



Weight Watcher™ Growth Management System

By-Pass Gate for Emergency Exit from the Water Pen to the Feeding Pen

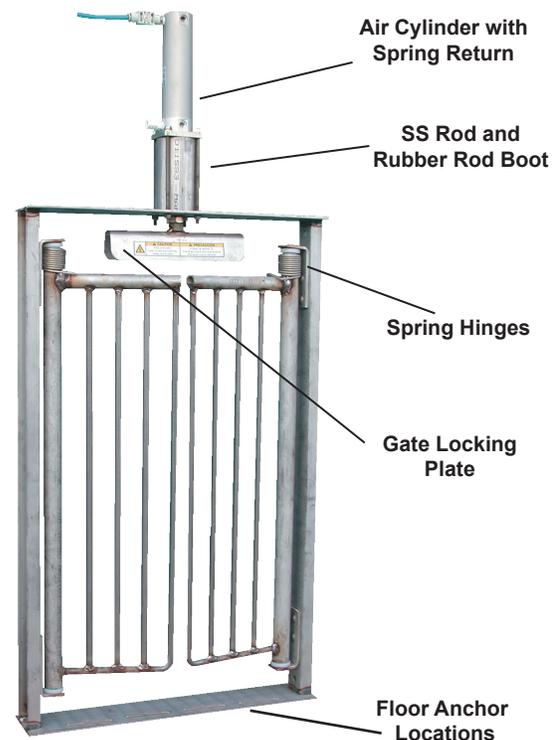
SAFETY BY-PASS GATE U.S. PATENT NO. 8,511,257.

An Osborne Weight Watcher™ System relies upon the continuous natural pattern of movement of the pigs to water and then back to their preferred feeding area within a large pen configuration. For 500 to 600 pigs, this flow of pigs through the Osborne Survey Scale™ shows a diurnal pattern that is normal and easily established.

However, abnormal events can block this normal flow and raise the stress levels on pigs, and under some abnormal circumstances, the water pen may become overpopulated, leading to animal injury or loss.

Producers must walk their pens and maintain close supervision to prevent or intercede if these abnormal events occur. Although certain safety measures have been incorporated into the Osborne Survey Scale, addition of at least one By-Pass Gate to each Weight Watcher System is required as an added measure of safety to the operation of the system when the following events occur:

1. Loss of air pressure (e.g. compressor failure, air line break, etc.)
2. Loss of electric power
3. Mechanical damage to the Survey Scale (e.g. broken parts blocking passage)
4. Blockage of the Survey Scale (e.g. dead pig in scale)
5. Load cell failure (e.g. entrance gate not opening properly)
6. Incorrect IFC+ settings (e.g. pigs not permitted to use the scale)



**By-Pass Gate
for Weight Watcher System**
Part No. FS-SS0550 (Galvanized)
Part No. FS-SS0560 (Stainless Steel)

The By-Pass Gate responds to all of these conditions by opening to allow pigs to exit from the water pen without passing over the Survey Scale. After the abnormal condition is corrected, then the By-Pass Gate can be closed and reset and normal operation of the Survey Scale can resume.

CAUTION: The By-Pass Gate and IFC+ safety features do not replace the need for vigilant system supervision.

HOW THE BY-PASS GATE HANDLES EACH ABNORMAL EVENT

The By-Pass Gate is equipped with a spring-loaded air cylinder. The extended cylinder locks the gates in a normally closed position, using a sliding U-lock. If air pressure is lost for any reason, the cylinder spring retracts the U-lock and the gates are thrown open by hinge springs. The pigs then by-pass the Survey Scale until the abnormal condition is removed and weighing and sorting can resume.

Because the air cylinder is exposed to an aggressive, dusty environment, the part of the cylinder rod that is retracted into the cylinder is protected by a rubber boot and is not exposed to the pigs or dust. The cylinder rod is made of stainless steel to prevent corrosion over time. Although not as important to the success of the By-pass Gate, the hinge springs for the gate are also made of stainless steel. The gate itself is available in hot-dipped galvanized steel or all Type 304 stainless steel construction.

1. Loss of Air Pressure

This event may occur if the air compressor fails and no back-up, stand-by compressor exists, or if an air line breaks, or if power to the compressor(s) is interrupted. The Survey Scale without air power cannot actuate its gates and goes into “limp mode” and both entrance and exit gates can then be operated by the pigs. But if the total pig population in the pen is near maximum and traffic through the scale is high, then passage through the scale may be too slow to prevent overcrowding in the water pen. The By-Pass Gate opens as soon as the air pressure drops below the spring force and unlocks the By-Pass Gate to relieve the water pen.

2. Loss of Electric Power

This event may occur if electric power is lost, a supply transformer fails, a circuit breaker is opened, or any other cause interrupts power to the Survey Scale. The Survey Scale responds to power loss by releasing air pressure at the scale and going into “limp mode”. Without air pressure, as in Event 1, the By-Pass Gate releases for an added measure of safety for high usage barns.

3. Mechanical Damage to Survey Scale Interrupting Use

If this event occurs, the IFC+ notes the interruption using its Idle Alert function and, with proper set-up of Idle Alert, the Survey Scale automatically goes into “limp mode” which releases the By-Pass Gate until the Survey Scale can be repaired. Note that only damage that blocks passage will release the gate. Other damage, such as corrosion or excessive debris that affects weighing accuracy, can prevent normal Survey

Scale operation, but may not activate the By-Pass Gate. Regular inspection and cleaning of the Survey Scale is recommended.

4. Blockage of Survey Scale

This event can occur if a pig dies in the scale or next to its entry, or if penning or any other object is accidentally lodged within the scale. The Idle Alert function can activate and the Survey Scale goes into “limp mode”, releasing the By-Pass Gate.

5. Load Cell Failure

If the stainless steel load cell on the ACCU-ARM® weigh arm is destroyed by lightning or corrosion or is accidentally disconnected, then Idle Alert function is activated and the Survey Scale goes into “limp mode”, releasing the By-Pass Gate.

6. Incorrect IFC+ Settings

If the user chooses settings on the IFC+ other than the default values, certain values may lead to lack of use of the Survey Scale. Then in some cases, the Idle Alert function may be activated and the Survey Scale goes into “limp mode”, releasing the By-Pass Gate. However, owing to the versatility of the IFC+ and the wide range of choices open to the advanced user, not all causes for disuse of the Survey Scale can be anticipated by the Idle Alert function and the By-Pass Gate may not be activated. The user is strongly urged to observe the operation of the Survey Scale and WWS closely for a few days after any departure from default or well understood values on the IFC+.

Resetting the By-Pass Gate

The By-Pass Gate is reset by first disconnecting air pressure, using the manual air valve. Then gather the gates together under the U-lock and, when aligned, reconnect the air pressure to set the U-lock, keeping fingers and hands clear of the U-lock as it re-engages the gates.

WARNING: Do not grip the top of the gate while resetting the By-Pass Gate. Hands or fingers on the top of the gate can be pinched between the U-lock and top of the gate when air is reapplied, leading to severe injury or loss of fingers or hand.



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