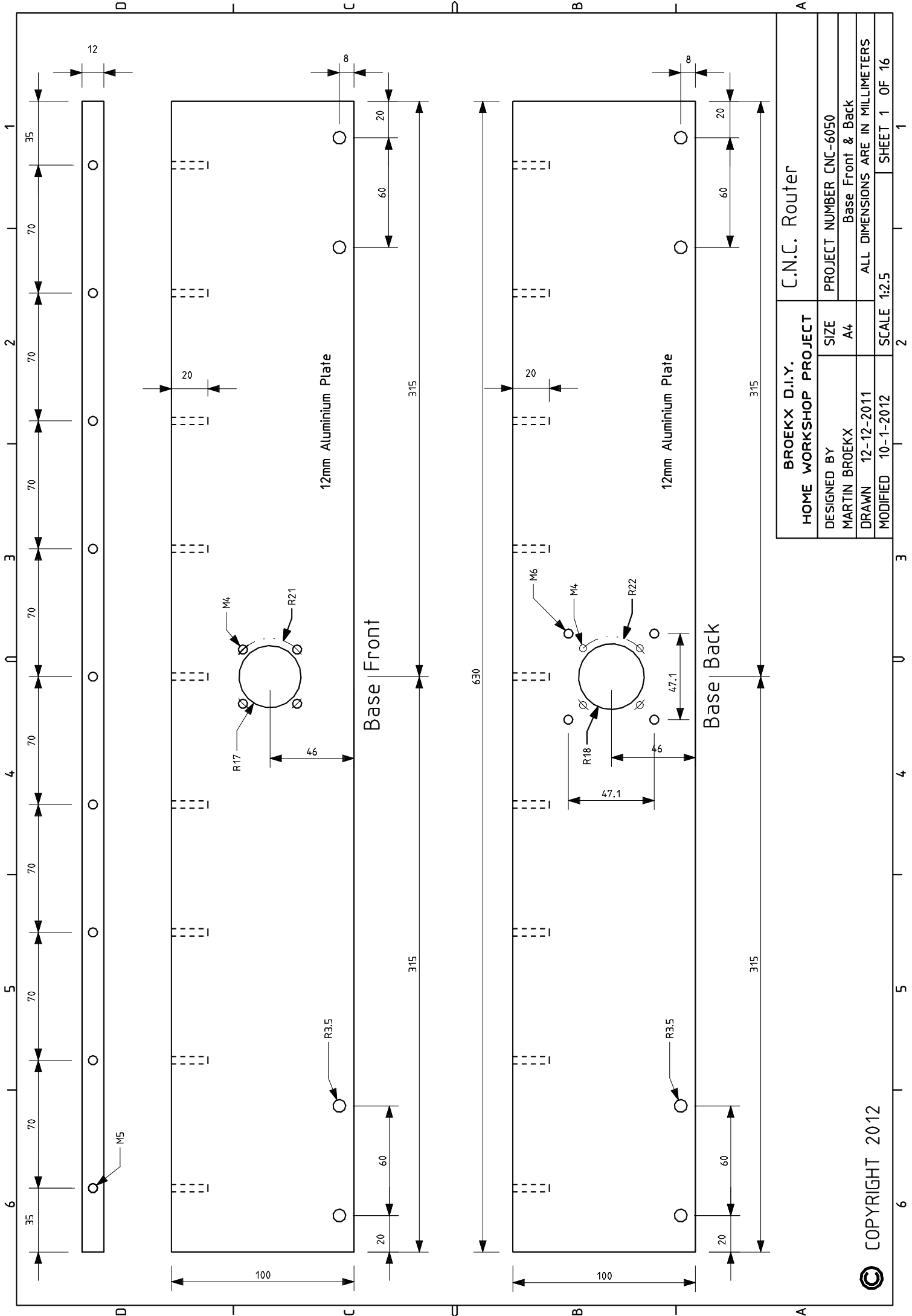
# CNC Router 6050

## Material List

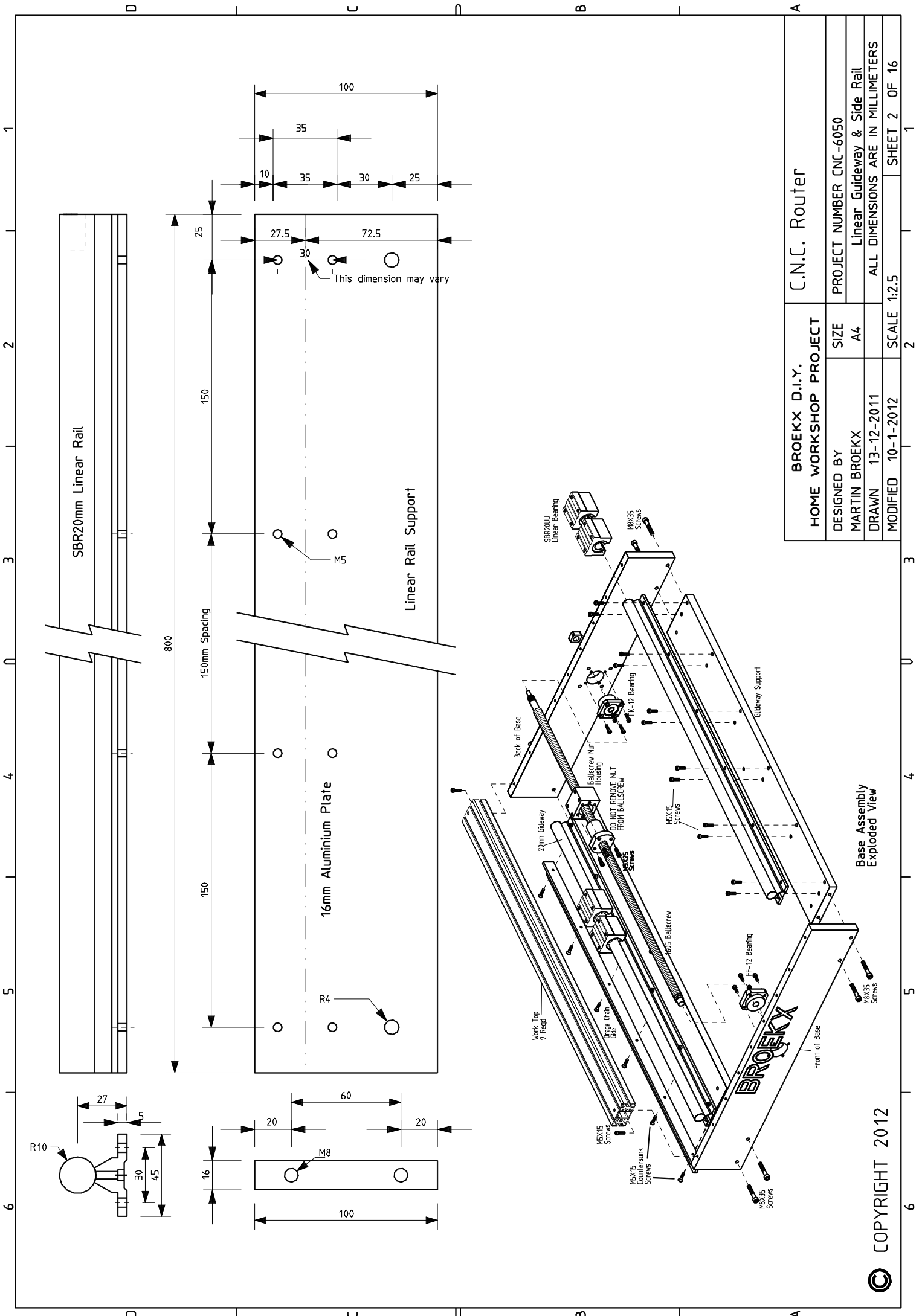
Quantity	Description	Size
<b>Z Axis Assembly</b>		
1	Mounting Plate - Aluminium	150x136x16mm
1	Spindle Mounting Block	100x48x40
1	Spindle Mounting Bracket	100x48x38
12	Socket Head Screws	M5X30
4	Socket Head Screws Counter sunk	M5X30
<b>Stepper Motor Assembly</b>		
3	Stepper Motors 57BYGH76-602A	
3	Stepper Motor Mounts	
3	Flexible Couplers 6.34*10	
12	Socket Head Screws	M6x65
14	Socket Head Screws	M5x15

