CUSTOM MANUFACTURED

Heavy-Duty Cylinders
At the Sheffer Corporation, we know the ins-and-outs of custom cylinders like no one else.

Sheffer’s reputation for excellence in the production of custom cylinders is derived from a can-do attitude that dates back to our earliest days as an engineering firm. Since 1952, we have enjoyed the challenge of conceiving new ways to achieve high-performance and we have been motivated by every opportunity to satisfy a unique requirement.

Whether your custom cylinder application is industrial or mobile, you’ll appreciate our desire to help...because we can!

There’s no substitute for experience when building specialty cylinders.

Every day, we manufacture specialty cylinders that other companies can’t make, won’t make or are reluctant to try. All the while, we meet the demand for high-quality custom cylinders that are exposed to the harshest environments and roughest conditions. Our experience encompasses virtually every industry and possibly the widest range of cylinder media.

There is little we haven’t seen – even less we couldn’t produce.

A Space shuttle workover fixture.

This fixture was built for NASA and is used to rotate the shuttle’s main engines. It is actuated by two, three-stage telescopic Sheffer cylinders which are capable of lifting a 300,000 pound load. Each cylinder has a total stroke of 25' and a main barrel measuring 19” OD. Sheffer’s Engineering department worked closely with NASA during the design phase and our Quality Assurance staff helped the space agency implement a special QC program.
Marine dredge barge cylinders. These 20,000 pound cylinders were designed and built to open and close the split hull of a marine dredge. Their physical size and weight required large honing and machining tools, as well as special handling equipment. Specific marine coatings and external seal arrangements also were necessary. The cylinders were manufactured to meet ABS (American Bureau of Ships) and USCG (United States Coast Guard) rules of construction.

Cylinders for dumping wood chips. These three-stage, single acting, telescopic cylinders were built for a unique application in the pulp and paper industry: Lifting platform and semi-truck trailers to dump wood chips. The cylinders required deep hole boring and honing, and feature a 430" stroke. Not only did they replace existing cylinders, but they also dramatically improved the service life.
**Rock crushing press cylinder.** This cylinder used in geologic engineering is capable of exerting 3,000,000 pounds of pressure. Outfitted with a positioning device for stroke control, it has a 28" bore, 4" stroke, 47" x 56" x 14" platen face plate and 5000 PSI operating pressure. The customer's engineering department worked closely with our personnel to achieve the desired force and size requirements.

**Four stage telescopic cylinder.** This 34 1/2' cylinder, designed for use in the pulp and paper industry, incorporates special application and safety factors. It is a four stage, single acting telescopic cylinder utilizing a 414" stroke to lift platform and semi-truck trailers to empty wood chips. Special machining requirements included deep hole boring and honing.

**Tunnel boring grip and propel cylinders.** Sheffer went underground in the development of cylinders for this boring machine that utilizes 12" and 15" high pressure cylinders (5000 PSI) to grip and propel the unit. Sheffer’s experience was critical to manufacturing the cylinders using chrome plated high-strength materials and special welding procedures for a long service life.
Cargo unloading boom cylinders. This special order involved manufacturing 14” bore boom cylinders, 12” bore jib cylinders and 8” bore stinger cylinders which were then mounted on equipment to unload bulk cargo on the Ohio River. Each cylinder was built to ABS specs and includes triple chrome plated cylinder rods and bodies coated with marine-grade paint.

Hydraulic axle boosters. A necessity on trailers hauling extremely heavy loads, these custom hydraulic boosters manufactured by us are used to equally distribute load weights over the axles. The cylinders help assure over-the-road safety and extend the useful service life of the customer’s trailers.

Steel plant latch cylinders. These custom cylinders are used to actuate a latch system on melt equipment in a steel mill located in the Northwest. The cylinders incorporate high temperature seals and have an 11” bore with 1” stroke. A special engineering effort was needed to utilize the available space.
10,000 PSI accumulators.
These 1, 5 and 10 gallon capacity accumulators were built for use on test equipment in a Texas oil field. Very smooth internal finishes and special high-pressure fluorocarbon piston seals provide minimum friction to assure long life.

Log-loading cylinder.
The logging industry is a heavy user of custom cylinders manufactured by Sheffer. These top-end log loaders count on the repeatability and performance of our cylinders to operate their loading equipment.

Trash compaction cylinders.
Providing the force for trash compaction, these long stroke, high duty cycle cylinders range in size from 14" bore with an 11" rod and 312" stroke to 8" bore, 6" rod and 264" stroke. The equipment manufacturer turned to Sheffer engineers to size the cylinders which then required deep hole boring and honing.

Whatever the size, whatever the application, you can count on Sheffer cylinders.

Sheffer specializes in specials! No matter what the quantity, application or cylinder size, we aggressively look for ways to produce exactly what a customer needs at an affordable price. In fact, we routinely build cylinders that other companies won’t touch, particularly for high demand industries or in highly regulated applications. Our Reddick Division in Roseburg, Oregon, is especially adept at manufacturing custom cylinders that are a lot larger and much heavier, with unusually long strokes.

Regardless of task or application, Sheffer makes quality customs that you can count on over a long service life.
Mining dump truck cylinders. These two stage telescopic Sheffer cylinders are used on underground mining dump trucks with low overhead clearances. Sheffer engineers were called on to effectively use the limited space. The first stage of each cylinder is double acting, the second stage single acting.

Dump scow marine cylinders. Lined up ready for shipment, these 18” bore, 9” rod and 120” stroke marine cylinders are used for opening and closing a split hull hopper barge. To meet space and force requirements, the experience of Sheffer engineers was needed by the customer. Special manufacturing procedures included deep hole boring, large/long honing, chrome plated rods and marine paint.

Nuclear waste telescopic cylinders. These 100% stainless steel cylinders produced by Sheffer help raise and lower the containment unit used in the rail transport of nuclear waste from Three Mile Island to its disposal site. Each five stage double acting cylinder had to meet a 4:1 safety factor and was subjected to extensive testing according to demanding certification procedures. The turnaround time was eight weeks from placement of the order to shipping date.
Heavy-Duty Cylinders

CUSTOM MANUFACTURED

The Sheffer Corporation
6990 Cornell Road • Cincinnati, Ohio 45242
(513) 489-9770 • Fax: (513) 489-3034
sheffercorp.com