

# Powermat

Product Manual 8 bar



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WARNING: Carefully read this manual before operating

NOTICE: The manufacturer takes no responsibility for the consequences of actions not complying with the instructions given in this manual.



Components

- Ensure that this equipment is used only by trained personnel.
- Powermats should only be inflated using MFC International control equipment.
- Never exceed the working pressure of 8 bar.
- Ensure that Powermats are protected from hot exhausts.
- Keep clear of loads which are unsupported by chocks during lift operations.
- Operator should be positioned away from the direction of anticipated thrust particularly when making space with partially-inserted Powermats.
- Never work under a load without safety supports.
- Do not use delivery hose for retrieving or repositioning Powermats.
- Do not stack Powermats.
- Ensure all gauges are reading zero before disconnecting hose.

### Standard components

2 x Powermats (A).

 $2 \ x \ 10m$  Delivery Hose c/w safety lock couplings (B). 1 x Dual Controller/ Regulator type 530/855 (C).

1 x High Pressure Connecting Hose c/w bleed valve (D).

### **Optional accessories**

Carrying Valise for 2 x Powermats (not shown). Carrying Valise for Delivery Hose (not shown



# **Technical Data**

	KL1	KL3	KL6	KS11	KL12	KS20	KL24	KL24L	KS29	KL33L	KL40	KS54	KS68
Product Code	HB0044	HB0045	HB0046	HB0032	HB0036	HB0033	HB0034	HB0035	HB0047	HB0038	HB0039	HB0040	HB0041
Length (cm)	13	25.5	38	38	56	51	63	100	61	115	78	86	95
Width (cm)	14	20	30.5	38	35	51	53	30	61	36	68	86	95
Inflated height (cm)	7.5	12	16.5	20.8	17.5	28	28	17.5	35.3	20	37.5	46	52
Deflated height (cm)	2.2	2.2	2.2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Maximum lift (tonne)	1	3	6	11	12	20	24	24	29	33	40	54	68
Air capacity at 8 bar (litres)	2.7	15.8	39	84	95	208	297	216	390	420	675	1120	1450
Weight (kg)	0.49	1.35	2.41	4.11	5.68	7.3	9.58	8.43	10.5	11.67	15.26	21.08	26

Note: all dimensions are accurate to  $\pm$  3% and all weights are accurate to  $\pm$  5%.

### **Delivery Hose (controller to powermat)**

10mm I/D, Reinforced PVC Hose. Max. Working pressure:16 bar @ 23 degrees. 11 Bar @ 60 degrees Standard length supplied:10metres Quick release safety lock couplings each end.

#### High Pressure Hose (cylinder to controller)

6mm I/D, double wire reinforced synthetic rubber hose. Max. Working pressure: 400 Bar Standard length supplied:450mm Colour: Black

# **Materials List**

### MFC COMBINED CONTROLLER/ REGULATOR TYPE 530/855

The Type 530/855 Combined Controller regulates pressure output and gives independent control to each cushion.

The lever actuated control valves are three positional providing for inflation or deflation.

They are supplied with spring loaded "dead man" automatic return to off control. The Relief Valve is spring loaded with nitrile rubber seals, re-seating within -10% of pre-set pressure.



- **1.** 8.0 Bar panel Mount Guage. Lum. Ctd. Dial (airbag pressure).
- **2.** 0-400 Bar panel Mounted Guage (cylinder pressure).
- **3.** Lever actuated spool valve.
- **4.** Nylon web adjustable carrying/handling shoulder strap.
- 5. MFC prod/serial No.label.

# **Operational Instructions**

- Assess the weight load to be lifted, select size of Powermat to be used Two Powermats used in tandem doubles the lift potential. Stability of the lifting operation should be monitored throughout.
- Do not stack powermats.
- Insert the Powermat well under the load to achieve stability and maximum surface contact.

### CAUTIONS:

- Avoid contact with sharp or jagged surfaces as they may puncture the surface causing the Powermat to fail.
- Hot exhausts should be covered with a folded fire and heat resistant blanket. Failure to do so may damage the surface of the Powermat.
- Take all the normal precautions against the danger of outbreak of fire, such as laying out charged line of hose or foam branch as appropriate.