### Specification's

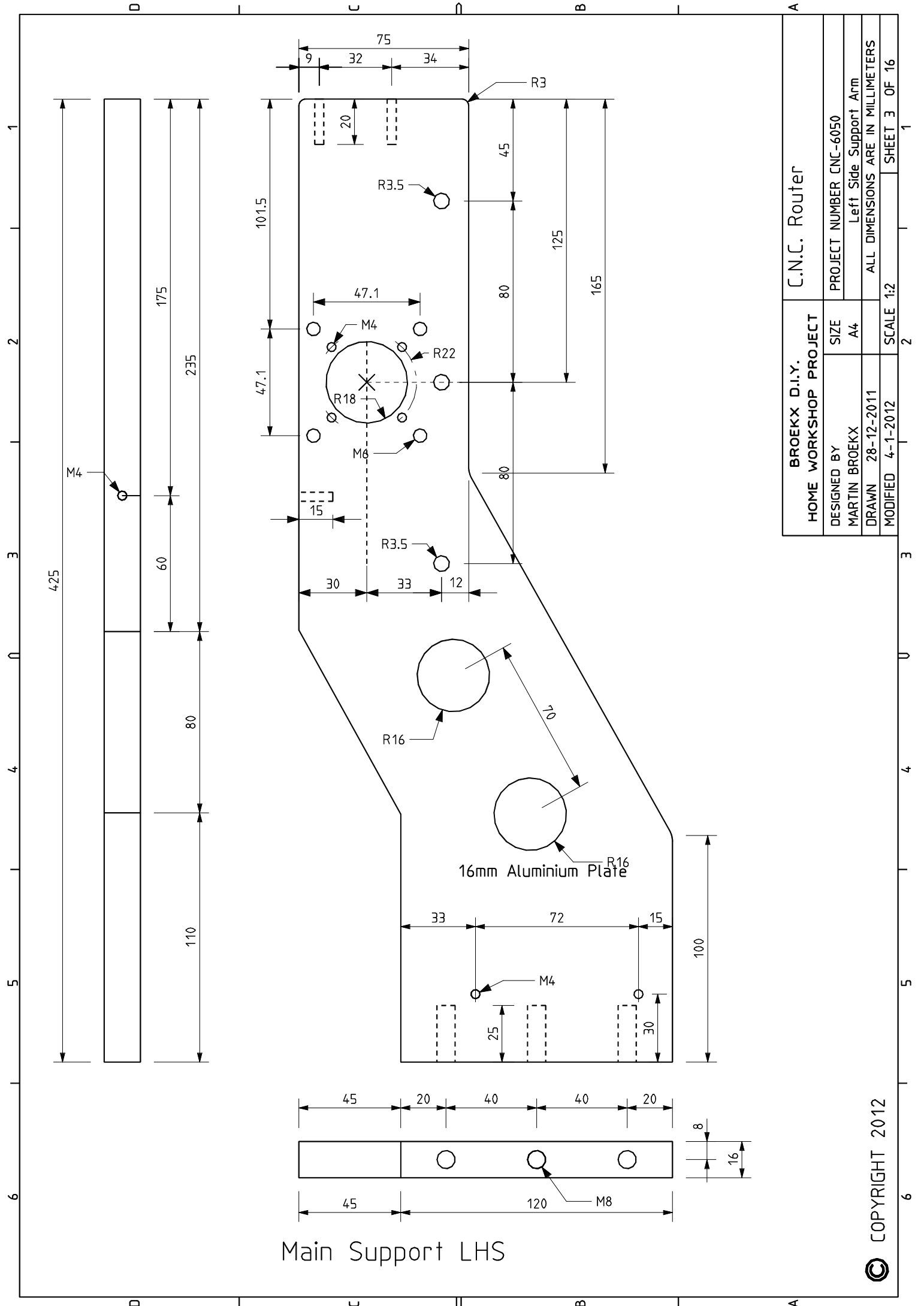
Spindle Motor Water or Air Cooled	
3 Stepper Motors 57BYGH76-602A	
Work Piece Size .....	X Axis 530mm Y Axis 670mm Z Axis 100mm
Table size .....	830mm x 630mm
Height .....	580mm
Width .....	860mm
Depth .....	970mm

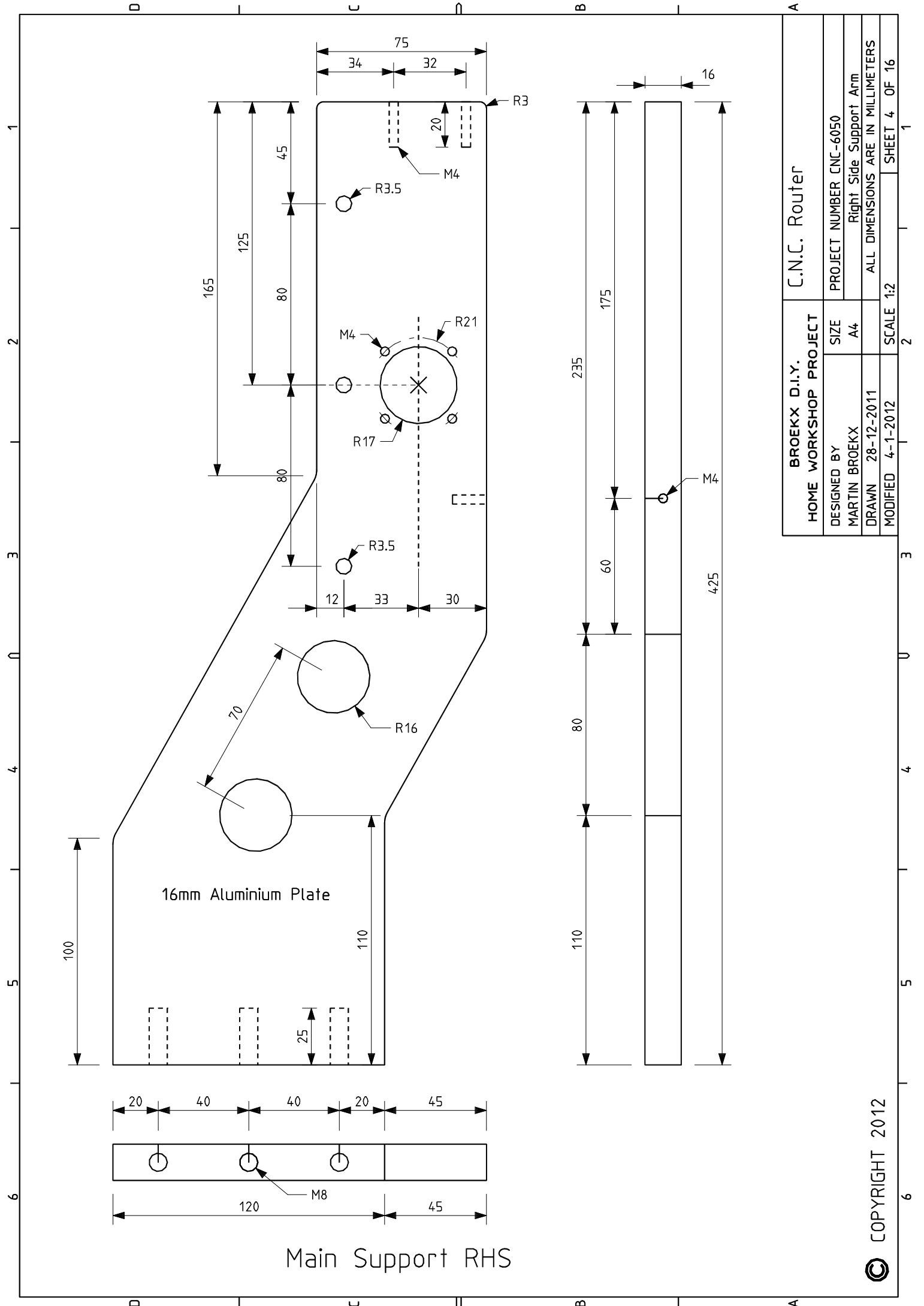


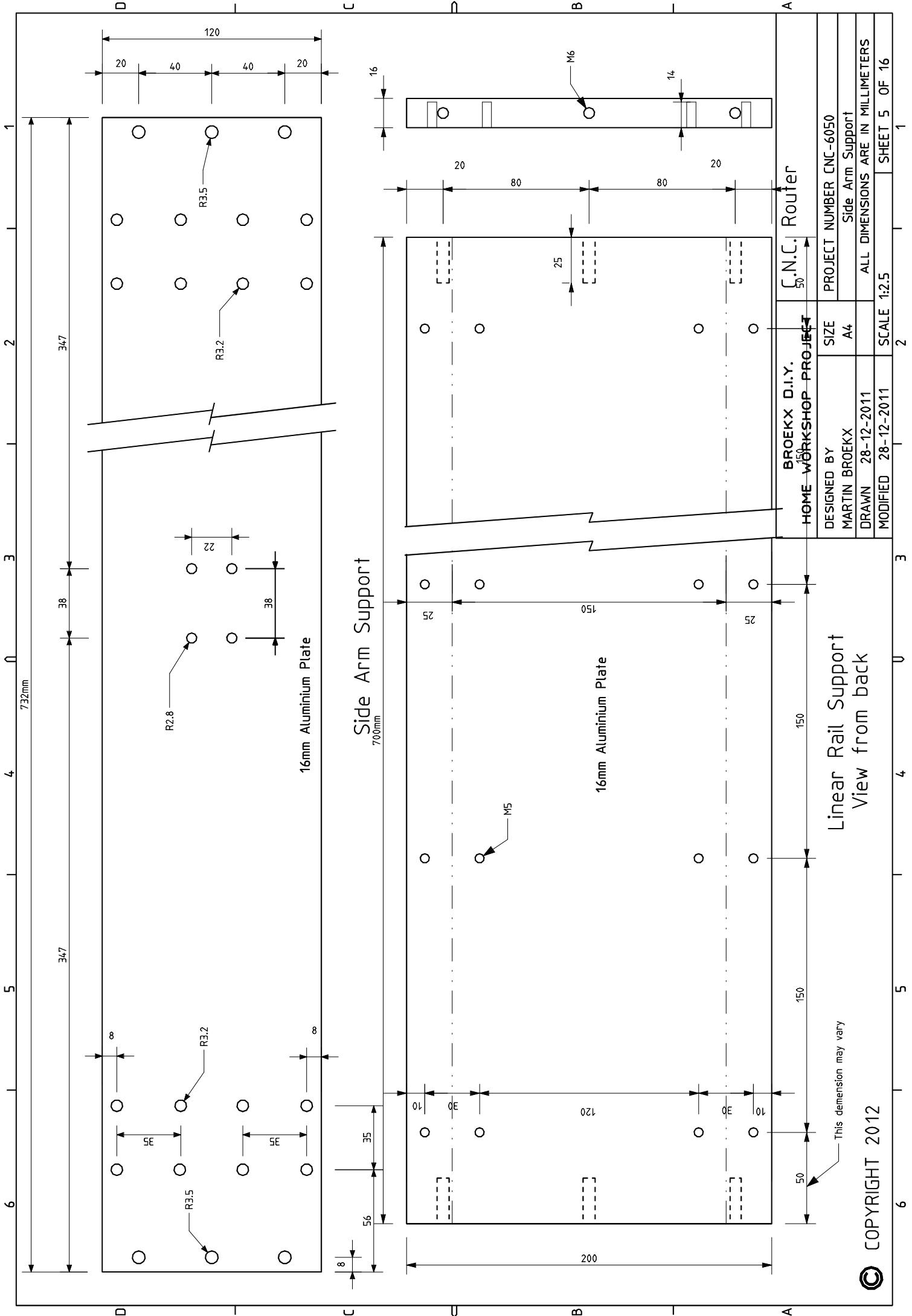
BROEKX D.I.Y.		C.N.C. Router	
HOME WORKSHOP PROJECT		PROJECT NUMBER CNC-6050	
DESIGNED BY	SIZE	Base Front & Back	
MARTIN BROEKX	A4		
DRAWN	12-12-2011	ALL DIMENSIONS ARE IN MILLIMETERS	
MODIFIED	10-1-2012	SCALE 1:2.5	SHEET 1 OF 16



