



## Products & Quotes (PQ)

### *For fast response to enquires and orders*

The Products & Quotes module is for accurate quotations and processing orders quickly and easily. It is most useful where the cutting requirements arise in producing assembled products, kitchens units, bedroom units, housings, furniture ...

The product library can detail any job:-

- Standard product ranges
- Custom products
- Products with extra parts and fittings
- Can include lipping and bought in items ...

The key to the module is that the product detail is very flexible - a single definition can cover a wide range of customer or production variations.

For each order once the customer request for colour, material, size, fittings are specified the program can calculate the full set of materials, sizes, and quantities for all the parts in the product.

*The result is a cutting list ready for the saw or machining centre.*

### Orders screen

A versatile order screen allows the entry of order for quotes or production.

Quotes / orders - Products & parts order

File Edit Options Help

Order: Products & parts order Order date: 28/05/2012 Customer code: CS1001 Customer name: Kitchens Direct Delivery date: 11/06/2012

Contact: John Smith Terms: 30 Days Status: Estimated

Invoice address: Ashford Road Birmingham Postcode: B11 2RX

Delivery address: Unit 7 Canal Road Birmingham Postcode: B12 4JJ

Notes: Credit OK No Sat Deliveries

Single base unit

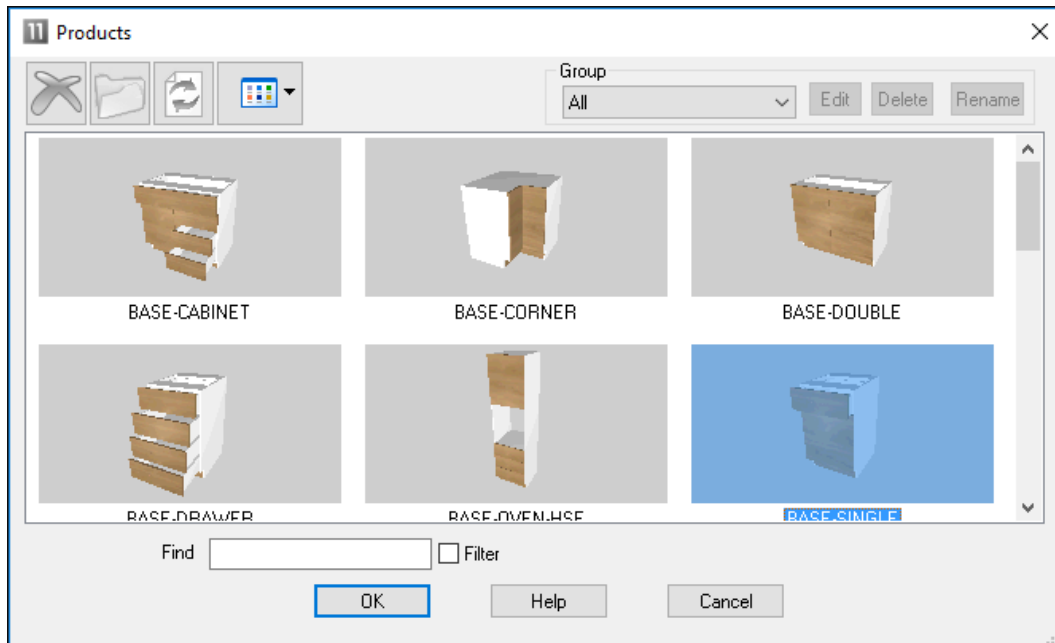
Variables: Mode Edit

No	Code	Information	Product			Part					Qty	Unit price	Total price
			Width	Height	Depth	Material	Length	Width	Grain	Edge			
1	BASE-SINGLE	Single base unit	500.0	870.0	600.0						7	40.00	280.00
2	BASE-SINK	Sink base unit	1000.0	870.0	600.0						2	40.56	81.12
3	WALL-DOUBLE	Double wall unit	1000.0	750.0	300.0						5	34.48	172.40
4	WALL-SINGLE	Single wall unit	500.0	750.0	300.0						3	21.12	63.36
		Deliver separately											
5	F-UNIT-DOOR	Fixed size unit door				MFC18...	495.0	570.0	Y	0000	4	3.61	14.44
6	F-UNIT-END-LEFT	Fixed size unit end left				MEL-CH...	585.0	870.0	N	0000	4	4.06	16.24
7	F-UNIT-END-RIGHT	Fixed size unit end right				MEL-CH...	585.0	870.0	N	0000	4	4.06	16.24
8	Z-SINGLE	Single Knob									23	0.95	21.85
9	Y-PACKING	Packing									14	6.00	84.00
10													
11													
12													
13													
14													
15													
16													

The top section allows for the entry of customer details, delivery and invoice address etc. In the grid enter the required products and other items.

Full costs are shown and the system can be set to several different pricing models.


Products and other items are selected from the product library.



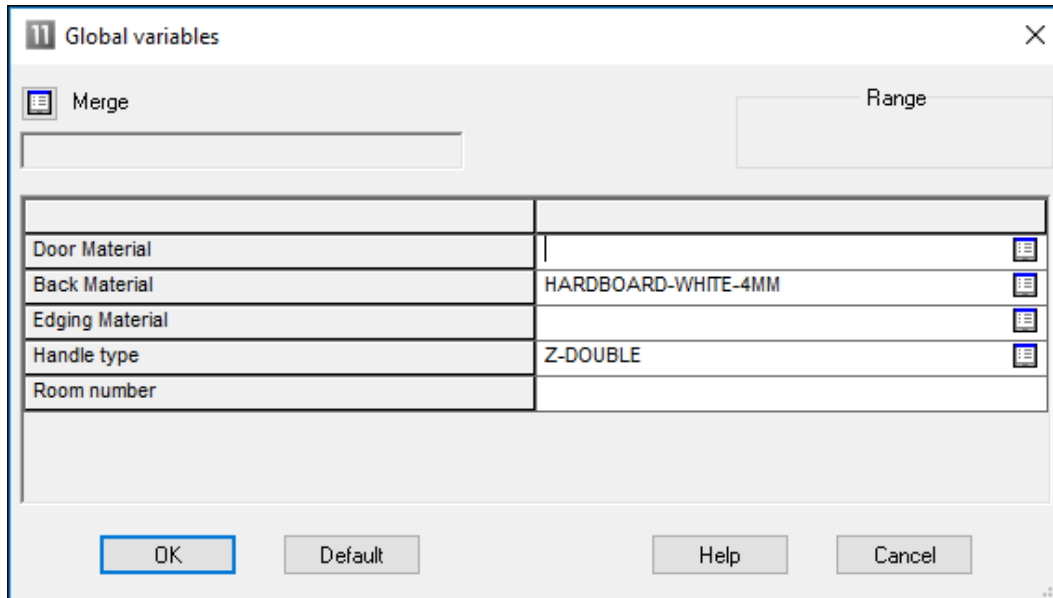
Click on an item to select it. The list view can be changed from pictures to details in the usual way.

Products and Parts can be displayed as 2D or 3D models in the Order screen.



Select  to view a 3D model of your product/part, the product model has to have been created previously via the product library.

Where the product is defined as a parametric (variable) product the Order screen prompts for the customer's requirements (and production requirements).



The 'Global variables' dialog box is used to define product parameters. It features a 'Merge' button, a 'Range' input field, and a table for defining variables. The table has two columns: a label column and a value column. The variables defined are: Door Material (empty), Back Material (HARDBOARD-WHITE-4MM), Edging Material (empty), Handle type (Z-DOUBLE), and Room number (empty). Each value cell has a small list icon. At the bottom are buttons for OK, Default, Help, and Cancel.

