



Excellent  
Oil & Gas  
Solutions



## Replacement Fluid Ends & Fluid End Repair Services

**Weir SPM has taken great strides to match the industry's demand for replacement fluid ends through increased production, and by offering field-proven fluid end repair services.**





*Weir SPM expanded upon its fluid end production capabilities with the addition of several new Trevisan machines.*

## **Weir SPM has increased capacity for fluid end production, making replacement fluid ends more readily available to the customer.**

Weir SPM manufactures an impressive line of high quality fluid ends. Offered in a variety of configurations to match most well service pumps on the market, Weir SPM fluid ends exhibit superior strength and ease in serviceability.

Weir SPM added several new Trevisan machines to greatly increase production output of fluid cylinders, helping to meet the demand of customers in the field. All fluid end cylinders are precision machined in-house, and are thoroughly inspected before delivery to the end user.

Long viewed as a leader in quality for well service equipment, now Weir SPM is reducing waiting periods for delivery of product, allowing customers to return their units to the field faster, increasing utilization numbers.

Contact Weir SPM Sales to determine which model of fluid cylinder best suits your needs.

Weir SPM offers replacement fluid ends in the following styles:

- OPI
- "Wing Style" Suction Valve Stop
- Grooveless Design

### **Extending Product Life:** **Autofrettage**

Bore intersections in a fluid cylinder exhibit very high stresses at the corners of the intersection. To combat this problem Weir SPM offers the Autofrettage option for customers purchasing a new fluid end. The Autofrettage procedure is a technique where a "one-time" high hydraulic pressure is imposed on the bore intersections of a new cylinder. Relaxation of this one time pressure treatment causes high-risk areas to develop a residual compressive stress, mitigating the destructive effects of the fatigue. The Autofrettage process may not completely eliminate the likelihood of fatigue failure (since corrosion and erosion still occur). However, it should significantly increase the number of cycles the product can tolerate, ultimately extending the life of the fluid cylinder.

### **Extending Product Life:** **Routine Maintenance Program**

Implementing a routine maintenance program for your Weir SPM pumps is a vital part of extending their life and maximizing the efficient use of the fluid cylinders. At the very least, the following maintenance procedures should be set up, operated and recorded for review:

- Power end lube oil and filter inspection
- Fluid end valves and inserts inspection
- Fluid end seats inspection
- Fluid end valve springs inspection
- Plunger packing inspection

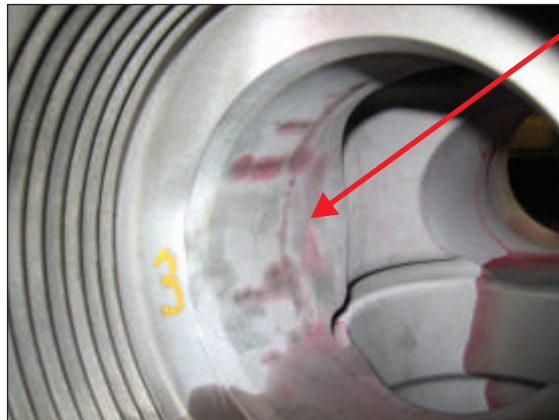
Proper maintenance practices are the best way to increase the life of your pumps and pump components. Weir SPM strongly suggests that each customer develop a maintenance program to be followed at all times. Weir SPM also offers training programs to instruct customers on proper maintenance procedures, and Mobile Recertification Units that can provide on-site maintenance procedures on demand.

## Weir SPM's Fluid End Repair Services give customers the choice between purchasing a new fluid end or repairing an existing fluid end to "like-new" condition.

In the past, the only option for customers with cracked, washed or eroded fluid ends was to simply discard them. In an effort to offer customers an alternative to disposing of their equipment, Weir SPM has developed a process to return used blocks as reconditioned fluid ends in "like-new" condition. Weir SPM has been implementing this process in select areas with great success. Now, all customers will have the opportunity to evaluate the status of their fluid cylinders and have options of whether to replace or refurbish.

### Refurbishment Process Includes:

- Fluid cylinders completely cleaned and bead-blasted. (A chemical hot tank dip is required for excessively dirty cylinders.)
- Visual inspection of seat taper bores, valve lift wash areas, packing bores, suction bores, discharge bores, and mounting flange for fretting.
- 100% die penetration examination of the fluid cylinder internals.
- 100% wet fluorescent magnetic particle inspection of all thread bores.
- Examination of all bores and thread bore connections.
- Examination of all valve seat bores and stand off dimensions.
- Record of all visual findings and dimensional data on formatted reports.
- Finalized reports for presentation to customer.
- Customer evaluation to decide on scope of work demanded.



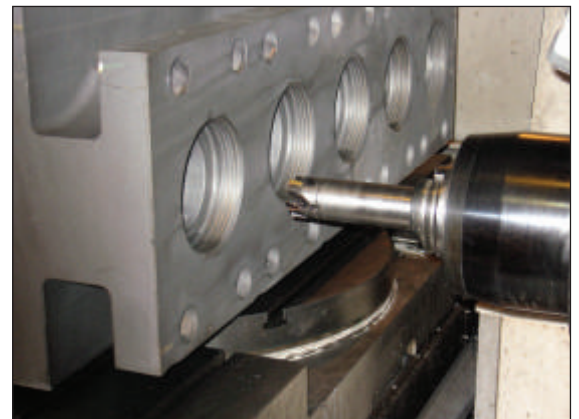
*Weir SPM Fluid End Repair Services can repair common damage found in used fluid ends, such as corrosive wear and cylinder bore cracks, as seen to the left.*



*Fluid ends are thoroughly inspected by trained technicians to determine the scope of work required to repair the cylinder.*

### Program Advantages:

- Fast turnaround.
- Cost efficient alternative to purchase of new block.
- Extends life of fluid end.
- In depth reports given on status of cylinder and repairs made.
- Complete examination of fluid cylinder, including tests that cannot be performed in the field.



*Weir SPM utilizes state of the art machinery and welding techniques in the repair of worn or cracked fluid cylinders.*



**Weir SPM also offers a wide range of pump repair services at its conveniently located service centers, or on-site through the use of its Mobile Recertification Units.**

Weir SPM is committed to providing our customers with the resources needed to maximize the efficiency of their Weir SPM products, thus increasing productivity during their operation. Well service pumps undergo great stresses during operation, particularly under harsh pumping environments. Care must be taken to make sure the pumps are maintained properly and repaired when needed.

Therefore, Weir SPM has established select service centers capable of performing full pump repair services. At these locations, Weir SPM's professionally trained technicians perform complete pump repair services for all makes and models of well service pumps. Each pump repair service center can provide a wealth of services to allow the customer to have their equipment repaired as quickly as possible with maximum convenience.

Weir SPM offers pump repair services at several locations around the globe, strategically positioned to minimize the time pumps are out of service. Weir SPM also offers a fleet of Mobile Recertification Units that can provide fluid end maintenance and basic pump repair services at the customer's site for increased convenience and fast problem solving solutions.

**Pump Repair Procedures Include:**

- Disassembly of all components
- Inspection, including magnetic particle
- Evaluation of Repairs
- Cost Estimates
- Repair utilizing skilled Weir SPM technicians
- Test
- Documentation to verify product quality
- Repaint



**Pump Repair Facilities:**

- Fort Worth, TX
- Odessa, TX
- Red Deer, AB, Canada
- Aberdeen, Scotland

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