<b>BROEKX D.I.Y. HOME WORKSHOP PROJECT</b>		<b>C.N.C. Router</b>	
DESIGNED BY	SIZE	PROJECT NUMBER	CNC-6050
MARTIN BROEKX	A4	Linear Guideway & Side Rail	
DRAWN	13-12-2011	ALL DIMENSIONS ARE IN MILLIMETERS	
MODIFIED	10-1-2012	SCALE	1:2.5
			SHEET 2 OF 16







BROEKKX D.I.Y. HOME WORKSHOP - PROJECT C.N.C. Router

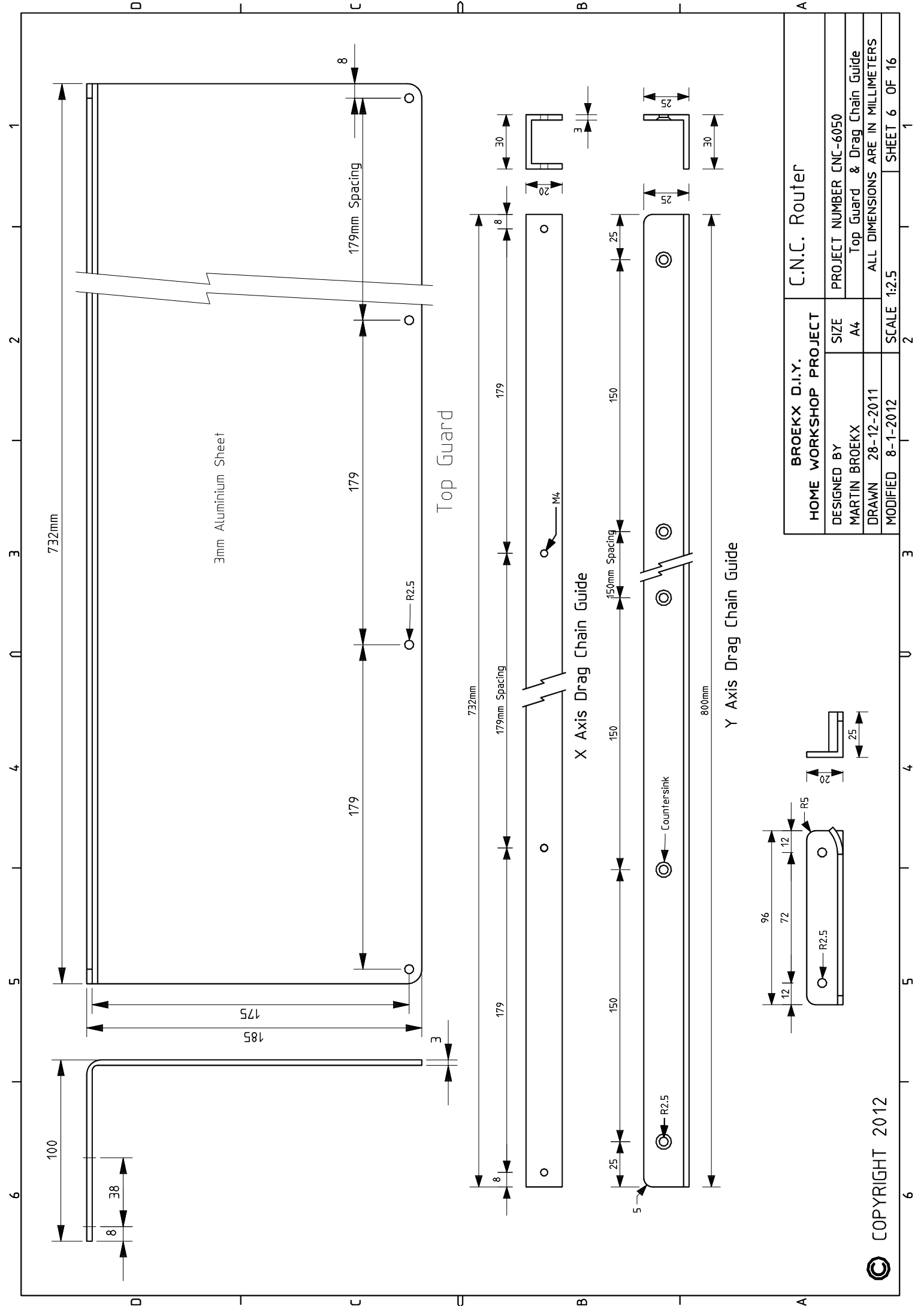
DESIGNED BY	SIZE	PROJECT NUMBER
MARTIN BROEKKX	A4	CNC-6050
DRAWN		Side Arm Support
28-12-2011		
MODIFIED	SCALE	ALL DIMENSIONS ARE IN MILLIMETERS
28-12-2011	1:2.5	
		SHEET 5 OF 16

Linear Rail Support  
View from back

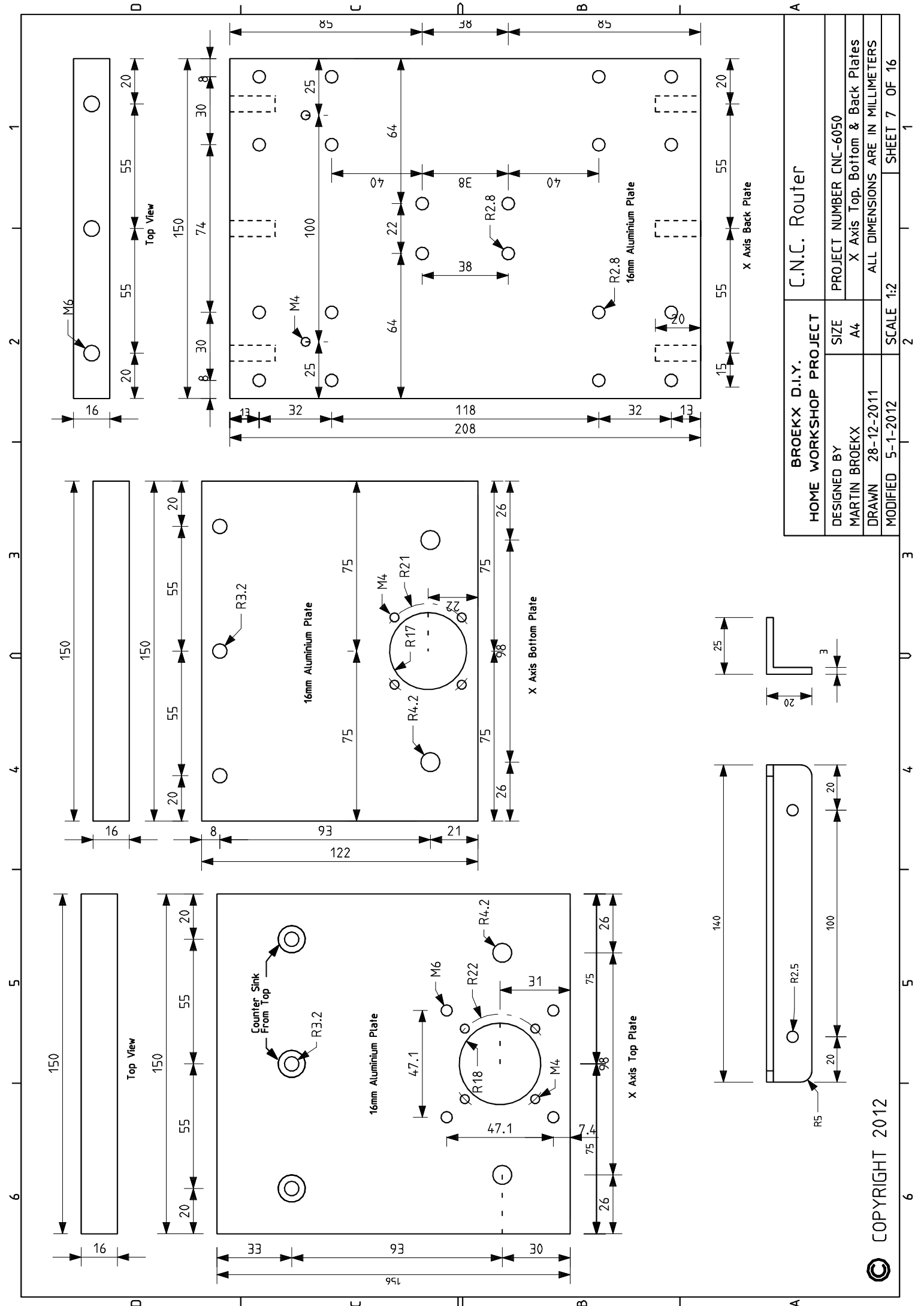
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This dimension may vary



