# PRESSURE WASHER CALIBRATION PROTOCOL

It is important that disinfectants are applied at the proper dilution rate. Too diluted and the disinfectant is not effective, too concentrated and money is wasted.
It is also important that the right amount of disinfectant is used for the surface area you are disinfecting.

To test the dilution rate of your equipment use a measuring cup as the disinfectant reservoir to see how much disinfectant your equipment uses for each 20 L of water that it applies (i.e. its' dilution rate) as follows:

1. Check the label of **your** disinfectant (e.g.1:128 or 1:256). To determine how much disinfectant your system **should** draw when it is properly calibrated, and therefore the amount of water to measure out for the test, divide 20,000 by the dilution rate. E.g.
    a. For 1:128 fill a measuring cup with 156 mL of water
       (20 L x 1000 mL/L = 20,000 mL/128 = 156.25 mL rounds to 156 mL)
    b. For 1:256 fill a measuring cup with 78 mL of water
       (20 L x 1000 mL/L = 20,000 mL/256 = 78.125 mL rounds to 78 mL)
2. Use a clean plastic garbage pail and measure 20L of water into the pail. Mark the 20L level on the pail. Dump out the water and proceed to step 3.
3. Set your equipment to disinfect and spray into the pail, using normal pressure and fill to the line.
4. At proper adjustment the amount you calculated in step 1 **should** be used to fill a 20 L pail.
5. Tighten or loosen adjustment screw as needed until your equipment draws the proper amount of disinfectant.

**NOTE:** If you cannot accurately adjust your delivery equipment to draw the correct amount from the reservoir you **can** try to adjust the concentration of your disinfectant stock solution.

Here's how:

Step 1.        Pour 2 cups (500 ml) (A) of water* into the disinfectant reservoir.



        *Use water for the calibration exercise so you do not have to deal with the foam that many disinfectants produce.

Step 2.       Set your equipment to disinfect and using normal pressure spray into the plastic garbage pail, and fill to the 20 L mark.

Step 3.       Once the pail has been filled to the 20L mark, measure the amount of water in the disinfectant reservoir. Write this figure down. (B)

A-B = the amount of water used from the reservoir (C). The amount that the equipment drew from the 500mL you started with is very important because it allows us to compare what was used against what should have been used.

Most disinfectants use a dilution rate of 1:128 or 1:256. Check the label of **your** disinfectant.

For 20L of water and a dilution rate of 1:128 (C) should be 156 ml, again this is the amount of water that should have been sucked out of the disinfectant reservoir. 156 ml = (D).

For 20L of water and a dilution rate of 1:256 (C) should be 78 ml, again this is the amount of water that should have been sucked out of the disinfectant reservoir. 78 ml = (D).

IF C is less than D: then you must adjust your equipment to add more disinfectant. We cannot make the disinfectant more concentrated!
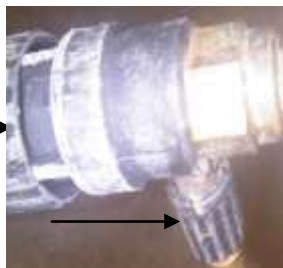


Disinfectant adjustment. Your equipment may differ – check your owner's manual if you are unsure

IF C is greater than D, you can dilute the disinfectant but we have to calculate the right ratio of disinfectant and water. As long as you have used less than 2 times the required amount then you can use the chart provided in Appendix 1 to determine how much water to add per ml of disinfectant in your reservoir.

OR

Do the following math, C/ D = 1.(F)  Once you know (F) you know how much water to add per ml of disinfectant in your reservoir.

*IF C / D is greater than 1.9 you must adjust your equipment to add less disinfectant.

Eg. When you filled your reservoir with 500ml (A) of water and then filled the garbage pail to the 20L mark you had 300ml (B) left.  500 – 300 = 200 (C) 200ml is the amount of water that was sucked out of the disinfectant reservoir.

You checked your disinfectant and it is a 1:128 dilution rate product (D) = 156 ml the amount it should have sucked out of the disinfectant reservoir.

200 (C) / 156 (D) = 1.28 (F) = .28

So for every ml of disinfectant you add into you reservoir you must add .28 ml of water. If you add 500ml of disinfectant you also add 500 x .28 = 140ml of water.

Now you know that your equipment is delivering the proper concentration of disinfectant.

# APPENDIX 1 – DISINFECTANT STOCK SOLUTION DILUTION FACTORS

| 1:128 Dilution Rate | |
| --- | --- |
| Amount Used (C) ml | Factor to Determine Water/ml of Disinfectant (F) |
| 160 | 0.02 |
| 165 | 0.06 |
| 170 | 0.09 |
| 175 | 0.12 |
| 180 | 0.15 |
| 185 | 0.18 |
| 190 | 0.22 |
| 195 | 0.25 |
| 200 | 0.28 |
| 205 | 0.31 |
| 210 | 0.34 |
| 215 | 0.38 |
| 220 | 0.41 |
| 225 | 0.44 |
| 230 | 0.47 |
| 235 | 0.50 |
| 240 | 0.54 |
| 245 | 0.57 |
| 250 | 0.60 |
| 255 | 0.63 |
| 260 | 0.66 |
| 265 | 0.70 |
| 270 | 0.73 |
| 275 | 0.76 |
| 280 | 0.79 |
| 285 | 0.82 |
| 290 | 0.86 |
| 295 | 0.89 |
| 300 | 0.92 |
| 305 | 0.95 |
| 310 | 0.98 |

| 1:256 Dilution Rate | |
| --- | --- |
| Amount Used (C) ml | Factor to Determine Water/ml of Disinfectant (F) |
| 80 | 0.02 |
| 85 | 0.09 |
| 90 | 0.15 |
| 95 | 0.22 |
| 100 | 0.28 |
| 105 | 0.34 |
| 110 | 0.41 |
| 115 | 0.47 |
| 120 | 0.54 |
| 125 | 0.60 |
| 130 | 0.66 |
| 135 | 0.73 |
| 140 | 0.79 |
| 145 | 0.86 |
| 150 | 0.92 |
| 155 | 0.98 |

Note: The chart displays the range of volumes over which C<D and C/D<2.