

Catering Equipment Specification

Specification 42



Foreword

1. This specification replaces the previous Defence Estates Specification 42 Catering Equipment Specification published in 2004.
2. This specification is prepared by Defence Food Services Team Staff primarily for use in contracts which include the provision or replacement of catering equipment for use in Service kitchens or dining rooms.
3. When this specification is used in connection with a Defence contract it is to be read in conjunction with the document setting out the contractual requirements particular to that contract.
4. Whilst this specification was commissioned for use on MOD contracts it is acknowledged that it could be usefully applied to other contracts. It may, therefore, be used outside the MOD estate, however, no warranty is given as to the accuracy of this specification or its fitness for any purpose.
5. This specification has been devised for the use of the Crown and its contractors in the execution of contracts for the Crown. The Crown hereby excludes all liability (other than liability for death or personal injury) whatsoever and howsoever arising (including, but without limitation, negligence on the part of the Crown, its servants or agents) for any loss or damage however caused where this document is used for any other purpose.

Catering Equipment Specification Introduction

1. These specifications define the minimum standards for catering equipment normally found in Services messes. All equipment shall be suitable for heavy duty use.
2. Project Sponsors, Property Managers and their consultants or contractors shall ensure that all new equipment supplied for MOD use complies with the relevant specification contained within this document. This applies to all equipment acquired individually on a maintenance replacement basis as well as for refurbishment and new build schemes.
3. The specification shall be read in conjunction with the latest issues of JSP 315 Services Accommodation Code Scales 39 and 52, and Defence Estates Design and Maintenance Guide No 18 (DMG 18), Design of Catering Facilities.
4. Any queries should be addressed to the relevant MOD Kitchen Design and Equipment Authority (abbreviated elsewhere to KDEA) as listed below. They may, subject to the particular requirement and current industry standards, authorise the amendment of these specifications.
5. On new and major rebuild projects a detailed particular specification shall be produced to support this specification. This shall quantify all equipment, confirm all options and set out any variations. The detailed particular specification, in conjunction with this document, shall form part of the tender documentation for the project. There shall be a requirement for drawings and samples of fabricated items. The particular specification should be referred for comment to the relevant MOD KDEA, whose advice should be sought during its preparation.
6. Some small plug-in items, such as juice dispensers and toasters, are not covered by an individual specification, but where these items are required they shall comply with standards set out under 'General Specification Notes'.

CONTACT FOR QUERIES

Building Standards Team
Catering and Technical Support
Spur 12, Beckford
Ensleigh
BATH
BA1 5AB

01225 468115

Catering Equipment Specification General Specification Notes

1. All equipment supplied for us on MOD establishments shall be constructed so as to comply with the relevant European or British Standards.
2. In the cases of gas heated equipment, appliances shall comply with the essential requirements of the Gas Appliance Directive 90/396/EEC and any subsequent amendments, which are legally enforceable in the UK under the terms of the latest 'Gas appliance (Safety) Regulations'. Equipment should be certified by an Accredited Test house and production audited by means of an appropriate Quality Assurance Scheme. The standard covering the essential requirements of the Gas Appliance Directive is BS EN 203, Specification for gas heated catering equipment.
3. In the case of electrical equipment, appliances shall comply with the requirements of the Low Voltage Directive (LVD) 73/23/EEC or any subsequent update. Manufacturers shall certify that an appliance complies with the LVD and hold a technical file to support their certification. The standards covering the essential requirement of the LVD are BS EN 60335, Specification for safety of household and similar electrical appliances.
4. Where appropriate all equipment shall carry the CE mark awarded by an appropriate Notified Body.
5. All equipment shall comply with the relevant EN standards.
6. The supply manufacturer shall have a quality assurance scheme based on BS EN ISO 9001:2000, assessed and approved by an Accredited Certification Body and are expected to have a recognised environmental quality standard in place or be actively working towards one, eg EN ISO 14001.
7. All equipment shall be installed in accordance with the relevant statutory requirements.
8. There is no requirement for items of prime cooking equipment to be provided from the same supplier unless these are to be suited. Information will be provided in the particular specification. There will, however, be a requirement for commonality of depth and finished working height of such equipment.
9. All elements within the crockwash, with the exception of waste disposal units, shall be from a common manufacturer to achieve operational safety and visual compatibility and ease of maintenance.
10. All refrigeration and deep freeze cabinets, refrigerated counters, blast chiller/freezers, thawing cabinets and walk-in cold rooms shall be from

a common manufacturer to achieve operational safety and visual compatibility and ease of maintenance.

11. The reference to an ambient temperature of 43°C in refrigeration cabinet specifications does not refer to the ambient temperature of the room in which a cabinet may be located; the heat generated by refrigerated cabinets may, with the addition of sunlight, produce temperatures in excess of 40°C. To prevent early failure of compressors this room will require cooling to a maximum of 25°C.
12. All elements of the servery counter, sideboards and associated ancillaries shall be from a common manufacturer to achieve operational safety and visual compatibility and ease of maintenance.
13. General construction and surface finishes shall permit easy cleaning with proprietary materials and equipment. Exposed surfaces of equipment shall be free of rivet heads, screws and bolts. All fastening bolts and screws shall be of the concealed type.
14. All prime equipment shall be fitted with quick release flexible hoses for water and gas. Electrical connections shall be via waterproof heavy duty plug and socket.
15. The UK Government has targets for sustainable development in many areas. In respect of the MOD's requirements, the objectives are similarly focused in relation to kitchens on the Estate where consideration must be given to sustainable practices such as improved energy and water efficiency, better waste management and increased longevity of equipment to save money and resources. While the MOD must comply with environmental protection legislation, we require a similar approach from our suppliers and will consider their policies regarding managing their carbon footprint including how and where they source raw materiel; use of resources; re-using and recycling those resources and generally minimising waste; development on product safety and quality. Government Buying Standards are designed to help buyers adopt sustainable procurement and are used as part of the MOD Sustainable Procurement Strategy.

**Catering Equipment Specification
Index - Alphabetical**

ITEM	NUMBER
Backbar Equipment (Electric)	30
Bar Servery Counter	51
Benching – food preparation	11
Beverage Making Equipment	34
Beverage & Steward's Counter	32
Blast Chiller/Freezer	25
Bottle Cooler	50
Bratt Pan – tilting (Electric & Gas)	1
Castors	46
Cleaning Equipment	35
Combination Oven (Electric & Gas)	4
Convection Oven	49
Cupboard – Storage (various)	15
Deep Fat Fryer (Electric & Gas) & Oil Filtration Unit	2
Deep Fat Fryer – High Efficiency (Gas)	2a
Dishwashing Machine – (spray type) & associated specialist fabrication	14
Food Processor	40
Frozen Food Storage Cabinet	21
Glass-washing Machine	42
Grill (Gas)	3
Heavy Duty Range & Boiling Table (Electric & Gas)	5
Hot Cupboard – plain top (Electric only)	10
Ice Making Machine	45

Specification No 42
Catering Equipment
Specification

Induction Hob	39
Knife Sharpener	43
Microwave/Combination Microwave Oven/High Speed Forced Air Microwave Assisted Combination Oven	13
Mixer – general purpose	9
Multi-deck Refrigerated Retail Merchandiser	19a
Pressure/Pressureless Steamer & Atmospheric Convection Steamer	7
Potato Peeler	26
Racking – various	18
Refrigerated Counters	20
Refrigerator (Cabinet)	19
Servery Counters	29
Sideboard	36
Sink Units – food preparation	23
Slicer – general purpose – gravity feed	24
Stick Blender	47
Temperature Monitoring	37
Thawing Cabinet	38
Tilting Kettle (Electric & Gas) – Deleted	--
Utensil Washing Machine	44
Utensil Wash Sink Units	17
Vacuum Packing Machine	48
Vegetable Preparation Machine	27
Walk-in Coldrooms	22
Wash Hand Basin	12
Waste Compactor	28
Waste Disposal Unit	16

Specification No 42
Catering Equipment
Specification

Water Boiler – Bulk Type & Counter Mounted Expansion Type (Electric only)	31
Winged Insect Killer	41

**Catering Equipment Specification
Index - Numerical**

NUMBER	ITEM
1.	Bratt Pan – tilting (Electric & Gas)
2.	Deep Fryer (Electric & Gas) & Oil Filtration Unit
2a.	Deep Fat Fryer – High Efficiency (Gas)
3.	Grill (Gas)
4.	Combination Oven (Electric & Gas)
5.	Heavy Duty Range & Boiling Table (Electric & Gas)
6.	Deleted
7.	Pressure/Pressureless Steamer & Atmospheric Convection Steamer
8.	Deleted
9.	Mixer – general purpose
10.	Hot Cupboard – plain top (Electric only)
11.	Benching – food preparation
12.	Wash Hand Basin
13.	Microwave/Combination Microwave Oven/High Speed Forced Air Microwave Assisted Combination Oven
14.	Dishwashing Machine – (spray type) & associated specialist fabrication
15.	Cupboard – Storage (various)
16.	Waste Disposal Unit
17.	Utensil Wash Sink Units
18.	Racking – various
19.	Refrigerator (Cabinet)
19a.	Multi-deck Refrigerated Retail Merchandiser
20.	Refrigerated Counters

21. Frozen Food Storage Cabinet
22. Walk-in Coldrooms
23. Sink Units – food preparation
24. Slicer – general purpose – gravity feed
25. Blast Chiller/Freezer
26. Potato Peeler
27. Vegetable Preparation Machine
28. Waste Compactor
29. Servery Counters
30. Backbar Equipment (Electric)
31. Water Boiler – Bulk Type & Counter Mounted Expansion Type (Electric only)
32. Beverage & Steward's Counter
33. Deleted
34. Beverage Making Equipment
35. Cleaning Equipment
36. Sideboard
37. Temperature Monitoring
38. Thawing Cabinet
39. Induction Hob
40. Food Processor
41. Winged Insect Killer
42. Glass-washing Machine
43. Knife Sharpener
44. Utensil Washing Machine
45. Ice Making Machine
46. Castors
47. Stick Blender

Specification No 42
Catering Equipment
Specification

48. Vacuum Packing Machine
49. Convection Oven
50. Bottle Cooler
51. Bar Servery Counter

DE SPECIFICATION 42, CATERING EQUIPMENT SPECIFICATION
AMENDMENTS RECORD

<u>Amendment version</u>	<u>Reference</u>	<u>Date</u>	<u>Purpose</u>
1.1	CES No 8	May 04	Revision to construction
1.1	CES No 11	April 04	Revision to frame specification
1.1	CES No 14	April 04	Changes to requirements for energy, water softening, air gap and heat recovery systems
1.1	CES No 18	April 04	Change to frame/leg dimensions
1.1	CES No 42	April 04	Water softening
1.1	CES No 44	April 04	Amendments to construction
1.1	CES No 10	May 04	Amendment to door specification
1.1	CES No 25	May 04	Amendment to plant mounting
1.1	CES No 29	May 04	Removal of Type A & B; amendments to construction; introduction of docking stations
1.0	CES No 46	May 04	New specification
1.0	CES No 47	Nov 04	New specification
1.1	CES No 3	Jan 05	Burner specification amendment; construction and dimensions
1.1	CES No 5	Jan 05	Clarification of oven dimensions
1.2	CES No 11	Jan 05	Amended specification to top support; sound deadening
1.1	CES No 28	Feb 05	Amendment to fabrication material and safety controls
1.1	Index Numerical	Apr 05	Additional items
1.1	Index Alphabetical	Apr 05	Additional items
1.1	CES No 1	Mar 06	Deletion of cradle.
1.2	CES No 3	Mar 06	For electric models contact KDEA
1.2	CES No 5	Mar 06	Pot rack available as optional extra
1.3	CES No 11	Mar 06	Amendments to construction detail and sound deadening.
1.2	CES No 14	Mar 06	Amendment to standby sink tap.
1.3	CES No 18	Mar 06	Amendments to construction. Deletion of bays and floor tracks on Rolling rack systems.
1.1	CES No 23	Mar 06	Increased construction detail requirements.
1.1	CES No 31	Mar 06	Deletion of under-counter

			pressure boiler and inclusion of bulk water boiler.
1.1	CES No 39	Mar 06	Amendment to stand construction.
1.3	CES Introduction	Jun 06	Changes to Contact details.
1.1	CES No 13	Sep 06	Changes to construction and electrics details. Addition of High speed forced air microwave assisted combination oven.
1.1	CES No 38	Sep 06	Deletion of 20kg model.
1.1	CES No 19	Sep 06	Frequency of automatic defrost and deletion of under-counter refrigeration.
1.1	CES No 20	Sep 06	Addition of Refrigerated Prep Counter. Amendment of temperature and defrost requirements.
1.0	CES No 48	Sep 06	New specification for vacuum packing machine.
1.2	CES No 25	Sep 06	General update and corrections to times.
1.1	CES No 47	Sep 06	Removal of cleaning in dishwasher requirement.
1.0	CES No 49	Oct 06	New specification of convection oven.
1.1	CES No 30	Dec 06	Additional back bar items and amendment to worktop requirement
1.1	CES No 17	Dec 06	Reductions to sink dimensions.
1.2	CES No 23	Dec 06	Introduction of dimensions for mobile sink.
1.1	CES No 9	Jan 07	Addition of 5 litre model.
1.3	CES No 14	Jan 07	Addition of plate trolleys to 'cleans' benching.
1.2	CES No 39	Jan 07	Addition of keypad operation.
1.2	CES No 44	Jan 07	Addition of granule type machine.
1.0	CES No 49	Jan 07	New specification for convection oven.
1.1	CES No 26	Mar 07	Addition of integral filter unit.
1.2	Index – Alphabetical	Aug 07	Inclusion of CES Nos 48 and 49
1.2	Index – Numerical	Aug 07	Inclusion of CES Nos 48 and 49
1.4	CES No 14	Sep 07	Energy saving & combi machines
1.4	CES Intro	Dec 07	Change of contact number
1.1	CES No 15	Jul 08	Addition of wall shelving
1.4	CES No 11	Jul 08	Addition of 'office' bench
1.2	CES No 19	Sep 08	Clarification of Class 5
1.2	CES No 20	Sep 08	Clarification of Class 5

1.1	CES No 21	Sep 08	Clarification of Class 5
1.1	CES No 4	Sep 08	Revision to requirement for accessories
1.1	CES No 7	Sep 08	Revision to accessories
1.0	CES No 19a	Jan 09	Addition of Multi-deck refrigerated retail merchandiser
1.2	Foreword	Oct 09	Update to Team name
1.5	Introduction	Oct 09	Update to contacts
1.4	General Spec Notes	Oct 09	Removal of commonality clause; 43°C ambient; extension of finish requirements
1.3	Index – Alphabetical	Oct 09	Deletion of tilting kettle. Addition of Bottle Cooler
1.3	Index – Numerical	Oct 09	Deletion of item 8 – tilting kettle. Addition of CES No 50
1.3	CES No 19	Oct 09	Requirement for hydrocarbon refrigerant
1.3	CES No 20	Oct 09	Requirement for hydrocarbon refrigerant
1.2	CES No 21	Sep 09	Requirement for hydrocarbon refrigerant
1.3	CES No 22	Sep 09	Internal height amendment; requirement for dunnage
1.3	CES No 38	Sep 09	43°C ambient temperature
1.1	CES No 2	Oct 09	Output based on pre-blanching chilled or frozen chips; amendments to gas model; amendment to safety thermostat; details of integral system.
1.2	CES No 30	Oct 09	Deletion of boiling top; amendment to fryer; addition of bench top 'mini' combination oven; optional control by touch key pad; addition of conveyor oven.
1.0	CES No 50	Oct 09	Addition of new spec for Bottle Cooler
1.2	CES No 1	Oct 09	Deletion of half size model and construction in cast or mild steel
	CES No 8	Oct 09	Deleted
1.3	CES No 25	Oct 09	Operating indicator light. Amendment to shelf requirement.
1.2	CES No 29	Oct 09	Revised specification
1.3	CES No 23	Nov 09	Removal of reference to Figs 1 & 2
1.1	CES No 36	Nov 09	Removal of reference to mild steel and illustration in DMG 18.
1.2	CES No 42	Nov 09	Requirement for energy/water

**Catering Equipment
Specification
Bratt Pan – Tilting (Gas & Electric)**

No 1

GENERAL

Units shall:

- be of heavy duty construction.
- have a heavy duty frame mounted on castors or cantilevered.
- have a base clad in 304 grade stainless steel.
- be capable of suiting with other prime cooking equipment.

CONSTRUCTION

Units shall have nominal external dimensions of 800 mm wide x 900 mm front to back x 875 mm high.

Pan shall have a minimum internal usable capacity of 60 litres.

Pan shall have a minimum depth of 125 mm.

The cooking pan shall be constructed from either cast iron or 304 grade stainless steel welded to a mild steel or stainless steel base. The front should be shaped to form a pouring lip.

The pan shall be fitted with a rear hinged 304 grade stainless steel counter-balanced lid. The design shall ensure that the pan cannot be tilted with the lid in the closed position. An integral condense channel shall be included to prevent water spillage on to the floor when the lid is raised.

The pan shall have a manual tilting mechanism operated by direct acting handwheel with spring loaded recessed hand winder and shall immediately lock in position if tilting is interrupted. The tilting handle shall be easily accessed and not interfere with the tilting operation.

Pedestal type mounting shall be designed to be bolted to the floor to ensure stability during operation. The unit shall be constructed from stainless steel.

General construction shall provide an easily cleaned finish and prevent the build-up of waste matter.

GAS, ELECTRICS & CONTROLS

Minimum nominal loadings shall be:

16 kW (Gas) 9.5 kW (electric)

Electrical units: Mains 'On' and heat 'On' indicators.

Gas units: Piezo or spark ignition system and flame failure device.

All units: Controls shall include: on/off switch/knob.

Automatic power/gas burner cut-off when pan tilted.

Temperature control by means of 'Simmerstat' and variable thermostat set to operate within the range of 90°C to 190°C.

An overriding safety cut-out shall be fitted set to operate at a maximum of 230°C.

FITTINGS

An integral swivel tap for connection to a potable cold water supply shall be provided as a standard manufacturer's item.

A purpose-built trolley designed to accept GN 1/1 containers, capable of being positioned at a suitable height beneath the spout to allow safe drainage of the pan contents shall be provided. Design and construction standards shall be as Catering Equipment Specification No. 11, Benching.

**Catering Equipment
Specification
Deep Fat Fryer (Gas & Electric) & Oil Filtration**

No 2

GENERAL

Units shall be heavy duty and free standing. Fryers shall be sized as stated in the particular specification and will have a minimum frying output of 20 kg or 50 kg of pre-blanchered chilled or frozen chips per hour per pan.

For back bar unit (20 kg per hour) see Catering Equipment Specification No 30.

Units shall be either single or twin pan. Each pan shall be supplied with a minimum of one heavy duty tinned steel wire frying basket.

CONSTRUCTION

Units shall have nominal external dimensions and capabilities of:

20 kg 300 mm (+/- 50 mm) wide x 800 mm front to back x 875 mm high

50 kg 600 mm (+/- 50 mm) wide x 800 mm front to back x 875 mm high

The pan shall be constructed from stainless steel welded to a stainless steel frame. Gas models shall incorporate a cool sediment zone and gas models shall be fitted with a lift out strainer and basket support grid at the base of the pan. General construction shall provide an easily cleaned finish and prevent build up of waste.

The pan shall have a basket support rail at the front or rear to support the basket when draining food. Each pan shall be provided with a lift-off stainless steel lid.

A stainless steel side hinged door shall be provided to give easy and safe access to drain valve, burners, controls, etc. for maintenance. A drain valve with extending nozzle shall be fitted to the bottom of the cool zone.

The fascia/control panel shall be stainless steel.

Castors shall be provided, front pair braked.

Individual 20kg units may be on legs, having adjustable feet for levelling, giving nominally 125 mm clearance under for ease of cleaning.

GAS, ELECTRICS & CONTROLS

Electrical units: Immersion type heating elements, rear hinged to facilitate cleaning.

On/Off switch with power on and temperature indicators.

Nominal loadings: 10kW/20 kg and 20 kW/50 kg unit.

Gas units: Piezo or spark ignition system and flame failure device.

