

INSTRUCTION MANUAL

MPS-1000 Manual Pallet Stacker 1000kg Load Capacity



J070

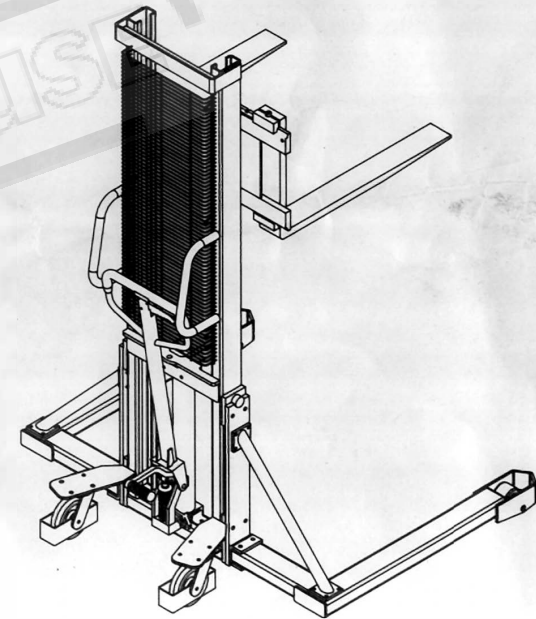
J070 MANUAL STACKER 1000KG 18/9/07

MPS-1000

Manual Hydraulic Stacker

Operation Manual

MACHINERYHOUSE



Welcome to select MPS-1000 manual hydraulic stacker.



Warning!

Pay attention to the following matters before operating this stacker:

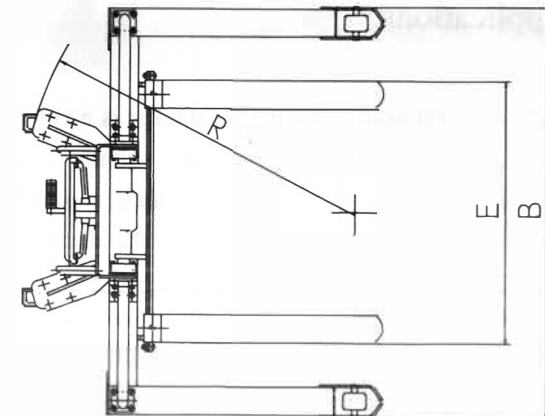
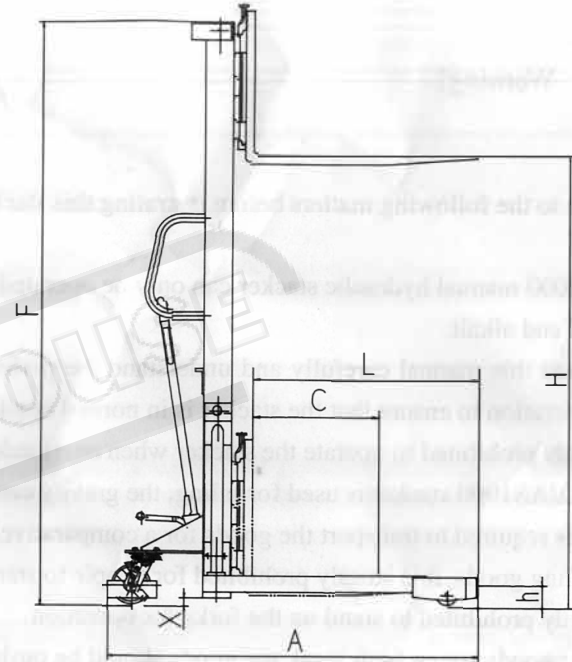
1. MPS_1000 manual hydraulic stacker can only be operated indoor on level and solid ground and it is strictly prohibited to operate this stacker in a corrosive environment with acid and alkali.
2. Please read this manual carefully and understand the performance of this stacker before operating; Inspection of the stacker should be conducted carefully every time before operation to ensure that the stacker is in normal condition. It is strictly prohibited to operate a stacker with trouble.
3. It is strictly prohibited to operate the stacker when overloaded. The load capacity and the load center should meet the requirements in the parameter table of this manual.
4. When MPS_1000 stacker is used for piling, the gravity center of the goods must be within the two forks and it is strictly prohibited to pile bulk goods.
5. When it is required to transport the goods for a comparatively long distance, the height of the forks from the ground should not exceed 0.5m.
6. When piling goods, it is strictly prohibited for people to stand under the forks or around the stacker.
7. It is strictly prohibited to stand on the forks for operation.
8. When the goods are on high level, the goods should be pushed forward or pulled backward slowly and no cornering is allowed in such a case.

