Stormwater360

FoxValve DD600

Operation & Maintenance Guidelines

DRAFT (for site-specific guidelines email maintenance@stormwater360.co.nz)

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

INTRODUCTION:

The FoxValve (Model 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, trucks or heavy 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 trade waste generated by washdown to treatment, while allowing rain to exit to the stormwater network, meeting local authorities' requirements. Washwater primarily contains levels of oils, grease, detergents and suspended solids which are unacceptable for discharge to stormwater.

An option is available to cut off the supply wash water during a rain event in areas where this is a Council requirement.

Good housekeeping practises of your bunded area and the diversion chamber will ensure correct operation of your 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.

Distributor:

Stormwater360 NZ is the distributor of FoxValve in New Zealand under licence from Fox Environmental Systems. For maintenance and general enquiries please contact the office via: Telephone: 0800 STORMWATER or Email: info@stormwater360.co.nz

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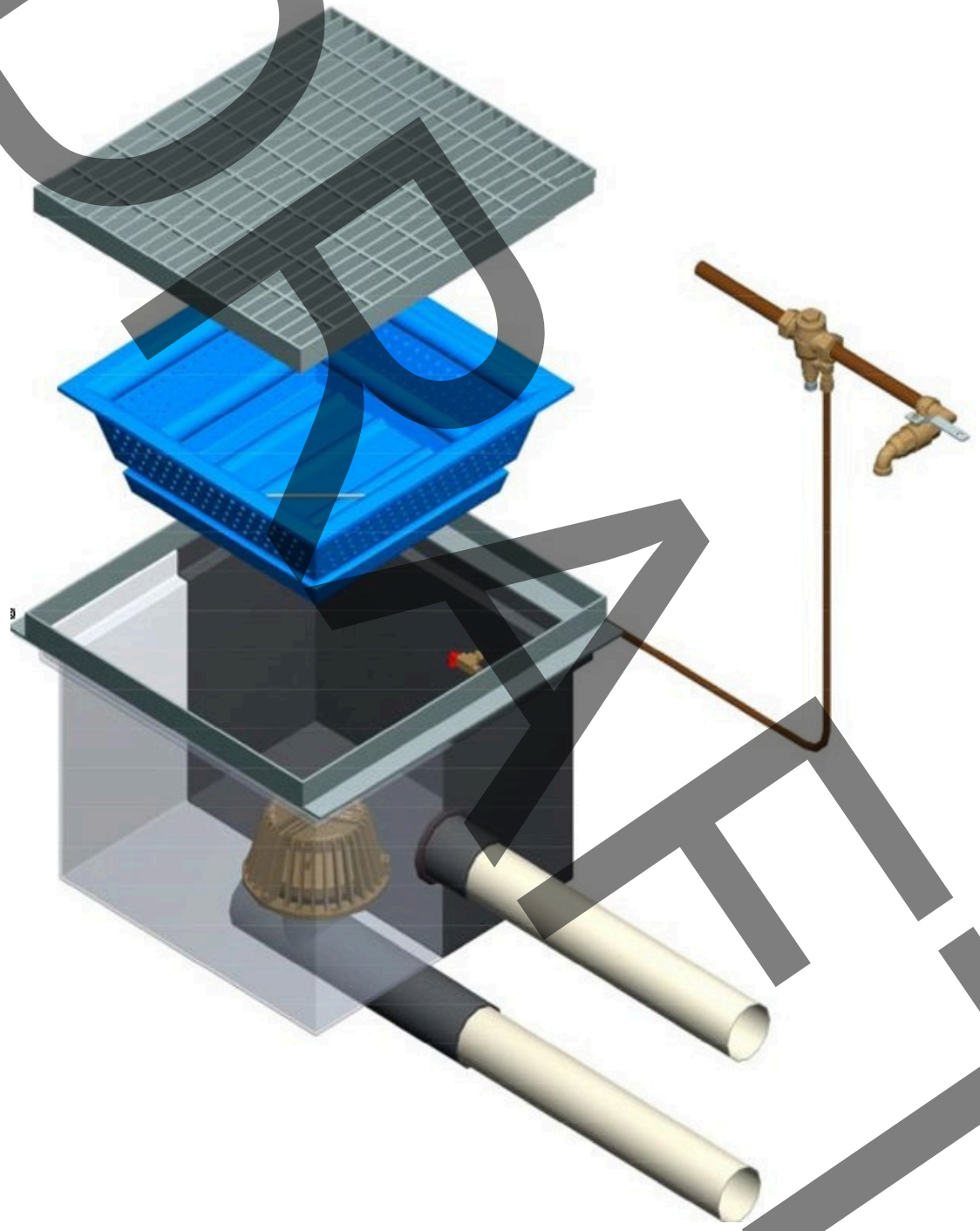

