



# 1201 CENTRE MOUNTED TOILET



## PARTS & SERVICE MANUAL

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**Vehicle Dealer**

**Toilet Cubicle Serial No**

**CONTACT INFO** = Tel:01992 501683 - Fax: 01992 501670 – [sales@shades-technics.com](mailto:sales@shades-technics.com)

# CUBICLE OPERATING INSTRUCTIONS

## **To Switch The Cubicle On:**


Engage the WC Master switch  on the dashboard.

*(It is recommended that the vehicle engine is running)*

## **Cubicle Interior Light**

Entering the cubicle automatically illuminates the light and toilet engaged light if fitted. The light will extinguish shortly after leaving the cubicle.


## **To Flush The Toilet:**

Depress the flush button  once. A timed action opens the valve and rinses the bowl with a set quantity of water. Should a further flush be required, wait for the flush cycle to complete then depress the button again.

*(When the **HYDROFLUSH** holding tank is full, the dashboard panel light will illuminate and power to both flush & hand wash pump will be cut. Emptying the holding tank will restore power.)*

*(When the WC water supply tank is empty the dashboard panel light will illuminate and power to both the handwash and flush pumps will be cut. Re-filling the WC supply tank will restore power.)*

## **To Wash Your Hands:**

Depress the handwash button  once to dispense a set amount of water.

*(When the WC water supply tank is empty the dashboard panel light will illuminate and power to both the handwash and flush pumps will be cut. Re-filling the WC supply tank will restore power.)*

## **In Case of Emergency:**

Depressing the red alarm button will alert the driver.

## **Cubicle Extractor Fan:**

The cubicle extractor fan is energised when the cubicle is on.

## **To Operate The Hand-Drier: (Optional Fit)**

To start the cycle push the button on the front. The unit stops automatically

## **Water Tank Filling & Emptying**

The WC supply tank is filled via the orange hose connectors located in the lockers. Location can vary depending on the chassis.

The holding tank is emptied by firmly pulling the handle on the evacuation valve connected to the underside of the cubicle.

## ***HYDROFLUSH Toilet System***

The push button operated flushing system is pre-set to give a powerful full covering rinse.

The water is flushed straight into a sealed holding tank which is directly coupled to the toilet bowl.

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## ***Handwash Water System***

One push of the button delivers a pre-set amount of water.

All water from the cubicle sink will drain away outside the vehicle.

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## ***Water Levels***

The WC supply tank provides water for both the handwash and the flushing system.

### ***WC High Water Level (optional)***

A full holding tank will illuminate the FAIL light on the dashboard and electrically disconnect both pumps. Emptying the holding tank will re-energise the pumps and extinguish the dashboard LED.

### ***WC Low Water Level (optional)***

An empty WC supply tank will illuminate the Fail light on the dashboard and electrically disconnect both pumps. Re-filling the WC supply tank will re-energise the pumps and extinguish the dashboard LED.

## **Toilet Cubicle**

### **Cubicle Cleaning**

The toilet cubicle is manufactured from Glass Reinforced Plastic (GRP) with high gloss interior surfaces and lightly textured exterior surfaces, both of which can be washed down using a mild detergent. The use of a caustic or abrasive material is not recommended to clean internal or external surfaces. We recommend an all-purpose cleaner such as **Jangro multi purpose cleaner (Cat no. 800102)** available from Shades Technics.

### **Toilet Bowl Cleaning**

We recommend that the toilet bowl and seat can be cleaned using an anti-bacterial detergent such as **Powerclens (Cat No. 800050)**. On some later models the splash shield is magnetic to allow for easy cleaning. A drop of washing up liquid put into the bowl each week will help keep the seal in the bowl lubricated and help prevent build up of scale and salts.

### **Internal Litter Bin**

The cubicle features a re-usable plastic bin that can be lined with a bag if necessary. It is simply lifted out for emptying and cleaning.

### **Soap Dispenser**

To re-fill, lift up flap and add soap liquid until the level is just below the maximum content indicator.

### **Toilet Roll**

It is recommended that a high biodegradable paper such as *Bay West* or *Mini Tork* is used at all times. **(Cat No. 800102 - 200 sheet roll x 40). (Cat No. 800103 - 320 sheet x 36).**

The toilet roll holder is incorporated into the lower vanity door located below the sink. The spindle is sprung loaded into the recess and is simply remove by pushing to one side.

**Do not use domestic type toilet paper (i.e Andrex) as this will clog the Hydroflush valve and tank due to its stronger construction.**

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## **Worktop (optional)**

### **Cleaning**

The worktop is manufactured from Glass Reinforced Plastic (GRP) with an easy clean surface which can be washed down using a mild detergent. The use of a caustic or abrasive material is not recommended.

## Cubicle Maintenance

### Daily Routine

- Prior to the vehicle entering service the holding tank should be charged with an additive to sanitise the effluent.
- The recommended product is **Shades Super Sani ECO**, a formaldehyde-free sachet with a water soluble membrane which can be purchased in 8 gram and 16 gram sachets. A single 16 gram (or two 8 gram) sachet contains enough formula for the capacity of the holding tank and will function for a maximum of three days.  
To apply:
  1. Ensure the holding tank is empty.
  2. Check the tank evacuation valve is closed
  3. Check the WC supply tank is full.
  4. Switch on power to the cubicle (see page 3)
  5. Press the flush button to open the toilet valve and drop the complete sachet into the holding tank.

### **Caution**

**Do not open the sachet or drop into the WC Supply Tank as this also supplies water to the handbasin**

- It is recommended that the WC supply tank is drained and the holding tank is emptied at the end of every day.
- The WC master switch **WC** should be turned off when the vehicle is static (parked), to reduce the risk of battery drain if any components are left on.

### Weekly Routine

- Check extractor fan function by holding a single sheet of toilet paper in front of the grille. The air flow should draw the paper towards the grille.
- Inspect the security of the faucet, door hinges and toilet seat lid. Check the operation of the cubicle door and lock function. Test alarm button function.
- Remove vanity access door, check electrical and plumbing connections for security and leaks. Ensure the plastic cover is protecting the PCB.
- Put some drops of washing up liquid into the toilet bowl to lubricate the valve.
- Check water flows through the handwash faucet is smooth and constant.
- Clean dust and fluff from **AIRCALOR** (*option*) inlet vents using a vacuum cleaner with crevice attachment.

## Quartely Routine

- Carry out weekly routine
- Flush out holding tank with clean water. (the holding tank must be empty and the vehicle positioned so the holding tank evacuation valve is over a sewage drainage point)  
To flush out:
  1. Switch on the cubicle.
  2. Connect a hosepipe to a mains water supply.
  3. Depress the flush button once to open the pneumatic slide valve at the bottom of the bowl.
  4. When the valve opens, insert the end of the hosepipe down through the bowl, into the holding tank. When the valve closes the hose will be held into position by the paddle. The air pressure will not crush the pipe.
  5. Turn on the water to the hose pipe and fill the holding tank, being careful not to overfill.
  6. Switch off the water to the hose, press the flush button to open the valve and remove the hose pipe.
  7. Open the evacuation valve to empty the water from the holding tank.
- Lubricate holding tank evacuation valve. (to be carried out immediately after flushing through the holding tank).  
Undo the four fixing bolts holding the soil valve assembly together and remove the main body section. Lubricate the slide paddle using lithium grease or similar so the open/close operation is smooth. Replace the valve body and bolt together. Do not over tighten as this will restrict the operation of the valve.
- Clean out the extractor fan grille using a vacuum cleaner with a small crevice attachment.

## WINTERISATION

If the vehicle is to be parked in zero or sub-zero temperatures, it is imperative that all water containers are completely drain beforehand. This also applies to the boiler if it has not been in daily use

Ensure the centre brown cable to the **B500** is removed when the unit is empty and **replaced only when the unit is re-filled.**

### Note

No warranty claims will be accepted on any winter damaged parts.

## JUMP STARTING

When jump starting the vehicle, please ensure that the dashboard master

Switch **WC** is off.

## FAULT REPORT PROCEDURE

1. In the unlikely event of a fault occurring a comprehensive fault analysis flow chart has been enclosed with this manual.
2. Using these charts, determine the cause of the fault and replace the faulty item.
3. To order a replacement part contact the dealer as specified on the contents page (Page 1) of this manual, quoting the cubicle serial number.
4. In order for replacement goods to dispatched a simple warranty procedure must be followed. ( See flow chart on page 8)

### **Notes:**

- **Call-out and travelling costs are not covered by the warranty**
- **Tampering, unauthorised involvement or preventable damage will result in a charge being levied**



# WARRANTY CLAIM PROCEDURE

Shades Technics offer a comprehensive warranty cover for all products, valid for 12 months from the vehicle's date in service.

