592 Series

Electro-Hydraulic Servovalves

Sapphire Technology

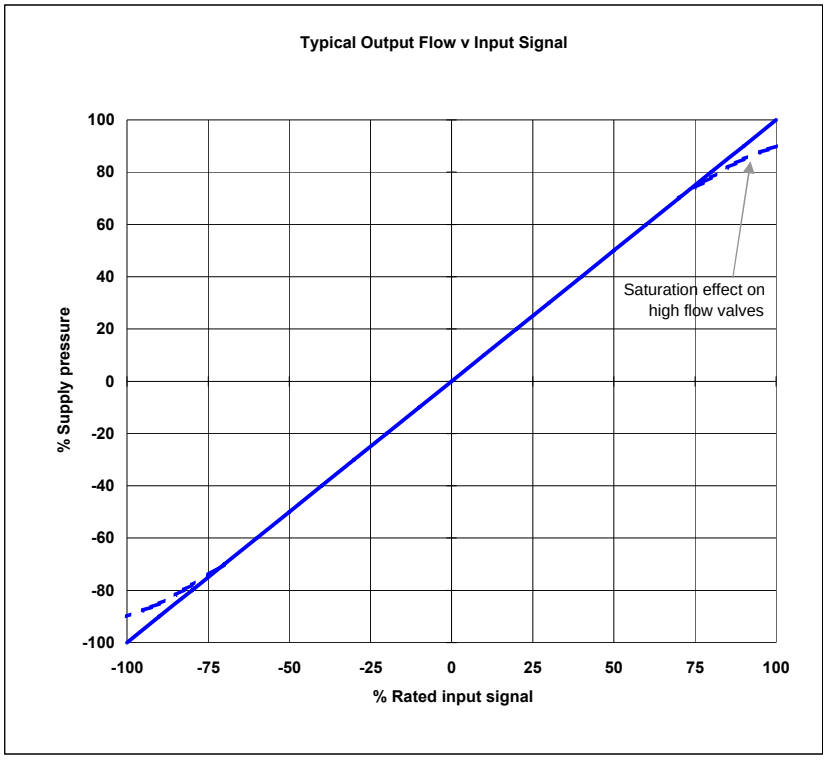
2-stage mechanical feedback
Low mass, high band-width torque motor
High spool drive forces
Long life "Sapphire Technology" design
High resolution, low hysteresis
Rated flows 4 to 20 l/min at 70 bar
Very-High Response
External pilot supply (5 port)
ISO 10372 size 4

Star Hydraulics Limited
8 Beta Close
Tewkesbury Business Centre
Tewkesbury
Gloucestershire
GL20 8SR
England (UK)