Nominal loadings: 18kW/20 kg and 30kW/50 kg

All units: Each pan shall be fitted with independent controls including On/Off.

Temperature control shall be by means of electronic variable or electro-mechanical thermostat set to operate with the range 130°C to 190°C.

A fail safe and tip free high limit overriding safety thermostat shall be fitted and set to operate at 230°C.

FITTINGS

Where two or more fryers are located side by side they shall be fitted with hob capping pieces to prevent ingress of oil-debris into voids.

OIL FILTRATION UNIT

Where stated in the particular specification, an integral or free standing mobile oil filtration unit shall be provided.

The free standing unit shall include:

- a stainless steel casing, cover and internal tank having a minimum capacity of 40 litres
- a transfer hose of a high temperature pattern with stainless steel nozzle and insulated handle
- automatic draw off filter and pump back operation. The pump will be capable of operating from a 13 amp socket, 230 Volt supply
- a built in heater to liquefy solidified fats
- swivel type castors
- a removable/disposable filter system
- a pack of 250 disposable filters (of both types where single use and super filters are used)

The enclosed integral system shall be automated and consist of an inbuilt oil filtration system in which the oil is drained into an enclosed reservoir and circulated by an electric pump through a filter system and via internal pipework and a safe static return back into the fryer tank. The fryer shall be supplied complete with buckets and all filters necessary to use the filtration system.

**Catering Equipment
Specification
Deep Fat Fryer – High Efficiency (Gas)**

No 2a

GENERAL

Units shall be heavy duty and free standing. Fryers shall be sized as stated in the particular specification and will have a minimum frying output of 50 kg of pre-blanchered chilled or frozen chips per hour per pan.

Units shall be single pan. Each pan shall be supplied with two heavy duty tinned steel wire frying basket.

CONSTRUCTION

Units shall have nominal external dimensions of:

400 mm wide x 800 mm front to back x 900 mm high
(+/- 50 mm)

The pan shall be constructed from stainless steel welded to a stainless steel frame. General construction shall provide an easily cleaned finish and prevent build up of waste.

The pan shall have a basket support rail at the front or rear to support the basket when draining food. Each pan shall be provided with a lift-off stainless steel dust cover with heat resistant handle.

A stainless steel side hinged door shall be provided to give easy and safe access to drain valve, burners, controls, etc. for maintenance. A drain valve with extending nozzle shall be fitted to the bottom of the cool zone.

The fascia/control panel shall be stainless steel.

Where required by the particular specification, castors shall be provided at the rear for ease of cleaning.

CONTROLS

Gas units: Piezo or electronic spark ignition system and flame failure device.

Nominal loadings: 25kW

Each pan shall be fitted with independent controls including On/Off.

Temperature control shall be by means of electronic variable thermostat set to operate with the range 130°C to 190°C.

A high limit overriding safety thermostat shall be fitted and set to operate at 230°C.

A safety device shall be incorporated to minimise the risk of the burner being activated without oil in the pan.

FITTINGS

Where two or more fryers are located side by side they shall be fitted with hob capping pieces to prevent ingress of oil-debris into voids.

OIL FILTRATION UNIT

Where stated in the particular specification, an integral or free standing mobile oil filtration unit shall be provided.

The unit shall include:

- a stainless steel oil receptacle for the holding of hot or cold oil, having a minimum capacity of 150% of the frying tank, and located on an easy-glide runner system to allow for safe disposal of the used oil
- automatic draw off filter and pump back operation. The pump will be capable of operating from a 13 amp socket, 230 Volt supply
- filtration return pipe located at the rear of the fryer
- a discard hose for the safe removal of used oil.

**Catering Equipment
Specification
Grill (Gas only)**

No 3

GENERAL

Grills shall be heavy duty single deck type, minimum width of 800 mm and wall hung with brackets, or bench mounted, as required by the particular specification. The centre rack location of the grill shall be nominally 1300 mm from finished floor level. Wall or bench mountings shall be made of stainless steel.

CONSTRUCTION

Exterior casing shall be stainless steel.

Internal side plates shall be cast iron with sufficient cast-in runners to allow grilling level to be selected – vertical spacing of runners shall not exceed 30 mm.

The internal grilling chamber shall accommodate as a minimum, a GN 1/1 gastronorm container, with a nominal internal width of 650 mm and nominal internal depth of 400 mm.

Construction shall allow tilt and working height of grill plate and brander to be varied.

Where internal panels are not stainless steel, they shall be coated, treated or enamelled mild steel to allow ease of cleaning.

CONTROLS

Gas units shall have a minimum power input of 11kW and controls including safety push and turn taps, flame failure device and on/off and variable heat control.

FITTINGS

Units shall include:

- a close ribbed reversible cast aluminium brander plate
- a self-supporting brander carrier with safety stops
- a mild nickel or chromium plated griddle shelf with insulated handles
- a removable stainless steel spillage tray with fat collection trough.

For electric grills please refer to KDEA.

**Catering Equipment
Specification
Combination Oven
(Electric & Gas)**

No 4

GENERAL

The detailed provision shall be in accordance with the particular specification. The cooking chamber capacity shall normally be 6, 10 or 20 shelf. When fully loaded each shelf shall be capable of holding, as a minimum, 1 No. 1/1 x 40 mm deep gastronorm container.

Units shall be capable of operating in three modes:

Convection Steaming Convection/Steaming

It shall be possible to use any of these modes singly, in sequence or in combination, or autosequentially. It shall be possible to vary the level of humidity for combination modes; temperature of steaming modes; and offer half fan speed as an option for convection mode.

The option to programme any or all of these modes for single use or into the unit's memory for future one key pad operation shall be provided, including pre-select start time.

A self-contained steam generator shall be an integral part of the unit and shall be totally enclosed within the cabinet. Steam shall be generated outside the cooking chamber and injected into the chamber in a controlled manner. Open water baths, water or vapour injection or spray systems are not acceptable.

Ovens shall have an automatic water supply and a drain down facility.

Chamber heating may be by direct or indirect elements/burners.

CONSTRUCTION

The external cabinet shall be constructed from 304 grade stainless steel.

The internal cooking chamber shall be constructed from 304 grade stainless steel with rounded corners for ease of cleaning.

Doors shall be side hung, left or right handed in accordance with the particular specification, glazed and insulated so that the exterior of the door remains cool during operation. Doors shall be capable of being operated one handed. Doors shall open clear of the cooking chamber to allow easy access for racks, containers, trolleys, etc. The door or bottom edge of the chamber opening shall be fitted with a condense channel or pan to prevent water spillage onto the floor. Door gasket shall be easily removed and replaced without the need of tools.

The fan shall be protected by grease filters which shall be easily removable for daily cleaning without the use of special tools, or self-cleaning, negating the need for removal.

Castors shall be provided, front pair braked, to 6 and 10 shelf units. 20 shelf units shall be provided with legs having adjustable flanged feet for levelling, giving a nominal 125 mm clearance under for cleaning access.

ELECTRICS, GAS & CONTROLS

Nominal loadings shall be:

6 shelf	25 kW (Gas)	10 kW (Electric)
10 shelf	38 kW (Gas)	17 kW (Electric)
20 shelf	73 kW (Gas)	38 kW (Electric)

Ovens shall be complete with all necessary controls and visual indicators.

These shall include:

- Main on/off
- Mode selection
- Timer with audible alarm
- Temperature of cooking chamber
- Self diagnostic system warnings

All controls shall be housed in a removable/accessible module for ease of maintenance and replacement.

A safety switch shall be included ensuring that the convection fan and steam input cut out when the oven door is opened.

A fan motor overload device shall be provided ensuring shut down of elements/burners when the fan cuts out.

Temperature controls linked to the internal sensor shall override the cooking chamber temperature controls.

Gas heated units shall have piezo ignition system and a flame failure device.

WATER SUPPLY

Each oven requires a potable cold water supply (by others) suitably treated to prevent a build up of scale within the oven. The water supply should be treated at source, when it is possible to do so. When this is not possible/practicable, each oven shall be provided with its own water treatment equipment (capacity and type as stated in the particular specification), which shall include quick release connections, flexible hoses and a mobile stand.

FITTINGS

All units shall be provided with a core temperature probe/sensor linked to the main temperature control system, which shall be mounted and stored internally. A stowing system shall be provided so that the probe/sensor cable does not foul the cooking chamber or door when not in use. The cable shall be sheathed to avoid damage.

All units shall be provided with an internally or externally mounted spray unit with flexible hose, and trigger operated spray head for use in cleaning down the oven chamber. Water pressure and consumption will be taken into account when considering self-cleaning models.

Tray racks shall be provided to allow the required number of 1/1 x 40 mm deep containers to be located in the cooking chamber. Racks shall have a safety locking device to prevent accidental withdrawal.

6 and 10 shelf units shall be mounted on a stand, manufactured from 304 grade stainless steel and fitted out to hold spare gastronorm containers, and with a 304 grade stainless steel undershelf. The stand should give a working height of approximately 850 mm to underside of the oven and be fitted with castors, front two braked.

20 shelf units shall be floor standing and provided with a matching 20 shelf, 304 grade stainless steel loading trolley with four castors, two braked.

Units shall be provided with the following grids:

6 shelf/3 grids 10 shelf/5 grids 20 shelf/10 grids

For new build and major refurbishments the following 304 grade, 0.8 mm stainless steel (satin finish) gastronorm catering containers to EN 631 and stress relieved to prevent distortion during use, shall be provided in the following sizes and quantities:

Tray/Lid Size	6 Shelf Unit	10 Shelf Unit	20 Shelf Unit
½ GN 40 mm	1	2	2
½ GN 65 mm	1	2	2
1/1 GN 20 mm	1	2	3
1/1 GN 40 mm	1	2	3
1/1 GN 65 mm	1	2	3
1/1 GN 100 mm	0	2	3
1/1 GN 55 mm perforated	1	1	2
½ GN 90 mm perforated	0	1	2
1/1 GN 90 mm perforated	0	1	2

Accessories to be supplied with all new combination ovens:

Accessory	6 Shelf Unit	10 Shelf Unit	20 Shelf Unit
Perforated GN 1/1 aluminium shaped baking rack suitable for baking off baguettes	1	2	3
GN 1/1 steel mesh fry basket	1	2	4
GN 1/1 vertical chicken spike/spit (8)	1	2	4
GN 1/1 perforated base aluminium baking sheet	1	2	4
GN 1/1 granite enamelled baking sheet	1	2	4

**Catering Equipment
Specification
Heavy Duty Range & Boiling Table
(Gas & Electric)**

No 5

GENERAL

Units shall be heavy duty type suitable for use singly, grouped in-line or back to back to form an island.

Nominal dimensions shall be 900 mm wide x 900 mm deep x 870 mm high.

Gas units, subject to the particular requirement, shall be:

Open top 4 or 6 burner, or solid top with single or double lift-out centre 'bullseye'.

Electric units, subject to the particular requirement, shall be:

3 or 4 hotplate top.

Units shall be either range type with burner/hotplate top and oven under or boiling table with open unit under, subject to the particular requirement.

Ovens shall have minimum clear internal height of 300 mm.

CONSTRUCTION

Units shall be constructed on a heavy duty frame of stainless steel or mild steel suitably treated against corrosion.

The oven shall have external finishes of 304 stainless steel, top to be 2 mm thick, with a stainless steel, bottom hinged, drop down door with counter balance.

The oven compartment shall have stainless steel or vitreous enamel internal finish and shall be provided with two adjustable (four position) non-tilting nickel plated or stainless steel grip type shelves each sized to accommodate two 1/1 gastronorm containers, with minimum useable shelf size of 650 mm wide x 530 mm deep.

The front of the hob shall overhang and be insulated to protect the operator from contact with hot surfaces and prevent impact damage to controls. An insulated stainless steel guard rail shall be fitted across the front of the hob.

Gas open top units shall have removable pan supports of suitable size to accommodate small diameter pans (200 mm) on cast iron base with drip tray below for the containment of spillage.

Where specified, castors shall be fitted, front pair braked.

General construction shall provide an easily cleaned finish and prevent build up of waste matter and spillage.

ELECTRICS, GAS & CONTROLS

Electrical units: Units shall have a 3ph/50Hz/400V supply.

Mains 'On' indicators shall be fitted. Each hotplate shall have an independent control.

Controls of hotplates and oven shall be by means of rotary switches (6 position) with indicator light.

Each hot plate shall have a nominal loading of 5kW.

Oven temperature range shall be 110°C to 350°C.

Gas units: Piezo or spark ignition system to oven with facility for manual lighting and flame failure device on all burners.

Each burner and the oven shall be independently controlled by means of push and turn safety gas taps.

Combustion fumes shall exhaust at rear of the unit through a flue.

Hob burner rating shall be a minimum of 8kW.

Oven temperature range shall be 120°C to 330°C.

All units: Ovens shall be controlled by means of a heavy duty thermostat with operating temperature ranges as stated above.

A pot rack shall be available as an optional extra.

**Catering Equipment
Specification
Bain Marie Open Well (Gas & Electric) - Deleted**

No 6

Intentionally blank

**Catering Equipment
Specification
Pressure/Pressureless & Atmospheric
Convection Steamer (Electric only)**

No 7

GENERAL

The unit shall be pressure/pressureless type or atmospheric convection type as required by the particular specification.

Pressure/Pressureless

Units shall be capable of operating in the following three pressures:

Atmospheric	0.5 bar	1.0 bar
-------------	---------	---------

The unit shall have a built-in steam generator.

The cooking chamber shall accommodate three No.1/1 65mm GN deep containers when fully loaded.

A Test Certificate bearing the serial number of the pressure vessel shall be supplied with each unit.

A safety valve shall be fitted to give a safe discharge when venting.

Unit shall be ready for operation from start up within six minutes.

Atmospheric Convection

Units shall have a built-in steam generator.

The cooking chamber shall accommodate three No. 1/1 65 mm deep GN containers when fully loaded.

A high power fan shall be included in the cooking chamber to increase steam velocity and ensure even distribution of steam within the cooking chamber.

Unit shall come up to operating temperature from cold within eight minutes and cooking chamber shall be held at a 'ready' temperature between loads.

CONSTRUCTION

The external cabinet and cooking chamber shall be constructed from 304 stainless steel and designed to provide an easily cleaned finish and prevent the build up of waste matter.

The pan support system shall be 304 stainless steel. It shall be easily removed to assist cooking chamber cleaning.

The door shall be fitted with heavy duty hinges/s and on the Atmospheric Convection unit, insulated.

Pressure/pressureless units shall have an automatic pressure lock.

Atmospheric Convection units shall have a magnetic door switch – to cut power to fan and reduce power to the generator when the door is opened.

A simple, easily accessible descaling system shall be provided.

ELECTRICS/CONTROLS

Pressure/pressureless units:

The following controls shall be fitted:

- main on/off switch
- temperature/pressure selection
- 1 to 60 minute timer
- cooking sequence start
- cooking time indicator
- audible end of sequence alarm
- chamber pressure gauge
- optional fast/slow steam condense modes
- automatic draining/cleaning modes
- a low water alarm and safety cut-off

Unit shall have a nominal loading of 30kW.

Atmospheric Convection units:

The following controls shall be fitted:

- main on/off switch
- 1 to 60 minute timer
- 'ready' light – to indicate cavity ready for steaming
- steam generator descale warning light
- automatic flushing of steam generator when power is switched off
- low water safety cut-off

Unit shall have a nominal load of 8kW.

WATER SUPPLY

Each oven requires a potable cold water supply (by others) suitably treated to prevent a build up of scale within the oven. The water supply should be treated at source when it is possible to do so. When this is not possible/practical, each oven shall be provided with its own water treatment equipment (capacity and type related to the particular model), which shall include quick release connections, flexible hoses and a mobile stand.

FITTINGS

All units shall be provided with a stainless steel stand, fitted out to accommodate spare gastronorm containers. The stand shall be sized to support the unit at a safe working height.

Where castors are available as a standard manufacturer's option, they shall be provided, front pair braked. Other units shall be provided with legs having adjustable flanged feet for levelling, giving a nominal 125 mm clearance under for easy cleaning access.

304 grade, 0.8 mm stainless steel (satin finish) gastronorm catering containers to EN 631 and stress relieved to prevent distortion during use shall be provided in the following sizes and quantities.

Tray/Lid Size	Number
½ GN 40mm	1
½ GN 65mm	1
1/1 GN 20mm	1
1/1 GN 40mm	1
1/1 GN 65mm	1
1/1 GN 55mm perf.	1

**Catering Equipment
Specification
Tilting Kettle (electric & Gas) - Deleted**

No 8

Intentionally blank

**Catering Equipment
Specification
Mixer – General Purpose**

No 9

GENERAL

Mixer capacity shall be as stated in the particular specification.

CONSTRUCTION

All mixers with a capacity of 12 litres and above shall be fitted with a removable safety guard to prevent access to the bowl during operation. Breaking the contact shall cause the attachment to stop within 4 seconds.

The main casing shall be of cast iron, aluminium alloy or stainless steel. General construction shall provide an easily cleaned finish to prevent the build-up of waste matter. Finishes may be stainless steel, anodised aluminium or non-toxic, non-staining paint.

The main pedestal and bowl support yoke shall be mild or stainless steel, or one piece casting. The pedestal shall be of adequate size and shape to ensure complete stability under operation with any attachment. Finishes to be similar to main casing.

Drive motor and gearboxes shall be totally enclosed and sealed against lubricant leakage.

For models with a capacity of 12 litres and above transmission from the power supply to the attachment drive shaft shall be fully geared through three or four speed gearbox giving safe and easy speed selection. Models with a nominal capacity of 5 litres shall offer a range of 10 speeds allowing a very slow stir to a fast whip.

Attachment rotation shall be epicyclical and ensure thorough mixing of the bowl contents including the sides and bottom of the bowl.

Vertical bowl height adjustment shall be totally enclosed lifting gear with precision ground slides to the pedestal column and bowl support yoke.

Easy access shall be provided to all enclosed mechanical parts for maintenance and lubrication. Access panels shall provide clean, hygienic joints to the main casing but be easily removable without damage to the surrounding finishes.

Bowls shall be stainless steel, fitting accurately and positively to the yoke. Units with capacities of 30 litres and above shall be fitted with bowl safety clamps and supplied with a suitably sized bowl trolley for moving loaded bowls.

5 and 12 litre units shall be bench mounted.

Mixers with a capacity of 20, 30 and 40 litres shall be floor mounted models.

ELECTRICS & CONTROLS

All units shall have Mains 'On' indicator and On/Off switch.

Unit shall be either 1ph/50Hz/230V or 3ph/50Hz/400V.

Specification No 42

Catering Equipment

Specification

5 litre model shall be 1ph/50Hz/230V with a minimum motor wattage of 450W.

FITTINGS

All units above 5 litre capacity shall be supplied with bowl, beater, dough hook, whisk, pastry knife. The pastry knife is not required with the 5 litre model.

KDEA should be consulted regarding the requirement for a mincer attachment.

**Catering Equipment
Specification
Hot Cupboard – Plain Top
(Electric & Gas)**

No 10

GENERAL

The unit shall be single deck with doors to one or both sides as detailed in the particular specification. Nominal dimensions shall be 1200 mm or 1800 mm long, 750 mm wide and 870 mm high as detailed in the particular specification.

Heating shall be by blown air system.

The hot cupboard shall be capable of holding food at a minimum temperature of 75°C.

CONSTRUCTION

Heavy duty insulated top shall be 2 mm, 304 grade stainless steel. All exterior panels shall be 1.5 mm, 304 grade stainless steel.

Units shall be mounted on non-slip, non-marking castors, front pair braked, giving a minimum of 125 mm clearance between floor and base of unit.

Controls and handles shall be recessed to prevent damage from trolley traffic, etc.

The cupboard shall be of sufficient depth to accommodate a 1/1 gastronorm container, i.e. a clear internal depth, back to front, of 530 mm plus clearance for doors, etc.

A removable 1.5 mm, 304 grade stainless steel solid centre shelf shall be provided.

Internal cladding shall be 304 grade stainless steel with all internal angles radiused for easy cleaning.

Doors shall be double skinned, insulated, either top hung or bottom mounted in a single piece guide track, removable and fitted with end stops. All detailing shall eliminate retention of debris and allow for ease of cleaning. There shall be no internal, closed corners.

