WT Knowles & Sons Limited
Clay Pipe & Chimney Pot Manufacturers

Installation, Operation and Maintenance Instructions

for

KRGU1, KRGU2 and KRGU1F

Universal Grease Traps

Introduction

The Universal Grease Trap is designed to intercept fats, grease and large food particles present in effluent discharges from food preparation establishments such as canteens, restaurants and hotels to meet stringent demands for clean waste water prior to discharge to the sewer.

The hot greasy discharges are cooled when mixed with the larger volume of cooler water in the trap; the grease separates out and solidifies onto the grease tray which requires regular removal and cleaning.

Note: This is not an air trap for preventing sewer gas passing upstream.

Definitions

The following terms will be used throughout these instructions to mean the following:

Catering Establishment: The source of the fats, grease and large food particles may have originated as examples from restaurants, fast food operations such as cafes, canteens, public house, Chinese and Indian take-aways, fish and chip shops, sandwich and salad bars.

Effluent: The hot water and grease mixture discharged from catering establishments.

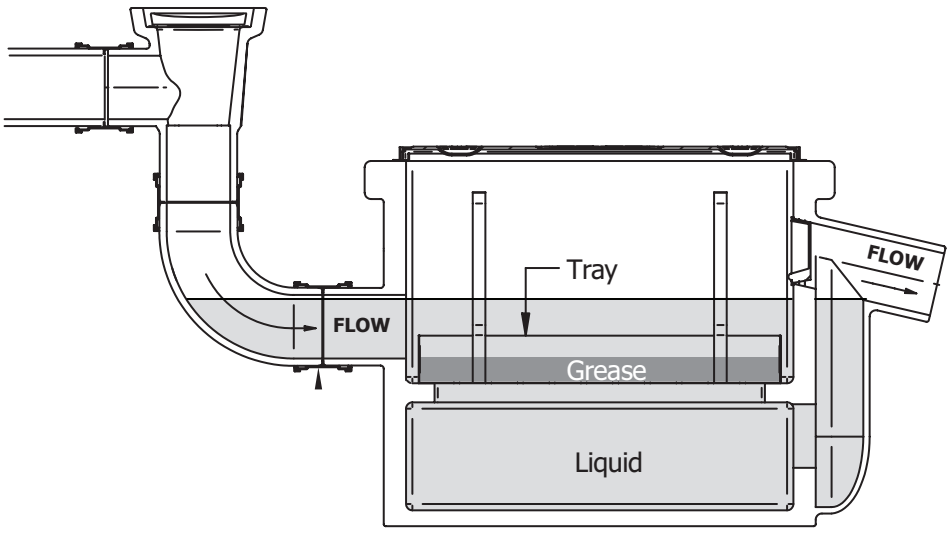
Liquid: Mixture of waste water and other substances which remain in the body of the trap.

Discharge: The waste water discharge from the trap. **NOTE:** This water is not safe for human consumption under any circumstances.

Function

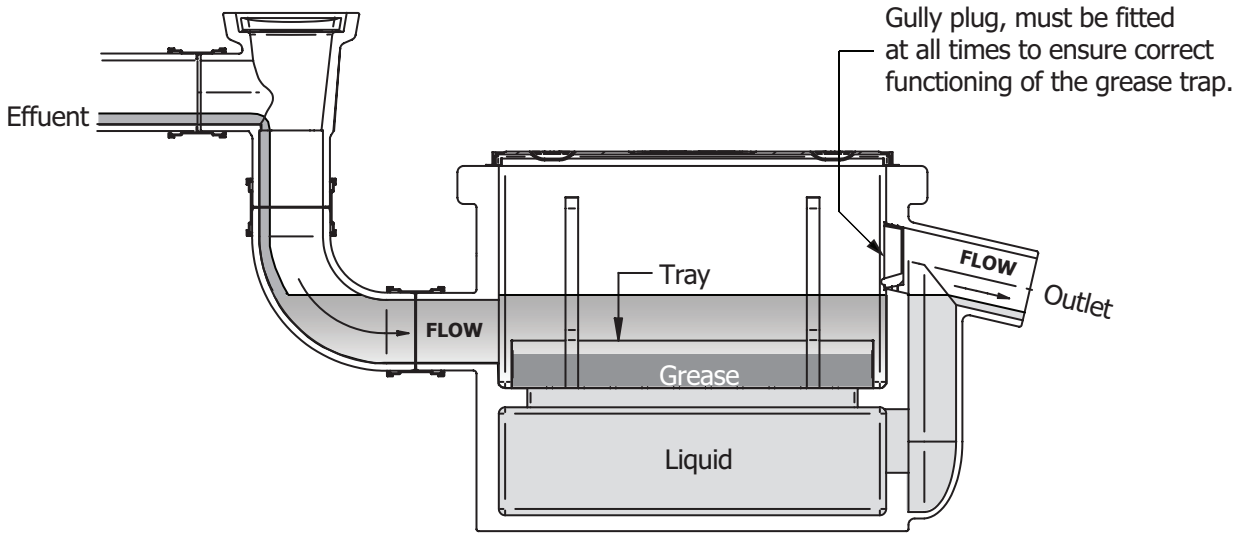
The principle of the grease trap is to cool down the hot effluent by slowing down its rate of flow and by mixing with a larger volume of cooler or cold liquid within the trap and to intercept and separate grease, fats and solids.