Technical Data

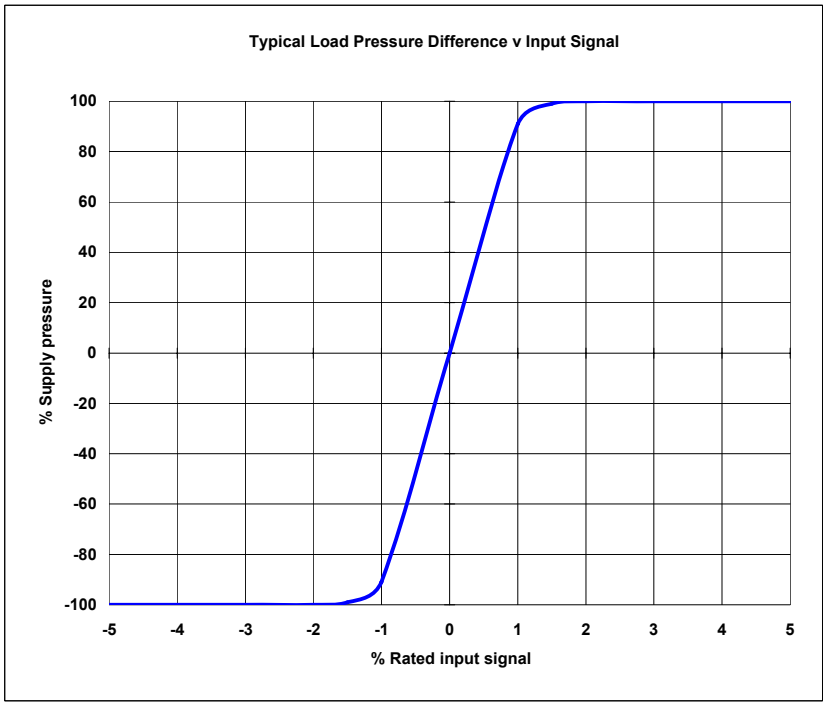
Nominal flow ratings at 70 bar Dp	**4, 10 & 20 l/min** **For other flow ratings consult factory**
Hysteresis	**< 3.0% without dither**
Threshold	**< 0.5% without dither**
Null shift	
with 40 °C temp change	**< 2%**
with 70 bar supply pressure change	**< 2%**
with return pressure 0 to 35 bar	**< 2%**
Load pressure difference at 1% input	**> 60% of supply pressure**
Seal material options	**FPM, NBR, EPDM**
Temperature range (ambient)	**-29 to 135 °C** **(subject to seal material)**
Proof pressure	
at pressure port	**150% operating pressure**
at return port	**100% operating pressure**
Burst pressure	**250% max supply pressure**
External leakage	**zero**
Degree of protection EN 50529P	**IP 65**
Weight	**1 kg**
Vibration	**30 g, 3 axes**
Mounting position	**Any, fixed or movable**
Supply filtration	
non by-pass	**Beta 10 = 200 (10 μm abs)**
cleanliness control filter	**Beta 3 = 200 (3 μm abs)**
Fluid cleanliness level per ISO 4406: 1999	
minimum	**16/ 14/ 12**
recommended	**14/ 12/ 10**
Operating pressure (max)	
EPDM	**210 bar**
FPM, NBR	**315 bar**
Supply pressure	**Constant**
Fluid viscosity	**10 to 100 cSt**
Fluid type	**Petroleum based mineral oil** **For operation with other media consult factory**

Technical Data

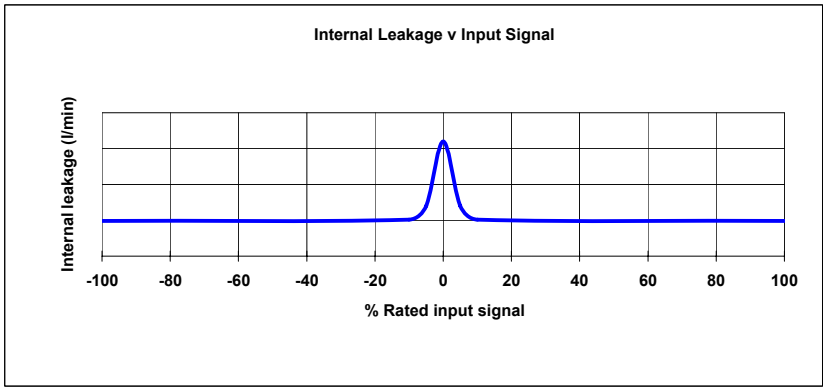


The flow tolerance for standard servovalves is ±10% of the rated flow at 100% rated input signal.

The rated flow is quoted at 70 bar Δp, 100% rated input signal.



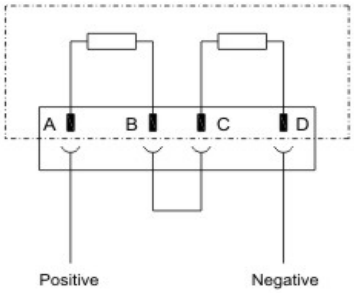
Pressure gain characteristic will vary with positive and negative lap conditions.



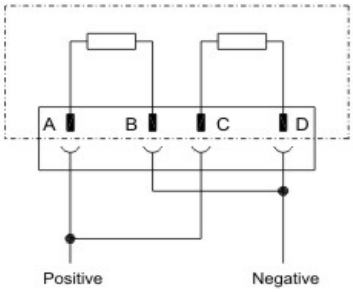
This comprises of both 1st stage flow (tare leakge) and the second stage null leakage.