To make a claim under warranty, please follow the procedure below:

**Contact the dealer or supplier from where the vehicle was purchased.**

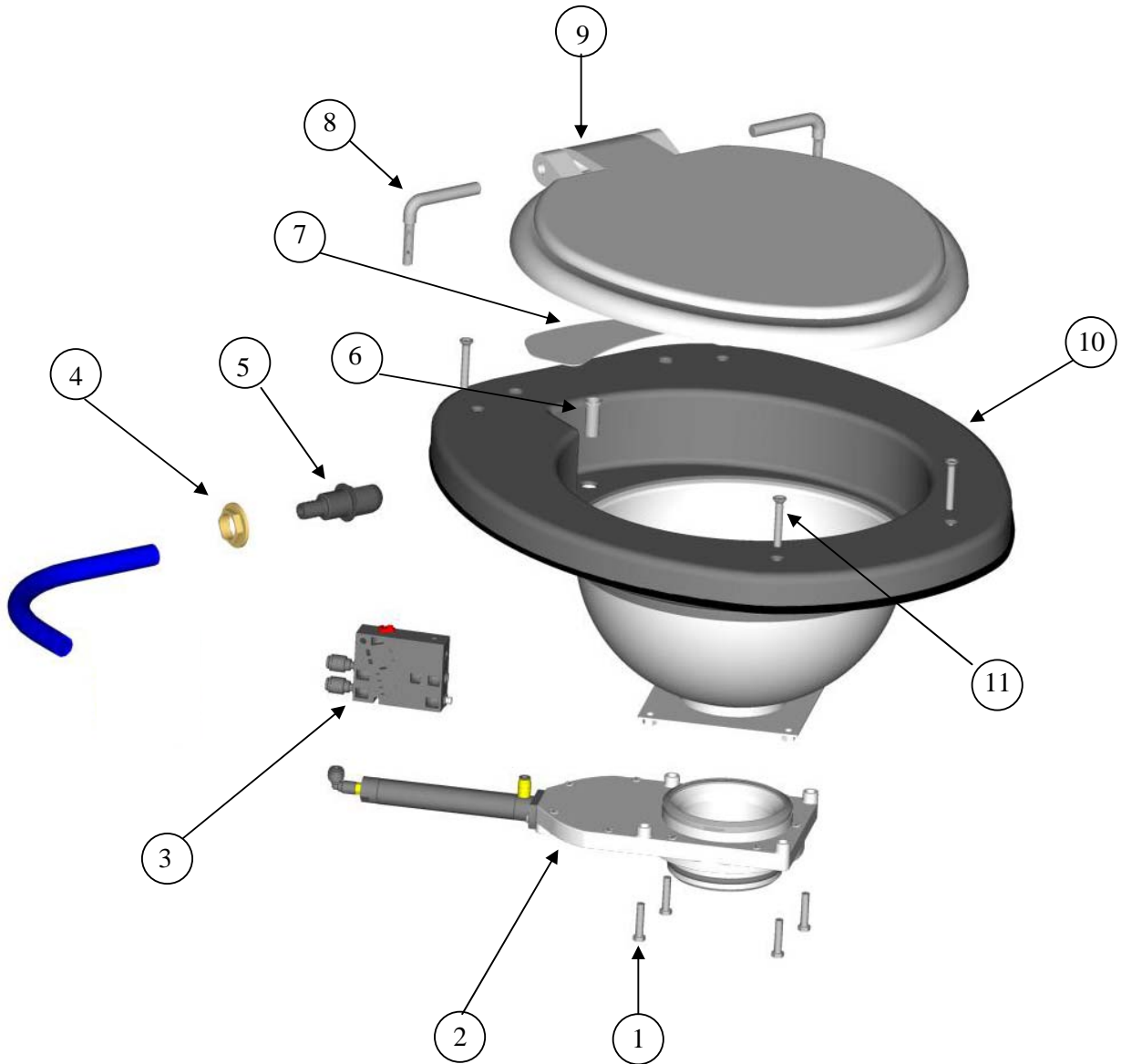
*The dealer/supplier will then contact Shades Technics who will fax a warranty claim form to the customer.*

**Complete the warranty claim form, ensuring all details are filled in and fax back to Shades Technics on +44 (0)1992 501669**

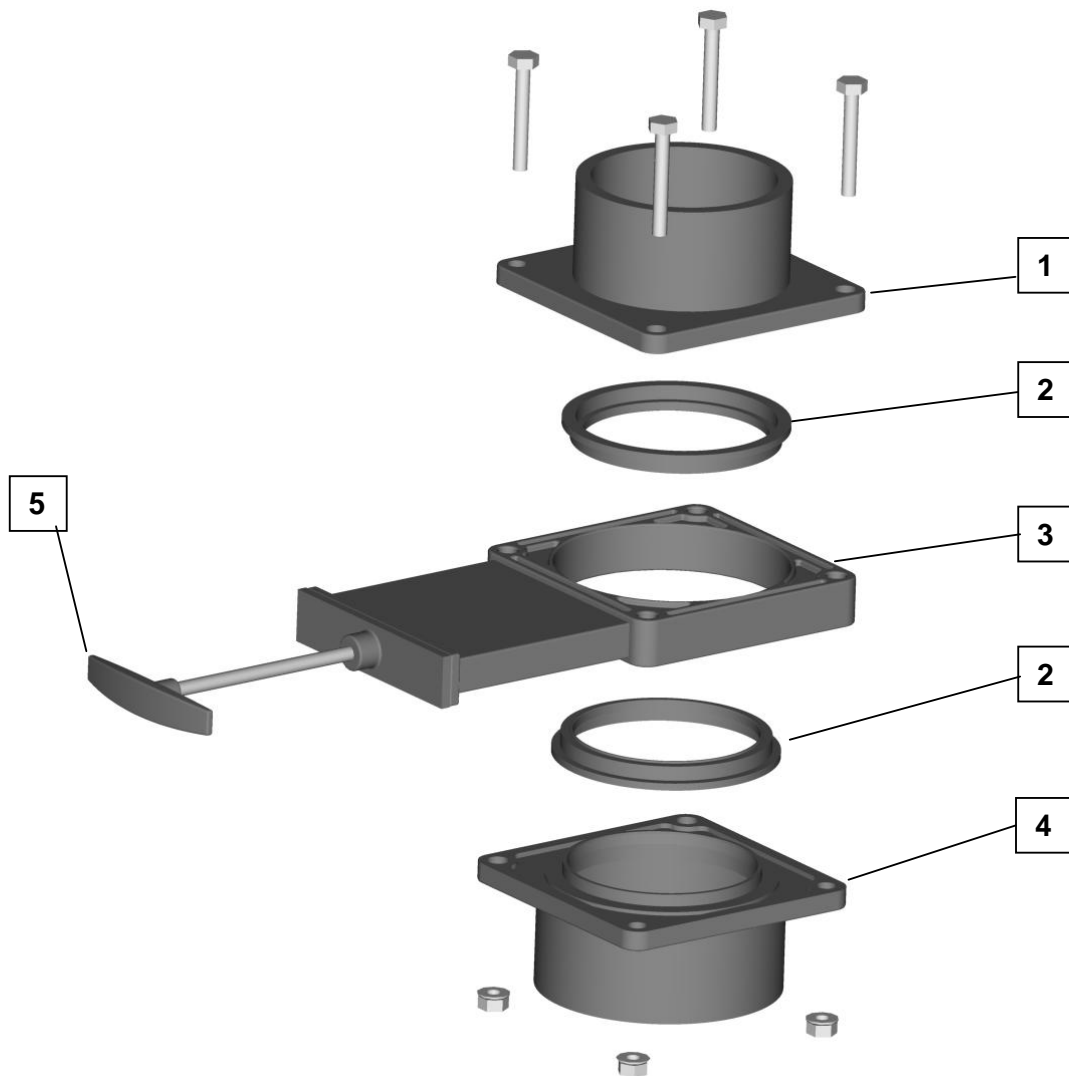
*Shades Technics will dispatch any parts required or organise rectification via one of the service points listed at the back of this parts & service manual*

**Please return any fault parts which have been replaced under warranty within 14 days or a charge may be levied**

# TOILET BOWL ASSEMBLY



1	M6 x 50 (Hex)	713030
2	Pneumatic Slide Valve	735713
3	Control Box	735714
	Pneumatic Slide Valve & Control Box	735732
4	Brass Back Nut	695504
5	Bowl Jet	663603
6	Bowl Overflow	701502
7	Splash Shield	661984
8	Stainless Steel Seat Hinges	735102
9	Toilet Seat and Lid	735101
10	WC Bowl	688221
11	M6 x 30 (Pozi)	713025



1	735700	Small Spigot
2	735717	Seal
3	735711	Valve Body
4	735701	Large Spigot
5	735715	Replacement Handle

