

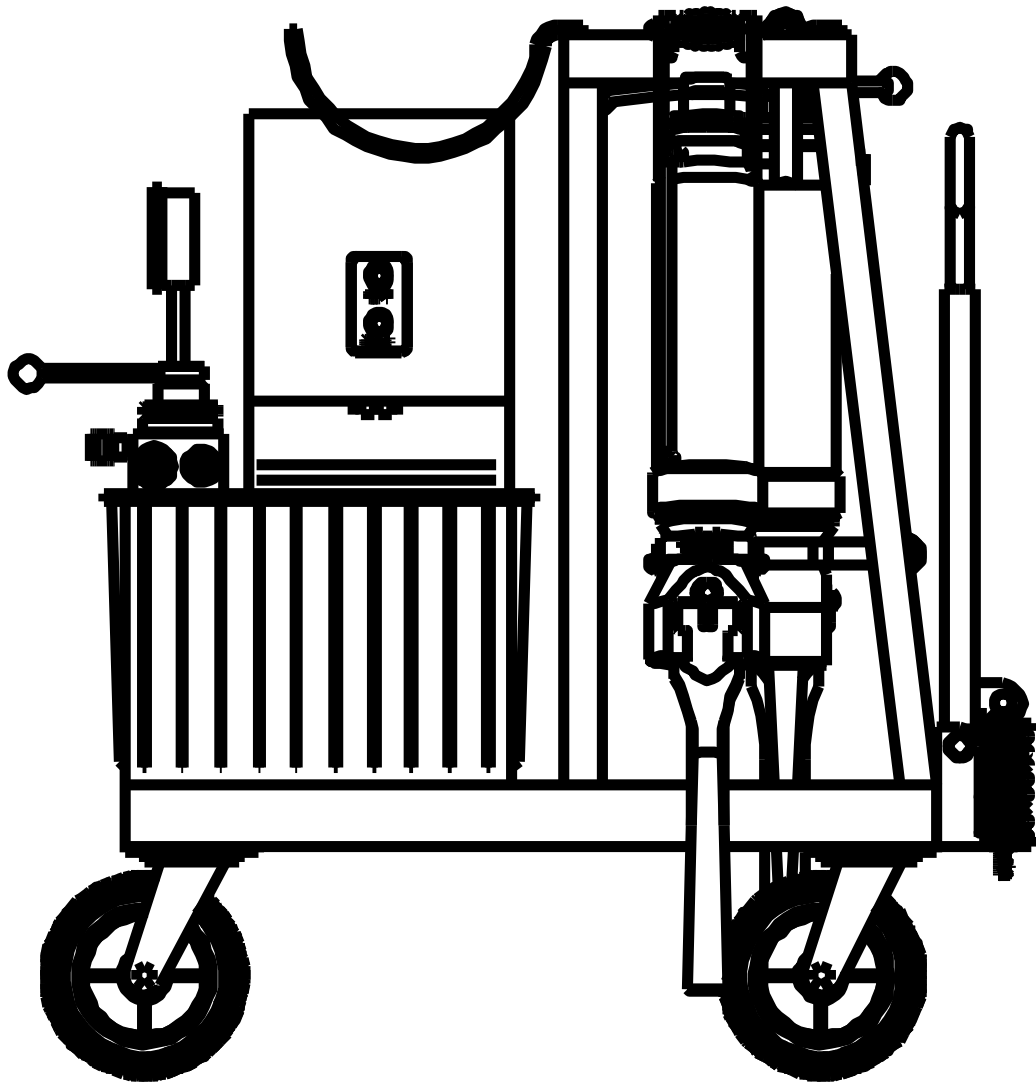
PD350 Hydraulic Rock & Concrete  
Splitter (Diesel motor)