The hot greasy effluent entering the trap is cooled on mixing with the larger volume of water in the trap; the grease separates out and settles below the liquid level onto the tray although some grease may solidify and continue to float.



Grease Trap with no Effluent Entering

Function



Grease Trap with Effluent Entering and Grey Water Discharge

The solidifying grease adheres to the perforated galvanised tray, the thickness of the deposit increases as grease continues to solidify.

Whilst the grease is captured, the cooler liquid exits via the outlet hole near the bottom of the tank and through the outlet connection.

Regular removal of the grease tray will remove both the cake of grease and any floating fats and solids.

It is important to size the trap correctly since large effluent discharges can pass through the smaller trap, only partially trapping the grease.

Delivery

The grease trap will be supplied in loose component form on a pallet and shall comprise the main body, 2 x couplings, 1 x 90° bend, 1 x square hopper with horizontal back inlet, 1 x lid and frame and 1 x perforated tray.

Each piece shall be carefully removed from the pallet and stored safely aside.

The pallet shall be returned to the supplier, recycled or safely disposed of.

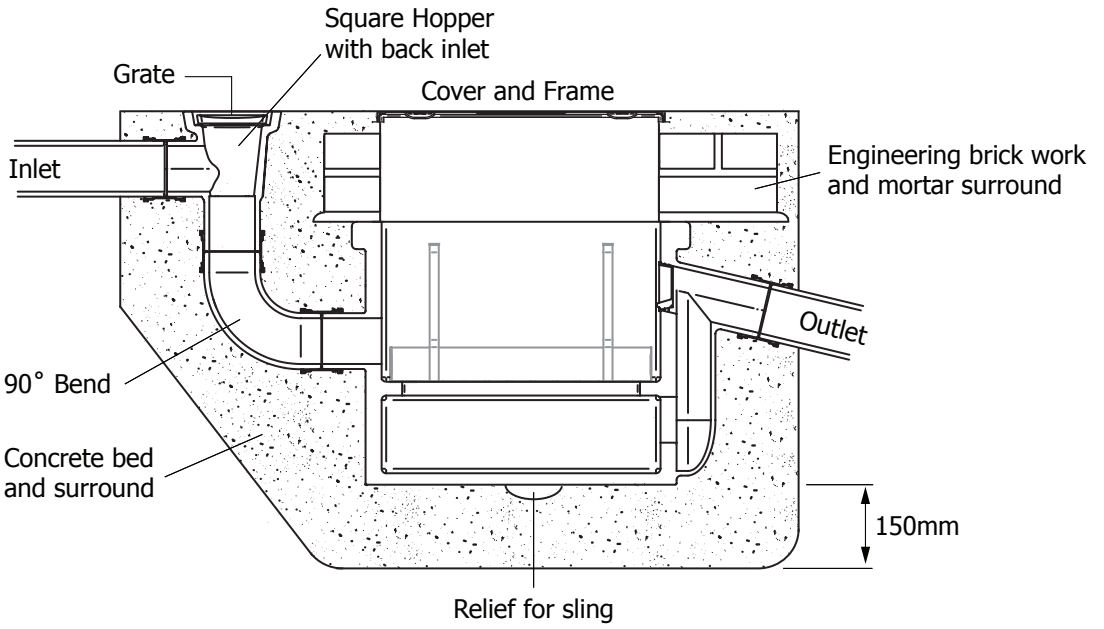
Health and Safety

The appropriate safety equipment must be worn during installation including gloves and safety shoes suitable for handling clay products.

Installation

If there is a consultant's specification covering the work for the project then this takes precedence over the method of installing grease traps detailed in these instructions which is for guidance only.

The grease trap should be located as close as possible to the building being served. Alternatively it can be sited within the building when fitted with an airtight seal.



Hole Preparation

Excavate a hole of sufficient size and depth taking into consideration:-

- The size of the grease trap.
- Allow for 150mm of concrete below the trap and around all 4 sides.
- From the pathway surface the minimum depth required for the square hopper and 90° bend. Greater depth can be accommodated using a length of pipe between the hopper and bend but ease of removal of the tray must be considered.
- The depth of the outlet pipe to the main drain pipework.

Excavate the trenches for the inlet pipe from the catering establishment and the outlet pipe to the main drain pipework.

Foundations

Lay a bed 150mm deep of - 8500 GEN 3 concrete (20N/mm³ and 20mm slump) with little moisture.

Form a relief in the position where the sling to lower the trap into position will be located to allow the sling to be removed.

Lifting

The clay grease traps must be lifted using mechanical means.