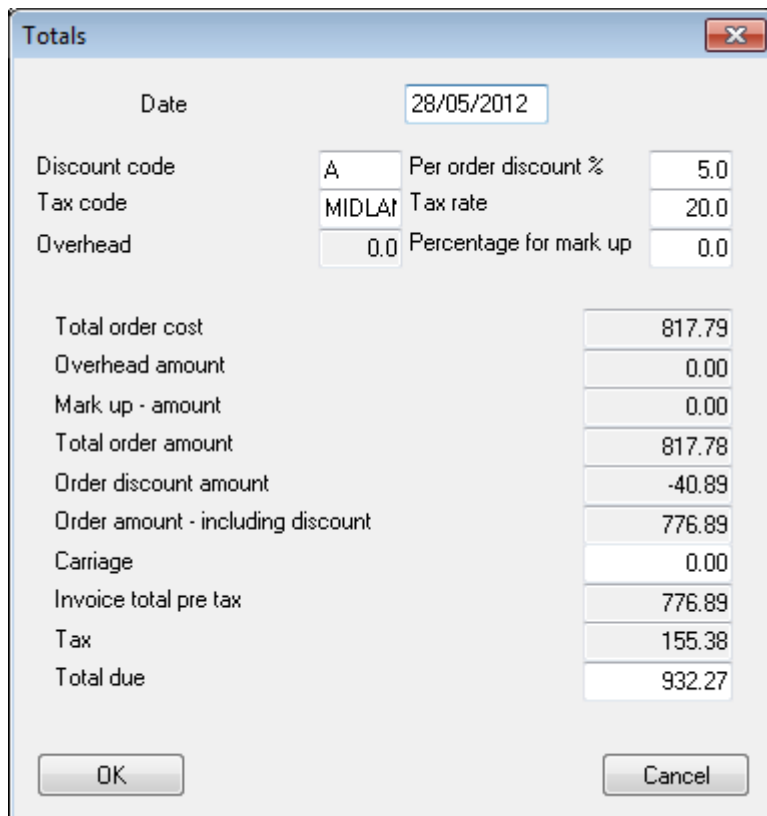
Door Material	
Back Material	HARDBOARD-WHITE-4MM
Edging Material	
Handle type	Z-DOUBLE
Room number	

The requirements can vary for each product line even for the same style of product.

There are a full set of facilities (variables, look up tables, formulae) with the Product library for creating parametric products.



Once the order is complete the order can be estimated at the single click of a button.



The 'Totals' dialog box displays order summary information. It includes a 'Date' field set to 28/05/2012. Below are input fields for Discount code (A), Tax code (MIDLA), and Overhead (0.0), alongside their respective rates: Per order discount % (5.0), Tax rate (20.0), and Percentage for mark up (0.0). The bottom section shows a calculation of costs and amounts, including Total order cost (817.79), Overhead amount (0.00), Mark up - amount (0.00), Total order amount (817.78), Order discount amount (-40.89), Order amount - including discount (776.89), Carriage (0.00), Invoice total pre tax (776.89), Tax (155.38), and Total due (932.27). Buttons for OK and Cancel are at the bottom.

Date		28/05/2012	
Discount code	A	Per order discount %	5.0
Tax code	MIDLA	Tax rate	20.0
Overhead	0.0	Percentage for mark up	0.0
Total order cost		817.79	
Overhead amount		0.00	
Mark up - amount		0.00	
Total order amount		817.78	
Order discount amount		-40.89	
Order amount - including discount		776.89	
Carriage		0.00	
Invoice total pre tax		776.89	
Tax		155.38	
Total due		932.27	

The order status can be tracked and the Form & Label designer can be used to produce customer documents:-

Quotation  
Advice note  
Delivery note  
...



Once an order is confirmed the order is optimised and the cutting patterns produced ready to send to the saw or machining centre.

**Review runs**

File Edit View Settings Summaries Stock Help

Pattern preview

Example of quote

Products & parts order:///DEFAULT/DEFAULT/?? [Rules:CL,BL]

Revision 6 : 27 Aug 2018 14:26 : Recalculated by Sean-Lenovo

Ptn:1	Qty:1	Cycles:1	Ptn:2	Qty:3	Cycles:1
Board: 1.MEL-CHIP-18MM/01			Board: 2.MEL-CHIP-18MM/02		
Size: 3050.0 x 1220.0			Size: 2440.0 x 1220.0		

**Ptn:1 Qty:1 Cycles:1**  
Board: 1.MEL-CHIP-18MM/01  
Size: 3050.0 x 1220.0



**Ptn:2 Qty:3 Cycles:1**  
Board: 2.MEL-CHIP-18MM/02  
Size: 2440.0 x 1220.0

**Ptn:3 Qty:2 Cycles:1**  
Board: 2.MEL-CHIP-18MM/02  
Size: 2440.0 x 1220.0

**Ptn:4 Qty:1 Cycles:1**  
Board: 2.MEL-CHIP-18MM/02  
Size: 2440.0 x 1220.0

Batch reports  
Summaries  
Advanced  
Patterns  
Machining  
Custom

The production and delivery documents are set up in the Form & Label designer - the program includes many different templates to help with the design of forms.

 <h1 style="margin: 0;">GLOBAL FURNITURE LTD</h1> <p style="margin: 0;">Furniture House, 27 Wood Lane, Bristol, BS1 2XR, UK Telephone: +44 (0)117 933 6323 Fax: +44 (0)117 933 6487</p>				
<b>Order invoice</b>				
Invoice date: 28/05/2012    Order no. Products & parts order    Our ref.    Your ref.				
 28/05/2012	Customer address <b>Kitchens Direct</b> Ashford Road Birmingham  B11 2RX			
Order / item no.	Details	Quantity	Unit £	Total £
Products & parts order/007	<b>Code:</b> F-UNIT-END-RIGHT    Length: 585.0 <b>Description:</b> Fixed size unit end right    Width: 870.0 <b>Finish:</b> MFC18-OAK	4	4.52	18.08
Products & parts order/008	<b>Code:</b> Z-SINGLE <b>Description:</b> Single Knob <b>Finish:</b>	23	0.95	21.85
Products & parts order/009	<b>Code:</b> Y-PACKING <b>Description:</b> Packing <b>Finish:</b>	14	6.00	84.00

The above example, shows a detailed order invoice.

The PQ module produces a full breakdown of product costing.