# Operation manual

XIAMEN PRODRILL EQUIPMENT CO., LTD

# Catalogue

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- ii Operation instruction
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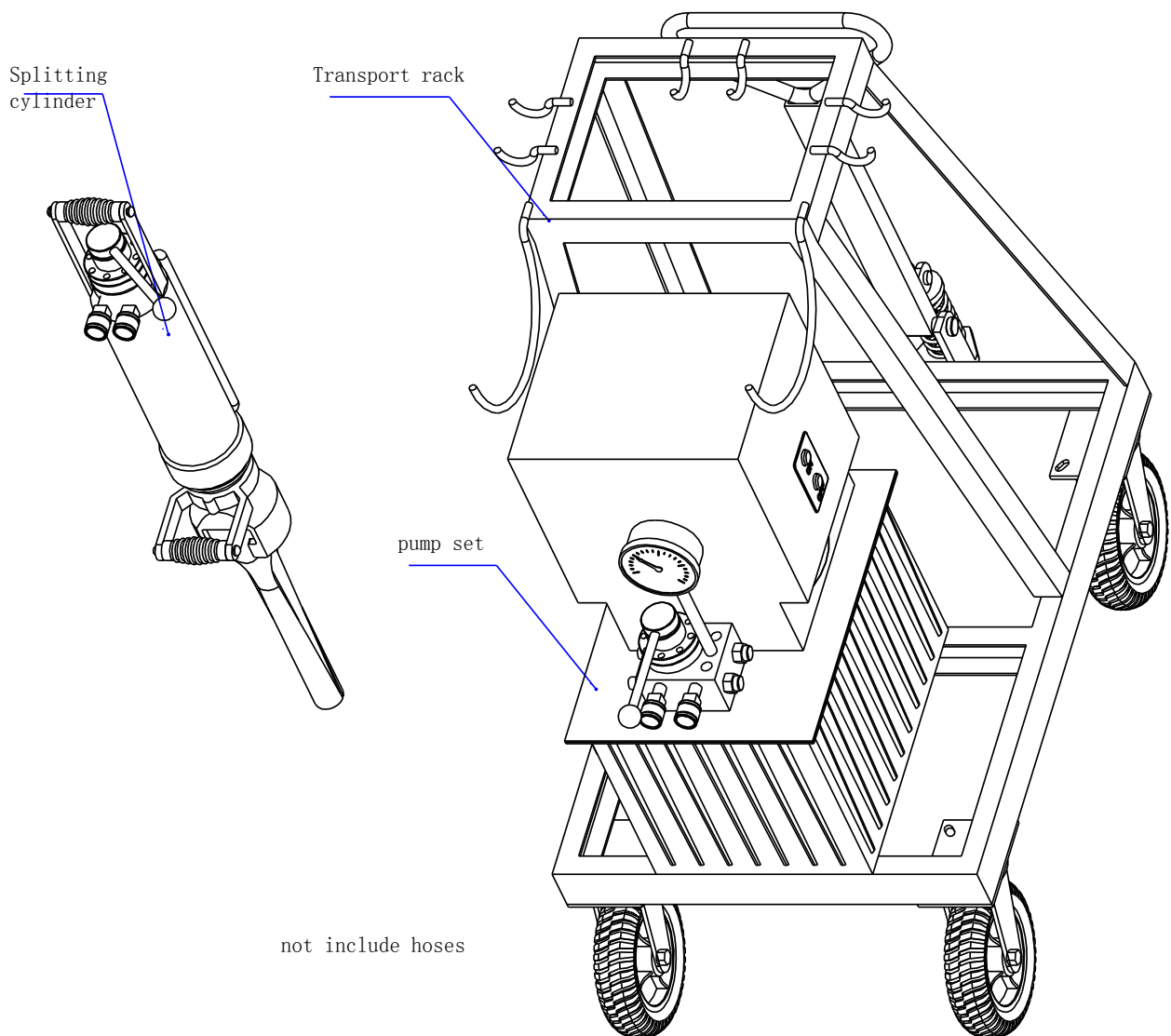
Hydraulic splitter (without hoses)

