

Technical Details and Index

SECTION

8



Technical Details

Installation Guidelines

- **Building Regulations** require that all points of discharge into a drainage system should be fitted with a trap (e.g. a water seal trap) to prevent foul air from the system entering the building. Under working and test conditions traps should retain a minimum seal of 25mm of water

Installation Requirements

All traps, waste pipe, waste fittings and soil fittings when installed in buildings should be installed in compliance with:

- Building Regulations 2000 (2002 edition) Approved Document H England and Wales
- The Building Standards (Scotland) Regulations 1990 (as amended)
- The Building Regulations (Northern Ireland) 2000 Alternatively the relevant recommendations of BS EN 12056-2:2000 should be followed

All traps should be accessible and provided with an adequate facility for cleansing, for example, traps are capable of being readily removed or dismantled. In general a trap which is not an integral part of an appliance should be attached to, and be immediately beneath, its outlet. However, traps that are not connected to the appliance should be as close as possible. There should be no more than one trap on the discharge pipework from any appliance



Trap Seals

- Traps with outlets for pipes up to and including DN50 should have a minimum water seal of 50mm on baths and showers, provided they are fitted with flush-grated wastes without plugs on spray-tap basins; 75mm trap seals should be used with all other appliances
- Traps with outlets for pipes over DN50 should have a minimum water seal of 50mm
- Traps used on appliances with flat bottoms (trailing waste discharge) and discharging to a gully with a grating may have a reduced water seal of not less than 38mm

MCAlpine manufacture 19mm water seal traps to meet market demand for replacement traps or for situations where space is limited. These traps should **not** be used in situations where a minimum 50mm water seal trap is required or where the waste pipe is connected to a soil stack

- **The table opposite is an extract for BS EN 12056-2:2000 Gravity Drainage Systems Inside Buildings**

Notes relating to table opposite

- (1) Steeper gradients permitted if pipe is less than maximum permitted length
- (2) If length is greater than 3m noisy discharge may result with an increased risk of blockage
- (3) Should be as short as possible to limit problems with deposition
- (4) Sharp throated bends should be avoided
- (5) For slab urinal for up to 7 persons. Longer slabs to have more than one outlet
- (6) Swept - entry branches serving WC's
- (7) Includes small potato-peeling machines
- (8) Tubular not bottle or resealing traps
- (9) Spray tap basin shall have flush-grated wastes without plugs

Appliance	Diameter (DN)	Min. Trap Seal Depth (mm)	Max. Length (L) of Pipe from Trap Outlet to Stack (m)	Pipe Gradient (%)	Max. Number of Bends (no)	Max. Drop (m)
Washbasin, Bidet (30mm diameter trap)	30	75	1.7	2.2 ⁽¹⁾	0	0
Washbasin, Bidet (30mm diameter trap)	30	75	1.1	4.4 ⁽¹⁾	0	0
Washbasin, Bidet (30mm diameter trap)	30	75	0.7	8.7 ⁽¹⁾	0	0
Washbasin, Bidet (30mm diameter trap)	40	75	3.0	1.8 to 4.4	2	0
Shower, Bath	40	50	No Limit ⁽²⁾	1.8 to 9.0	No Limit	1.5
Bowl Urinal	40	75	3.0 ⁽³⁾	1.8 to 9.0	No Limit ⁽⁴⁾	1.5
Trough Urinal	50	75	3.0 ⁽³⁾	1.8 to 9.0	No Limit ⁽⁴⁾	1.5
Slab Urinal ⁽⁵⁾	60	50	3.0 ⁽³⁾	1.8 to 9.0	No Limit ⁽⁴⁾	1.5
Kitchen Sink (40mm diameter trap)	40	75	No Limit ⁽²⁾	1.8 to 9.0	No Limit	1.5
Household Dishwasher or Washing Machine	40	75	3.0	1.8 to 4.4	No Limit	1.5
WC with Outlet up to 80mm ⁽⁶⁾	75	50	No Limit	1.8 Min.	No Limit ⁽⁴⁾	1.5
WC with Outlet greater than 80mm ⁽⁶⁾	100	50	No Limit	1.8 Min.	No Limit ⁽⁴⁾	1.5
Food Waste Disposal ⁽⁷⁾	40 Min.	75 ⁽⁸⁾	3.0 ⁽³⁾	13.5 Min.	No Limit ⁽⁴⁾	1.5
Sanitary Towel Disposal Unit	40 Min.	75 ⁽⁸⁾	3.0 ⁽³⁾	5.4 Min.	No Limit ⁽⁴⁾	1.5
Floor Drain	50	50	No Limit ⁽³⁾	1.8 Min.	No Limit	1.5
Floor Drain	70	50	No Limit ⁽³⁾	1.8 Min.	No Limit	1.5
Floor Drain	100	50	No Limit ⁽³⁾	1.8 Min.	No Limit	1.5
4 Basins	50	75	4.0	1.8 to 4.4	0	0
Bowl Urinals ⁽⁸⁾	50	75	No Limit ⁽³⁾	1.8 to 9.0	No Limit ⁽⁴⁾	1.5
Maximum of 8 WC's ⁽⁶⁾	100	50	15.0	0.9 to 9.0	2	1.5
Up to 5 Spray Tap Basins ⁽⁹⁾	30 Max.	50	4.5 ⁽³⁾	1.8 to 4.4	No Limit ⁽⁴⁾	0

