

**Metering Tip Selection - Detergent:**

The final concentration of the dispensed solution is related to the size of the metering tip orifice, the viscosity of the liquid being siphoned, water pressure, water flow rate, and other factors in the application. A chart is provided (right) which can be used as a guideline for selecting a metering tip when proportioning water-thin concentrates. If product viscosity is greater than that of water, choose a tip with a larger orifice than that which would deliver the desired water-to-product ratio for a water-thin product. Test the actually achieved ratio using the Measurement of Concentration procedure below. Continue to choose and test tips until the desired dilution is achieved. One clear, undrilled tip is supplied to permit drilling orifice sizes not listed if necessary.

APPROXIMATED DILUTIONS AT 40 PSI FOR WATER-THIN PRODUCTS (1.0 CP)		
Tip Color	Orifice Size	Ratio (per Eductor Flow)
		0.5 GPM
No Tip	—	3:1
Black	0.098	4:1
Red	0.052	5:1
Blue	0.040	6:1
Tan (Med)	0.035	7:1
Green	0.028	8:1
Brown (Dk)	0.023	9:1
Yellow	0.020	10:1
Purple	0.014	16:1
Light Grey	0.012	28:1
Pink	0.010	37:1
Olive Green	0.008	57:1

**Measurement of Concentration:**

You can determine the dispensed water-to-product ratio for any metering tip size and product viscosity. All that is required is to operate the primed dispenser for a minute or so and note two things: the amount of dispensed water/product mixture, and the amount of concentrate used in preparation of the solution dispensed. The water-to-product ratio is then calculated as follows:

$$\text{Dilution (X)} = \frac{\text{Amount of Mixed Solution} - \text{Amount of Concentrate Drawn}}{\text{Amount of Concentrate Drawn}}$$

Dilution ratio, then, equals X parts water to one part concentrate (X:1). If the test does not yield the desired ratio, choose a different tip and repeat the test. Alternative methods to this test are 1) pH (using litmus paper), and 2) titration. Contact your concentrate supplier for further information on these alternative methods and the materials required to perform them.

**Troubleshooting Guide:**

Problem	Cause	Solution
1. Rinse aid not dispensing	a. Clogged discharge line b. Rinse diaphragm defective	a. Clean or replace discharge line b. Replace diaphragm
2. Rinse aid not drawing from container	a. Rinse diaphragm defective	a. Replace diaphragm
3. Detergent not drawing from container	a. Clogged detergent inlet	a. Clean or replace detergent inlet
4. Leaking pump	a. Pressure diaphragm defective	a. Replace diaphragm

\* In hard water areas, scale (mineral deposits) may form at the discharge of the eductor. This scale may be removed by running a descalant through the system.



# DishPro Hydraulic Warewash Pump Model 6540

**Package Should Contain:**

1. DishPro unit.
2. Water inlet fitting.
3. Two 1/4" x 7' (2.1m) chemical inlet tubes with foot strainers and weights.
4. Metering tip kit.
5. Detergent tubing, 5/8" x 6' (1.8m).
6. Detergent bulkhead fitting.
7. Rinse tubing, 1/4" x 6' (1.8m).
8. Rinse check valve.
9. (3) screws and (3) wall anchors for wall mounting use 9/32" (7mm) drill.
10. Instruction sheet.

**THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS**

Please use this equipment carefully and observe all warnings and cautions.

\*\*\*\*\*NOTE \*\*\*\*\*

**WEAR** protective clothing and eyewear when dispensing chemicals or other materials or when working in the vicinity of all chemicals, filling or emptying equipment or changing metering tips.

**ALWAYS** observe safety and handling instructions of the chemical manufacturer.

direct discharge away from you or other persons or into approved containers.

dispense cleaners and chemicals in accordance with manufacturer's instructions. Exercise **CAUTION** when maintaining your equipment.

reassemble equipment according to instruction procedures. Be sure all components are firmly screwed or latched into position.

**KEEP** equipment clean to maintain proper operation.

**Installation Requirements:**

- Minimum rinse line pressure 15 psi (1.0 bar)
- Maximum water temperature 180 degrees F (82 degrees C)
- To ensure proper operation of DishPro Unit, product containers should be placed within 6' (1.8m) of DishPro Unit. Do not place product containers above pump.

**Installation of DishPro Unit:**

1. Turn off water supply to dish machine before DishPro unit installation.

2. Remove cover from DishPro unit.

3. Determine placement of DishPro on the dish machine or a nearby wall.

4. Mark mounting holes (right) using unit back as template. Drill 9/32" (7mm) holes and insert wall anchors. Install left mounting screw halfway into wall anchor allowing space for cover to be secured. Tighten right mounting screw.

5. Remove both 1/8" NPT plugs in dish machine (install 1/8" street tee or saddle clamp - not supplied - if only one 1/8" NPT port is available.)

