Introduction

When Jim Wilden invented, in 1955, the air-operated double-diaphragm (AODD) pumping principle, it’s no exaggeration to say that he also created the diaphragm-pump industry. As the creator of AODD-pump technology, Wilden and his eponymous brand established a standard for highly engineered machines that still exists nearly 65 years later. This is a standard that competitors – whether legitimate or not – have attempted to emulate with varying degrees of success.

These competitors have not hindered the brand, but have served as a catalyst that has driven it to further product innovation. In fact, legitimate competition has resulted in the development of a current portfolio of AODD pump models that are truly cutting edge. This enables their users to optimize their operations, whether they involve oil-and-gas recovery or chemical processing, pharmaceutical development or mining.

On the other hand, it’s the illegitimate competition that creates cause for concern.

The Wages Of Sin

The true genius of Jim Wilden’s AODD-pump design is the machine’s simplicity of operation. Despite that, Wilden AODD pumps require a series of parts and components to work in perfect harmony – and meet well-established standards for operation – in order for the pump to perform as expected.

The list of AODD-pump parts that the user must be familiar with include the pump body (metal or plastic), diaphragms, pistons, valve balls, valve seats, valve seat O-rings and the Air Distribution System (ADS). Within the ADS, or air...
motor, the center block, air valve and air control spool are the most significant parts.

However, as the design of AODD pumps has matured, and the list of industries in which they are used has expanded, it is no longer possible to just order, for instance, a “diaphragm.” Different designs and materials of construction have increased the available options while meeting the needs of the new applications where the pumps are used. This has also increased the complexity of the ordering and supply process. The result is that AODD-pump users must be finely tuned into the needs of their machines – increasing the importance in using genuine parts when outfitting their pumps.

As mentioned, Wilden AODD pumps only operate at peak performance when the proper original equipment manufactured (OEM) or approved components are used. Failure to use the proper components can result in:

- ** Voided warranty:** If the pump fails and is found to be outfitted with a knockoff part rather than a genuine OEM part, the warranty can be voided. This can result in the user footing the bill for any repairs or the purchase of a new pump.

- **Lower flow rates:** Satisfying demanding production schedules is a front-of-mind concern for all manufacturers and components that may not meet strict design standards will not perform as expected. This can mean minimized production rates, along with higher operational costs that are brought on by the need for increased operational time.

- **More frequent breakdowns:** Again, pirated parts are not subject to OEM quality-control standards and will be more susceptible to breakdowns that can lead to increased downtime, maintenance costs and repair costs.

- **Reduced operational safety:** Using a non-OE part can jeopardize chemical compatibility and even worker safety. In other words, you just can’t be sure what you’re actually getting if it isn’t a genuine part – and you shouldn’t be willing to take that risk.

**Know The Warning Signs**

Unfortunately, the entry of pirated parts into the AODD-pump market has become a fact of life. While these parts may try to capitalize on the Wilden reputation, they are obviously inferior and unable to deliver OEM-level performance. Knowing that, these unscrupulous suppliers attempt to “trick” users by mimicking the brand or referencing specific part names, numbers and performance curves.

There are a number of ways, though, that these pirated parts can be recognized:

- **Part numbers that are not typical for the brand.** The most common example of this phenomenon is a part number that begins with a letter when, in reality, the part number is strictly numerical. For instance, a typical part number for a Wilden diaphragm may be 08-1022-58. However, there are counterfeit replacement models now available that claim to be genuinely Wilden that have a part number that begins N08 or PF08, with the “N” and “PF” representing the first letter(s) of the knockoff company’s name.

- **Missing critical identification stamps:** Diaphragms and most other parts made by Wilden always have a “Manufacturing Date Stamp” clearly shown on the part. These stamps identify the Wilden brand and part number, along with indicating the month and year in which the part was manufactured.

- **Parts shipped in non-traditional or atypical packaging:** All genuine Wilden Spare Part Kits are packaged on a sealed cardboard sheet featuring the Wilden name. Any replacement parts ordered outside of Wilden’s parts kits are shipped in a plastic bag with the Wilden name, notation of “Genuine Wilden Parts” and facility address/contact information printed on the bag with the part number and quantity indicated. Some brazen piraters are shipping individual parts in simple plastic bags with the part name and number written with a marker and nothing else. Receiving parts in this manner should raise red flags. Wilden has taken many years to cultivate and refine its unique logo and color scheme. So, if a set of replacement valve balls arrives in a package where “Wilden” is written in metallic blue in an Olde English font, there’s a good chance the parts have been pirated.
• Parts that claim to be constructed of a certain material, but may not be: It’s easy for a counterfeiter to say that a diaphragm is made of Wil-Flex™ – and to the untrained eye, that claim may be hard to refute. Wilden diaphragms come in a variety of blends of different materials. Wilden has extensively tested the blend that works best in its pumps to maximize life, limit startup pressure and ensure easy installation. Pirated parts won’t necessarily use the same material blends that Wilden has proven to be best for its pumps. Also keep in mind, though, that a true Wilden diaphragm of any type of construction will have the Wilden logo stamped on the back along with the part number, while the pirated part will not. All of this is important because operating a pump in an application that requires Wil-Flex when the diaphragm is, in fact, not Wil-Flex can lead to increased downtime, maintenance costs and replacement costs, as well as a reduced level of safety.

• Fake documentation: Before any products are released, Wilden carefully field and factory tests them, and then publishes the performance data in its manuals that are shipped with each part. Some pirates attempt to duplicate Wilden’s manuals, right down to the use of matching font styles and flow-curve formats. In fact, some counterfeitters will literally “cut and paste” Wilden’s manual graphics into their own IOMs instead of conducting legitimate tests.

Still, it’s likely that some of the more sophisticated counterfeitters may be able to replicate the look and feel of

The manufacturers of pirated parts will oftentimes create a “cut and paste” reproduction of the part’s performance information that comes straight from the manual of the original manufacturer. In this example, there is no real discernible difference between the flow curve for JDA’s pirated parts, on the left, and the original version from Wilden, on the right, while their actual performance will vary greatly.

Despite this invoice claiming that the ordered diaphragm is made of Wil-Flex®, you can look no further than the non-Wilden part number of N04-1010-58 to know it is pirated. Genuine Wilden® part numbers start with a number between 0 and 9; they do not begin with a letter as shown in this example.
Wilden packaging and part-number nomenclature. This will make it more difficult to readily identify a pirated part. In this case, the user will have to pay close attention to the pump’s performance after any replacement parts have been installed.

Simply put, the machine will not be able to deliver the level of performance that is expected when outfitted with a non-OEM part.

It pays at this point to reiterate again the dangers that can be created for the operator if Wilden AODD pumps are not equipped with genuine OEM parts. Foremost are breakdowns or malfunctions that can compromise the safety of the operation, site personnel and technicians, and surrounding communities and the environment. This is a risk that should not be taken in the name of saving a few dollars through the use of non-standard knockoff parts – especially if it means that a warranty will be voided.

Conclusion

Imitation may be the highest form of flattery, but pirated parts will always be the bane of legitimate operators in any industry. Through a combination of awareness and due diligence, the users of Wilden AODD pumps can take the sting out of the knockoff-parts market, and ensure the safe, reliable and efficient operation of their equipment. The overriding lesson here is simple: Always buy genuine parts either directly from the manufacturer or from an authorized distributor or sales representative that is listed on the manufacturer’s website.

About the Author:

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