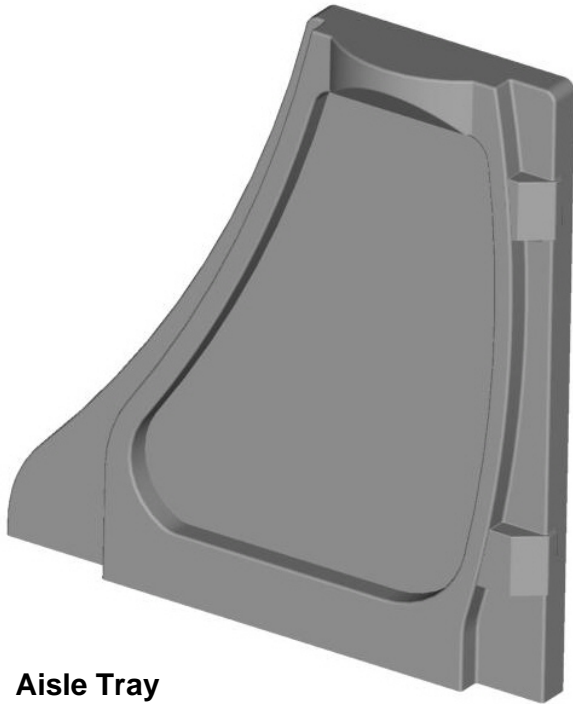
# EXTERIOR CUBICLE PARTS

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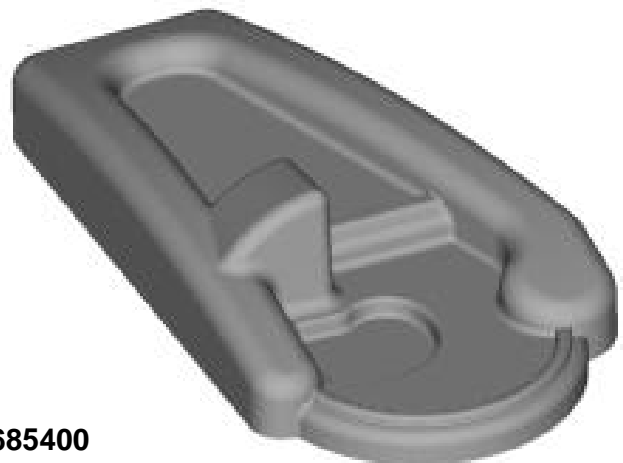
**Bin Lid**  
**Cat No: 685403**



**Aisle Cover**  
**Cat No: 685404**

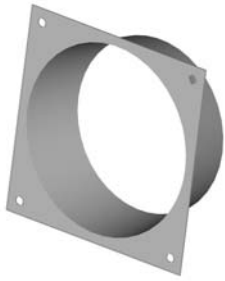


**Aisle Tray**  
**Cat No: 685405**



**Worktop**  
**Cat No: 685400**

# EXTERIOR CUBICLE PARTS II



**Fan Spigot**  
Cat No: 272504



**110mm Cap**  
Cat No: 661050



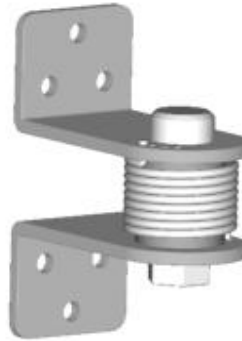
**Door Lock**  
Cat No: 6612206



**Extractor Fan Assy**  
Cat No: 661510

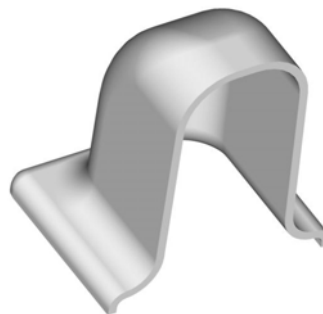


**610mm Handle  
(Black)**  
Cat No: 661199



**Door Hinge  
(Upper)**  
Cat No: 661405

**Door Hinge  
(Lower)**  
Cat No: 661406



**Hinge Cover**  
Cat No: 661407

# INTERIOR CUBICLE PARTS



**Black Button**  
Cat No: 714007



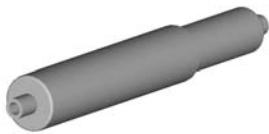
**Lamp Cover**  
Cat No: 712111



**Alarm Button**  
Cat No: 714030



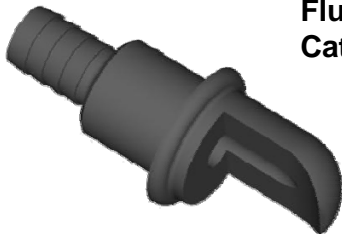
**Seat Stopper**  
Cat No: 713500



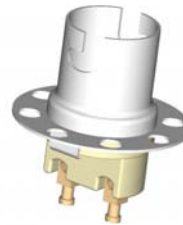
**Toilet Roll Spindle**  
Cat No: 661618



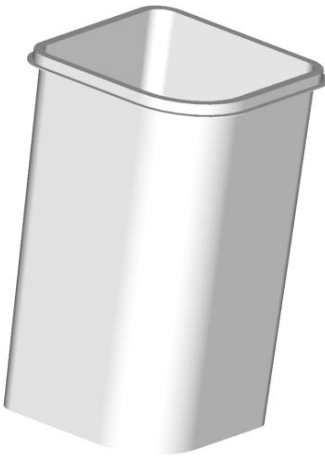
**Bayonet Bulb**  
Cat No: VB712028



**Flush Nozzle**  
Cat No: 663604



**Bulb Holder**  
Cat No: 712027



**5 Ltr Bin**  
Cat No: 661002



**Mirror**  
Cat No: 661816



**Nylon Screw**  
Cat No: 713151



**Bin Knob**  
Cat No: 661214

# INTERIOR CUBICLE PARTS II



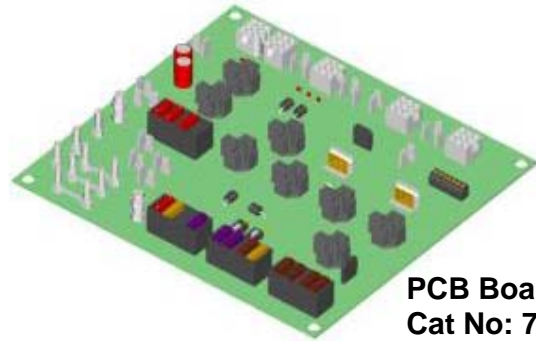
**Black screw knob**  
Cat No: 663408  
Vanity Panel knob



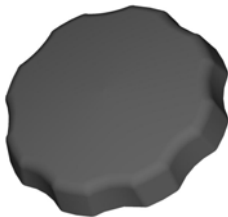
**Anti-slip Tape**  
Cat No: 661480



**Floor Plate**  
Cat No: 661408



**PCB Board**  
Cat No: 730005



**40mm Black screw knob**  
Cat No: 663415  
Side tray knob



**50mm Black knob**  
Cat No: 663416  
Side cover knob



**Lower vanity panel**  
Cat No: 712608

**Soap Dispenser**  
Cat No: 661660



# PLUMBING CONNECTORS



**15mm Stem Elbow**  
Cat No: 747016



**22mm Tank Connector**  
Cat No: 745010



**15mm Equal Elbow**  
Cat No: 747015



**15mm x 3/4" BSP Tap Adaptor**  
Cat No: 747024



**15mm T Connector**  
Cat No: 747020



**15mm Male Coupler**  
Cat No: 747028



**15mm Drain Valve**  
Cat No: 747037



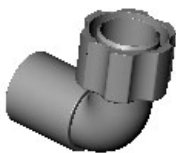
**15mm Service Valve**  
Cat No: 747035



**15mm Hose Connector**  
Cat No: 747027



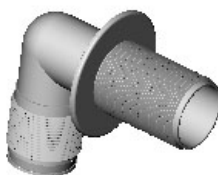
**15mm Straight**  
Cat No: 747010



**21.5mm x 3/4" Elbow**  
Cat No: 744002



**3/4" Swivel Hose Connector**  
Cat No: 744005



**3/4" x 3/4" Tank Fitting**  
Cat No: 744003



**21.5mm x 3/4" Straight**  
Cat No: 744001



# MISCELLANEOUS PLUMBING PARTS



**3/4" Sink Waste**  
Cat No: 701501



**1/2" BSP Back Nut**  
Cat No: 695504



**15mm Straight Sink Waste**  
Cat No: 701502



**Floor/sink drain**  
Cat No: 701550



**Horizontal Float Switch**  
Cat No: 714510

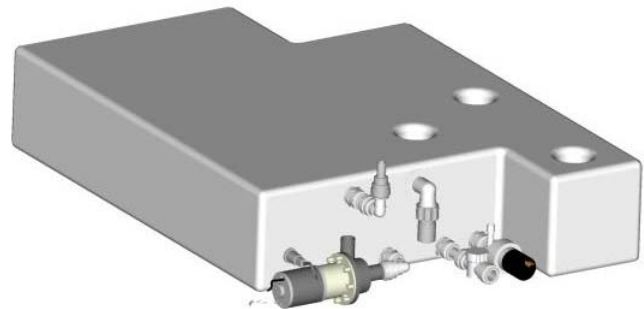


**M5 nylon spacer**  
Cat No: 713045

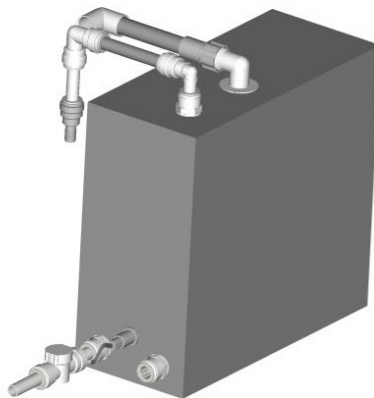


**Vertical Float Switch**  
Cat No: 714500

**M6 nylon spacer**  
Cat No: 713040



**WC Tank**  
Cat No: 733655



**Drinks Tank**  
Cat No: 733656

# MISCELLANEOUS PLUMBING PARTS

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**15mm Faucet Nozzle**  
Cat No: 663603