6. Install water inlet fitting (right) to dish machine or street tee.

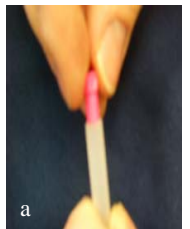
7. Connect 1/4" copper tubing (not supplied) from dish machine to DishPro water supply inlet. **NOTE: OPERATING PRESSURE 15-25 psi**

8. Install rinse check valve (right) in dish machine or street tee. **NOTE: RINSE CHECKVALVE SHOULD BE INSTALLED DOWNSTREAM OF WATER INLET FITTING.**

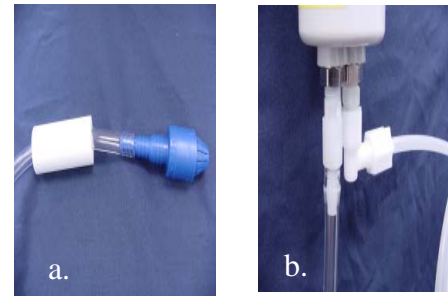
9. Connect one end of 1/4" rinse tubing to rinse check valve.

10. If parts are not available, contact local installer for available options

11. Select metering tip using dosage chart (p.3). Install metering tip into open end of 1/4" rinse tubing (a). Insert end of 1/4" rinse tubing with metering tip into the outlet checkvalve compression fitting (b) on DishPro unit. Tighten outlet checkvalve compression fitting (c) (do not over-tighten). Set adjustment cap to the proper dosage (1, 2, 3, or 4cc). Adjustment is made by turning the cap counterclockwise and moving up or down to the desired dose (d). The cap is locked in place by turning the cap clockwise.

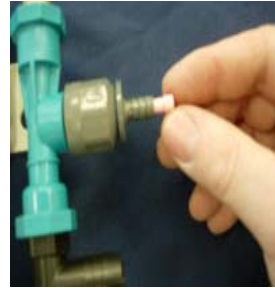


12. Cut supply tubing provided to reach from inlet check valve to bottom of the concentrate container (a). Slide a ceramic weight over one end of tube and slide a foot valve into the same end of the tube.

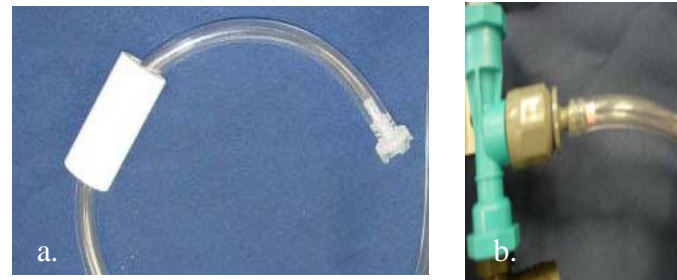


13. Place pickup tubing with foot valve into rinse aid container and connect tubing end to the inlet check valve on the DishPro Unit (b).

14. Select the metering tip from detergent metering selection chart (p.4). Install into 1/4" hosebarb of the detergent eductor.



15. Cut supply tubing provided to reach from detergent inlet hosebarb to bottom of the concentrate container (a). Slide a ceramic weight over one end of tube and slide a foot valve into the same end of the tube.



16. Place pickup tubing with foot valve into detergent container and connect tubing end to the detergent inlet on the Warewash Pump (b). **REMEMBER TO PERIODICALLY CHECK ALL FOOT VALVE STRAINERS TO PREVENT CLOGGING; CLEAN IF NECESSARY.**

17. Cut 7/8" hole in dish machine for detergent access.



18. Install detergent bulkhead fitting through hole.

20. Prime rinse aid tubing by pumping the bottom of the DishPro unit until rinse aid can be seen in the rinse line (at the dish machine check valve) or by cycling the rinse valve on and off.



19. Connect 5/8" detergent tubing from bulkhead fitting to detergent outlet on DishPro Unit, ensuring end of tube with flooding ring is near unit. Connect other end to detergent bulkhead fitting at dish machine. Attach hose clamps around tubing at fittings.



21. Place cover on DishPro unit. Mark far right mounting hole using cover as template. Drill 9/32" (7mm) hole and insert wall anchor. Tighten mounting screw to secure cover.