General construction shall be as Catering Equipment Specification No 29, Heated Counters.

ELECTRICS, GAS & CONTROLS

- | | |
|-------------------|--|
| Electrical units: | Units shall have 1 ph/50 Hz/230V supply.
Mains 'On' indicators shall be fitted. Control shall be by means of ON/OFF switch with indicator light. |
| Gas units: | Piezo or spark ignition system with facility for manual lighting and flame failure device shall be fitted.
Electrical supply for fan is required. |

Control of burners shall be by means of push and turn safety gas taps.

All units:
A high temperature thermostat shall be fitted to prevent food temperatures exceeding 85°C.

**Catering Equipment
Specification
Benching – Food Preparation**

No 11

GENERAL

All benching shall be free standing, and mobile to suit the particular design and specification.

Subject to the particular specification, units shall normally comprise standard lengths of 1200 mm, 1500 mm and 1800 mm. Depth shall normally be 700 mm. Custom sizes shall be as defined in the particular specification.

Benching shall be of robust full-framed tubular construction. Working surfaces shall be capable of supporting a uniformly distributed load of 350 kg/m² with a maximum centre deflection of 5 mm. Where benching is to support equipment such as mixers, slicers, bulk water boilers, etc., additional reinforcement shall be provided at 300 mm intervals.

CONSTRUCTION

Benching shall have working surfaces made from 1.5 mm, 304 grade stainless steel. Units shall have a nominal 50 mm turndown all round, finished with a return chamfer or turn-under. Where located adjacent to a wall, benching shall have a nominal 60 mm rear upstand as an integral part of the working surface. Upstand to be detailed to provide a rigid and hygienic finish, complete with turnback and 15 mm turndown. The end of the upstand shall be closed in line with the side turndown. Spacers shall be provided to ensure that there cannot be an edge-on contact between the unit back edge and adjacent fabric or services.

A non-toxic, impervious, sound deadening material, bonded with an adhesive, shall be applied to a minimum of 85% of the underside of the working surface.

Benching shall have a removable undershelf of 1.5 mm, 304 grade stainless steel. It shall be finished with a turndown all round, or where located against a wall, turndown to front and ends, with a 60 mm rear upstand. The shelf shall be nominally 250 mm above floor level to allow ease of cleaning.

Where specified, benching shall have the undershelf and front rail omitted to allow underbench storage of bins, etc.. Where this option occurs, the main understructure shall be adequately braced to ensure stability in use.

Drawers, where specified, shall be constructed from 304 grade stainless steel with runners and supports to carry a removable 100 mm deep 1/1 gastronorm container.

The full-framed under structure and legs shall be 304 grade stainless steel of minimum 30 mm tube box section and shall support the working surface at a height of 850/870 mm above floor level. The depth of the under structure shall be 590 mm to provide a nominal 10 mm front overhang for the worktop. The nominal length shall equally allow for a maximum 10 mm overhang of the worktop. Rear legs shall be inset 100 mm, except where the bench is to support a grill. Two buffer bars finished with plastic stoppers shall be welded to the rear legs using 30 mm box structure. All joints shall be fully welded and polished. The understructure shall be adequately braced to ensure stability in use.

Legs shall be fitted with castors, two braked.

Where required by the particular specification, one bench shall be designated for use as a kitchen 'office' area. This table shall have a combination of drawers, cupboard/s and overhead shelving. Legs shall be fitted with castors, front two braked. Lengths shall normally be 900 mm or 1200 mm. Depth shall normally be 700 mm. Custom sizes shall be as defined in the particular specification.

EARTH BONDING

Each bench shall be fitted with an electrical stud for connection (by others) to an external equi-potential conductor. The bench shall be constructed in such a way as to ensure effective electrical connection between all components and fixings.

**Catering Equipment
Specification
Wash Hand Basin**

No 12

GENERAL

Wash hand basins shall be provided as wall mounted units. Inset types shall not be used. All units shall be provided with a stainless steel apron to front and sides. The basin and apron shall be constructed from 0.9 mm, 304 grade stainless steel and have nominal dimensions of 450 mm x 350 mm.

FITTINGS

Water shall be discharged by a knee operated system, the operating panel being an integral part of the apron. A waste plug, chain and overflow system shall also be provided.

**Catering Equipment
Specification
Microwave/Combination Microwave Oven/High Speed Forced Air Microwave
Assisted Combination Oven**

No 13

MICROWAVE/COMBINATION MICROWAVE OVEN

GENERAL

The oven shall be commercial grade designed for heavy duty use.

Units shall be Microwave mode only or Microwave Combination with conventional heating and grill as required for the particular specification.

The unit shall have a constant minimum power output of 1600 Watts in the microwave only cooking mode, with reduced power settings for defrost, simmer, etc. Microwave emission shall comply with current regulations.

CONSTRUCTION

The unit shall be constructed with a stainless steel cooking chamber and external casing. There shall be adequate thermal insulation between the inner and outer casings.

The door shall be side hinged or vertical opening. Microwave units shall have a glazed door; combination units shall have glazed or solid doors.

Combination units shall be fitted with a removable shelf. All units shall be fitted with an easily removable and cleanable air filter and an internal light in the cooking chamber.

Units shall be capable of accommodating as a minimum a 2/3 gastronorm container.

General construction shall provide an easily cleaned finish and prevent build-up of waste matter and spillage.

ELECTRICS & CONTROLS

Microwave controls shall include microprocessor with a minimum of three power levels including defrost mode from 2 magnetrons, and a minimum of 10 programmable settings. Combination ovens shall have a minimum of five power levels from one magnetron and 10 programmable settings of up to three cooking stages. Convection oven settings shall range from 100°C to 250°C. Control shall be by digital touchpad. Units shall have 1hp/50Hz/230V supply and may be hard wired.

Microwave and combination microwave units shall be fitted with interlock safety devices.

All units shall be fitted with automatic timer and show a digital time display.

**Catering Equipment
Specification
Dishwashing Machines & Associated
Specialist Fabrications**

No 14

GENERAL DESIGN REQUIREMENTS

Crockwash areas are key elements in any MOD catering operation. The machine itself is not 'stand-alone' but part of a system-designed working environment. The designed area shall take into account, but is not limited to, the following:

- Reduction of noise levels.
- Reduction of breakages.
- The level of lighting, both natural and artificial.
- The ambient/operating room temperature.
- The humidity/condensation that will be created.
- The overall ergonomics of the operation in relation to the Health & Safety at Work Act.
- The speed at which dishes arrive in the crockwash area for cleaning and how quickly they need to be cleaned.
- The quantity, by type, of dishes and cutlery that need to be cleaned.
- The method of disposal of food and other waste.
- The workflow pattern.
- The separation of 'clean' and 'dirty' processes.
- The method of holding cleaned items and their ultimate return to either the servery or store room.
- The ease of cleaning of equipment and surrounding walls and floors.
- The storage of cleaning materials.

Energy saving methods, in terms of both water and electricity consumption are to be included. Examples include heat exchangers, heat pumps, drain heat recovery and increased efficiency in water heating and wash water filtration.

Further design requirements can be found in the Defence Estates Design & Maintenance Guide 18 – Design of Catering Facilities. In all crockwash procurement circumstances, the advice of the Defence Food Services IPT Equipment and Infrastructure staff is to be sought at the earliest opportunity.

GENERAL

All machines shall have automatic wash, rinse and sanitising cycles operating from a domestic hot or cold water feed, with a capacity and fittings as detailed in the stated requirement.

Machines shall be either:

- a) pass through, single rack, manual load and unload type
- or
- b) rack/conveyor type.

Type (a) shall be either straight flow or corner sited units with semi-automatic operation. The hood shall be of lift-up counter-balanced type with a micro switch to stop the machine operating when the hood is raised. Machines for Scale Up to 50 shall be designed to operate as both dishwasher and utensil washer, having an increased hood opening and extended wash cycle.

Type (b) shall be either straight flow or 90° flow units with fully automatic operation. Doors and access panels shall have a micro switch to stop the machine operating when the doors or access panels are opened.

Machines shall be constructed to minimise noise levels and reduce thermal loss. Type (a) machines shall have, as a minimum, a double skinned hood and type (b) machines shall have insulated doors and panels.

Type (b) machines shall be supplied complete with rinse water heater and rinse booster pump. They shall be fitted with a two-stage rinse process (eco-rinse) to minimise fresh water usage.

Machines for Scale 201 – 300 shall be fitted with a drying tunnel.

Machines for Scale 301 and above shall be fitted with a power pre-wash (at 35 – 40°C) with a minimum length of 600 mm, and a drying tunnel.

The detailed provision and direction of flow, (right or left hand), shall be in accordance with the stated requirement.

The water supply is to be softened at source. Where it is not possible to soften water at source and it is found to be hard, an automatic integral water softener shall be supplied for type (a) machines. Care should be taken to ensure that the equipment is capable of treating the quantity of water required by the machine. In-line filter systems are not acceptable.

At the design stage, careful consideration should be given to ensuring there is adequate access to allow for cleaning behind the equipment.

Machines shall be provided with an integral class 'A' air gap. Equipment shall comply with all current regulations and local water authority bylaws and be fully approved the the WRAS (Water Regulations Advisory Scheme).

CONSTRUCTION

Machines shall be constructed on a stainless steel frame. Steel legs shall be fitted with either adjustable feet for levelling or castors where specified.

All covers, doors and panelling shall be of stainless steel and suitably insulated to reduce thermal loss.

They (b) machines shall be fitted with waterproof anti-splash flexible curtains at each end and between each chamber.

Materials used for guide rails, brackets and fitments shall be resistant to attack by wash/rinse chemicals.

Wash and rinse tanks shall be of stainless steel, pressed in one piece, and shaped to provide self drainage and ensure maximum pump efficiency. Wash pumps shall be self draining to prevent retention of soiled water at the end of operation.

Stainless steel strainers shall be provided to prevent food debris entering the wash tank. A further filter/strainer shall be provided to protect the pump mechanism.

Wash/rinse arms shall be of stainless steel or high impact resistant polypropylene and be easily removable without tools for ease of cleaning and maintenance.

During operation, wash water shall be maintained at a minimum of 60°C. The rinse and final sanitise water shall be maintained at a minimum of 85°C. A rinse booster pump shall be provided if available water head pressure does not meet manufacturer's requirements.

Pipework below that machine shall be arranged to allow easy cleaning of the floor.

Construction and design shall provide an easily cleaned finish and prevent build up of food waste, both internally and externally.

ELECTRICS & CONTROL

All controls shall be front mounted to allow safe and easy access and should be easy to read.

Flush mounted digital thermometers shall be provided to show wash and rinse temperatures and shall be incorporated into the main control panel.

All electrical functions shall be controlled from a central panel that is readily accessible, adequately waterproofed and protected by thermal overload, no-volt release and fuses.

Indicator lamps shall be provided for each control and to indicate power 'On'.

Electrical heating shall be by thermostatically controlled immersion elements. They must be easily accessible for replacement and be protected by low water cut-out switches. The elements shall be positioned to allow easy access and to prevent accidental damage.

The processes (pre-wash, wash and rinse) in type (b) machines shall be automatically activated by the introduction of a rack to the machine. These machines shall be provided with an auto-timer device which will shut down the pre-wash and main wash pumps to conserve energy if dishwash racks have not passed through the machine for a period of time.

Tank filling shall be electrically controlled from the main switch/control panel with heaters isolated until tanks are filled.

Rinse water heaters shall be provided with a high temperature cut out system. A thermostat should be provided to ensure that the final rinse will not start before the correct temperature is reached.

ANCILLARY EQUIPMENT

Some of the following ancillary equipment will be required according to the particular design and specification.

Drying Tunnel:

To be fitted to machine exit and provided with blown air at nominal 95°C.

'DIRTIES' BENCHING

Stainless steel benching with width and height to suit machine entry. Benchtop profiled to form rack guide into machine. The detailed construction shall ensure that the junction between the bench and the machine provides a leak-proof joint. General construction standards shall be as Catering Equipment Specification No. 11 – 'Benching – Food Preparation' including earth bonding requirements. Front rails may be omitted to allow access to:

- detergent and rinse aid containers
- rack dollies
- cleaning material cupboard
- waste disposal unit
- waste bin
- waste dehydrator.

Benching shall be inset with stand-by sink(s) and waste disposal unit – (Catering Equipment Specification No. 16) or scrape hole as specified. Where a scrape hole is provided it shall be fitted with a rubber edge buffer and cutlery saver.

All surface joints shall be welded and polished.

Stand-by Sink(s):

Located in 'dirties' bench with position subject to the particular specification. Bowl size shall be nominal 500mm x 450mm x 300mm and fitted with deck pattern mixer taps which can be swing clear of loaded racks. Standing waste and perforated cylindrical strainer shall be located in the waste outlet.

A pre-wash spray gun with flexible feed, mixer control valve and trigger shall be fitted above sink(s) together with adequate support brackets.

An integral splash back with a coved, welded and polished joint shall be provided for the full length of the inlet benching. The splash back should be a minimum height of 450mm and run from the machine and include, where appropriate, the end return.

All taps/control valves shall be set back to allow uninterrupted movement of loaded racks across the sink(s).

'CLEANS' BENCHING

Stainless steel benching with width and height to suit machine exit. Benchtop profiled to form rack guide from machine. The detailed construction shall ensure that the junction between the bench and the machine provides a leak-proof joint.

General construction standards shall be as Catering Equipment Specification No. 11 – 'Benching – Food Preparation', including earth bonding requirements. Front rails may be omitted to allow access to:

- detergent and rinse aid containers
- rack dollies
- cleaning material cupboard
- plate trolleys.

Automatic conveyor machines shall be fitted with a safety cut-out switch at the bench end.

All surface joints shall be welded and polished.

Adequate provision shall be made for the safe storage of detergent and rinse aid containers. This shall comprise either a stainless steel shelf built into the under structure of the benching, or a stainless steel support dolly/trolley as stated in the particular specification. Design shall allow for easy cleaning.

Incorporated into the design shall be adequate storage for racks.

RACKS

Racks shall be 500mm x 500mm and be of a strong, heat and wear resistant plastic such as polypropylene. The number of racks supplied with each machine shall be as required for the designed system. Reference should be made to JSP 315, Scale 39, part 4, Appendix 2.

Cutlery racks shall be the upright basket type.

NOTE:

Injection/dosing equipment is provided within current MOD contract covering the supply of Crockwash/Utensil Wash Machine detergent and rinse aid chemicals. Kitchens operated by catering contractors arrange for their own supply of injection/dosing equipment.

**Catering Equipment
Specification
Cupboard – Storage (Various)**

No 15

CUPBOARD – CLEANING MATERIALS/CHEMICAL STORAGE

Unit shall be 304 grade stainless steel throughout measuring 900 mm x 450 mm x suitable height to fit under worktops in accordance with the stated requirement. Fitted with two side hung lockable doors and adjustable and removable centre shelf. Mounted on castors, front pair braked.

In larger kitchens, in accordance with the stated requirement, the cleaners' cupboard shall be 900 mm x 450 mm x 1800 mm high. Fitted with two side hung lockable doors and four adjustable and removable shelves. Mounted on castors, front pair braked.

Cupboards shall be constructed with adequate ventilation to the interior of the cabinet. The base of the cupboard shall be bunded to allow for the containment of any chemical spillages.

NOTE:

When underbench cupboards are provided, the associated benching should be specified with the front rail of the understructure omitted to provide clear space under for the cupboard. The rear rail should be retained to ensure rigidity of the benching and prevent the cupboard damaging walls.

CUPBOARD – FOOD STORAGE

Unit shall be 304 grade stainless steel throughout measuring 900 mm x 450 mm x 1800 mm high. Fitted with two side hung lockable doors and four adjustable/ removable shelves. Mounted on castors, front pair braked.

CUPBOARD – HIGH LEVEL – FOOD STORAGE (WALL MOUNTED)

Unit shall be 304 grade stainless steel throughout measuring 300 mm deep x 600 mm high at front sloping to 700 mm at rear. Length subject to particular specification but normally 900 mm or 1200 mm. Doors shall be lockable and either side hung or sliding. An adjustable and removable shelf shall be fitted. Note that if sliding doors are provided, they must be demountable to allow removal of the shelf.

Note: Three keys shall be supplied with each lock.

WALL SHELVING

Wall shelving shall be provided as required by the particular specification.

General design and detail shall provide a smooth finish with no sharp edges or dirt traps. Shelves shall be of 1.5 mm 304 grade stainless steel and solid; wire shelving is not acceptable. Construction shall be as working surface in Catering Equipment Specification No 11 – ‘Benching – Food Preparation’.

Specification No 42
Catering Equipment
Specification

Overall nominal dimensions shall be 300 mm deep x 900 mm long with a rear upstand of 60 mm. Custom sizes shall be as defined in the particular specification.

GENERAL

The unit shall be a built-in or free-standing heavy duty type and sized in accordance with the stated requirement.

Units shall be fixed to reinforced benchtop/frame and, where required, supported by the benching under-frame.

The unit shall be provided with a removable 304 grade stainless steel panel(s) to conceal the unit motor etc., but provide adequate access for maintenance.

The panel shall be designed to carry the controls in a safe and easily accessible position.

A safety guard shall be fitted to the hopper chute, interlocked to cut-out and brake motor when raised.

A cutlery saving device shall be provided within the feed hopper/chute.

Motor shall have a minimum rating of 1.5HP (up to 600 to be fed), and 3.0HP (over 600 to be fed). Motors shall be fully enclosed and ventilated.

ELECTRICAL SUPPLY

Units shall be supplied with reversing starter and controls inset, together with a raised 'stop' control mounted together in the front panel. An overload protection device shall be fitted.

WATER SUPPLY

The water supply shall be electronically linked to the starter to ensure water runs when motor is on. The manufacturer's recommendations must be followed on minimum water pressure and drainage requirements. Water supply shall comply with local authority bylaws.

**Catering Equipment
Specification
Utensil Wash Sink Units**

No 17

GENERAL

The detailed provision and direction of flow shall be in accordance with the stated requirement.

CONSTRUCTION

Sink tops shall be 2.0 mm 304 grade stainless steel stiffened to prevent bending or distortion in use.

Top shall incorporate a drip mould to enclose sinks and where specified drainer or scouring trough. Front and ends shall have a nominal 50 mm turndown finished with turn under. Ends adjacent to walls shall have nominal 450 mm upstand. The rear of the unit shall have an integral splashback over its full length having a minimum height of 450 mm. The joint between sink top and splashback shall be welded and polished. The splashback and any upstand shall be detailed to provide a rigid and hygienic finish.

All units shall be sound deadened using a non toxic, impervious material, bonded with an adhesive.

No undershell required.

The framed understructure shall be 1.5 mm 304 grade stainless steel of box section construction, fully welded and polished, giving a working height of approximately 850 mm. The stated requirement will indicate either:

- a) adjustable flanged feet for levelling
- or
- b) castors, two braked.

The rear legs must be inset sufficiently to clear services.

Removable 304 grade stainless steel skirt shall be fitted to mask sink fronts and heater. Visual access to temperature gauge shall be provided.

The wash sink shall operate at the domestic hot water temperature. The sanitising sink shall be fitted with an immersion heater capable of bringing the water from domestic hot water temperature to 82°C.

Immersion heater to be recessed into box below, to the side, or to the rear of the sink and protected by a removable perforated cover plate. Where sited in box below, usable working depth of sink shall be 380 mm.

Power input shall be nominal 6kw (1ph or 3ph option).

Sanitising sink to be fitted with visible temperature gauge and low water cut out. Heater unit to be thermostatically controlled to maintain stated water temperature.

Heated sink to be insulated with an impervious material.

Heated sink shall be provided with a 304 grade stainless steel lid with two insulated handles for removal.

SINK UNIT (Up to 50 to be fed)

Nominal 2400 mm long. Top inset with two sink bowls 610 mm x 450 mm x 300 mm deep (wash and sanitiser), manufactured from 1.5 mm 304 grade stainless steel. End of unit adjacent to the heated sanitising sink to be provided with a drainer within the overall drip mould. The Unit will be handed in accordance with stated requirement.

SINK & SCOURING TROUGH UNIT (Over 50 to be fed)

Nominal 2500 mm unit as 'Sink Unit' above but with scouring trough measuring 680 mm x 475 mm x 0 mm (rear) – 75 mm (front) deep set between sinks. The drainer is NOT required.

