

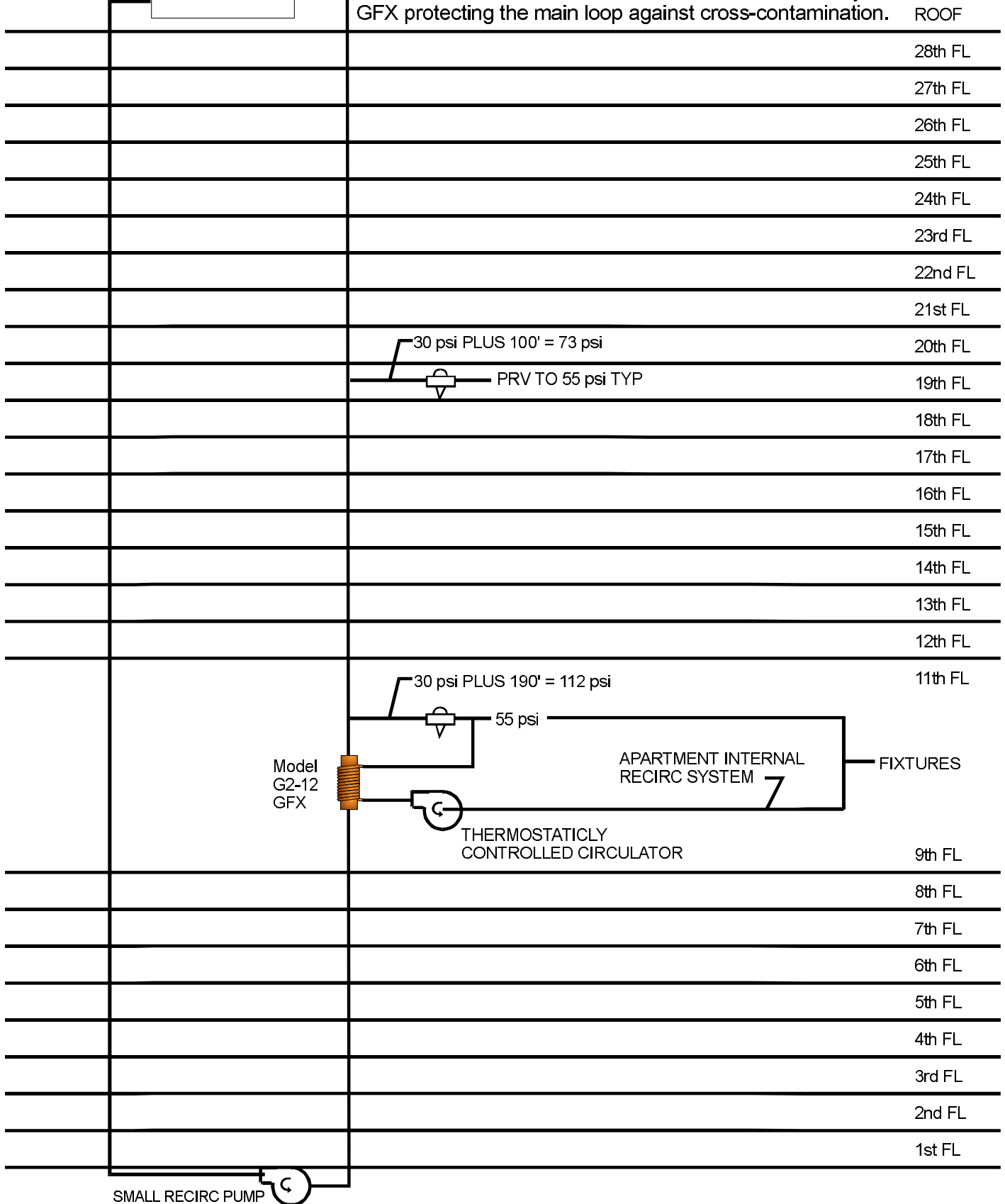
COLD WATER SUPPLY AT 30 psi

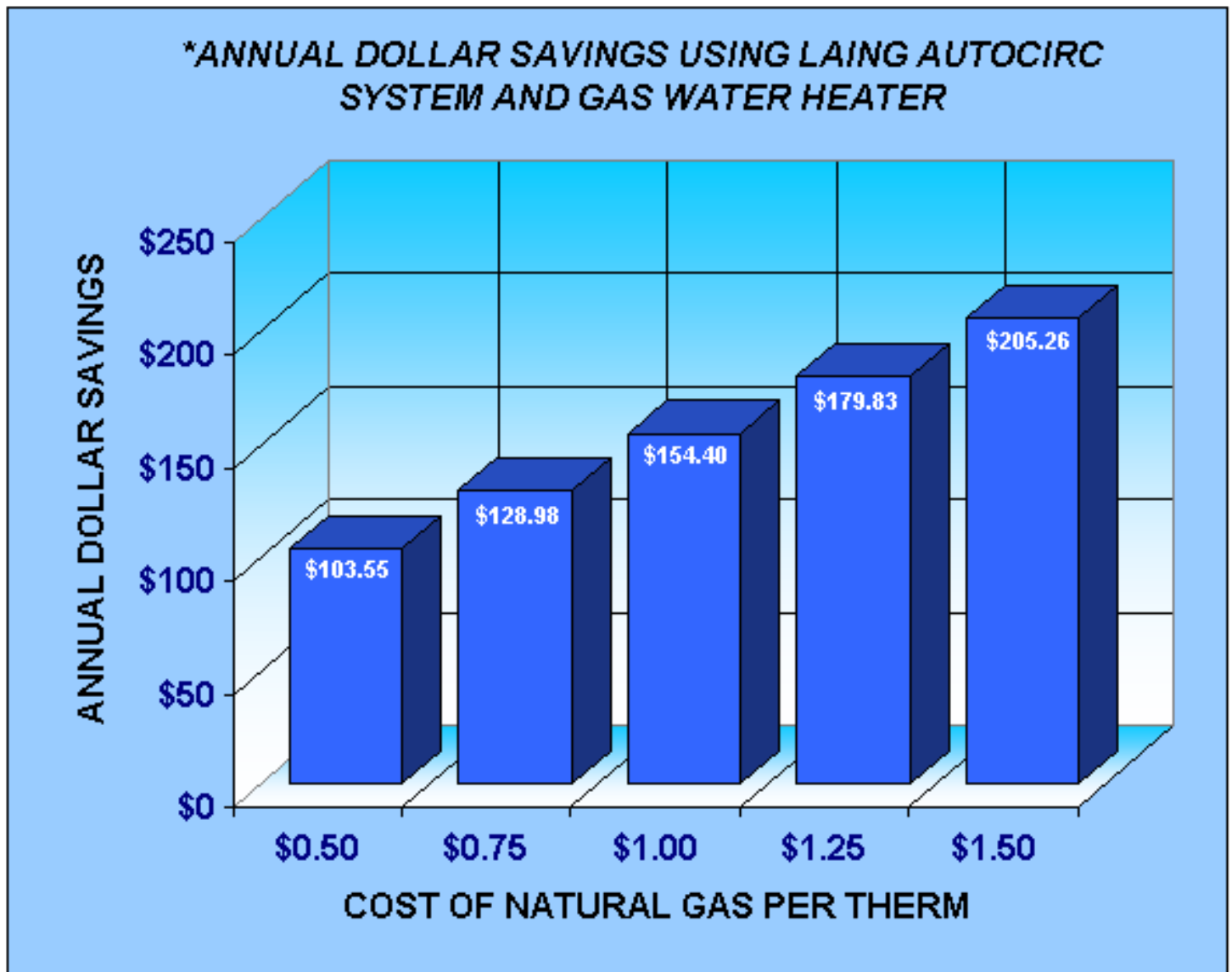
POTABLE HOT WATER BOILER

**Problem:** Provide instant hot water in hi-rise buildings to fixtures located far from main recirc loops.

**Solution:** Install a thermostatically controlled circulator and a GFX on each floor to tap heat off the main recirc loop.

**Advantages:** Save water and energy, cut sewer charges and eliminate inline water heaters that waste electricity; with GFX protecting the main loop against cross-contamination.

