

MECHANICAL		8.1	Plumbing Fixtures								
<b>8.1-275</b>		<b>Valve, Non-Drain, 4" and Larger</b>									
	System Description	Freq. (Years)	Crew	Unit	Labor Hours	2003 Bare Costs				Total In-House	Total w/O&P
						Material	Labor	Equipment	Total		
0050	Replace old valve, 10" Remove old flanged gate valve, 10" Install new flanged gate valve, 10"	10	3 Plum	Ea.	3.380 14.201		118 495		118 3,020	147 3,400	184 3,925
<b>Total</b>					17.581	2,525	613		3,138	<b>3,547</b>	<b>4,109</b>
<b>8.1-277</b>		<b>Expansion Chamber</b>									
	System Description	Freq. (Years)	Crew	Unit	Labor Hours	2003 Bare Costs				Total In-House	Total w/O&P
						Material	Labor	Equipment	Total		
0010	Refill Refill air chamber	5	1 Plum	Ea.	.039		1.46		1.46	1.83	2.28
<b>Total</b>					.039		1.46		1.46	<b>1.83</b>	<b>2.28</b>
0020	Remove old chamber, install new Remove / install expansion tank, ASME, painted, 15 gal.	17	1 Plum	Ea.	.941	355	32		387	430	495
<b>Total</b>					.941	355	32		387	<b>430</b>	<b>495</b>
<b>8.1-279</b>		<b>Circulation Pump, 1/12 HP</b>									
	System Description	Freq. (Years)	Crew	Unit	Labor Hours	2003 Bare Costs				Total In-House	Total w/O&P
						Material	Labor	Equipment	Total		
0020	Inspect / check pump / motor operation, lub. Check for leaks Check pump operation Lubricate pump and motor Check suction or discharge pressure Check packing glands, tighten Fill out inspection report	.50	1 Plum	Ea.	.010 .012 .047 .004 .014 .022		.39 .44 1.75 .15 .53 .83		.39 .44 1.75 .15 .53 .83	.49 .55 2.19 .19 .66 1.04	.61 .69 2.73 .23 .83 1.29
<b>Total</b>					.109		4.09		4.09	<b>5.12</b>	<b>6.38</b>
0030	Replace pump / motor assembly Remove flanged connection pump Install new flanged connection pump (1/12 H.P.)	10	2 Plum	Ea.	1.733 3.467		58.50 117		58.50 437	73 500	91 580
<b>Total</b>					5.200	320	175.50		495.50	<b>573</b>	<b>671</b>

## MECHANICAL

PM8.4-015

## Pump, Centrifugal

PM Components		Labor-hrs.	W	M	Q	S	A
<b>System PM8.4-015-1950</b>							
<b>Centrifugal pump over 1 H.P.</b>							
1	Check for proper operation of pump.	.022				✓	✓
2	Check for leaks on suction and discharge piping, seals, packing glands, etc.; make minor adjustments as required.	.077				✓	✓
3	Check pump and motor operation for excessive vibration, noise and overheating.	.022				✓	✓
4	Check alignment of pump and motor; adjust as necessary.	.260				✓	✓
5	Lubricate pump and motor.	.099				✓	✓
6	Clean exterior of pump, motor and surrounding area.	.096				✓	✓
7	Fill out maintenance checklist and report deficiencies.	.022				✓	✓
<b>Total labor-hours/period</b>						.598	.598
<b>Total labor-hours/year</b>						.598	.598

Description		Labor-hrs.	2003 Bare Costs				Total In-House	Total w/O&P
			Material	Labor	Equip.	Total		
1900	Centrifugal, over 1 H.P., annually	.598	5	22.50		27.50	33.50	41.50
1950	Annualized	1.196	10	44.50		54.50	66.50	82

PM Components		Labor-hrs.	W	M	Q	S	A
<b>System PM8.4-015-2950</b>							
<b>Centrifugal pump w/reduction gear, over 1 H.P.</b>							
1	Check with operating or area personnel for deficiencies.	.035				✓	✓
2	Clean pump exterior and check for corrosion on pump exterior and base plate.	.030				✓	✓
3	Check for leaks on suction and discharge piping, seals, packing glands, etc.	.077				✓	✓
4	Check pump, gear and motor operation for vibration, noise, overheating, etc.	.022				✓	✓
5	Check alignment and clearances of shaft reduction gear and coupler.	.260				✓	✓
6	Tighten or replace loose, missing, or damaged nuts, bolts and screws.	.005				✓	✓
7	Lubricate pump and motor as required.	.099				✓	✓
8	When available, check suction or discharge, pressure gauge readings and flow rate.	.022				✓	✓
9	Clean area around pump.	.066				✓	✓
10	Fill out maintenance checklist and report deficiencies.	.022				✓	✓
<b>Total labor-hours/period</b>						.638	.638
<b>Total labor-hours/year</b>						.638	.638

Description		Labor-hrs.	2003 Bare Costs				Total In-House	Total w/O&P
			Material	Labor	Equip.	Total		
2900	Centrifugal, w/ reduction gear, over 1H.P., annually	.638	5	24		29	35.50	43.50
2950	Annualized	1.276	10	47.50		57.50	70.50	86.50