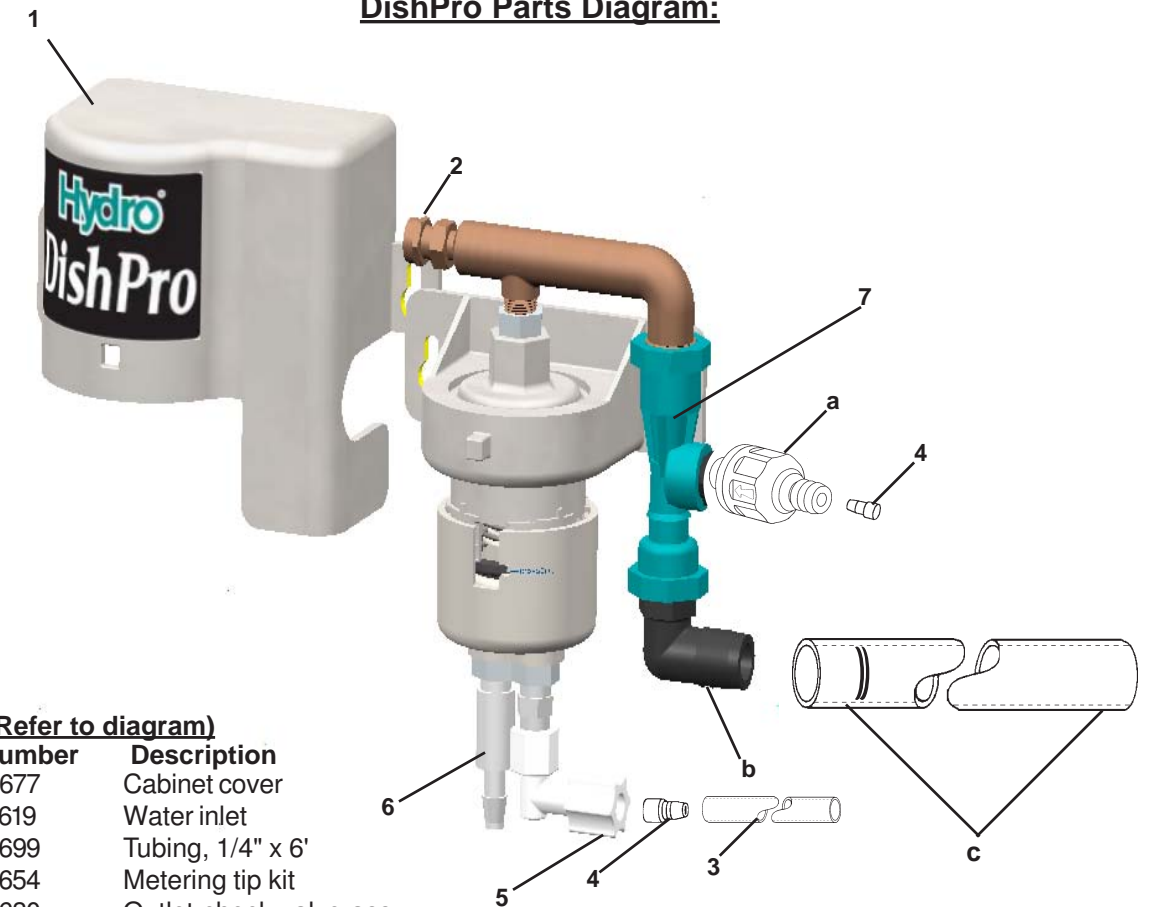


### Dosage Chart - Rinse Aid:

The rinse dosage time (the amount of time in the rinse cycle over which the rinse aid can be injected) can be adjusted by installing a metering tip into the end of the 1/4" rinse tubing that installs in the rinse check valve on the DishPro Unit. Use the dosage chart below as a guideline for determining the tip that achieves the desired rinse dosage time (in seconds).

COLOR	SIZE	1cc Dosage			2cc Dosage			3cc Dosage			4cc Dosage		
		15psi	20psi	25psi	15psi	20psi	25psi	15psi	20psi	25psi	15psi	20psi	25psi
BLACK	0.098										6.0		
RED	0.052							6.0			7.0		
BLUE	0.040							7.0			8.0		
TAN (MED)	0.035	6.0			6.0			8.0			10.0	6.0	
GREEN	0.028	7.0			7.0	6.0		9.0	6.0		11.0	7.0	
BROWN (DK)	0.023	8.0			8.0	7.0		10.0	7.0		12.0	8.0	
YELLOW	0.020	9.0			9.0	8.0		11.0	8.0		13.0	9.0	6.0
PURPLE	0.014	10.0	6.0		10.0	9.0		12.0	9.0	6.0	14.0	10.0	7.0
LT. GREY	0.012	11.0	7.0		11.0	10.0	6.0	13.0	10.0	7.0		11.0	8.0
PINK	0.010	12.0	8.0	6.0	12.0	11.0	7.0	14.0	11.0	8.0		12.0	9.0
OLIVE-GREEN	0.008		12.0	9.0			12.0			14.0			

### DishPro Parts Diagram:



### PARTS LIST (Refer to diagram)

Key #	Part Number	Description
1	10090677	Cabinet cover
2	10090619	Water inlet
3	10090699	Tubing, 1/4" x 6'
4	10090654	Metering tip kit
5	10090630	Outlet check valve assy.
6	10090623	Inlet check valve
7	10090629	Eductor assy.
a	10069253	Check valve, EPDM
b	10090608	Elbow hose barb
c	10090628	Discharge tube w/ flood ring
not shown:	10090631	kit, diaphragm DishPro