Product costing				Example of quote			
Ref Products & parts order		Description Example of quote		Over 0			
Optimising DEFAULT		Saw DEFAULT					
No	Code	Qty	Information	Width	Height	Depth	
1.	BASE-SINGLE	7	Single base unit	500.0	870.0	600.0	
	DOORMATERIAL: MFC18-OAK			CARCASEMATERIAL: MED-DEN-FIBRE-18MM			
	BACKMATERIAL: HARDBOARD-4MM			EDGING: OAK-TAPE-22MM			
	HANDLETYPE: 2-DOUBLE			FE:			
	HINGE: LEFT			SHELFDEPTH: 400.0			
	ROOMNUMBER:			PH: 125.0			
	RH: 150.0			DR: 1			
Code	Qty	Description	Material	Length	Width	Item cost Per hour	Total
BASE-END-LEFT	1	Base unit end... left	MED-DEN-FIBR...	582.0	870.0	6.322	6.322
		Description: Base unit end left Material: MED-DEN-FIBRE-18MM					
BASE-END-RIGHT	1	Base unit end... right	MED-DEN-FIBR...	582.0	870.0	6.322	6.322
		Description: Base unit end right Material: MED-DEN-FIBRE-18MM					
BASE-BACK	1	Base unit back	HARDBOARD-4MM	476.0	735.0	0.978	0.978
BASE-BOTTOM	1	Base unit floor	MED-DEN-FIBR...	464.0	582.0	3.463	3.463
		Material: MED-DEN-FIBRE-18MM					
BASE-PLINTH	1	Base unit plinth	MED-DEN-FIBR...	464.0	125.0	1.048	1.048
		Material: MED-DEN-FIBRE-18MM					
BASE-RAIL-FRONT	1	Base unit rail... front	MED-DEN-FIBR...	464.0	150.0	1.509	1.509
		Description: Base unit rail front Material: MED-DEN-FIBRE-18MM					
BASE-RAIL-BACK	1	Base unit rail... back	MED-DEN-FIBR...	464.0	150.0	1.009	1.009
		Description: Base unit rail back Material: MED-DEN-FIBRE-18MM					
BASE-SHELF	1	Base unit shelf	MED-DEN-FIBR...	464.0	400.0	1.345	1.345
		Material: MED-DEN-FIBRE-18MM					
BASE-DRAWER	1	Base unit drawer	MFC18-OAK	500.0	186.3	2.591	2.591
BASE-DOOR	1	Base unit door	MFC18-OAK	500.0	554.8	4.228	4.228
+BUDC	1	Base unit drawer carcass		462.0	148.3	546.0	
BUDC-LEFT	1	Drawer carcass... left	WHITE-ACRYLI...	546.0	136.3	1.320	1.320
		Description: Drawer carcass left Material: WHITE-ACRYLIC-12MM					
BUDC-RIGHT	1	Drawer carcass... right	WHITE-ACRYLI...	546.0	136.3	1.320	1.320
		Description: Drawer carcass right Material: WHITE-ACRYLIC-12MM					
BUDC-BACK	1	Drawer carcass... back	WHITE-ACRYLI...	438.0	136.3	1.320	1.320
		Description: Drawer carcass back Material: WHITE-ACRYLIC-12MM					
BUDC-BOTTOM	1	Drawer carcass... base	WHITE-ACRYLI...	462.0	546.0	1.320	1.320
		Description: Drawer carcass base Material: WHITE-ACRYLIC-12MM					
Z-DRAWER-SCREW	13	Acrylic drawe...	WHITE-ACRYLI...	0.120			1.560
		Description: Acrylic drawer screw					
Z-DOUBLE	2	Pull handle	WHITE-ACRYLI...	1.210			2.420
ZH180-HINGE	2	Hinge 180 HKK...	WHITE-ACRYLI...	0.400			0.800
		Description: Hinge 180 HKK123-321					
Z-DOWEL	22	Dowel	WHITE-ACRYLI...	0.120			2.640
Z-SHELF-SUPPORT	4	Shelf support	WHITE-ACRYLI...	0.190			0.760
Z-RUNNER	2	Drawer runner	WHITE-ACRYLI...	0.430			0.860
ZS40-S-CSUNK-SCREW	8	Csunk Screw 4...	WHITE-ACRYLI...	0.010			0.080
		Description: Csunk Screw 40mm No8					
Y-ASSEMBLY	180	Cabinet Assembly	WHITE-ACRYLI...	6.500			1170.0
2.	BASE-SINK	2	Sink base unit	1000.0	870.0		
	DOORMATERIAL: MFC18-OAK			CARCASEMATERIAL: MED-DEN-FIBRE-18MM			

The report can be printed, or, exported to a CSV file.

There is also a full breakdown for the costs of all parts and other items in the order.

Review runs

File Edit View Settings Summaries Stock Help

Favourites  
Batch reports

Job costing  
Fittings  
Operations  
Batch material summary

Summaries  
Advanced  
Patterns  
Machining  
Custom

## Job costing

### Example of quote

Products & parts order

Code	Description	Quantity	Linear	Area	Cost	Total
<b>Board</b>		<b>Quantity</b>		<b>Area</b>	<b>Cost/m2</b>	<b>Total</b>
MEL-CHIP-18MM/01	MEL-CHIP-18MM 3050.0 x 1220.0	1		3.721	3.180	11.83
MEL-CHIP-18MM/02	MEL-CHIP-18MM 2440.0 x 1220.0	6		17.861	3.140	56.08
HARDBOARD-WHITE-4MM/01	HARDBOARD-WHITE-4MM 2440.0 x 1220.0	4		11.907	0.950	11.31
MFC18-OAK/02	MFC18-OAK 2440.0 x 1220.0	2		5.954	2.970	17.68
MFC18-BEECH/01	MFC18-BEECH 3050.0 x 1525.0	3		13.954	3.210	44.79
MFC18-BEECH/02	MFC18-BEECH 2440.0 x 1220.0	1		2.977	2.960	8.81
		<b>17</b>		<b>56.373</b>		<b>150.51</b>
<b>Sundry</b>		<b>Quantity</b>	<b>Linear</b>	<b>Area</b>	<b>Cost</b>	<b>Total</b>
WHAC12/01	WHITE-ACRYLIC-12MM	28			1.320	36.96
		<b>28</b>				<b>36.96</b>
<b>Edging</b>		<b>Quantity</b>			<b>Cost/m</b>	<b>Total</b>
OAK-TAPE-22MM	Oak PVC Tape 22mm	60.840			0.840	51.10
BEECH-TAPE-22MM	Beech PVC Tape 22mm	50.820			0.720	36.59
WHITE-TAPE-22MM	White PVC Tape 22mm	8.840			0.550	4.86
		<b>120.500</b>				<b>92.55</b>
<b>Fitting</b>		<b>Quantity</b>			<b>Cost</b>	<b>Total</b>
Z-DOUBLE	Pull handle	31			1.210	37.51
Z-DOWEL	Dowel	326			0.120	39.12
Z-DRAWER-SCREW	Acrylic drawer screw	91			0.120	10.92
						<b>&gt;</b>

The costs include all the elements of the job, for example, material costs, edging cost, cost of fitting etc.



### Customer database

The PQ module includes an integrated database for customer details and addresses etc.

Customer database

File Record View Help

Customer code: CS1002

Customer name: Bedrooms Ltd

Invoice address: Ashley House, Wood Green Road, Bristol

Delivery address: Ashley House, Wood Green Road, Bristol

Postcode: BS1 1EX

Telephone: 0117 933 7892

Fax: 0117 934 6632

Contact: Susan Jones

Notes:

- Check credit limit
- Phone before del.
- 
- 
- 

Payment terms: 60 Days

Discount code: B

Analysis codes:

- WEST
- 
-

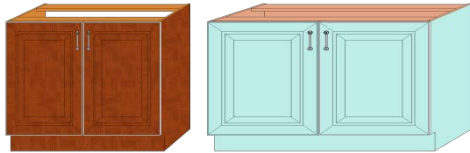
This is an Access MDB database - so the data can be easily linked to other systems.



## Product library

*The heart of the PQ module is the product library for building and storing parametric products.*

The product library deals with custom or variable products in product ranges.



Products

A single parametric product record can be defined to cover a wide range of options. The program automatically works out the correct part sizes and quantities based on the customer and/or production requirements.

In the above example there are two products produced from the same template. One with different materials, different sizes and one with no back.

This approach is very efficient and accurate since the program does all the calculating of sizes and quantities as the product requirements change from customer to customer.

The product entry screen allows the product to be detailed.

**Product library**

File Edit Help

Type: Product

Code: BASE-CABINET

Description: Base unit - cabinet

X Width: 900.0

Y Height: 870.0

Z Depth: 600.0

Vertical position:

Price (fx): =IF(<=900, 35.32, 49.56)

Answer table:

Memo:

1 2 3

4 5 6

7 8 9

10

Add Insert Delete Parts Subs @ fx \$ View product Build product

Part	Quantity / Time	Description	Material	Length	Width
1. BASE-CABINET-END-LEFT	1	Base cabinet end left	@ENDMAT_L@	=Z-T(@DOORMATERIA...	=Y
2. BASE-CABINET-END-RIGHT	1	Base cabinet end right	@ENDMAT_R@	=Z-T(@DOORMATERIA...	=Y
3. BASE-CABINET-DRAWER-L...	1	Base cabinet long drawer	@DOORMATERIAL@	=X	=&CABINET_DRAWER&
4. BASE-CABINET-DRAWER	3	Base cabinet drawer	@DOORMATERIAL@	=X/2.34	=&CABINET_DRAWER&-6
5. BASE-CABINET-DOOR	1	Base cabinet door	@DOORMATERIAL@	=X/2.50+T(@CARCASE...	=Y-18-@PH@-&CABINET_DRAWER&
6. BASE-CABINET-BOTTOM	1	Base cabinet base	@CARCASEMATERIAL@	=&INTERNAL_WIDTH&	=Z-T(@DOORMATERIAL@)
7. BASE-CABINET-RAIL-FRONT	2	Base cabinet rail front	@CARCASEMATERIAL@	=&INTERNAL_WIDTH&	=@RH@
8. BASE-CABINET-RAIL-BACK	1	Base cabinet rail back	@CARCASEMATERIAL@	=&INTERNAL_WIDTH&	=@RH@
9. BASE-CABINET-DIVIDER	1	Base cabinet divider	@CARCASEMATERIAL@	=Z-18-T(@BACKMATERI...	=Y-@PH@-&CABINET_DRAWER&-T(...
10. BASE-CABINET-FASCIA	1	Base cabinet fascia	@DOORMATERIAL@	100.0	=Y-@PH@-&CABINET_DRAWER&-T(...
11. BASE-BACK	1	Base unit back	@BACKMATERIAL@	=&INTERNAL_WIDTH&+...	=&BACK_PANEL_HEIGHT&
12. BASE-PLINTH	1	Base unit plinth	@DOORMATERIAL@	=&INTERNAL_WIDTH&	=@PH@

The details can include a drawing (from an external file e.g. bmp) or a drawing from the built-in drawing library.



The important point is that the product details such as Material or Length can be defined as variables e.g. @CARCASEMATERIAL@ or formulae &INTERNAL\_WIDTH&

The variable is answered at the order screen where the customer material is entered e.g. TEAK or BEECH-18MM.

The formula is pre-defined formula that depends on the material thickness. There are tables for defining variables, lookup tables, and formulae.

Formulae table			
File Edit Help			
No	Name	Description	Formula
1.	SHELFWIDTH	Shelf Width: Bases	=X*(2*T(@CARCASEMATERIAL@))
2.	HANDLE_TYPE	Double=1 or Single=0	=("HANDLETYPE@"&"Z-DOUBLE")
3.	SHELF_QUANTITY	Number of Shelves	=IF(Y<600,2,IF(Y<1200,3,5))
4.	BACK_PANEL_HEIGHT	Height of back panel	=Y-T(@CARCASEMATERIAL@)-@PH@+8
5.	INTERNAL_WIDTH	Internal width	=X*(2*T(@CARCASEMATERIAL@))
6.	DOOR_HEIGHT	Door height (no drawer)	=Y-2-@PH@
7.	DOOR_HEIGHT_DRAWER	Door height (with drawer)	=Y-4-@PH@-(Y-@PH@)/4
8.	DOOR_HINGE_HOLE	Variable hinge holes	=IF((@DR@).@PH@+@DOOR_HEIGHT_DRAWER&50,@PH@+@DOOR_HEIGHT&50)
9.	OVEN_DRAWER	Over drawer height	=((Y-@PH@-6)/3)-4/3
10.	CABINET_DRAWER	Cabinet drawer height	=((Y-8-@PH@)/4)
11.	DRESSER-DRAWER	Dresser drawer height	=Y-T(@CARCASEMATERIAL@)-@PH@-8/3
12.	PDR	Unit price drawer	=CELL(BASE-DRW,@DOORMATERIAL@,STR(((INT(X/100+1)*100)))
13.	PNDR	Unit price no drawer	=CELL(BASE-NODRW,@DOORMATERIAL@,STR(((INT(X/100+1)*100)))
14.			

Formulae table

The task of building up the product details can be quite a lengthy and complex process - but the program includes many examples and templates to aid the process.

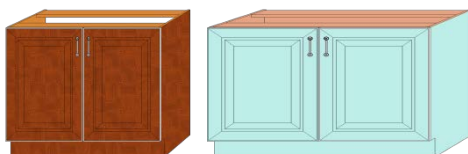
### More about custom products

When working with custom products many of the parts or other features of the product are defined by a formula rather than a fixed value and some features of the product are defined as variable items, such as overall size or door material.

The actual size or material is specified when you enter the order details or product requirements for a particular order. This is a big advantage because a single 'Product' definition can be used to cater for a variety of customer preferences, or different options within a style or range. This helps to keep the product library small and easy to maintain.

For example, in the following simple case, TOP and DOORS are the variables for the materials in the product.

To enter an item as a variable surround the variable name with the @ symbol, for example: @TOP@ @DOORS@.



Products

TUDOR/1 Kitchen cabinet 750.0

Code	Qty	Material	Description	Gr	Edge
------	-----	----------	-------------	----	------

TOP/1	1	@TOP@	Long work top	Y	1111
DOOR/2	2	@DOORS@	Tudor doors	Y	0000
FT/1234	15	+SCREW	3/4" screws		
FT/006	1	+EXTRA	Inside trays		

### Product and part formulae

If you define a product such that some or all of the overall product dimensions are different for each customer then some or all of the individual parts also vary in size. For example, the tops in the above case have different lengths and widths for each product variation.

To deal with this define for each part how it's size varies with the overall product dimensions.

In the example above tops this may be quite simple:-

length of top = overall width of product  
width of top = overall depth of product

The formulae for the doors may be more complicated:-

length of door = height of product - 35mm  
width of door = (width of product-10mm)/2

The overall product dimensions are represented by the following variable names:-

X - overall product width  
Y - overall product height  
Z - overall product depth

Which you can use in formulae. In the above example the formulae become:-

length of top = X  
width of top = Z  
length of door = Y-35  
width of door = (X-10)/2

A formula can also contain a variable, such as, @PLINTH@. Where the variable stands for a specific value that varies with each product.

Length of door = Y-2\*@PLINTH@

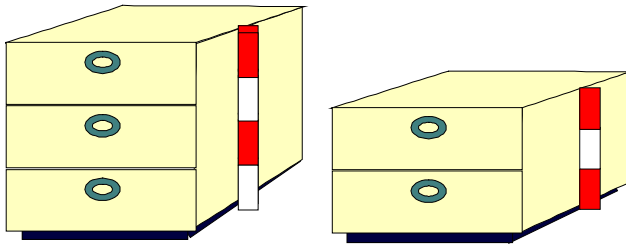
The product requirements calculation replaces the variable @PLINTH@ by the value entered at the optimise products screen.

### Conditional statements

A conditional statement is a statement that evaluates to 0 if the statement is false and 1 if the statement is true.

=(X>400)  
=((Z-12)<500)

The statement (X>400) means If X is greater than 400 the statement is set to 1 or if X is less than 400 the statement is set to 0. A typical use of these statements is in the quantity box. On some products the number of drawers may depend on the overall height of the product, for example:-



### Formula

2 drawers if product is less than 1000mm in height  
 3 drawers if product is more than 1000mm in height

The formula for this is: Number of drawers' = 2+1\*(Y>=1000)

### Making 3D models in the product library

It is possible to construct a 3D model of a product in the product library by specifying how the products parts are connected together.