'DIRTIES'/DUMP BENCH

The detailed provision and direction of flow shall be in accordance with the stated requirement.

The general construction shall follow the detail under 'Construction' above.

Where specified, the benchtop shall be fitted with an inset Waste Disposal Unit. The main structure shall provide adequate support to this unit.

DRAINER BENCH

The detailed provision and direction of flow shall be in accordance with the stated requirement.

The general construction shall follow the detail under 'Construction' above.

The benchtop shall be provided with a drip mould and be sloped to drain back to the end abutting the sinks. Bench should overlap drip mould on sink and discharge into the bowl.

Understructure shall be designed to accommodate cleaning material cupboard see Catering Equipment Specification No.15.

FITTINGS

Each sink shall be fitted with a pair of 22 mm chromium plated taps and waste outlets. Sinks to be fitted with perforated cylindrical strainer, gate valves, traps and overflows. Trough outlet to be trapped. Trough to be fitted with prewash spray gun with flexible feed, adequate support brackets/column, mixer control and valve trigger.

Lift cage of stainless steel wire with insulated handles to be provided to fit sanitising sink.

EARTH BONDING

Sink unit and each bend shall be constructed in such a way as to ensure effective earthing between all components and fixings.

**Catering Equipment
Specification
Racking (Various)**

No 18

GENERAL

Racking shall be provided as required in the particular specification.

General design and detail of the system shall provide a smooth finish with no sharp edges or dirt traps.

CONSTRUCTION

Racks shall be of robust construction suitable for heavy duty usage, adequately braced to ensure stability in use and supplied complete with linking device where required in the particular specification.

Each rack shall have a maximum of four shelves as required by the particular specification, with overall nominal dimensions of 600 mm deep x 1500 mm high x 900 mm, 1200 mm, 1500 mm or 1800 mm long.

Solid shelves are required in all locations except crockery and utensil areas where they shall be perforated. Wire shelves are not acceptable.

Each shelf shall be marked with the manufacturer's safe working load.

Shelves shall be adjustable for height.

The shelves shall be capable of carrying an evenly distributed load of a minimum 50 kg per 300 mm run with a maximum centre span deflection of 5 mm in the centre of the shelf's length.

Shelves and frame shall be manufactured from 1.5 mm 304 grade stainless steel with a nominal 40 mm turndown to front and ends of shelves and a minimum of 150 mm upstand to rear and sides. The upstand to the rear and sides shall be provided independently of the shelves and should form part of the frame to provide stability. These shall be height adjustable. Legs/frame shall be nominal 30/40 mm box section 304 grade stainless steel fitted with stainless steel cap welded to the top of each leg. Legs shall be fitted with castors (front two braked) or adjustable flanged feet for levelling as required by the particular specification.

Alternatively, upright posts and shelf frame shall be made from 25 mm box section electro-plated steel with a protective coating to resist attack from moisture, salt, grease, acids and alkalis. Shelf panels shall be constructed from 2 mm thick polypropylene. These shall be capable of being easily cleaned in a commercial dish or utensil washing machine. The whole unit shall be capable of withstanding temperatures from -30°C to +90°C. Shelves shall be slatted/ventilated or solid or a combination of both, according to the particular specification and height adjustable. An upstand of a minimum of 150 mm to the rear and sides shall be provided independently of the shelves and should form part of the frame, when installed, to provide stability. Units shall be easy to assemble with basic tools and easy to dismantle for cleaning.

Assembled units shall be either static with height adjustable flanged feet or mobile with castors (front two braked) as required by the particular specification.

VEGETABLE STORAGE PLATFORM

The platform shall be constructed from 304 grade stainless steel with perforated top turned down nominal 40 mm all round and supported on tubular legs fitted with adjustable flanged feet for levelling.

The platform shall be adequately braced to ensure stability in use and shall have nominal overall dimensions of 450 mm deep x 350 mm high x 1200 mm long.

VEGETABLE TROLLEY

Supplied complete with three removable wire baskets and removable bottom solid dust tray.

The frame shall be adequately braced to ensure stability in use and shall have nominal overall dimensions of 500 mm wide x 1150 mm high x 900 mm long. Legs shall be fitted with castors, two braked and, where necessary, tops shall be closed and sealed with stainless steel caps.

ROLLING RACK SYSTEMS

The following provides the general outline requirements for a rolling rack system. In all instances where this type of system is being considered, advice should be sought from the KDEA.

The system shall include fixed end bays and a clear gangway width to allow safe access to the system. Overall bay sizes shall not exceed 600 mm deep x 1500 mm high x 900 mm, 1200 mm, 1500 mm, 1800 mm long.

**Catering Equipment
Specification
Refrigerators (Cabinet)**

No 19

GENERAL

Refrigerators shall normally be provided as vertical 'reach-in' type storage cabinets with forced air circulation, ducted to ensure even temperature distribution. Internal cabinet shall be designed to accept 1/1 and 2/1 gastronorm series trays and containers. Pass through option shall be provided as required. Nominal nett capacities shall be 600 and 1350 litres.

Freezer compartment, ice making facility and meat hanging rails are not required. Doors with toughened safety glass shall be available as an option.

TEMPERATURE

Cabinets shall be designed to operate in an ambient (environmental) room temperature of 43°C, and as a minimum in accordance with BS EN 441 to Climate Class 5, and shall be capable of maintaining food at the following internal temperatures:

General Purpose	+1°C to +4°C
Fresh Meat/Poultry	-2°C to +2°C
Chilled Foods (cook/chill)	0°C to +2°C

Where variable temperature cabinets are specified the operator shall be able to adjust the temperature without the use of special tools.

ELECTRICS/PLANT

For ease of maintenance or replacement the refrigeration unit shall be modular or cassette type and top mounted. Power supply shall be 1 ph/50Hz/230V via a 2 metre length (in its coiled form) 'helicoil' type cable. Refrigeration shall be 'front-breathing' to allow siting adjacent to other items.

Automatic defrost with frequency allied to the operating conditions is required with defrosting and vaporisation of the hot gas type.

A magnetic door open fan cut-out switch shall be provided.

Evaporator coils shall have a non-corrosive finish.

INSTRUMENTATION

Shall include microprocessor temperature control with digital temperature display, defrost and compressor-on indication and an operating indicator light. Simulated food temperature display shall be provided together with food temperature and 'door open' alarm systems. A warning light indicating that the compressor requires cleaning is required.

The unit shall be capable of connection to a central temperature monitoring system.

CONSTRUCTION

With the exception of the rear external panel, which may be of galvanised steel, cabinets shall be constructed in 304 grade stainless steel throughout, with an easily cleaned exterior and interior with an absence of dirt traps. Floors shall be coved. Doors shall be one piece, with a minimum of 90° hold open position and self-closing and furnished with one lock per door (two keys per lock) and magnetic seal. Door seals shall be easily cleaned, and replaced without the use of tools.

FITTINGS

Cabinets shall be mounted on non-slip, non-marking castors located at the edge of the cabinet, giving a minimum of 125 mm clearance between the floor and base of cabinet. The front pair of castors shall be fitted with foot operated brakes. Double door units shall have six castors located at the edge of the cabinet to improve stability.

Each cabinet section shall be supplied with five stainless steel or similarly robust shelves which will not chip, cut, peel or rust, and are resistant to chemical attack, and an equal number of adjustable shelf supports. Dipped plastic coated mild steel shelves are not acceptable. Shelf supports shall be non-tilt stainless steel and easily removable for cleaning.

UNDERBENCH REFRIGERATION

Where refrigerators are to be located under standard benching (see Catering Equipment Specification No 11), they shall have a nominal capacity of 140 litres and generally be constructed in accordance with this specification. Units shall be provided with two stainless steel or similarly robust shelves which will not chip, cut, peel or rust, and are resistant to chemical attack, to fit on easily removable stainless steel supports. Dipped plastic coated mild steel shelves are not acceptable.

REFRIGERANT GASSES & INSULATION SHALL BE CFC AND HCFC FREE.

REFRIGERANT

Hydrocarbon refrigerant shall be installed in all units for delivery within mainland UK, NI and EU. Confirmation of the type of refrigerant on orders placed for units in the rest of the world should be obtained from the KDEA.

**Catering Equipment
Specification
Multi-deck Refrigerated Retail Merchandiser**

No 19a

GENERAL

Merchandisers shall be vertical self-service type display units for the display of cold beverages in cans, cartons and bottles, and wrapped food items, with forced air circulation, ducted to ensure even temperature distribution.

TEMPERATURE

Cabinets shall be designed to operate at ambient temperatures of up to 25°C with an operating temperature range of +1°C to +4°C. The operator shall be able to adjust the temperature without the use of special tools.

ELECTRICS/PLANT

For ease of maintenance or replacement the refrigeration unit shall be modular or cassette type and bottom mounted with access from the front for maintenance. Power supply shall be 1 ph/50Hz/230V via a 2 metre length (in its coiled form) 'helicoil' type cable. Refrigeration shall be an integral forced air thermostatically controlled system and 'front-breathing' to allow siting adjacent to other items.

Automatic defrost is required with defrosting and vaporisation of the hot gas type.

Evaporator coils shall have a non-corrosive finish.

INSTRUMENTATION

Shall include microprocessor temperature control with digital temperature display, defrost and compressor-on indication and an indicator light for on-off. Simulated food temperature display shall be provided together with food temperature alarm systems. A warning light indicating that the compressor requires cleaning is required.

The unit shall be capable of connection to a central temperature monitoring system.

CONSTRUCTION

Merchandisers shall have nominal external dimensions of 1200 mm wide x 700 mm deep x 1900 mm high. Subject to the particular specification, narrower, wider or shallower models may be required.

With the exception of the rear external panel, which may be of galvanised steel, cabinets shall be constructed in stoved paint finish, with an easily cleaned exterior and interior with an absence of dirt traps. Subject to the particular specification, full length tempered glass end panels may be required.

FITTINGS

Merchandisers shall be mounted on non-slip, non-marking castors located at the edge of the cabinet, giving a minimum of 100 mm clearance between the floor and base of cabinet. The front pair of castors shall be fitted with foot operated brakes.

Each merchandiser shall be supplied with a minimum of three height adjustable stainless steel or similarly robust shelves which will not chip, cut, peel or rust, and are resistant to chemical attack. Shelf supports shall allow tilting to an angle of 10° and be easily removable for cleaning. Full width inner shatterproof long-life fluorescent tubes shall be fitted to the underside of each shelf. A night blind shall be fitted as standard. Where specified, a lockable shutter shall be fitted.

REFRIGERANT GASSES & INSULATION SHALL BE CFC AND HCFC FREE.

**Catering Equipment
Specification
Refrigerated Counters**

No 20

GENERAL

Refrigerated Counters shall be provided as required. Units shall have forced air circulation, ducted to ensure even temperature distribution. Internal cabinet designed to accept 1/1 gastronorm series trays and containers.

The requirement should be met by nominal net capacity multiples of 300 litre (two door) and 450 litre (three door) units with a working height of 850/870 mm above floor level.

TEMPERATURE

Cabinets shall be designed to operate in an (environmental) room temperature of 43°C, and as a minimum in accordance with BE EN 441 to Climate Class 5, and be capable of maintaining food at the following temperatures stated below:

General Purpose	+1°C to +4°C
Fresh Meat/Poultry	-2°C to +2°C
Chilled Foods (cook/chill)	0°C to +2°C
Frozen Foods	-18°C to -21°C

ELECTRICS/PLANT

Refrigeration plant shall be end mounted with electrically operated compressor, suitable for 1 ph/50Hz/230V supply and fitted with 2 metre length (in its coiled form) of 'helicoil' type cable. Chilled air shall be drawn through the cabinet to ensure maintenance of constant temperature throughout the cabinet. The compressor unit shall be modular or cassette type to allow easy maintenance/replacement, and be left or right hand mounted as required.

Automatic defrost is required with defrosting and vaporisation of the hot gas type. Frequency of defrost shall be allied to the operating conditions.

Evaporator coils shall have a non-corrosive finish.

INSTRUMENTATION

Shall include microprocessor temperature control with digital temperature display, defrost and compressor-on indication and an operating indicator light.

Simulated food temperature display shall be provided together with food temperature alarm systems. Compressor cleaning indicator is required.

The unit shall be capable of connection to a central temperature monitoring system.

CONSTRUCTION

Cabinets shall be constructed in 304 grade stainless steel throughout with an absence of dirt traps. Floors shall be coved. The compressor unit shall be provided with a louvred/vented back panel. Benchtops to be reinforced heavy duty stainless steel. Where the unit is for centre island installation, the back panel shall be of 304 stainless steel. Freestanding units shall have a plain top. Units for location against a wall shall have top with integral rear upstand of 60 mm to suite with adjacent benching. Doors shall be stainless steel, furnished with one lock (two keys) and magnetic seal. Door seals shall be easily cleaned and replaced without the need of tools.

FITTINGS

Cabinets shall be mounted on non-slip, non-marking castors located at the edge of the cabinet, giving approximately 125 mm clearance between floor and base of cabinet. The front set of castors shall be fitted with foot operated brakes.

Each cabinet section shall be supplied with two stainless steel or similarly robust shelves which will not chip, cut, peel or rust, and are resistant to chemical attack, and an equal number of adjustable shelf supports. Dipped plastic coated shelves are not acceptable. Shelf supports shall be non-tilt stainless steel and easily removable for cleaning.

Where required, cabinets shall be of the pass-through type.

REFRIGERATED PREPARATION COUNTER

Where a refrigerated preparation counter is required, a raised, integral gastronorm pan insert holder running the full width of the cabinet shall be supplied. This shall be designed to accommodate 1/3 and 1/6 gastronorm pans. Pans shall be recessed into the top to allow the fitting of an optional hinged stainless steel cover to form a complete seal for extended food storage. The raised insert shall be chilled by a fan-assisted, forced air system. An easily accessible and cleanable crumb tray shall be provided beneath the pans.

All other requirements shall be as for Refrigerated Counter.

REFRIGERANT GASSES & INSULATION SHALL BE CFC AND HCFC FREE.

REFRIGERANT

Hydrocarbon refrigerant shall be installed in all units for delivery within mainland UK, NI and EU. Confirmation of the type of refrigerant on orders placed for units in the rest of the world should be obtained from the KDEA.

**Catering Equipment
Specification
Frozen Food Storage Cabinet**

No 21

GENERAL

Deep freeze storage will normally be provided as vertical "reach-in" type storage cabinets with forced air circulation, ducted to ensure even temperature distribution. Internal cabinet designed to accept 1/1 and 2/1 gastronorm series trays and containers. Capacity shall be in accordance with the particular specification. Nominal net capacities shall be 600 and 1350 litres.

TEMPERATURE

Cabinets shall be designed to operate in an (environmental) room temperature of 43°C, and as a minimum in accordance with BE EN 441 to Climate Class 5, and be capable of maintaining food at a temperature of – 18°C to – 21°C.

ELECTRICS/PLANT

The refrigeration unit should be modular or cassette type to allow easy maintenance/replacement and shall be top mounted suitable for 1ph/50Hz/230V supply and fitted with 2 metre length of "helicoil" type cable. Units shall be "front breathing" to allow siting adjacent to other items. Units shall be low noise in operation.

Automatic defrost is required with defrosting and vaporisation of the hot gas type.

A magnetic door open fan cut-out switch shall be provided.

Evaporator coils shall have a non-corrosive finish.

INSTRUMENTATION

Shall include microprocessor temperature control with digital temperature display, defrost and compressor-on indication and an operating indicator light. Simulated food temperature display shall be provided together with food temperature alarm system. Compressor cleaning indicator is required.

The unit shall be capable of connection to a central temperature monitoring system.

CONSTRUCTION

With the exception of the back panel, cabinets shall be constructed in 304 grade stainless steel throughout, with easily cleaned exterior and interior with an absence of dirt traps. Floors shall be coved. Doors shall be one piece, self closing with a minimum 90° "hold open" position, furnished with one lock per door (two keys per lock) and magnetic seal. Door seals shall be easily cleaned and replaced.

FITTINGS

Cabinets shall be mounted on non-slip, non-marking castors located at the edge of the cabinet giving approximately 125mm clearance between floor and base of cabinet. The front pair of castors shall be fitted with foot operated brakes. Double door units shall have 6 castors located at the edge of the cabinet to improve stability.

Each cabinet section shall be supplied with five stainless steel or similarly robust shelves which will not chip, cut, peel or rust and are resistant to chemical attack, and an equal number of adjustable shelf supports. Dipped plastic coated mild steel shelves are not acceptable. Shelf supports to be non-tilt stainless steel and easily removable for cleaning.

REFRIGERANT GASSES & INSULATION SHALL BE CFC AND HCFC FREE.

REFRIGERANT

Hydrocarbon refrigerant shall be installed in all units for delivery within mainland UK, NI and EU. Confirmation of the type of refrigerant on orders placed for units in the rest of the world should be obtained from the KDEA.

**Catering Equipment
Specification
Walk-in Coldrooms**

No 22

Where walk-in coldrooms are supplied they shall have a capacity and operating temperature as stated in the particular specification.

TEMPERATURE

Coldrooms shall be capable of maintaining the following internal temperatures at a maximum ambient temperature of 43°C (Climate Class 5):

General Purpose	+1°C to +4°C
Fresh Meat/Poultry-	-2°C to +0°C
Chilled Foods (cook/chill)	0°C to +2°C
Frozen Food Storage	-18°C to -21°C

ELECTRICS/PLANT

Refrigerator plant shall be modular and remotely mounted to avoid heat gain in the working environment. Compressors to be semi-hermetic or hermetic type.

Automatic defrost and drainage to exterior of building or to drain shall be provided. For coldrooms operating below -2°C, a heated coil shall be fitted to the drainage pipe within the cold room to ensure that the condensate does not freeze within the pipe.

For coldrooms operating below -2°C the door frame shall be provided with a low voltage anti-condensate heater in a stainless steel channel. Internal lighting shall be provided and coldrooms large enough for staff to work in shall be fitted with battery powered emergency lighting (see also "SAFETY" section).

A pressure relief valve shall be provided on coldrooms operating below -2°C.

INSTRUMENTATION

To include microprocessor temperature control with digital temperature display, defrost and compressor-on indication and an indicator light for on-off.

The coldroom shall be capable of easy connection to a central temperature monitoring system.

The internal alarm button shall be illuminated with an indicator for on-off. An audio-visual temperature alarm shall also be provided, operated either by a rise in temperature or failure of the mains power supply (see also "SAFETY" section).

CONSTRUCTION

Coldroom dimensions shall be variable to suit the requirements of the particular specification using interlocking sections sealed on site. Internal height shall be a minimum of 2.2 m.

All external junctions between sections to be sealed.

All internal junctions between floor, walls and ceiling to be sealed and coved.

Walk-in deep freeze rooms shall have an insulated floor finished with 1.6 mm patterned rigidised galvanised mild steel or be a continuation of the tiled kitchen floor surface.

Where trolley traffic is expected to enter the coldroom, a reinforced floor shall be provided. In new build and major refurbishment projects the insulated floor shall be recessed into the structure to avoid a change in floor level. Where floors join, a stainless steel threshold plate shall be provided.

Specific advice on floor construction, finish and design should be sought from the KDEA.

Any walk-in freezer with a floor area exceeding 9m² shall be provided with an under floor heater mat.

Wall panels shall be insulated and finished with a food safe laminate finish on steel base to both internal and external faces. Internal walls/partitions shall be of the same construction with coved junctions.

Wall panels shall be provided with horizontal protection both internally and externally. They shall be set at a height to match any other protection provided within the kitchen area.

Where required by the particular specification, the coldroom sides shall be extended to enclose the space between the cabinet top and room ceiling. The enclosed space shall be suitably ventilated and provided with access for cleaning and maintenance.

Coldroom ceilings shall be insulated and finished with a food safe laminate finish on steel base internally with galvanised steel externally.

Insulated composite panels shall be in accordance with Loss Prevention Council Standard LPS 1181.

Doors shall be semi-rebated with a nominal opening 900 mm x 2000 mm high. Doors shall be fitted with a stainless steel kick plate extending to 450 mm above FFL. A lockable handle with internal safety release shall be fitted. Where specified a sliding top hung door shall be provided.

