

# OVERVIEW SERVO VALVE RANGE



FOR HIGH PERFORMANCE APPLICATIONS WHERE SIZE AND WEIGHT MATTERS SUCH AS TECHNOLOGY FOCUSSED SPORTS TO TRADITIONAL HEAVY INDUSTRY AND APPLICATIONS REQUIRING INTRINSICALLY SAFE OPTIONS

# A CLEAR DIFFERENCE YOU CAN SEE

Moog has built a reputation for engineering world-class products. Ensuring these products continue to deliver unsurpassed performance and productivity is the role of Moog Factory Repair.

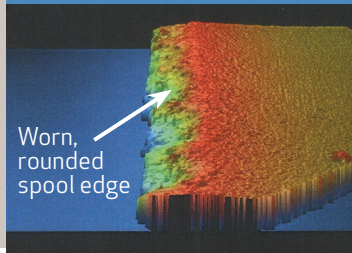
Here are a few real-world examples that showcase how critical the right service and support can be.

## Authentic Moog Replacement Parts

The Unauthorised Repair House (URH) repair on the left suffered from internal leakage 9 times the Moog specification. The Moog Factory Repair on the right was brought back to “As New” performance with an authentic Moog replacement spool piece, delivering higher pressure gain and precise flow control.

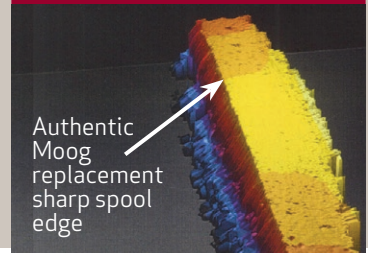
### UNAUTHORISED REPAIR HOUSE

Worn, rounded spool edge



### MOOG FACTORY REPAIR

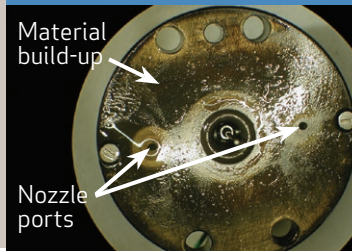
Authentic Moog replacement sharp spool edge



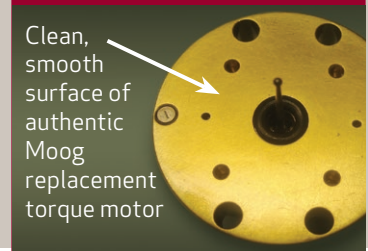
## Servo Valve Repair

As Unauthorised Repair Houses do not have access to authentic Moog parts, the quality of the repair may be limited to the effectiveness of their cleaning process. The valve on the left was cleaned by the URH. Material build-up can break free, prematurely clogging the small orifices shown in this photograph. Moog would replace the component as shown on the right.

Material build-up  
Nozzle ports



Clean, smooth surface of authentic Moog replacement torque motor



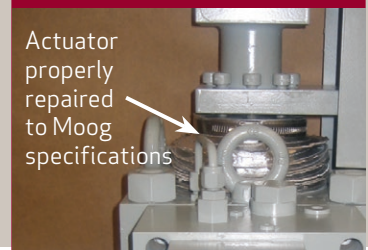
## Actuator Repair

Moog is the OEM supplier of actuators for many turbine engine manufacturers. We are uniquely qualified to perform repairs and overhauls during power plant outages. Incorrect assembly and material selection as shown on the left will lead to unplanned downtime and lost profits.

Snapped tie rod



Actuator properly repaired to Moog specifications



## Pump Repair

Unable to repair the RKP pump pictured on the left, the URH returned the pump to the customer disassembled. The same pump is pictured at right after a Moog Factory Repair to “As New” performance and painted in accordance with custom customer specifications.


