

## General Considerations

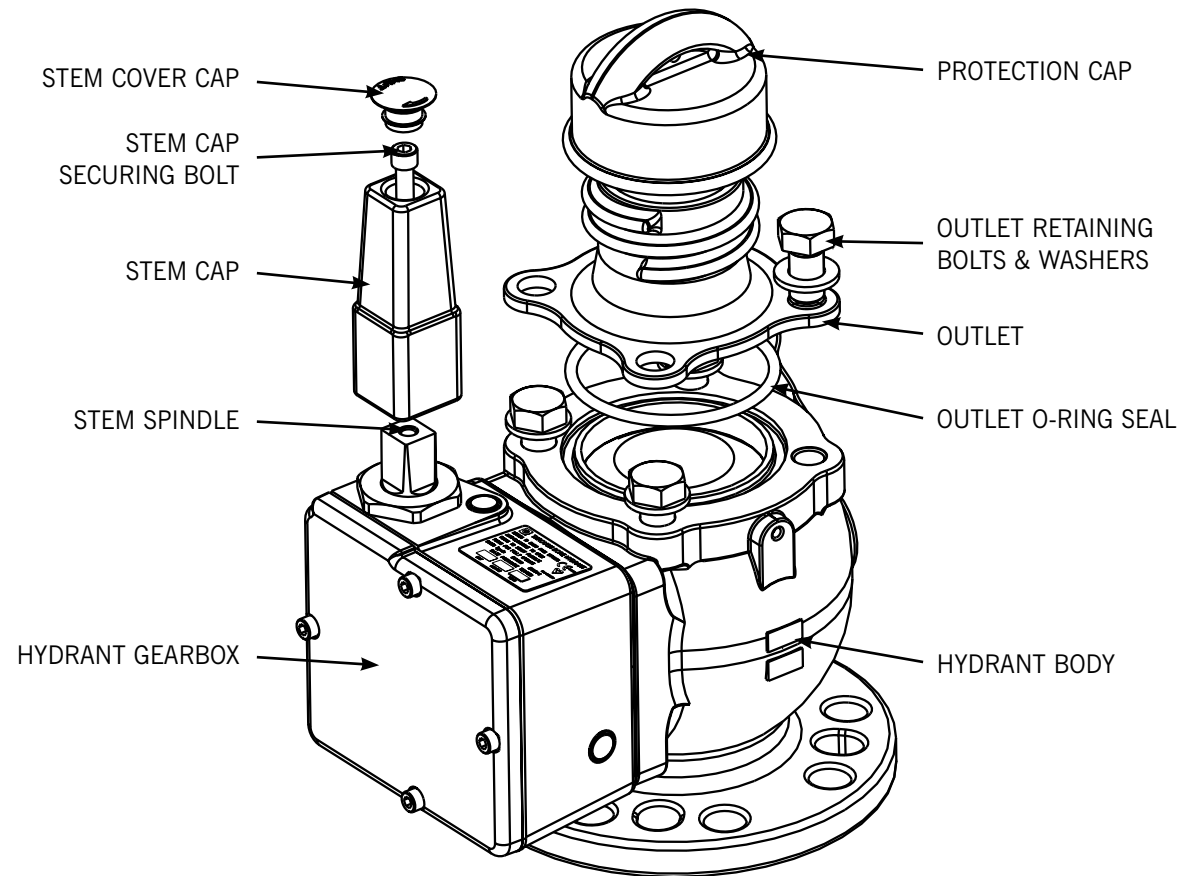
**Caution:** The through bore valve outlet is directly above the inlet and opening the valve will cause water to jet directly upwards towards the operator.

### Do not

- Open the valve with the outlet disconnected from appropriate pressure containing equipment
- Use the valves for services/applications for which the product is not designed or approved for CPR purposes
- Over torque the operating stem. The valve operates to stops at the closed and open position. Additional torque could damage the valve
- Allow excessive side, bending loads or excessive shock loadings to act on the outlet when used in hydrant or access mode
- Exceed the recommended working conditions

### Always

- Ensure the valve is closed before removing the outlet
- Ensure the valve is insulated from temperature below 0°C to prevent freezing
- Ensure the protective cap is placed on the outlet after use to prevent ingress of foreign bodies and liquids



SPARES ITEMS					
General Assembly Drawing Number	Item Description	Component Drawing Number	Quantity	Viking Johnson Product Code	Viking Johnson Spares Description
13302	Stem Cap	13303	1	VJ17490	Through Bore Hydrant Stem Cap Replacement Kit
13302	Socket Screw - Cap Head	13180	1		
13302	Stem Cover Cap	13157	1		
13302	St Steel London Round Thread Outlet	13194	1	VJ16639	Through Bore Hydrant St Steel London Round Thread Outlet Replacement Kit
13302	O Ring	13173	1		
13302	Bolt Hex Head	13183	4		
13302	M16 Washer	13182	4		



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Revolutionary

# Through Bore Underground Fire Hydrant Installation Instructions



Performance in compliance with BS 750, BS EN14339



PIPE CONNECTIONS, REPAIR & FLOW CONTROL PRODUCTS FOR THE UTILITIES INDUSTRY

The Viking Johnson Through Bore Hydrant is a compact valve for use as an underground fire hydrant and additionally allowing direct access to the main for a wide range of repair and maintenance activities such as pipeline swabbing, camera insertion, ice pigging, leak detection, hydrant riser cleaning, pipeline internal repairs, pipe and flow monitoring, line stopping, pipe lining, network modelling etc.

