Basic design principles

It's best practise to use a standard corner base or wall unit when designed opposite a 925 corner unit on the same wall. This gives the installer greater flexibility of using a filler panel to allow for any measurement discrepancies.

It's best practise to use a standard corner base/wall unit in opposing corners when greater flexibility is required to allow for angled walls or any measurement discrepancies.

Due to the rigidity of a 925 corner unit DO NOT use this unit type on any angled walls as the installer will be unable to amend the unit to match the angle of the

Key points to remember when checking a design

Alignment

This is a question of customer choice however best practise is to align wall and base unit.

Extractor hood

Always ensure the extractor hood is the same as or greater than the width of the hob.

Side panels

Remember all cabinet ends will require a replacement or clad on panel.

Infill panels

Always try and start a run of units with an infill panel. This ensures the kitchen door opens, allows space for decorating/tiling and compensates for any measurement discrepancies.

Handles

Consider which way a kitchen should open. For example always ensure the doors open away from the hob. Positioning handle horizontal can be a great way to ensure symmetry is not lost.

What can be installed above a hob?

Regulations state there must be a minimum clearance of 760mm from the top of the hob to a combustible material above.

Examples of combustible materials are:

a. Wooden cabinets/pelmets

b. Plastic control panels on hoods

c. Wooden fly over shelves

Placing a hob

If opening A is less than 460mm then, Width hob + 100mm = regulation opening

What can be installed next to a hob

- Minimum 300mm away from sink bowl and drainer
- Minimum 300mm away from a combustible surface. e.g. larder end panel
- Minimum 300mm away from a non-combustible surface. Consider the health and safety practises of placing a hot pan down onto a surface of less than 300mm

What can be installed under a hob

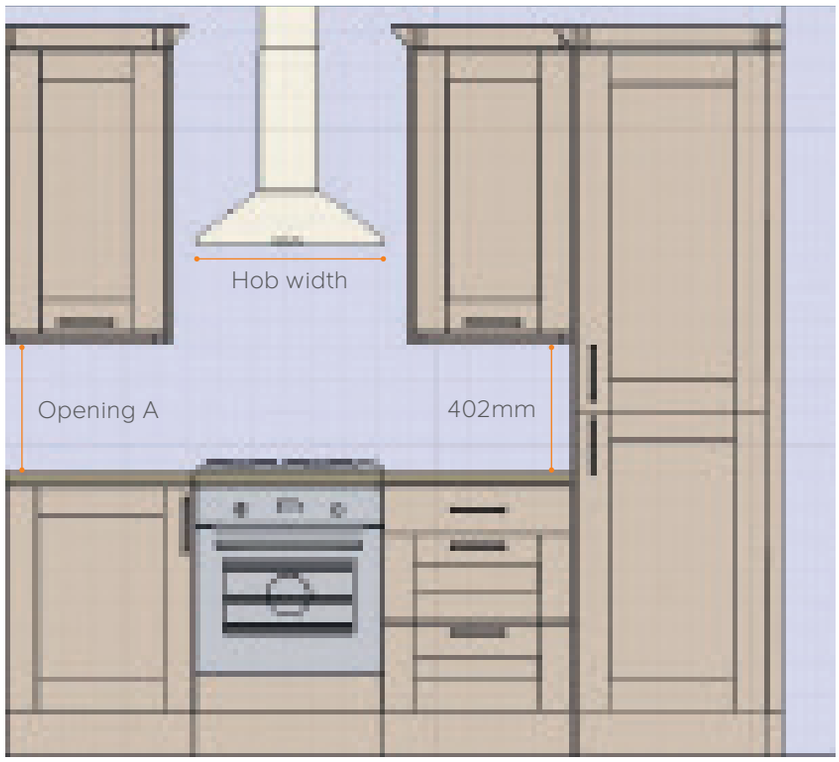
- Hobs should not be placed over any appliances with the exceptions of ovens and warming drawers.
- Consider if the hob is thicker than the work surface as this may prevent a kitchen drawer or internal accessory from operating correctly