**WARNING:** With any lifting operation, safety support structures are essential. Carrying out work under a load supported only by an inflated air bag is extremely dangerous and is contrary to all safety guidelines and instructions.

- 1. Connect the delivery hoses between the Powermats and controller. Ensure delivery hoses are well laid out and not 'kinked', maintaining a clear line to respective Powermats.
- 2. Connect high-pressure hose from cylinder to centre port on rear of controller (Max. controller inlet pressure is 300 bar).

**CAUTION:** Ensure controller levers are in 'off' position before opening air supply.

- 3. Commence inflation by moving control lever(s) to inflate position. When the required height or maximum operating pressure of 8 bar is reached, release the inflation lever. When using two or more Powermats, balance air input by attention to controller gauges.
- 4. Once inflated, do not attempt to disconnect the hose couplings from the Powermats. Doing this will cause the Powermats to deflate uncontrollably.
- 5. Pack and block as lift proceeds, taking care to see blocks are placed so that, if necessary, they can support the load.

- 6. Should a change of cylinder be required, close the cylinder valve. Disconnect by means of cylinder adaptor hand wheel and reconnect to charged cylinder.
- 7. After use, deflate by selecting relevant position of control lever. Deflation is the reverse of the inflate procedure.

# **Maintenance & Test Procedures**

The following Maintenance and Test Procedures should be observed, and carried out by properly qualified personnel.

### Periodic Testing / After Operational Use

- 1. Wash down Powermat surface thoroughly with warm soapy water.
- 2. Examine surface area thoroughly before Initially inflating the Powermat to 0.5 bar. Carry out a further thorough examination and mark off any cuts or abrasions with chalk. Increase the pressure to 2.4bar (35 psi) and repeat the visual check. Allow to stand for 3 minutes.
- 3. Examine marked areas and look for any further cuts, abrasions, and any obvious deformity of the inflated cushion. If there is evidence of any damage or deformity, the powermat should be withdrawn from service. It can then be returned to the supplier for expert examination if required.
- 4. Shallow surface cuts or abrasions should not affect the efficiency of the Powermat. In the case of holes or cuts, through which the inner fabric is visible, the air bags should be withdrawn from operation. If a Powermat leaks, it is NOT repairable. If the user is uncertain about the condition of a damaged Powermat, it should be returned to the supplier for expert examination.
- 5. Inflate the Powermat to 4 bar (58 psi) maximum and check the inlet coupling with soapy water. Thoroughly wipe dry before returning to storage.

### **Delivery Hoses**

Periodically or after operational use, check for abrasion marks. Charge hose to working pressure with hose disconnected from Powermat, use soapy water to check air holding integrity of connections. Tighten loose fittings where necessary.

### Annually

Annual test to be carried out by the manufacturer, or a fully qualified competent body.

<u>UK:</u> MFC International Ltd has a facility for testing, which customers and brigade personnel may observe. Also available is an on-site service vehicle, please contact our servicing division for further information.

Overseas: Contact agent for advice of facilities available.

#### Dual Controller Type 530/855 - Quarterly and after Operational Use

- 1. Visually inspect controller for signs of damage.
- 2. Check mechanical operation of flow control levers.
- Connect control unit to air source by means of reduced-pressure hose from cylinder or directly from compressor (maximum inlet pressure 300 bar).
- 4. With control levers in the "OFF" position turn on air supply. Check integrity of inlet supply connections. Connect delivery hoses to controller but not to the Powermats. Move control levers to inflate position. Check functioning of relief valves by reference to discharge pressure line on face of gauge. The relief valves should vent at 8.0 bar +/-10%.
- 5. With controller pressurised check for leaks. A leak is indicated by a pressure decrease on the Airbag Pressure Gauge (NOTE: allow the pressure relief valves to re-seat before checking for leaks). If a leak is detected, please contact the servicing authority immediately.
- 6. Thoroughly wipe down and dry controller before storing.



#### Storage

Powermats should be stored in a clean, dust free environment and in accordance with BS 3574 which states:

- Storage Temperature between 10° C and 25° C. Humidity below 75%.
- Protection against light, particularly direct sunlight or intense artificial light with high ultra-violet content.
- Avoid equipment capable of generating ozone e.g. high voltage electrical equipment.



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