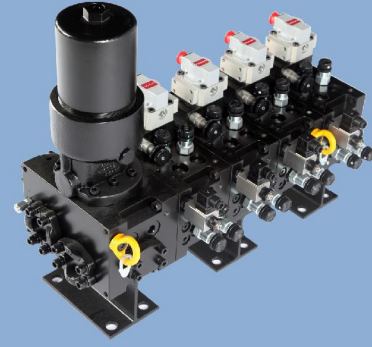


# Hydraulic Off-Axis Load Abort Manifold

Effective protection in test system



Aerospace structural test articles are always very expensive and precious especially the large-scale ones. Any damage during the test can potentially cause huge loss in money, schedule delay or even program cancellation. Ensure the adequate testing protection has been one of the biggest challenges for test engineers to consider during the design and deployment of testing planning.

Abortion control has been the key technique adopted to unload the article in a managed and controlled way, for not only single axis but also needed for multiple axis simultaneous unloading scenario.

Moog Off-Axis Load Abort Manifold (LAM) is specially designed to work with test actuator and controller to create a controllable abortion scheme to unload the energy from test articles and rig to protect them from possible damage.

The function of Moog LAM:

- Couple with a servo valve to perform conventional servo control on actuators
- Limit the pressure in both directions to prevent overloading
- Remove load from test article under a controlled speed
- Release pressure when power off

## Features

- Stackable design 1 to 8 stations
- Individual inlet pressure reducing valve
- Maximum pressure limit valve in both directions
- Servo valve configurable with different rated flow
- Unloading with adjustable speed
- Optional inlet filter module
- Anti-cavitation check valves

## Benefits

- Scalable to configure for different channel requirements
- Individual channel pressure protection
- Front end pressure/load limit for the output force
- Meeting actuator speed sizing requirement
- Appropriate dump speed to protect the specimen
- Additional contamination filtration
- Enable back fill to cavity chamber

## Typical Applications

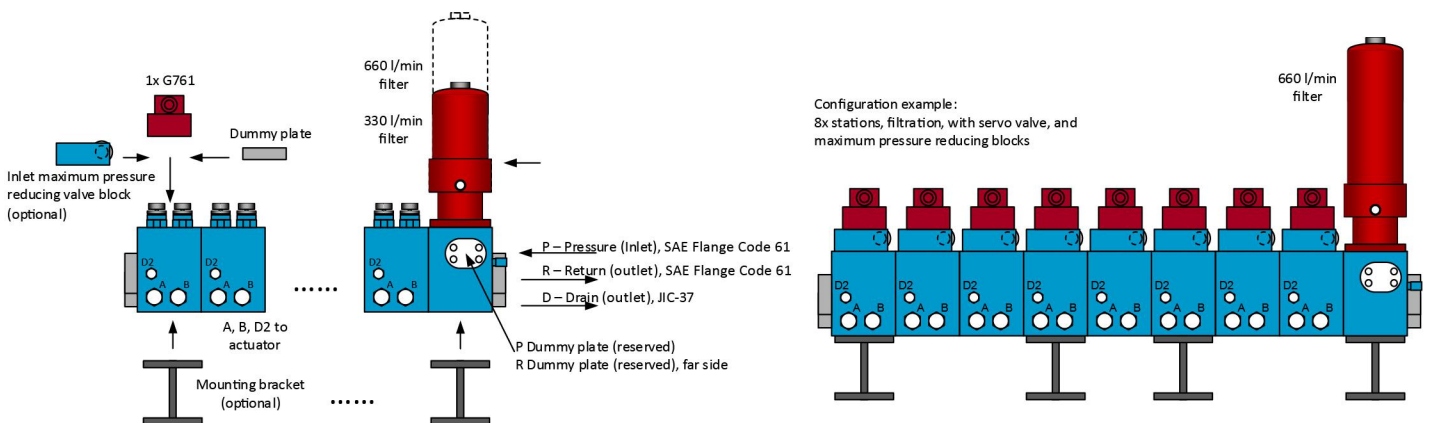
- Aircraft fatigue testing; and
- Structural testing applications that require protection on valuable test articles in case of power failure, hydraulic failure or system command.



