

Hydraulic cylinders for plows

[Hydraulic cylinders for plows](#) are important components in plow systems, mainly used to control the movement and angle of the plow blade. Here is a detailed introduction:

First, Working Principle

The hydraulic cylinder for plows usually works 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 a thrust that drives the piston rod to move. The piston rod is connected to the plow blade or relevant mechanism, thus realizing the raising, lowering, and angling movements of the plow blade.

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, reducing the friction and leakage of the piston and hydraulic oil.

2.Piston and piston rod: The piston is connected to the piston rod and divides the cylinder body into two chambers. 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, and is connected to the plow blade or linkage mechanism.

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 plow.

Third, Types

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

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 the plow blade. It is widely used in various plows, especially those that require high - precision control of the plow blade, such as snow - plows and agricultural plows.

Fourth, Application Scenarios

1.Snow - plows: In winter snow - clearing operations, the hydraulic cylinder of the snow - plow is used to control the lifting and tilting of the plow blade, so that the snow - plow can adapt to different road conditions and snow - accumulation thicknesses, and improve the efficiency and quality of snow - clearing.

2.Agricultural plows: In agricultural production, the [hydraulic cylinder of the plow](#) is used to adjust the depth and angle of the plow blade, adapting to different soil conditions and tillage requirements, helping to improve the quality and efficiency of tillage.

Hydraulic plow cylinders for sale

Hydraulic snow plow cylinders