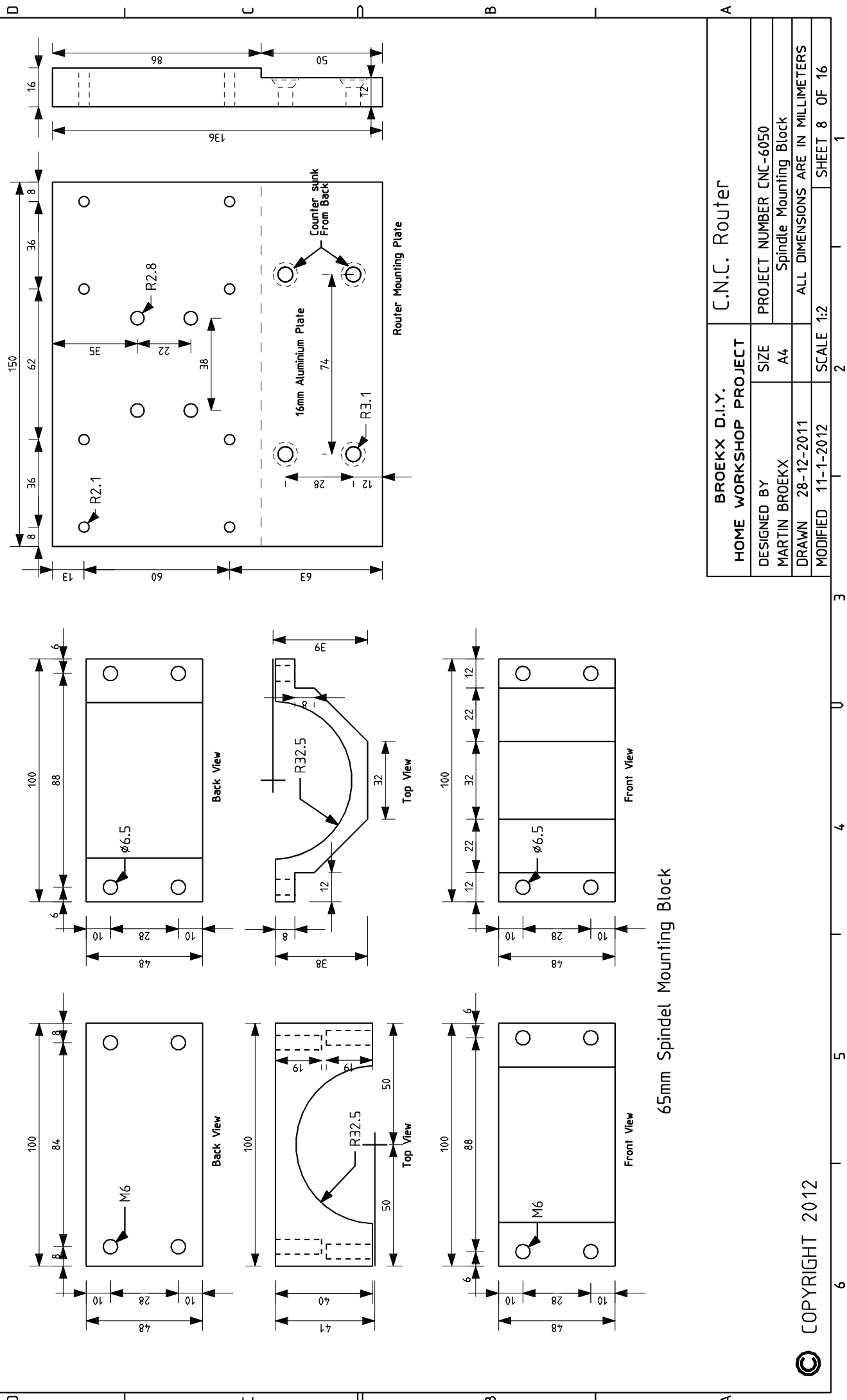


HOME WORKSHOP PROJECT		C.N.C. Router	
DESIGNED BY	SIZE	PROJECT NUMBER	CNC-6050
MARTIN BROEKX	A4	Top Guard & Drag Chain Guide	
DRAWN	28-12-2011	ALL DIMENSIONS ARE IN MILLIMETERS	
MODIFIED	8-1-2012	SCALE	1:2.5



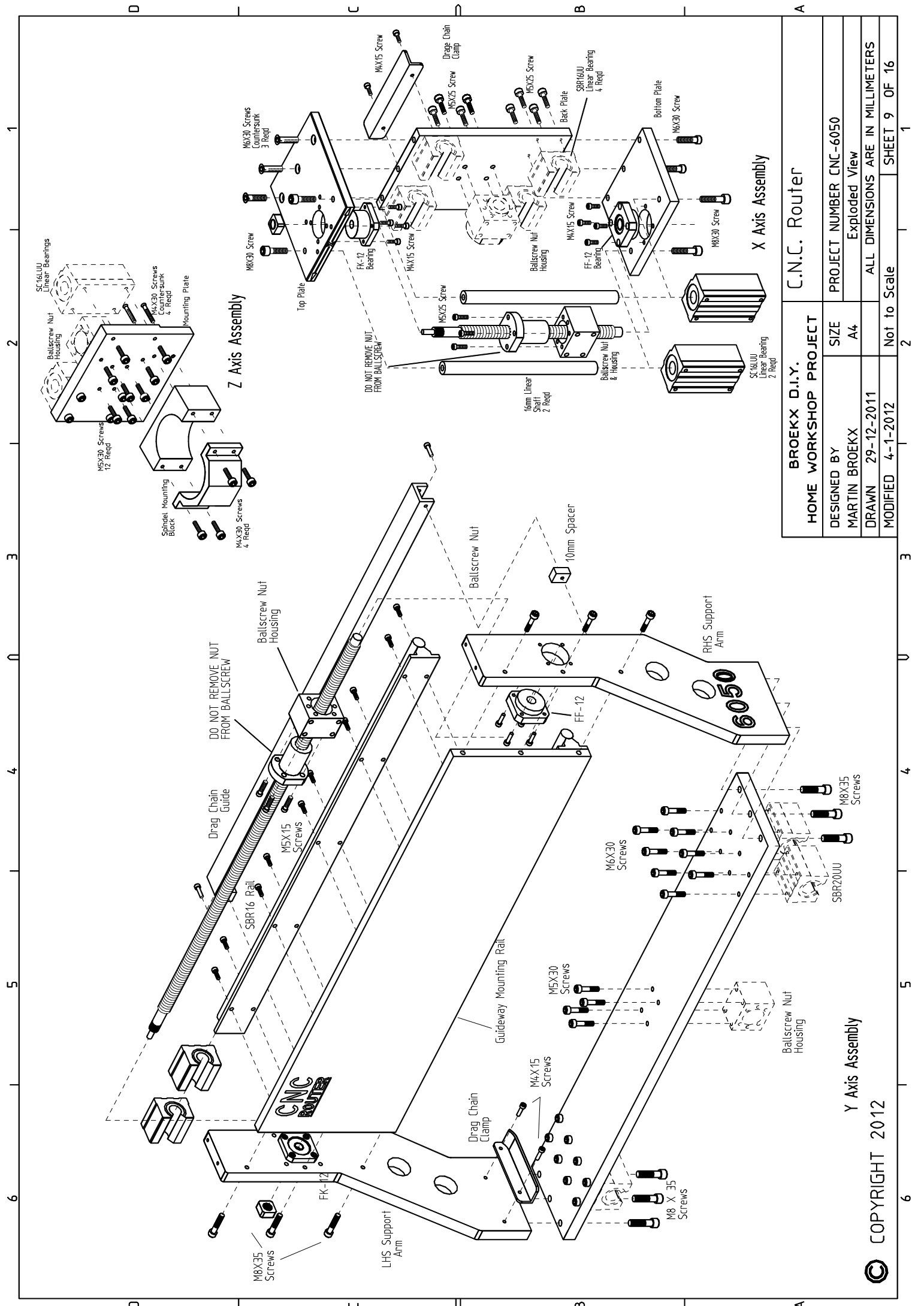
<b>BROEKX D.I.Y. PROJECT</b>		<b>C.N.C. Router</b>	
<b>HOME WORKSHOP PROJECT</b>	<b>DESIGNED BY</b>	<b>SIZE</b>	<b>PROJECT NUMBER</b>
	MARTIN BROEKX	A4	CNC-6050
<b>DRAWN</b>	28-12-2011	<b>X Axis Top, Bottom &amp; Back Plates</b>	
<b>MODIFIED</b>	5-1-2012	<b>ALL DIMENSIONS ARE IN MILLIMETERS</b>	
		<b>SCALE</b>	<b>SHEET</b>
		1:2	7 OF 16