I. Applications

MPS_1000 manual hydraulic stacker is a vehicle used for high lift loading and unloading and short distance transportation. As no sparks and electromagnetic field are generated, the stacker is especially suitable for truck loading and unloading as well as the loading and unloading and transportation of flammable and fire prohibited goods in workshops, warehouses, dock, station and freight yard, etc. The stacker is characterized in smooth lifting, flexible cornering and convenient operation, etc. To ensure safe and reliable operation, the universal wheels are equipped with braking device, which are ideal tool for reducing labor intensity, improving production efficiency and achieving safe loading and unloading.

II. Key technical parameters:

Model		MPS.1000
Rated loading capacity	Q (kg)	1000
Max. lifting height	H (mm)	1600
Minimum height of the forks	h (mm)	70
Length of forks	L (mm)	800
Load center	C (mm)	600
Width of fork	E (mm)	950
Length of the stacker	A (mm)	1300
Width of the stacker	B (mm)	1470
Height of the stacker	F (mm)	2090
Minimum clearance from ground	X (mm)	30
Stage number of door frame		Single stage door frame
Lifting speed, full / no load	mm/rime	20/22
Decline speed, full / no load	mm/s	143 / 53
Cornering radius	R (mm)	1190
Front wheel size	(mm)	Single wheels $\Phi 80 \times 70$
Back wheel size	(mm)	$\Phi 147 \times 40$
Dead weight	(kg)	255



III Structural characteristics

MPS-1000 manual hydraulic stacker consists of a hydraulic system and a door frame.

The stacker uses a manual hydraulic jack (hydraulic device) as force to lift heavy goods, which are pushed, pulled and handled manually. The hydraulic device is equipped with an oil return valve and the fork decline speed is controlled via a hand lever to make the operation of the hydraulic system correct, safe and reliable. The door frame is welded with high quality section steel such as to good rigidity and high strength. Universal wheels with braking device are adopted as the back wheels, which can rotate freely, easily and flexibly. Both front and back wheels are installed on wheel shafts with ball bearings so as to rotate flexibly. Wear-resistant and durable Nylon wheels are adopted so that it is not easy to damage the operation ground.

When lifting goods, insert the forks under the pallet of the goods, when necessary, brake the back wheels and pull the hand lever. The pinch wheel presses the pump core to make the oil in the pump cylinder flow into the piston cylinder, in order to push the piston rod move upward and lift the forks upward via a chain for a two times travel. Pull the hand lever back and forth so as to lift the goods and achieve the purpose of lifting. When the forks are lifted to the maximum height, the pressurized oil flows back into the oil tank via an oil draining hole and in that case, even the hand lever is pulled, the forks rise no more to avoid damaging components by impacting the top.

When handling heavy goods, the stacker is able to travel via manual pushing (pulling).

When unloading, pull the unloading hand lever, the oil return valve opens and with the effect of the dead weight of the heavy goods and forks, the operational oil in the piston cylinder flows back into the oil tank through the oil return valve, and when the piston rod and the forks decline to the lowest position, the goods are unloaded and the forks are withdrawn.

Operation conditions

The operation of MPS-1000 manual hydraulic stacker should meet following conditions:

1. Ambient temperature for operation: $-25^{\circ}\text{C} \sim +40^{\circ}\text{C}$.
2. The relative humidity of the environment should be less than 90%RH.
3. The stacker can only operate in an environment without rain and harmful gas erosion.
4. The stacker can only operate indoor on level and solid ground.

V. Operation and maintenance

1. The oil must be filtered and clean and ensure sufficient oil quantity.
2. Before operation, inspection must be conducted for the stacker to ensure the stacker is in normal condition and there is no loose component.
3. The goods should be smoothly distributed on the forks and no overload is allowed.

