

**General Description**

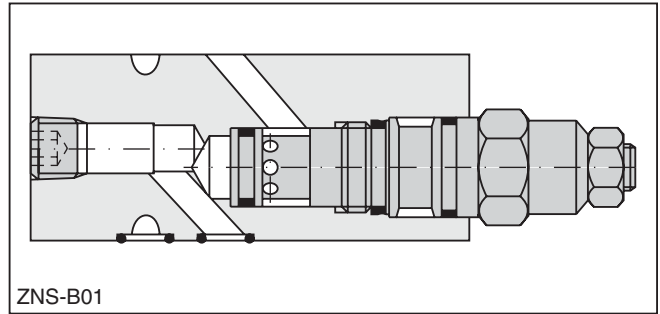
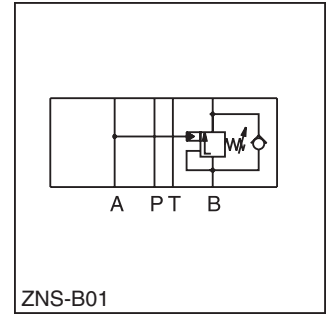
Series ZNS counterbalance valve controls the actuator movement at overrunning loads.

The return flow from the actuator is piloted and controlled by the inlet flow to the actuator, ensuring a cavitation-free lowering of the load.

The counterbalance valve operates as a pressure relief valve. The setting pressure is lowered by the pressure in the inlet line. To ensure safe load holding the setting pressure should be approximately 30% higher than the max. load pressure.

**Features**

- Controlled movement loads.
- Load holding via leak-free poppet valve.
- Secondary relief protection for the actuator.
- Sizes:  
 ZNS\*01 – NFPA D03 / NG6 / CETOP 3  
 ZNS\*02 – NFPA D05 / NG10 / CETOP 5



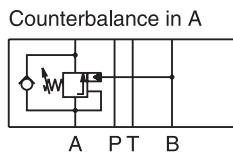
**B**

**Ordering Information**

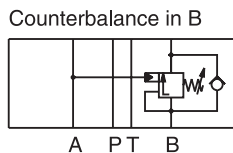
<b>ZNS</b> Counterbalance Valve	<input type="checkbox"/> Port Option	<input type="checkbox"/> Size	<input type="checkbox"/> Pressure Range	<b>S0</b> Hexagon Screw with Lock Nut	<b>D</b> Design Series	<input type="checkbox"/> Seal																										
<table border="1"> <thead> <tr><th>Code</th><th>Description</th></tr> </thead> <tbody> <tr><td>A</td><td>in A</td></tr> <tr><td>B</td><td>in B</td></tr> <tr><td>AB</td><td>in A and B</td></tr> </tbody> </table>	Code	Description	A	in A	B	in B	AB	in A and B		<table border="1"> <thead> <tr><th>Code</th><th>Description</th></tr> </thead> <tbody> <tr><td>01</td><td>NFPA D03 / NG6</td></tr> <tr><td>02</td><td>NFPA D05 / NG10</td></tr> </tbody> </table>	Code	Description	01	NFPA D03 / NG6	02	NFPA D05 / NG10	<table border="1"> <thead> <tr><th>Code</th><th>Description</th></tr> </thead> <tbody> <tr><td>2</td><td>70 to 175 Bar (1015 to 2538 PSI)</td></tr> <tr><td>5<sup>1)</sup></td><td>140 to 350 Bar (2030 to 5075 PSI)</td></tr> </tbody> </table> <p><sup>1)</sup> ZNS02 to 315 Bar (4568 PSI)</p>	Code	Description	2	70 to 175 Bar (1015 to 2538 PSI)	5 <sup>1)</sup>	140 to 350 Bar (2030 to 5075 PSI)		<table border="1"> <thead> <tr><th>Code</th><th>Description</th></tr> </thead> <tbody> <tr><td>1</td><td>Nitrile</td></tr> <tr><td>5</td><td>Fluorocarbon</td></tr> </tbody> </table>	Code	Description	1	Nitrile	5	Fluorocarbon	
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<b>Weight:</b>	<b>1 cartridge</b>	<b>2 cartridges</b>
ZNS*01	1.3 kg (2.9 lbs.)	3.0 kg (6.6 lbs.)
ZNS*02	1.6 kg (3.5 lbs.)	3.9 kg (8.6 lbs.)

