# Permanent Magnetic Lifter
# Operation Instructions

# Operatin instructions



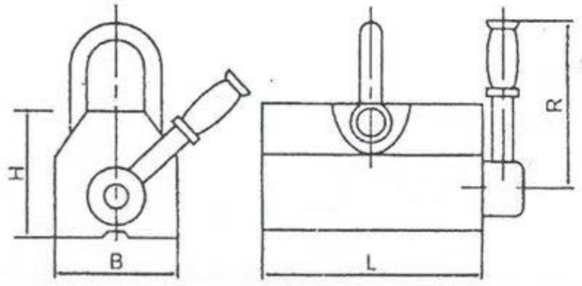
1、 Main usage and characteristics

The permanent magnetic lifter of PML series is mainly used to magnetism plant shape or column ironware materials and workpiece, It is provided with the characteristics of light structure, easy operation, powerful magnetism, it has been widely used as the hoisting tool in factory, dock, storenouse and transportation.

2、 Main structure and parameters

The Nd-Fe-B high performance permanent magnetic material is used for the permanent magnetic crane, It can produce very strong magnetism within the magnetic circuit.The handle can be used to swith on or off the core shaft of the crane and free of power supply.When the crane is under working Status,the magnetism of the crane bottom will form a pair of longitudinal magnetic pole to firmly absorb the workpiece of iron material.There is a V shape groove on the attraction surface,so it can be used for both plank-shape workpiece and column-one.

Main Technology Parameters




| Type | Rated Lifting weight(kg) | Max pulling power(kg) | Dimension(mm) | | | | Net weight (kg) |
|---|---|---|---|---|---|---|---|
| | | | L | B | H | R | |
| PML-100 | 100 | 350 | 94 | 72 | 78 | 145 | 3.2 |
| PML-200 | 200 | 700 | 146 | 72 | 81 | 145 | 5.4 |
| PML-300 | 300 | 1050 | 160 | 92 | 94 | 215 | 10 |
| PML-400 | 400 | 1400 | 168 | 94 | 106 | 178 | 11 |
| PML-600 | 600 | 2100 | 218 | 116 | 116 | 225 | 20 |
| PML-1000 | 1000 | 3500 | 272 | 145 | 145 | 295 | 40 |
| PML-2000 | 2000 | 6000 | 388 | 160 | 170 | 365 | 74 |
| PML-3000 | 3000 | 9000 | 460 | 185 | 185 | 425 | 105 |
| PML-5000 | 5000 | 15000 | 568 | 250 | 255 | 900 | 248 |

3 The choice of the type

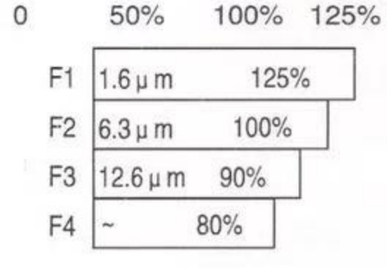
According to the workpiece's thickness, weight, the gap of the workp iece and the permanent magnetic crane, material, the area of the attr action, the balance of the weight and the roughness degree of the surf ace, and then choose the relevant type.

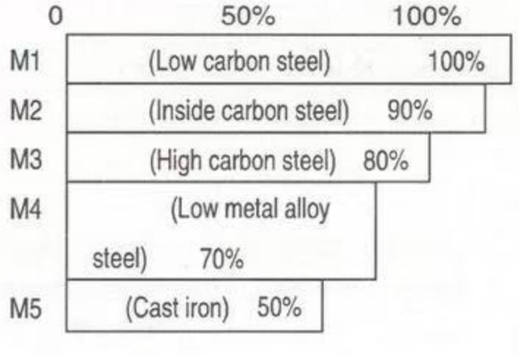
3.1 The conversion reference of the thickness and lifting power:

| | ( Steel plate thickness) | | ( Rate of the hoisting Capacity) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | mm | inch | PML-50 | PML-30 | PML-20 | PML-10 | PML-6 | PML-3 | PML-1 |
| T1 | Up60 | Up2.36 | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| T2 | 55 | 2.16" | 90% | 90% | | | | | |
| T3 | 50 | 1.97" | 85% | 85% | 95% | | | | |
| T4 | 45 | 1.77" | 80% | 80% | 85% | | | | |
| T5 | 40 | 1.57" | 75% | 75% | 80% | | | | |
| T6 | 35 | 1.38" | 65% | 65% | 70% | 85% | | | |
| T7 | 30 | 1.18" | 55% | 55% | 60% | 75% | | | |
| T8 | 25 | 0.98" | 45% | 45% | 50% | 65% | 85% | | |
| T9 | 20 | 0.79" | 35% | 35% | 40% | 55% | 70% | 85% | |
| T10 | 15 | 0.59" | 25% | 25% | 30% | 45% | 55% | 65% | |
| T11 | 10 | 0.39" | 15% | 15% | 20% | 30% | 40% | 45% | 65% |
| T12 | 5 | 0.20" | 10% | 10% | 10% | 15% | 20% | 25% | 35% |