6 5 4 3 2 1



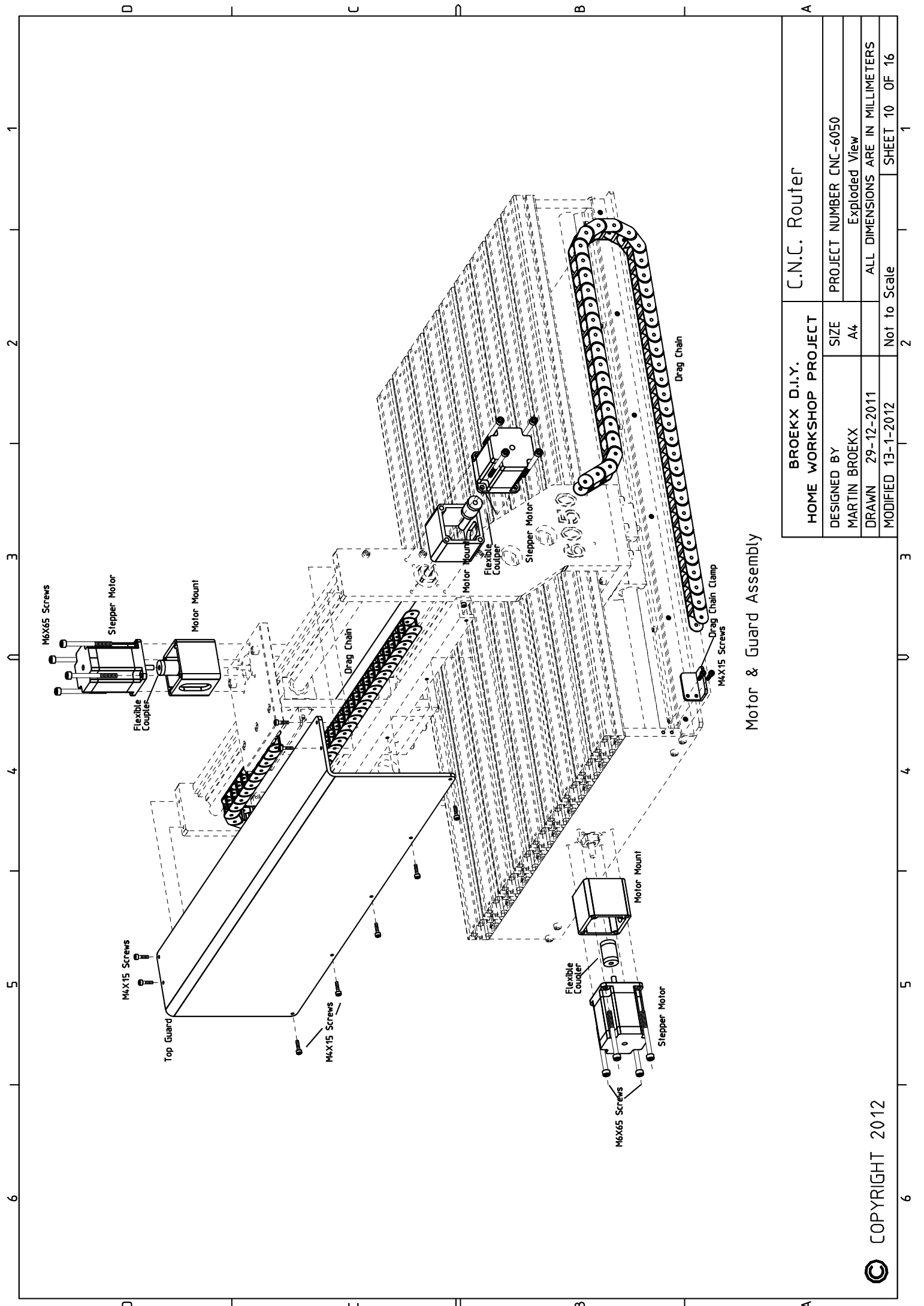
65mm Spindel Mounting Block

BROEKX D.I.Y.		C.N.C. Router	
HOME WORKSHOP PROJECT			
DESIGNED BY	SIZE	PROJECT NUMBER	CNC-6050
MARTIN BROEKX	A4	Spindle Mounting Block	
DRAWN	28-12-2011	ALL DIMENSIONS ARE IN MILLIMETERS	
MODIFIED	11-1-2012	SCALE	1:2
		2	1
		SHEET 8 OF 16	



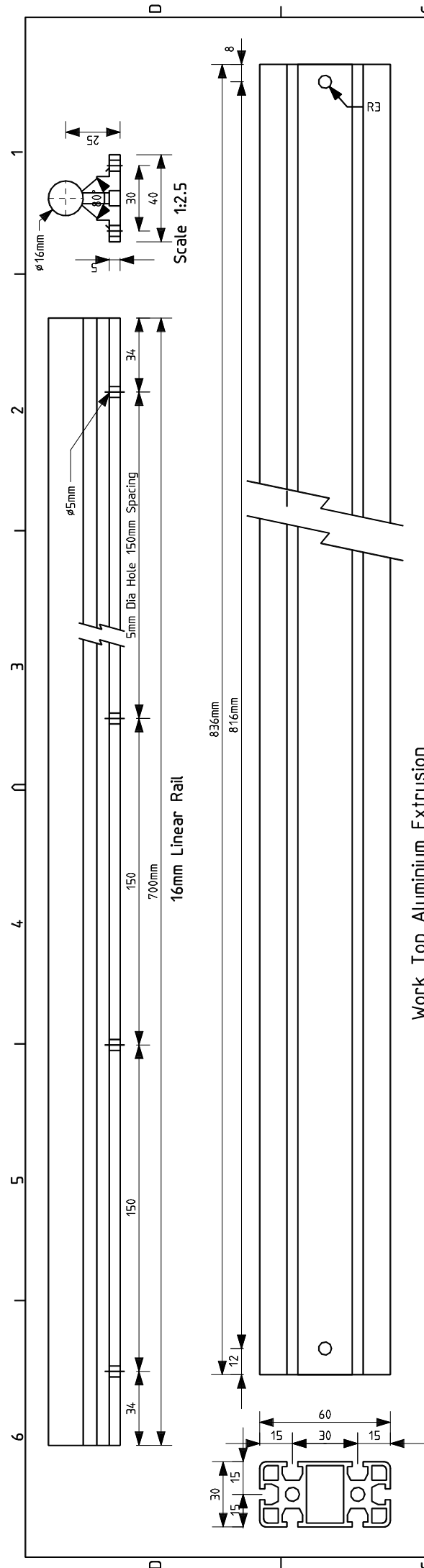
<b>BROEKX D.I.Y. HOME WORKSHOP PROJECT</b>		<b>C.N.C. Router</b>	
DESIGNED BY	SIZE	PROJECT NUMBER	VIEW
MARTIN BROEKX	A4	CNC-6050	Exploded View
DRAWN	DATE	ALL DIMENSIONS ARE IN MILLIMETERS	
MODIFIED	4-1-2012	Not to Scale	SHEET 9 OF 16

Y Axis Assembly  
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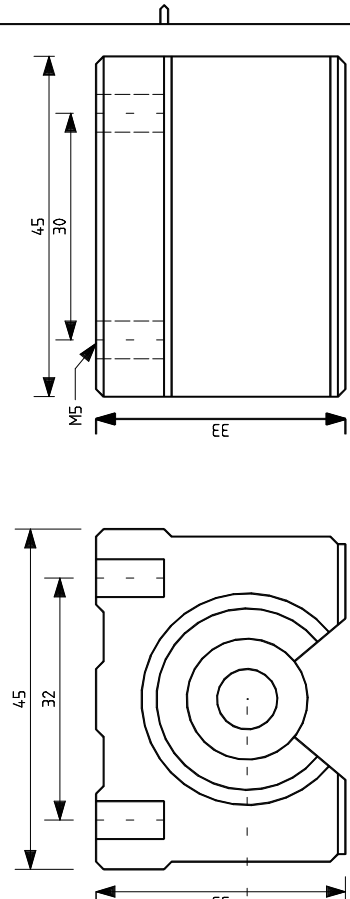


Motor & Guard Assembly

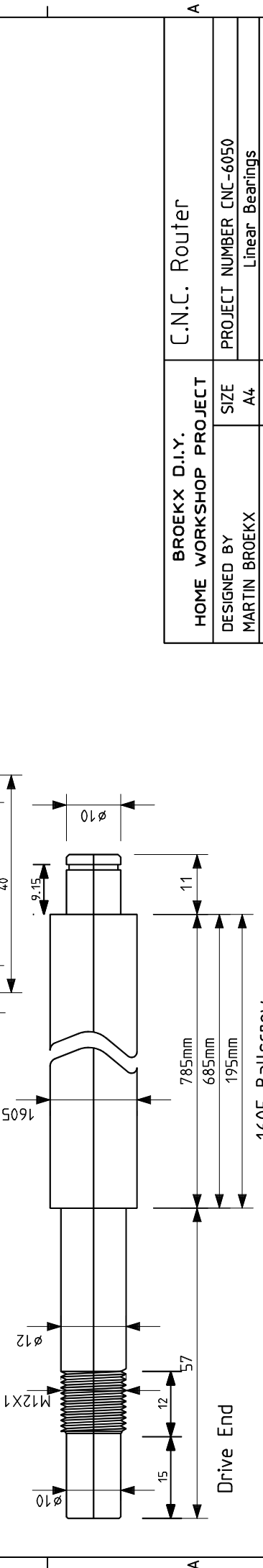
HOME WORKSHOP PROJECT		C.N.C. Router	
DESIGNED BY	SIZE	PROJECT NUMBER	CNC-6050
MARTIN BROEKX	A4	Exploded View	
DRAWN	29-12-2011	ALL DIMENSIONS ARE IN MILLIMETERS	
MODIFIED	13-1-2012	Not to Scale	SHEET 10 OF 16