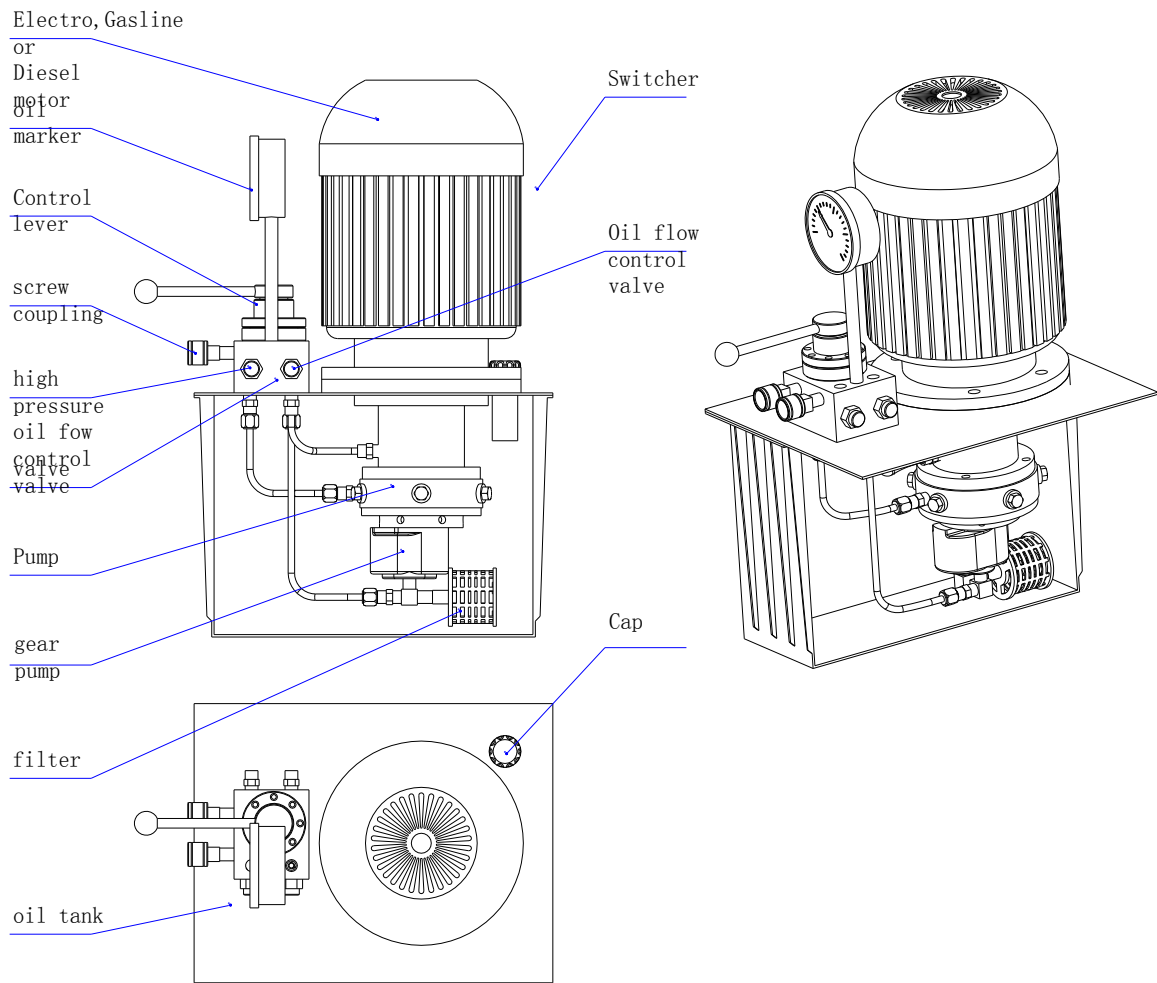
**i Introduction**

The hydraulic Rock & Concrete splitter is our newly developed Product which is a powerful and extremely cost-effective alternative to other conventional demolition techniques. It functions according to the proven wedge principle where by a strong force is applied in an extremely constricted space.

Rock and concrete put up considerable resistance to forces applied externally. By comparison the resistance of rock and concrete to