# 01800 | Facility Operation

	01837   Interior General Maint.	Crew	Daily Output	Labor-Hours	Unit	2003 Base Costs				Total In-House	Total Incl O&P			
						Mat.	Labor	Equip.	Total					
200	0230		Paper towel dispenser, folded (2 plys of 250)	1	Clam	545	.015	Ea.	4.33	.27		4.60	5.10	5.85
	0240		Paper towel dispenser, rolled (350' roll)			340	.024		3.31	.44		3.75	4.18	4.81
	0250		Toilet tissue dispenser (500 2-ply sheet roll)			1,440	.006		.66	.10		.76	.85	.98
	0260		Sanitary seat covers (pkg of 250)			960	.008		2.55	.15		2.70	2.99	3.42
	0270		Toilet partition cleaning			96	.083		.23	1.54		1.77	2.15	2.66
	0280		Ceramic tile wall cleaning			2,400	.003	↓	.01	.06		.07	.09	.11
	0290		General cleaning, empty to larger portable container, wastebaskets			960	.008	Ea.		.15		.15	.19	.24
	0300		Ash trays			2,880	.003		.05	.05		.05	.06	.08
	0310		Cigarette stands			960	.008		.15	.15		.15	.19	.24
	0320		Sand urns			640	.013		.23	.23		.23	.28	.36
	0330		Pencil sharpeners			2,880	.003	↓	.06	.06		.06	.06	.08
	0340		Remove trash to central location			290	.028	Lb.	.51	.51		.51	.63	.79
	0347		Bench			480	.017	Ea.	.04	.31		.35	.42	.52
	0360		Chairs			960	.008		.02	.15		.17	.21	.26
	0360		Chalkboard erasers			960	.008		.15	.15		.15	.19	.24
	0370		Chalkboards			16	500	M.S.F.	3.11	9.25		12.36	14.80	18.15
	0380		Desk tops			225	.036	Ea.	.06	.66		.71	.87	1.08
	0390		Glass doors			168	.048	*	.10	.88		.98	1.20	1.48
	0400		Hard surface audience type seating			40	200	M.S.F.	3.88	3.70		7.58	8.85	10.55
	0409		Locker, metal			320	.025	Ea.	.09	.46		.55	.67	.82
	0410		Microwave ovens			240	.033		.02	.62		.64	.78	.97
	0420		Office partitions, to 48 S.F.			160	.050		.15	.93		1.08	1.30	1.61
	0430		Overhead air vents			175	.046		.01	.85		.86	1.05	1.31
	0440		Refrigerators			35	.229		.25	4.23		4.48	5.50	6.80
	0450		Revolving doors			35	.229		.62	4.23		4.85	5.90	7.30
	0460		Tables			240	.033		.06	.62		.68	.83	1.02
	0470		Telephone			288	.028		.01	.51		.52	.64	.80
	0480		Telephone booth			190	.042		.32	.78		1.10	1.31	1.60
	0490		Water fountain			480	.017		.02	.31		.33	.40	.50
	0500		Wastebaskets			260	.031		.02	.57		.59	.72	.90
	0510		Dusting, beds			360	.022		.41			.41	.51	.63
	0520		Bedside stand			960	.008		.15	.15		.15	.19	.24
	0530		Bookcase			960	.008		.15	.15		.15	.19	.24
	0540		Calculator			1,920	.004		.08	.08		.08	.09	.12
	0550		Chair			1,340	.006		.11	.11		.11	.14	.17
	0560		Coat rack			400	.020		.37	.07		.37	.46	.57
	0570		Couch			320	.025		.46			.46	.57	.71
	0580		Desk			550	.015		.27	.27		.27	.33	.41
	0590		Desk lamp			1,200	.007		.12	.12		.12	.15	.19
	0600		Desk trays			1,920	.004		.08	.08		.08	.09	.12
	0610		Dictaphone			1,920	.004		.08	.08		.08	.09	.12
	0620		Dresser			480	.017		.31	.31		.31	.38	.47
	0630		File cabinets			960	.008		.15	.15		.15	.19	.24
	0640		Lockers			2,400	.003		.06	.06		.06	.08	.09
	0650		Piano			425	.019		.35			.35	.43	.54
	0660		Radio			960	.008		.15	.15		.15	.19	.24
	0665		Shelf, storage, 1' x 20'			480	.017		.31	.31		.31	.38	.47
	0670		Table			670	.012		.22	.22		.22	.27	.34
	0680		Table lamp			960	.008		.15	.15		.15	.19	.24
	0690		Telephones			960	.008		.15	.15		.15	.19	.24
	0700		Television			960	.008		.15	.15		.15	.19	.24
	0710		Typewriter			960	.008		.15	.15		.15	.19	.24
	0720		Vacuuming, armless chair			825	.010		.18	.18		.18	.22	.28
	0730		Armchair			480	.017		.31	.31		.31	.38	.47
	0740		Couch			320	.025		.46			.46	.57	.71
	0750		Entry mats			8	1	M.S.F.	18.50			18.50	23	28.50