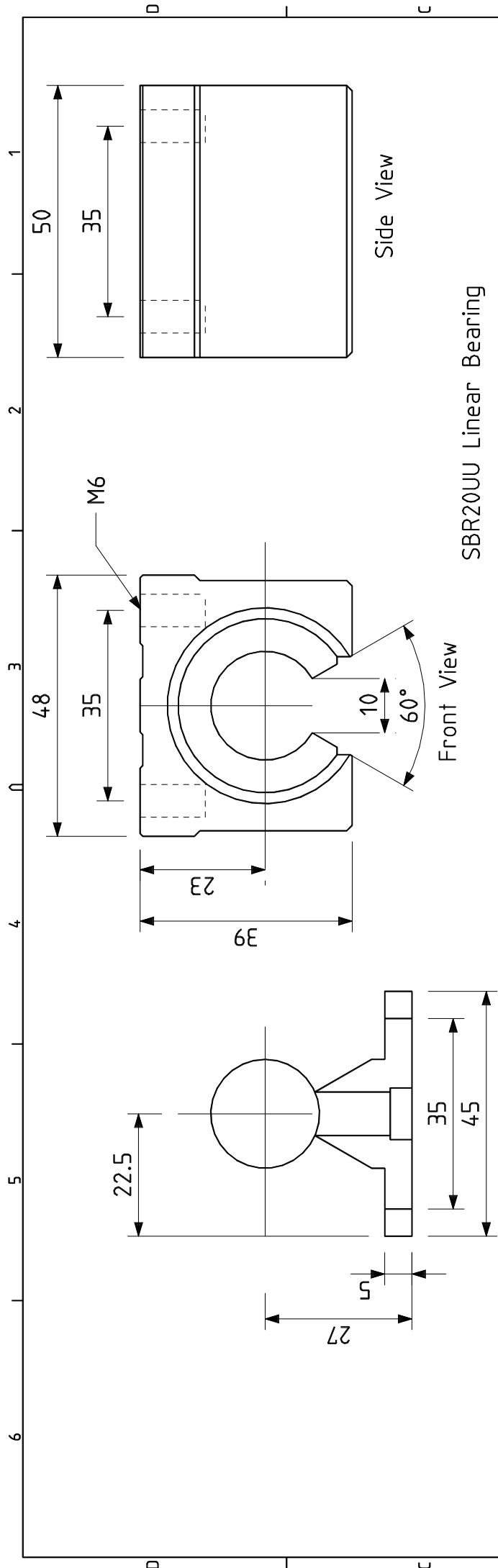
Work Top Aluminium Extrusion



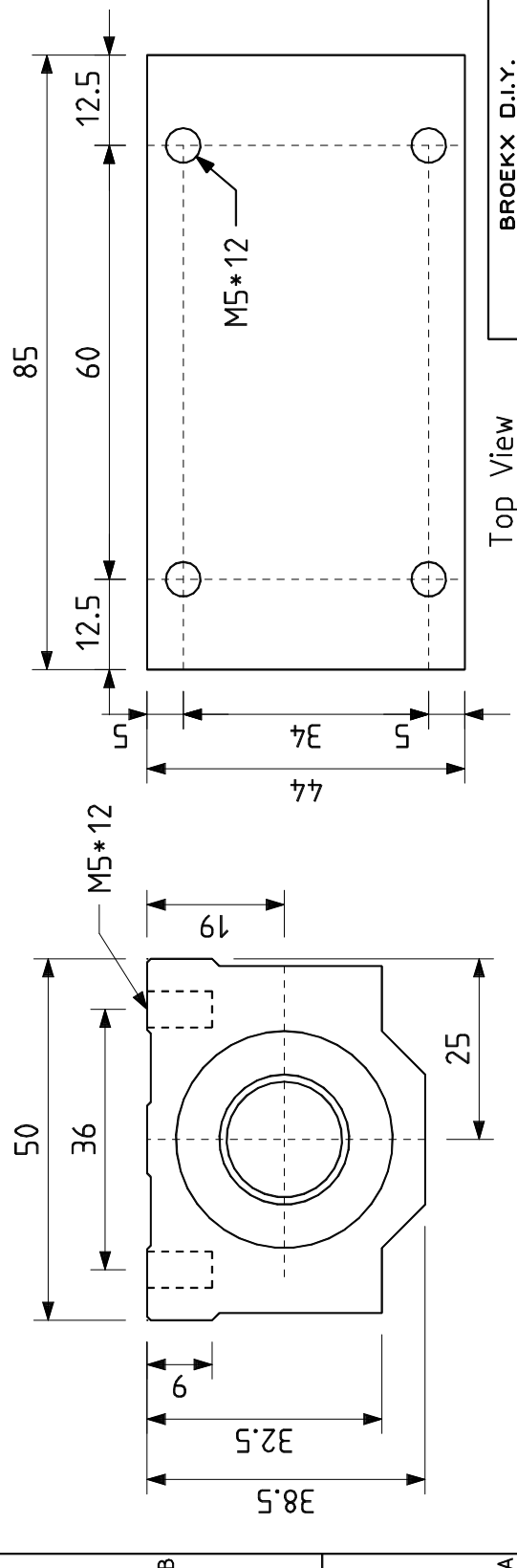
Machined to Suit FK-12 and FF-12



BROEKX D.I.Y.		C.N.C. Router	
HOME WORKSHOP PROJECT	DESIGNED BY	PROJECT NUMBER	Linear Bearings
MARTIN BROEKX	MARTIN BROEKX	CNC-6050	
DRAWN 1-1-2012	MODIFIED 1-1-2012	SCALE 1:1	SHEET 11 OF 16

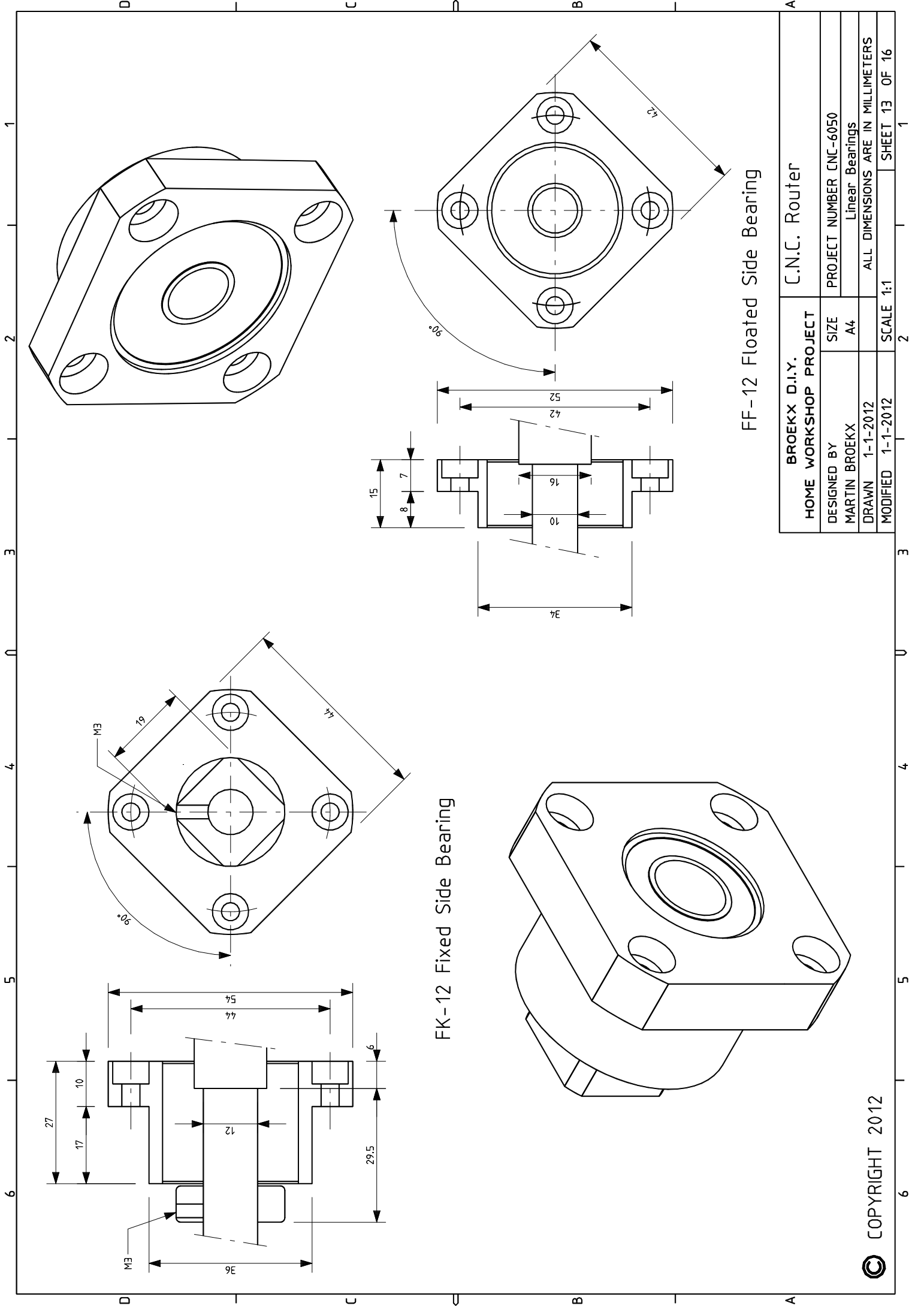


SBR20UU Linear Bearing



SC16LUU Linear Bearing

HOME WORKSHOP PROJECT		C.N.C. Router	
DESIGNED BY	SIZE	PROJECT NUMBER CNC-6050	
MARTIN BROEKK	A4	Linear Bearings	
DRAWN	1-1-2012	ALL DIMENSIONS ARE IN MILLIMETERS	
MODIFIED	1-1-2012	SCALE	1:1
		SHEET 12 OF 16	