Figures vary in accordance with rated flow, spool lap and performance characteristics.

Electrical Details



Series connection



Parallel connection

Output flow polarity

Flow in the direction of P » C2, C1 » R when coils connected as shown

Coil options

		Series connection		Parallel connection	
Rated current	Resistance / coil	Input current	Effective resistance	Input current	Effective resistance
mA	Ω	mA	Ω	mA	Ω
8	1000	4	2000	8	500
10	1000	5	2000	10	500
15	200	7.5	400	15	100
15	350	7.5	700	15	175
15	600	7.5	1200	15	300
20	1200	10	2400	20	600
30	300	15	600	30	150
30	800	15	1600	30	400
40	80	20	160	40	40
50	80	25	160	50	40
60	40	30	80	60	20
60	320	30	640	60	160
80	22	40	44	80	11
100	27	50	54	100	13.5
200	22	100	44	200	11

Electrical connector

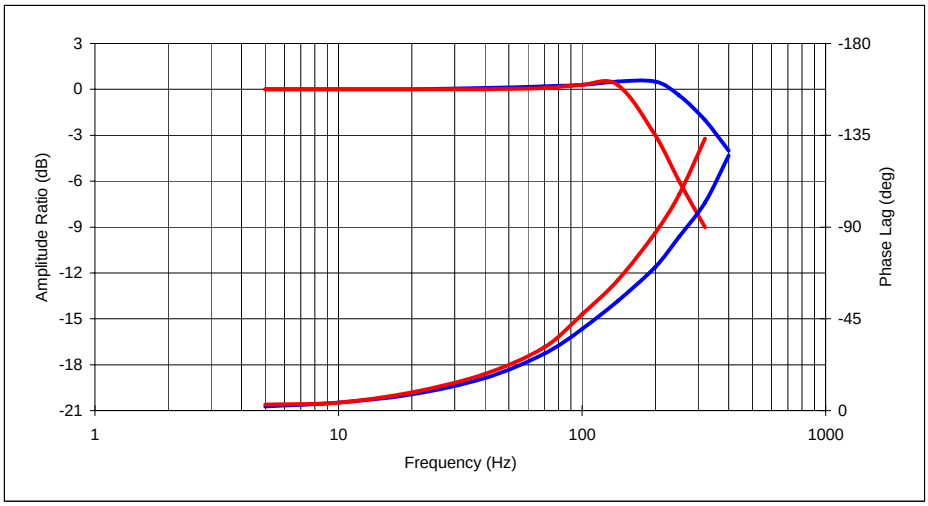
Standard connector is MS3102E-14S-2P (MIL-5015)