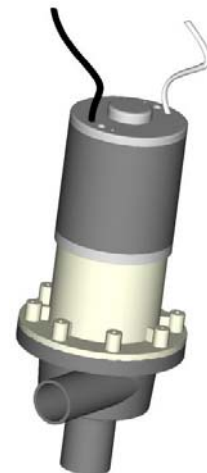
**B500-U Water Heater**  
Cat No: 717010

**HYDROCALOR  
M5 Water Heater**  
Cat No: 697010



**Direct Acting Solenoid**  
Cat No: 714620

**Flush Pump**  
Cat No: 733656

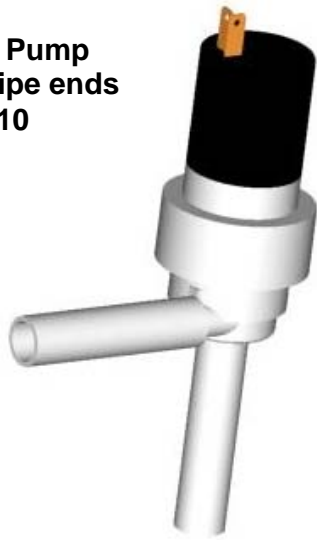


**HYDROFILTER**  
Cat No: 722017 (single unit)  
Cat No: 722015 (pack of 6)



# MISCELLANEOUS PLUMBING PARTS

**38/0 Impellor Pump  
with 15mm Pipe ends  
Cat No: 702110**



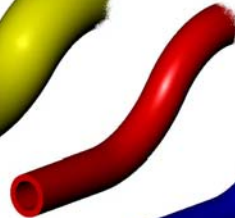
**In-Line Pump  
Cat No: 702119**



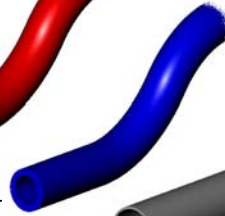
**3/4" Waste Hose – Cat No: 744060**



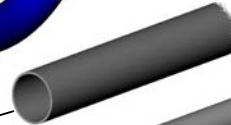
**1/2" Red Hose – Cat No: 744040**



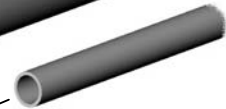
**1/2" Blue Hose – Cat No: 744030**



**21.5mm Grey Pipe – Cat No: 745003**



**15mm White Pipe – Cat No: 747052**



**4mm Black Air Tubing- Cat No: 179200**



**4" Air Ducting  
Cat No: 744085**

# CUBICLE SYMBOLS LABELS



**No Standing**  
Cat No:735560



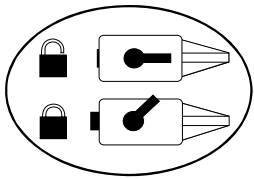
**Emergency Alarm**  
Cat No:735566



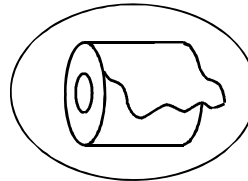
**No Smoking**  
Cat No:735563



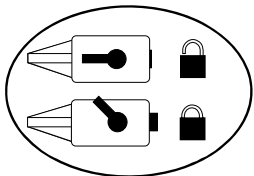
**Shades Technics**  
Cat No: 735568



**Door Lock LH**  
Cat No:735571

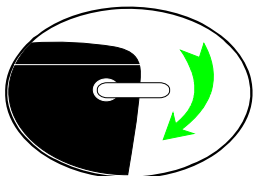


**Toilet Roll**  
Cat No:735569



**Door Lock RH**  
Cat No:735564

**Full Set Of Labels**  
Cat No: 735570



**Flush**  
Cat No:735562



**Litter Bin**  
Cat No:735567

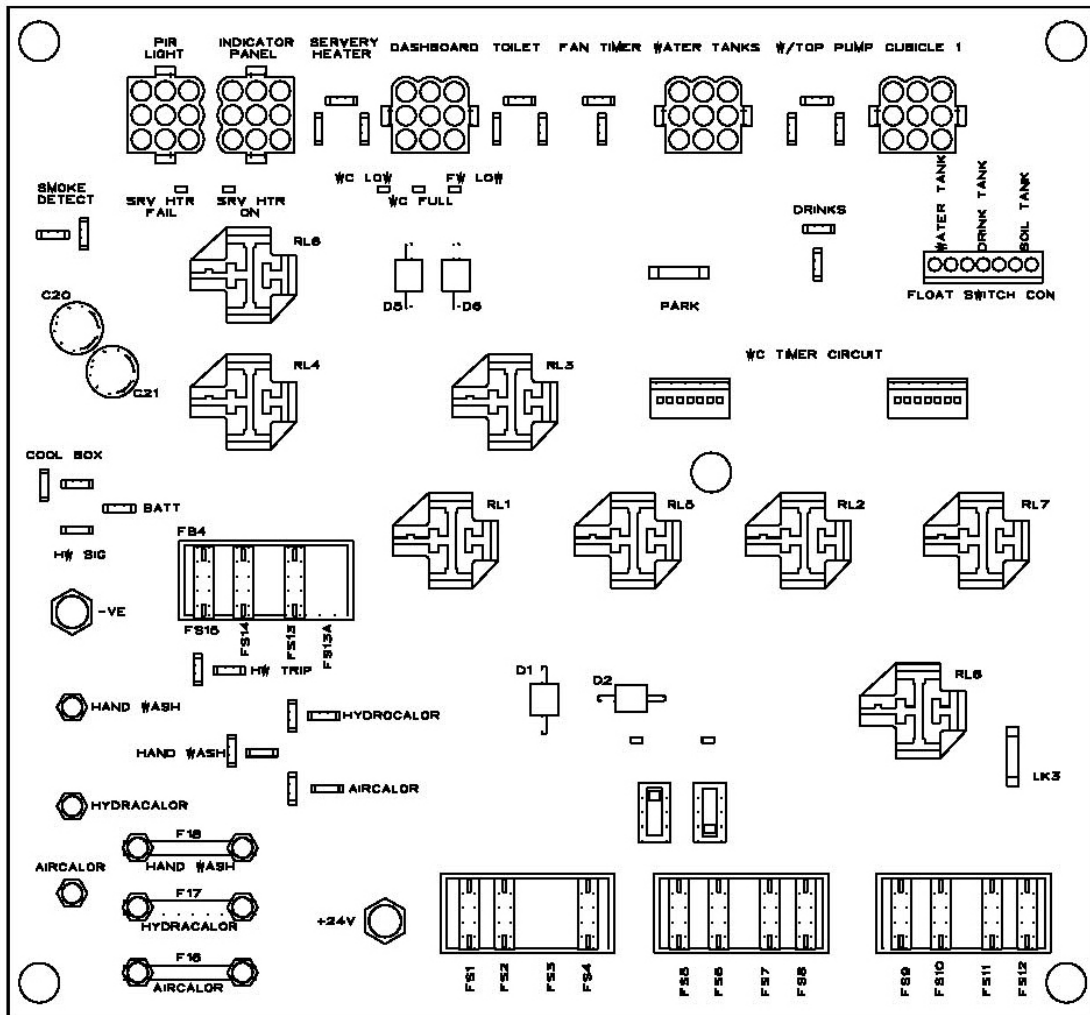


**Hand wash**  
Cat No:735561



**Dashboard Panel**  
Cat No: 712514

# PCB REFERENCE DIAGRAM



## Notes for All Boards

Fuses FS13 and FS13A not to be fitted both at the same time as feedback from the direct battery feed and the board feed. I.E. Battery Isolator can occur.