Technical Details

Installation Information

Most individual products are supplied with detailed installation instructions. The following is general information

Trap Inlets

When connecting the Trap Inlet to the Waste Outlet, it is important to ensure that a proper 'seating' is obtained and it is therefore recommended that the Waste Outlet used be to British Standard or equivalent, otherwise difficulty may be experienced in obtaining a water tight joint. All Traps are supplied complete with inlet washers

Trap Outlets and Multifit Fittings see Page 2

For use with plastic pipes to BS EN 1451-1:2000 and BS EN 1329-1:2000, copper pipe (metric or imperial) and lead pipe. Fit as follows:

- Chamfer inside of pipe, if required to remove any burr or to enable plastic pipe to be eased over internal sleeve
- Remove nut, plastic friction washer and rubber olive from Trap or Fitting
- Push nut, plastic friction washer and rubber olive over pipe
- Push pipe over Internal Sleeve and into Trap or Fitting
- Connect nut and hand tighten

If a plastic pipe is undersize, or out of shape, the end may require to be warmed to enable it to be pushed over the Internal Sleeve and into the Trap or Fitting

Universal Trap Outlets and Fittings

Fit as Multifit but Internal Sleeve not applicable

Surefit Fittings see Page 50

To BS EN 1329-1:2000

For use with M^CAlpine HDPE Waste Pipe only. Fit as follows:

- Chamfer inside of pipe, if required to remove burr
- Remove nut and rubber washer from Fitting
- Push nut and rubber washer over pipe

- Push pipe into socket
- Connect nut and hand tighten

Pushfit Fittings see Page 55

For use with M^CAlpine Overflow Pipe. Fit as follows:

- Gently warm end of pipe - say 25mm
- Push Fitting inside or outside of pipe dependent on type of Fitting

Pipe Clipping

It is of the utmost importance that plastic pipe be properly supported as recommended below:

		Waste (m)	Overflow (m)
Horizontal:	Every	0.5	0.5
Vertical:	Every	1.2	1.2



Product Information**Shower Traps with Top Access see Pages 22-27**

All M^CAlpine Shower Traps with top access surpass the minimum required flow rate of 24 litres per minute when tested in accordance with clause 5 of BS EN 274-2:2002

M^CAlpine flow rates are calculated when the Traps are tested under a constant 15mm head of water. Some manufacturers quote test results when their traps have been tested under a constant 120mm head of water

This is confusing and misleading as 120mm head of water in relation to shower tray installations is not normally achievable on modern shower trays

However, it should be noted that the M^CAlpine High-Flow High-Performance and Vertical Outlet range of Shower Traps, illustrated on pages 22 and 23, have a discharge rate exceeding 50 litres per minute when tested under a constant 15mm head of water

Flow rates for individual Shower Traps available upon application

Code **WC-CON8F18**



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Code **VP50P**

**Traps and Waste Outlet Fittings see Sections 1 and 7**

All Traps, Waste Outlets and Overflows for kitchen sinks, shower trays, wash basins, bidets and baths meet the dimensional, performance, materials and marking requirements of EN 274-1:2002

Bath Fillers see Page 18

M^CAlpine Bath Fillers have the following flow rates:

.5 Bar pressure produces 25 litres per minute

1 Bar pressure produces 40 litres per minute

2 Bar pressure produces 50 litres per minute

Condensate Products see Pages 14-15

M^CAlpine Traps and Fittings for connecting condensate discharge from condensing boilers to sanitary pipework meet the requirements of BS 6798:2000 and Building Regulations Approved Document H

Shower and Floor Gullies see Section 2

Shower and Floor Gullies are manufactured to comply with EN 1253-2:1999

Surefit Waste System see Page 50

Surefit Waste System is manufactured to comply with BS EN 1329-1:2000

MACFIT WC Connectors see Pages 62 and 63

MACFIT WC Connectors are manufactured to comply with BS 5626:1984

Rigid WC Connectors see Pages 66-67

Rigid WC Connectors are manufactured to comply with BS 5627:1984 and German Standard DIN 1389-2

Flexible WC Connectors see Pages 64-65

Flexible WC Connectors are manufactured to comply with German Standard DIN 1389:2001-05 and have LGA Approval, Certificate Number 0120208-02

Air Admittance Valves (Ventapipe) see Section 6

Air Admittance Valves (Ventapipe) are manufactured to comply with BS EN 12380:2002 and have LGA Approval

