

PNEUMATIC CONVEYING SERVICES

Better service means higher productivity



BETTER CUSTOMER SERVICE MEANS HIGHER PRODUCTIVITY

What would it mean for your plant to run more efficiently? No more chasing spare parts. No wasted days wondering what has gone wrong with your pump. No time-consuming bearing changes, or budget-blowing unplanned downtime...

We share your frustration. It doesn't have to be that way. The technology exists to improve plant efficiency and we want to help get you there. Our world-class services and equipment programs are designed to bring you solutions that enhance your efficiency, whether that is new technology or new ideas. Above all, we want to share our experience so that you can improve your plant's productivity and boost your bottom line.

KEY BENEFITS

Ful-Vane[™] compressor exchange program

Hot swap bearing assembly for 3-piece screw

3-Piece screw upgrade for Fuller-Kinyon® pumps

A spare parts program that works for you

Fuller-Kinyon[®] Pump and Ful-Vane[™] Compressor Roadshow



QUICK AND RELIABLE COMPRESSOR REPLACEMENT

FUL-VANE™ COMPRESSOR EXCHANGE PROGRAM

When your compressor breaks down, you can't afford to wait months for a replacement. You need to get back to business as usual – and fast. Our compressor exchange program enables you to do just that and also offers significant cost-savings over other replacement options.

How does it work? We take in your worn Ful-Vane compressors and replace them with OEM factory-reconditioned and warranted replacements, available from our huge stock kept at our plant in Northampton, Pennsylvania and in Certified Service Centers situated across the US and Canada. All you have to do is call us to confirm availability. We'll ship a replacement compressor right out to you.

Your participation in the Ful-Vane compressor exchange program gives you:

- A replacement compressor immediately shipped from factory warehouse stock
- OEM Fuller®/FLSmidth Cement quality parts
- 'As new' factory warranty
- Full inspection of the returned compressor with process improvement recommendations
- Start-up, Inspection, and troubleshooting service available

Highest quality - guaranteed

Every exchange compressor is a factory-new or completely restored unit that comes with an 'as new' 4-year manufacturer's warranty. We're the only

What's included?

FLSmidth Cement compressors are stocked at convenient locations across the USA and Canada in most popular sizes. Your exchange compressor will include:

- New or reconditioned cylinder
- New B3000[™] OEM blades
- New hub seal rings
- New angle check valves
- New or reconditioned bearing retainers
- New or reconditioned rotor
- New bearings
- New gaskets and shims
- New or reconditioned heads
- New mechanical seal parts or packing, as required

organization that can provide OEM-certified compressor exchanges that carry this level of warranty. That's because, as the OEM, we are equipped to restore the unit to the highest manufacturing and quality standards. So you benefit from:

- A no-risk exchange with guaranteed OEM quality at original performance standards
- Cost savings compared with purchasing a completely new unit
- · Speedy delivery from a location convenient to you

Compressor cylinder before and after restoration





CUT DOWNTIME BY 50% OR MORE

HOT SWAP BEARING ASSEMBLY FOR 3-PIECE SCREW

Nothing is more of a budget buster in a manufacturing plant than unplanned/unscheduled down time. Even with a high-quality machine like a Fuller-Kinyon® pump, it's not a question of if a bearing assembly will wear out, it's a matter of when. The typical removal, rebuild, and reassembly of a worn bearing unit can take up to 7 to 10 hours, depending on the extent of wear to the original parts. That's an entire day, lost.

Benefits

- · Cut downtime for bearing changes
- Lower the cost of wear parts
- Get credit for reusable bearing assembly components



There is another way. Instead of taking the time – and time is money – to rebuild a worn bearing unit from scratch, you can maximize the benefits of the 3-piece screw in your Type M Fuller-Kinyon® Pumps by keeping Hot Swap bearing assemblies on your shelf. Having complete bearing assemblies readily available cuts downtime by more than half. In fact, you can be back up and running in approximately 3 hours.

