Stormwater360

Fox Valve DD600

Operation & Maintenance Guidelines

This manual is the property of the owner/operator.
This manual should be read by all personnel

1.0 INTRODUCTION

The Fox DD600 is a demand driven diversion system designed for use in a wash area that will be left clean at the end of a wash activity. It is ideally suited to activities such as mechanical parts, cars and equipment washing.

It is most important that the area is left clean as there is no protection for the environment when a washdown is not taking place. Should the area not be able to be left clean the Fox First Flush System would be recommended (FF600).

The system is designed to automatically divert all tradewaste generated by washdown to treatment while diverting rain to stormwater, meeting local authority's requirements. Washwater primarily contains levels of oils, grease, detergents and suspended solids which are unacceptable for discharge to stormwater.

No washdown during a rain event, refer to local authority.

This manual should be read by all personnel using the equipment.

Good housekeeping practices of your bunded area and the diversion chamber will ensure correct operation of your diversion valve system and protect your waste treatment process. Generally the advice here is to use common sense and try to limit the amount of solids and silt from entering the system. Drainage systems are designed for liquids only.

2.0 PROCESS DESCRIPTION

All runoff is drained to the Fox DD600 through the grated inlet and silt basket which hold back silts, solids and free floating debris. All drains and silt traps must be checked periodically and kept clean of debris and silt. This is to protect the diversion valve and your waste treatment process as well as being a mandatory requirement of Council Tradewaste Regulations.

When the washdown tap is turned on the Demand Valve will send a signal to the Fox Diversion Valve. The valve will open and all washdown water will be directed to the holding tank. All washdown equipment used in the area must be located downstream of the Fox Demand Valve. Hoses and taps other than those downstream of the Demand Valve should not be used in the area.

When washdown finishes and the tap is turned off the Diversion Valve will close preventing any rainwater from entering your tradewaste/treatment system. Allowing rainwater to go to treatment and the Sewer system is a chargeable offence under Council Tradewaste Laws.

During a rain event (when no washdown is taking place) runoff will exit the chamber via the stormwater outlet.

The area must be left clean at the end of a washdown activity as there is no protection for the stormwater network when a washdown is not taking place.

3.0 EQUIPMENT SPECIFICATIONS

DD600

Chamber.....6mm Medium Density Polyethylene (MDPE)
Silt Basket.....600mm sq MDPE
Grate.....600mm sq Galvanised Medium or Heavy Duty

DIVERSION VALVE

Model.....DV150
Flow Rate.....1200ltrs/min at 0.5mtr head
Min. Opening Pressure.....100Kpa
Body.....Gunmetal
Shaft .....Stainless Steel
Flange.....Nylon
Diaphragm.....Nitrile Rubber
Gasket.....Nitrile Rubber
Maximum Operating Temp.....40c

DEMAND VALVE

Model.....DMV25
Body.....Gunmetal
Stem.....Stainless Steel
Seals.....Nitrile Rubber/Polyurethane
Maximum Inlet Pressure.....1400KPa
Maximum Operating Temp.....40c
Minimum Operating Flow Rate.....1/2 Litres Per Min

DRIVE LINE.....½" Copper (not supplied)

4.0 HOUSEKEEPING

Site maintenance is a mandatory requirement of Council Trade-waste Regulations. Inspection and cleaning should be carried out on a regular basis – scheduling will be dependent on the systems usage.

DO NOT LEAVE THE CHAMBER UNATTENDED WITH THE GRATE OFF.

The following housekeeping instructions are intended to ensure this system continues to work properly, protecting your business and the environment.

- Remove obstructions from the grate, such as rags, scraps and plastic bags.
- Remove and empty silt basket into a collection bin or similar.

  DO NOT CLEAN THE SILT BASKET ON THE WASH SLAB OR IN THE BUNDED AREA.
- While the silt basket and grate are off the chamber, visually inspect the Diversion Valve to make sure that it's not clogged with silt or obstructions.
- Check that the Diversion Valve is operational by turning on a tap beyond the Demand Valve. The valve should open when the tap is turned on and close once the tap is turned off.
- Wash out the collection chamber.
- Check the Diversion Valve seals. With the tap off pour a bucket of water into the chamber. If the water drains away the diversion valve requires attention. Call Stormwater360 0800 STORMWATER.

