

Look for This Symbol.
It Means No Clogs,
Complaints or Callbacks



Now
Available
with the
BOWL TENDER,[™]
a Safe,
Non-Staining
Option for
Automatic Bowl
Treatments!

The PF/2 Energizer.[®]
Quiet, Reliable
1.6 GPF Performance



W/C TECHNOLOGY CORPORATION
a MASCO Company

Conservation without Compromise™

The award-winning PF/2® Energized Flush® is the next generation in pressure-assisted toilet flush technology. Judged *"International Product of the Year"* by the Society of Plastics Engineers in recognition of its design, use of materials and long-range benefits to society, the PF/2 system establishes a new, increased dimension to low consumption toilet performance.

Population growth coupled with increased use per capita has focused attention upon preservation of the world's most precious resource, fresh water.

Water conservation has become one of the nation's most urgent needs. The 1992 Federal Energy Efficiency Act ("EEA") mandates that no toilet using more than 1.6 gallons per flush (1.6 GPF, or 6 liters per flush – 6 LPF) can be sold or installed in the United States.

With the full implementation of the EEA, traditional gravity activated toilets are now required to perform their same function but with 50% less water.

Because the power of gravity hasn't changed, performance problems (as would be expected) have developed in the federally-mandated 1.6 GPF gravity activated toilets.

Consumer dissatisfaction with 1.6 GPF gravity activated water closets has been widely reported. The main complaints are clogged bowls, the need for multiple flushes and bowl stains. For example, a Controller's Office Report suggested as many as 31% of more than one million recently installed low consumption gravity activated toilets in New York City have these problems!

Other studies made during the same time period indicate users find the performance of pressure-assisted toilets to be as good or better than the high volume toilets which were replaced. The greater discharge power of the PF/2 Energized Flush® System enables it to thrust wastes from the bowl down the drainline with *just one flush*.



All toilets are not equal. In response to environmental needs, innovative hydraulic engineering has created a new type of flushing system that works better and uses less water than the older methods. The PF/2 Energized Flush System is the next generation in pressure-assisted technology. The extraction efficiency of W/C Technology Corporation's PF/2 flushing system exceeds all others and prevents offensive, institutional flushing noises at the same time.

The PF/2 Energized Flush System (invented by the same man who developed the original flushometer-tank) offers consumers *Conservation without Compromise.*



Compared to ALL 1.6 GPF toilets, gravity or pressurized, water closets flushed by the PF/2 Energized Flush System have more of the benefits you want . . .



Award winning technology.



A quieter flush, comparable to leading gravity activated toilets. No harsh institutional flushing noise.



An easier flush. No kick back. Fingertip trip lever pressure. Softer, precise direct-connect actuation..



Unsurpassed thrust for extraction and drainline carry. Comparable to 5-1/2 GPF toilets



Cleaner bowl, pressure flush scours surfaces.



Bigger trapways. Fewer clogs.



Fixture unit value of 2. Less expensive, smaller diameter "residential" piping can be used in commercial or institutional buildings.

What You Should Know About How Toilets Work

Gravity-flow technology works well when sufficient head pressure is present. When these designs consumed between three to eight gallons per flush (GPF) few cared since the water supply was considered inexhaustible, and it was cheap.

Gravity toilets traditionally wasted large amounts of water at both the beginning and ending of their flush cycles.

Today, with Federal requirements limiting toilet flushing consumption to 1.6 GPF, and while still using the same basic technology, designers of gravity activated toilets have been forced to reduce internal trapway openings by as much as 70% and to reduce the water seal surface inside the bowl in order to offset the loss of head pressure and consumption.

Pressure-assisted toilets, however, have not needed to compromise water seal surface and trapway size because of their ability to multiply flush energy by capturing the force within the supply system.