force applied internally is 90% less, with the result that they disintegrate relatively easily.

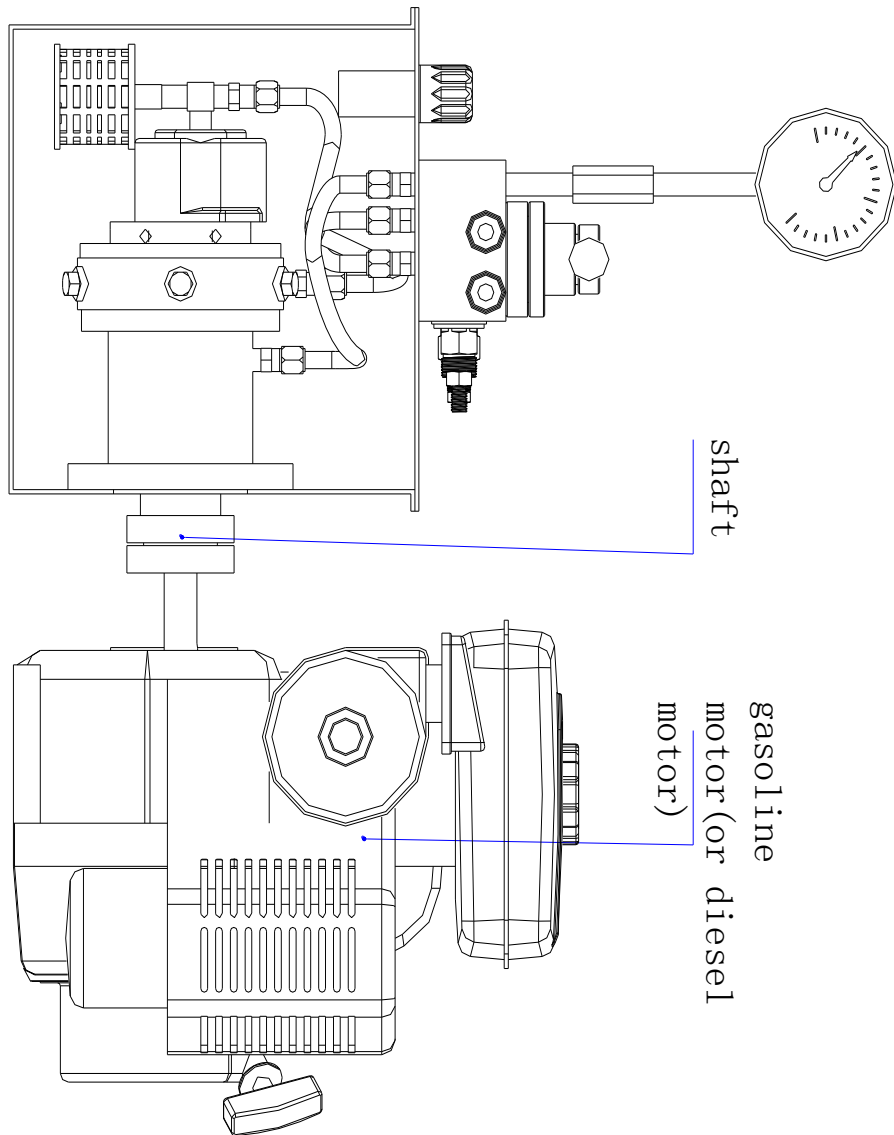
The PD350 hydraulic rock & concrete splitter is the most suitable tool for demolition. It has many advantages: small cubage, light, easy to operate, high efficiency etc. Now it is widely used in stone quarry, mineral mining and capital construction. It is also an indispensable tool in clearing the barrier in city construction, river dredging, salvation etc.

