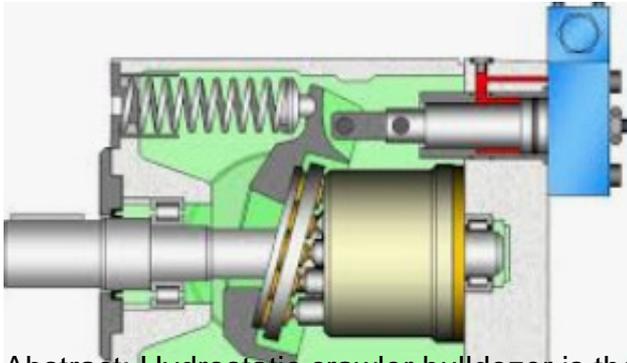


# Application Analysis on Selection of Hydraulic Pump and Motor of SD5K Hydrostatic Bulldozer



**Abstract:** Hydrostatic crawler bulldozer is the high-end equipment of bulldozer, which has the advantages of strong power, continuously variable speed, in situ and power steering, low fuel consumption, comfort and good control performance, and has become one of the main development trends of bulldozer technology in the future. Taking 130 horsepower hydrostatic bulldozer as an example, this paper briefly introduces the design calculation method of its hydraulic system and the selection of hydraulic pump and motor.

**Key words:** hydrostatic crawler bulldozer; performance parameters; independent research and development; [hydraulic pump](#)

Hydrostatic crawler bulldozer is the high-end equipment of bulldozer. Compared with the current mainstream hydraulic and mechanical transmission bulldozer, it has the advantages of strong power, stepless speed change, in-situ and power steering, low fuel consumption, comfort and good control performance. It has become one of the main development trends of bulldozer technology in the future.



The transmission system of hydrostatic bulldozer is usually driven by double-loop electrostatic hydrostatic drive, which can automatically adjust the power output and driving speed according to the change of load. Taking 130 horsepower hydrostatic bulldozer as an example, this paper briefly introduces the design calculation method of its hydraulic system and the selection of

hydraulic pump and motor.

For many years, hydrostatic crawler bulldozers have been developing slowly in China due to high technical difficulties, difficult manufacturing reliability, high-end user groups, strict requirements for use and maintenance, etc. However, the technology of hydrostatic bulldozers abroad such as Carter, Komatsu, Liebherr and Dill has been very mature.

Domestic research and development of hydrostatic crawler bulldozers has just started in recent years, mainly including SD10YE (100HP), SD13YE (130 HP), DH17 (170 HP), Xuangong SD5K (130 HP) and SD7K (230HP) hydrostatic high-drive bulldozers. Therefore, master the design calculation method of hydrostatic crawler bulldozers'hydraulic system and the selection of pump motor and other components. Independent research and development of hydrostatic crawler bulldozer products is very important.