How the PF/2 Energized Flush Works

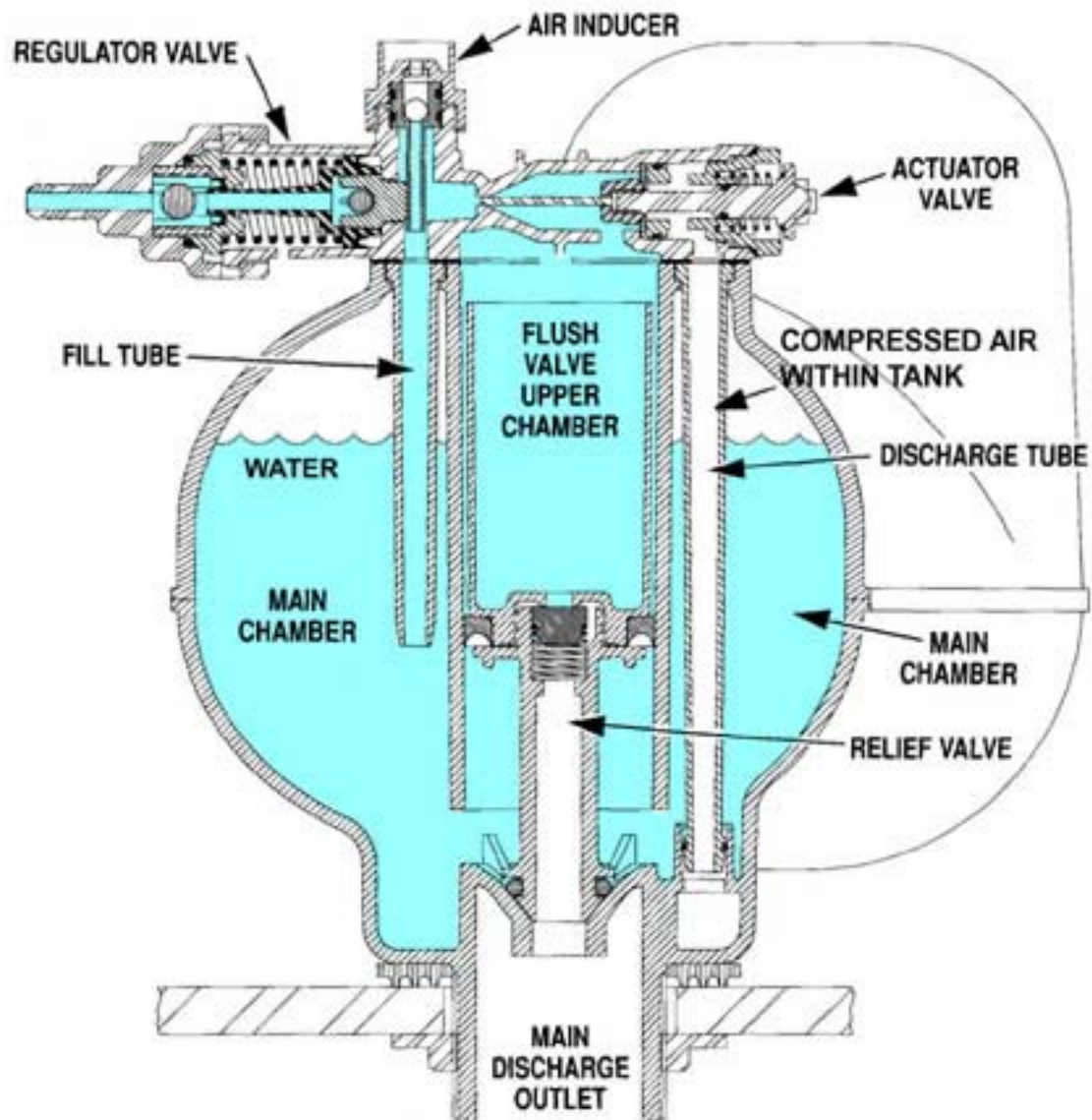
As discharge demands increase, the advantages of the PF/2 Energized System become more and more apparent.

When ready to be flushed, the PF/2's Upper Chamber is completely filled with water. Since water is non-compressible, the speed by which the Upper Chamber can be emptied is controlled by the size of the escape path and the force pushing the water. This regulates how fast the Flush Valve lifts and how quickly the flushometer-tank's Discharge Outlet is opened. Slow opening lets water fill a bowl's internal raceways more gradually than other pressure discharge devices. This prevents the "institutional thud-like sound" often associated with other designs. (See Discharge Sound Comparison.)

When the PF/2 Energizer® flushes, it produces a "flood tide" of water to carry bowl wastes on its crest down the drainline. No water is wasted at the start or finish of the flush.

The PF/2 Energizer uses less than 1.6 gallons (six liters) of water per flush while meeting the highest American, Canadian and Mexican National Standards.