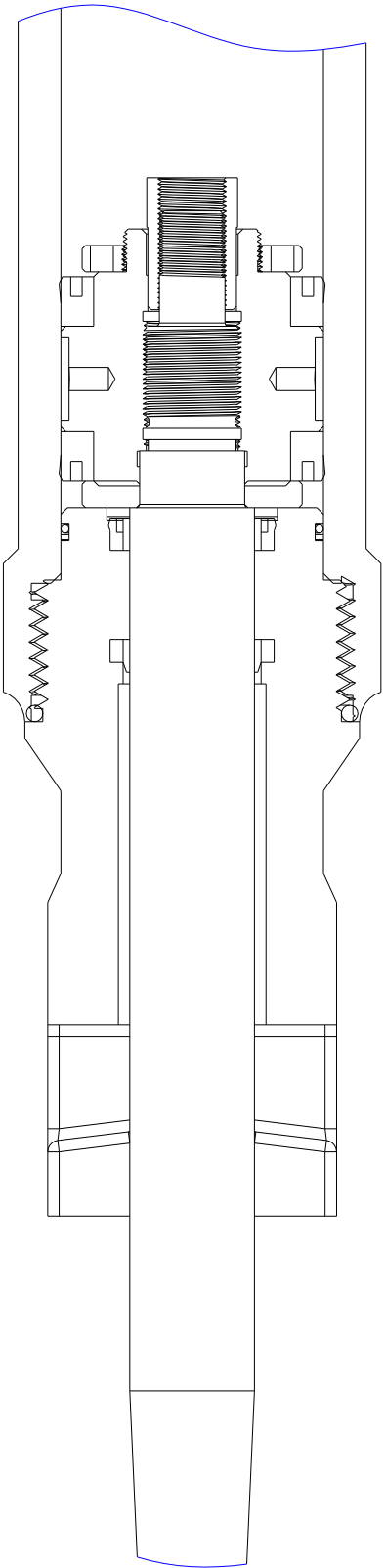




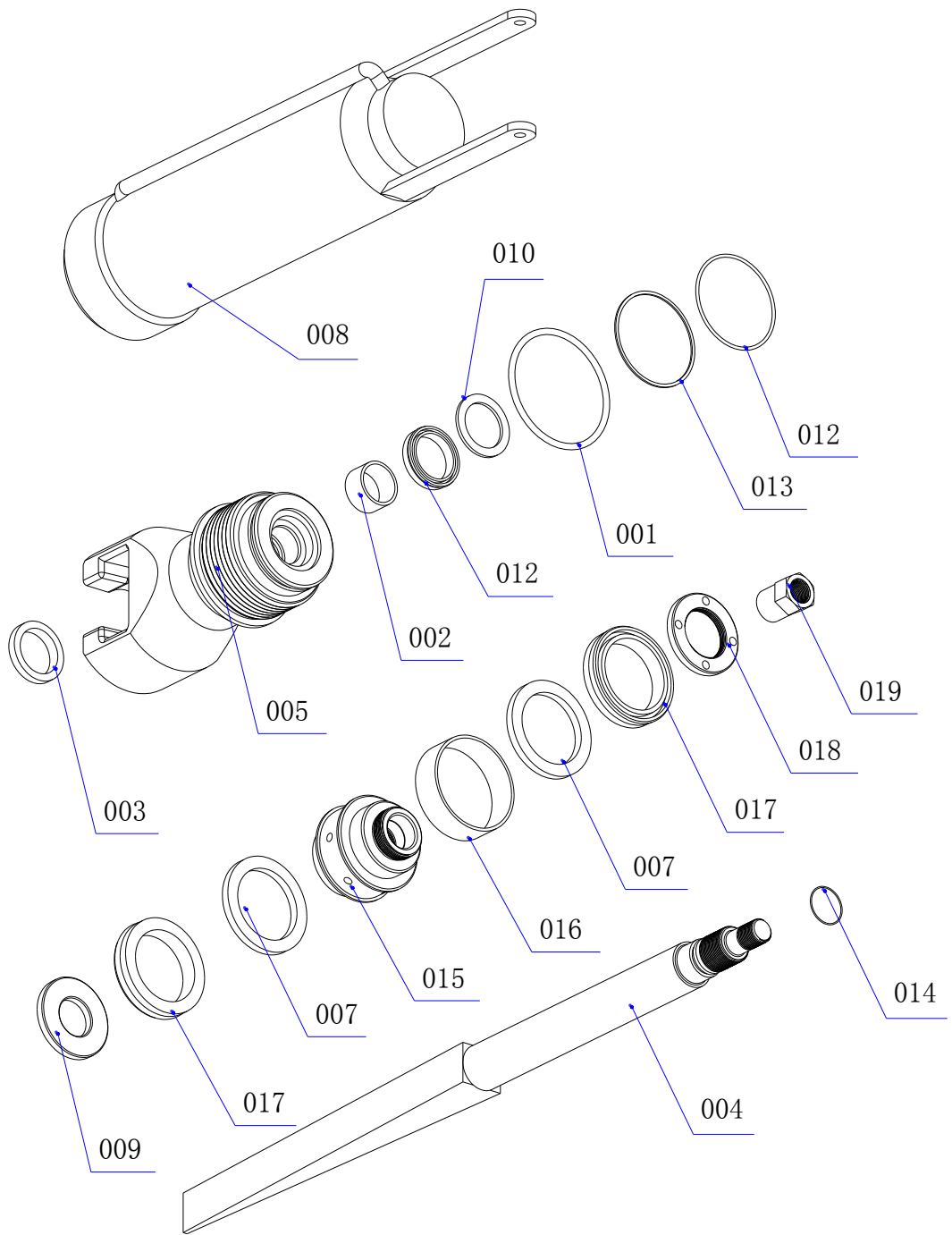
**Spare part list**

- |                      |                   |
|----------------------|-------------------|
| 1 splitting cylinder | 3                 |
| 2 Pump set           | 1                 |
| 3 oil tank           | 1                 |
| 4 transport rack     | 1                 |
| 5 counter wedges     | 2 pairs           |
| 6 oil hoses          | 4 (10meters each) |





splitting cylinder diagram





## Specifications:

Splitting force:	410tons
Required drill hole diameter	44-50mm
Minimal drill hole depth	650mm
Max oil pressure	60mpa
Oil working temp	5-50 Celsius degree
Tank volume	24L
Weight of single splitting cylinder	29kg
Weight of pump unit ( not include oil )	70kg
Diesel motor power	5.66kw (7.7HP)
Package cubage	800x1000x1100 (mm)
Gross weight (with three splitting cylinder)	350kg

## ii Operating the hydraulic splitter

Before start up the machine, take a visual check on the machine. Make sure the following thing is ok.

- the oil volume in the tank meets the required volume
- the hydraulic hoses is unblocked.

### Operation

a lubricate the working surface of wedge set with our special lubricant and install the counter wedge onto the wedge.

b put the wedge set of splitting cylinder into the hole drilled vertically.

c start up the diesel motor on pump unit.

