

IGEM/UP/1B EDITION 4 – INSTALLATION & PURGE VOLUMES

DEREK'S LIVE WORKSHOP • Complete the blank boxes as Derek fills in his sheet

Calculate installation volume (IV), assess the applicable pressure-drop limit and calculate purge volume (PV).

1. INSTALLATION VOLUME (IV)

Meter type: _____ Pipe material: _____

Pipe size	Length (m)	Volume (m³)
15 mm		
22 mm		
28 mm		
35 mm		
A) Pipe volume Multiply each length by its material/size factor and add.		
B) Pipework + fittings Add actual fittings volume to A. If fittings volume cannot be calculated, use A × 1.1.		
C) Meter volume (Table 7)		
D) Total installation volume B + C		
E) Applicable pressure-drop limit Use IV in D and the correct fuel table, subject to the conditions below.		

SCOPE: IV above 0.035 m³ is outside UP/1B. Other scope limits also apply; select the correct standard for the fuel and installation.

PURGING: Follow the full fuel-specific procedure in Section 6. The 0.02 m³ division applies to the natural-gas route, not all fuels.

2. PURGE VOLUME (PV)

TOTAL INSTALLATION VOLUME

from box D

m³

× 1.5 =

m³

$$PV = IV (D) \times 1.5$$

3. PERMISSIBLE DROPS

Individual dwellings with existing appliances.
Pipework must be proved tight and there must be no smell of gas. Follow the full test and reinstatement procedure.

Fuel gas	Installation volume (m³)	Maximum drop
LPG/air	≤0.025	1.5 mbar
(Table 2)	>0.025 to ≤0.035	0.5 mbar
Natural gas	≤0.005	8 mbar
(Table 3)	>0.005 to ≤0.010	4 mbar
	>0.010 to ≤0.015	2.5 mbar
	>0.015 to ≤0.035	1 mbar
LPG	≤0.0025	2 mbar
(Table 5)	>0.0025 to ≤0.005	1 mbar
	>0.005 to ≤0.010	0.5 mbar
	>0.010 to ≤0.035	No perceptible movement

Pipework/new-appliance tests require no perceptible movement. If appliance isolation is not reasonably practicable, the retest with appliances connected must show no perceptible movement.

PIPE VOLUMES (m³ PER METRE)

STEEL / STAINLESS STEEL	
15 mm / ½ inch	0.00024
20 mm / ¾ inch	0.00046
25 mm / 1 inch	0.00064
32 mm / 1¼ inch	0.0011

COPPER	
15 mm	0.00014
22 mm	0.00032
28 mm	0.00054
35 mm	0.00084

METER INTERNAL VOLUME (m³)	
G4 / U6	0.008
U16 / G10	0.025
E6	0.0024

Use for volume calculations, not the meter index reading.



FREE EDITION 4 CALCULATOR

Scan to check your working
when Derek prompts you.

YOUR WORKING / NOTES

Starting meter index: _____ m³ + purge volume: _____ m³ = calculated index: _____ m³