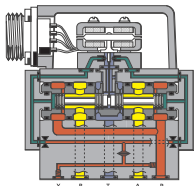
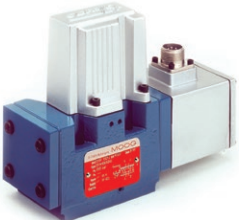
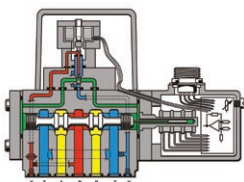

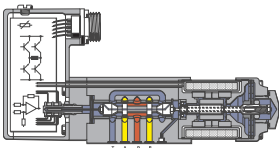

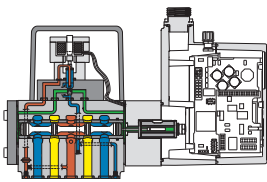
### BEFORE



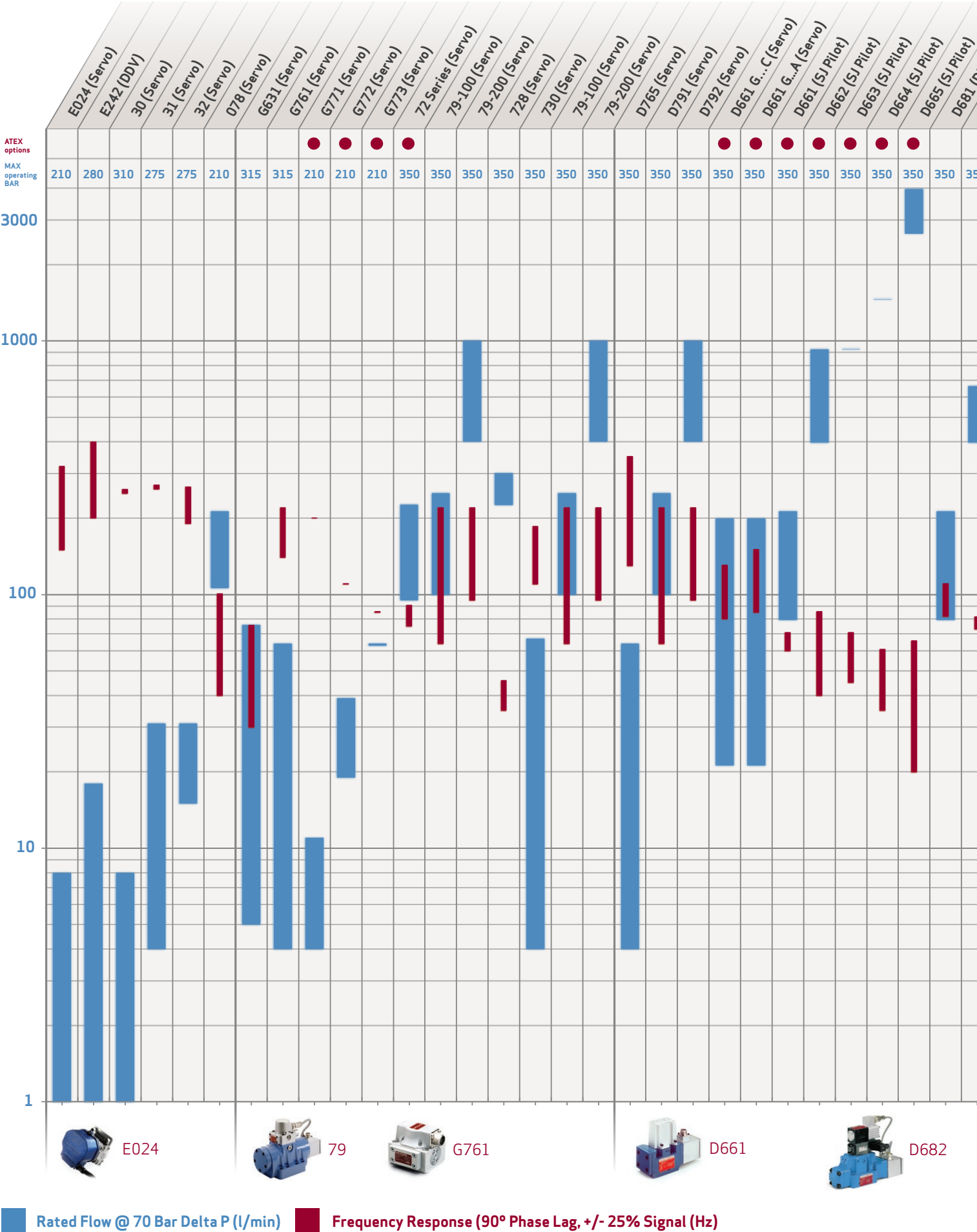
### AFTER

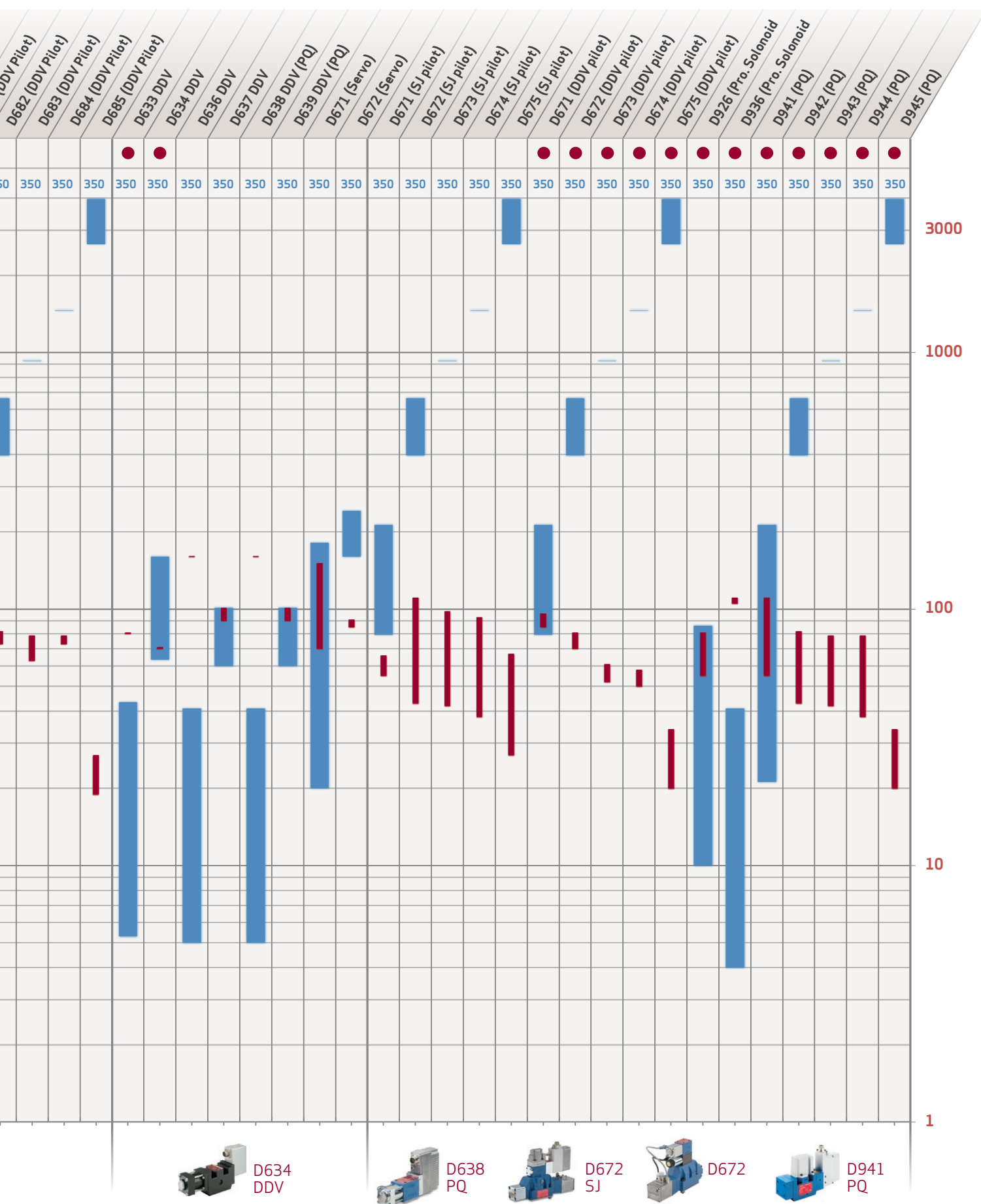


# VALVE TYPES EXPLAINED

| MECHANICAL FEEDBACK (MFB)   | ELECTRICAL FEEDBACK (EFB)  | DIRECT DRIVE VALVE (DDV)   | DIGITAL (DCV) AND AXIS (ACV) CONTROL VALVE   |
|---|--|--|--|
|    |     |     |     |
| <ul style="list-style-type: none"> <li>• Robust construction for use in extreme environments</li> <li>• Suitable for use in high temp/ high shock environments</li> <li>• Very high response valve options available</li> <li>• Intrinsically Safe Atex Approved Options</li> <li>• Simple integration and commissioning</li> </ul> | <ul style="list-style-type: none"> <li>• Inherently high resolution for extreme accuracy requirements</li> <li>• Integral Diagnostic function</li> <li>• High flow valve options available</li> <li>• Exd Atex approved options</li> <li>• Directly Accommodates common PLC command signals</li> </ul> | <ul