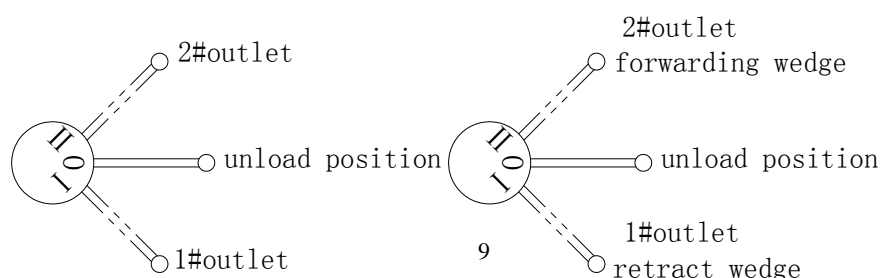
c When to split a rock or concrete, steer the lever of the control valve on pump station. Turn the lever to the position I (or II) as the following fig show.

d The steer the control lever of the splitting cylinder, turn the lever to the position I (or II) the splitting cylinder begin the work of splitting.

e After breaking the rock or concrete, turn the lever of splitting cylinder to position II (or I) the wedge begin to retract.

f Unload the oil pressure by turning the control lever to position 0 and began another splitting work.

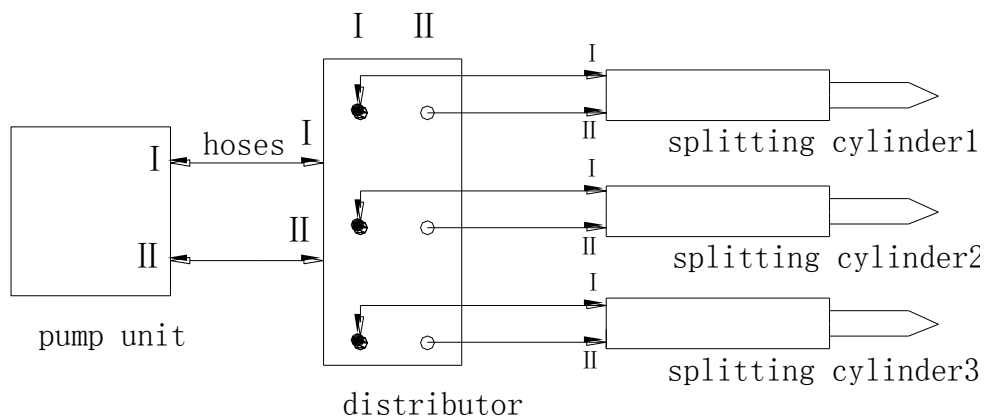
g After finishing splitting work, unloading the oil pressure, turn off the diesel motor.



control lever of pump unit      control lever of splitting cylinder

## Connection

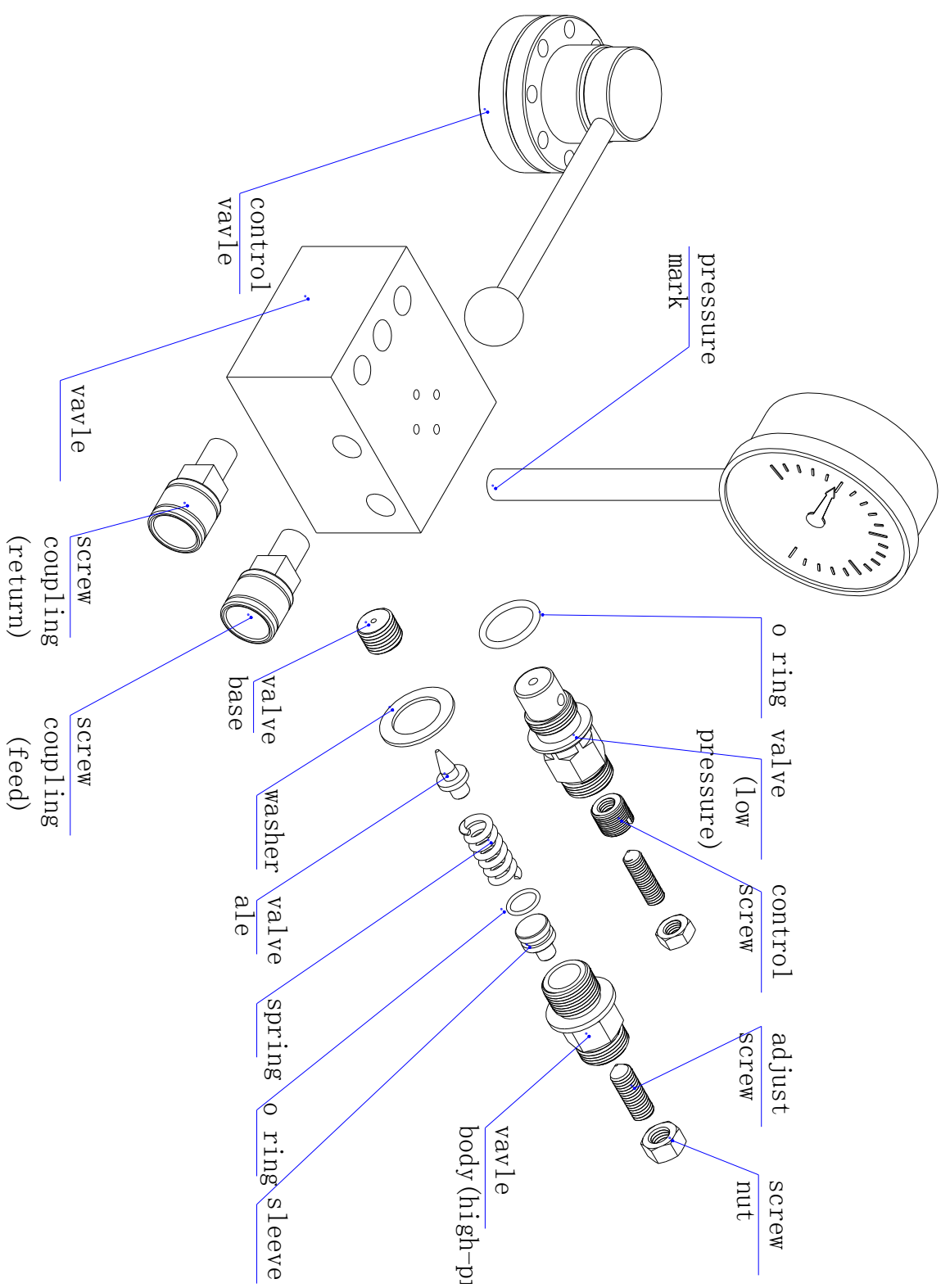
If multi-splitting cylinder is used, then a distributor must be used for connection between splitting cylinders and pump unit ( as following fig show).