4. After the operation is completed, the heavy goods should be unloaded and the heavy good are not allowed to be on the forks for a long time.
5. When lowering goods, the hand lever of the oil return valve should be operated slowly and gently to avoid sudden declination during quick declination process which causes unsafe situation. When lowering the goods quickly, the oil return valve must not be closed suddenly as inertial acceleration is generated during the process of quick declination. If that, a great force will be generated to damage the components and goods.
6. Raise and pull outward the front part of the panel by hands, take off the panel and then the stacker can be used as pallet transporting cart or pallet stacker.
7. The brakes on back wheels are installed for the purpose of safety in operation process. When the forks are rising for lifting goods or is used as an operation platform, the brakes should be stepped down with foot to prevent the stacker from moving.

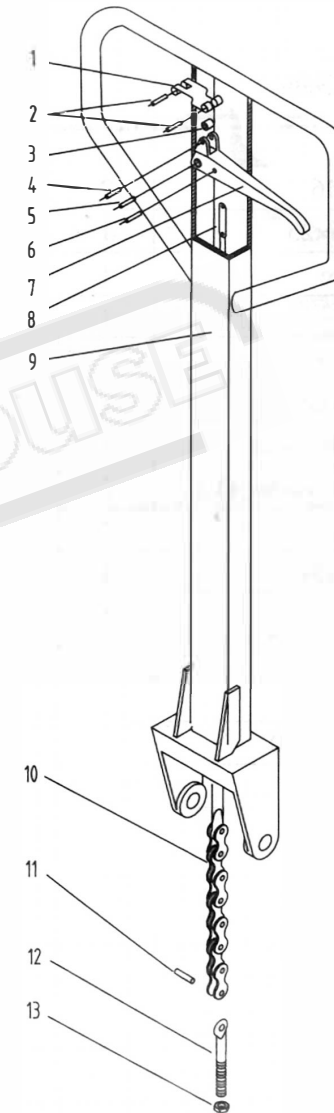
VI. Possible failures in operation and trouble shooting

Number	Failure	Cause analysis	Trouble shooting
1	The lifting height cannot meet the design requirement	Insufficient operation oil	To fill oil into the oil cylinder, turn out the bolt, fill in filtered and clean operation oil to the oil inlet height and then tighten the bolt.
2	When the hand lever is pulled, the forks do not rise.	1. The viscosity of the operation oil is too great or no operation oil has been filled in	Replace or fill in operation oil according to the oil quantity regulated.
		2. There is foreign matter in operation oil, which makes the oil inlet valve cannot be tightly closed.	Filter out the foreign matter or replace operation oil according to the stipulation.
		3. The oil draining valve, unloading hand lever and tension spring do not work, are not at the lowest position or stuck by other foreign mater.	Examine the tension spring to see if it is correct, adjust the unloading hand lever to the lowest close position and remove foreign mater.
		4. The positions of the oil draining valve and unloading hand lever have not been correctly adjusted.	Readjust the unloading tension bar nut position.
3	After being raised, the forks do not decline	<ol style="list-style-type: none"> 1. The unloading hand lever is not correctly adjusted. 2. Too great piston load deviation so permanent deformation occurs. 3. The fork frame, roller or chain wheel is stuck 	Adjust as described above, disassemble for maintenance or replace the piston rod, disassemble for maintenance or replace bearing
4	Oil leakage	<ol style="list-style-type: none"> 1. Damaged or failed seal washer 2. There is slight crack or through hole in individual component 3. Loose thread connection or non-tightly pressed sealing ring 	Replace with new sealing washer, repair or replace new components, repair and tighten

