

## Production cooperation. Hydraulic cylinder

The range of diameters of the pistons being manufactured is between 45 and up to 1000 mm. Working stroke – up to 8000 mm. The facilities capable of chromium electroplating of the rods 15000mm long and up to 350 mm in diameter are available in the company. The hydraulic cylinders are complete with sealing elements procured from the foreign companies such as “SIMRIT” (Germany), “Economus” (Austria), “Hennlich” (Czechia). In doing so, the sealing elements of the other manufactures may be also used at the customer's option. Operating surfaces of the rods are chromium plated and polished (roughness Ra0.32). Operating surfaces of the rods for press hydraulic cylinders are faced with stainless steels and polished (roughness Ra0.4). Operating surfaces of the hydraulic cylinders bodies are honed (roughness Ra 0.32), operating surfaces of the pneumatic cylinders bodies are honed (roughness Ra0.32) and chromium plated. We have an experience in the design and manufacture of telescoping hydraulic cylinders. Maximum number of telescoping sections will be customized. There is an experience in the design and manufacture of rolling-mill screwdowns (screwdown hydraulic cylinders) with the piston diameter up to 1600 mm. Quality of machining and facing of the parts meets the highest international standards.

ROLLING MILL SCREWDOWN HYDRAULIC CYLINDERS



We design and manufacture hydraulic cylinders for screwdown devices of rolling mills (screwdown hydraulic cylinders) with piston diameters up to 1600 mm. Technical capabilities make it possible to produce screwdowns with large dimensions of the working surface of the bodies. For highly loaded parts we use materials with enhanced mechanical properties. (Improving strength and durability). We also use the seals made according to a special program for screwdown hydraulic cylinders from one of the world's best manufacturers. (Improving durability).

### Technical characteristics

Parameter	Value
Maximum force per rolling stand, tF	2000...9000
Hydraulic cylinder piston/rod diameter, mm*	~1150/1050
Piston stroke (total), short- and long-stroke, mm	40...210
Travel speed, mm/s	12/4
Screwdown operation limiting frequency, Hz	15...20
Roll setting accuracy requirements, mm	≤0,01
Screwdown hydraulic cylinder operating pressure, MPa	~25
Screwdown hydraulic system maximum pressure, MPa	~30

Note:

\* Piston and rod diameters are determined individually depending on the maximum stand rolling force and operating pressure.