Product library

File Edit Help

Type: Product

Code: BASE-CABINET

Description: Base unit - cabinet

X Width: 900.0

Y Height: 870.0

Z Depth: 600.0

Vertical position:

Price (fx): =IF(X<=900,35.32,49.56)

Answer table:

Memo:

1 2 3

4 5 6

7 8 9

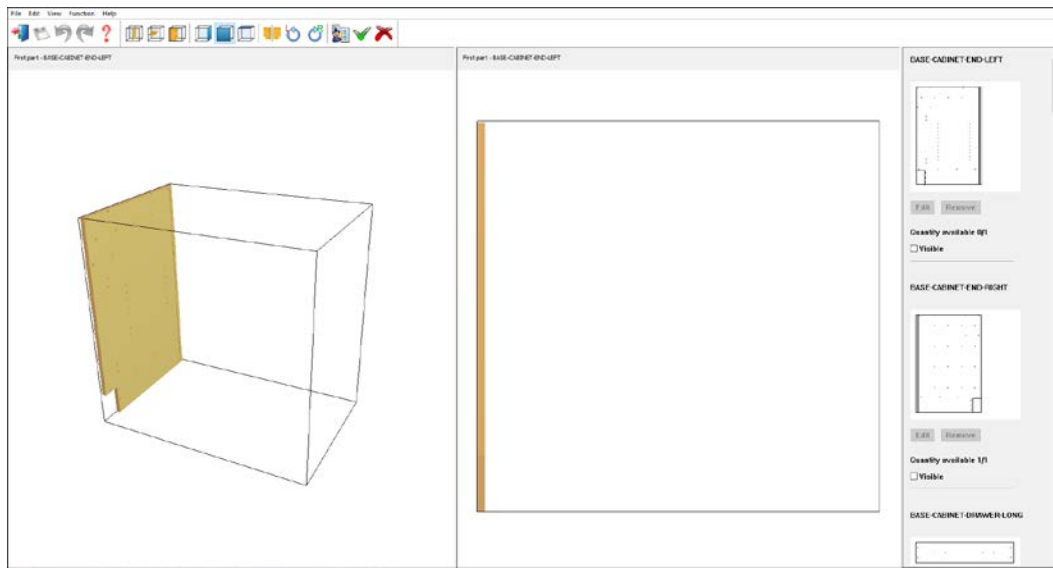
10

Add Insert Delete Parts Subs fx \$ View product Build product

Part	Quantity / Time	Description	Material	Length	Width
1. BASE-CABINET-END-LEFT	1	Base cabinet end left	@ENDMAT_L@	=Z-T(@DOORMATERIA...	=Y
2. BASE-CABINET-END-RIGHT	1	Base cabinet end right	@ENDMAT_R@	=Z-T(@DOORMATERIA...	=Y
3. BASE-CABINET-DRAWER-L...	1	Base cabinet long drawer	@DOORMATERIAL@	=X	=CABINET_DRAWER&
4. BASE-CABINET-DRAWER	3	Base cabinet drawer	@DOORMATERIAL@	=X/2.34	=CABINET_DRAWER&-6
5. BASE-CABINET-DOOR	1	Base cabinet door	@DOORMATERIAL@	=X/2.50+T(@CARCASE...	=Y-18-@PH@-CABINET_DRAWER&
6. BASE-CABINET-BOTTOM	1	Base cabinet base	@CARCASEMATERIAL@	=INTERNAL_WIDTH&	=Z-T(@DOORMATERIAL@)
7. BASE-CABINET-RAIL-FRONT	2	Base cabinet rail front	@CARCASEMATERIAL@	=INTERNAL_WIDTH&	=@RH@
8. BASE-CABINET-RAIL-BACK	1	Base cabinet rail back	@CARCASEMATERIAL@	=INTERNAL_WIDTH&	=@RH@
9. BASE-CABINET-DIVIDER	1	Base cabinet divider	@CARCASEMATERIAL@	=Z-18-T(@BACKMATERI...	=Y-@PH@-CABINET_DRAWER&-T...
10. BASE-CABINET-FASCIA	1	Base cabinet fascia	@DOORMATERIAL@	100.0	=Y-@PH@-CABINET_DRAWER&-T...
11. BASE-BACK	1	Base unit back	@BACKMATERIAL@	=INTERNAL_WIDTH&+...	=BACK_PANEL_HEIGHT&
12. BASE-PLINTH	1	Base unit plinth	@DOORMATERIAL@	=INTERNAL_WIDTH&	=@PH@

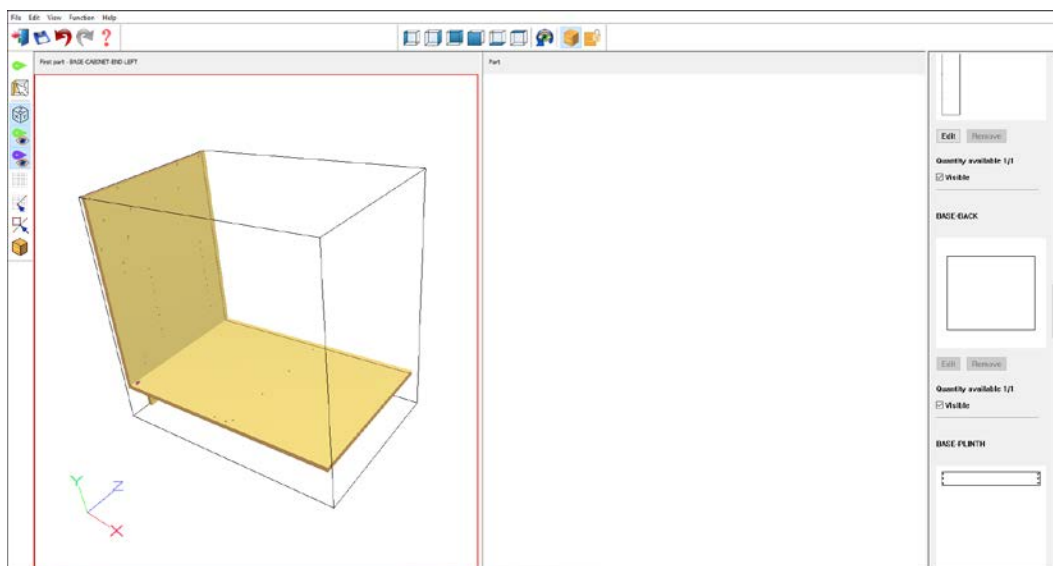
These products can then be viewed in 3D in product requirements or quote. When viewing such products variables answers can be changed to instantly see their effect on the product.

Products are created by specifying a first part in the product and how it is positioned within the product cuboid created to the product size specified in the product library.



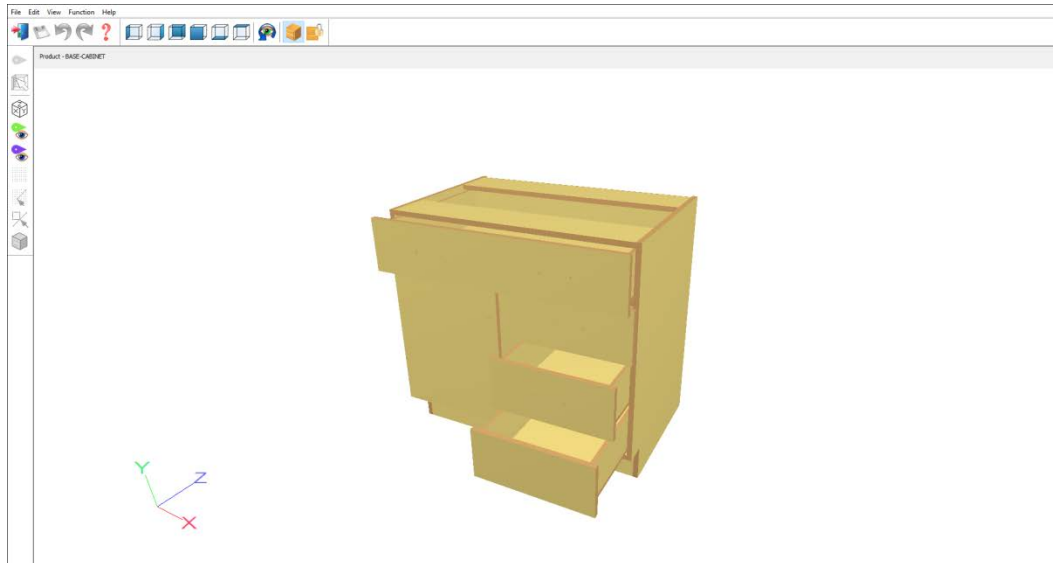
*First Part Positioning*

Once the first part has been placed the other parts of the product can be added one at a time.



*3D Product Builder*

Until the product is complete:



*3D Completed Product*

The products are built using connectors. A connector is attached to each part and then snapped together.



*A connector*

Connectors positions on their part can be specified parametrically so they will remain in the correct place as the dimensions of the product change.



### **Product requirements**

Product requirements are the quantities of each product required to fulfil an order. The requirements can include values for sizes, finishes and fittings etc. where these are variable items that vary with each order.