style="list-style-type: none"> <li>• Inherently high resolution for extreme accuracy requirements</li> <li>• High Force Linear motor technology provide greater energy efficiency</li> <li>• Operates down to zero supply pressure</li> <li>• Analogue Pressure control technology option</li> <li>• Simple onboard diagnostics</li> </ul> | <ul style="list-style-type: none"> <li>• Integrate Digital Electronics with fieldbus technology</li> <li>• Sophisticated diagnostic software and error handling capabilities</li> <li>• Software configurable valve function</li> <li>• Simplifies multi-axis system communications</li> <li>• Integrated "System" closed loop controller (ACV)</li> </ul> |
| <p><b>Nozzle Flapper Pilot</b></p> <p>G631, G761, G771, G772, G773 72 79-100 79-200 72, 730. 78, 728</p> <p><b>Small Package and Miniature</b></p> <p>E024, 30, 31, 32, E242-200</p>  | <p><b>Servojet DDV pilot Nozzle Flapper</b></p> <p>D660 D681 D765<br/>D661 D682 D791<br/>D662 D683 D792<br/>D663 D684<br/>D664 D685<br/>D665</p> <p><b>Proportional Solenoid</b></p> <p>D926<br/>D936</p>  | <p><b>Flow control Pressure Control (PQ)</b></p> <p>D633 D638<br/>D634 D639<br/>D636 D941<br/>D637</p>   | <p><b>Flow Control Pressure Control (PQ)</b></p> <p>D636 D638<br/>D637 D639<br/>D671 D941<br/>D672 D942<br/>D673 D943<br/>D674 D944<br/>D675 D945</p> <p><b>Servojet</b></p> <p>D671<br/>D672</p>  |

# MOOG VALVE TYPES EXPLAINED





1. Selection of the optimum valve involves understanding the performance requirements of your applications. Broadly, this comprises of two parameters:
2. The system power requirement which relates broadly to the maximum rated flow of the valve (blue bars)
3. The required system dynamics which correspond closely to the small signal frequency response of the valve (red bars)

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- Integrated Hydraulic Systems
- Miniature Actuation Products and Systems
- Servo and Machine Motion Controllers
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- Servo Drives
- Servo Motors
- Slip Rings
- Simulation and Test Systems
- Test Controllers



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Servo valves Range  
OYS/Rev.B 0113

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.

**MOOG**