NOTE: 1.6 gallons per flush (GPF)
is the same as 6 liters per flush (LPP)



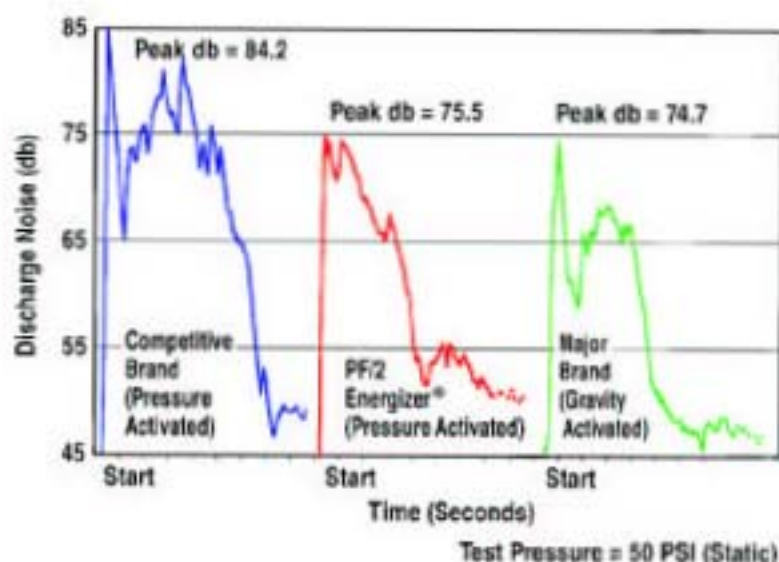
Tripping the flush lever opens the Actuator Valve. This, in turn, opens the Flush Valve's Upper Chamber to the Discharge Tube. Since water under pressure always seeks the path of least resistance, the force from the Main Chamber is able to push the Flush Valve up forcing the water trapped in the Upper Chamber out of the unit through the Discharge Tube. As the Flush Valve lifts, opening the Main Discharge Outlet, the compressed air in the Main Chamber accelerates the water out into the bowl. Extraction occurs.

REFILL ACTION SEQUENCE

As water is discharged from the Main Chamber, the Actuator Valve automatically resets, closing the Upper Chamber's exit. Refill water from the supply through the Regulator Valve is diverted simultaneously down the Fill Tube and into the Upper Chamber until the Flush Valve is closed. Water flowing down the Fill Tube first refills the toilet bowl, then fills the Main Chamber to energize it for the next flush.

DISCHARGE SOUND COMPARISON

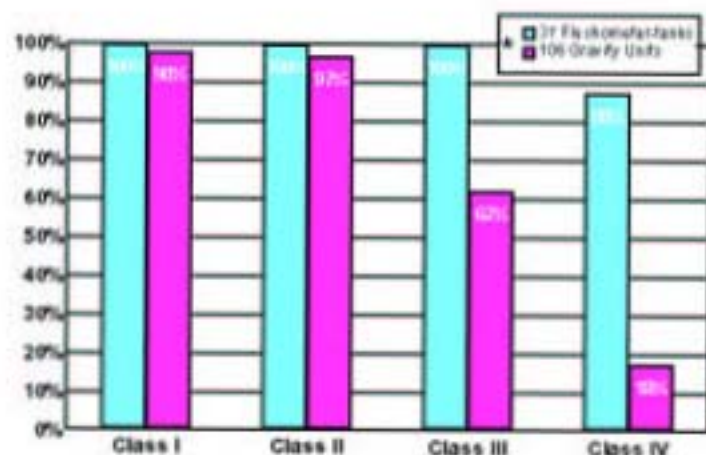
There is actually very little difference between discharge noises of the PF/2 pressure-assisted flush and gravity-activated toilets. The PF/2 does not have the initial *institutional* discharge "thud" made by competitive pressure-assisted brands.



