



'On Line' Research Reveals Best Piggable Pump

CUSTOMER

Tier 1 Automotive Manufacturer

GRACO EQUIPMENT

Endura-Flo 4D350, 4:1 Air Operated Diaphragm Pump, 350cc

CHALLENGE

When the paint process manager at a major automotive plant received an obsolescence notification, he used it as an opportunity to do actual "on line" research.

The robotic paint line needed a new piggable pump that was:

- Durable, performing well under high flow and high pressure demands
- Low-maintenance, needing little attention and no regular re-torquing by maintenance staff

He asked five finishing equipment brands (Binks, Graco, Kremlin, Timmer, Wilden) to provide candidates for the factory's piggable paint circulation system. One brand provided two options; the rest offered one.

SOLUTION

Over two years, six different pumps were installed on the paint line and scrutinized. Factors evaluated included:

- Air consumption
- Noise level
- Air motor oil consumption
- Surge pressure drop between strokes
- Loading capability with eight robots at the same time
- Runaway prevention
- Technical support – locally and from the original equipment manufacturer (OEM)

After four months, each pump was pulled off line, torn apart and inspected for wear and tear. Maintenance staff also examined:

- Cleanliness of internal components after pigging process purge
- Repair cost with estimated mean time to repair (MTTR)
- Maintenance documentation ease of use and part identification

RESULTS

Two pumps failed completely. Another pump fell apart and was shipped back to the supplier in a box.

Of the three remaining pumps, Graco's Endura-Flo 4:1 Air Operated Diaphragm Pump proved the most durable, according to the paint process manager. When maintenance staff inspected the Endura-Flo for wear and tear, they reported it "looked perfect when disassembled."

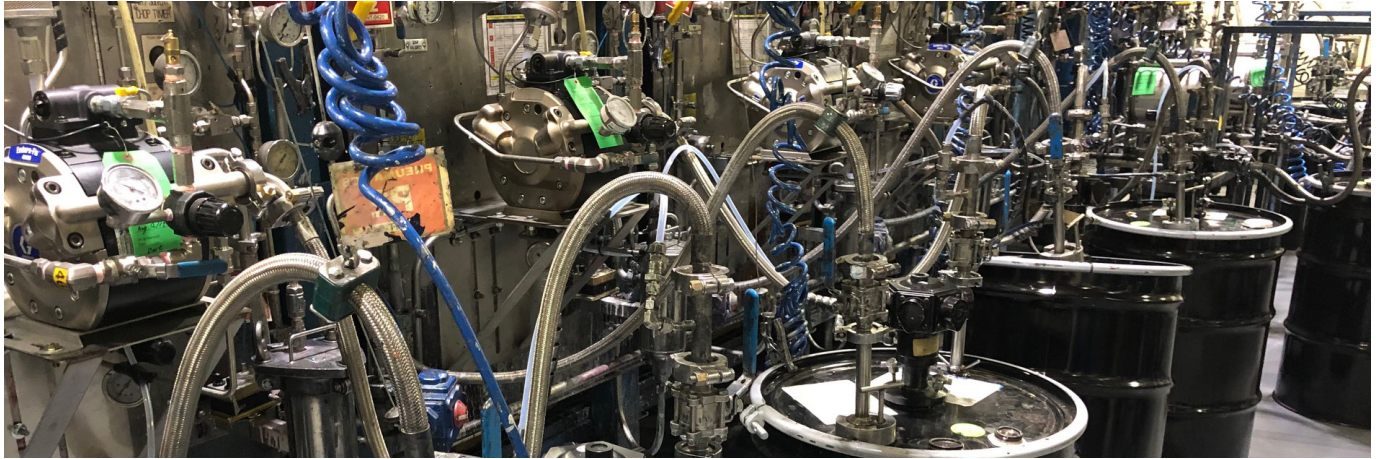
What's a piggable pump?

A piggable pump is part of a paint circulation system that uses bullet-shaped objects called "pigs." When it's time to change colors, a burst of compressed air shoots a pig through the paint lines, quickly cleaning them out and sending the previous material back to supply for later use.

A piggable pump is designed to flush quickly with as little solvent as possible. This helps reduce color-change time and material waste.



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In addition, DataTrak control prevented pump runaway and tracked material usage.

Five Endura-Flo pumps were installed on the piggable paint system. A year later, the paint process manager remains pleased with their durability.

- Durability means more uptime due to lower repair frequencies.
- Lower repair frequencies not only means less downtime or chance of failure during production, it also means maintenance does not need to keep many spare parts on hand.

Endura-Flo worked so well on the robotic paint line, the air operated diaphragm pump was chosen for some booth-side feed applications. This brings up the number of Graco pumps in use at the Tier 1 automotive plant to more than 20.