Please contact factory for more options

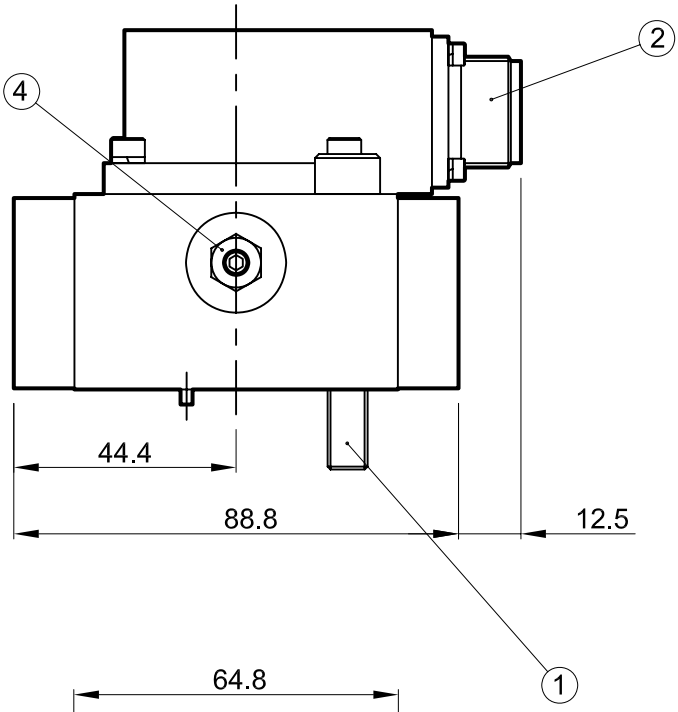
Frequency Response

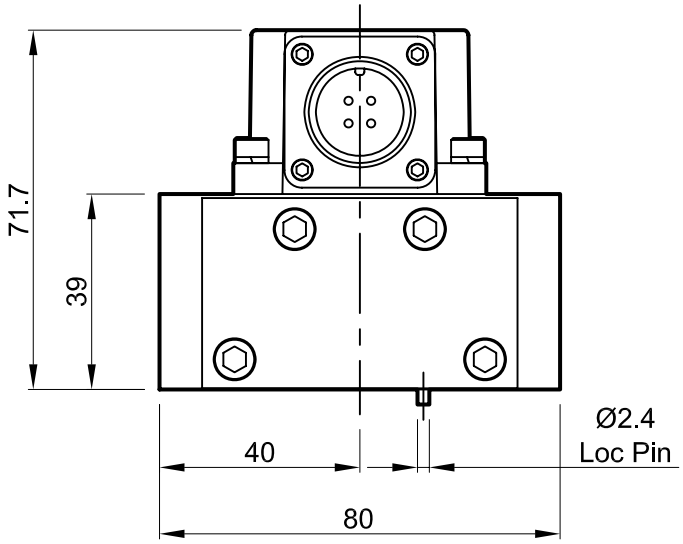
25% In **100% In**

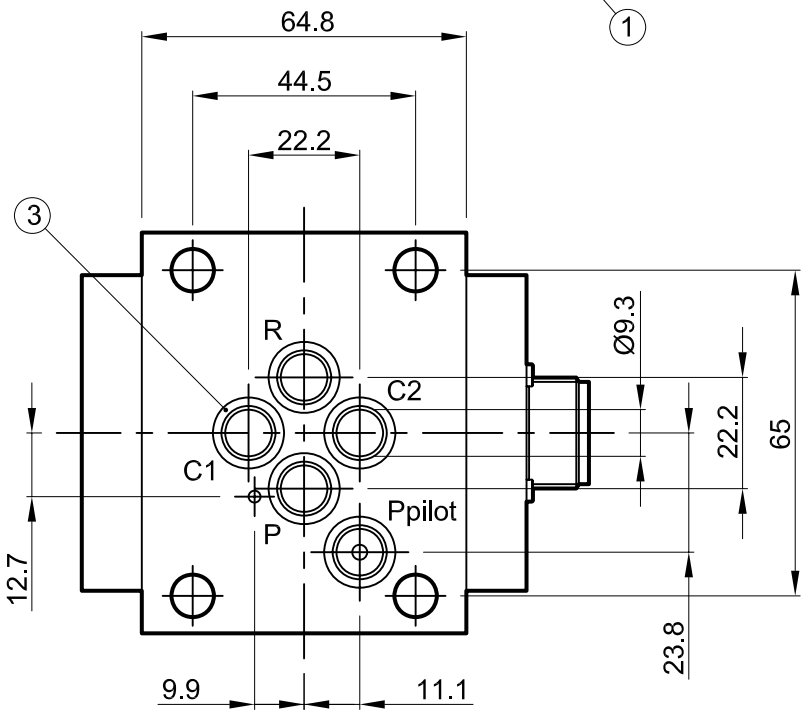
Rated Flow (l/m) … **4 ~ 20**



Typical performance curves optimised per 210 bar supply pressure, fluid viscosity 32 cSt at 40 ºC





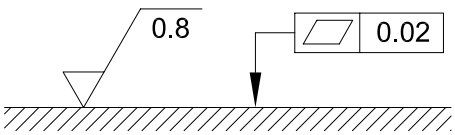


1. Suggested mounting bolts M8 x 60 long high tensile steel socket head cap screws.

2. 4-way electrical connector mates with MS3106-14S-2S or equivalent. Is available at ±90° and 180° to position shown (supplied over P port as standard).