Door seals shall be easily cleaned and replaced.

Where palletised storage will be used a wider door shall be provided as required in the particular specification.

A plastic curtain shall be provided to reduce heat gain when the door is open. Alternatively and where specified an air curtain system shall be provided.

FITTINGS

Stainless steel racking shall be provided as required in the particular specification including dunnage with a depth of 600 mm and in accordance with Catering Equipment

Specification No. 18, Racking. Cantilevered shelving secured to the wall panels is not acceptable.

SAFETY

The access door is to be mechanically operated and capable of being opened from both inside and outside.

An alarm light, buzzer or bell, audible or visible from outside the refrigerated space is to be provided. It is to have a battery backup to ensure operation in the event of mains/circuit failure. The operation of the alarm device is to be by an illuminated button or chain, located inside the refrigerated space near the door. The alarm sounder is to be clearly distinguishable from the fire alarm and appropriately labelled, the label being sited in a conspicuous position adjacent to the sounder.

An independent light is to be provided within the refrigerated space, which cannot be switched off from the outside.

The design of the lighting shall take account of the racking layout to avoid shadows and provide a safe operational working environment. The required lighting level throughout at 900 mm shall be 500 lux provided by ceiling mounted sealed fluorescent lights.

All alarm systems and safety features are to be capable of functioning as intended under cold room operating conditions.

REFRIGERANT GASSES & INSULATION SHALL BE CFC AND HCFC FREE

Slab type infill material shall not be used.

**Catering Equipment
Specification
Sink Units – Food Preparation**

No 23

GENERAL

Sink units shall be static or mobile and shall comprise standard length units of 1200 mm, 1500 mm, 1800 mm or 2400 mm lengths Depth shall normally be 700 mm and sink bowl sizes as specified below.

CONSTRUCTION

Sink tops and bowls shall be manufactured from 1.5 mm 304 grade stainless steel stiffened to prevent bending or distortion in use. Sinks shall be full-frame, robust construction of 30 mm box section. Where located adjacent to walls, units shall have a nominal 60 mm rear upstand as an integral part of the working surface. Upstand shall be detailed to provide a rigid and hygienic finish, complete with turnback and 15 mm turndown. The end of the upstand shall be closed in line with the side turndown. All detailing must ensure that there cannot be an edge-on contact between the unit back edge and adjacent fabric or services. All remaining faces of the sink top shall have a nominal 50 mm turndown, finished with a return chamfer or turn-under and an anti-drip mould to sides and front. Draining boards shall be constructed without ribs.

All surface joints shall be welded and polished.

Underside of working surfaces and bowls shall be treated with a non toxic, impervious sound deadening material, bonded with an adhesive.

Where specified, units shall have a full length removable stainless steel shelf, made up of nominally 600 mm sections of 1.5 mm 304 grade stainless steel, finished with a turndown to front and ends and a 60 mm upstand to rear. The shelf shall be nominally 250 mm above floor level. A full length 304 grade, 1.5 mm stainless steel removable valance/apron shall be fitted.

The full-framed under structure shall be 1.5 mm 304 grade stainless steel of nominal 30 mm box section construction, all joints fully welded and polished, giving a working height of approximately 850 mm. Rear legs shall be inset 100 mm. The design of the under-structure shall ensure adequate stability in use.

Legs shall be fitted with castors, two braked, or adjustable flanged feet, as required by the particular specification.

SINK BOWL SIZES & FITTINGS

Sink bowls shall be manufactured from 1.5 mm 304 grade stainless steel with a uniformity of thickness of 1.5 mm throughout the bowl, and dimensions of 600 mm long x 450 mm wide x 300 mm deep.

Each sink shall be fitted with a pair of chromium plated 22 mm taps, standing waste and perforated cylindrical strainer located in the waste outlet.

EARTH BONDING

Other than mobile vegetable sinks, all sink units shall be fitted with an electrical stud for connection, by others, to an external equi-potential conductor.

MOBILE SINK – VEGETABLE PREPARATION

Where specified, 2 buffer bars finished with plastic end stops shall be welded to the rear legs to allow the sink top to stand 100 mm from the wall. Bowl dimensions 500 mm x 500 mm x 300 mm deep.

POTATO & VEGETABLE PREPARATION TROUGH

Where specified, construction shall follow general principles as set out below.

The option of left hand, right hand or double ended shall be as required by the particular specification.

Construction shall be such that the mobile sink can be located directly beneath the centre of the trough without impacting on any water or drainage pipework.

**Catering Equipment
Specification
Slicer – General Purpose Gravity Feed (Electric)**

No 24

GENERAL

The unit shall be suitable for bench mounting, have a motor driven knife blade and a manual carriage.

CONSTRUCTION

The base element shall be rigid and sufficiently heavy to ensure stability in operation.

Main elements may be constructed from anodised aluminium or stainless steel. General construction shall provide an easily cleaned finish and prevent build up of waste matter.

The motor shall be totally enclosed and ventilated.

The carriage shall be guided and mounted on a track with bearings to ensure a smooth action.

The back plate shall be fluted.

The carrier shall move freely and follow the item to be cut under its own weight. It shall have a 'parked' position clear of the table. A 'last slice device' shall be incorporated.

The blade shall be hard chromed carbon steel or hollow ground stainless steel, stain resisting and have a device to keep it free from grease. It shall be circular of 300 mm diameter with cut thickness adjustable from 0 to 15 mm and fully guarded.

Construction shall prevent leakage of lubricants on to any food contact surfaces and prevent the ingress of food waste into spaces that cannot easily be cleaned.

ELECTRICS/CONTROLS

Units shall be fitted with 'No Volt' release protection facility, shrouded push 'Start' control and raised 'Stop' control. There shall be an automatic cut-out system on the drive motor which operates when any guard or part which exposes the blade is removed.

Power supply to be 1ph/50Hz/230V.

FITTINGS

An integrated blade sharpening device shall be provided. The fixing arrangement of the sharpener shall ensure self-setting.

A safe blade removing system or attachment shall be provided.

**Catering Equipment
Specification
Blast Chiller/Freezer**

No 25

GENERAL

Units shall have forced air circulation, ducted to ensure even temperature distribution and be suitable for dual function blast chilling and blast freezing of cooked foods.

The chilling/freezing capacity of the unit shall normally be met by one four nominal sizes of unit:

Model Type	Capacity	Time Chill/Freeze
Cabinet	10 kg	90/240
Cabinet	20 kg	90/240
Cabinet	40 kg	90/240
Cabinet	50 kg	90/240

The internal cabinet shall be designed to accept 1/1 gastronorm series trays and containers.

TEMPERATURE

Chilling: units shall be capable of reducing a 50 mm layer of food from +70°C to +3°C or below, in a period not exceeding 90 minutes when loaded to their stated capacity.

On reaching required food temperature the unit shall switch automatically to 'hold' mode at or below +3°C.

Freezing: units shall be capable of reducing food from +70°C to -18°C or below, in a period not exceeding four hours when loaded to their stated capacity.

On reaching required food temperature, the unit shall switch automatically to 'hold' mode at -18°C.

The unit shall meet these requirements within a maximum ambient temperature of 43°C.

ELECTRICS/PLANT

Refrigerator plant shall normally be bottom mounted with electrically operated compressor. The refrigeration unit should be modular to allow easy maintenance/replacement.

The air flow system shall ensure even chilling to maintain quality of food. Automatic defrost is required with defrosting and vaporisation of the hot gas type.

10 kg and 20 kg units shall be suitable for 1ph/50Hz/230V supply and fitted with 2 metre length of 'helicoil' type cable. Units with a capacity above 30 kg shall operate from a 3ph/50Hz/400V supply.

A magnetic fan cut-out switch shall be provided set to operate when the door is opened.

Evaporator coils shall have a non-corrosive finish.

INSTRUMENTATION

To include micro processor temperature control, with digital temperature display, linked to an internally mounted temperature probe controlling the operating cycle. Unit shall have hold, defrost and compressor-on indication and an operating indicator light. A food temperature alarm shall be provided. A process timer to allow variable chill times shall be included for partial loads, and a temperature probe controlled time cycle. Units shall offer option of hard and soft chill.

CONSTRUCTION

With the exception of the back panel, cabinet shall be constructed in 304 grade stainless steel throughout, with an easily cleaned exterior and interior. Floors shall be coved. Doors shall be one piece self-closing with a minimum 90° 'hold open' position, furnished with one lock (two keys per lock) and magnetic seal. Door seals shall be easily cleaned and replaced. On counter units the top shall be reinforced heavy duty stainless steel with an integral upstand.

FITTINGS

Units shall be mounted on non-slip, non-marking castors giving approximately 125 mm clearance between floor and base of cabinet. The front pair of castors shall be braked.

Units shall be supplied with the following number of nylon coated wire or stainless steel shelves complete with the required number of adjustable shelf supports:

10 kg/3 shelves, 20 kg/5 shelves, 40 kg/10 shelves, 50 kg/13 shelves.

Shelf supports to be non-tilt stainless steel and easily removable for cleaning.

REFRIGERANT GASSES & INSULATION SHALL BE CFC AND HCFC FREE

**Catering Equipment
Specification
Potato Peeler**

No 26

GENERAL

The unit shall be heavy duty and sized as stated in the particular specification. Capacities shall normally be 5 kg/10 kg/15 kg and 25 kg with the machine chamber being capable of taking the required capacity in one load.

CONSTRUCTION

Main elements may be constructed from cast aluminium alloy or stainless steel. General construction shall provide an easily cleaned finish and prevent build-up of waste matter.

The chamber shall be non-corrosive and have no harmful effect on vegetable items. It must not be affected by any starch or mild acid present in the raw food items.

A guarded discharge chute shall be fitted. The discharge door shall seal the chamber when closed. It shall be easily opened, when required, and may form part of the discharge chute. The chute may form part of the guard.

Bottom rotating plates shall have an under surface designed to keep the void below the plate clear of sludge and debris.

Units above 5 kg capacity shall be mounted on a pedestal of sufficient height to permit direct discharge into vegetable preparation sinks. 5 kg units may be bench mounted with the motor mounted to the rear of the chamber.

Pedestals shall be designed to prevent the ingress of water, waste products and infestation and shall be fixed to the floor to ensure stability in use.

Motor and drive shall be sufficiently robust to withstand frequent starting under full load.

Construction shall prevent leakage of lubricants on to any food contact surfaces and prevent the ingress of food waste into spaces that cannot easily be cleaned. The machine design and construction shall facilitate easy and thorough cleaning, easy removal of demountable parts and easy assembly ensuring correct relocation without the use of tools.

ELECTRICS & CONTROLS

Units shall be fitted with 'No Volt' release protection facility, shrouded push 'Start' control and raised 'Stop' control.

Power supply to be 1ph/50Hz/230v or 3ph/50Hz/400v.

FITTINGS

A carborundum plate shall be provided as standard.

A waste dilution unit or integral filter unit and air break shall be fitted as standard.

Specification No 42
Catering Equipment
Specification

Water entry point shall be sufficiently robust to support the hose and connection without loss of water.

**Catering Equipment
Specification
Vegetable Preparation Machine**

No 27

GENERAL

The unit shall be heavy duty and have a throughput of 5 kg min or 12 kg min, as required by the particular specification.

CONSTRUCTION

The base shall be rigid and sufficiently heavy to ensure stability in operation.

Main components shall be constructed from non-corrosive materials such as cast aluminium or stainless steel. General construction shall provide an easily cleaned finish and prevent build-up of waste matter.

All moving parts shall be fully guarded.

All cutting blades to be stainless steel.

The motor shall be totally enclosed and ventilated.

Construction shall prevent leakage of lubricants on to any food contact surfaces and prevent the ingress of food waste into spaces that cannot easily be cleaned. The machine design and construction shall facilitate easy removal of demountable parts and easy assembly ensuring correct relocation, without the need of tools.

Machine shall have a bulk feed hopper and feed tube to minimise pre-cutting of food products and accommodate long or delicate items.

ELECTRICS & CONTROLS

Units shall be fitted 'No-Volt' release protection, shrouded push 'Start' control and raised 'Stop' control.

Power supply to be 1ph/50Hz/230V.

Units shall be fitted with an automatic magnetic or micro-switch interlocking device on the drive motor, which operates when the hopper is opened or the pusher arm is raised.

FITTINGS

The following cutters/plates shall be provided as standard:

- | | |
|------|----------------------------|
| 3 No | Slicer (3 mm, 5 mm, 10 mm) |
| 1 No | Shredder |
| 1 No | Chipper |
| 1 No | Dicer |

A wall mounted cutter/plate storage unit shall be provided.

Where a machine with a minimum throughput of 12 kg is specified, it shall incorporate the following additional fittings and features:

Gear drive and lever operated pusher plate.

Auto-feed hopper.

Stainless steel purpose-made support stand nominally 475/500mm high to locate machine hopper/handle at safe working height, fitted with 2 No. braked castors and 2 No. adjustable flanged feet.

**Catering Equipment
Specification
Waste Compactor**

No 28

GENERAL

The size and type of unit shall be as stated in the particular specification.

The unit shall have a mild steel frame suitably treated against corrosion, stainless steel outer casing and be suitable for heavy use. All hydraulic cylinders, rams, hoses and any moving parts shall be enclosed.

The unit shall be capable of compacting cardboard boxes, plastic containers, bottles, cans and food waste to a minimum of 25% of the original volume.

Compaction shall be by mechanical or hydraulic ram, compressing waste material in one of two methods:

- a. Into a bin or trolley which shall be designed to take a plastic or stainless steel liner to allow clean storage and disposal of compacted waste (a bag compactor),
or
- b. Into existing 660, 1280 litre bins (a eurobin compactor).

Machines shall be free-standing and fitted with castors, two braked.

Machines for compacting into eurobins shall be fitted with a stainless steel base plate that supports the bin during compaction by marginally lifting the bin off the ground as the compaction plate moves down towards the bin, minimising the pressing power being exerted down through the castors. The compaction plate shall also be manufactured in stainless steel.

ELECTRICITY SUPPLY & CONTROLS

Machines shall be suitable for 1ph/50Hz/230V or 3ph/50Hz/400V supply.

A key operated 'power-on' switch with indicator light shall be provided, together with recessed 'start' and domed head 'stop' controls.

The bag compactor machine shall be fully interlocked and guarded to give operator protection and shall include automatic cut off switch to prevent operation when compaction bin chamber doors are not fully closed.

Machines used for compaction into 1100 or 1280 litre bins shall be designed to require two-handed operation whilst compression is taking place.

For safety reasons, the controls for the compactor shall be sited to the front side, giving the operator full vision of the compaction process.

Full loading warning device shall be fitted.

The controls shall be grouped in a panel which shall include operating instructions.

FITTINGS

Bag Compactors.

Units producing a nominal compacted mass in excess of 15 kg shall be provided with a bin trolley to transport loaded bin to the waste storage container.

Units producing a compacted mass in excess of 25 kg shall be provided with a bin transporting/lifting device to transport a loaded bin to the waste storage container and raise it to a suitable height for safe discharge of bin contents.

Units shall be provided with an initial issue of 100 bags, ties and bag tie implement.

**Catering Equipment
Specification
Servery Counters**

No 29

GENERAL

The service counter shall be provided as detailed in the particular specification.

All hot counters shall be electrically heated and be of the dry heat type. All cold counters shall be electrically powered and be of the blown air type. Counters shall normally comprise multiples of the following standard units:

Hot Counters: nominal 1300 mm (3 x 1/1 GN insert) and 1900 mm (5 x 1/1 GN insert)

Cold Counters: nominal 1200 mm and 1800 mm

Ambient Counters: as required to support ancillary items, electrical distribution board, corner infills, and items of front of house cooking.

Counter heights shall be 850/900 mm and width 750/800 mm excluding tray slide.

Tray slides with or without a back stop shall be provided to all units of the servery counter according to the particular specification.

Any or all of the following additional elements may be required:

- Tray/Cutlery Units/s
- Refrigerated Display/Storage/Unit/s
- Plate Lowerator/s
- Basket Lowerator/s
- Soup Kettle/Lowerator/s
- Carvery Unit/s
- Induction Hob/s (See Catering Equipment Specification No 39)
- Point of sale (POS), Local Area Network (LAN) and electrical connections and secure cupboard.

Counter units shall be static with height-adjustable legs and flanged feet, mobile, or a combination of both, and where mobile, fitted with non-slip, non-marking castors located at the edge of the unit giving approximately 125 mm clearance between floor and base of unit. Service side pair of castors shall have foot-operated brakes.

General construction shall provide an easily cleaned finish and prevent the build up of food waste.

All heated counters should be capable of maintaining food at a minimum of 75°C and all cold units at a range of +1°C to +4°C throughout the meal period.

FINISHES

According to the particular specification, counter fronts and exposed ends shall have a decorative finish such as real wood veneer with planted matching decorative picture moulding relief and beaded, lipped edgings or 'shadow-gapped' panels. Counter top may have stainless steel or decorative finish. A bull-nosed edge may be required.

Corners shall be adequately protected on all units. Counter backs and ends not visible to customers, shall be finished in stainless steel.

In Officers' and SNCOs' messes, where the general public room décor is of high quality, the servery units may be designed to match or complement the furnishings and fabric.

NOTE:

Finishes of all accessories/fitting such as gantries should match or complement the main finishes.

CONSTRUCTION

HEATED COUNTERS

Counters shall be constructed on a heavy duty fully welded stainless steel frame.

Heated counters shall be of either bain-marie dry heat type capable of holding multiples of gastronorm 1/1 containers of maximum 100 mm depth or solid in stainless steel, granite, Swanstone™ or Corian® and may require Ceran® inset plates. Where these are self-service, consideration should be given to the positioning of gastronorm wells towards the front of the counter, with inclined collars to improve display and facilitate ease of service where required. Where assisted service is required consideration should be given to the positioning of the gastronorm wells towards the rear of the counter.

Base unit shall be a hot cupboard with removable stainless steel double skinned and insulated doors either top hung or bottom mounted in a single piece guide track, removable and fitted with end stops with guide to lower edge to allow easy removal without the use of tools. All detailing shall eliminate retention of debris and allow for ease of cleaning. There shall be no internal, closed corners. The hot cupboard shall be of sufficient depth to accommodate a 1/1 gastronorm container – i.e. minimum depth of 530 mm + clearances for doors, etc. Counters and doors shall be adequately insulated between inner and outer skins and sealed to prevent access by pests. On all counters insulation shall be provided between abutting heated and cold sections.

Counter and hot cupboard shall be capable of holding food at a minimum temperature of 75°C throughout the meal service period.

Hot cupboard heating shall be by a blown-air system.

Stainless steel counter tops shall be 2.0 mm 304 grade. Where required, 1/1 gastronorm size openings shall be cut out of the top. Interlocking bridging bars to support 1/4, 1/6, 1/9 and 2/4 (long half) GN containers shall be supplied according to the particular specification. The well shall be of 1.5 mm 304 grade stainless steel with a turndown to stiffen top and protect vertical finishes. All internal angles within the well shall be radiused for easy cleaning.

Counter top and well shall be constructed to form a single integral unit. All joints shall be fully welded and polished.

Heating elements shall be set below the well baseplate and readily accessible for maintenance.

Internal cladding shall be 304 grade stainless steel.

Where required by the particular specification, counters shall be fitted with a single or multiple tier gantry of nominal minimal height 450 mm, with supports to carry lighting and toughened safety glass sneeze screens and shelves. The number of infra-red lamps within the gantry shall be evenly spaced and equal the number of GN 1/1 inserts, each lamp having a loading of either 300W or 500W depending on the particular specification. The gantry construction and finish shall match or complement the counter and be designed for self-service, unless otherwise specified.

Controls and handles shall be recessed to prevent damage from trolley traffic, etc.

Shrouds/kick plinth shall be fitted to castors on mobile units to conceal them from customer side. A removable valance shall be provided to conceal counter legs from the customer side, secured by heavy duty allen screws or heavy duty spring clips.

CONSTRUCTION OF ANCILLARY ELEMENTS

PLATE LOWERATORS

The general construction and finish shall match the counter in which the units shall be used. The plate lowerator may be mobile or integral with the counter or docking station.