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TSGCONV	41	USG2WH	33	VP100N	72	WC-EXTC	67	WS3	86
TSGCONVSS	41	USG2T-B	38	VPSF-40/50	72	WC-EXTD	67	WS5	86
TSGSTOP	41	USG2T6SS	35			WC-F18R	64	WU1A	89
TT10	9	USG2T6WH	35	W		WC-F18S	64	WU1S	89
TUN-1	58	USG2T8WH	35	W1	78	WC-F21R	65	WU10	89
TUN-2	15/46/58	USG2-T150SS	35	W1A	78	WC-F21S	65	WU11	89
TUN-3	58	USG3-R125SS	35	W1C	78	WC-F23P	65	WU20	89
TUN-3CP	58	USG3SS	33	W3	82	WC-F23PV	65		
TUN-4	58	USG3SS-SL-SC	33	W4	80	WC-F23R	64	X	
TUN-4CP	58	USG3SS-SL-NSC		W5	80	WC-F23RV	64	X10	9
TUN5-CL	58		33	W10	55	WC-F23S	64	X10V	9
TUN-6	58	USG3WH	33	W11	55	WC-F23SV	64	X10A	9
TUNFLOW1	60	USG3T-B	38	W20	55	WC-F26P	65		
TUNFLOW2	60	USG3T6SS	35	W21	55	WC-F26PV	65	Y	
TUNKIT-1	59	USG3T6WH	35	WC17-110	68	WC-F26R	64	Y10	9
TUNKIT-3	59	USG3T8WH	35	WC17-114	68	WC-F26RV	64		
TUNVALVE	58	USG3-T150SS	35	WALLFLANGE-CP32		WC-F26S	64	Z	
TV1	11	USGLEG1	41		49	WC-F26SV	64	Z1	48
TV2	11			WALLFLANGE-CP35		WCTRAP4P	21	Z5M	47/57
TWL-18	55	V			49	WCTRAP4S	21	Z8A	48
TWS-18	55	V1	55	WALLFLANGE-CP42		WF1	19	Z8B	48
TWLFBR	56	V1L	50		49	WF21	19	Z8M	47
TWLFCV	57	V1M	46	WC-BP1	68	WF21-SP	20	Z11M	47/56
TWILF	57	V1MX	46	WC-CON1	66	WHIF-1	89	Z18L	50
		V1MX-CO	15	WC-CON1V	66	WHIF-1A	89	Z18M	50
U		V8	55	WC-CON2	66	WHIF-2	89	Z21A	47
UPSW-1	88	V8L	50	WC-CON2B	66	WHIF-2A	89	Z23	48
UPSW-2	88	V8M	46	WC-CON3	66	WHIF-3	89	Z23L	50
UPSW-2-22MM	88	V15M	46	WC-CON4	66	WHIFDISC	89	Z23M	47
UPSW-3	88	V21L	50	WC-CON4A	66	WM1	10	Z23MR	51
UPSW-3-22MM		V23L	50	WC-CON4B	66	WM2	10	Z28L	50
	88	V24L	50	WC-CON5	66	WM2V	10	Z28L-ISO	46
UPSW-4-22MM		V33L	11/50	WC-CON5B	66	WM3	10	Z28M	46
	88	V33S	11/50	WC-CON6	66	WM3-CAP	10	Z29	46
USG1-R125SS	35	V33S-22	59	WC-CON7	66	WM4	11	Z30	50
USG1SS	33	V33T	59	WC-CON7A	66	WM11	10	Z31M	47
USG1SS-SL-SC	33	V33T-FP	59	WC-CON7B	66	WM12	10	ZP10	8
USG1SS-SL-NSC		V33WM	10	WC-CON8	67	WM14	10	ZP10V	8
	33	V34L	11/50	WC-CON8E	67	WM15	10	ZS26L	46
USG1WH	33	VP1	73	WC-CON8F	65	WMF3	11	Z28M-NRV	48
USG1T-B	38	VP1W	73	WC-CON8F18	65	WMF4	11	Z28M-NRV5	48
USG1T6SS	35	VP2	73	WC-CON8FV	65	WP1	90	ZS31M	47
USG1T6WH	35	VP2W	73	WC-CON8V	67	WP1T	90	ZT26L	46
USG1T8WH	35	VP3	73	WC-CON9	67	WP2	90	ZT31M	47
USG1-T150SS	35	VP4	73	WC-CON9V	67	WP2H	90	ZWILF	57
USG2-R125SS	35	VP15M	73	WC-CON16	66	WP2T	90	ZWLFBR	56
USG2SS	33	VP50	72	WC-CONQ	67	WP3	90		
USG2SS-SL-SC	33	VP50P	72	WC-CONQP	67	WP3T	90		
USG2SS-SL-NSC		VP50-100	72	WC-EXTA	67	WP4	90		
	33	VP100	72	WC-EXTB	67	WP4T	90		