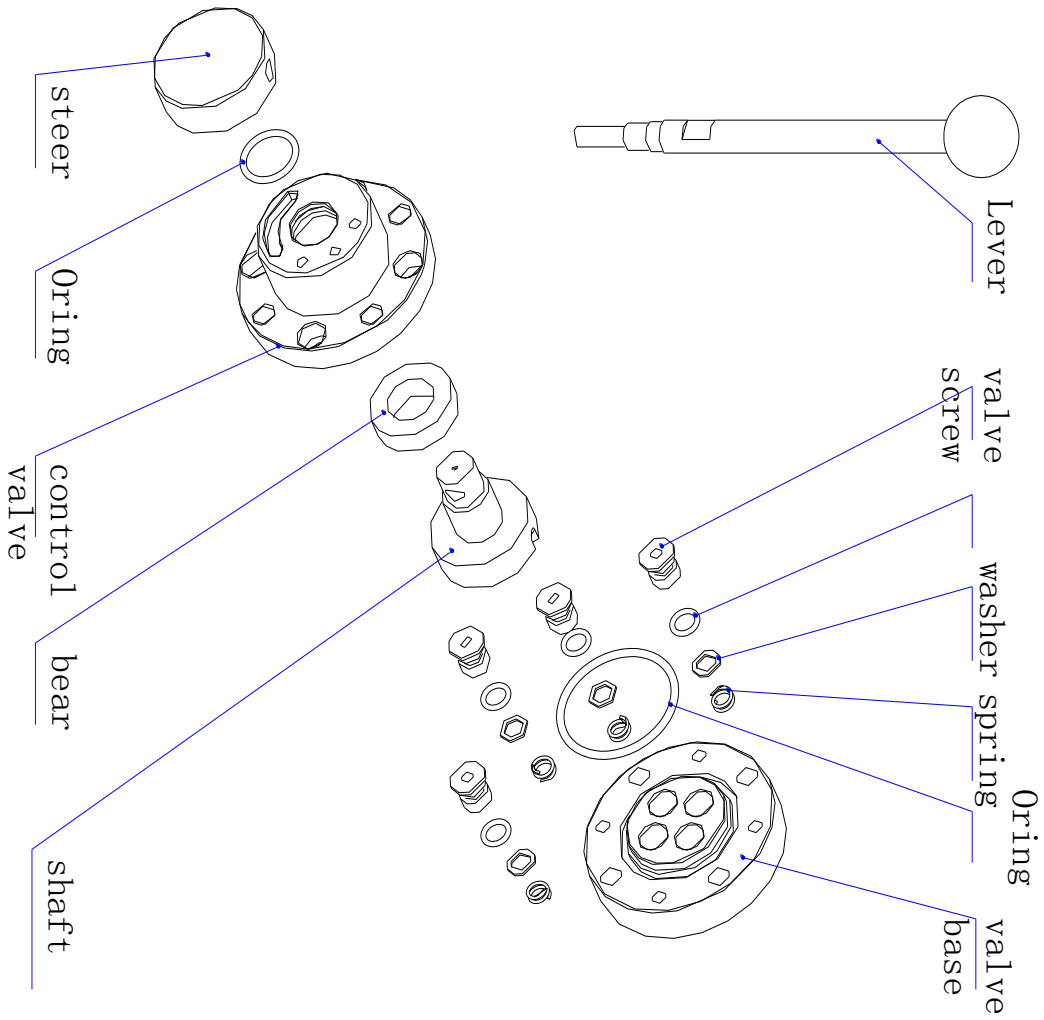


## Adjustment of oil flow control valve

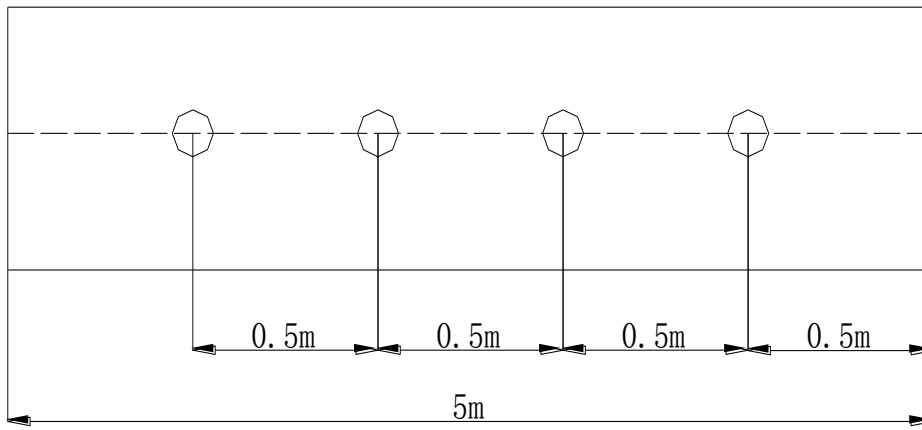
The oil working pressure can be adjusted by turning the screw.

Normally the working pressure is adjusted to be 60MPA, for it would damage the hydraulic oil circuit if it exceeds 70MPA





### Selection of splitting hole point



It is a necessary work for engineer to select proper splitting position on a rock or concrete. Properly selection of the splitting position will enhance working efficiency. The selection of splitting position should meet the following requirements.

Axis of all holes must on the same plane.

Proper number of drill hole and proper distance between holes.

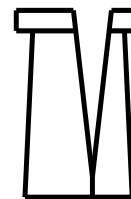
Minimum drill hole depth is 500mm

### Secondary splitting

Some rock or concrete with high strength are not easily broken first time  
So we offer enlarging counter wedges with different width



first counter wedge



enlarged counter wedge

### iv Care and maintenance of the Hydraulic splitter

Fill the oil tank with sufficient hydraulic oil if the oil mark shows the oil in not enough for work.

Select proper hydraulic oil

Viscosity and temperature:

Minimum viscosity	13cSt
Viscosity in case of working temperature	20cSt to 43cSt