They shall be of the multi-spring type, single or twin sleeve, each sleeve taking approximately 60 plates. They shall be fully adjustable to accommodate the variable weights and diameters of crockery as detailed in the particular specification. Each sleeve shall be provided with a removable cover.

The unit shall be electrically heated with thermostatic control, and where mobile, provided with a 'blind' socket to park the power plug when unit is moved and be fitted with a 'helicoil' type cable.

They shall be designed for easy cleaning of the internal chamber.

Mobile units shall be on castors, two braked.

When a mobile unit is located in the counter run it shall be flush with the rear counter face when located against the front panel. Protrusion beyond the rear face of the counter is not acceptable.

Where provided in conjunction with a mobile servery counter (hot and cold), the external finish of the lowerator shall match the counter or docking station.

TRAY/CUTLERY STAND

Units shall be freestanding or an integral part of the service counter units as required by the particular specification.

The tray stack element shall be sized to support standard MOD trays of nominal size 550 mm x 400 mm x 15 mm deep or where the particular specification dictates, other shapes and sizes. The element shall be designed to accommodate 100 trays.

Freestanding units shall be mobile and have a dropped tray-stack section at the front and a raised cutlery section at the rear. The finish shall match that of the counter.

The cutlery element shall be sited to clear a full stack of trays by a minimum 50 mm, and shall be supplied complete with:

- a) a minimum of six inset stainless steel cutlery containers/sleeves, angled towards the customer face,
- or
- b) one heavy duty cutlery box/tray – the unit must provide adequate support and restraint for the box/tray in use.

TRAY SLIDE

Where required by the particular specification, tray slides shall be provided along the full length customer face of each unit.

The slide shall be nominally 300 mm wide and fabricated from:

- a) stainless steel with a ribbed surface with front and ends turned down, welded and polished, supported on heavy duty brackets,
- or
- b) decorative finish to match counter face with inset tray slide ribs or studs, supported by an extension of the counter frame. Counter units with fixed tray slides shall have concealed down lighting fitted below the tray slide, which shall include a valence to conceal and protect the fittings,
- or

- c) continuous with the servery counter top.

Mobile counters may require a drop-down tray slide to assist mobility and reduce potential damage to the counter and building fabric when passing through standard doors.

SOUP KETTLES

Where soup kettles are required, they shall be either freestanding type sited on the counter or in the dining room, integral or wheel-in units. The counter or ambient unit in the dining room shall be of split height such that the kettle lid is at the standard counter level of 850/900 mm.

Freestanding kettle outer casing shall have a decorative finish. Inner jacket shall be of cast aluminium. Soup pot shall be of stainless steel with nominal capacity of 11 litres.

Kettle shall be fitted with control switch and thermostat with operating indicator light.

Maximum loading of kettle shall be nominal 1.25kW, capable of operating from a standard 13 amp socket outlet.

CARVERY UNITS

Carvery units shall generally be of the freestanding type so that, when required, they may be sited on an ambient section of the counter.

They shall have a stainless steel or cast iron carvery base with integral joint spikes and a drain mould. The unit shall be mounted on non-slip feet. A side mounted gantry shall be provided with quartz light fitting. The base shall be electrically heated.

Alternatively a GN 1/1 carvery insert may be provided.

Lighting shall be by adjustable jacketed heat lamps independently controlled by heavy duty dimmers.

COLD COUNTERS

Cold counter wells shall be capable of holding multiples of gastronorm or ceramic containers. Where these are self-service, consideration should be given to the positioning of gastronorm wells toward the front of the counter, with inclined collars to improve display and facilitate ease of service where required.

Where a counter is not located against a wall, the base unit may be a refrigerated cupboard with side hung lockable doors, according to the particular specification. Where required, the cupboard shall be provided with two stainless steel or similarly robust shelves which will not chip, cut, peel or rust and are resistant to chemical attack. Plastic coated mild steel shelves are not acceptable. It shall be of sufficient depth to accommodate a 1/1 gastronorm container - i.e. minimum depth of shelf shall be 530 mm + clearance for doors.

The compressor shall be an integral modular unit, easily accessible and removable for maintenance and replacement. Where a unit is sited against a wall, the compressor ventilation shall be at the side or front, according to the particular specification.

The well and cupboard shall be capable of holding food at between 1°C and 4°C throughout the meal period in an ambient temperature of 32°C. The well food temperature shall be measured at 100 mm above the base plate.

All refrigerant gasses and insulation shall be CFC and HCFC free.

Wherever possible, refrigerant shall be hydrocarbon.

Stainless steel counter tops shall be 2.0 mm 304 grade. Interlocking bridging bars to support 1/4, 1/6, 1/9 and 2/4 (long half) GN containers shall be supplied according to the particular specification. Well shall be of 1.5 mm 304 grade stainless steel with a turndown to stiffen top and protect vertical finishes. Counter top and well shall be constructed to form a single integral unit, with all joints fully welded and polished. A 'tanked' well shall be supplied according to the particular specification.

All internal angles within the well shall be radiused for easy cleaning. If the baseplate has a decorative finish it should be hinged or readily removable for easy cleaning.

The supply air grill shall be mounted at the rear of the display below the top of the main counter. All vertical side materials shall be stainless steel. Return flow grills to be horizontal and positioned at the front. All grills shall be easily detachable for cleaning.

Counters shall be constructed on a heavy duty welded stainless steel frame.

Internal cladding shall be 304 grade stainless steel with side panels sealed to prevent access for pests.

Counters shall be fitted with a single or multiple tier gantry nominally 450 mm high with supports to carry fluorescent display lighting with shatter resistant coating, or fibre optic lighting, and a toughened safety glass sneeze screen. The gantry construction and finish shall match or complement the counter and be designed for self-service unless otherwise specified.

Shrouds/kick plinths shall be fitted to castors on mobile units to conceal them from customer side. A removable valance shall be provided to conceal counter legs from customer side, secured by heavy duty allen screws or heavy duty spring clips.

Counters and doors shall be adequately insulated between inner and outer skins. On all counters insulation shall be provided between abutting heated and cold sections.

DISPLAY UNITS (REFRIGERATED)

Main structure shall be of same construction as Cold Counter on which unit is mounted. Cooling shall normally be by 'cascade' system with open front

capable of maintaining displays/food at a temperature of 1°C to +4°C throughout the meal period in an ambient temperature of 32°C.

Where specified the rear face shall have clear glass sliding or hinged doors. End panels may be clear or to match counter finish. Four internal clear, adjustable glass shelves shall be provided to each section.

The baseplate shall be hinged or readily removable for easy cleaning.

All refrigerant gasses and insulation shall be CFC and HCFC free.

Wherever possible, refrigerant shall be hydrocarbon.

Integral fluorescent display lighting with shatter resistant coating shall be provided behind a suitable diffuser sited below the canopy top.

Shrouds/kick plinths shall be fitted to castors on mobile units to conceal them from customer side. A removable valance shall be provided to conceal counter legs from customer side, secured by heavy duty allen screws or heavy duty spring clips.

Counters and doors shall be adequately insulated between inner and outer skins. On all counters insulation shall be provided between abutting heated and cold sections.

GLASS

All glass used in servery counters shall be clear, toughened safety glass, polished on all edges.

Glass shall be provided in the following minimum thicknesses:

Sneeze screens: 8 mm + protective capping to front edge to complement the overall design

Display shelves: 10 mm

AMBIENT COUNTERS

Ambient counters shall normally be provided to support ancillary items such as carveries, soup kettles, plate lowerators, etc. or form counter and make-up sections. They may also be required to incorporate drop-level sections to accommodate front of house cooking items such as induction hobs when a flat-faced glass sneeze screen will be required.

Subject to the particular requirement, units shall comprise a top, middle and base shelf or cupboard for MCB (See Fittings).

Construction and finishes shall match adjacent heated and cold units.

ELECTRICS & CONTROLS

All elements shall have an easily accessible service void to house supply cables, insulated from any heat source. The void shall be covered by the counter panel.

All controls shall be mounted on the operator side of the unit and be protected against damage from trollies, etc. and include 'Power on' indicator lights.

Heated and cold units shall be thermostatically controlled with sensors sited to ensure even well/cabinet temperatures and adequately protected against damage during operation and cleaning. A temperature read out and recording system shall be provided on cold units.

Heated units shall have sheathed elements and heat resisting cable adequately protected against damage during operation and cleaning. Bain-marie elements shall be sited under the well baseplate.

Cold units shall have automatic defrost facility with vaporisation of the hot gas type.

All heated, cold and ambient counter units shall be fitted with a minimum of two 13 amp sockets to support ancillary items such as lowerators, carvery units.

All wiring shall be concealed and clipped back to avoid damage in use or cleaning. All electrical wiring and connection on in line static heated, refrigerated and ambient counters and displays should be wired back to an MCB, housed within the servery unit and suitably enclosed within a ventilated environment to match the specified finish, and provided with a door for access.

FITTINGS

Heated counters shall be supplied complete with the required gastronorm containers as detailed in the particular specification or as per JSP 315 Scale 39 (see tables below). All containers shall be to BS EN 631, Catering Containers standard, using 0.8 mm 304 stainless steel (satin finish) stress relieved to prevent distortion in use.

1200/1300 mm Counter (3 insert)

GN size	Depth mm	Container Number	Lid Number	Drainer Plates No.	Blanking Plates No.
1/1	20	2	-	-	-
1/1	65	2	2	2	3
2/4 (long 1/2)	65	2	2	-	-
1/2	100	2	-	-	-
1/2	65	2	2	2	-
2/3	65	3	2	-	-
1/3	65	2	-	-	-
1/3	100	3	3	-	-

1800 mm Counter (5 insert)

GN size	Depth mm	Container Number	Lid Number	Drainer Plates No.	Blanking Plates No.
1/1	20	3	-	-	-
1/1	65	2	-	-	-
1/1	100	2	4	1	5
2/4 (Long 1/2)	65	4	2	2	-
1/2	65	2	-	-	-
1/2	100	2	4	-	-
2/3	65	3	2	-	-
1/3	100	2	3	-	-

**Catering Equipment
Specification
Backbar (Electric only)**

No 30

GENERAL

Units shall be heavy duty backbar type equipment, suitable for use singly and be provided as stated in the particular specification. Single free-standing units shall be of frame construction and clad in 304 grade stainless steel.

CONSTRUCTION

General construction shall provide an easily cleaned finish and prevent build up of waste matter.

BOILING TOP – deleted

INDUCTION HOB

Where specified the induction hob shall be work surface or base unit mounted and comply with Catering Equipment Specification No 39, Induction Hob.

GRIDDLE

The griddle cooking surface shall be smooth cast iron, satin finish stainless steel or chromium plated stainless steel. The double size (nominally 700/800 mm wide) shall have two independently controlled zones. A drain channel, with surrounding splatter guards and removable fat drawer, shall be provided for all models.

FRYER

The fryer shall have a single pan with rear hinged lift out heater elements with safety interlock to isolate power when lifted, and suspension bar basket support. Controls shall be accessible from the front for ease and safety of operation and maintenance. Each unit shall have a basket and lid provided and the tank shall be fitted with an easily accessible oil drain. Oil capacity shall be nominally 10 litres with a minimum output of 20 kg frozen chips per hour.

GRILL

Where specified, the grill shall be wall mounted and generally in accordance with Catering Equipment Specification No 3, Grill. Units shall be electrically operated with a minimum power input of 6kW.

CONTACT GRILL

The grill shall be either single or double unit with smooth or ribbed cast iron or aluminium cooking plates as required by the particular specification. Side hinges shall allow vertical and lateral movement for self-adjustment to the product being cooked. Lower grill plates shall have sufficient edging to

prevent fat spillage. An integral removable grease tray shall be provided with waste grease being cleared to the rear. The units shall be provided with four adjustable feet for levelling.

BENCH TOP OR 'MINI' COMBINATION OVEN (Electric only)

Generally as for Catering Equipment Specification No 4, Combination Oven, however there is no requirement for a self-contained steam generator. Units shall be designed to accommodate a minimum of 4 x 2/3 GN pans inserted lengthways with a minimum distance between runners of 60 mm and shall operate on either single or three phase electrical supply with nominal loadings of 3kW and 6kW respectively. Nominal dimensions of 550 x 630 x 670 mm.

CONVEYOR OVEN

The requirement is for an electric, continuous-cook moving platform using high velocity targeted air, designed for bench top installation and use, with a reversible conveyor belt of minimum width 400 mm with controls at the front, variable speed, and temperature range from 95°C to 250°C. Electronic time and temperature control with digital readout shall be fitted. Exterior shall be of stainless steel. Extension or take off shelf of nominal length 300 mm shall be supplied for both entrance and exit according to the particular specification. Electrical loading shall be a minimum of 6kW.

COMBINATION MICROWAVE OVEN

Where specified, the combination microwave oven shall be bench mounted and comply with Catering Equipment Specification No 13, Microwave/Combination Microwave Oven.

REFRIGERATION

Where refrigeration is required as part of the backbar facility, and subject to the particular specification, it shall comprise one or more refrigerated counter units which comply with Catering Equipment Specification No 20, Refrigerated Counters.

WORK SURFACE

Benching to comply with Catering Equipment Specification No 11 shall be provided as required by the particular specification.

With the exception of microwave ovens, grill and conveyor oven, cooking units and adjacent work surfaces shall have a common working height to give a level top surface height of 850 mm to 870 mm. Where necessary the work surfaces shall be reinforced and be capable of supporting the cooking elements.

ELECTRICS & CONTROLS

Units shall operate on 1ph/50Hz/230V or 3ph/50Hz/400V supply.

Mains 'On' indicator light/s shall be fitted. Each griddle section/hob/fryer tank/grill section/oven shall be independently controlled by means of a rotary switch or touch keypad.

Specification No 42
Catering Equipment
Specification

Griddles shall have thermostatic control operating in the range 100°C to 260°C. Fryers shall have thermostatic control operating in the range 130°C to 190°C with a high limit overriding safety thermostat fitted to operate at 230°C.

All units shall be fitted with heavy duty plugs to allow them to be disconnected and moved out for cleaning.

**Catering Equipment
Specification
Water Boiler – Bulk
Type (Electric only) & Counter
Mounted Expansion Type (Electric Only)**

No 31

Unit may be counter expansion type, or bulk, as stated in the particular specification.

GENERAL

ELECTRICS & CONTROLS

Boilers shall have automatic cold water fill, fitted with a strainer and flow regulator to ensure maximum make-up rate cannot exceed the boiling capacity of the heater.

WATER SUPPLY

Each unit requires a potable cold water supply (by others) suitably treated to prevent a build up of scale within the boiler.

Where required by the particular specification, a booster pump shall be provided in the cold water feed to ensure that the manufacturer's minimum water pressure is met.

COUNTER MOUNTED EXPANSION TYPE (ELECTRIC ONLY)

GENERAL

Unit shall be heavy duty type, continual draw off, non pressure expansion type.

Capacity shall be as required by the particular specification, but not less than 44 litres per hour from a 6 kW, 3 phase supply.

Unit shall be suitable for mounting on a Beverage Counter – Catering Equipment Specification No. 32.

CONSTRUCTION

The water boiler shall be constructed internally from 0.9 mm thick 316 grade stainless steel.

The boiler shall be fitted with a stainless steel outer case to protect the thermal insulation.

ELECTRICS & CONTROLS

Electrical heating shall be by thermostatically controlled immersion heaters designed to maintain a constant temperature of 98°C.

A low water cut-out system shall be provided. Overflow drain connection shall be either to the rear of the machine or via the drip tray, according to the particular specification.

An easily accessible drain plug shall be provided to allow complete drain down of the boiler.

Access for maintenance shall be from the front of the boiler.

FITTINGS

The draw-off facilities shall comprise one or two taps with spring loaded automatic return, the tap/s having a clear height under of 240 mm unless otherwise stated.

Boilers shall be supplied complete with drip trays having removable grids and capable of direct connection to a drainage system to the main drain.

BULK WATER BOILER (ELECTRIC ONLY)

GENERAL

Unit shall be heavy duty designed to provide large quantities of boiling water for bulk beverage making and urn filling. Capacity shall be 135 litres from a nominal 20 kW, 3 phase supply. Water tank shall be insulated for safety and to minimise heat loss, with an outer casing cool to the touch during operation.

CONSTRUCTION

The water boiler shall be constructed internally from 0.9 mm thick 316 grade stainless steel.

The boiler shall be fitted with a stainless steel outer case to protect the thermal insulation.

ELECTRICS & CONTROLS

Electrical heating shall be by thermostatically controlled immersion heaters designed to maintain a constant temperature of 98°C. On/off switch shall be located on the front of the water boiler.

Water boiler shall be WRAS approved for connection to the mains water supply.

A low water cut-out system, boil-dry protection and a high temperature safety switch shall be provided. Overflow drain connection shall be to the rear of the machine.

An easily accessible drain plug shall be provided to allow complete drain down of the boiler.

Access for maintenance shall be from the front of the boiler.

FITTINGS

Taps shall be of spring loaded non-drip automatic return type. The height from bottom of tap to counter top shall be nominally 250 mm. A font guard shall be provided.

Where the boiler is specified for urn filling, one or both taps shall be fitted with swivel arms, extending a minimum of 250 mm from the front of the boiler. Both taps shall be fitted with isolation valves to allow maintenance without draining the tank contents.

A stainless steel bench capable of supporting the filled bulk water boiler (approximately 180 kg) shall be provided (by others) to comply with Catering Equipment Specification No 11 – ‘Benching – Food Preparation’.

**Catering Equipment
Specification
Beverage & Steward's Counters**

No 32

GENERAL

Units shall be provided as separate beverage counter and steward's counter or be a combined unit, as required by the particular specification.

BEVERAGE COUNTERS

Beverage counters shall be designed to accommodate a water boiler of the type required by the particular specification.

Where an expansion type boiler is specified, the space below shall be fitted with cupboards and drawers.

Where an undercounter type boiler is specified, the counter front shall be provided with a removable front panel. Depending on location, side panels may be required.

The counter shall be fitted with a pillar mounted font and built in drip tray for connection to mains drainage where required by the particular specification.

STEWARD'S COUNTER

Steward's counters shall comprise worktop, cupboards with removable centre shelf, and drawers as required by the particular specification.

REFRIGERATION

Where required by the particular specification, the counter shall be constructed to accommodate a 140 litre refrigerator in accordance with Catering Equipment Specification No 19, Refrigerators.

CONSTRUCTION

Units shall be of robust construction. Working surfaces shall be capable of supporting a uniformly distributed load of 350kg/m^2 with a maximum centre deflection of 5 mm.

Where counters are to support freestanding bench mounted equipment such as water boilers, microwave ovens, etc, adequate reinforcement shall be provided.

Units shall have 1.5 mm 304 grade stainless steel working surfaces. Units shall have a nominal 50 mm turndown all round, finished with a return chamfer or turn under. Where located adjacent to a wall, benching units shall have a nominal 60 mm rear upstand as an integral part of the working surface.

Upstand to be detailed to provide a rigid and hygienic finish, normally comprising an upstand turnback and 15 mm turndown. The detail must ensure that there cannot be an edge on contact between the unit back edge and adjacent fabric or services.

Underside of working surfaces shall be treated with non-toxic, impervious sound deadening material, bonded with an adhesive.

The framed understructure shall be 1.5 mm 304 grade stainless steel, with legs of nominal 30 mm box section and shall support the working surface at a height of 850/870 mm above floor level. Rear legs shall be inset 100 mm. All joints shall be fully welded and polished. The design of the understructure shall ensure adequate stability in use.

As required by the particular specification, legs shall be fitted with:

a) adjustable feet for levelling

or

b) castors, front two braked.

Where specified, units shall be fitted with cupboards under, having 1.5 mm 304 grade stainless steel, side hinged lockable (two keys per lock) doors, back panel, undershelf and adjustable centre shelf.

DRAWERS

Where specified, drawers shall be constructed from 304 grade stainless steel with runners and supports to carry a removable 100 mm deep 1/1 gastronorm container. Each drawer shall be fitted with stainless steel or polycarbonate container.

EARTH BONDING

Beverage units and counters shall be fitted with electrical stud for connection of an external equi potential conductor. Bench sections to be designed in such a way as to ensure effective electrical connection between all components and fixings.