Fully-assembled units, ready to go

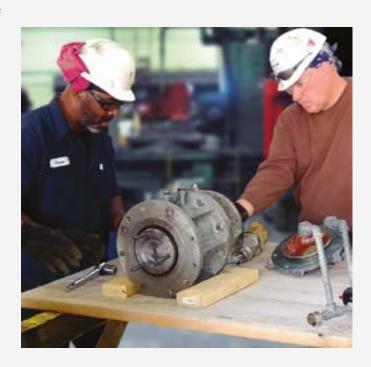
Each Hot Swap is a fully-assembled unit complete with seals, bushings, bearings, and drive or stub shaft. The cost of each assembly is significantly less than buying the individual parts. The savings get even better when you factor in the reduced overall system downtime.

Every Hot Swap exchange bearing assembly is backed by an FLSmidth Cement one-year material and workmanship warranty.

Hot Swap Bearing Exchange Program

Once the new assembly is "swapped" onto the pump, you can rebuild the worn assembly when time allows. Or, for additional savings, send us the old unit. If an inspection reveals that its shaft, bearing housing, bearing support and cover plate can be used again (many can be) for a future rebuild, we'll give you credit for the reusable parts.







3-Piece screw upgrade for Fuller-Kinyon® pumps

Convenient and cost-effective pump screw upgrade

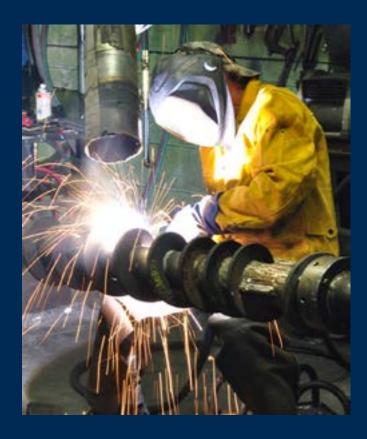
If you have an older Type M Fuller-Kinyon pump manufactured prior to the year 2000 in your plant, then it probably uses the single-piece screw design. The screw is a wear part and will need replacing from time to time. This is a fairly difficult procedure with a one-piece screw – disconnect the coupling, expose the bearings and seals to a dusty and dirty plant environment, and then pry the screw out of the drive side bearings.

The new screw then has to be installed through the bearing assemblies without damaging the seals or bearings. This is a very difficult procedure and even the best technicians sometimes fail to not damage the seals and or bearings. It could take three technicians 10 to 16 hours to complete a screw change-out with this design. That's a significant cost, both in man-hours and downtime.

To eliminate these issues FL Smidth Cement introduced the 3-piece screw design in 2000. This design splits the pump screw into three sections that are bolted together at the balance wheels of the screw. On each end there is a stub shaft that is contained inside the bearing housing assembly. To change out the center screw, you simply remove it from these ends.

This simplified process has less of an impact on the rest of the equipment, since you don't have to manipulate the screw through the bearing assemblies in order to complete the change-out. There is no need to disconnect the motor from the drive-end bearing assembly shaft. And as a result, the man-hours and downtime required to carry out the task are also dramatically reduced – down to two technicians and 3 to 4 hours. Reduced downtime and lower costs.

The 3-piece screw is available as a conversion kit for existing pumps and is also the standard design for all new Type M pumps sold in this century. Once you have



upgraded to the 3-piece design, you can take advantage of the Hot Swap bearing assemblies, which further reduce maintenance time and costs.

For even greater savings, consider purchasing a set of both drive and discharge end Hot Swap assemblies. You will receive a 10% discount and the 3-piece screw will be supplied at no charge.

Available for 1-piece 150M, 200M, 250M, 300M, and 350M Fuller-Kinyon Pumps.

Benefits

- Reduce downtime
- Lower maintenance costs
- Minimize the impact on the rest of your equipment



A SPARE PARTS PROGRAM THAT WORKS FOR YOU

Reduce inventory cost and maintain safe inventory levels

A ready supply of spare parts is essential for the continued, efficient operation of your plant. But the cost of carrying all the necessary spare parts can be prohibitive. We've developed a Spare Parts Stocking Program (SPSP) that enables you to keep up safe inventory levels in your storeroom while minimizing costs.