NOTE: Silt will clog the diversion valve ONLY when the plumbing downstream of the valve builds up with silt. House cleaning should be carried out on a regular basis to keep silt from entering the holding tank and pipework, and eventually clogging the valve.

5.0 TROUBLESHOOTING

A regular service should be carried out by an authorized technician to prevent unnecessary failure/damage of the system and to maintain the warranty.
Note: Water should bleed from the delay jet in the chamber when the system is in use. (Caution: water expelled at pressure)

POSSIBLE CAUSES OF PROBLEMS

- Demand Valve needs adjustment/servicing.
- Driveline blocked.
- Delay Jet blocked.
- Debris blocking the Diversion Valve.
- Ruptured diaphragm in the Diversion Valve. Service and replace.

5.1 DIVERSION VALVE WILL NOT OPEN/CLOSE

NOTE: If holding tank is full the Diversion Valve may be open but the pit contents have nowhere to drain to. Check the level in the holding tank before continuing.

- Check for leaks downstream of the Demand Valve.
- Remove the Grate and Silt Basket from the chamber.
- Check for debris under the sealing lip of the Diversion Valve. If the Valve is blocked turn on the hose connected to the wash tap and wait for the Diversion Valve to fully open before hosing around the valve to clear the chamber.
- With the washdown tap off, check if water is ejecting from the Delay Jet (in the Bleed Valve Assembly) in the chamber. If water is noticed ensure that no taps are on in the area.

- Remove the Driveline from the Demand Valve. Turn the washdown tap to approx ¼" flow to activate the Demand Valve. If water doesn't flow from the Driveline connection point, adjust the Demand Valve Stem. (Loosen lock nut on bottom of stem first.) Refer to Drawing A4-DM-5001: Demand Valve Adjustments.
- With the washdown tap on water should be coming from the Delay Jet in the chamber. If not remove the drive line from the Bleed Valve and check. The drive line may be blocked.
- If valve still does not close it is a mechanical fault in the Diversion Valve. A service call will be required. Please call Stormwater360 at 0800 STORMWATER for assistance.

5.2 DEMAND VALVE

☐ Remove ½" Drive Line from the Demand Valve.

☐ Slowly turn on the tap downstream of the Demand Valve.

☐ Water should eject from the Drive Line connection when tap is at approximately ¼ flow. When tap is turned off no water should flow from the Drive Line connection.

☐ To Adjust the Demand Valve refer to Drawing A4-DM5001-Demand Valve Adjustments on the next page.

Project: Servicing Instructions

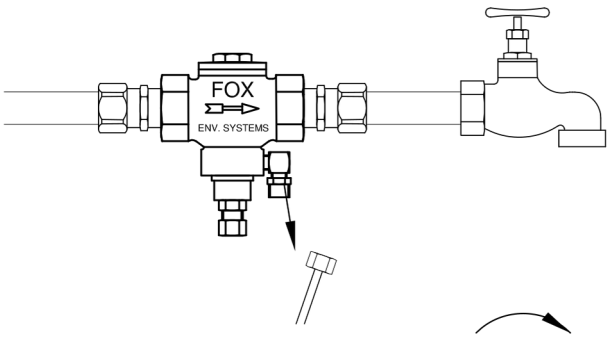
Drawing Title:

Demand Valve Adjustments

Drawn By:	R.O'B.
Date:	08-01-2020
Scale:	NTS
Drawing No:	A4 - DM-5001

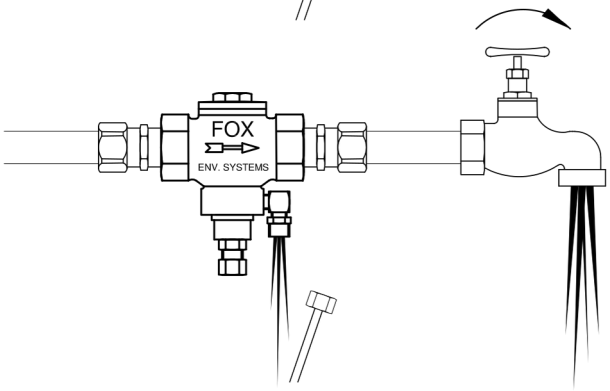
STEP 1

Remove Drive Line from Demand Valve.