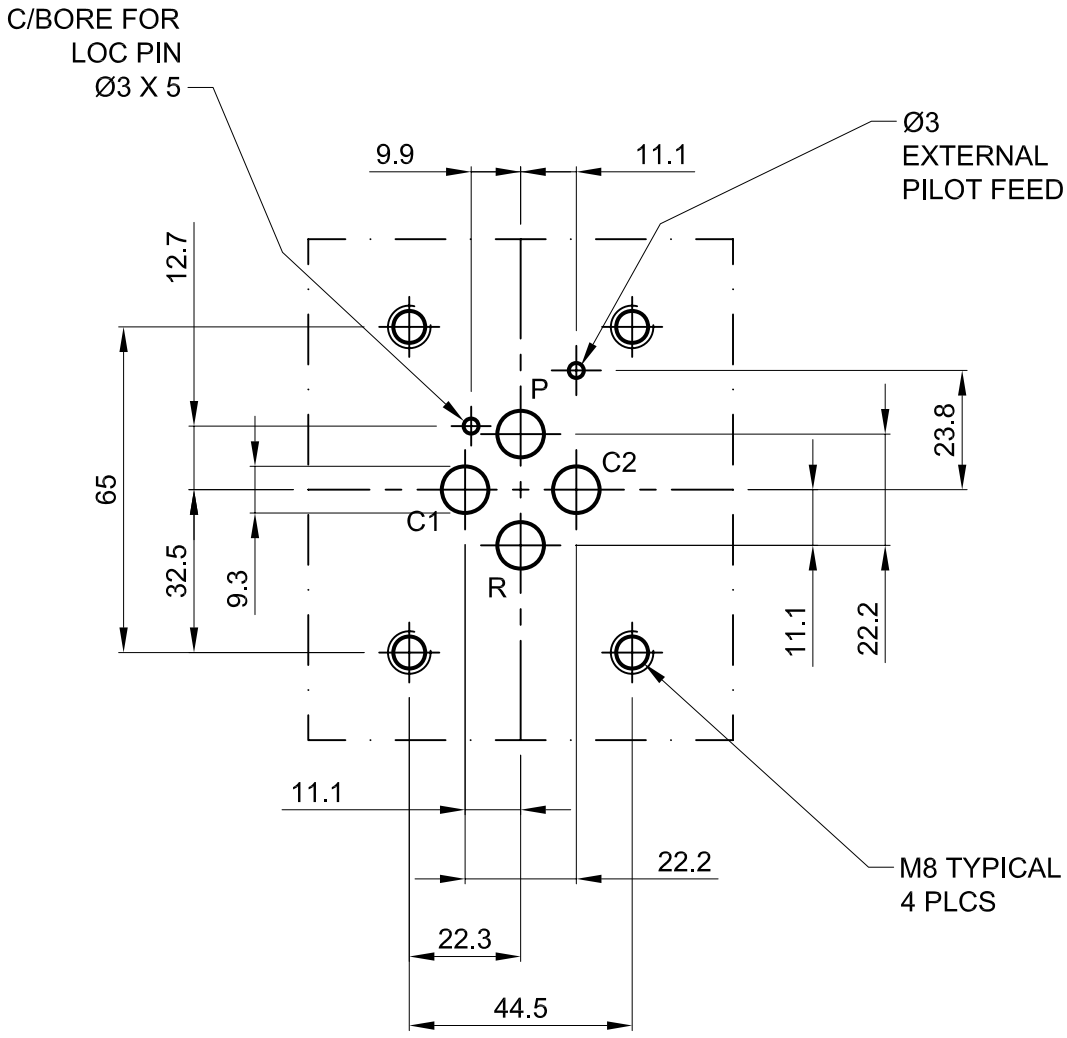
3. Base O-Rings: 10.82 I/D x 1.78 section (5 pcs).

4. Null adjust requires 10 A/F ring spanner and 2.5 hexagon key. Flow out of C2 will increase with clockwise rotation of key.



Installation Details Model 592

Dimensions in millimeters 3rd angle projection	ID592-2Q10-En



Manifold Dimensions Model 592

Dimensions in millimeters 3rd angle projection	Filename