What can be installed behind a hob

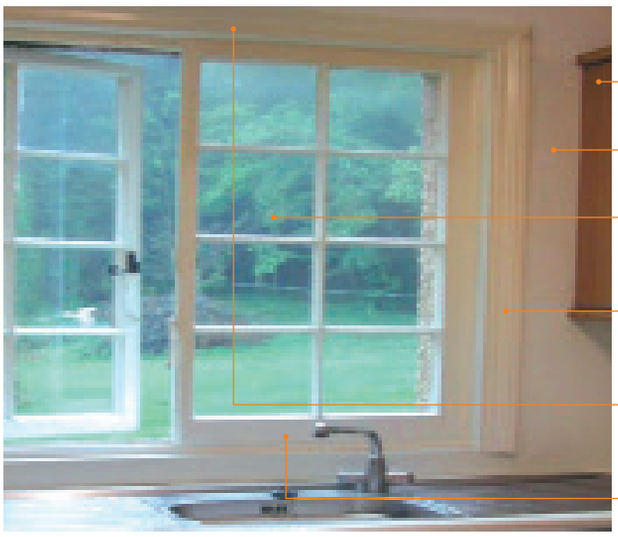
- Hobs are not to be fitted in front of a window
- Allow 300mm from the side of a window to the side of a gas hob. This can be reduced to 50mm for electric hobs
- A minimum of 50mm clearance is required to the rear of the hob to a non-combustible surface or 300mm to a combustible surface e.g. upstands.

Hobs and Larder units

- If there is no larder unit within the design move the wall units up ↑ to give the regulatory 460mm clearance. This removes the need to have a 50mm clearance either side of the hob.

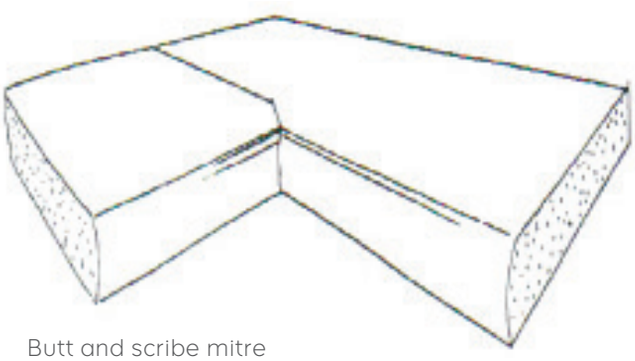


Windows and doors



- Remember that wall or tall units that are designed flush against a window or door opening may also need an end panel, and consider space for pelmet and cornice.
- A gap of at least 50mm should be allowed either side of a window and door.
- Consider the size and amount of light that will be coming into the room as it may be advisable to allow extra space.
- Check to ensure that wall units do not extend over the window lintel as fixing units into steel and concrete can be difficult.
- Ask the customer if the windows are being dressed with curtains or blinds as this may reduce your planning space.
- An inward swinging window may obstruct a high mixer tap.

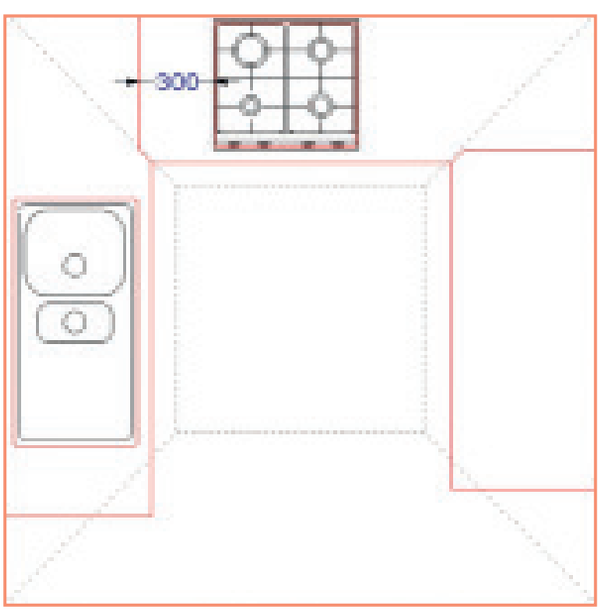
Worktops



Butt and scribe mitre

Think about the position of the worktop joints and always show them clearly on the plan. The position chosen will directly influence the number of worktops required and the final price.