**Catering Equipment
Specification
Beverage Making Equipment**

No 34

GENERAL

The beverage equipment provision shall be as required by the particular specification and will normally be provided by one or both of the following categories:

Automatic hot beverage suite

Coffee making equipment (pour and serve).

These items should be located on the sideboard – Catering Equipment Specification No 36.

These items shall be provided with a conditioned potable water supply (by others).

AUTOMATIC HOT BEVERAGE SUITE

The unit shall brew and dispense the beverage identified in the particular specification.

Except for pour and serve equipment, all units shall be suitable for automatic potable cold water fill.

All units provided shall be of the same height and depth and shall be uniform in overall finish and appearance.

The casing shall be of a non-corrosive, durable decorative finish.

The front user control panel shall be illuminated. User controls shall be large, easy to use buttons or touch pads for single cup dispensing or optional cup/pot plus hot water dispenser. Each unit shall have a built-in drip tray, integral cup dispense counting device and ingredient canisters.

The heating elements in each unit shall automatically switch off if the unit is not used for 24 hours. The switching device shall be capable of being manually reset by the operator without the need for special tools.

COFFEE BREWER/DISPENSER

The coffee brewer/dispenser shall:

- be compatible with the current MOD Food Supply Contract issued soluble freeze dried instant coffee
- provide a continual draw-off capacity of 6 or 10 x 200 ml cups of freshly brewed black or white coffee per minute, as required by the particular specification

- be nominally 400 mm wide x 500 mm deep x 700 mm high, including built-in drip tray
- include coffee and whitener canisters, of a capacity to dispense 500 cups of black or white coffee without the need to replenish
- have the facility to flush down mixing bowls with valve shaking to dislodge debris build-up
- provide the option of an extension to accommodate jugs.

TEA BREWER/DISPENSER

The tea brewer/dispenser shall:

- be compatible with the current MOD Food Supply Contract issued loose leaf tea
- provide a continual draw-off capacity of 4 or 6 x 200 ml cups of freshly brewed black or white tea per minute, as required by the particular specification
- be nominally 400 mm wide x 500 mm deep x 700 mm high, including integral drip tray
- include leaf tea and whitener canisters, of a capacity to dispense 350 cups of black or white tea without the need to replenish
- have a brewer system that does not require disposable filters. Soluble tea is not acceptable.

TEA & COFFEE BREWER/DISPENSER

The tea/coffee brewer/dispenser shall:

- be nominally 500 mm deep x 700 mm high, including integral drip tray
- provide a continual draw-off capacity of 6 or 10 x 200 ml cups of freshly brewed black or white coffee per minute, and 4 or 6 x 200 ml cups of freshly brewed black or white tea per minute, as required by the particular specification
- be compatible with the current MOD Food Supply Contract issued soluble freeze dried instant coffee and loose leaf tea
- include tea, coffee and whitener canisters, of a capacity to dispense 150 cups of black or white tea and 50 cups of black or white coffee without the need to replenish.

COFFEE MAKING EQUIPMENT (POUR AND SERVE)

These shall be provided as twin plate units as required in the particular specification.

Additional single and double warmer pads may be required.

A twin plate unit shall comprise an upper and lower warming plate.

The coffee machine shall be compatible with current MOD contract issue fresh ground coffee.

Machine dimensions shall be nominally 200 mm wide x 350 mm deep x 500 mm high.

Output shall be minimum 120 cups/hour with an infusion time of six minutes per flask.

Flasks shall have a capacity of 12 cups. They shall be constructed from shatterproof glass or stainless steel and incorporate an easy pour lip and insulated handle. Each twin unit shall be supplied with 4 flasks.

Casing shall be easily cleaned with a durable stainless steel, standard, grey, or coloured to blend with the décor.

The water container and boiler shall be sited at the front top of the machine for safety, ease of manual filling and maintenance.

The boiler shall be thermostatically controlled to achieve a maximum of 96°C.

Hot plates shall adjust the heat input to the amount of coffee in the flask to maintain optimum temperature.

An easily removable spray plate shall be incorporated between the boiler and the stainless steel infuser pan.

Controls shall be easy to use with separately switched heated plated for independent operation.

**Catering Equipment
Specification
Cleaning Equipment**

No 35

GENERAL

Subject to the particular specification, three items of equipment may be required:

Mobile High Pressure Cleaner.

Floor Cleaning Machine.

Wet/Dry Vacuum Machine.

The provision of these items shall be in accordance with the particular specification.

MOBILE HIGH PRESSURE CLEANER

Unit provided for the safe and hygienic cleaning of the yard, receipts and refuse areas.
Unit shall be fully mobile.

Unit shall be electrically powered only, single phase, with a flow rate of 350/700 litres per hour at 30/90 bar output pressure. Unit shall have auto shut down on no demand.

Output temperature shall be 30/85°C from a cold feed, with maximum of 60°C in constant use.

Unit shall have an integral chemical tank of minimum 20 litre capacity and be complete with pressure hose, trigger gun, lance and nozzle.

NOTE:

Comprehensive safety instructions and warning notices shall be supplied with this machine.

FLOOR CLEANING MACHINE/SCRUBBER DRIER

Unit provided for the safe and hygienic cleaning of all hard floor finishes within the food storage, preparation, cooking and service areas.

Unit shall be a belt drive brush machine. It shall incorporate automatic brush direction reversal to give even brush wear.

Integral detergent tank shall have a nominal capacity of 20 litres, with feed via brush centres.

1500 W maximum loading operating from 13 amp/1 ph/50Hz/230V power supply.
Complete with 15 metre cable.

WET/DRY VACUUM MACHINE

Unit provided for the safe and hygienic cleaning of all floor finishes within the food storage, preparation, cooking and service areas.

Unit shall be mobile with vertical cylinder having nominal capacity of 30 litres wet/40 litres dry.

Two motors each with a minimum capacity of 1000W operating from 13 amp/1 ph/50Hz/230V power supply. Complete with minimum of 15 metre cable. Unit shall have automatic shutdown when full, and automatic change from dry to wet operation.

Units shall be complete with flexible hose and vacuum head, designed to allow easy access under fixed equipment with nominal 125 mm floor clearance and depth of up to 900 mm front-to-back.

**Catering Equipment
Specification
Sideboard**

No 36

GENERAL

The design configuration and finishes of the sideboard shall be in accordance with the particular specification and are provided to support self-service elements such as beverage units, heated cup warmers, cold drink dispensers, toasters and milk machines.

Sideboard dimensions shall be 870/900 mm high and 850 mm deep. Length shall be sufficient to accommodate equipment listed in the particular specification.

Sideboards shall be counted on non-slip, non-marking castors, located at the edge of the cabinet to improve stability and giving a minimum of 125 mm clearance between floor and base of sideboard. Where sideboard is to be wall sited, front castors shall be fitted with foot operated brakes; where centrally located, all castors shall be fitted with foot operated brakes.

General construction shall provide an easily cleaned finish and prevent the build up of food waste and spillage.

FINISHES

These will typically fall into one of two types. Type A shall be provided for Junior Ranks' messes and Officers' and SNCOs' messes with a high self-service throughput. Type B shall be provided for the majority of Officers' and SNCOs' messes.

TYPE A

Sideboard shall have a decorative finish such as real wood veneer with planted matching decorative picture moulding relief and beaded lipped edging and shall normally match the finishes of the servery counter where these are adjacent.

This shall be provided to all visible faces of the unit.

Counter top shall have the option of stainless steel or decorative finish.

TYPE B

Sideboard shall have a high-grade decorative finish such as hardwood with planted decorative picture moulding relief and beaded lipped edging, and shall normally match the furnishings and fabric of the dining room.

This shall be provided to all visible faces of the unit.

Counter top shall have decorative finish.

CONSTRUCTION

TYPE A

Counters shall be constructed on a welded stainless steel frame. Base unit shall be a stainless steel cupboard with side hung lockable doors, (two keys per lock), having decorative finish. It shall be provided with a 1.5 mm, 304 grade stainless steel centre shelf, height adjustable and removable for cleaning. Doors shall be located at the front or back of base according to the particular specification.

Counter tops shall be 2.0 mm 304 grade stainless steel with 'bullnose' turndown all round to stiffen top and protect vertical finishes on island and centrally located units. On wall sited units, counter tops shall have 'bullnose' turndown on the three facing sides.

Counter tops shall be provided with services for connections to items mounted on the counter top. These shall be detailed to prevent the ingress of liquids into the base units. Wall sited units shall include an integral raised rear upstand designed to house the required number of electrical sockets. All electrical sockets shall be wired back to the unit's own MCB for direct connection to an electrical source.

Counter top shall be inset with any necessary drip trays supplied with the beverage equipment.

TYPE B

Construction to be generally as Type A, but suitably finished, as required by the particular specification, to be a purpose-made items of furniture to match the surrounding dining room furniture and finishes.

Where required by the particular Catering Equipment Specification, Type B units may need to be divided into sub-elements, as details in the particular specification, to be in keeping with other dining room furniture, available space and operation practices.

FITTINGS

Where units support a beverage system which requires a water supply and drainage, they shall be fitted with quick release connections to services. The water faucet shall be an integral part of the counter with a separate connection from the sideboard to the DP via a quick release connection. There shall be a retractable hose reel in the sideboard with a pot filler, squeeze tap and supporting wall hook.

A 3 phase electrical supply to each sideboard shall be taken to a single point accessible front the front or end of the unit. An isolating switch, and where necessary, a distribution panel shall be provided. Switch and panel shall be concealed with the base unit and provided with a door for access.

GENERAL

A temperature monitoring and alarm system shall be provided to monitor all refrigeration and deep freeze units within the kitchen, as required by the particular specification. The system may also be fitted to other items of equipment or areas of the kitchen where temperature monitoring is a due diligence requirement and where the particular specification requires it. This may include any or all of the following:

- Dishwasher wash and rinse water
- Kitchen and servery hot cupboards/bains-marie
- Utensil rinse sinks
- Combination ovens
- Temperature controlled food preparation areas

The central control unit shall have an integral display, be wall mounted and complete with integral shelf-mounted printer.

The system shall have sufficient capacity to allow for a 20% future expansion in the number of units/cabinets monitored.

The system shall allow for the recalibration of all temperature probes.

The supplier shall provide post installation training and user support and offer annual maintenance service.

FACILITIES

The system shall include the following features:

Unit/cabinet identification by number, name or description, using a minimum of 30 characters including alphanumeric and spaces.

Food simulation sensor mounted within the food storage compartment of each refrigerated or freezer unit, and each temperature controlled food production area.

Variable high and low alarm setting for each unit sensor.

Variable time delay for all temperature alarms to allow for normal operation.

Monitoring of defrost status to inhibit the alarm function for the duration of the defrost cycles and ensure that high temperatures associated with the defrost cycles are suitably identified on the printout.

The alarm is to be both visual and audible and be capable of manual override and cancellation.

Alarm inhibit function set manually to stop alarm during cleaning and maintenance – cleaning and maintenance periods must be identified on the printout.

Alarms shall latch-on to avoid re-set until fault condition is identified and corrected.

A battery back-up shall be provided to generate a system alarm and retain all stored data in the event of a power failure.

An integral display showing the following data:

- unit/cabinet/area number/description
- current unit status/temperature
- high and low alarm settings
- alarm delay
- alarm lockouts
- time and date
- signal communication integrity

A controlled reporting system providing:

- printout of each alarm with all relevant data such as time/date/temperature, etc.
- printout of relevant data when alarm acknowledgement and/or re-set, with space between each for action comment, signature and date of action.
- automatic daily printout of all current system settings, including sensor types and alarm parameters for each unit/cabinet and actual maximum and minimum temperature over the last 24 hours.

An integral printer is to be provided as part of the system.

Internal memory shall provide:

- complete details of the last 50 alarms in sequential order.
- Complete details of the last 100 items in sequential order to cover all alarms and modifications.

Integral key pad for the input of all required modifications to alarms, input, time, date and log interval, with access for amendment via keylock.

A repeat alarm is to be provided to give alarm indication in the kitchen or other identified location within the mess.

A data download facility is to be included to allow a minimum of 1000 temperature readings for each sensor to be downloaded to a BT line or suitable PC.

OPERATING SYSTEMS

The system shall be:

- a) Stand-alone with dedicated wiring, linking the monitored units to the control unit.

In a new build, wiring shall be set below surface finishes – surface mounted conduit is not acceptable.

In a refurbishment, wiring shall be brought through the ceiling, with minimal amount of horizontal surface mounted conduit.

Further information on Services may be obtained from Design & Maintenance Guide 18 (Revised).

or

- b) Operation via a signal through the main circuits in compliance with EN 50065-1.

It is essential that main circuits are designed to maintain the integrity of the system when partial shut-down of the kitchen occurs.

On existing kitchens it is essential to check that the mains circuits are compatible with the monitoring system proposed.

or

- c) Radio link monitoring, transmitting a radio signal to a central control unit.

Before specifying this type of equipment, obtain the client's confirmation that any communication or medical equipment on the site will not be affected.

**Catering Equipment
Specification
Thawing Cabinet**

No 38

GENERAL

Units shall have forced air circulation, ducted to ensure even temperature distribution. Microprocessor controls shall balance the programme of heating and refrigeration cycles to achieve safe thawing of frozen food products.

The capacity of the units shall normally 70 kg of product, depth not exceeding 25 mm over a period of 7 hours.

The internal cabinet shall be designed to accept 2/1 gastronorms.

TEMPERATURE

Units shall be capable of thawing, in seven hours, a 25 mm layer of food stored at -21°C to -18°C by raising the temperature to +1°C to +4°C when the cabinet is loaded to capacity.

On reaching required temperature, the unit shall switch automatically to hold mode, retaining food temperature between +1°C and +4°C.

The unit shall meet these requirements at a maximum ambient (environmental) room temperature of 43°C.

ELECTRICS/PLANT

Plant shall be top mounted.

Automatic defrost is required with defrosting and vaporisation of the hot gas type

Units shall be suitable for 1ph/50Hz/230V supply and fitted with 2 metre length of 'helicoil' type cable.

A magnetic fan cut-out switch shall be provided set to operate when door is open.

Evaporator coils shall have a non-corrosive finish.

INSTRUMENTATION

To include microprocessor temperature control with digital temperature display controlling the operating cycle and an internally mounted temperature probe. Unit shall have thaw, hold, defrost and compressor-on indication and an operating indicator light.

CONSTRUCTION

With the exception of the back panel, units shall be constructed in 304 grade stainless steel throughout, with easily cleaned exterior and interior. Floor shall be coved and dished with outlet draining to externally mounted waste tray. Doors shall be one piece self closing with 90° 'hold open' and 180° full opening position, furnished with one lock (two keys) and magnetic seal. Door seals shall be easily cleaned and replaced.

FITTINGS

Units shall be mounted on non-slip, non-marking castors giving approximately 125 mm clearance between floor and base of cabinet. The front pair of castors shall be fitted with foot operated brakes.

Units shall be supplied with 10 x 2/1 stainless steel or similarly robust shelves which will not chip, cut, peel or rust and are resistant to chemical attack, complete with an equal number of adjustable shelf supports.

Shelf supports shall be non-tilt stainless steel and be easily removable for cleaning.

REFRIGERANT GASSES & INSULATION SHALL BE CFC AND HCFC FREE.

**Catering Equipment
Specification
Induction Hob**

No 39

GENERAL

Units shall be of heavy duty construction and have nominal dimensions of 800 mm wide and 700 mm deep, with 4 rings as required by the particular specification. Where required by the particular specification, single and twin hobs shall also be provided as appropriate. All hobs shall have a minimum depth of field of 30 mm to allow the pan to be moved about during cooking to mimic cooking with a gas flame. Cooking area shall accommodate pans from 100 mm up to and including 340 mm diameter. There should be the ability to place one large pan over two rings or two smaller pans over one ring.

CONSTRUCTION OF STAND FOR 4 RING HOB

Units shall be constructed of stainless steel. Full-framed under structure shall be of 304 grade stainless steel of nominal 30 mm box section and shall support the cooking surface at a finished working height of 850 mm above floor level. Rear legs shall be inset 100 mm. All joints shall be fully welded and polished. The under structure shall be adequately braced to ensure stability in use. According to the particular specification, frames shall have either adjustable flanged feet for levelling or be provided with castors, front two braked.

ELECTRICS AND CONTROL

Energy control from 0 to full power with digital power indicator and continuously variable control knob or keypad, and On/Off control to front of each unit. Electrical power input shall be nominally:

3 kW for 1 hob unit

7 kW for 2 job unit

14 kW for 4 hob unit

An automatic shut-off function is to be provided to guard against damage should pans be left to boil dry and/or the hob cooling air vent become blocked. A 'clean filter' warning light shall be incorporated in the control panel. Adequate ventilation is to be provided around the unit to prevent activation of the automatic shut-off. A warm surface indicator shall be incorporated into the control/display panel.

**Catering Equipment
Specification
Food Processor**

No 40

GENERAL

Units shall be of heavy duty construction and have a bowl capacity of 2 litres or 3.5 litres as detailed in the particular requirement.

CONSTRUCTION

The base shall be rigid and sufficiently heavy to ensure stability in operation.

The motor housing may be constructed from cast aluminium or stainless steel. The motor shall be fully enclosed and ventilated

General construction shall prevent leakage of lubricants on to any food contact surface, provide for an easy clean finish, and prevent ingress of food waste into areas that cannot be cleaned and the build up of any waste matter.

The machine design and construction shall facilitate easy removal of demountable parts and easy assembly ensuring correct relocation. All cutting blades and mixer bowls to be of stainless steel.

A transparent polycarbonate lockable cover shall have a leak resistant large bore feed tube or spout for adding products without stopping the machine.

ELECTRICS & CONTROLS

Units shall be fitted with 'no volt' release protection, motor brake and electrical interlock to prevent operation without lid in correct position.

Push 'start' control shall be shrouded and 'stop' control raised.

Power supply shall be 1 hp/50Hz/230V with blade operating at 1500 rpm with forward and pulse speed control.

FITTINGS

The following cutters/plates shall be provided as standard:

Bowl cutter

Vegetable preparation attachment

2 No Slicer (2 mm, 4 mm)

2 No Grater (2 mm, 6 mm)

A wall mounted cutter/plate storage unit shall be provided.

**Catering Equipment
Specification
Winged Insect Killer**

No 41

GENERAL

The unit shall be either wall hung or ceiling mounted, depending on the particular specification, and

- a) traditional electronic with an electrified killing grid
- or
- b) fly trap with glueboard.

CONSTRUCTION

GENERAL

The unit shall be finished in stainless steel and suitable for use in areas of high humidity.

Nominal effective area of attraction shall be 150 m² - 200 m².

Type (a) shall have shatterproof tubes and high attraction type emitting unfiltered blacklight with wavelength of approximately 350/360 nm (blue ultra violet light).

Grilles shall be staggered and high voltage to limit insect explosion.

Type (b) shall incorporate a scent impregnated glue board to prevent insect explosion or insect parts being blown out of the catch tray by air movement. A reflector may be incorporated to hide the ultra violet tubes and reflect the light off the glue board.

General construction shall provide easy access for cleaning, servicing and replacement of tubes and glueboards without the use of tools.

ELECTRICS

Nominal light output on type (a) shall be 75 W and on type (b) 40 W, both operating from a single phase supply.

Type (a) shall be splashproof to IPX4 rating.

Light tubes shall remain active for a minimum of 8500 hours.

Units shall be fitted with interlock to cut power when safety grid is removed.

**Catering Equipment
Specification
Glasswashing Machine**

No 42

GENERAL

Energy saving methods in terms of water and electricity consumption are to be included.

All machines shall have fully automatic wash and sanitising rinse cycle and operate from the domestic hot water supply with a capacity as required.

Machines shall be provided with integral rinse and drain pumps, chemical dosing pumps and class 'A' air gap.

Machines shall be front loading suitable for siting under counter or on a plinth.

Where the water supply is found to be hard and a softened water supply at source is not available, an integral automatic water softener is to be provided.

CONSTRUCTION

Machines shall be constructed on a stainless steel frame. Base shall be fitted with adjustable feet for levelling.

All doors and panelling shall be of stainless steel and suitably insulated to reduce thermal loss and noise levels.

Materials used for door lining, guide rails, brackets, strainers, filters, rinse arms, jets shall be resistant to heat, rust and attack by wash/rinse chemicals.

