

SLM Air Isolators

Low frequency high performance shock and vibration isolator for passive and active applications



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Construction

Moulded CR (Neoprene) oil resistant and non ageing rubber upper chamber with integral aluminium (SLM 1-12) and zinc plated steel (SLM24+) support plate with tapped attachment hole, side wall reinforcement and integral base ring bolted and sealed onto a aluminium (SLM 1-12) and zinc plated steel (SLM24+) baseplate.

Baseplate can be bolted down to support surface if required. Standard version with Schraeder Inlet Valve.

Other valves on request.

Features

Ratio of vertical to horizontal stiffness ca 1:1

Shock absorption amplitude up to 15mm

Natural Frequency range (depending on load) 2.8-5 Hz (see table).

Deflated (no air pressure): ca 8Hz See Load Spreader Plates LSP.

Applications:

CMMs, Surface Plates, Presses, Test Beds, Turret Punch Presses, HVAC Scientific and Test Equipment.

Levelling Range

+/- 5 (6)mm (see table)

Delivered with Grade 8.8 Zinc plated attachment screw (Other screw lengths available)

Control Systems

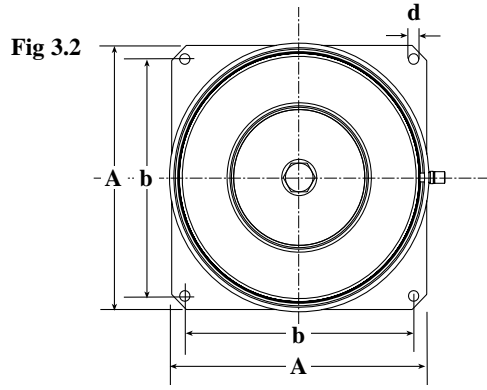
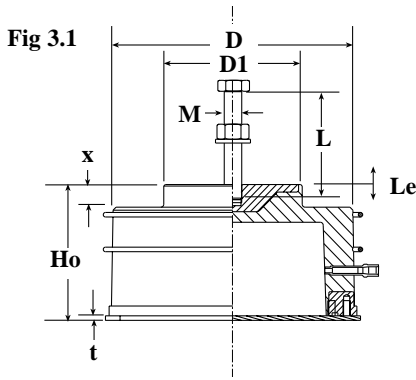
Self controlled levelling versions available with either mechanical-pneumatic or electro-pneumatic controllers. Full proposals on application

Accessories

Load spreader plates **LSP**, It is important that the foot of the supported equipment covers the **SLM** fully.

Load spreader plates **LSP** can inserted between the top of the **SLM** and the underside of the machine foot if necessary.