Jointing methods should be fully explained and agreed before the final design is finalised. It must be explained to the customer that worktops are supplied in uncut lengths and that any customisation needs to be completed by the installer and annotated on the plan.



- Worktops should be fitted in a clockwise fashion and avoid wall to wall single lengths.
- No joint within 300mm of a hob or sink.
- Sinks and hobs should be 300mm from worktop end. Exceptions can be made for sinks one end but 50mm minimum must be maintained from cut-out to edge and the edge be supported.
- No joint mid sink or hob cut-out.
- Maximum unsupported overhang should be 300mm on all worktop types.
- Maximum mid run span (between units or between legs on breakfast bar) 650mm.

Boxing boilers

Modern wall mounted boiler

Most Kitchens will have a central heating boiler on the floor or wall and so a customer may ask:

“Can you box it in for me?”

“What type is it?”

“I don’t know”, or “A white one.”

Always ask the customer to check what the requirements are for ‘boxing in’ that particular make of boiler. All details can be found in the instruction manual. Copies of most boiler instruction manuals can be found via the British Gas website.

Remember to annotate any details or requirements on the plan, e.g. materials supplied, advised customer to check manufacturers requirements.

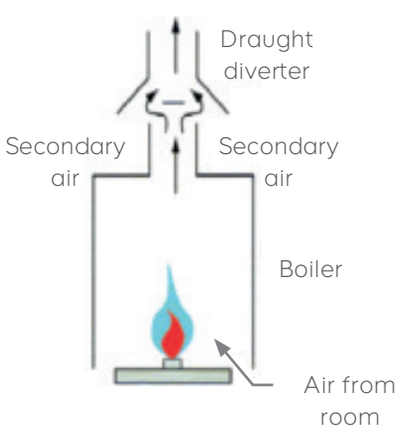
Open flue boiler

This is an older type of boiler which relies on the circulation of fresh air for combustion and ventilation.

If the air flow is restricted by ‘severe’ boxing-in then combustion could be impaired and a build up of toxic fumes may result over a period of time.

An open flue boiler can be recognised by its wide ‘flue’ pipe (100mm – 125mm) coming from the top panel and out through the wall.

Remember:
Never box in an open flue boiler

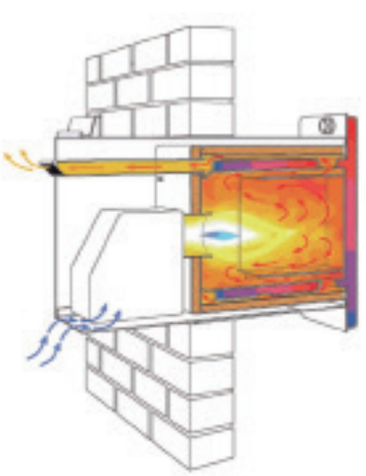


Balanced flue boiler

This boiler draws air from outside of the building through a grill in the wall directly behind it. It uses this air for combustion, then returns the waste air outside.

This type may be ‘boxed-in’ providing that the manufacturers guidelines are met and adequate access for servicing is left.

Remember to annotate notes on your plan!



Remember:
Never box in free standing refrigeration.

Refrigeration

Free-standing refrigeration

- Free-standing refrigeration gives off heat from the back of the unit.
- A ventilation gap of at least 20mm should be allowed each side to allow air to flow when positioned under a worktop and between units.
- Failure to do this may cause overheating of the compressor and subsequent breakdown
- Avoid positioning a free-standing refrigeration directly next to a cooker, boiler or radiator.

Integrated refrigeration

Integrated fridges and freezers are engineered and ventilated differently, normally from the front and are designed to operate at higher temperatures, up to 48°C compared to free-standing appliances, up to 35°C, so these can be placed inside a 600mm wide larder unit or behind a specially designed door.

Placing a sink

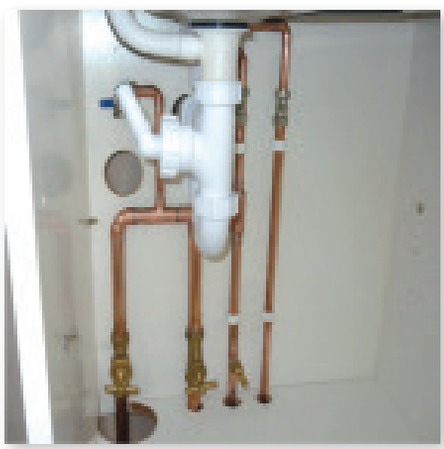
Most water and waste pipes can be hidden by the installer diverting them into the service gap behind the unit.

