

- 4) Apply internal pressure by using the hand pump or compressor, being careful not to apply over 0.5 bar of pressure.
- 5) The water level in the 'U' gauge will rise – a reading of approx. 125/150mm is desired
- 6) Leave the set up for 5-10 minutes, the level should not drop below 75mm – if this is achieved it constitutes a 'pass'.
- **NEVER** – Try to use stoppers for high pressure tests

11. WATER TESTING

- Bypass stopper may be used to conduct water tests, please contact MGF for more details.

12. DEFLATION

- If the stopper is retaining a head of water or pressure or air it is essential to release the pressure prior to deflation.
- If this is not possible it is imperative that the stopper is securely braced or fastened in place to prevent it becoming dislodged during deflation.
- When securing the stopper never rely on the inflation hose as a means of securing it, instead use a chain or rope fastened to the tug ring/eyebolt of the stopper.
- **NEVER** – Lift a stopper using the inflation hose

13. STORAGE

- Store stoppers out of direct sunlight in a clean, dry area.

14. DISCLAIMER

- Failure to adhere to the instructions provided with the equipment may invalidate any claims with respect to damage, death or injury due to misuse or malfunctioning of the apparatus.

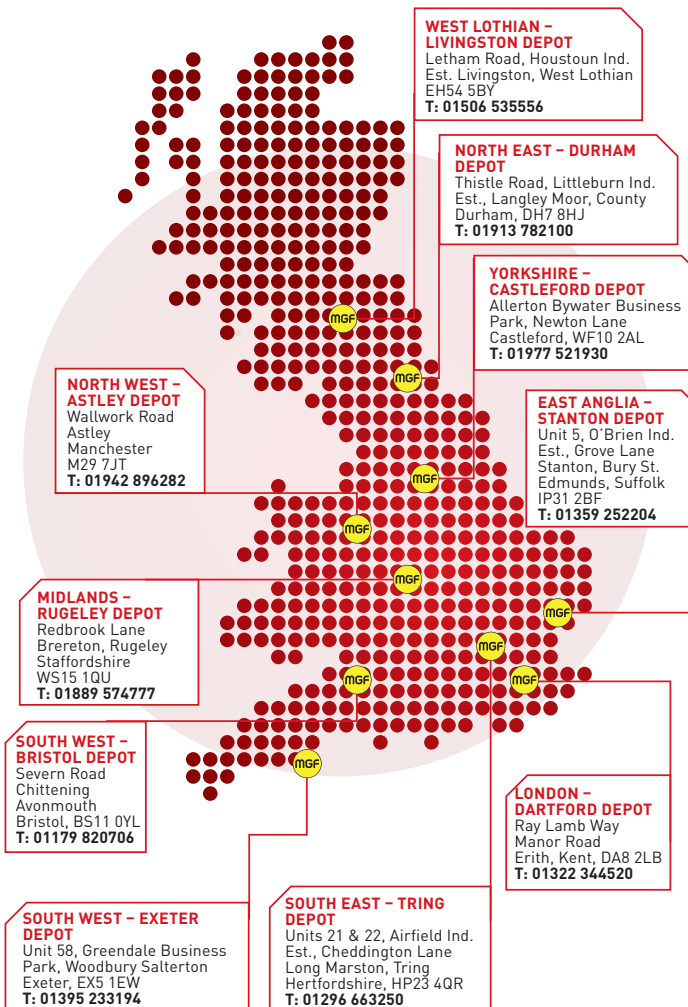
WARNINGS

- **ALWAYS** – Use the MGF-supplied pressure relief valve or compressor controller
- **ALWAYS** – Clean area of pipe to receive stopper
- **ALWAYS** – Check valves do not leak using soapy water
- **ALWAYS** – Store stoppers out of direct sunlight
- **ALWAYS** – Check the diameter of the pipe before use, to ensure it does not exceed the maximum diameter of the stopper
- **NEVER** – Inflate stoppers over sharp protrusions
- **NEVER** – Lift the stopper using the inflation hose
- **WARNING** – Over-inflated stoppers can burst, potentially causing serious accidents.
- **WARNING** – All stoppers must be braced, failure to do so could result in damage, serious injury or death



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USER GUIDE: BYPASS PIPE STOPPER FOR QUICK AND RELIABLE PIPE SEALING



**PLEASE READ & UNDERSTAND THIS USER GUIDE
PRIOR TO COMPILING A SAFE SYSTEM OF WORK
AND USING THE EQUIPMENT SUPPLIED**

For the latest version of this document visit mgf.co.uk

1. IMPORTANT NOTES

- For the use of MGF supplied equipment only.
- Ensure potential users are fully trained in the operation of this equipment and a site specific safe system of work is in place and adhered to.
- It is essential that site specific risk assessments are undertaken.
- If in doubt concerning the integrity of any part of the equipment DO NOT USE IT.
- Ensure the correct stopper has been supplied for size of the pipe, an over-stretched stopper can burst.
- Before using a stopper, it is necessary to establish the maximum back pressure it will need to withstand. Back pressure can be very high as seen from the table below:

Pipe Diameter (cm)	Pipe Area (cm ²)	Total thrust on end surface of stopper (kg)		
		Water Head 2m	Water Head 3m	Water Head 5m
20	314	62	94	157
40	1256	251	376	628
60	2826	565	874	1413
80	5024	1004	1507	2512
100	7850	1570	2355	3925
120	11310	2262	3393	5655
140	15374	3078	4618	7697

2. MGF EXAMINATION AND TESTING

- Upon return to MGF the equipment will be cleaned, inspected and function tested by a competent and trained MGF safety technician.