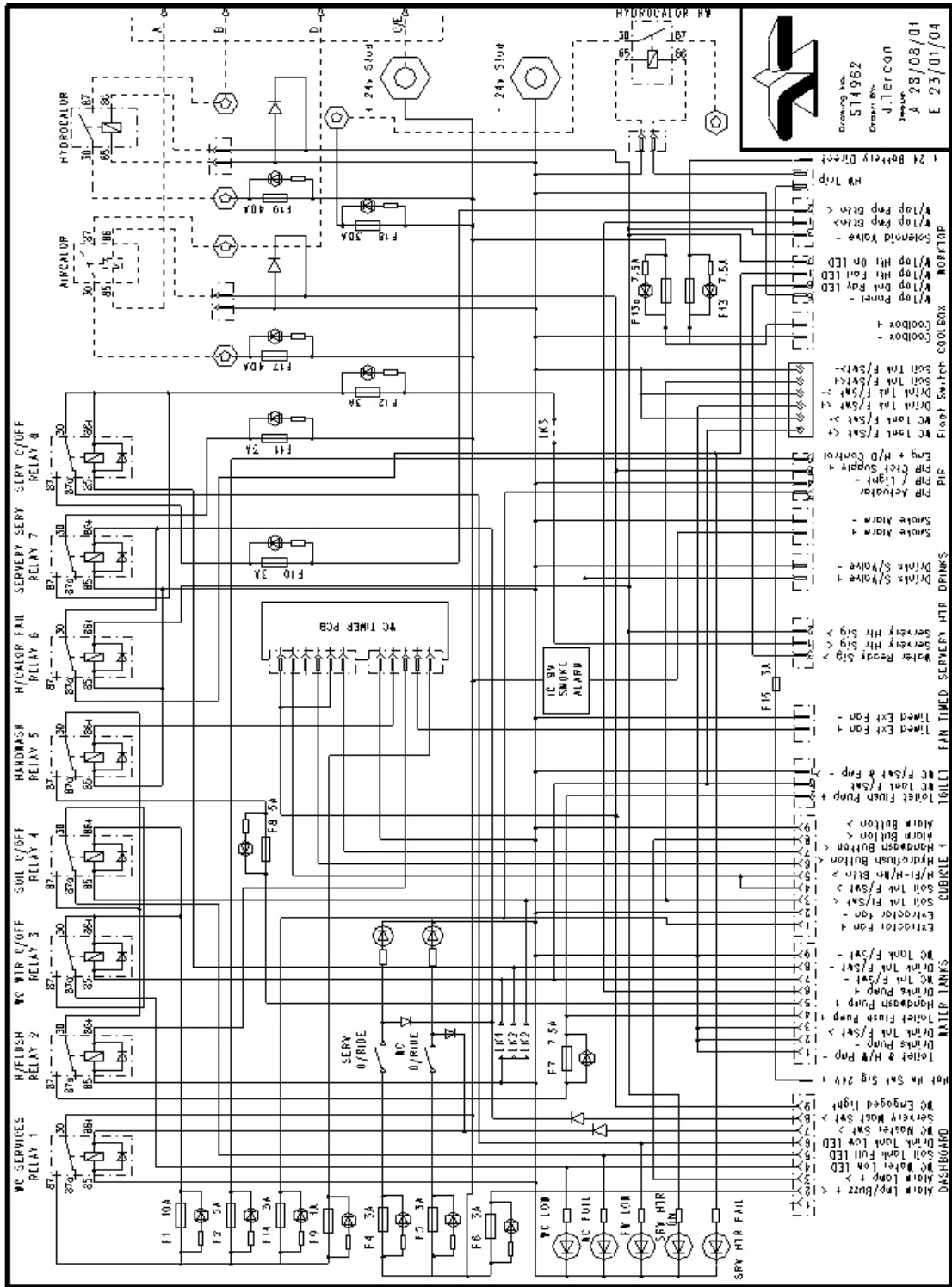
FS13A is only for Board fed cool box  
 FS13 is only for direct battery fed cool box  
 Smoke Detector Circuit not fused

Off Board – B500 relay fitted, Hand Dryer relay fitted.

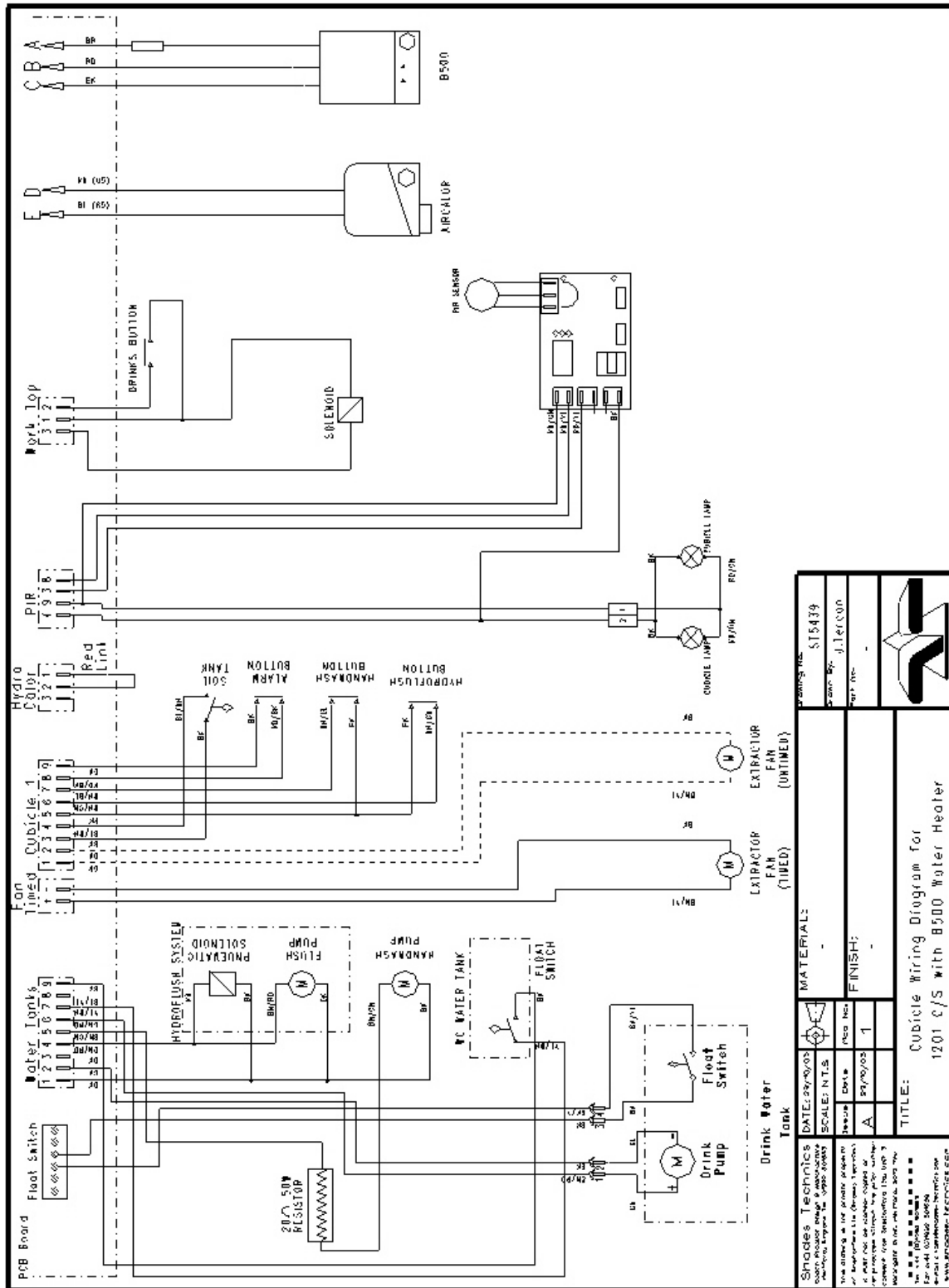
## PCB REFERENCE DIAGRAM (continued)

<b>Fuses</b>			<b>Relays</b>	
FS1	<b>10A</b>	WC Water Low, Soil Full, Hydroflush and Handwash Relays Main Power	RL1	<b>10/20A</b> WC Services Fitted
FS2	<b>5A</b>	PIR Unit Relay Contact Power and Fluorescent Lamp with Integral PIR Unit	RL2	<b>10/20A</b> Hydroflush Control Fitted
FS3	<b>3A</b>	Cubicle Fan Direct	RL3	<b>10/20A</b> WC Low Water Cut off Fitted
FS4	<b>3A</b>	WC Override Control Switch	RL4	<b>10/20A</b> Soil Full Cut Off Fitted
FS5	<b>3A</b>	Servery Override Control Switch	RL5	<b>10/20A</b> Handwash Control Fitted
FS6	<b>3A</b>	Alarm Lamp and Buzzer	RL6	<b>10/20A</b> Hydrocalor Fail Control Fitted
FS7	<b>5A</b>	Flush Pump	RL7	<b>10/20A</b> Servery Services Fitted
FS8	<b>5A</b>	Handwash Pump	RL8	<b>10/20A</b> Servery Services Low Water Cut Off Fitted
FS9	<b>1A</b>	Timer Unit Controlling Hydroflush, Handwash and Timed Cut of Fan.	<b>Links</b>	
FS10	<b>3A</b>	Work Top Drinks Pump Button and Pump	LK3	Hydrocalor Isolating Link
FS11	<b>5A</b>	Servery Services	Park	Link to Top Switch Connection for Override
FS12	<b>3A</b>	Servery Boiler Signal		
FS13	<b>NIL</b>	Direct Supply for Cool Box		
FS13A	<b>NIL</b>	Board Supply to Cool Box		
FS14	<b>1A</b>	Remote PIR Board Control		
FS15	<b>3A</b>	Handwash Trip		
FS16	<b>40A</b>	Aircalor		
FS17	<b>40A</b>	Drinks Hydrocalor / B500		
FS18	<b>NIL</b>	Handwash Hydrocalor / B500		