With the product and part libraries set up the program can automatically calculate for each product requirement list the type, sizes and quantities of each part required. The result is a cutting list of part sizes for those products. The program optimises the cutting list to produce a set of cutting patterns.

The screen shows the list of products required and the quantity of each. This might be a list for a customer or batch of items for production.

**Product requirements - Kitchen & bedroom**

File Edit View Options Help

Order: Kitchen & bedroom

Description: Example Prod req 01


Optimising: default

Saw: default

Over: 0

Variables: Edit

Drawers-MFC18-OAK



No	Code	Information	Product			Qty
			Width	Height	Depth	
1	BATHROOM-CABINET	Bathroom cabinet	700.0	600.0	180.0	1
2	WARDROBE	Wardrobe - drawer & door	1000.0	1800.0	600.0	1
3	DRESSER	Dressing table	1200.0	1100.0	600.0	1
4	DRESSER	Dressing table	1000.0	1200.0	600.0	1
5	WARDROBE	Wardrobe - drawer & door	1200.0	1900.0	650.0	1
6	BATHROOM-CABINET	Bathroom cabinet	700.0	600.0	180.0	1
7	DRESSER	Dressing table	1000.0	1100.0	600.0	2
8	DRESSER	Dressing table	1000.0	1100.0	600.0	1
9	WARDROBE	Wardrobe - drawer & door	1000.0	1800.0	600.0	1
10	BASE-CABINET	Base unit - cabinet	900.0	870.0	600.0	1
11	BASE-CORNER	Corner cabinet	800.0	870.0	800.0	1
12	BASE-DOUBLE	Double base unit	1000.0	870.0	600.0	1
13	BASE-DRAWER	<input type="checkbox"/> Drawers-MFC18-OAK	500.0	870.0	600.0	1
14	BASE-OVEN-HSE	Oven Housing	600.0	2350.0	600.0	1
15	BASE-SINGLE	Single base unit	500.0	870.0	600.0	1
16	BASE-SINK	Sink base unit	1000.0	870.0	600.0	1

Merge: None

Product requirements

When reviewing the requirements, products can be displayed as 2D drawings or 3D models.

**Custom products** - For custom products the programs prompts for the customised details when products are entered. For example, the overall width, depth or height, finish or material for a product (where these are variable items).

**Variables**

Merge Range

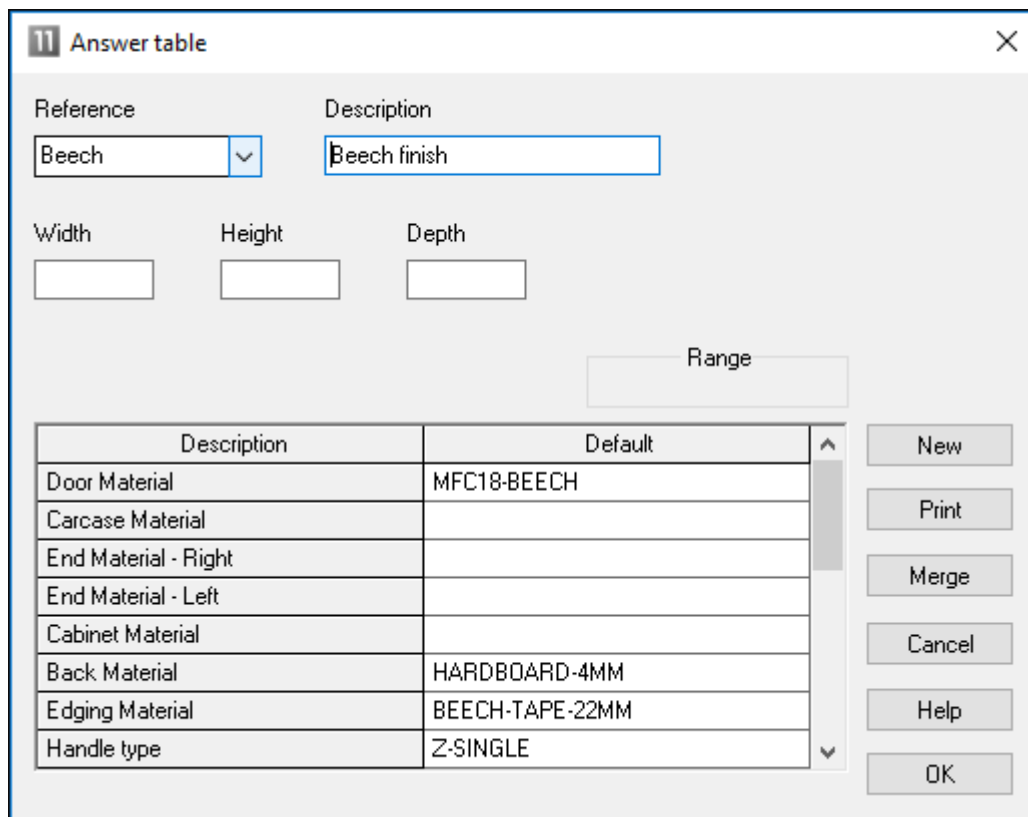
Door Material	MFC18-OAK
Carcase Material	MEL-CHIP-18MM
End Material - Right	MEL-CHIP-18MM
End Material - Left	MEL-CHIP-18MM
Back Material	HARDBOARD-4MM
Edging Material	
Handle type	Z-DOUBLE
Room number	3

OK Default Copy Help Cancel

Enter variable values dialog

The 'Copy' option offers a list of pre-defined 'answers' which can be used to quickly set up a product.

The sets of 'answers' are created in the 'Answer table' and can be useful where a product has several different but well defined ranges.



**Answer table**

Reference: Beech (dropdown)

Description: Beech finish (text box)

Width: (text box)

Height: (text box)

Depth: (text box)

Range: (button)

Description	Default
Door Material	MFC18-BEECH
Carcase Material	
End Material - Right	
End Material - Left	
Cabinet Material	
Back Material	HARDBOARD-4MM
Edging Material	BEECH-TAPE-22MM
Handle type	Z-SINGLE

Buttons: New, Print, Merge, Cancel, Help, OK

Answer table

In the above example there are a set of pre-defined values for the Beech finish.



Select the Optimise button to create cutting patterns

When optimisation is complete the screen displays the *Management summary*

**Management summary** Example Prod req 01

Kitchen & bedroom-01///default/?default/? [Rules:CL,BL]  
Revision 7 : 27 Sep 2018 12:35 : Optimised by Richard

Description	Quantity	m2	m3	Weight	Percent	Rate	Cost	Statistic	Value
Required parts	72	34.20	0.51		75.97%			Number of patterns	14
Plus/Over parts	0	0.00	0.00		0.00%			Headcut patterns	2
Offcuts	14	5.83	0.10	42.00	12.95%			Rotated patterns	0
Scrap		4.99	0.08		11.08%			Recut patterns	8
Core trim		0.00	0.00		0.00%			Number of cycles	14
Boards	14	45.02	0.69	286.67	100.00%			Cutting length	177.8
								Throughput (M3/Hr)	0.6
								Waste (%Parts)	31.64%
								Waste (%Boards)	24.03%
Sheets used		45.02	0.69		100.00%		170.69		
Offcuts used		0.00	0.00		0.00%		0.00		
Offcuts created		-5.83	-0.10		-12.95%	0.000	0.00		
<b>Net material used</b>		<b>39.19</b>	<b>0.59</b>		<b>87.05%</b>		<b>170.69</b>		
Cutting time	1:04Hr					50.000	53.03		
<b>Total parts</b>	<b>72</b>	<b>34.20</b>	<b>0.51</b>	<b>215.33</b>	<b>75.97%</b>	<b>6.542</b>	<b>223.72</b>		
Sundry - unit usage	2					3.200	6.40		
<b>Total sundry</b>							<b>6.40</b>		

Batch reports | Summaries | Advanced | Patterns | Machining | Custom

Navigation: Management summary | Dashboard | Output | Patterns |

Product requirements - Management summary

The patterns and summaries can be reviewed and the data sent to the saw in the usual way.