3. VISUAL INSPECTION/FUNCTIONAL TEST - PRIOR TO USE

- Before the start of each use ensure that the equipment is clean and free from debris and there are no obvious defects.
- Ensure that the item has a green tag, stating when it was last inspected.
- Each item comes with a unique ID number, please ensure this can be found.

4. VETTER BYPASS PIPE STOPPER

- You have been supplied with a durable expandable pipe stopper designed to be inflated in a round pipe and, when suitable braced, to withstand a maximum back pressure of 0.5 bar.
- Bauer couplings allow rigid or lay flat hose to be connected to the stopper, taking the flow above ground via a pump or by gravity through the area of work.

- You have also been supplied with:
 - A hand pump or 12V compressor
 - A pressure relief valve (max pressure 1.5 bar)
 - Red 10m inflation line with male/female couplings
 OR
 - Compressor controller
 - Red 10m inflation line with male/female couplings
- It is also possible to inflate a stopper from an air cylinder

5. SIZE RANGE

Range	Max Inflation Pressure (bar)		Diameter Approx (mm)	Cylinder Length (mm)	Air Req Approx. (litres)	Weight (kg)	Max Back Pressure (bar)
	Inside Pipeline	Outside Pipeline					
100/200	1.5	0.5	97	485	27	2.2	0.5
200/500	1.5	0.5	195	550	143	7.0	0.5
500/800	1.5	0.5	450	565	310	32.0	0.5
500/1200	1.5	0.5	450	920	1420	42.5	0.5

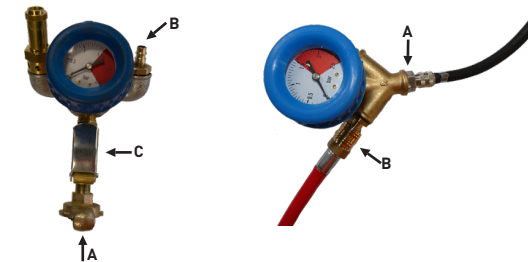
6. BEFORE INFLATION

- Before installation of a stopper the internal surface of the pipe should be cleaned of all debris from the area where the stopper will be situated.
- Make sure there are no protrusions that could damage the stopper.
- It is advisable that a small security line should be attached to the stopper and tied off to prevent the possible loss of the stopper during deflation.
- Before use, check diameter of the pipe to make sure it does not exceed the maximum diameter of the stopper.
- **NEVER** – Inflate stoppers over sharp protrusions
- **ALWAYS** – Clean area of pipe to receive stopper
- **ALWAYS** – Check the diameter of the pipe before use, to ensure it does not exceed the maximum diameter of the stopper

7. INFLATION USING COMPRESSOR CONTROLLER

- The compressor controller is equipped with a standard claw coupling that will fit into any building site compressor line.
- It contains a safety relief valve to eliminate the possibility of over inflation of the stopper.
 - 1) Connect air supply to claw (A).
 - 2) Connect male coupling (B) to the female coupling on the red inflation line.
 - 3) Connect the male coupling on the red inflation line to the female coupling on the pipe stopper.
- 4) Gently depress the control lever (C) until the stopper is inflated. The pressure gauge will indicate the internal pressure of the stopper. If the maximum inflation pressure is exceeded the pressure relief valve will activate, release the control lever immediately in this situation.

- 5) Once the stopper has been inflated remove the red inflation line.
- **WARNING** – Over-inflated stoppers can burst, potentially causing serious accidents



8. INFLATION USING 12V COMPRESSOR OR HAND PUMP WITH PRESSURE RELIEF VALVE

- 1) Connect the male coupling on the hand pump or compressor hose to the female coupling on the pressure relief valve (A).
 - 2) Connect the female coupling on the red inflation line to the male coupling on the pressure relief valve (B).
 - 3) Connect the male coupling on the red inflation line to the female coupling on the pipe stopper.
 - 4) Inflate the stopper using the 12V Compressor or Hand Pump, the pressure relief valve will activate at 1.5 bar.
 - 5) Once the stopper has been inflated remove the red inflation line.
- **ALWAYS** – Use the MGF-supplied pressure relief valve
 - **WARNING** – Over-inflated stoppers can burst, potentially causing serious accidents

9. BRACING

- **WARNING** – All stoppers must be braced, failure to do so could result in damage, serious injury or death

10. AIR TESTING

- Bypass stopper may also be used to conduct an air test.
- MGF can supply a testing plate that attached to the bauer fitting on the stopper, and a 'U' Gauge for conducting the test.
 - 1) Connect the red inflation line male coupling into either of the female couplings situated in the centre of the testing plate.
 - 2) Before internal pressure is applied place the 'U' gauge hose into the left-hand connector on the 'U' gauge and connect the free end of the hose into the free female coupling in the centre of the plate.
 - 3) Fill the 'U' gauge to approx. ¾ level by pouring clean water into the open end of the 'U' gauge assembly and sit firmly on a flat area or push the pointed base into soft ground to secure upright.