# PCB WIRING DIAGRAM

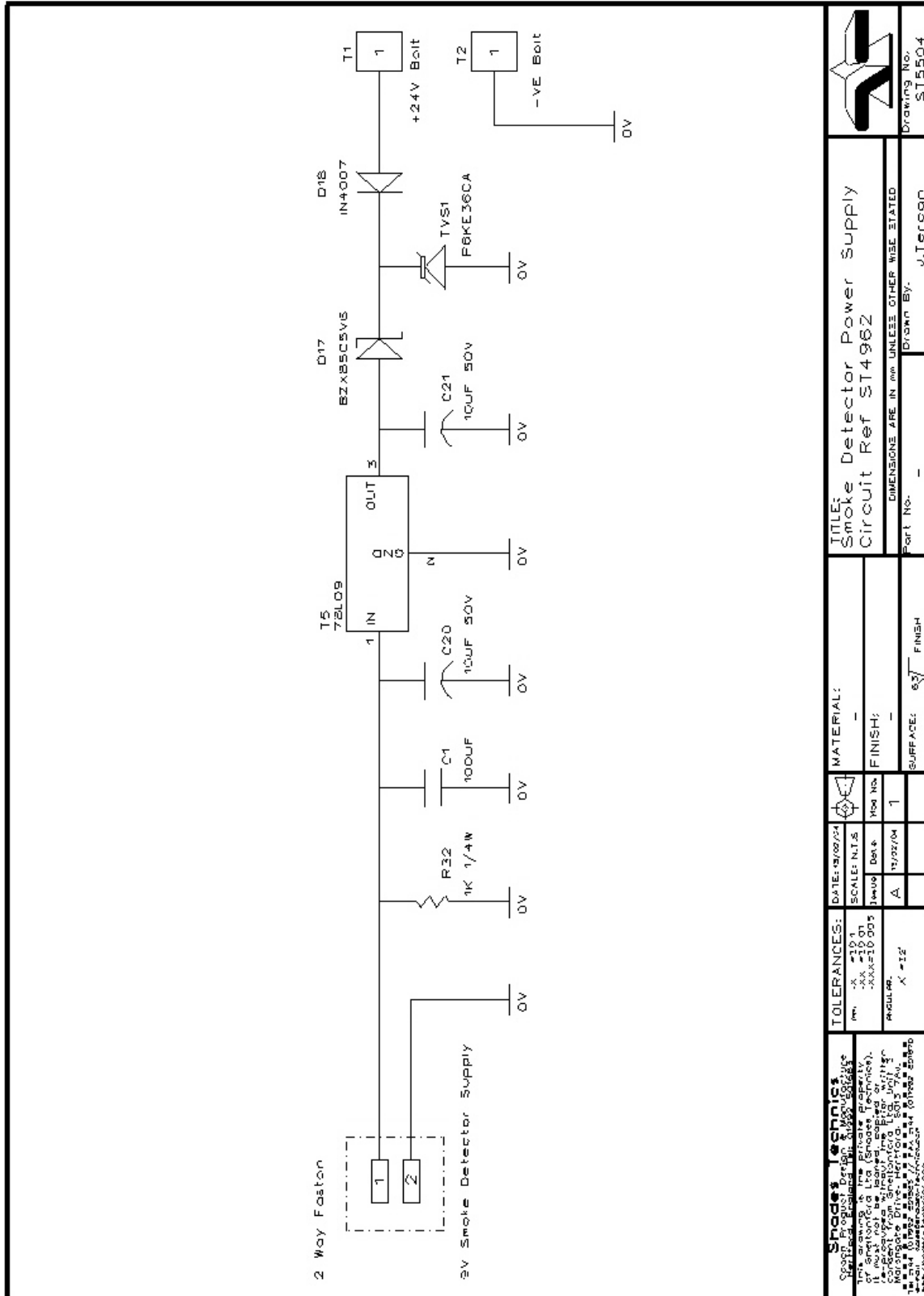



# CUBICLE WIRING DIAGRAM





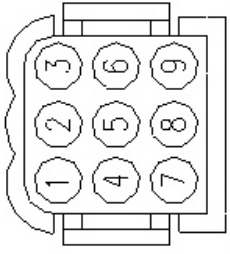
# SMOKE DETECTOR DIAGRAM



		<b>Shades Electronics</b>	
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<b>TITLE:</b> Smoke Detector Power Supply Circuit Ref ST496Z		<b>DATE:</b> 12/02/14	<b>SCALE:</b> N1:5
<b>DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED</b>		<b>Rev:</b> A	<b>Rev No:</b> 1
<b>Part No.:</b> -	<b>Drawn By:</b> J.Tercon	<b>SURFACE:</b> 63	<b>FINISH:</b> -
<b>Drawings No.:</b> ST5504			

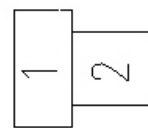
# PIN & CONNECTION DIAGRAM

**9 WAY 3,5 Pin housing**



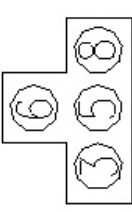
(VIEW FROM REAR SIDE)

**2-Way 6,3 Skt Housing**



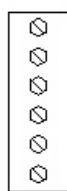
REAR VIEW

**4-Way 3,5 Skt Housing**



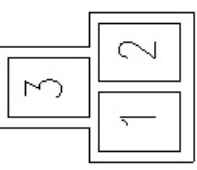
REAR VIEW

**6 Way Screw Terminal**



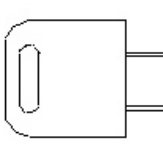
TOP VIEW

**3-Way Faston Housing**

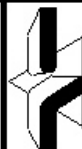


REAR VIEW

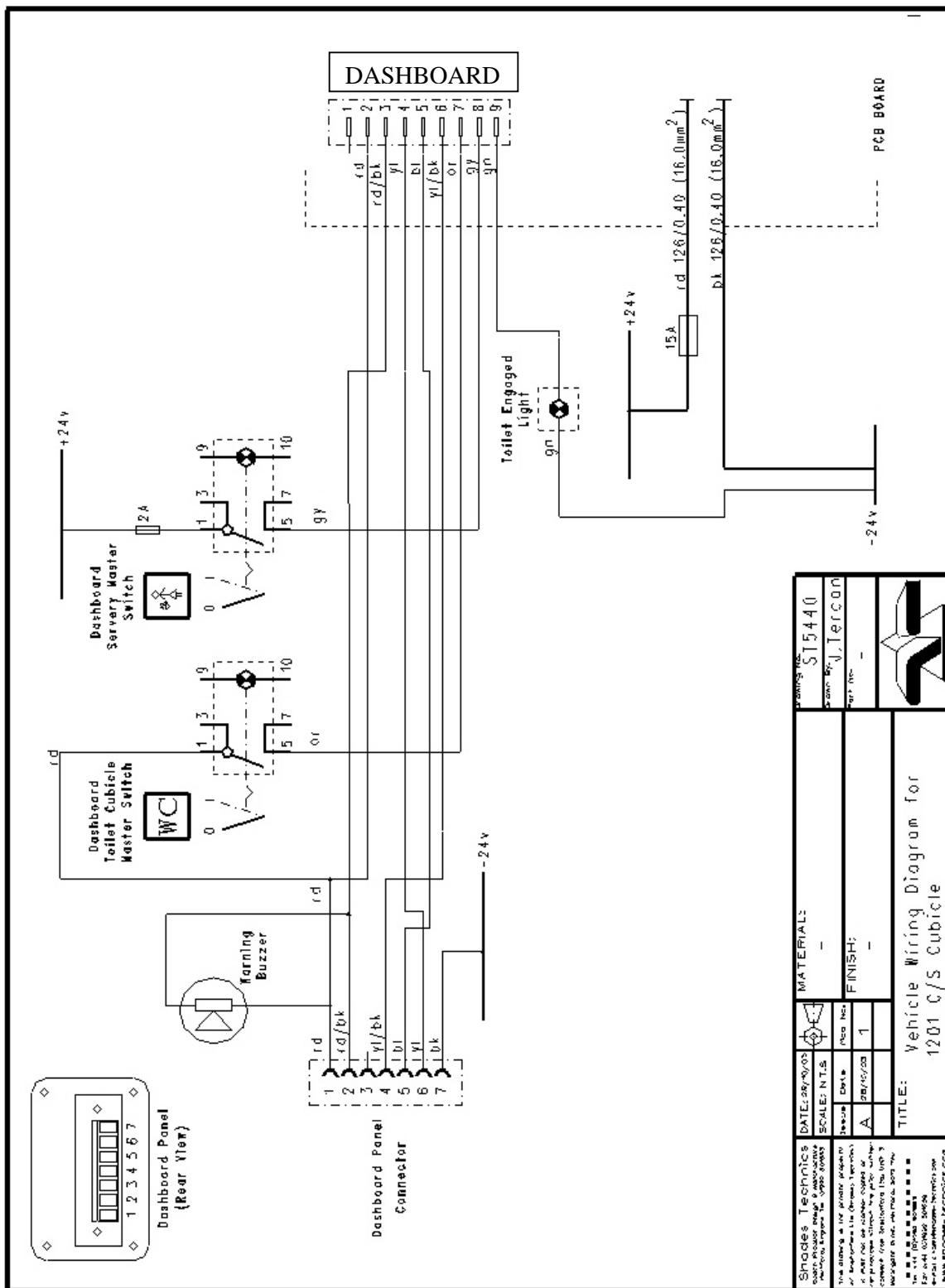
**Link (LK1)**




SIDE VIEW

<b>Shades Technics</b> Certified Electronics for 50+ Years This drawing is the private property of Shades Technics. It must not be loaned, copied or used without the written consent of Shades Technics. All rights reserved. © Shades Technics 2019. Website: www.shades-tech.com Email: info@shades-tech.com		TOLERANCES: mm - X ±10% .XX ±10% .XXX±10.00% ANGLES: X = 12°		DATE: 28/02/24 SCALE: N1:5 Desig. Date: A 28/02/24		MATERIAL: - FINISH: - SURFACE: 63 FINISH		TITLE: Pin and Connection Ref Diag		 Drawing No. ST5508
		DIMENSIONS ARE IN mm UNLESS OTHER WISE STATED		Part No. - Drawn By: J.Tercon						

