

Modular Air Bearing System



▣ Solving in brief

Solving is one of the world's leading manufacturers of industrial handling equipment for heavy loads.

Our products range from simple, manually operated systems to automated riderless vehicles for continuous operation.

Most Solving systems are custom built and manufactured under the product name **Solving Movers**. However, the items described here are standard products available in boxed sets of four modules.

Modular Air Bearing Systems are designed to handle a variety of heavy loads and items of machinery.

Operation

To ensure maximum stability at least three or four modules should be placed under the load, placing the modules as far apart as possible whilst also evenly distributing the weight between them.

The modules are then connected to the control unit and the compressed air supply. Pressure regulators within the control unit are used to increase the air pressure in each module until the load is raised off the floor. A thin film of air is then formed under each module virtually eliminating friction and allowing a heavy load to be moved and positioned with ease and accuracy.

Floor surface quality

The quality of the floor surface affects the air consumption and the force required to move the load.

To achieve optimum performance a level, paper-smooth surface, free of steps and cracks, is required.

For occasional moves a substandard floor can be improved using thin sheet steel or PVC.





Modular Air Bearing System

TECHNICAL INFORMATION

Type	Capacity per set of 4 ¹		Air consumption ²		Module type	Air pressure ³		A mm	B mm	C mm	D in	E ⁵ in	Control unit type
	kg	lbs	NI/min	SCFM		kPa	psi						
MLS 408	3000	6600	750	25	ML 8	300	43	204	31/51 ⁴	10	1/2	1	MRB 4-15
MLS 412	7000	15400	1120	39	ML 12	300	43	304	31/51 ⁴	15	1/2	1	MRB 4-15
MLS 415	10000	22000	2200	77	ML 15	300	43	380	31/51 ⁴	20	1/2	1	MRB 4-15
MLS 418S	11000	24200	2600	92	ML 18S	300	43	457	58	20	3/4	1	MRB 4-20
MLS 421S	14000	31000	3000	106	ML 21S	210	30	534	58	25	3/4	1	MRB 4-20
MLS 427S	24000	53000	3400	120	ML 27S	210	30	684	65	35	3/4	1 1/2	MRB 4-20
MLS 436S	44000	97000	4000	141	ML 36S	210	30	914	71	50	3/4	1 1/2	MRB 4-20
MLS 418H	20000	44000	4600	162	ML 18H	410	59	457	58	20	3/4	1	MRB 4-20
MLS 421H	28000	62000	5200	184	ML 21H	410	59	534	58	25	3/4	1 1/2	MRB 4-20
MLS 427H	48000	106000	6000	212	ML 27H	430	62	684	65	35	3/4	1 1/2	MRB 4-20
MLS 436H	80000	176000	7000	247	ML 36H	400	58	914	71	50	1	1 1/2	MRB 4-25
MLS 442H	120000	265000	7500	262	ML 42H	400	58	1070	71	65	1	2	MRB 4-25
MLS 448H	160000	353000	8000	282	ML 48H	450	65	1220	71	75	1	2	MRB 4-25

- 1) The modules must be placed under the load so that each one sees no more than one quarter of the full system capacity.
- 2) These figures refer to good floor conditions, e.g. power-trowelled and sealed concrete surfaces.

- 3) Air pressure in air bearing element at max load (100 kPa = 1 bar).
- 4) Cast aluminium/Extruded aluminium construction.
- 5) Supply hose ID and shut-off valve thread size.

The Modular Air Bearing System includes:

- 4 air bearing modules
- 4 supply hoses with quick release couplings
- Control unit equipped with pressure regulator and gauge for each module and supply pressure gauge
- 30 m supply hose including shut-off valve
- Operating instructions

Optional:

- Remote control unit
- Control unit for six-module system
- Alternative hose lengths
- Outlets for air jacks

C = Nominal lifting height

D = Internal diameter

Supply hose L = 4 m

Supply hose L = 6 m

E = Internal diameter
Compressed air supply 600 kPa = 6 bar (90 psi)