## SPECIFICATIONS

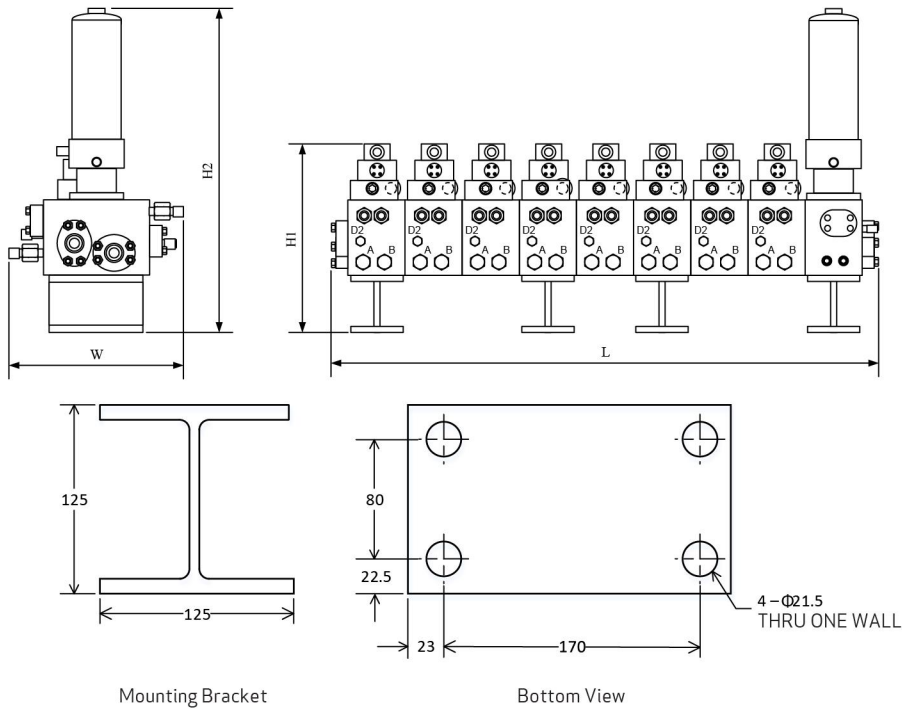
Pressure	
Working Pressure	210 bar
Seal	
Seal Material	NBR
Hydraulic Interface	
Pressure Port (P)	SAE Flange J518 1 1/2" (-24) Code 61
Return Port (R)	SAE Flange J518 1 1/2" (-24) Code 61
Drain Port (D)	JIC 37°Flare Tube End (SAE-6)
Oil Port to Actuator (A and B)	JIC 37°Flare End (SAE-12) or Male Quick Coupling 1/2"-14 BSPP
Drain Port to Actuator (D2)	JIC 37°Flare Tube End (SAE-6)
Rated Flow	400 l/min
Filter	10 µm, 330 or 660 l/min
Operation temperature Range	
Hydraulic oil temperature	24 to 57 °C
Oil Requirement	
System Fluid	Industrial hydraulic fluid per DIN 51524 parts 1 to 3 and ISO VG 32, 46, or equivalent
Cleanliness Level	For Normal Life: ISO4406 < 16/14/11 (NAS5)
	For Extended Life: ISO4406 < 15/13/10 (NAS4)
Standard electrical connector mates with the following, or equivalent (IP65)	
G761 Servo Valve	MS3106F14S-2S

Options of building blocks are available to configure Moog LAM for specified need of applications.



## DIMENSIONS

Length ("L")								
Number of station	1	2	3	4	5	6	7	8
Without filter	196 mm	330 mm	464 mm	598 mm	732 mm	866 mm	1000 mm	1072 mm
With filter	356 mm	490 mm	624 mm	758 mm	892 mm	1026 mm	1180 mm	1294 mm
Width ("W")								
Oil port type	JIC 37°Flare				Quick Coupling			
"W"	385 mm				420 mm			
Height ("H")								
Mounting bracket	Without filter ("H1") (1 to 8 stations)		With filter 330 l/min ("H2") (1 to 4 stations)			With filter 660 l/min ("H2") (5 to 8 stations)		
With bracket	404 mm		631 mm			800 mm		
Without bracket	279 mm		506 mm			675 mm		



## WEIGHT

With filter	With pressure reducing valve	Number of station							
		1	2	3	4	5	6	7	8
No	No	49 kg	96kg	137 kg	178 kg	225 kg	266 kg	307 kg	354 kg
No	Yes	52 kg	101 kg	145 kg	189 kg	238 kg	282 kg	326 kg	375 kg
Yes	No	116 kg	163 kg	204 kg	245 kg	300 kg	341 kg	382 kg	429 kg
Yes	Yes	119 kg	168 kg	212 kg	256 kg	313 kg	357 kg	401 kg	450 kg

Note: The LAM weight data is calculated with servo valve and mounting bracket as default configuration.

## ORDERING CODE

**C050 - 6 X X X X X X - X X X**

Hydraulic Manifold

Manifold Type	
6	Off-Axis Load Abort Manifold

Number of Station	
Specify	Quantity
1	1 Station
2	2 Stations
3	3 Stations
4	4 Stations
5	5 Stations
6	6 Stations
7	7 Stations
8	8 Stations

Individual Station Inlet Max Pressure Reducing Valve	
Specify	Type
0	None
1	With Max Pressure Reducing Valve

Filter Module	
Specify	Type
0	No filter
1	With Inlet Filter 330 l/min
2	With Inlet Filter 660 l/min

Special	
Blank	Standard
SXX	Special

Model Revision

Mounting Bracket	
Specify	Type
0	None
1	With Bracket

Outlet Port Type (to actuator)	
Specify	Type
J	JIC 37°Flare (ISO8434-2)
Q	Quick Coupling

Servo Valve		
Specify	Type	Rated Flow
1	G761-3001	4 l/min (1 gpm)
2	G761-3002	10 l/min (2.5 gpm)
3	G761-3003	19 l/min (5 gpm)
4	G761-3004	38 l/min (10 gpm)
5	G761-3005	63 l/min (16.5 gpm)
6	None	Cover Plate
Valve Pattern ISO 10372-04-04-0-92		

Moog has offices around the world. For more information or the office nearest you, contact us online.

**e-mail: [info@moog.com](mailto:info@moog.com)**  
**USA: +1 716 652 2000**  
**The Netherlands: +31 252 462 000**  
**China: +86 21 2893 1600**

**[www.moog.com](http://www.moog.com)**

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Hydraulic Off-Axis Load About Mainfold  
 MSH/PDF/Rev.-, May 2019, CDL 58056-en

This technical data is based on current available information and is subject to change at any time by Moog. Specifications for specific systems or applications may vary.

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