

Service Bulletin: MART Power Washer

MART Tech Services

Maintaining the Proper Chemical Concentration

Recommended Initial Chemical Charge MART Power Washers

MART Model	Turntable Diameter Inches	Reservoir Gallons	POWDER PK I & PK II			LIQUID PK III L		
			7 oz/gal 5.2% concentration		400 lb Drum	7 oz/gal 5.5% concentration		55 gallon Drum
			Pounds	50 lb Pail		Gallons	5 gallon Pail	
C2.2	27	90	39.4	0.8	4.9	1.0		
C30	30	130	56.9	1.1	7.1	1.4		
T40-01	41	180	78.8	1.6	9.8	2.0		
T40-02	41	227	99.3	2.0	12.4	2.5		
T52	52	312	136.5	2.7	17.1	3.4		
T60-01	60	350	153.1	3.1	19.1	3.8		
H60-02	60	397	173.7	3.5	21.7	4.3		
DLD60	60	450	196.9	3.9	24.6	4.9	0.45	
T72	72	600	262.5	5.3	32.8	6.6	0.60	
H72	72	650	284.4	5.7	35.5	7.1	0.65	
H84	84	740	323.8	6.5	40.5	8.1	0.74	
H100	100	920	402.5	8.1	50.3	10.1	0.91	

After refer to our Recommended Initial Chemical Chart on www.marttechservices.com, and after you have determined an effective chemical concentration, you must monitor and maintain it for optimal parts cleaning results and parts washer performance.

Initially, you could start by monitoring the parts washer chemical concentration daily and then weekly (or, every 40 hours of washer operation). However, you should develop a monitoring schedule based on the frequency of the washer operation, degree of parts cleanliness required, the types of soils to be removed from parts, and so on. Your monitoring schedule should account for all the variables in your washing application in order to give you the best cleaning results, while using the least amount of washer chemical possible.

There are several methods to test the washer chemical concentration and maintain the proper chemical charge. One is a titration test.

Titration Test



Perform this test to determine the concentration of parts washer chemical by titrating the alkalinity of the solution with an indicator and a

drop count. The results determine the number of ounces of washer chemical to add per gallon of water-capacity.

Titration is the estimation of the strength of a compound by measuring the amount of another compound of known strength that is required to produce an observable reaction.

Almost all titration kits supplied with cleaning chemicals and soaps use phenolphthalen (indicator P) as a



reactant, and an acid (hydrochloric or phosphoric) as a neutralizer. The indicator P turns red, pink or blue when added to a sample of the parts washer solution. By counting the drops of acid it takes to turn the



washer solution back to its original color, you can arrive at a good estimate of the chemical concentration in your washer.



Titration Testing Guidelines:

- Perform a titration test weekly.
- Contact your chemical supplier for titration test kits.
- Use a kit designed specifically for your chemical.
- Follow test kit instructions.
- Add chemical based on the results of the test.

When you perform a titration test, do the following:

1. Allow the sample solution to cool to room temperature.
2. Filter the cooled solution to remove impurities and make it clear enough to see the color change.
3. Hold the titration reagents vertical when you add drops to the sample. This ensures "size accuracy" of the drops coming out of the reagent bottles.
4. Use clean laboratory flasks, vials, and bottles for all titration tests. Dirty tools can produce invalid test results.
5. After testing the sample, pour it back into the washer.

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For improved testing accuracy:



1. Prepare a "control" sample using fresh city water and chemical to the desired concentration. Note: City water can have mineral or be acidic requiring more washer chemicals to be added than you might expect to reach the desired alkalinity. Part of the washer chemical is being consumed to treat your incoming water supply. In some cases a De-mineralized or RO water supply can be used to reduce chemical usage, improve bath life and reduce sludge build-up.
2. Titrate this "control" sample.
3. Compare titrations of the wash solution to the results of the "control" in order to determine if you need to add chemical.

Links to the specific instructions for each MART Tech Service Part Washer Chemical Titration Test Kit are below:

[Power Klean Titration Test Instructions](#)

For further information or cleaning assistance please contact MART Tech Services from 8:00am to 5:00pm (central) or visit our website 24 hour 7 days a week.