In most cases the drainer is able to extend over an adjacent unit or appliance, i.e. dishwasher or washing machine, as the drainer does not cut into the worktop space, (an exception would be the round single drainer which needs its own unit).

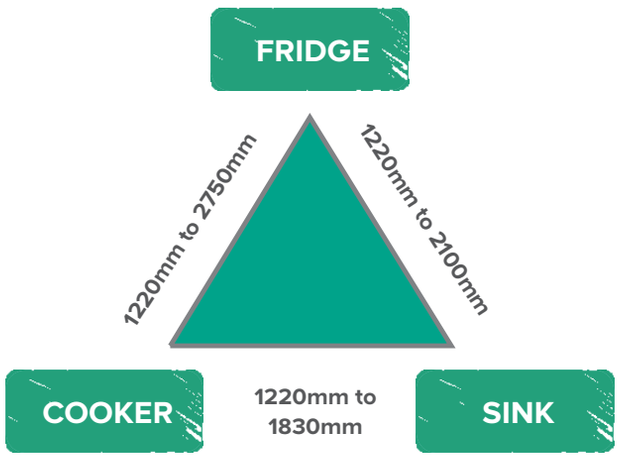
Do not place within 300mm of a worktop joint if avoidable as water will reduce the life of the worktop joint.

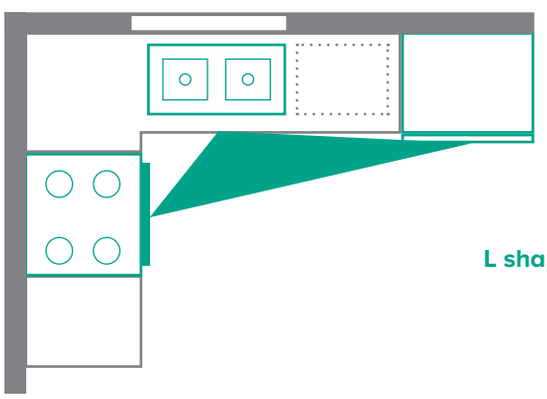
Do not place within 300mm of a hob or electric power point. Move the power point if required.

Ensure water and waste supply is on the same wall as your sink position. You cannot dig up a concrete floor on a galley kitchen. Water only runs down hill.

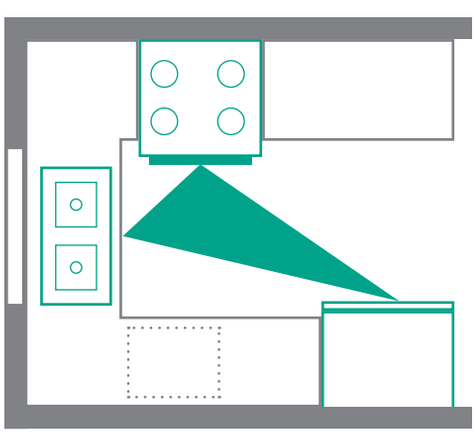


Top Tip: When planning an inset sink remember to check the size of the unit is 500mm for a single bowl or 600mm for a 1.5

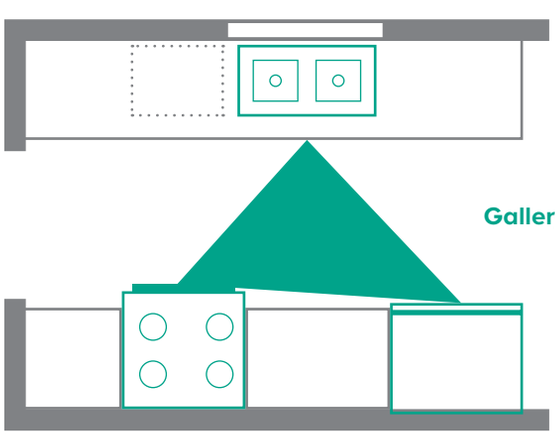




L shape



U shape



Gallery

Working triangle

The kitchen work triangle principle is used by kitchen designers when designing kitchens:

- No leg of the triangle should be less than **1220mm** or more than **2750mm**.
- The sum of all three sides of the triangle should be between **4000mm** and **7900mm**.
- Cabinets or other obstacles should not intersect any leg of the triangle by more than 300mm.
- If possible, there should be no major traffic flow through the triangle.
- A full-height obstacle, such as a tall cabinet, should not come between any two points of the triangle.