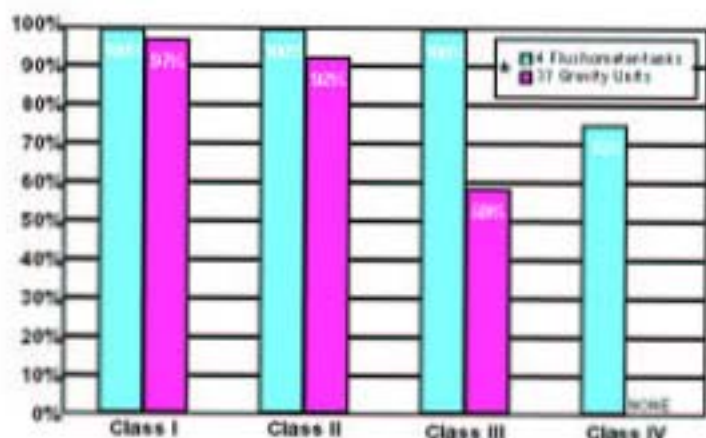
BOWL CLEANOUT COMPARISONS

1.6 GPF Toilets

Two-Piece Combination Water Closet
%WC's Included* Qualifying in Each Class



One-Piece Low Silhouette Water Closet
%WC's Included* Qualifying in Each Class

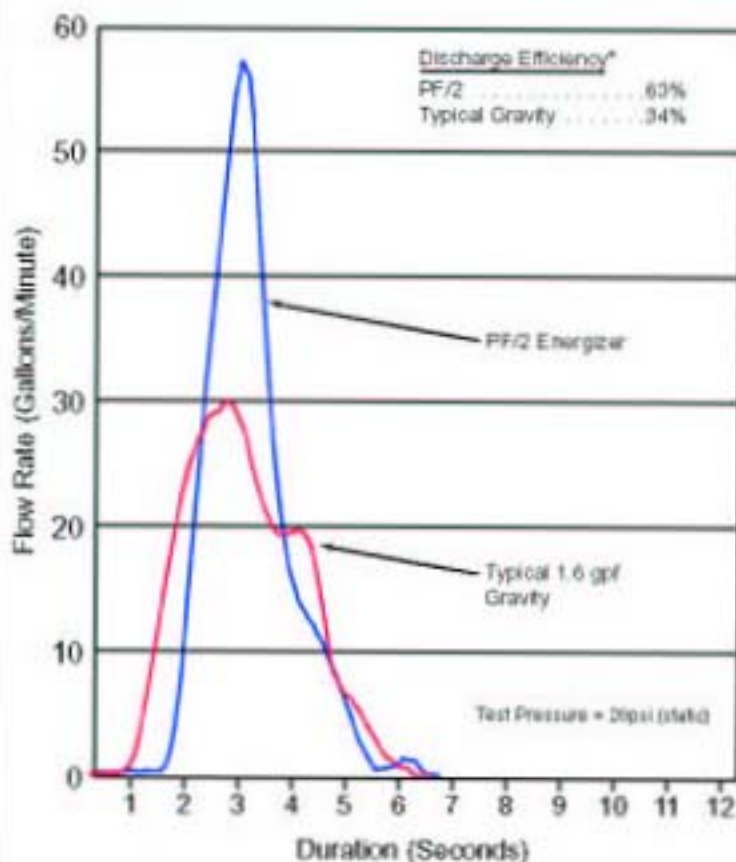


Class I - residential
Class II - multi-family
Class III - commercial
Class IV - public

As discharge demands increase, the advantage the energized flush has over the gravity flush becomes more apparent.

*ANSI Standard Bulk Media Extraction Classifications (proposed).
SOURCE: Independent tests conducted by plumbing fixture manufacturers.

DISCHARGE EFFICIENCY COMPARISON



*Efficiency = % Discharge Above 20 gpm

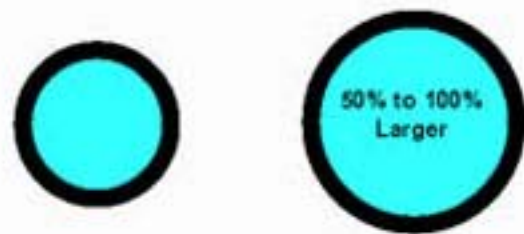
PF/2 toilets flush faster and use less water than 1.6-gpf gravity types because the PF/2 flushing action is at least 60% more efficient. Compared to a typical 1.6 GPF gravity toilet, PF/2 activated designs discharge twice as much water at flow velocities above 20 GPM (Gallons Per Minute). This difference means better bowl extraction and drainline carry of waste.

COMPARISON OF TYPICAL WATER SURFACE AREAS



A larger water surface area and the powerful cleansing action of an energized flush prevent embarrassing bowl smears.

TRAP DIAMETERS



The trapway in 1.6 GPF PF/2 energized toilets is typically 50% to 100% larger than those found in 1.6 GPF gravity toilets. The smaller the passageway, the more likely the clog.

WINTERIZING A PF/2 ACTIVATED TOILET

(1) Shut-off the water supply at the wall valve. (2) Flush the toilet. (3) Disconnect the flexible water supply connector from the shank at bottom left under the tank. (4) Pour anti-freeze into the toilet bowl. (To DE-WINTERIZE THE TOILET, reconnect the flexible tube to the shank and to the wall supply valve. Turn on. Allow PF/2 Energizer to fill. Flush toilet to remove anti-freeze from bowl.)

TESTING A GRAVITY-FLOW TOILET FOR LEAKAGE

A leaking toilet is a thief, forcing you to pay extra utility bills. In gravity toilets, leaks are usually caused by a worn out flapper or ballcock seal. At best, a gravity tank flapper has only a 1/3-pound sealing force. In comparison, the PF/2 Energizer flush valve seals with a force at least 25 times greater. To test for leakage, flush the toilet. Pour food coloring into a filled flushtank. Let stand for an hour. If the bowl water has changed color, you have expensive leakage.