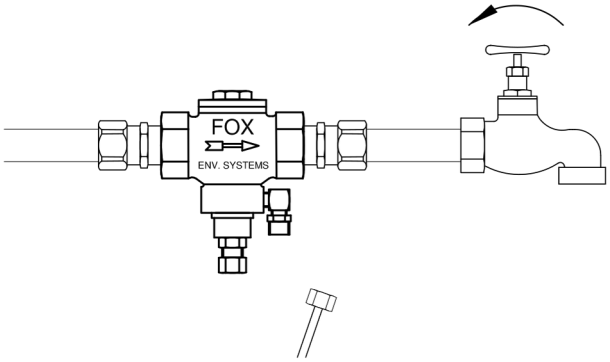
STEP 2

Turn on tap to activate Demand Valve. Tap should be approximately at $\frac{1}{4}$ flow.



STEP 3

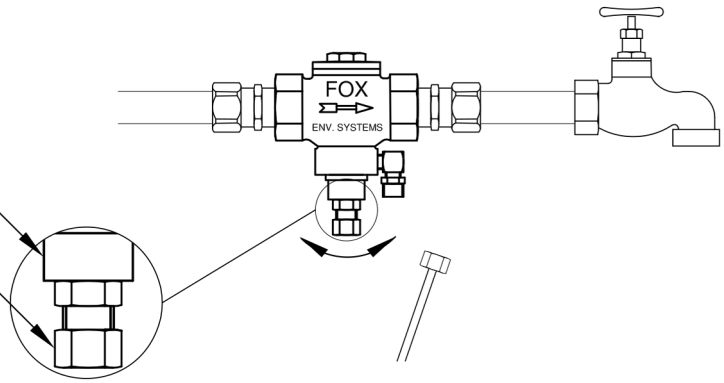
Turn tap off. Demand Valve flow should cease.



STEP 4

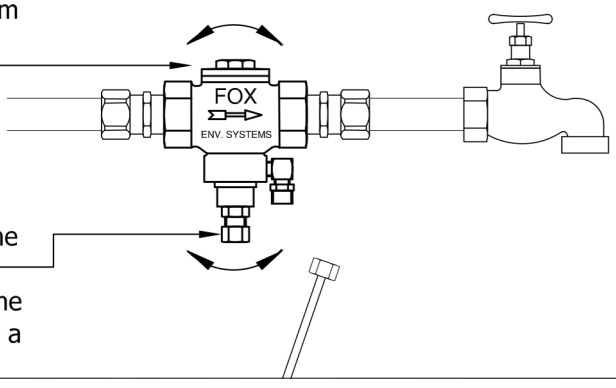
If numbers 2 & 3 can not be achieved, adjustment may be necessary. Using the appropriate spanner ($\frac{3}{4}$ AF) slacken the Valve Stem Lock Nut, then adjust the Valve Stem to achieve the correct flow.
NOTE: Screwing Adjuster Tube in makes the Demand Valve less sensitive.

Check Demand Valve setting again after locknut has been tightened.



STEP 5

If flow from the Driveline doesn't stop when the Valve Stem is fully screwed in, there will be a service issue with the valve.
-Isolate the water supply prior the the RPZ.
-Remove the Top Cap, Piston and Spring to ensure that no debris (such as thread tape) has entered the valve.
If the valve is clear, remove the Valve Stem and inspect the O-rings and sealing tip for damage.
(In areas where hard water is passing through the valve the sealing tip can be eroded and may need to be replaced by a Valve Stem with a stainless steel tip.