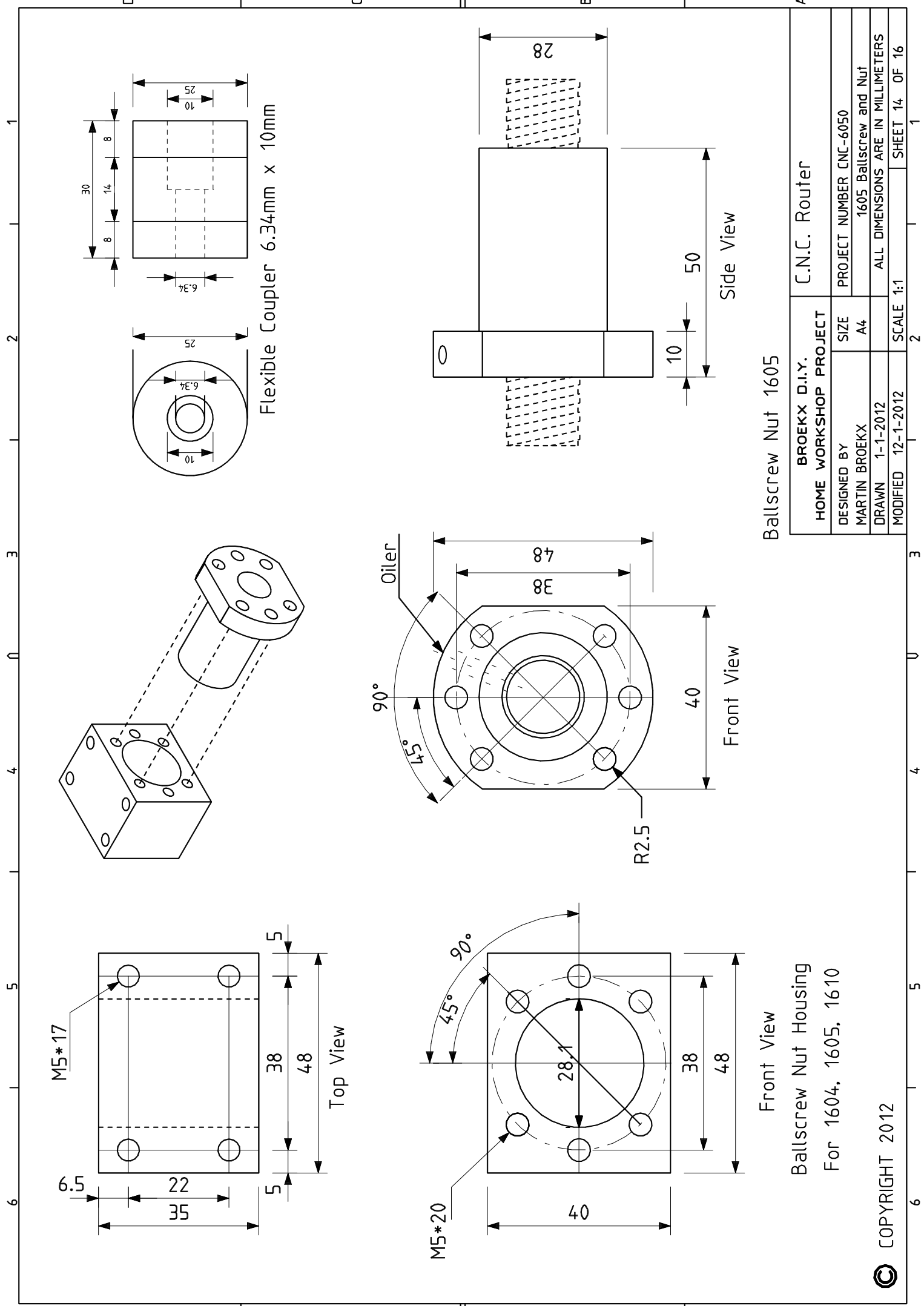


FK-12 Fixed Side Bearing

FF-12 Floated Side Bearing

BROEKX D.I.Y.		C.N.C. Router	
HOME WORKSHOP PROJECT			
DESIGNED BY	SIZE	PROJECT NUMBER	CNC-6050
MARTIN BROEKX	A4	Linear Bearings	
DRAWN	1-1-2012	ALL DIMENSIONS ARE IN MILLIMETERS	
MODIFIED	1-1-2012	SCALE	1:1
			SHEET 13 OF 16

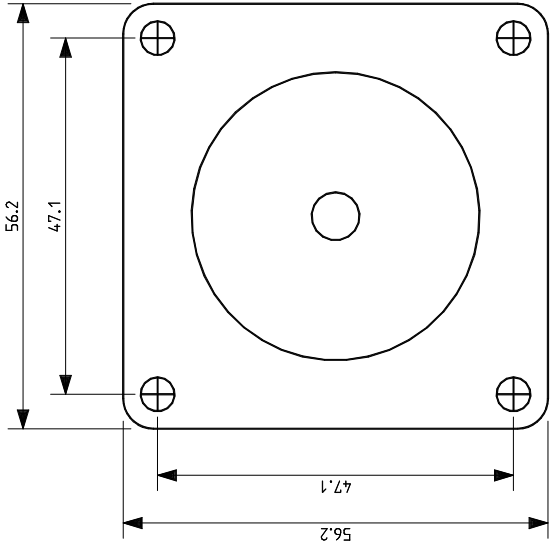
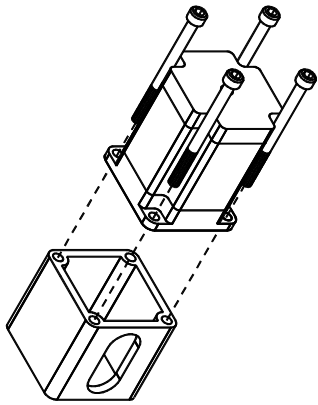




Ballscrew Nut 1605

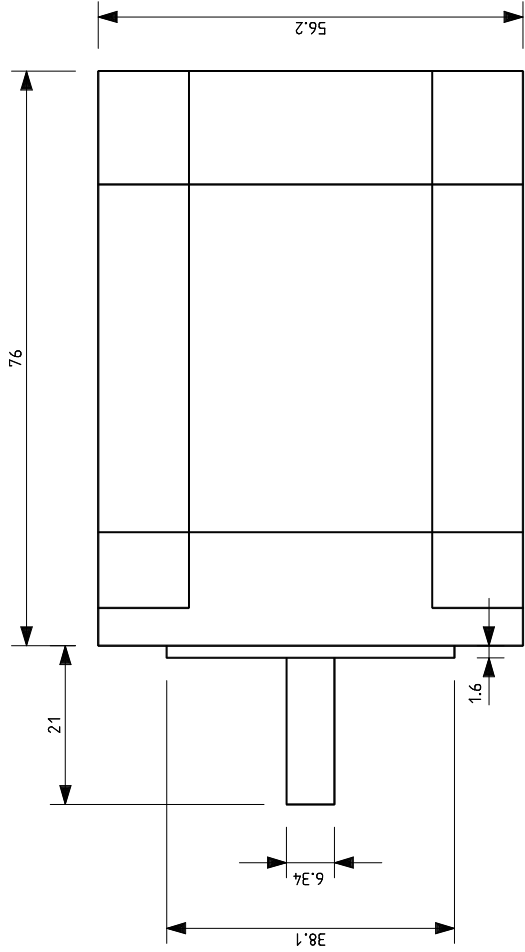
HOME WORKSHOP PROJECT		C.N.C. Router	
DESIGNED BY	SIZE	PROJECT NUMBER CNC-6050	
MARTIN BROEKX	A4	1605 Ballscrew and Nut	
DRAWN	1-1-2012	ALL DIMENSIONS ARE IN MILLIMETERS	
MODIFIED	12-1-2012	SCALE	1:1