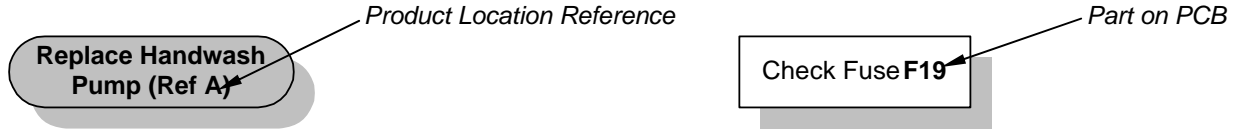
# VEHICLE WIRING DIAGRAM



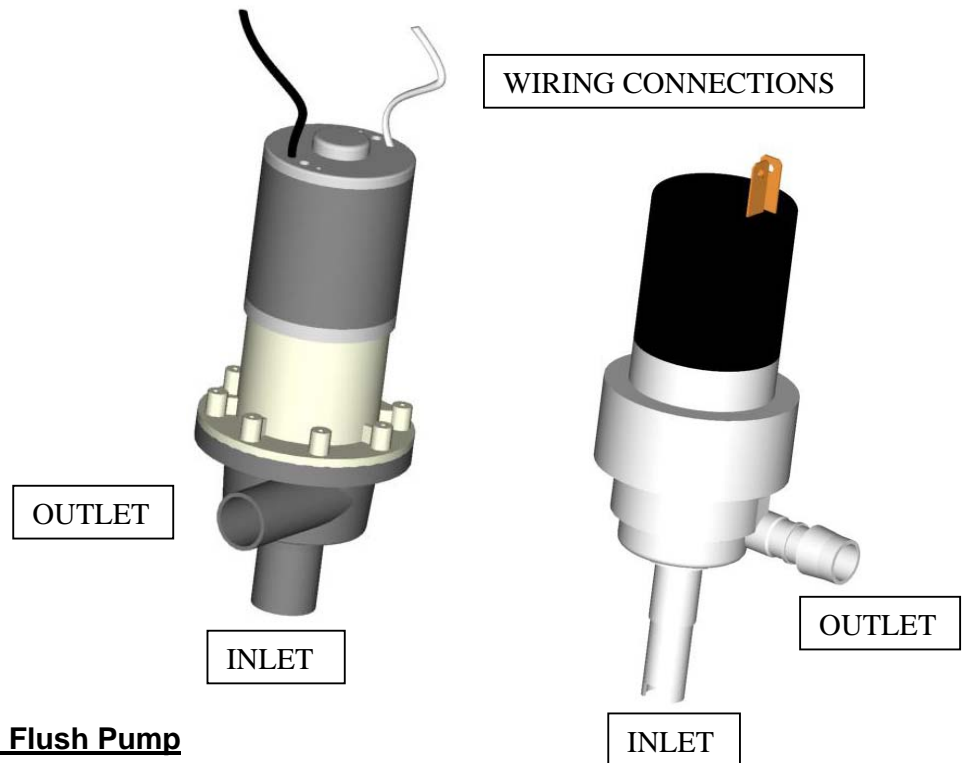
DATE: 28/05/03	SCALE: N.T.S.	REVISE: 1	DATE: 28/05/03	REVISE: 1
MATERIALS:			FINISH:	
TITLE: Vehicle Wiring Diagram for 1201 C/S Cubicle				
DRAWING NO. ST5440				
DRAWN BY: J. JERICAN				
				

# PARTS REFERENCE LOCATION

The following list helps identifies the location of parts described during the following Fault Analysis Flow Charts



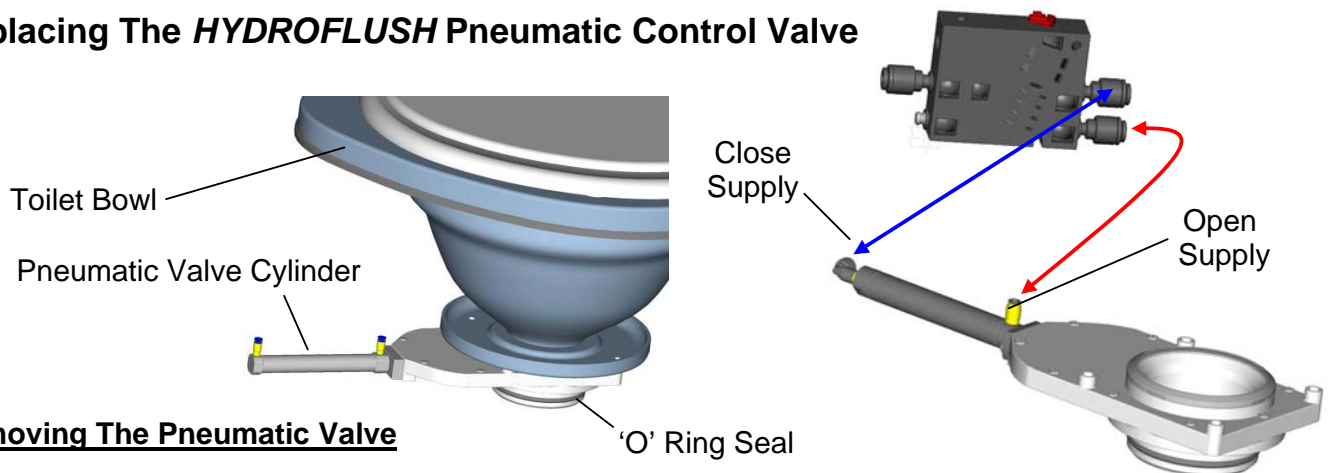
Ref	Part Description	Location in Cubicle or Vehicle	See Page/Item	Cat Number
A	Handwash Pump	Below the cubicle floor	page 18/1	
B	Pump Button	Worktop and Inner Vanity	page 13/1	
C	Timer Board	On PCB below the sink	page 14/4	
D	WC Pump	Below the cubicle floor	page 17/5	
E	HYDROFILTER	Behind cubicle aisle side panel	page 17/6	
F	Drinks Pump	Behind the inner vanity	page 18/2	
G	Pneumatic Valve Control Box	Behind cubicle vanity door panel	page 9/3	
H	Extractor Fan	Behind cubicle vanity door panel	page 12/4	
I	Solenoid Valve	Under the sink & next to the boiler	page 17/4	
J	Dashboard Panel	Dashboard	page 19/11	



## **Replacing The Handwash & Flush Pump**

1. Remove the rubber floor mat and unscrew the metal floor hatch plate.
2. Disconnect power supply to pump.
3. Open the drain valve to allow WC tank to drain.
4. Once WC tank is fully drained, disconnect the hose from the pump
5. Disconnect pump from WC tank.
6. Re-connect replacement pump to the WC tank, ensuring pipe is correctly fitted.
7. Re-connect hose to replacement pump.
8. Close drain valve.
9. Re-connect power supply to replacement pump.
10. Fill tank with water and prime pump by pressing corresponding button two or three times until the water flows.

## Replacing The *HYDROFLUSH* Pneumatic Control Valve



### Removing The Pneumatic Valve

- i) Ensure the vehicle engine is off and switch off the WC Master Switch **WC** on the dashboard
- ii) Lift the toilet seat and rim and unscrew the four fixing bolts holding the bowl to the cowling
- iii) Pull the bowl assembly upwards (twisting slightly from side to side) until the bowl is free from the soil tank and the plumbing connector to the flush nozzle is exposed.
- iv) Remove the connector to the nozzle and lift the bowl clear of the cowling.
- v) Disconnect the two air pipes to the pneumatic valve cylinder to the bottom of the bowl –

**CAUTION: As this air supply is from the vehicle (via the control valve), when it is disconnected the air pressure in the pipes will be at approx 8 bar and will cause the pipe to 'snake around' violently if it is not held firmly.**

- vi) Undo and remove the four fixing bolts holding the pneumatic valve to the bottom of the bowl and remove the valve assembly

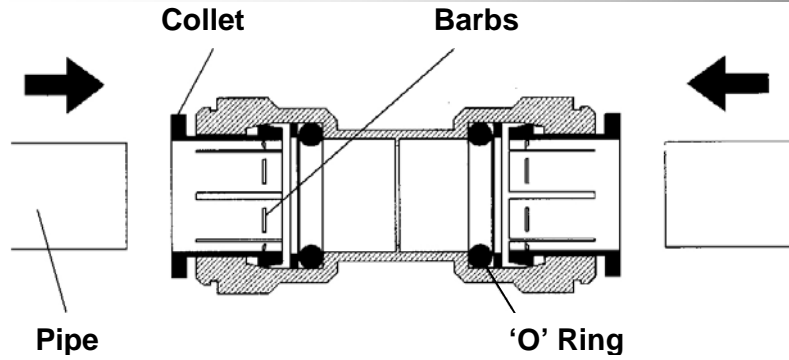
### Replacing The Pneumatic Valve

- i) Position the valve assembly on the bottom of the toilet bowl and secure in place with the bolts. **Tighten bolts to 6kgf.cm using a torque wrench. (A torque conversion chart is available on request)**
- ii) Smear grease or similar around the black 'O' ring on the pneumatic valve and introduce the bowl and valve assembly back into the aperture on the cowling
- iii) Reconnect the air pipes to the pneumatic valve cylinder and the plumbing pipe to the flush nozzle.
- iv) Push the bowl assembly back into the fitting on the soil tank and push down carefully but firmly until the bowl edge rests on the cowling top surface. Secure with the four bolts
- v) Start the vehicle engine and switch on the WC Master Switch. **Wait until the vehicle air pressure is at the maximum before attempting to flush the toilet**