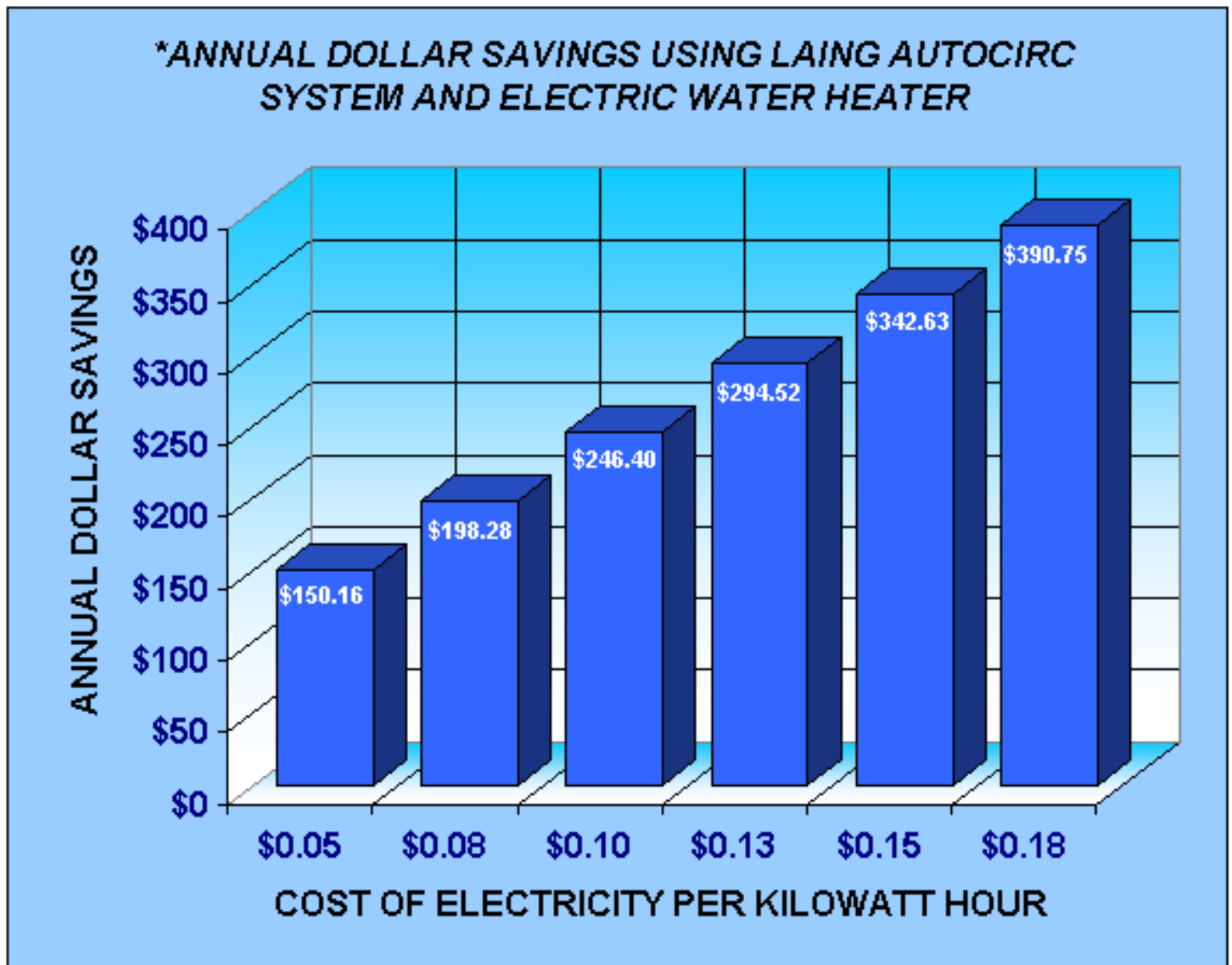




**Chart Calculation Factors For Gas Water Heater:**

- 1.** Savings of 34.2 gal./day of previously heated water wasted from discharging down drain. (350 days/yr. = 11,970 gal./yr.)
- 2.** Water heater is set at an average temperature of 140°F, has an efficiency rating of 65%, and a heat rise temperature value of 100°F.
- 3.** The incoming water temperature is 40°F.
- 4.** Gas cost per therm includes taxes and charges.
- 5.** Gas savings in therms result from not having to heat wasted water less the gas used to offset piping heat losses. (101.71 therms/yr.)
- 6.** Additional piping heat losses are based on 10 BTU/hr./ft. in 60 feet of ¾" uninsulated hot water supply piping.
- 7.** Water cost is based on \$2.02/100 cu. ft. and sewer surcharge cost is based on \$1.35/100 ft.3. (Total water cost savings = \$53.79/yr.)
- 8.** Cost to run pump = \$1.24/yr. (Based on \$0.10/kWh, pump running 4 min./hr., 16 hrs./day, and 350 days/yr.)
- 9.** Numbers are rounded off.

## Autocirc Savings Using an Electric Water Heater



### Chart Calculation Factors For Electric Water Heater:

1. Savings of 34.2 gal./day of previously heated water wasted from discharging down drain. (350 days/yr. = 11,970 gal./yr.)
2. Water heater is set at an average temperature of 140°F, has an efficiency rating of 100%, and a heat rise temperature value of 100°F.
3. The incoming water temperature is 40°F.
4. Electrical energy savings in kWh result from not having to heat wasted water less the energy used to offset piping heat losses. (1,924.69 kWh)
5. Cost per kWh includes taxes and charges.
6. Additional piping heat losses are based on 10 BTU/hr./ft. in 60 feet of 3/4" uninsulated hot water supply piping.
7. Water cost is based on \$2.02/100 cu. ft. and sewer surcharge cost is based on \$1.35/100 ft.3. (Total water cost savings = \$53.79/yr.)
8. Cost to run pump = \$1.24/yr. (Based on \$0.10/kWh, pump running 4 min./hr., 16 hrs./day, and 350 days/yr.)
9. Numbers are rounded off.