VII. Explosion diagram

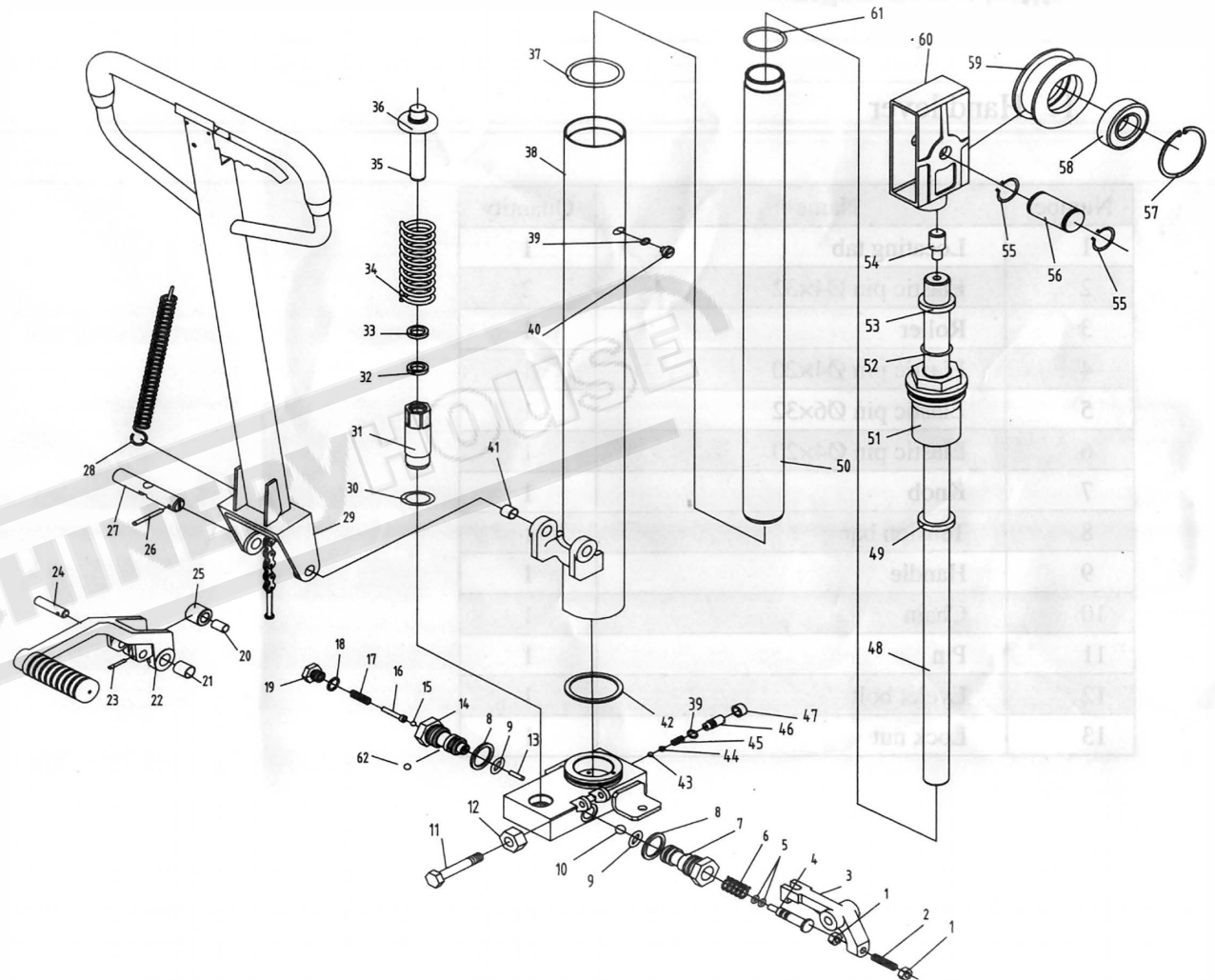
1. Hand lever

Number	Name	Quantity
1	Locating tab	1
2	Elastic pin $\text{Ø}4 \times 32$	2
3	Roller	1
4	Elastic pin $\text{Ø}4 \times 20$	1
5	Elastic pin $\text{Ø}6 \times 32$	1
6	Elastic pin $\text{Ø}4 \times 20$	1
7	Knob	1
8	Tension bar	1
9	Handle	1
10	Chain	1
11	Pin	1
12	Eyelet bolt	1
13	Lock nut	1



2. Jack:

Number	Name	Quantity
1	Hex nut M6	2
2	Screw M6×25	1
3	Lever plate	1
4	Striker	1
5	O ring Ø4.87×1.8	2
6	Striker spring	1
7	Striker valve seat	1
8	Combined washer Ø20	2
9	O ring Ø12.5×2.65	2
10	Steel ball Ø8	1
11	Bolt M8×50	1
12	Nut M8	1
13	Pin Ø3×15.7	1
14	Valve seat 1000	1
15	Steel ball Ø5	1
16	Pin	1
17	Valve seat spring	1
18	Combined washer Ø10	1
19	Bolt	1
20	Combined bushing 1220	1
21	Combined bushing 2017	2
22	Compressed frame	1
23	Elastic pin Ø4×24	1