3.2 The surface roughness of the material(Fx), the material(Mx)and the lifting power conversion,

The load capacity and the roughness of the surface,



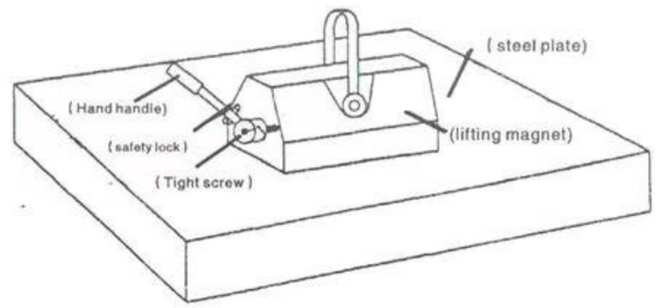



3.3 The conversion formula of the lifting range–(Tx*Fx*Mx*rated lifting weight Kg)

3.4 For example: material condition: T8 , F1, M3, 1000Kg(PML–1000)

4 The operation and use

4.1 Install method, as the picture,




4.2The workpiece's material, thickness, quality of surface will influence the lifing power, therefore, before operation, should according to the practical situation, Tx and lifting power coversion, Fx, Mx and lifting power conversion and then estimate the crane's lifting power, and then decide the actural hoisting capacity.

4.3 The lifting power of the permanent magnetic crane in relation to the attracting area, when in using, try best to make the area largest.

4.4 The handle operate power has relation with the using degree of the crane's li fting capacity, such as lift a column workpiece, thin workpie ce, the surface ro ughness above 6.3um, or worse with smaller attracti on area, the hande operate power will be aggrandizement.

4.5 Working environment condition of the permanent magnetic crane.

A.The temperature is not higher than 80℃

B.No violent shake or impact.

C.No metal erosion metal agent around the environment.

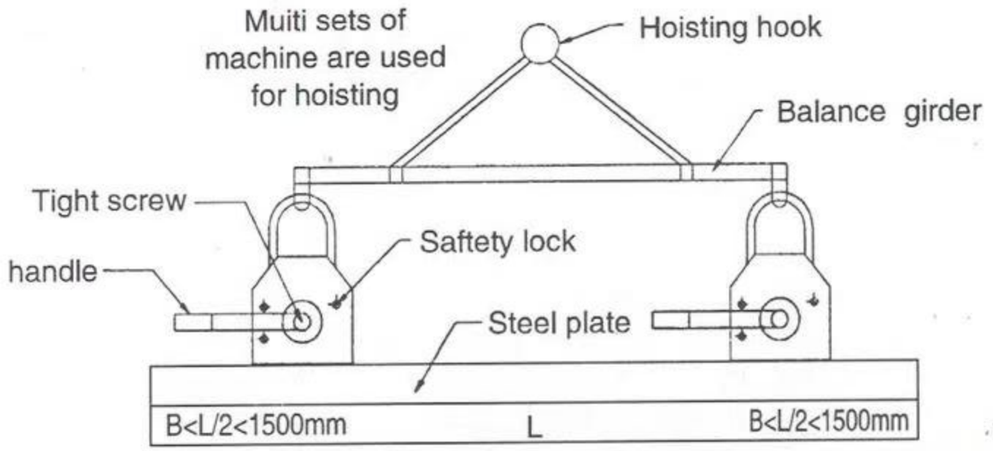
4.6When hoisting workpiece,be sure to hoist the gravity center of theworkpiece to guarantee the balance,then switch the han dle from OFF to ON, and confirm that the slide—key of the handle is

locked and then begin hoisting,the crane shouted move smoothly to avoid shake that may cause workpiece drop and accident.

4. 7 If it is used to hoist column-shape workpiece,please be sure to make the V-shape on the crane bottom contact with the workpiece, but the hoisting capacity is only 30% -50% of the rated hoisting capacity. (the decrease of hoisting capacitty related the diameter the column workpiece)

4. 8After hoisting operation, please detach the slide-key of the handle from the positioning lock, then recover the handle to the free position shut off and take down the crane.

4. 9Should consider the core when Lifting the long shape workpiece, the length should not above 3000mm in principle, or use more cra ne, as picture.




5. The maintence and safty

5.1 The idle load of the permanent magnetic crane is forbidden.

5.2 The permanent magnetic crane must work within the rated wei ght. It is forbidden for over loading to avoid accident.

5.3 It is forbidden to stand under or through the hoisted workpiece during operation

5. 4 When in operation,after the workpiece is in the air,then can start the moving work.

5. 5 Do not turn the handle when the crane bottom haven't magnetism workpiece.



5. 6 Please check the slide—key and positioning—bolt regulary to guarantee reliable lock and safty.

5. 7 Keep the absorbing surface clean and flat and remove the impurity

5. 8 Do not strike and impact the permanent magnetic crane during operation,these may influence it's performance.

5. 9 Please demarcate and test the crane every two years after putti ng into use to ensure safty.