Process Description:

All runoff should be presented to the Fox DD600 through the grated inlet and silt basket, which holds 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 for Council Trade Waste Regulations.

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

When washdown ceases the Diversion Valve will close, preventing any rainwater from entering you trade waste treatment system. Allowing rainwater to go to treatment and the sewer system is a chargeable offence under Council Trade Waste 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.

Equipment Specifications:

FoxValve DD600	
Pit/Chamber	6mm Medium Density Polyethylene (MDPE)
Silt Screening	600mm sq MDPE
Grate	600mm sq Galvanised Medium Duty
Diversion Valve	
Model	DV150
Flow Rate	1200L/min at 0.5 mtr head
Min. Opening Pressure	100KPa
Body	Gunmetal
Shafts	Stainless Steel
Flange	Nylon
Diaphragm	Nitrile Rubber
Gasket	Nitrile Rubber
Demand Valve	
Model	DMV25
Valve Body	Gunmetal
Valve Stem	Stainless Steel
Seals	Nitrile Rubber/Polyurethane
Max. Inlet Pressure	1400 KPa
Drive Line	
	12.7mm Copper (not supplied)

Maintenance:

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 Pit unattended with the grate off

The following housekeeping instructions are intended to ensure that 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 traps into a collection bin or similar. **Do not clean the silt basket on the wash slap or in the bunded area.**
- While the silt trap and grate are off the pit, visually inspect the Diversion Valve to make sure it is 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 pit.
- Check the Diversion Valve seals. With the tap off, pour a bucket of water into the FFPM pit. If the water drains away, the Diversion Valve requires attention. Call Stormwater360 on 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 done on a regular basis to keep silt from entering the holding tank and pipe work and eventually clogging the valve.

Trouble Shooting:

A regular service should be carried out by an authorised technician to prevent unnecessary failure/damage to the system and to maintain the warranty. Please read the following in conjunction with the drawings in Appendix C.

(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.

Diversion Valve Will Not Open/Close:

Note: If the holding tank is full the Diversion Valve may be open, but the chamber contents will 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 the water doesn't flow from the Driveline connection point, adjust the Demand Valve Stem. (Loosen lock nut on bottom of stem first). Ref 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 driveline from the Bleed Valve and check. The driveline may be blocked.
- If the valve still does not close it is a mechanical fault in the Diversion Valve. A service will be required. Please call Stormwater360 on 0800 STORMWATER for assistance.

To Check the Demand Valve:

- Remove 12.7mm Driveline from the Demand Valve.
- Slowly turn on the tap downstream of the Demand Valve.
- Water should eject from the Driveline connection when tap is at approximately ¼ flow. When tap is turned off no water should flow from the Driveline connection.
- To adjust the Demand Valve, refer to drawing A4-DM5001-Demand Valve Adjustments.

Installation Instructions for DD600:

These instructions are to be read in conjunction with drawings A4-INST-1003.

12.7mm 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 Trade Waste 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 Demand Valve to the mains water supply after a liner 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 12.7mm copper driveline to the Demand Valve. Install with a 90° bend to enable disconnection at the valve.
4. **Flush the 12.7mm driveline thoroughly before connecting** to the Bleed Valve Assembly at the chamber. Connect the driveline 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 pretreatment 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.

Warranty:

Warranty will be void if

(a) 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.

(b) Water press exceeds 1400KPa