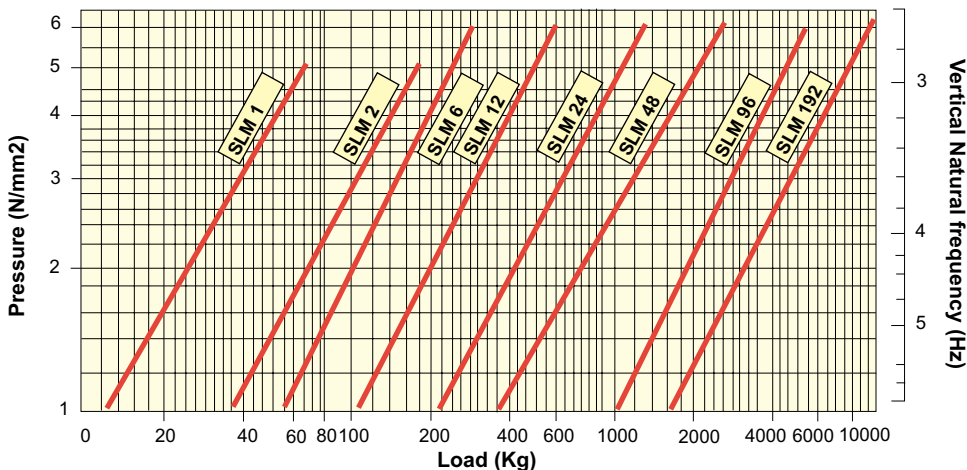




SLM Air Isolators																	
Model	Load capacity		Max. Pressure bar	D mm	Empty Height Ho mm	D1 mm	Dimensions mm										Unit Mass kg
							Attachment Screw Thread		Max. Foot thickness mm	Levelling Adjustment Le mm	x mm	Base A mm	Fixing Hole Ctrs b mm	Fixing Hole Dia d mm	Base thickness t mm		
	Min. kN	Max. kN	M mm	L mm													
SLM 1 A	0.1	0.65	5	73	65	28	M10x1.5	80	50	+/- 5	12	75	60	7	3	0.3	
SLM 3 A	0.35	1.8	5	105	65	52	M12x1.75	100	65	+/-5	12	105	89	7	3	0.7	
SLM 6 A	0.7	2.8	6	127	90	60	M12x1.75	100	65	+/-6	15	130	108	7	3	1	
SLM 12 B	1.35	6	6	172	90	96	M12x1.75	100	65	+/-6	15	175	153	7	3	1.8	
SLM 24 A	2.7	13	6	245	90	138	M16x2	120	75	+/-6	15	255	215	14	5	5.4	
SLM 48 A	5.5	26	6	338	90	205	M16x2	120	75	+/-6	15	343	305	14	5	10.7	
SLM 96 A	11	55	6	468	90	300	M24x1.5	130	75	+/-6	15	470	406	20	6	29.1	
SLM 192 A	22	100	6	610	90	430	M24x1.5	130	75	+/-6	15	610	508	20	6	38.6	

Order example: SLM 24 A M16x120

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Natural Frequencies v load v air pressure																
Air Pressure		bar	1	2	3	4	5	6	SLM Load Spreading Plates LSP							
Vertical Natural Frequency		Hz	5.6	4.2	3.6	3.2	2.9	2.7								
Horizontal Natural Frequency		Hz	5.6	4.2	3.6	3.2	2.9	2.7								
Model		Maximum Static+Dynamic Load per unit kg (daN)							LSP	Do	Di	t	Mass			
										For	mm	mm	mm	kg		
SLM 1 A		5	25	38	52	65	-	100	SLM 1	100	11	6	0.5			
SLM 3 A		33	78	123	155	180		120	SLM 3/6	130	13	8	0.8			
SLM 6 A		55	112	178	224	260	280	175	12	175	13	10	2			
SLM 12 B		110	190	300	390	450	600	240	24	240	17	10	3.6			
SLM 24 A		220	500	800	1000	1160	1300	380	48	380	26	12	10.3			
SLM 48 A		360	1000	1600	2000	2300	2600	550	96/192	550	26	15	28			
SLM 96 A		1050	2100	3400	4200	5000	5500	Silver Painted steel plate								
SLM 192 A		1700	3900	6100	7700	9000	10000	Order example: LSP 100								



SLM Installation Instructions

ATTENTION

Do not exceed:

Maximum Pressure:

SLM 1 and 3: 5 bar

SLM 12-192: 6 bar

Maximum Working Height:

SLM 1 and 3: 70mm

SLM 12-192: 96mm

Do not pressurise unit without load or restricting vertical movement

1. Pre-installation: Ensure floor is flat and free of debris. Ensure unit's bearing plate is totally covered by machine foot (use spreader plate where necessary)

2. Installing: Lift the machine to the required height using jacks or levelling units. Slide units into position ensuring valves are accessible. Insert packing plates as necessary (ensure bearing plate will not tilt when units are pressurised.)