Use a loop sling around the trap body positioned to balance the body when lifted.

Appropriate mechanical lifting devices must be used.

Avoid manual handling except when final positioning.

Check the correct orientation of the body, the 'Inlet' is clearly marked above the inlet connection.

Once the trap has been lowered and positioned remove the sling by pulling through the relief in the bed.

Back Filling

Pre-assemble the hopper and bend before connecting to the inlet connection and the pipe from the outlet connection.

Using the same GEN 3 concrete with little moisture as the bed, back fill the sides level with the top of the trap body. Ensure the hopper/bend assembly is securely held in the correct position during back filling.

Allow moisture from the ground to be absorbed by the concrete and time for it to set.

Once set build a brick surround to the approximate height of the square hopper and fit the cover and frame to be level with the square hopper (path level).

NOTE: The brick surround should not protrude over the inner edge of the body, which may prevent removal of the tray when full of grease.

Backfill the remaining hole with concrete and the finally surface for the pathway ensuring the frame is securely located and sealed along its outer edges.

A grate or sealing plate should be fitted to the square hopper.

Gully Plug and Tray

Ensure the gully plug is located in the discharge hole inside the body and is pressed firmly in place. This must remain in place at all times to ensure correct functioning of the grease trap.

Finally fit the perforated tray and refit the cover.

Periodic Inspection

The lid should be lifted at weekly intervals to check the level of fats, oils and greases (FOG) in the tray. During periods of heavy rain the grease trap should be inspected daily to ensure that the water is discharging satisfactorily and FOG contents are not evacuated upwards past the lid.

Cleaning Instructions

Cleaning operations should only be carried out with the trap cold. The operator should wear eye protection and protective gloves.

- The frequency of cleaning will vary depending on a wide variety of factors.
  Washing of utensils and dishes will accumulate less grease than one in a full service restaurant with food preparation. Another factor affecting the cleaning cycle is whether a waste disposal unit is discharged into the grease trap and whether the food speciality is high in FOG.
- Frequent cleaning will minimise the build up of bacteria and objectionable odours.
- Prepare a suitable container into which the greases can be deposited.
- Lift the lid and clean the rim and underside and put aside.
- Use a sieve to skim out accumulated grease and deposit in the container
- Raise the perforated tray and allow residual water to drain back into the trap.
- Transfer the retained grease into the container.
- Clean out the tray and wash with hot water and household detergent.
- Remove excess greases from inside the trap body and place in the container.
- Re-install the perforated tray and re-fit the lid.

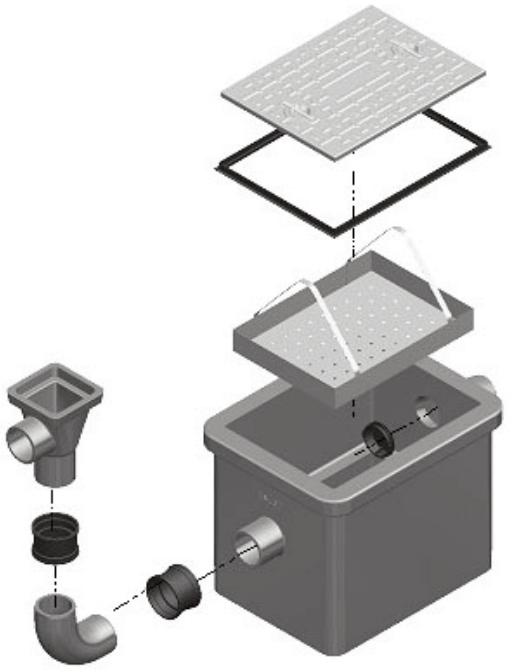
Ensure that grease removed from the grease trap is disposed of responsibly. Check with the local Council Waste Disposal Department regarding the permitted method and location for safe disposal.

Warning: the weight of a full tray of grease can exceed 25 kgs and the elevation within the trap makes removal difficult. **Extreme care is needed when lifting a full tray of grease.**

Spares

Code	Nominal size	Body Material
KRGU1	740 x 580	Clay
KRGU2	580 x 410	Clay
KRGU1F	740 x 580	GRP

Grease Trap Code	**KRGU1**	**KRGU2**	**KRGU1F**
Perforated tray	KIGUT1	KIGUT2	TBA
Frame and lid (as a pair)	KIGUC1	KIGUC2	TBA
Coupling	SC1/1	SC1/1	SC1/1
Bend - 90°	SB1/1	SB1/1	SB1/1
Square Hopper with HB1	KSH2	KSH2	KSH2
Gully plug	KRSG1	KRSG1	KRSG1
Weight Complete kg	145	95	



Technical Help

For technical assistance and price and availability of spare parts contact:-

W T Knowles and Sons Limited
Ash Grove Pipeworks
Elland
West Yorkshire
HX5 9JA

Tel: 01422 372833
Fax: 01422 37090
Email: sales@wtknowles.co.uk
Website: www.knowlesdrainage.co.uk