6.0 INSTALLATION INSTRUCTIONS FOR DD600

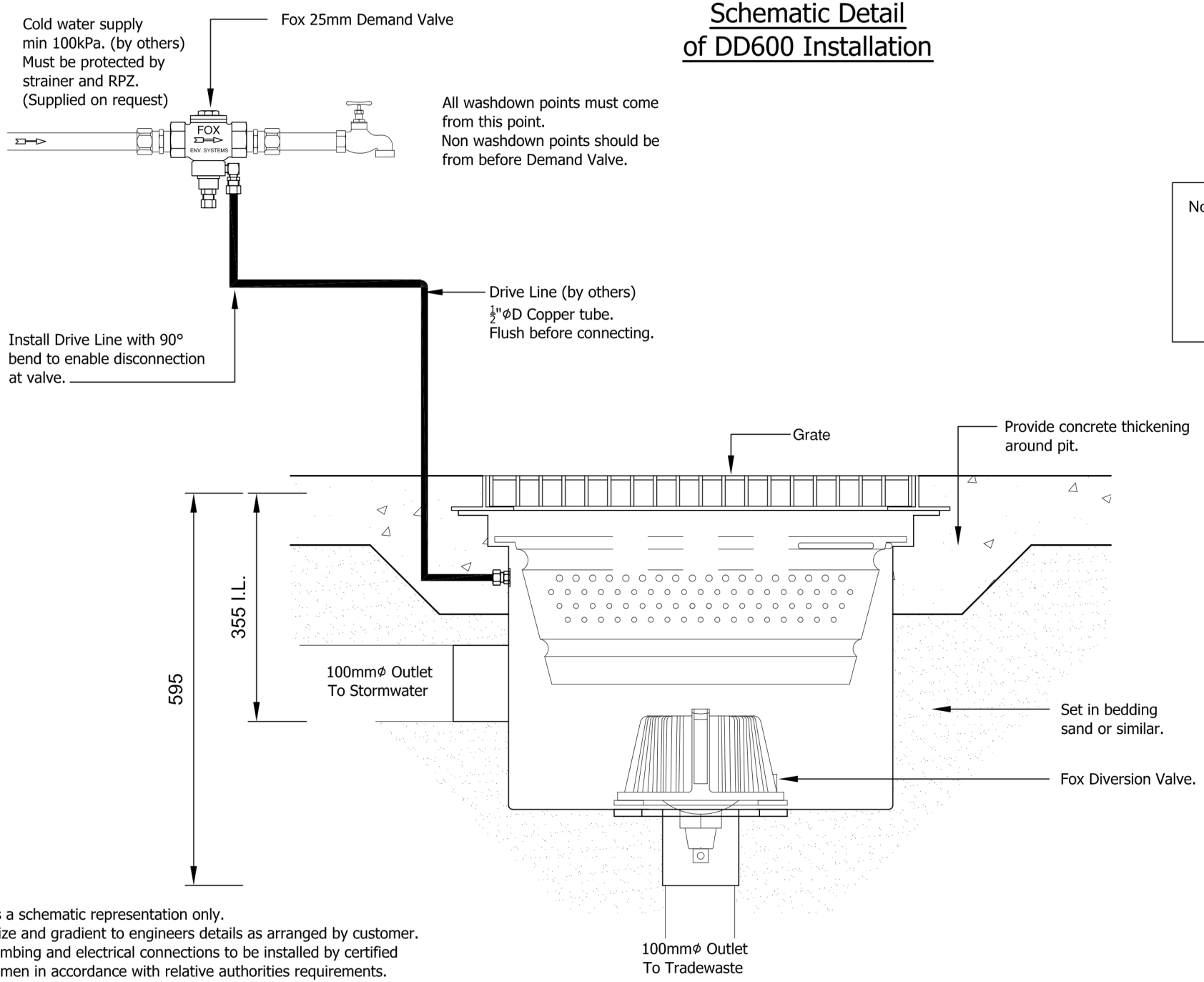
To be read in conjunction with Drawing A4-INST-1003.

