

## Hydraulic cylinders for seeders

[Hydraulic cylinders for seeders](#) are important components in seeder equipment, mainly used to control the movement and position of seeder components. Here is a detailed introduction:

### First, Working Principle

[Hydraulic cylinders for seeders](#) work based on the principle of Pascal's law. The hydraulic oil is pressurized by the hydraulic pump and enters the cylinder chamber through the oil circuit. The pressure of the hydraulic oil acts on the piston, generating thrust to drive the piston rod to move, thereby driving the connected seeder components to complete actions such as lifting, lowering, folding, and tilting.

### Second, Structural Characteristics

1.Cylinder body: Usually made of high - strength steel or cast iron, which has good pressure - resistance and wear - resistance. The inner wall of the cylinder body is precisely machined to ensure a smooth surface, reduce the friction and leakage of the piston and hydraulic oil, and improve the working efficiency and service life of the cylinder.

2.Piston and piston rod: The piston divides the cylinder body into two chambers and is connected to the piston rod. It is usually made of wear - resistant materials and sealed with sealing rings to prevent hydraulic oil from leaking between the two chambers. The piston rod is made of high - strength alloy steel, and its surface is chrome - plated to improve hardness and corrosion - resistance.

3.End caps: Fixed at both ends of the cylinder body, which play a role in sealing and supporting. They are equipped with oil ports for hydraulic oil to enter and exit, and some end caps are also provided with mounting holes or hinges for easy installation and connection with the seeder.

### Third, Types

1.Single - acting hydraulic cylinder: It can only perform one - way movement. The piston rod extends under the action of hydraulic oil pressure, and the return movement is usually achieved by the external force of the seeder components themselves or a spring. It is simple in structure and low in cost, suitable for some seeders with low requirements for the return speed of components.

2.Double - acting hydraulic cylinder: It can realize two - way movement. The piston rod can be extended and retracted by the action of hydraulic oil pressure on both sides of the piston, which can accurately control the position and movement speed of seeder components. It is widely used in various seeders, especially those that require high - precision control of seeding depth and position.

### Fourth, Application Scenarios

1.Controlling the lifting of working components: In the process of seeder operation, the hydraulic cylinder is used to raise and lower the seeding opener, seed - covering device, and other working components. For example, when the seeder is in a non - working state, the hydraulic cylinder raises the opener to the transport position to avoid damage to the opener; during sowing, the hydraulic cylinder lowers the opener to the working position and maintains a certain pressure to ensure that the opener can smoothly open the soil for sowing.

2.Adjusting the angle and position of components: Some seeders can adjust the angle and position of components such as the seeding disc and fertilizer applicator through hydraulic cylinders to adapt to different soil conditions and seeding requirements. For example, on sloping

land, the hydraulic cylinder can adjust the angle of the seeding disc to ensure that the seeds are evenly sown.

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