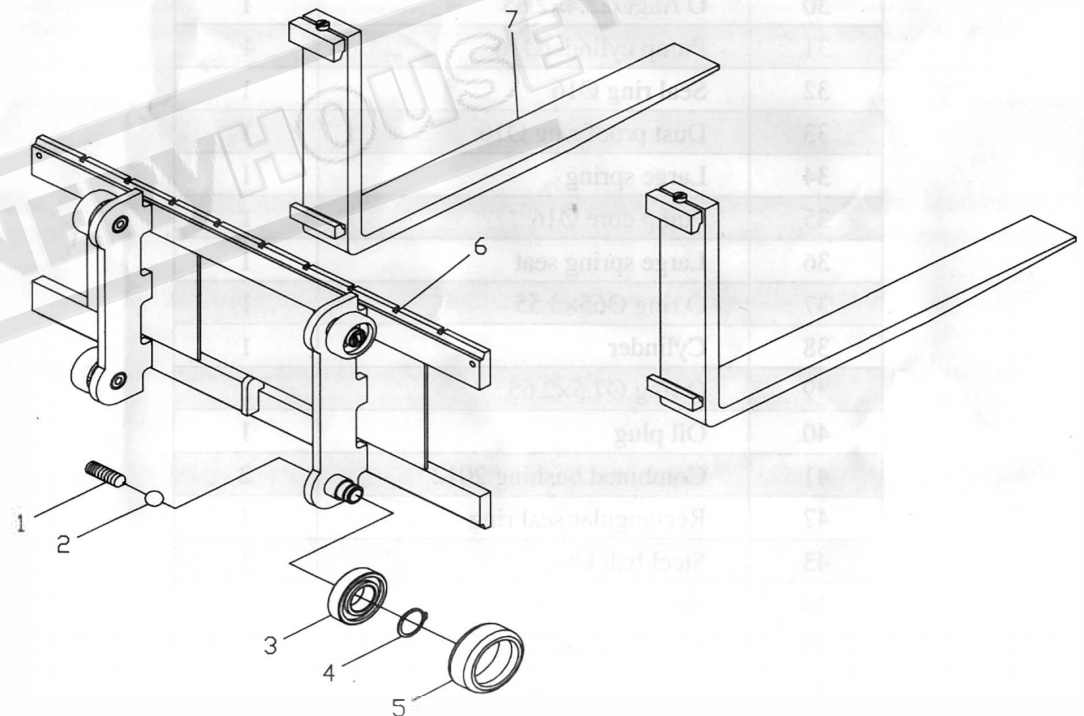


Number	Name	Quantity
24	Axle with a hole	1
25	Pinch roller	1
26	Elastic pin Ø5×35	1
27	Compressed frame bearing pin	1
28	Tension spring	1
29	Hand lever	1
30	O ring Ø22.4×2.65	1
31	Pump cylinder Ø16	1
32	Seal ring Ø16	1
33	Dust proof ring Ø16	1
34	Large spring	1
35	Pump core Ø16	1
36	Large spring seat	1
37	O ring Ø65×3.55	1
38	Cylinder	1
39	O ring Ø7.5×2.65	2
40	Oil plug	1
41	Combined bushing 2012	2
42	Rectangular seal ring	1
43	Steel ball Ø6.5	1
44	Safety valve seat	1
45	Safety valve spring	1
46	Safety valve adjusting screw	1

Number	Name	Quantity
47	Safety valve boot	1
48	Piston rod	1
49	Seal ring Ø31.5	1
50	Oil cylinder	1
51	Top cap	1
52	O ring Ø31.5×3.55	1
53	Dust-proof ring Ø31.5	1
54	Bolt M12×25	1
55	Axial elastic backing ring Ø35	2
56	Chain wheel shaft	1
57	Elastic backing ring for holes Ø72	1
58	Bearing 60207	1
59	Chain wheel	1
60	Chain wheel cover	1
61	O ring Ø47.5×3.55	1
62	Steel ball Ø4	1