Besides the work triangle itself, there are several rules of thumb to consider when planning a kitchen:

- As measured between countertops and cabinets or appliances, work aisles should be no less than 1200mm.
- A sink should have a clear counter area of at least 600mm on one side, and at least 460mm on the other side.
- A refrigerator should have a clear counter area of at least 380mm on the handle side; or the same on either side of a side-by-side refrigerator; or the same area on a counter no more than 1200mm across from the refrigerator.
- At least 900mm of food preparation area should be located next to the sink.

Ergonomic – 800, 900, 1200 rule

800 Rule

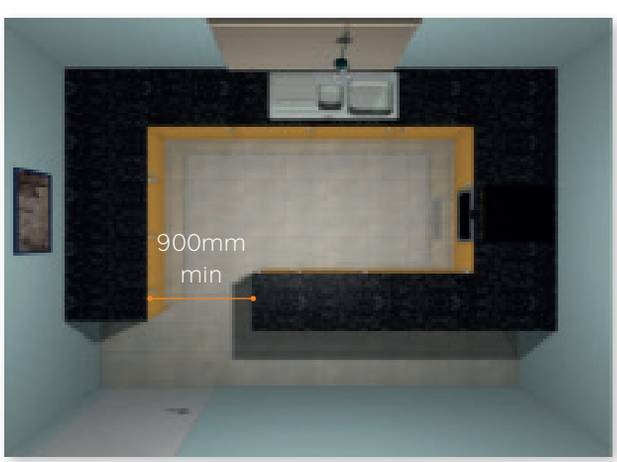
A minimum gap at the end of worktop runs to allow entrance to a room.

Remember appliances and wheelchair access.

900 Rule

The minimum separation of the ends of units, peninsular breakfast bar or table to the front of other units.

Remember appliance door opening and people passing.



1200 Rule

The minimum gap in a 'U' shape or galley kitchen between facing units with doors.

Remember opening of doors, 2 x 600mm and working space in front of worktops.

Aesthetics

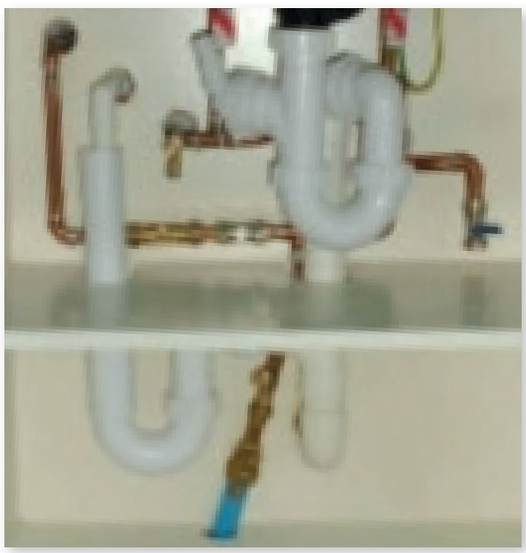
An aesthetically pleasing feature does not have to mirror top and bottom!

What can you see?...

- Pan drawers with wall units above.
- Handing of wall and base units.
- Good, aesthetic design ensures the customers requirements are met in terms of look and style.
- Aesthetics is defined as 'an artistically beautiful or pleasing appearance.'

For us it is primarily concerned with symmetry, unit size and door handing.

Services



Remember: If the main services, water stopcock, gas stopcock, electric mains or cooker point are located within the kitchen then they must be marked on the

Water

When planning units remember accessibility. If the stopcock is to be sited in the service gap at the back of the base unit then the back panel may need to be modified.