Front View  
 Ballscrew Nut Housing  
 For 1604, 1605, 1610

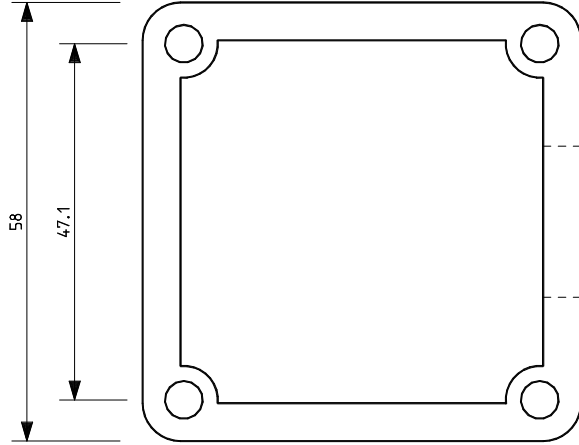


Front View

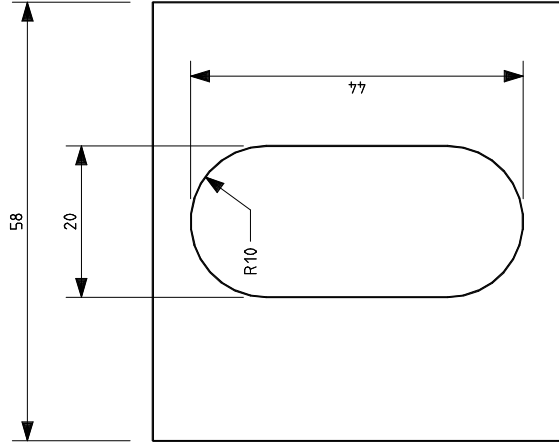
BYGH76-602A Stepper Motor



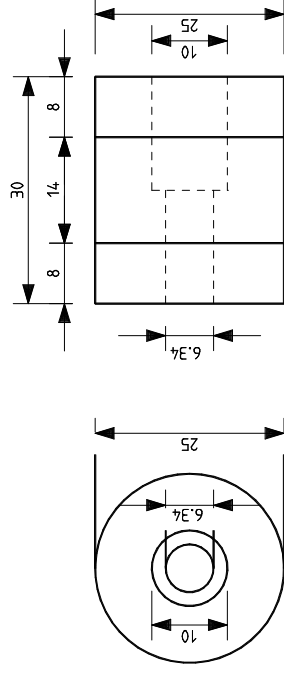
Side View



Top View



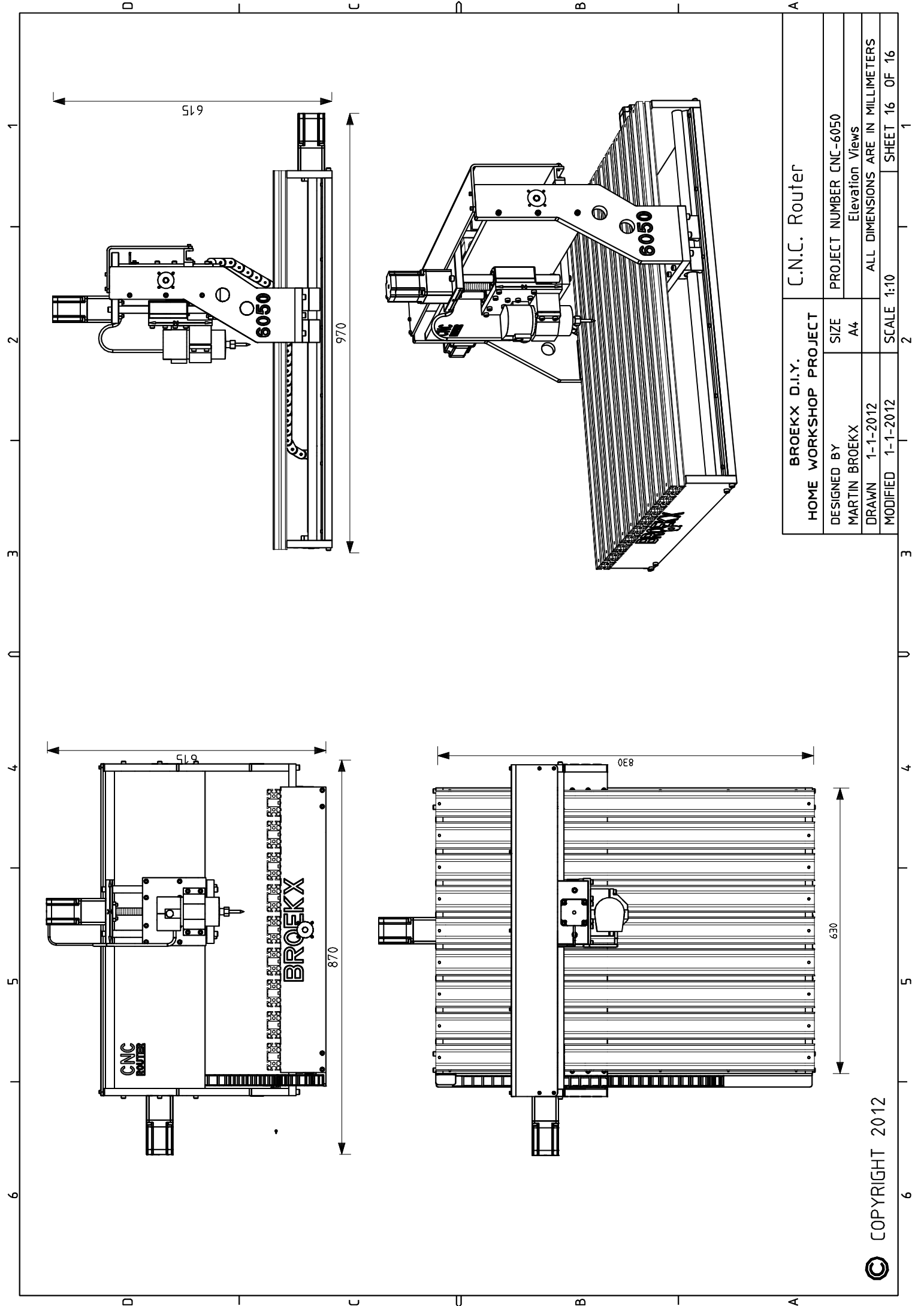
Side View



Flexible Coupler 6.34mm x 10mm

BROEKX D.I.Y.		C.N.C. Router	
HOME WORKSHOP PROJECT		PROJECT NUMBER CNC-6050	
DESIGNED BY	SIZE	Stepper Motor and Mounting	
MARTIN BROEKX	A4	ALL DIMENSIONS ARE IN MILLIMETERS	
DRAWN	1-1-2012	SCALE	1:1
MODIFIED	7-1-2012	SHEET 15 OF 16	

Stepper Motor Mount



BROEKX D.I.Y.		C.N.C. Router	
HOME WORKSHOP PROJECT		PROJECT NUMBER	CNC-6050
DESIGNED BY	MARTIN BROEKX	SIZE	A4
DRAWN	1-1-2012	Elevation Views	
MODIFIED	1-1-2012	SCALE	1:10
			SHEET 16 OF 16

## NOTES

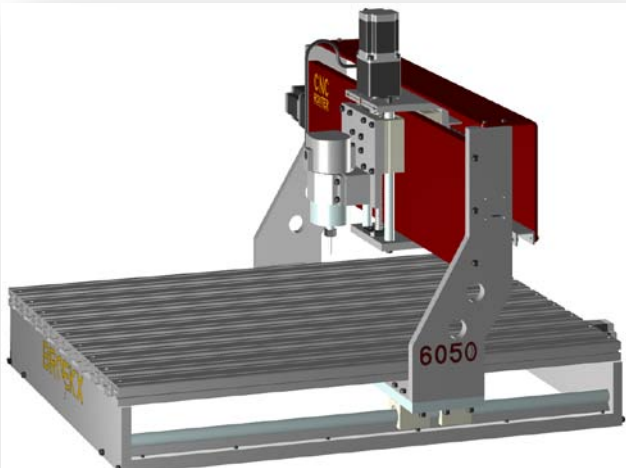
# Other DIY Project's



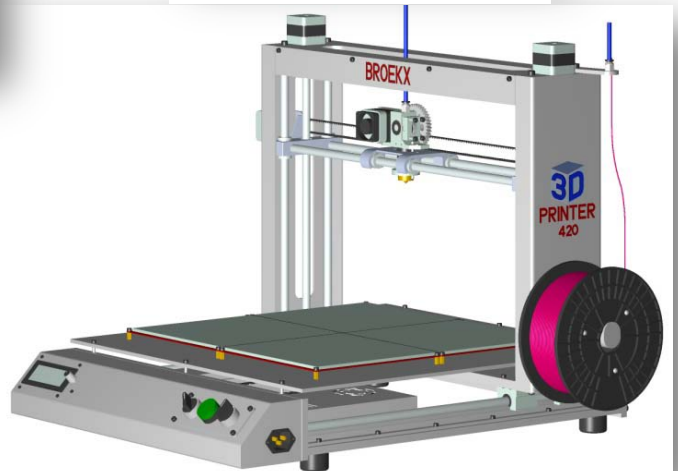
CNC Maxi Router



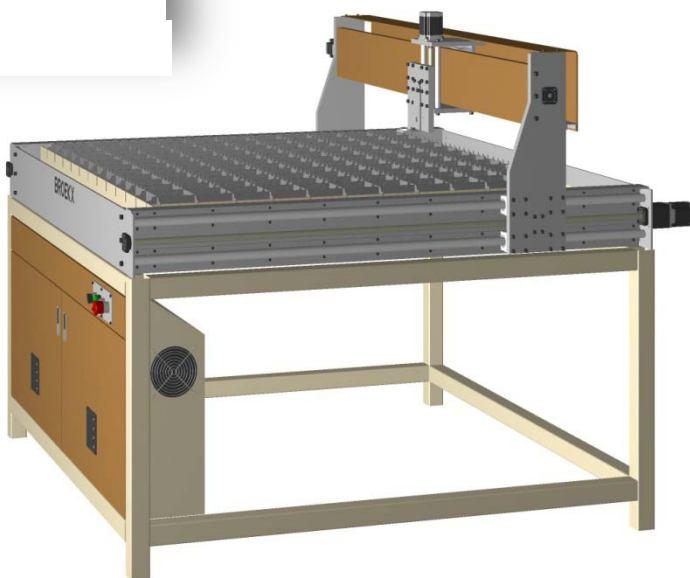
400mm Brick Saw



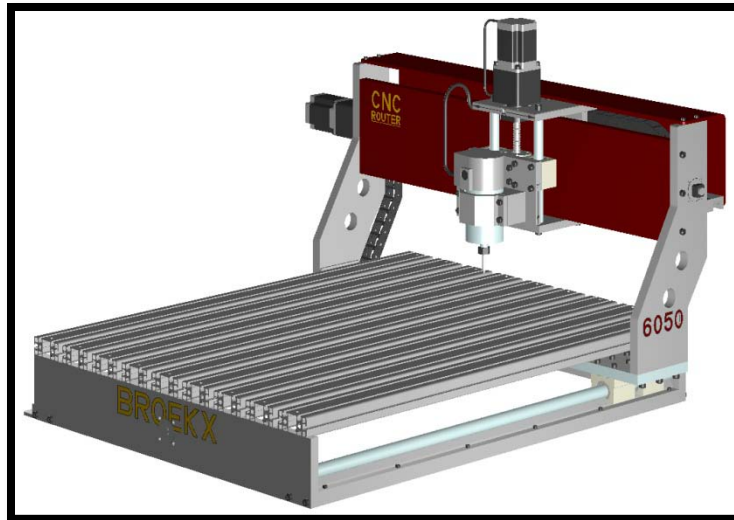
CNC Router 6050



3D Printer coming soon



Plasma cutter coming soon



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