*Requirements report* - You can print report for each optimised requirements list. This shows a complete breakdown of the products, parts and quantities for the requirements list.

*Job costing report* - Another useful report is the job costing report. This shows a full breakdown of the production costs, including material, fittings, edging, assembly operations etc.

**Job costing** Bedroom & bathroom

Bedroom & bathroom

Code	Description	Quantity	Linear	Area	Cost	Total
<b>Board</b>	<b>Material</b>	<b>Quantity</b>		<b>Area</b>	<b>Cost/m2</b>	<b>Total</b>
MFC18-OAK/01	MFC18-OAK 3050.0 x 1220.0	12		44.652	3.300	147.352
MFC18-OAK/02	MFC18-OAK 2440.0 x 1220.0	21		62.513	2.970	185.663
HARDBOARD-4MM/01	HARDBOARD-4MM 2440.0 x 1220.0	41		122.049	0.890	108.623
MFC18-EBONY/01	MFC18-EBONY 3050.0 x 1220.0	8		29.768	5.760	171.464
MFC18-EBONY/02	MFC18-EBONY 2440.0 x 1220.0	14		41.675	5.210	217.128
MFC18-TEAK/01	MFC18-TEAK 2440.0 x 1220.0	8		23.814	3.110	74.063
MFC18-TEAK/02	MFC18-TEAK 3050.0 x 1525.0	7		32.559	3.110	101.258
X00125/0001	MFC18-TEAK 780.0 x 1011.0	1		0.789	1.550	1.222
MFC18-BEECH/01	MFC18-BEECH 3050.0 x 1525.0	7		32.559	3.210	104.514
MFC18-BEECH/02	MFC18-BEECH 2440.0 x 1220.0	22		65.490	2.960	193.849
MEL-CHIP-18MM/02	MEL-CHIP-18MM 2440.0 x 1220.0	13		38.698	3.140	121.513
MFC18-RED/02	MFC18-RED 2440.0 x 1220.0	3		8.930	4.820	43.045
MEL-CHIP-18MM/01	MEL-CHIP-18MM 3050.0 x 1220.0	1		3.721	3.180	11.833
		<b>158</b>		<b>507.217</b>		<b>1481.525</b>
<b>Sundry</b>	<b>Material</b>	<b>Quantity</b>	<b>Linear</b>	<b>Area</b>	<b>Cost</b>	<b>Total</b>
MIRROR-GLASS	MIRROR-GLASS	18			3.200	57.600
WHAC-12/01	WHITE-ACRYLIC-12MM	36			1.320	47.520

Summaries | Advanced | Patterns | Machining | Custom

Navigation: Management summary | Dashboard | Output | Patterns |

Job costing

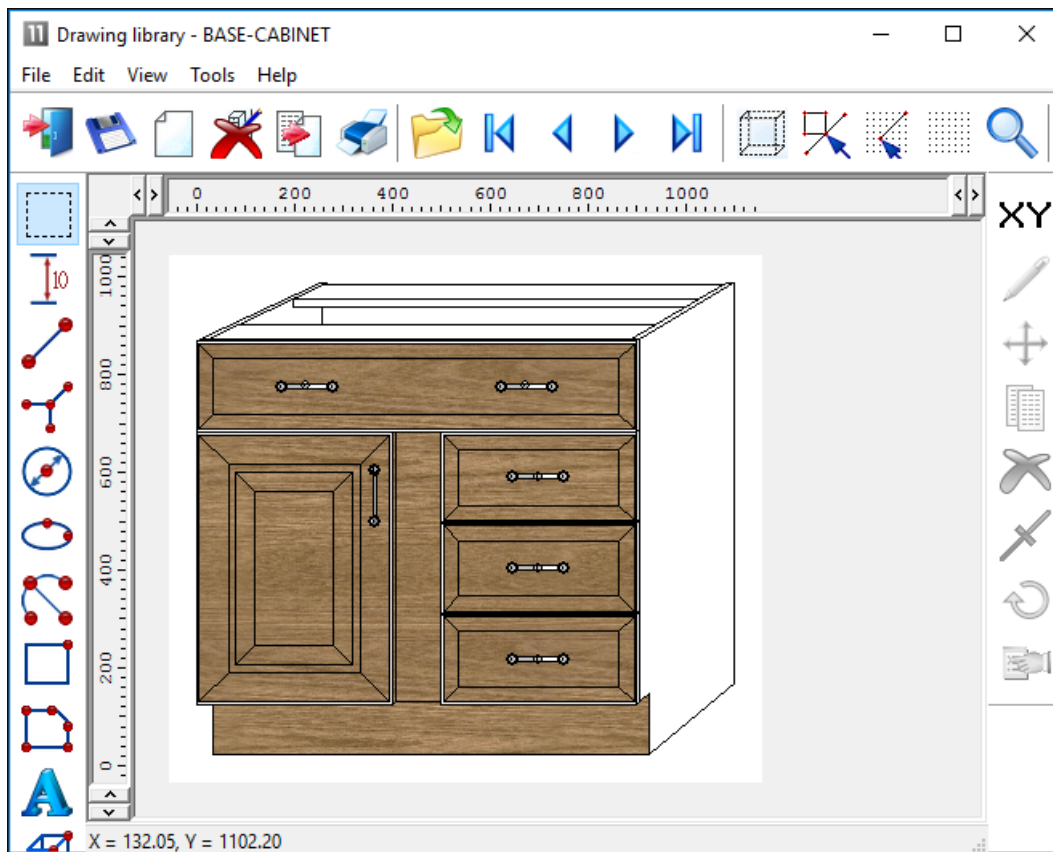


## Drawing library

The program includes a drawing library for creating (or importing) drawings of parts and/or products. The advantage of the drawing library (compared to a picture or bitmap) is that the drawing can be scaled and can include more detail.

Drawings can be useful in easily identifying items and can be printed on labels and reports. Both the part and product library screens have a box for displaying a drawing associated with the part or product. At the main screen:-

- Select: **Libraries - Drawing library**

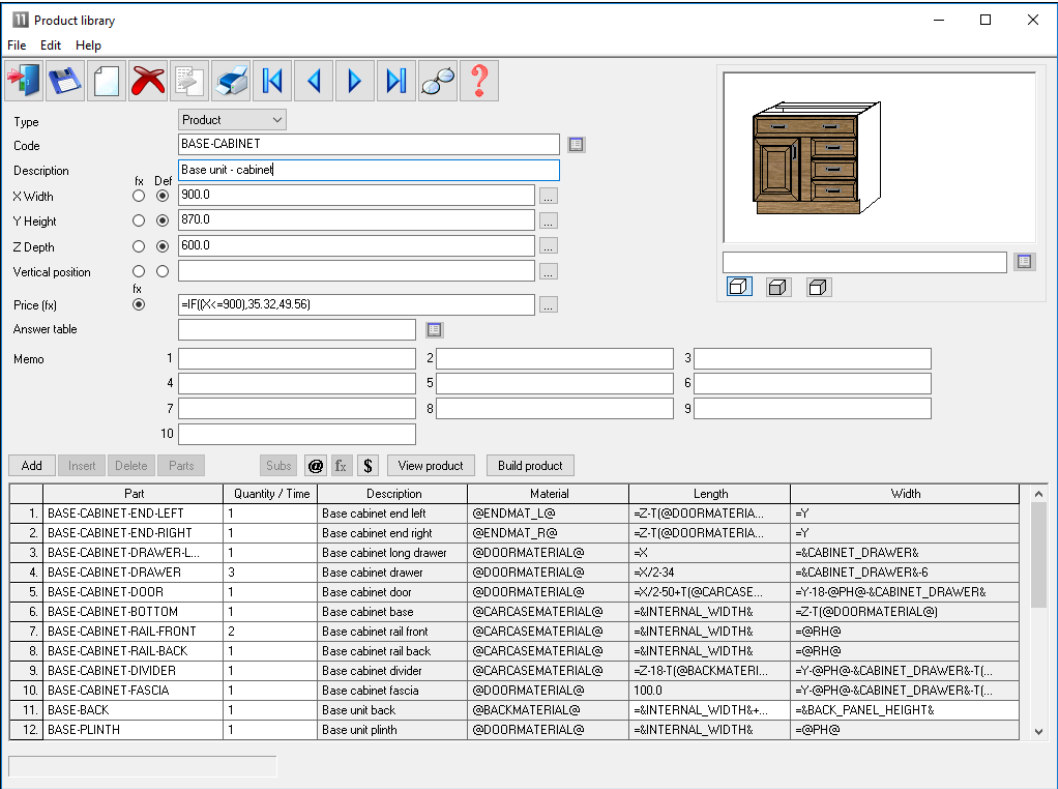


*Drawing library*

The drawing library contains a set of general drawing tools to help draw the items and there are also specialist tools to quickly draw cabinets and other items in perspective. The tools include a full range of vector drawing tools, rectangle, arc, ellipse, lines ...