Benefits

- Convenient on-site inventory of OEM parts
- Reduces expensive rush orders
- Flexible inventory
- Pay as you go for the duration of the contract
- Protection against obsolescence and overstocking

How does it work?

When you join the 12-month program, we decide together on the optimal inventory mix for your facility (\$100,000 minimum), whether that's parts required for normal preventive maintenance or for an emergency. We will then ship that inventory out to you – but until those parts are put to use in your plant, ownership of the stock stays with FLSmidth Cement.

The benefits are clear - you have the reassurance of knowing that the spares you need for the year are on site, ready to go when you need them. No lengthy waits for spare parts, or high costs for emergency deliveries. At the same time, your capital isn't tied up in that spare parts stock – you only pay for what you use until the end of the contract, when we'll invoice for any remaining inventory.

Spare parts - and spare funds

The SPSP is both convenient and practical. You have the parts you need, when you need them. Once a part is put to use, just let us know and we will send you the invoice. But if a part stays on the shelf, you don't have to pay for it until the end of the contract.

Joining the SPSP is simple. Just contact us to set it up and together we'll decide what you need. Once you're enrolled and you've signed the SPSP agreement, we will ship the inventory to your facility.



This program enables the continued performance of:

- Fuller-Kinyon[®] pumps
- Ful-Vane[™] compressors
- SK[™] Diverter valves
- · Rotary feeders
- Airslide® gravity conveyors
- Other pneumatic conveying components

Ask us about:

- On-site rebuild, troubleshooting, and commissioning support
- Parts application support, parts quotes
- FK Pump Screw exchange program
- Compressor buyback program (account credit)
- Upgrades: 2-pc and ZFlap screws, FK Pump and Ful-Vane lubrication systems
- 24-hour PT emergency parts hotline:
 USA/Canada 1-800-795-6825



FK PUMP AND FUL-VANE™ COMPRESSOR ROADSHOW

Onsite expertise - We bring the training to you

How well do you know your Fuller-Kinyon® Pump and Ful-Vane Compressor? The better you understand how these industry workhorses operate, the better the performance you'll get from them. That's why we've developed the Pump and Compressor Roadshow – so that we can bring our expertise to your site, and help plant engineers and maintenance professionals to:

- · Understand the principles of pneumatic conveying
- Troubleshoot systems/equipment
- Perform best maintenance practices on Fuller-Kinyon pumps, Ful-Vane compressors and other FLSmidth Cement pneumatic conveying equipment.

We think that wherever possible, training on plant equipment ought to involve getting your hands on the actual equipment. But that's not always possible on a working plant. So for this two-day roadshow training, we'll ship an equipment container to your facility ahead of the seminar.

Each participant will be provided with manuals highlighting the material covered for both the pump and compressor training sessions. Do you have a specific training need? Ask us about customized Pneumatic Transport training.

Hands-on training at your facility

Part of the training will take place in a classroom, but for the rest of the time you'll have the opportunity to learn with full-size equipment, including:

- Fuller-Kinyon® (FK) M Pump
- Ful-Vane[™] Compressor
- Fuller-Kinyon H pump
- SK[™] Diverter Valves
- FK Pump AutoLube System

If you have pneumatic conveying concerns, we've got you covered. From an on-site advisory service to a 24/7 helpline, an FLSmidth Cement service engineer can help you get the most from your equipment. Call us 24/7 at 800-795-6825.

Would your maintenance team benefit from some outside expertise? Or perhaps you'd like someone to troubleshoot your Fuller-Kinyon pump or Ful-Vane compressor? We have teams who will come to your site to advise, diagnose and even train maintenance personnel as you prepare for, or carry out maintenance activities. We can also perform mini-audits on your working pump and compressor to observe and assess the equipment – no disassembly required!

If work needs doing, our service centers are strategically located through North America and have been specially selected, authorized and trained to service Fuller-Kinyon



pumps, Ful-Vane compressors and supporting FLSmidth Cement pneumatic conveying equipment. They can perform shop rebuilds, complete overhauls, inspections and maintenance work. And of course, they use only original FLSmidth Cement OEM parts and components.

FLSMIDTH CENTER

www.flsmidth-cement.com





