

## Hydraulic cylinders for tillers

Hydraulic cylinders play an important role in agriculture, [hydraulic cylinders for tillers](#), for example, it can not only through the hydraulic cylinder to adjust the plow, seeding machine into the soil depth, to ensure uniformity of cultivation, but also through the hydraulic cylinder to achieve lifting, neutral, pressure drop, floating and other operations to adjust the lifting of the machine, so as to adapt to the different needs of farming. Different hydraulic cylinders have different performance characteristics, then, single-acting hydraulic cylinders and double-acting hydraulic cylinders which is more suitable for tillage machine?

### 1. Single-acting cylinders

Single-acting hydraulic cylinders can only exert force in one direction, only one oil port connected to the oil circuit. The piston can only be reset with the help of a spring, or by the piston's own weight, or by external forces.

#### (1) Typical application:

Truck dumper lifting

Press mold reset

Simple lifting device for agricultural machinery

#### (2) Advantages and disadvantages:

Advantages: simple structure, low cost (reduce the oil pipe and valve parts)

Disadvantages: limited return force, unable to two-way output stable thrust

### 2. Double-acting cylinders

Double-acting hydraulic cylinders have two opposite effective areas, which can be the same or different, and are installed with two different ports. Through the “A” or “B” port access to the hydraulic oil, the piston can be in the two stroke direction respectively produce tension or thrust, to achieve two-way thrust output. Almost all applications can be seen double-acting hydraulic cylinders.

#### (1) Typical applications:

Excavator arm expansion and contraction

Injection molding machine clamping mechanism

Machine tool slide reciprocating motion

#### (2) Advantages and disadvantages:

Advantages: bi-directional force equalization, high control accuracy

Disadvantages: increased system complexity, high maintenance costs.

### 3. Selection decision point:

If the equipment only needs to do work in one direction and the return resistance is small, give priority to single-acting cylinders to reduce costs;

Need two-way precision control or high-frequency reciprocating motion, must use double-acting cylinders.

Understanding the working principle of hydraulic cylinders and the differences in types is the basis for equipment design and troubleshooting. Single-acting cylinder and double-acting cylinder selection is related to the system cost and performance balance, need to be based on the actual needs of the choice. If you want to know more about [hydraulic cylinders for plows](#), welcome to our official website.

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