## TORQUE CONVERSION FACTORS

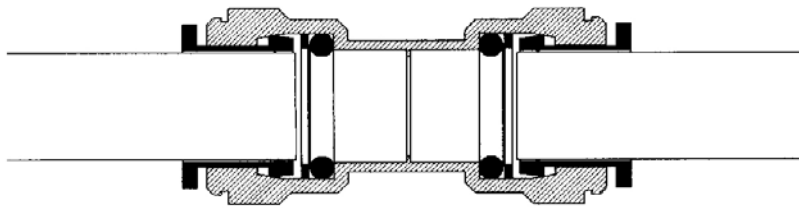
	<b>mN.m</b>	<b>cN.m</b>	<b>N.m</b>	<b>ozf.in</b>	<b>lbf.in</b>	<b>lbf.ft</b>	<b>gf.cm</b>	<b>kgf.cm</b>	<b>kgf.m</b>
<b>1mN.m</b>	1	0.1	0.001	0.142	0.009	0.0007	10.2	0.01	0.0001
<b>1cN.m</b>	10	1	0.01	1.416	0.088	0.007	102	0.102	0.001
<b>1N.m</b>	1000	100	1	141.6	8.851	0.738	1019	10.20	0.102
<b>1ozf.in</b>	7.062	0.007	0.007	1	0.0625	0.005	72	0.072	0.0007
<b>1lbf.in</b>	113	0.113	0.113	16	1	0.083	1152.1	1.152	0.0115
<b>1lbf.ft</b>	1356	1.356	1.356	192	12	1	13.826	13.83	0.138
<b>1gf.cm</b>	0.098	0.0001	0.0001	0.014	0.0009	0.000 07	1	0.001	0.000 01
<b>1 kgf.cm</b>	98.07	0.098	0.098	13.89	0.868	0.072	1000	1	0.01
<b>1 kgf.m</b>	9807	980 7	9 807	1389	86 8	7.233	100 000	100	1

# SERVICE INSTRUCTIONS



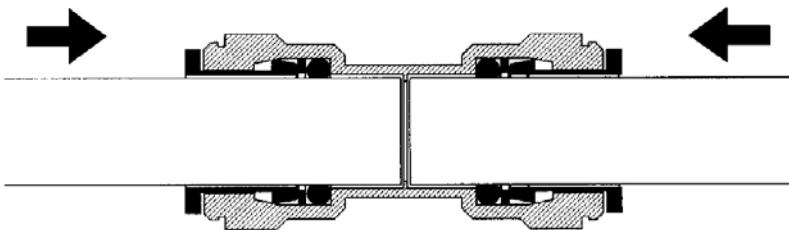
## PREPARATION

Cut the pipe square, ensuring it is free of score marks, burrs and sharp edges



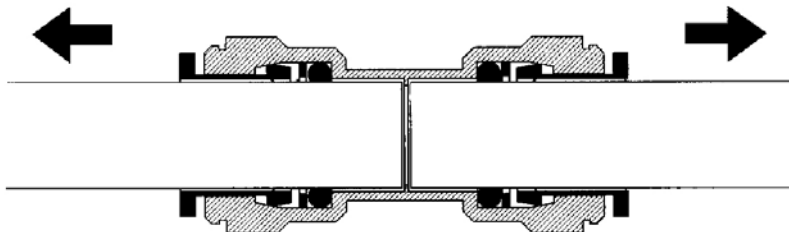
## INCOMPLETE CONNECTION

The pipe is gripped by the fitting but not sealed. The pipe must push 30mm into the fitting to seal



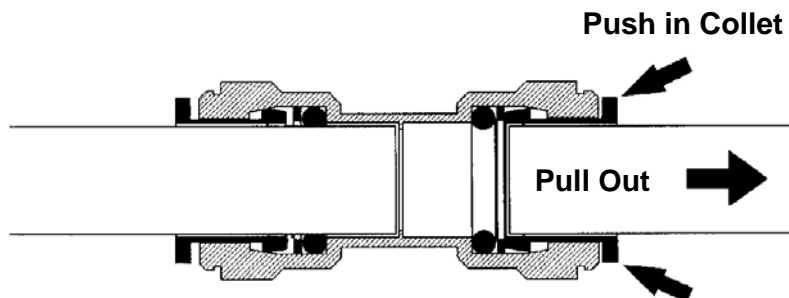
## COMPLETE CONNECTION

Push the pipe into fitting to the internal stop. The Collet has stainless steel teeth which grip the pipe whilst the 'O' ring provides a permanent leak-proof seal



## CHECK CONNECTION

Pull on the pipe to check it is secure. It is a good practice to test the system this way before use



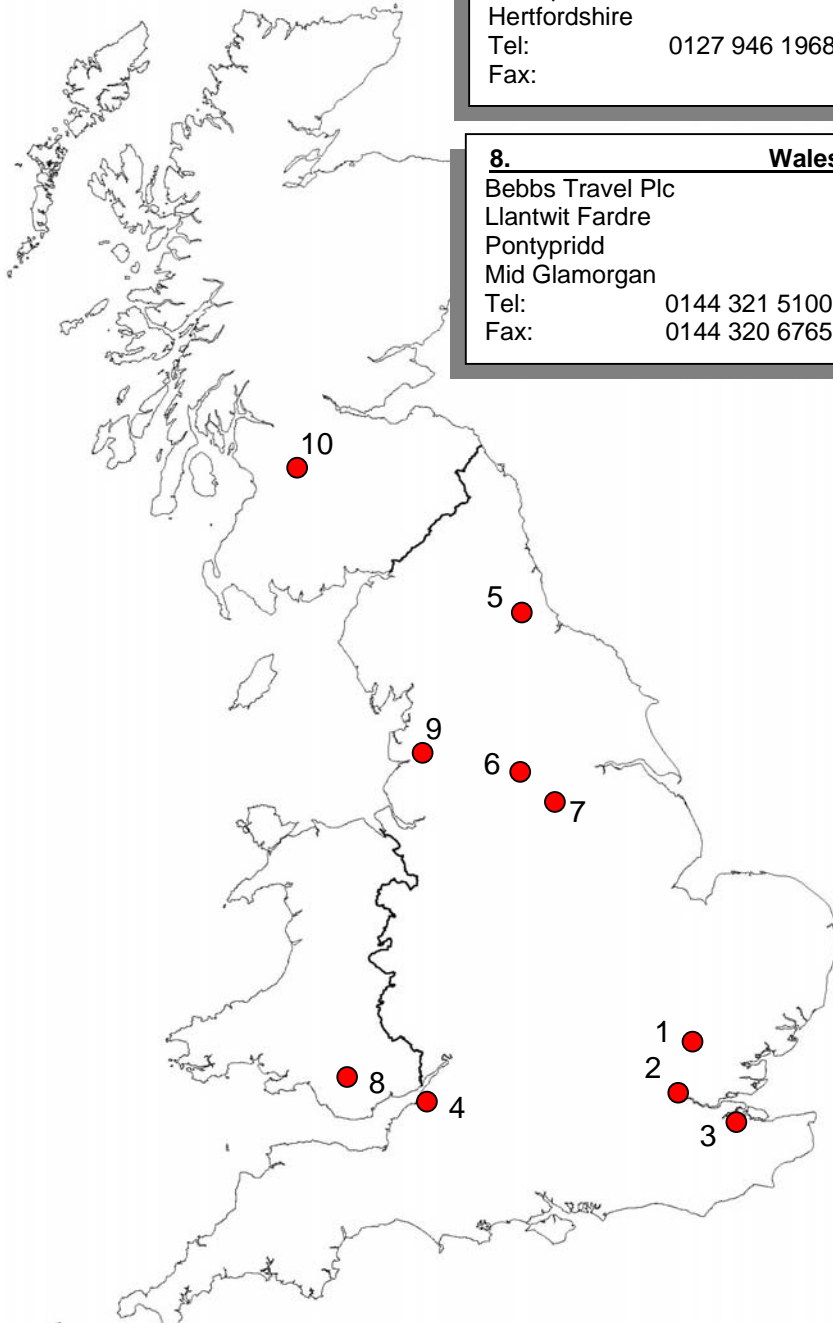
## DISCONNECTING A FITTING

Push in collet squarely against face of fitting. With the collet held in position, the pipe can be removed

**DO NOT INSERT FINGERS INTO THE FITTING AS THE STAINLESS STEEL TEETH MAY CAUSE INJURY**



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