3. Fixing: Fix the stud in position using low torque only. Assemble clamping nut and washer

4. Levelling: Pressurise units to a height at or near the maximum H_o+5 (6), ensuring that the maximum pressure allowed is not exceeded. Deflate units in small steps to level machine as necessary, ensuring minimum height

H_o-5 (6) is not exceeded. If necessary repressurisation may be required during leveling. In which case do not exceed maximum pressure 5 (6) bar and/or height H_o+5 (6). Continue leveling until height tolerance and desired levels are reached..

5. Anchoring: Units can be anchored to the floor using the base plate holes.

6. Service: It is recommended that the unit pressure be measured at least once a year Machine should be out of action before pressure checks are taken

7. Dismounting: Units must be fully deflated before removal from under machine. Provision should be made for machine support during deflating operation.

8. Depressurisation: In the event of complete loss of air pressure and machine foot (with or without Load Spreader Plate **LSP**) covers the **SLM** completely, the machine base will come in contact with the side walls which are designed to support load well in excess of inflated loading. However in deflated condition the vibration isolation properties will be reduced.

If foot of machine/equipment does not cover the **SLM** fully, use relevant **LSP** spreader plate between **SLM** and machine foot.

Fig 4.1

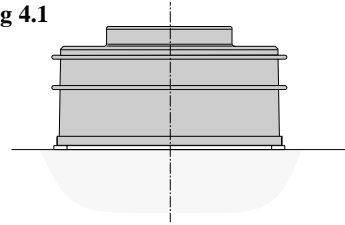


Fig 4.2

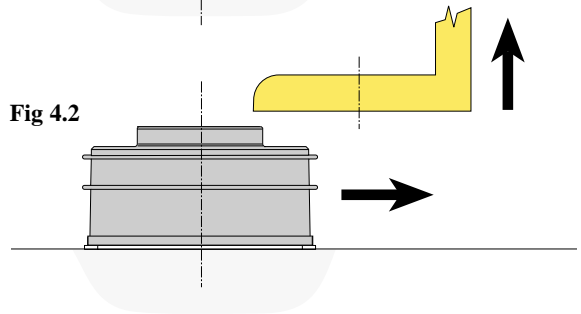


Fig 4.3

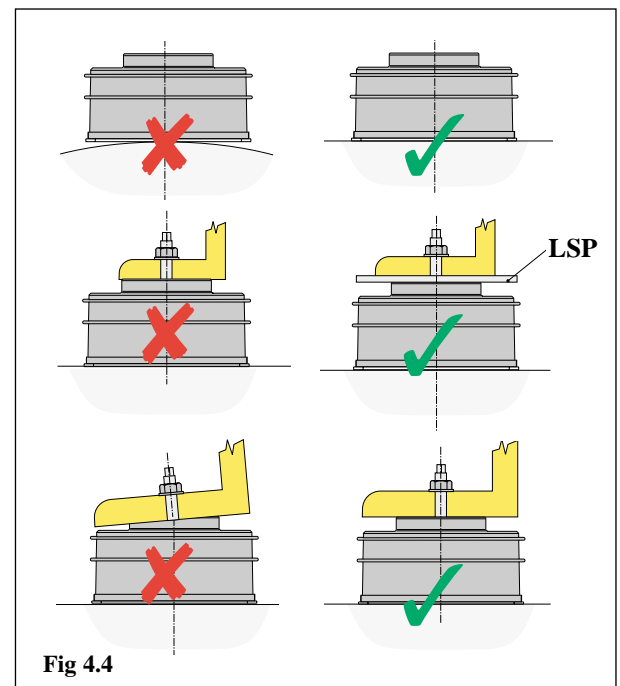
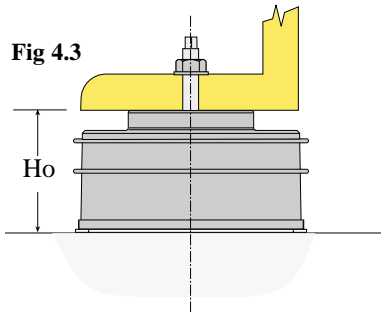


Fig 4.4