The same drawing can be assigned to one or more products in the product library if necessary.

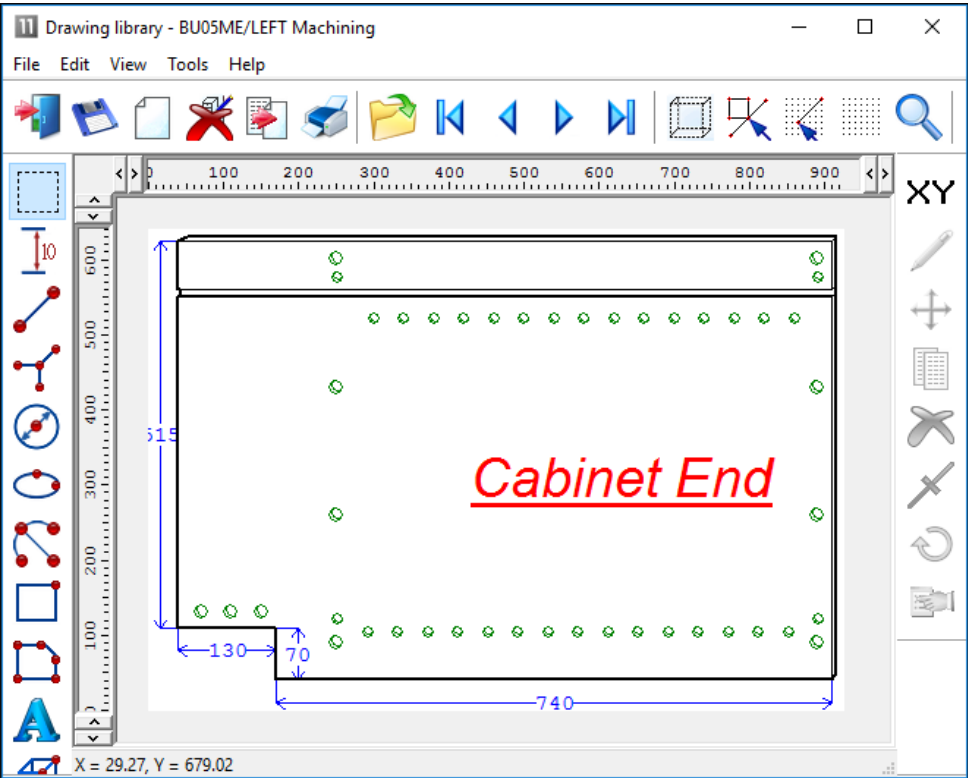
If the drawing has the same code as a product in the product library is it automatically linked to that product.



Drawing at Product library

The drawing layout and tools are very flexible so a wide range of accurate drawings are possible.

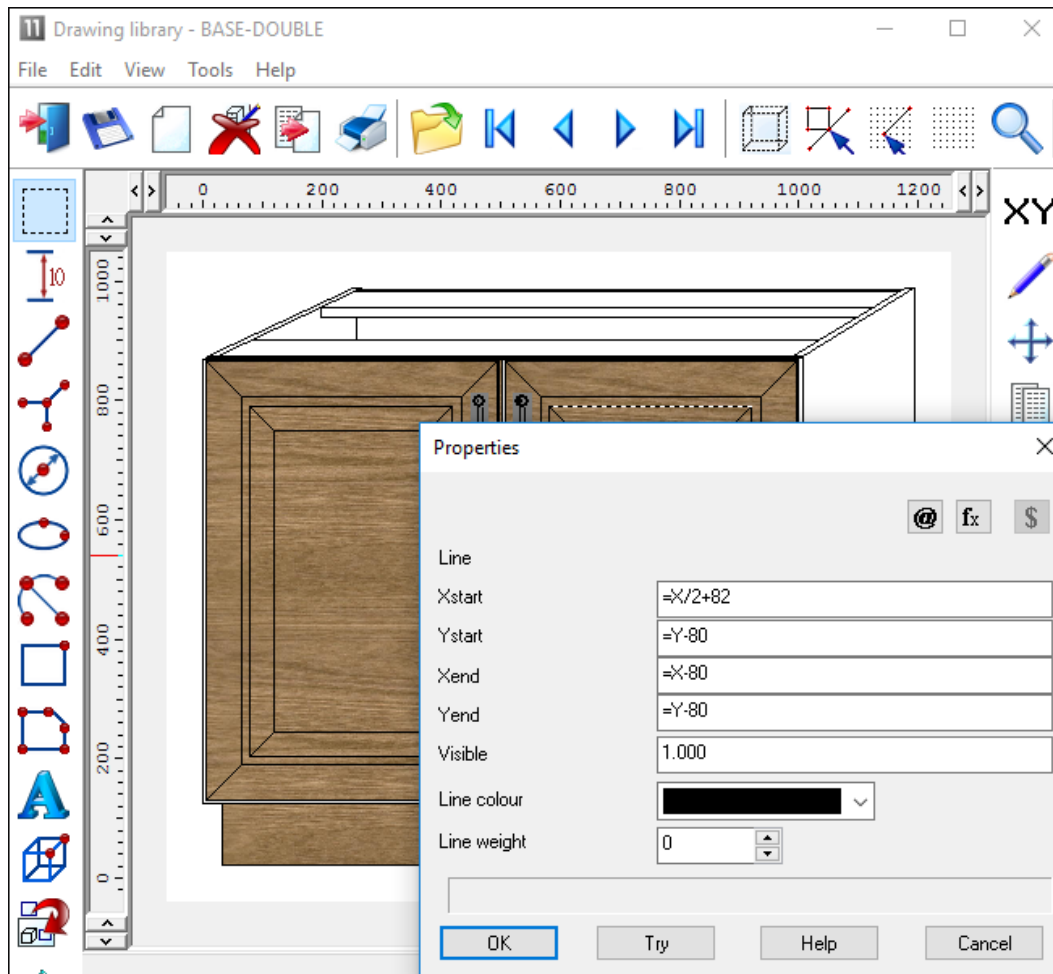
For example, a perspective view of machining for a part.



Drawing library - machining

The following drawing shows a detailed construction view.

This is a parametric drawing where the drawing is controlled by formula and is an exact representation of that item - including a perspective view



Drawing library - parametric drawing

For a parametric drawing each line is related to the overall product dimensions by a formula (set in the Properties dialog for the line or other drawing object). When the drawing is linked to a product the size of the drawing adjusts automatically.

There are also formula functions to express the perspective so that as the drawing changes size the perspective is still correct.

The drawings can also be exported as images.

## Product & Quotes Summary

*Products & quotes requires one of the Optimising modules; SO, PO or NE.*

	PQ
Product records	Unlimited
Customer records	Unlimited
Drawing library	•
External product drawings	•
Parametric products	•

Quotations	•
Job costing	•
Product costing	•
Flexible orders	•
Form and Label designer	•
Printed forms	•
Integrated local help	•