THE BOWL TENDER™ . . . A DEODORIZING, SANITIZER automatically treats your toilet bowl



As an option, BOWL TENDER, a deodorizing bowl sanitizer dispenser, is available on PF/2 Energizer models #140 and #150. Installation takes only seconds. Non-liquid "2000 Flushes®" tablets are recommended

To use, put the tablets into the BOWL TENDER. Fill with water. Close the lid and it's ready to work for you. There are no corrosion or staining problems because chemicals are isolated in the closed dispenser not in the toilet tank. They flush directly and safely into the toilet bowl.

PF/2 Energizer Limited Warranty

W/C Technology Corporation (the "Company") warrants all PF/2 Energizer flushometer-tanks (the "Unit") with serial numbers AA090000 and above† to be free of defects in materials and workmanship for a period of five (5) years from the date of installation. The Company will provide as replacement(s),

free of charge, any part of the product that proves, upon its inspection and within five years of the date of installation, to be defective in material or workmanship. All labor and transportation costs or charges incidental to warranty service are to be borne by the purchaser-user.

NOTE: Completion and return of the Warranty Registration Card to the Company automatically extends the Warranty for a bonus additional year (total of six years).

This warranty is subject to the following specific conditions:

1. A Warranty Registration Card has been fully completed and mailed by the purchaser (the "user") within thirty (30) days of the date of installation.
2. The Unit has been subject to proper installation, operation and maintenance. This Warranty is voided if the Unit is installed and operated subject to water supply pressures greater than allowed by the local code authority that has jurisdiction (but not more than 125 psi). Note that:
 - Applicable American National Standards ("ANSI") mandate supply water pressures must be between 20 psi and 80 psi (static).
 - The PF/2 Energizer obtains its flush power from the pressure in the water supply system. Certification is based upon meeting ANSI requirements when used with the water closet

bowl supplied with this tank and bowl combination.

- While not a basis for a Warranty claim, if the supply pressure is insufficient (e.g. below 20 psi) unsatisfactory performance may result.
3. Service and repair may only be performed by authorized representatives of the Company or by others upon specific approval by calling the Company's Technical Support toll-free "Hotline" at 888-732-9282. Unauthorized repairs or alterations shall specifically void the Warranty.
 4. Use of chemical treatments (other than those approved for WCTC's BowlTENDER accessory) or corrosive household cleaners and disinfectants on either the PF/2 Energizer or BowlTENDER will void this warranty.
 5. Proof of purchase is required.

EXCLUSIONS: In no event shall the Company be liable for incidental or consequential damages, for damages resulting from improper installation, or for damages caused by neglect, abuse or alteration. All implied warranties including an implied warranty of merchantability or fitness for any particular purpose are limited to a period of five (5) years from the date of installation if warranty card has not been submitted to the Company.

Some states do not allow limitations on the duration of an implied warranty and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal

rights, and you may also have other rights which may vary from those set forth herein.

No person is authorized to change, add to, or create any warranty or obligation other than those set forth herein.

To obtain warranty service contact WCTC Consumer Services at:

- Phone (toll free): 888-PF2-WCTC (888-732-9282)
248-474-9800
- Fax: 248-474-3571
- e-mail: info@pf2wctc.com

- Mail: Consumer Services Department
W/C Technology Corporation
37685 Interchange Drive
Farmington Hills, MI 48335 USA

SUGGESTED SPECIFICATION

Water closets shall be low consumption type using the W/C Technology PF/2 Energizer® operating system conforming to ASSE #1037. Flush volume shall not exceed 1.6 gallons/flush (6 liters) when operated with static pressures of 15 psi or greater. All units shall have an integral pressure reducing valve to limit vessel internal pressure to no more than 35 psi; a secondary pressure relief system to discharge excess pressure into the bowl; and a

pressure-type vacuum breaker augmented by an air induction assembly to prevent back-siphonage.

When coupled to a non-gravity bowl designed for a pressure flush operating system, the combination shall meet or exceed all existing local, regional and national performance and safety codes and requirements for hydraulic performance in accordance with current ANSI standards.

†Units with serial numbers below AA090000 are covered by the warranty in effect at the time of purchase



Meets all Standards and Codes



PF/2 Energizer and PF/2 Energized Flush are registered trademarks of W/C Technology Corporation. The PF/2 Energized Flush System is protected in the United States by patents #5,261,426 and #5,970,527. Elsewhere, other patents cover foreign applications of the technology. (Specifics available on written request.) Information in this brochure is based upon technical data which WCTC believes to be reliable. It is intended for use by persons at their own discretion and risk.

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