### Installation / Preparation

- Ensure valve inlet flange matches the drilling of the riser pipe flange
- Remove dust caps/flange protectors where fitted
- Ensure the riser pipe flange is clean flat and free from debris or loose corrosion
- Ensure the flange connecting bolts are the correct length to ensure they do not make contact with the underside of the hydrant valve after tightening
- Install the hydrant using a suitable flange gasket between the riser flange and the inlet flange of the valve
- Torque the flange connecting bolts evenly to the correct torque for the size of bolt
- The valve should be placed in a chamber which allows full access to the stem and outlet
- Follow appropriate guidelines and good practice in the commissioning of the valve

### Valve Location:

The Viking Johnson Through Bore Fire Hydrant is suitable for below ground installation where operation and use is in the vertical position.

The valve should be located such that it provides allowance for freedom of access to the operating mechanism and threaded outlet.

Location of Valve should always comply with the relevant regulations with respect to their location as a Fire Hydrant.

### Operating Conditions:

The Valve is suitable for the following operating conditions:

- For use only with clean or potable water. Meets the requirements of BS EN 1074-6
- Use as Fire Hydrant
- Use for direct access to main
- Suitable for Group 2 liquids only, in particular clean and potable water
- Maximum operating temperature 50°C
- Minimum operating temperature 0°C. Insulation is required to prevent freezing below 0°C
- Storage temperatures between -20°C and 70°C (valve should be stored in the partially open condition) Caution when handling valves at extreme temperatures, appropriate PPE must be worn
- Maximum operating pressure 16 bar
- Hydraulic characteristics:
  - With London outlet fitted – Kv 171 minimum
  - London outlet removed – Kv > 300
- Maximum through bore diameter with London outlet removed – 80mm
- Direction of operation – Anti-clockwise to open
- Number of turns from fully open to fully close – 7.5
- Number of turns to commence flow – 1.5
- Torque to close / open – 105 Nm maximum
- Inlet flange details: BS10 table A, D & E and BSEN 1092, PN 10,16
- No corrosion or erosion allowance has been taken into account

### Operation

#### Use as Hydrant:

**Note:** The through bore hydrant in the closed position has the obturator located beneath the outlet. The valve is constantly charged with pressurized liquid.

**Caution:** Valve must have stand pipe or other appliance capable of 16 bar working pressure securely connected to the London outlet before operation of the valve to avoid personal injury from water jet.

Always ensure flange connecting bolts are correct length to avoid contact with underside of valve body or gearbox body.

Flange connecting bolts should be tightened evenly in a sequence that ensures that the flange is not overstressed.

Operation of the hydrant is by Tee-Key directly onto the stem cap.

To open, using a Tee-Key turn the Stem Cap located on the stem anticlockwise until fully open against the stop.

To close, turn the Tee-Key clockwise until fully closed against the stops.

#### Use as Through Bore Access to Main:

Access can be made with the London outlet in situ or removed. For best through bore diameter clearance, the London outlet should be removed by removing the 4 bolts which connects the outlet to the hydrant body, this will provide an internal bore of approx 80mm.

**Caution:** Valve must have the outlet flange connected to external pressure containing means before operation of the valve to avoid personal injury from water jet.

To open, using a Tee-Key turn the stem cap located on the stem anticlockwise until fully open against the stop.

To close, turn the Tee-Key clockwise until fully closed against the stops.

When the valve is fully open through bore access to the main is possible using appropriate launch equipment for operations such as pipeline swabbing, camera insertion, ice pigging, leak detection, hydrant riser cleaning, pipeline internal repairs, pipe and flow monitoring, line stopping, pipe lining, network modelling, line stopping, etc.

Where abrasive medium is being extracted from the main through the valve a suitable sleeve should be launched into the bore of the valve to protect the seat from damage. (Contact Viking Johnson for details)

When replacing the London outlet ensure threads are clean and dry in body and replace O ring gasket if required.

LONDON OUTLET BOLT TORQUES		
Size	Quantity	Torque
M16 x 25 mm long	4	95 - 110 Nm

**Caution:** Always ensure that the protective cap is placed on outlet when not in use. Always ensure that the valve is closed should a pressure cap be fitted.

### Maintenance

The hydrant valve is designed to be maintenance free.

It is however recommended that the valve is operated periodically during long periods of inactivity

If it is required to replace outlet and its seal or replace the cap top the following procedure is recommended:

#### Replacement of Outlet and Seal

- Ensure that the hydrant is closed at all times during the operation
- Remove the 4 off fixing bolts and washers retaining the outlet
- Remove the outlet and its o ring gasket
- Ensure that the sealing area and surrounding mating surfaces on the valve are clean and free from contaminants and that threaded bolt holes in the valve body are not corroded, damaged or contaminated
- Carefully place new o ring into position ensuring its full circumference is located correctly in the groove
- Place new outlet on valve ensuring bolt holes are aligned and the o ring is not dislodged
- Replace the m16 bolts and washers and torque to 70lbs ft (95Nm)

#### Replacement of Cap Top

- Ensure that the hydrant is closed at all times during the operation
- Remove the plastic cap located in the top of the cap top
- Using a suitable Allen Key remove the fixing cap-screw located in the recess in the top of the cap
- Pull off the cap top
- Ensure the spindle is clean and that the threaded screw hole in the top of the stem is free from contaminants or damage
- Locate new captop over spindle ensuring that it is located correctly on the stem flats
- Replace the cap-screw and tighten firmly, the additional use of a thread lock adhesive will assist in improving the security of the fixture



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