Minimum ambient temperature	-20 °C
Recommended Working temperature	50°C to 60°C
Working temperature range	30°C to 70°C
Maximum permissible working temperature	80°C

If the machine is not in use, hydraulic hose should be cleaned and keep in cool and dry place to prevent it from wearing.

Seals

When the machine is at work, pay attention to whether there is oil leakage. See trouble shoot if there is an oil leakage.

Seal kits

Description	Material	Measurement	Quantity
O ring	Rubber	φ 12*1.9	4
O ring	Rubber	φ 25*2.4	1
O ring	Rubber	φ 50*2.5	1

Make sure the surfaces of the wedge sets are sufficiently lubricated. If there is any abrasive damage on the surface, polish it immediately.

When the machine is not in used, keep it in a dry and cool place and lubricate the surface of the wedge set.

## V Trouble shooting

Trouble	Cause	Remedy
Hydraulic splitter does not work	Pressure and return lines mixed up	Connect hydraulic lines correctly
	Screw couplings damaged. Shut-off blocks not open	Ensure screw couplings allow free flow. Open shut-off blocks
	Control valve blocked	Replace
Low oil pressure	Pumps worn	Check pressure and oil flow using measuring kit. Replace pump if necessary
Leakage	Oil leaks from screw coupling	Tighten screw couplings
	Other oil leakage	Replace seals

vi Hydraulic system circuit diagram

