

# MINIATURE POWER ASSISTED STEERING VALVE

# E243



**Designed for Formula 1:** The Power Assisted Steering Valve (PAS) is specifically designed to meet the high-performance requirements of Formula 1 and high performance automotive.

**Compact Size:** The PAS occupies the smallest viable space envelope, with a length of 41 mm (1.62 in).

**Lightweight:** The PAS has a mass of just 27.5 g (0.97 oz), contributing to overall vehicle weight reduction.

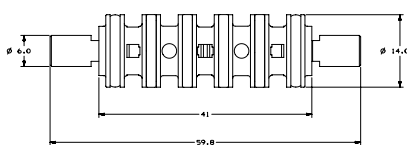
**High Flow Rate Control:** Despite its small size, the PAS can control hydraulic flow rates up to 28 l/min (7.4 USG).

**High Pressure Control:** The PAS is capable of handling pressures up to 280 bar (4061 psi).

**Standard Version E243 Valve:** The new standard version E243 Valve facilitates the development of new PAS systems with minimal design overhead and reduced lead time.

**Customizable Steering Assistance:** The steering assistance characteristics can be easily modified by varying the control port sizes and shapes. This allows for a high degree of customization to meet specific driving conditions and preferences.



## SPECIFICATIONS (MM)



## BENEFITS

- + Very small size and low mass
- + High power control capability up to a maximum of 5.2 kW
- + Operates directly from the vehicle's constant pressure hydraulic 'ring main'
- + Mechanical input stroke, typically +/- 0.75 mm (0.03 in)
- + Available with linear or dual gain flow characteristics

## TYPICAL APPLICATIONS

-  Motorsport
-  High performance automotive

## SIZING TOOL

Contact us for access to helpful and dynamic analysis tools.

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# MOOG

Shaping the way our world moves™

# SPECIFICATIONS

## TECHNICAL DATA

Maximum Supply Pressure:	280 Bar (4061 psi)
Return line pressure	0 - 10 bar (0 - 145 psi)
Rated Flow at 70 bar drop	Up to 15 l/min (4 USG)
Maximum input stroke	+/- 0.75 mm (0.03 in)
Environmental limits	0 - +165 °C (329 °F) and 25 G shock (any axis)
Fluid viscosity	> 4 cSt
Filtration	NAS Class 3/ISO 4406 12/8 or better

## NOTES

- + Dimensions in mm to two decimal places.
- + For reduced leakage, Moog recommends connecting the outer ports to return and the center port to the pressure supply.
- + Maximum slot width is 4.5 mm. N.B. Slot widths specified are linear. Effective flow area depends on arc length around circumference of spool.
- + For full installation information, please see Moog installation drawing CD25868.

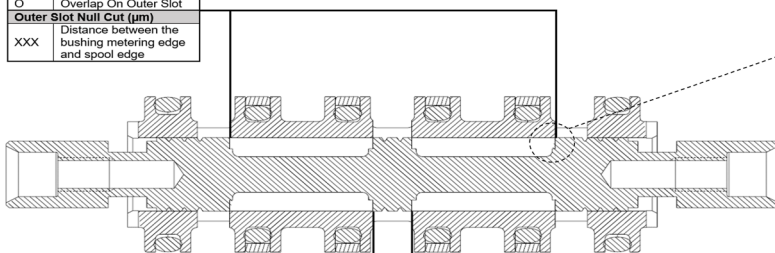
## ORDERING INFORMATION

E243 - [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6 [ ] 7 [ ] 8 [ ] 9 [ ] 10 [ ] 11 [ ] 12 [ ] 13 [ ] 14 [ ] 15 [ ] 16 [ ]

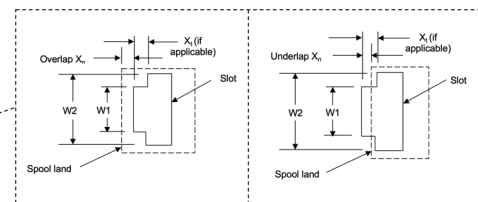
Model Designation and Revision

1 Slot Identifier	0 Outer Slots	16 Centre Slot Null Cut (µm)	XXX Distance Between Centre Slot Edge and Spool Edge
2 Number of Outer Slots	2 2 Slots	15 Centre Slot Null Condition Identifier	U Underlap on Centre Slot
3 Outer Slot Form	R Rectangular	14 Centre Slot Flow Transition Point (mm)	XXX Centre Slot Flow Transition Point (ZDP)
	D Dual Gain	000 Use If Rectangular Slot	
4 Outer Slot Full Width (mm)	XXX Outer Slot Full Width (ZDP)	13 Centre Slot Start Width (mm)	XXX Centre Slot Start Width (ZDP)
		000 Use If Rectangular Slot	
5 Outer Slot Start Width (mm)	XXX Outer Slot Start Width (ZDP)	12 Centre Slot Full Width (mm)	XXX Centre Slot Full Width (ZDP)
	000 Use If Rectangular Slot		
6 Outer Slot Flow Transition Point (mm)	XXX Outer Slot Flow Transition Point (ZDP)	11 Centre Slot Form	R Rectangular
	000 Use If Rectangular Slot		D Dual Gain
7 Outer Slot Null Condition Identifier	U Underlap on Outer Slot	10 Number of Centre Slots	2 2 Slots
	O Overlap on Outer Slot		4 4 Slots
8 Outer Slot Null Cut (µm)	XXX Distance Between Outer Slot Edge and Spool Edge	9 Slot Identifier	C Centre Slots

Null Condition	
U	Underlap On Outer Slot
O	Overlap On Outer Slot
Outer Slot Null Cut (µm)	
XXX	Distance between the bushing metering edge and spool edge



Null Condition	
U	Underlap On Centre Slot
O	Overlap On Centre Slot
Centre Slot Null Cut (µm)	
XXX	Distance between the bushing metering edge and spool edge



For further information, visit:  
[www.moog.com/miniature](http://www.moog.com/miniature)

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

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