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High Pressure Airbags

Reliable, Safe & Easy-To-Use!

Place MatJacks under a load and inflate. Our hand-held controls have two positions: inflation and deflation. It's that easy! No more hand jacking or complex hydraulic valve systems.

MatJacks go anywhere you have one inch clearance and work in rain, snow and the coldest weather. Covered with five layers of butyl rubber with a raised, conical, interlocking surface, MatJacks are designed to "grip" the load.

The purpose of this bulletin is to provide information regarding the lifting and height capabilities of Matjack Lifting Bags.

Mechanical or hydraulic jacks concentrate their energy into a small contact surface area while lifting bags distribute forces equally over the entire surface area of the bag.

Matjack Lifting Bags work on a simple yet proven law of physics. For each pound (psi) of air pumped into the lifting bags, that force is multiplied over the bag's entire surface area, creating tons of force.

Both jacks and air bags have their specific merits. Matjack Lifting Bags have a 1" maximum thickness and this singular difference permits access to lift areas where no known conventional lifting devices can be used.

MAXIMUM LIFTING CAPACITIES AND HEIGHTS AS SHOWN IN OUR LITERATURE ARE BASED ON:
1. Full surface contact of the bag to the load and support area.
2. Maximum lifting height the bags can achieve at nominal-not listed maximum tonnages as shown.

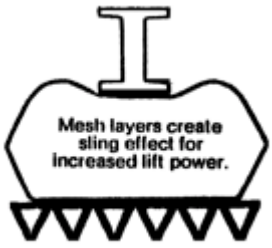
MAXIMUM LIFTING HEIGHT AND MAXIMUM LIFTING FORCE CANNOT BE ACHIEVED SIMULTANEOUSLY.

Matjack Lifting Bags are either square or rectangular. The 1" deflated profile begins to oval, as shown in the illustrations. With each additional pound of air pressure introduced, the arcing effect of the bag reduces surface contact and a loss of lifting power and height is in evidence. The same phenomenon occurs if the load being listed (i.e. beams or similar items) are smaller than the bag itself. In these cases, a shim/block equal in size to the lifting bags is used to transfer the energy from the non-contact bag surface area to the lifted object. In addition on partially-contacted loads, the internal steel cord construction aids in transferring lifting power to the point of lift.

Because of the infinite number of variables in weights, arc and contact areas Matjack Systems or its representatives should be contacted prior to lifting bag selection on critical weight/height requirements. The surest way to resolve any doubt is with a field demonstration on your specific application. Should Matjack Lifting Bags not meet with your complete satisfaction for any reason, they will be replaced to comply with customer need and satisfaction.

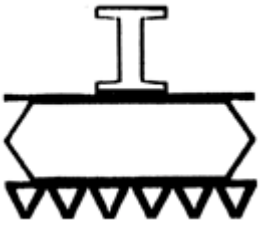
Effect of surface contact as bags are inflated is variable in accordance with different load weights.

When only partial surface area of bags contact the load-lifting capacity varies in relation to load weight and bag arc.



NOT RECOMMENDED

Maximum lifting power cannot be achieved when only partial contact with top of bag is achieved (as illustrated).



RECOMMENDED

For partial contact loads, use steel plate (or equal) to place under load increasing load distribution over more bag surface area.

Illustrations above are for reference only and are not to be used as examples of the actual performance capabilities of the bags.

Airbag Specifications

Max. Lifting Capacity (tons)	Lifting Height (Inches)	Part Number (Kevlar)	Length (Inches)	Width (Inches)	Weight (Pounds)
1.5	2.0	101k	6	6	2
3.3	3.0	103k	12	6	3
6	4.5	106k	10	10	4
13	7.5	113k	15	15	8
22	9.5	122k	20	20	20
32	12	132k	21	25	25
50	15	150k	29	29	41
70	18	170k	34	34	55

Popular Applications of MatJack Air Lifting Systems

The MatJack air lifting bag is a thin, reinforced, molded inflatable jack. Totally manufactured within th U.S., Matjack airbags have been utilized by a variety of industries worldwide in countless applications. MatJack airbags can be positioned in tight or confined spaces with as little as one inch clearance. When inflated, they can lift from 3.5 to 70 tons with the push of a button. Here are some of the common applications MatJack airbags are famous for:

Construction Industry

MatJacks are the perfect answer to the conditions at construction sites. Even in the muddiest, sloppiest, iciest conditions, MatJacks make lifting easy. Move machinery, pick bridge sections, move pipe, and raise and level buildings and other heavy objects quickly and easily. Lifting even the largest heavy machinery for repairs is simple with MatJack.

Manufactured Home & House Moving Industries

MatJacks are uniquely designed to lift, roll, and level singles, doublewides, modulars and other forms of manufactured housing. Using it's remote controls, you get safely out of harms way while MatJack does it's work.

Mining, Military & Railroad

Anywhere there is a heavy object or large piece of machinery to lift or move MatJacks are the toolfor the job. Use MatJacks under the most adverse conditions to relocate, position and align heavy machinery.MatJacks are capable of quickly and safely rerailing mining locomotives, rail cars or ladle cars. MatJacks are useful in quarring operations such as limestone and marble.MatJacks are utilized in cargo container loading and shipping as well as other ocean transport activities.

Fire and Rescue

When seconds count and lives are on the line MatJacks are there to free victims trapped in wrecked or collapsed vehicles. A MatJack and an air backpack can mean the next breath to a trapped victim. If a human can get there so can a MatJack. Needing only an inch of clearance a MatJack can be slipped into areas no ordinary jacking system can go to help extricate victims quickly and easily.