½" Copper Driveline for connection from the Demand Valve should be in place when the concrete is poured.

1. Place the DD600 chamber in the excavation and level. Connect 100mm pipework to the Stormwater and Tradewaste outlets using Furnco or Rubber Ring fittings. (If the diversion valve is to be installed under the ORG level a reflux valve may need to be installed under the diversion valve.)
2. Connect the Fox Demand Valve to the mains water supply after a line strainer and RPZ. (Supplied on request) Flush the mains line before connecting. All washdown equipment must be located beyond the Demand Valve. Hoses and taps other than those downstream of the Demand Valve should not be accessible in the area.
3. Connect the ½" copper drive line to the Demand Valve. Install with a 90° bend to enable disconnection at the valve.
4. **Flush the ½" driveline thoroughly before connecting** to the Bleed Valve Assembly at the chamber. Connect the drive line to the compression fitting at the chamber only after the installer is sure it is clear of debris.
5. Backfill and concrete around the chamber. **Before pouring concrete the chamber must be braced internally to prevent distortion.** When pouring concrete around the chamber make sure that excessive concrete does not distort the chamber walls. **Do not vibrate. Do not ram.** Both these operations will distort the chamber walls.

PLUMBING FITTINGS
Valves and fittings shown are those generally required to operate the DD600 system. We do not warrant that this arrangement will be in accordance with all local by-laws. Waste will probably require pre-treatment before discharge to sewer. It is the responsibility of the installer to ensure that the installation is inspected by and to the satisfaction of the relevant local authority

Schematic Detail of DD600 Installation



Note: Do not distort pit walls when compacting concrete. Do not vibrate concrete near pit. If installed in bitumen a concrete collar must be provided.

Note:
This is a schematic representation only.
Slab size and gradient to engineers details as arranged by customer.
All plumbing and electrical connections to be installed by certified tradesmen in accordance with relative authorities requirements.
Tradesmen to be engaged by the purchaser.
System to be approved by relative Local Authorities before Installation.

FOX Environmental Systems

Project: Installation Instructions

Drawing Title: DD600 System

Drawn by:	J.F.S.
Date:	20/01/2020
Scale:	NTS
Drawing No:	A4 - INST-1003

7.0 WARRANTY

All products that are supplied by Stormwater360 are warranted to the original owner (not necessarily the purchaser) of the equipment in accordance with the following Limited Warranty.

The warranty is only valid when the system is operated and maintained in accordance with the manufacturer's instructions. If service of the system is not carried out on a regular basis the warranty of your system will be affected and a callout fee will apply.

The warranty offered is for the repair or replacement of any part or component manufactured by Fox or their subcontractors that fails due to defects in materials or workmanship for a period of 12 months. To obtain service under this warranty the owner should contact Stormwater360 and advise the nature of their concern, the model and serial number of the unit and the date of purchase. If required the component must be returned at the sender's expense. A replacement item, which at the discretion of Fox, may be the original component following repair, a reconditioned or new item, will be returned at our expense. Should it be determined that the part is not covered by warranty the owner will be responsible for the payment of any costs involved in the supply of replacement parts, including shipping and handling.

All components supplied under this warranty will be covered by a further warranty equal to the remainder of the original limited warranty or 90 days, whichever is the longer. All components replaced under warranty become the property of Stormwater360 and may be used for whatever purpose they deem suitable.

The warranty will be void if the Fox DD600 System is not installed as per manufacturer's instructions and if an in-line strainer is not installed prior to the Fox Demand Valve. Warranty will also be void if water pressure exceeds 1400 kPa. The warranty is only valid when the system is operated and maintained in accordance with the manufacturer's instructions, and service of the system is carried out on a regular basis. The Commissioning-in report must be completed, signed & returned to Stormwater360.

SERVICE

Stormwater360 advise that Spill Sensing & Diversion systems be serviced on a minimum 6 monthly basis by Service Personnel authorized by Fox. For information regarding persons qualified to carry out service works, please Stormwater360.

PLUMBING

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