Filters shall be provided to prevent food debris entering the wash tank with a further filter,strainer to prevent damage to the wash pump.

Wash tank shall be seamless deep drawn and shaped to prevent the retention of residual soiled water.

Interior of machine shall have rounded corners without edges for ease of cleaning. A self cleaning cycle shall be activated following drain down.

Rinse and wash arms and filters shall be removed without the use of special tools.

During operation wash water shall be maintained at 55°C and rinse water 65°C. A thermal lock shall be incorporated to prevent cycle starting until these pre-set temperatures are reached.

Overall construction and design shall provide an easily cleaned finish and prevent build-up of food waste, both internally and externally.

ELECTRICS & CONTROL

All controls shall be front mounted on a panel above the wash chamber door for safe and easy access, easy to read and simple to operate. All electrical functions shall be

controlled from a single panel that is adequately waterproofed, and protected from thermal overload by no-volt release and fuses.

Flush mounted digital temperature display shall be provided to show wash and rinse temperatures.

Electrical heating shall be by thermostatically controlled elements. They must be easily accessible for replacement, protected from accidental damage, and be protected by low water and high temperature cut-out switches.

The drop-down door shall be fitted with an electromagnetic safety switch to stop operation in the event of accidental door opening.

Minimum cycle duration of 60 seconds with option for increased cycle duration.

RACKS

Racks shall be of strong, heat, chemical and wear resistant plastic such as polypropylene or wire. The number and design of racks shall be as detailed in the stated requirement.

**Catering Equipment
Specification
Knife Sharpener (Electric)**

No 43

GENERAL

The unit shall be suitable for bench mounting or wall mounting in a stainless steel holder and secured in holder. Sharpener shall be removed from holder without the use of a special tool. Total weight of sharpener, excluding holder, not to exceed 5 kg.

CONSTRUCTION

The base shall be rigid with non-slip feet to ensure stability in operation when bench mounted.

A handgrip shall be an integral part of the casing. The casing shall incorporate removable and replaceable knife guides and of sufficient width to allow knife to be inserted close to the grinding medium to maximise sharpened area on blade.

Main elements shall be constructed from stainless steel or thermoplastic material resistant to heat and attack from cleaning detergents. Unit shall be magnet free to prevent magnetisation of knife blade and contamination with metal filings.

Unit shall be easy to clean and maintain with replaceable grinding wheels or abrasive belt.

Motor shall be totally enclosed and ventilated.

ELECTRICS/CONTROLS

Units shall operate from a 13 amp/1ph/50Hz/230V supply.

Units shall be fitted with 'ON/OFF' rocker switch.

Noise level during operation shall not exceed 85 dBA.

No water shall be required for cooling.

**Catering Equipment
Specification
Utensil Washing Machine (including granular machines)**

No 44

GENERAL DESIGN CONSIDERATIONS

The machine itself should not be considered in isolation, but part of a system-designed working environment. This area should take account of, but is not limited to, the following:

- reduction of noise levels
- the level of lighting, both natural and artificial
- the ambient/operating room temperature
- the humidity/condensation that will be created
- the overall ergonomics of the operation in relation to the Health & Safety at Work Act including loading and unloading the machine
- the quantity, type and frequency of pots and pans that need to be cleaned
- the method of disposal of food waste
- the workflow pattern
- the separation of 'clean' and 'dirty' processes and storage
- the method of holding cleaned items and their ultimate return to storage or preparation areas
- the storage of cleaning materials
- the ease of cleaning of equipment and surrounding walls and floors.

Energy saving methods, in terms of both water and electricity consumption are to be included.

GENERAL

Machines shall be either front loading or conveyorised and pass through and may include those utilising a combination of plastic granules, water and detergent to scour to effect cleaning.

The water supply is to be softened at source. Where it is not possible to soften water at source and it is found to be hard, an automatic integral water softener shall be supplied. Care should be taken to ensure that the equipment is capable of treating the quantity of water required by the machine.

Machines shall be supplied complete with rinse water heater, an integral class 'A' air gap and rinse booster pump. Equipment shall comply with all current regulations and local authority bylaws.

The detailed provision and direction of flow (right or left hand), shall be in accordance with the stated requirement.

CONSTRUCTION

Machines shall be constructed on a stainless steel frame. Steel legs shall be fitted with either adjustable feet for levelling or castors where specified.

All doors and wash chamber wall panels shall be of double skinned stainless steel and suitably insulated to reduce thermal loss and noise levels.

All machines shall have fully automatic wash and sanitising rinse cycles and operated from the domestic hot or cold water supply.

Wash/rinse tanks shall be of stainless steel and shaped to provide self drainage and ensure maximum pump efficiency.

Materials used for door lining, racks, guide rails, brackets, strainers, filters, washing nozzles, rinse arms and jets shall be resistant to rust and attack by wash/rinse chemicals.

Interior of machine shall have rounded corners without edges for ease of cleaning. A self-cleaning cycle shall be activated following drain down.

Strainers and filters shall be provided to prevent food debris entering the wash tank. Additional filter/strainer shall be provided to protect the pump mechanism.

Front loading doors should be side hinged or drop down for easy access and cleaning.

General construction and design shall provide an easily cleaned finish and prevent build up of food waste, both internally and externally. Strainers, filters, rinse arms and nozzles shall be easily removed for cleaning without the use of special tools.

ELECTRICS & CONTROL

All controls shall be front mounted for safe and easy access, easy to read and simple to operate. All electrical functions shall be controlled from a single panel that is adequately waterproofed, and protected from thermal overload by no-volt release and fuses.

Flush mounted digital temperature display shall be provided to show wash and rinse temperatures.

Electrical heating shall be by thermostatically controlled immersion elements. They must be easily accessible for replacement, protected from accidental damage, and be protected by low water and high temperature cut-out switches.

Front opening door models shall be fitted with electromagnetic safety switch to stop operation of the machine in the event of accidental door opening.

Machine shall offer a range of wash/rinse cycles with a minimum of 120 seconds, to include continuous operation with optional reduction in water pressure for lightweight items.

RACKS

Racks and holders shall be of stainless steel, number and design as required for quantity and range of items to be cleaned. Loading trolleys with a removable drip tray are required for the granule type machine, number according to the quantity and range of items to be cleaned.

**Catering Equipment
Specification
Ice Making Machine**

No 45

GENERAL

Ice making machines shall be provided as required by the particular specification. The cabinet shall be constructed from 304 grade stainless steel, with one piece moulded food grade plastic storage bin.

CONSTRUCTION

Ice storage bin shall be seamless with fully coved corners and easily removed and cleaned.

Panels shall be easily removed for maintenance access without the use of tools.

TEMPERATURE

Cabinets shall be capable of producing 20 kg of ice cubes per 24 hours where the incoming water temperature is 10°C at a maximum ambient temperature of 43°C. Capacity of ice cube bin storage shall be nominally 6 kg.

ELECTRICS/PLANT

Unit shall operate from 1ph/50Hz/230V supply.

Unit shall produce ice cubes automatically until the bin sensor indicates that the bin is full. Production of ice cubes shall restart as the bin is emptied. The ice production tray shall be flushed after every ice cube producing cycle.

Units shall be air cooled with front air flow ventilation. A water cooled option shall be available for high ambient locations or where air circulation is poor.

Where required by the particular specification, water filters shall be provided where the quality of water is poor as a result of high levels of limescale or rust.

An easily cleaned air filter shall be provided to the refrigeration system to prevent ingress of dust.

**Catering Equipment
Specification
Castors**

No 46

GENERAL

Most items of preparation, prime cooking, storage and presentation equipment are required to be mobile, as detailed in the particular specification.

CONSTRUCTION

Where castors are specified, they shall be constructed using a stainless steel attachment and thread-guard with a non-marking rubber compound tyre, with a diameter of 100 mm and thickness of 28 mm.

The castor shall be swivel type turning through 360° to allow maximum manoeuvrability. It shall have a low starting resistance to aid initial movement and silent in operation. Where a locking device is required by the particular specification it shall be foot operated, extending a minimum of 20 mm beyond the edge of the wheel. The release pad area shall be no smaller than 15 x 15 mm.

A thread size of M12 shall be used for castors taking a working load of 60 kg per castor.

**Catering Equipment
Specification
Stick Blender (Immersion Blender)**

No 47

GENERAL

Unit shall be heavy duty, have variable speed, and capable of blending up to 50 litres. It shall be designed to withstand immersion in a wide variety of foodstuffs requiring puréeing or liquidising.

CONSTRUCTION

Shaft, bell and blade shall be manufactured from stain resisting stainless steel. Shaft and foot shall be sealed to prevent the ingress of food or water. All moving parts shall be fully guarded. The motor shall be totally enclosed, adequately ventilated to prevent overheating during operation, and sealed against lubricant leakage. The motor housing and handle shall be resistant to damage from hot liquids, and general construction shall provide an easily cleaned finish and designed to limit the build up of waste matter.

ERGONOMICS

The blender handle shall be slip resistant and comfortable to hold, with a second handle for safe and controlled operation. The total weight shall not exceed 5 kg.

ELECTRICS & CONTROLS

Units shall be fitted with 'no volt' release protection, motor brake and electrical interlock to prevent operation without sufficient pressure on the finger button. Power supply to be 1ph/50Hz/230V.

Motor shall be not less than 400 Watts.

Variable speed motor shall operate between 1500 and 9000 rpm.

Control buttons shall be watertight for ease of cleaning.

Power cord shall be a minimum of 2 m and a maximum of 3 m.

**Catering Equipment
Specification
Vacuum Packing Machine**

No 48

GENERAL

The requirement is for a chamber machine, table top or with a mobile stand according to the particular specification and suitable for commercial continuous heavy use. Maximum sealing cycle time shall be 45 seconds.

CONSTRUCTION

304 grade stainless steel exterior housing with high domed lid and central viewing panel. Lid viewing panel shall be made from scratch-resistant safety glass or reinforced plastic. Internal chamber shall be of a smooth impervious material, easily cleanable with rounded corners.

The evacuation point within the chamber shall be at least 10 mm above the base, not directly below the seal bar and fitted with a filter to prevent ingress of food particles. Double sealing bar/s shall be firmly secured but easily removable, with cut off seal to reduce cross contamination. Lid seal shall be easily removed for cleaning and/or replacing. Pump shall be easily accessible for routine maintenance without the use of tools.

ELECTRICS & CONTROLS

Power supply to be 1ph/50Hz/230V.

Actual vacuum level generated inside the chamber shall be measured and displayed in millibars on the control panel.

Simple touchpad controls.

Waterproof keypad with programmable options to allow pre-set vacuum extraction times, pressure and time of seal bar and pulsing option to allow complete extraction of air.

Inert gas flushing equipment is not required.

Nominal external and chamber dimensions and vacuum pump capacities:

Bench top model, 400 x 500 x 260 mm with chamber size of 330 x 300 x 100 mm. Vacuum pump minimum of 10m³/h.

Bench top model, 550 x 500 x 260 mm with chamber size of 430 x 370 x 150 mm. Vacuum pump minimum of 20m³/h.

Mobile, floor standing model, 550 x 650 x 900 mm with chamber size of 430 x 450 x 150 mm. Vacuum pump minimum of 40m³/h.

ACCESSORIES

Unit shall be supplied with the following:

- a spare set of seal bar tape and heating wires;
- 2l of food grade oil for the pump;

- tilted insert filler plate/s to allow vacuum packing of liquids, soups and food items with high levels of sauce;
- food grade plastic filler plates to allow optimum sealing levels on small or large packs.

**Catering Equipment
Specification
Convection Oven**

No 49

GENERAL

Units shall be of heavy duty frame construction. The cooking chamber capacity shall normally be 6 or 10 shelf and capable of accepting GN 2/1 and 1/1 pans with depth of up to 65 mm or baking sheets up to 700 x 600 mm.

Units shall be capable of operating in convection mode and convection with variable humidification mode.

Ovens shall have an automatic water supply and drain down facility.

CONSTRUCTION

Units shall be constructed from 304 grade stainless steel externally and internally with coved corners for ease of cleaning. Framed under-structure, double glazed heat resistant glass viewing panel set into insulated double skinned door/s or single double glazed heat resistant door. Single or 60:40 dependent door design shall allow operation with one hand. Doors shall open 180° clear of the cooking chamber to allow easy access for racks, trays and containers.

The door or bottom edge of the cooking chamber shall be fitted with a condense channel to prevent water spillage onto the floor. Door gasket shall be easily removed and replaced without the need for tools.

ELECTRICS & CONTROL

All controls shall be located at the front of the oven and access for maintenance shall be from the front.

Nominal loadings shall be:

6 shelf	9kW (Electric)	11kW (Gas)
10 shelf	17kW (Electric)	18kW (Gas)

Ovens shall be supplied complete with all necessary controls and visual indicators, including:

- Main On/Off
- Temperature setting of cooking chamber
- Timer with audible alarm
- Interior light
- Humidifier level setting
- Self-diagnostic warning system

A safety switch shall be included to ensure that the convection fan and steam input cut out when the oven door is opened. Temperature range of 70°C to 280°C is required.

WATER SUPPLY

Each oven shall require a potable water supply (by others) suitably treated to prevent a build up of scale within the oven. The water supply should be treated at source when it is possible to do so. When this is not possible/practicable, each oven shall be supplied with its own water treatment equipment (capacity and type as stated in the particular specification), which shall include quick release connections, flexible hoses and a mobile stand.

FITTINGS

Tray racks shall be provided to allow the required number of 2/1 and 1/1 65 mm deep containers to be located in the cooking chamber. Racks shall have a safety locking device to prevent accidental withdrawal.

6 and 10 shelf units shall be mounted on a stand, manufactured from 304 grade stainless steel and fitted out to hold spare gastronorm containers. The stand should give a working height of approximately 850 mm to the underside of the oven and be fitted with castors, front two braked.

A temperature probe/sensor and spray unit are not required.

**Catering Equipment
Specification
Bottle Cooler**

No 50

GENERAL

Bottle coolers shall normally be provided as vertical 'reach-in' type storage cabinets for holding pre-chilled or un-chilled bottles and cans and location against a wall, with a nominal capacity 100/180/ 270 bottles and dimensions 600/900/1300 x 550 x 900 mm.

TEMPERATURE

Cabinets shall normally be designed to operate in an ambient (environmental) room temperature of 32°C and maintain a temperature of +4°C to +10°C with forced air refrigeration and automatic defrost and evaporation. The particular specification may require a higher performance cabinet capable of operating in an ambient (environmental) room temperature of 43°C.

CONSTRUCTION

Cabinets shall be constructed from stainless steel throughout with an easily cleaned interior and exterior with an absence of dirt traps. Cabinets shall be suitable for installation into tight spaces with little natural ventilation and therefore front ventilated. Front feet shall be flanged and height adjustable. Shelves shall be robust and not chip, cut, peel or rust and be resistant to chemical attack. Dipped plastic coated mild steel shelves are not acceptable.

ELECTRICS/CONTROLS

Power supply shall be 1ph/50Hz/220/240V.

FITTINGS

The general requirement is for 1, 2 or 3 lockable double glazed glass doors but there may be a requirement for solid stainless steel lockable doors, according to the particular specification. Cabinets shall have three levels of fully height adjustable vertical shelving each capable of accommodating bottles of 250 mm high. Alternatively shelves (or section of shelving) may be horizontal and designed to accommodate 75 cl bottles laid flat. Interior lighting shall be bright low energy LED. Doors shall be left or right hand hung according to the particular specification.

**Catering Equipment
Specification
Bar Servery Counters**

No 51

GENERAL

Bar serveries and support counters shall be provided as detailed in the particular specification and consist of 4 main elements:

- A decorative front bar top counter and fascia to include appropriate bar supports and integral service duct to house electrical services, water supplies, drainage and product dispense ‘pythons’. Finished height shall be a minimum of 1100 mm AFFL.
- A supporting under bar/sub counter modular counter system integral with the front bar top counter to provide a work top finished height of 850 – 875 mm AFFL. The counter system shall provide appropriate fittings and space to house the defined fixtures and equipment according to the particular design.
- A rear counter system incorporating storage space, cupboards, space for equipment and solid counter top. Finished height shall be a minimum of 950 mm AFFL.
- Decorative rear/side elevations incorporating merchandising space and shelving, optic rails.

Any or all of the following additional elements may require incorporation into the design layout:

- Security shutter to front and/or rear counter areas
- Sink/s and drainer (See CES No 23)
- Wash hand basin (See CES No 12)
- Drip trays with removable cover
- Secure cupboard storage
- Speed rail/liquor shelf
- Glasswasher station incorporating glass washing machine (See CES No 42); dirty glass returns area; clean glass cooling area; basket rack storage
- Ice making machine (See CES No 45)
- Ice storage bin (insulated)
- Till location with locking drawer
- Empty bottle and waste bin area/s
- Refrigeration/bottle cooler/s (See CES Nos 19 & 50)
- Inset refrigerated display unit
- Glass shelving/mirrors
- Merchandising
- Hygienic glass storage shelving
- Optic rails/bottle shelving
- M & E services
- Space for product dispensing fonts

FINISHES

Front bar counter worktop, fascias and supports shall be according to the architectural design, manufactured of food safe materials that are capable of being easily maintained and cleaned.

Under bar/sub bar modular counter system shall be manufactured of a minimum 1.5 mm; 304-grade stainless steel. The counter top shall be of a minimum of 1.5 mm 304-grade stainless steel.

Support counters shall be according to the architectural design, manufactured of food safe materials that are capable of being easily maintained and cleaned.

CONSTRUCTION

Front bar counter framework of upright supports and horizontal cross members shall be constructed from minimum 1.5 mm 304-grade 30 mm tubular or angled frame stainless steel or of sealed soft wood construction. Framework to be suitably clad and manufactured from food-safe materials that are capable of being easily maintained and cleaned.

A service duct space shall be incorporated to house electrical services, water supplies, drainage and product dispense 'python' with ready access from both the front and side for maintenance. Worktop shall be according to architectural design, manufactured of food-safe materials including hard woods, Corian®, etc with a minimum thickness of 40 mm.

The counter may include refrigerated display units, according to the particular design and specification, and may require direct access to the bar area by means of a secure gate and counter flap.

The under bar/sub bar counter shall be of modular construction with a framework of upright supports and horizontal cross members constructed from 1.5 mm 304 grade 30 mm tubular stainless steel. The units shall be clad to the sides and rear with 1.2 mm, 304-grade; the worktop shall be manufactured of 1.5 mm 304-grade stainless steel with a 60 mm rear up-stand as an integral part of the worktop and capable of abutting the front counter rear fascia. Units shall be interchangeable, capable of supporting bar fittings as listed above, and shall be fitted with height adjustable flanged feet with minimum clearance between the floor and the lowest shelf/frame of 125 mm. General construction shall provide for an easily cleaned finish and prevent the build up of food waste.

Supporting rear or ancillary counters may be manufactured to complement the front bar counter to provide a co-ordinated matching finish with the surrounding décor. Ambient counters shall normally be provided to support ancillary items such as those listed above or stand-alone hot beverage or speciality machines. They may also be required to incorporate drop-level sections to accommodate front of house cooking items or refrigerated food display units when a glass sneeze screen will be required.

Subject to the particular requirement, units shall comprise a top, middle and base shelf or cupboard for MCB.

CONSTRUCTION OF ANCILLARY ELEMENTS

Additional ancillary items of equipment identified for use within the bar area shall be constructed or supplied to meet the relevant specifications included elsewhere within this document.

Security shutters to bar counters, where required, shall meet with the particular specification and be of open construction to provide continuous sight between the customer and service areas.

GLASS

All glass used in bar servery areas shall be clear, toughened safety glass, polished on all edges.

Glass shall be provided in the following minimum thicknesses:

Display shelves: 10 mm + protective capping to front edge to complement the overall design.

Decorative/Sneeze screens: 8 mm

ELECTRICS & CONTROLS

All elements shall have an easily accessible service void to house supply cables, insulated from any heat source. The void shall be covered by the counter panel.

All wiring shall be concealed and clipped back to avoid damage in use or cleaning.

All electrical wiring and connection on in-line static heated, refrigerated and ambient counters and displays should be wired back to an MCB, housed within the bar servery unit and suitably enclosed within a ventilated environment to match the specified finish, and provided with a door for access.