3. Fork frame assembly :

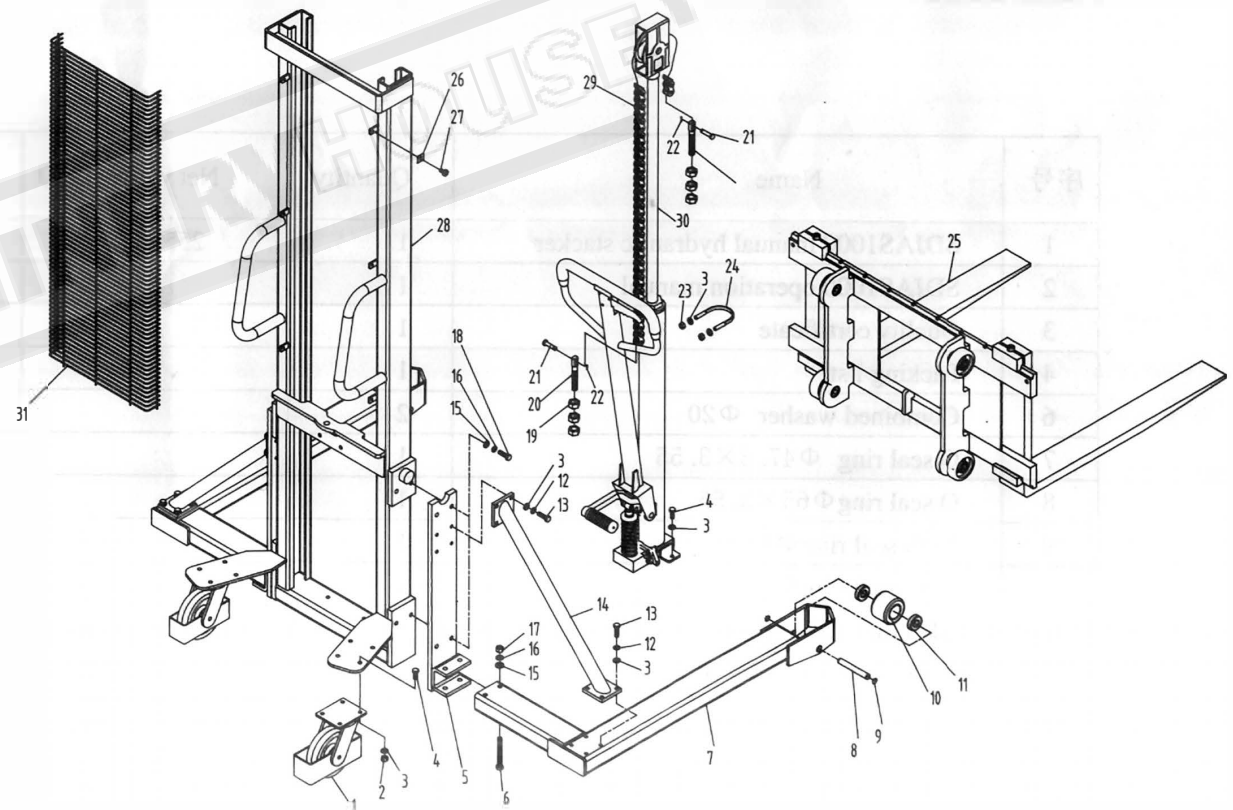
No.	Description	Qty.
1	Locking screw M16×50	4
2	Steel ball Ø19	4
3	Bearing 60207	4
4	Axial elastic backing ring Ø35	4
5	Large pulley	4
6	Fork frame	1
7	Forks	2



4. Final assembly:

Number	Name	Quantity
1	Universal wheel	2
2	Hex nut M10	8
3	Washer Ø10	28
4	Hex bolt M10×25	8
5	Supporting plate	2
6	Hex bolt M12×25	4
7	Wheel fork	2
8	Front wheel pin	2
9	Axial elastic backing ring Ø20	4
10	Front wheel	2
11	Bearing 60204	4
12	Spring washer Ø10	16
13	Hex bolt M10×35	16
14	Support bar	2
15	Washer Ø12	12
16	Spring washer Ø12	12
17	Hex nut M12	4
18	Hex bolt M12×35	8
19	Hex nut M16	6
20	Screw rod	2
21	Chan box	2
22	Split pin Ø2	2
23	Lock0nutM10	2
24	Screen-cover	1
25	Fork frame assembly	1

Number	Name	Quantity
26	Oil cylinder jacket	6
27	Hexagon socket head cap screws M6×16	6
28	Frame	1
29	Chain	1
30	Lofting jack	1
31	Fixed handle	1