Gas

To work on gas you must be:

Fully qualified and registered with the Gas Safety Register. (Register of Gas Installers, RGII, in Ireland)

Electric

To work on electrics you must be:

A fully qualified person registered with a governing body like NAPIT or NIC EIC.

NAPIT Electrical

NICEIC

B&Q

RCD explained – consumer units

An RCD, or residual current device, is a life-saving device which is designed to prevent you from getting a fatal electric shock if you touch something live, such as a bare wire. It can also provide some protection against electrical fires. RCDs offer a level of personal protection that ordinary fuses and circuit-breakers cannot provide. All circuits that are altered or extended need to be RCD protected.

Fixed RCDs – These are installed in the consumer unit (fusebox) and can provide protection to individual or groups of circuits. A fixed RCD provides the highest level of protection as it protects all the wiring and the sockets on a circuit, and any connected appliances. These can be found in the boards as shown below.

Fully RCD protected, all trip switches green
No upgrade work needed.

RCD protected in green

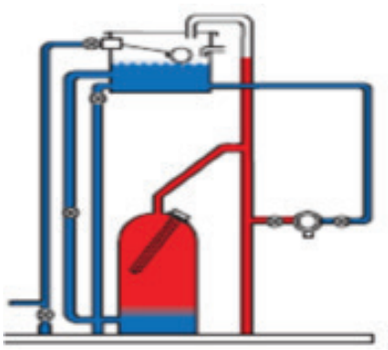
Please note:
If the customer does not have a RCD type consumer unit (fuse board), then it will need to be

How to work out water pressure in the home

Water systems – How to tell what sort of water system you have?

There are a few different types of residential water systems in the UK and ROI. Exactly how they work may not be that important but if the type of system is known, we can usually make some assumptions about the sort of water pressure it will give.

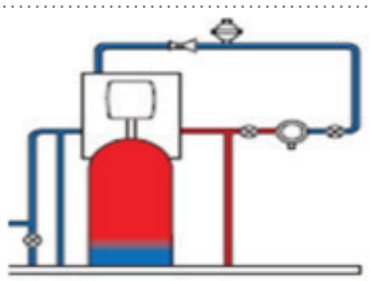
Gravity fed system



This is usually a tank in the loft space or inside an airing cupboard. A basic guide to establish how much water pressure it will deliver is to measure how high the tank is above the tap. For instance if the tank is 2 metres above the level of the tap, the water pressure will be 0.2bar. Similarly, if the tank is 5 metres above the tap then the pressure will be 0.5bar.

This type of system does not produce very high pressures simply because the tanks are rarely more than a few metres above the taps. It is possible to increase the pressure of the system be installing a pump. The pump performance varies between designs and reference should be made to the pumps themselves before choosing one.

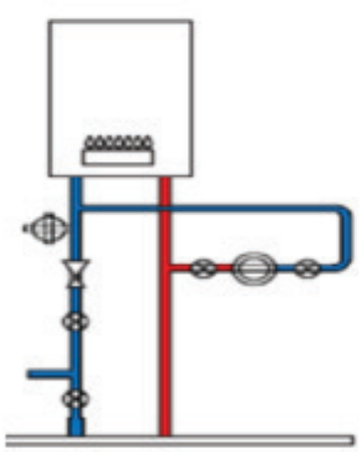
Sealed / Un-vented systems



These are usually quite modern systems and are not all that common in the UK because they are relatively expensive but they can deliver around 3bar of water pressure.

This type of system will not have a tank in the loft and is instead pressurised by the mains water pressure.

Combination boilers



Combi boilers are usually set to operate between about 0.8 to 1.5bar of water pressure.

The pressure produced by a combi boiler is usually enough for most types of taps although some showers requiring 1.5 to 3.0bar pressure to give optimum performance.

If the pressure of a boiler is not high enough for the application you want, there is no quick solution; combi boilers incorporate their own pump so adding another pump to the system can damage the boiler itself.

A combi boilers performance is affected by scale and lack of servicing due to a drop in its ability to heat the water quickly. So it's a good idea to run the hot bath tap as fast as you can to see what the flow rate is like, and if it can still heat the water efficiently at this high rate of flow. If not then a deluge shower wont give very good results.