Packing list

MPS-1000 Manual Hydraulic Stacker

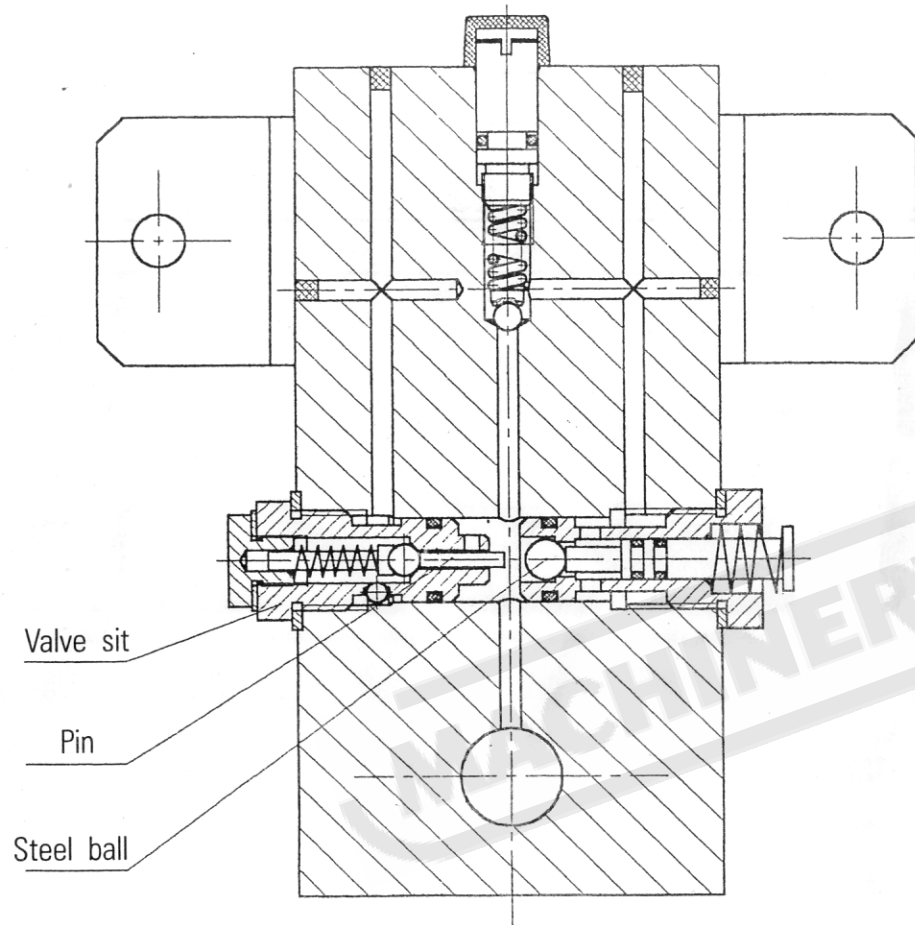
Consignee:

Ex-factory number:

Contract number:

Ex-factory date:

序号	Name	Quantity	Net weight (kg)	Overall dimension (L×W×H)	Remark
1	MPS -1000 manual hydraulic stacker	1	255	1600×1470×2090	The whole unit
2	MPS -1000 operation manual	1			
3	Quality certificate	1			
4	Packing list	1			
6	Combined washer Φ20	2			Jack
7	O seal ring Φ47.5×3.55	1			
8	O seal ring Φ65×3.55	1			
9	UHS seal ring Φ16	1			
10	UHS seal ring Φ31.5	1			
11	DHS dust-proof ring Φ16	1			
12	DHS dust-proof ring Φ31.5	1			



Warning!

After a long time operation of the Lifting Truck, the oil hole of the valve sit may be jammed and result in the Truck cannot be lowering, Once happening this issue, please ensure to solve it according to the steps as follows by some professionals only:

1. Screw off the valve sit, than the steel ball in the valve will be outflow along with hydraulic oil.
2. There is a little hole, which is about $\phi 0.5 \sim \phi 0.8$ beside the valve sit, Using a thin steel pin to dredge it and make it clean.
3. Reverting the steel ball to the original type and ensure it at the place same as the fig. Then screw down the valve sit, If not the pin maybe bend or damage the valve sit.