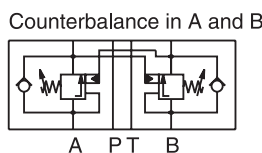
**ZNS01**



Series  
 ZNSA012S0D1  
 ZNSA015S0D1



Series  
 ZNSB011S0D1  
 ZNSB015S0D1



Series  
 ZNSAB011S0D1  
 ZNSAB015S0D1

2 = 70 ... 175 Bar (1015 ... 2538 PSI)  
 5 = 140 ... 350 Bar (2030 ... 5075 PSI)

**ZNS02**

Series  
 ZNSA022S0D1  
 ZNSA025S0D1

Series  
 ZNSB021S0D1  
 ZNSB025S0D1

Series  
 ZNSAB021S0D1  
 ZNSAB025S0D1

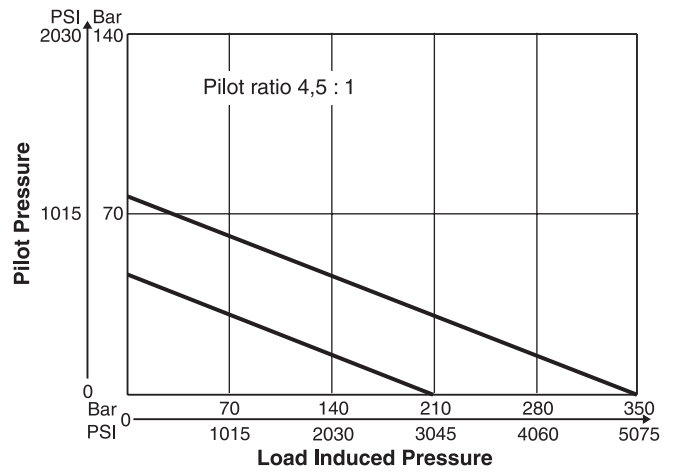
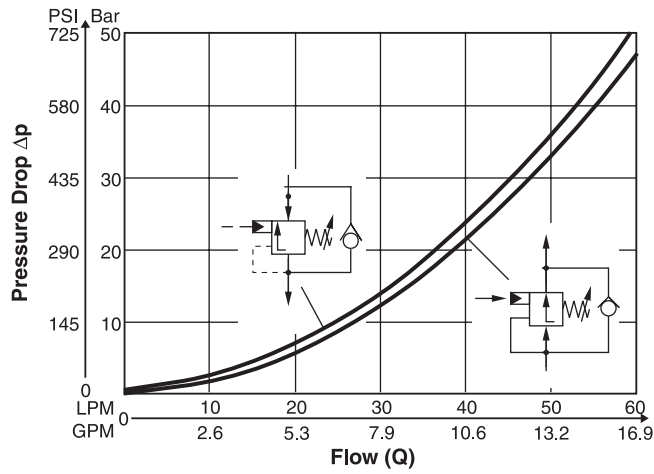
2 = 70 ... 175 Bar (1015 ... 2538 PSI)  
 5 = 140 ... 315 Bar (2030 ... 4568 PSI)

## Specifications

General		
Size	NG6	NG10
Mounting Interface	DIN 24340 A6 ISO 4401 NFFPA D03	DIN 24340 A10 ISO 4401 NFFPA D05
Mounting Position	Unrestricted	
Ambient Temperature Range	-20°C to +50°C (-4°F to +122°F)	
Hydraulic		
Maximum Operating Pressure	350 Bar (5075 PSI)	315 Bar (4568 PSI)
Pressure Range	175 Bar (2538 PSI), 350 Bar (5075 PSI)	
Pilot Ratio	4.5 : 1	
Leakage	On request	
Nominal Flow	60 LPM (15.9 GPM)	120 LPM (31.7 GPM)
Opening Pressure	0.3 LPM (0.1 GPM)	0.3 LPM (0.1 GPM)
Fluid	Hydraulic oil as per DIN 51524 ... 51525	
Fluid Temperature	-20°C to +80°C (-4°F to +176°F)	
Viscosity	Permitted Recommended	10 to 650 cSt / mm <sup>2</sup> /s (46 to 3013 SSU) 30 cSt / mm <sup>2</sup> /s (139 SSU)
Filtration	ISO Class 4406 (1999) 18/16/13 (acc. NAS 1638: 7)	

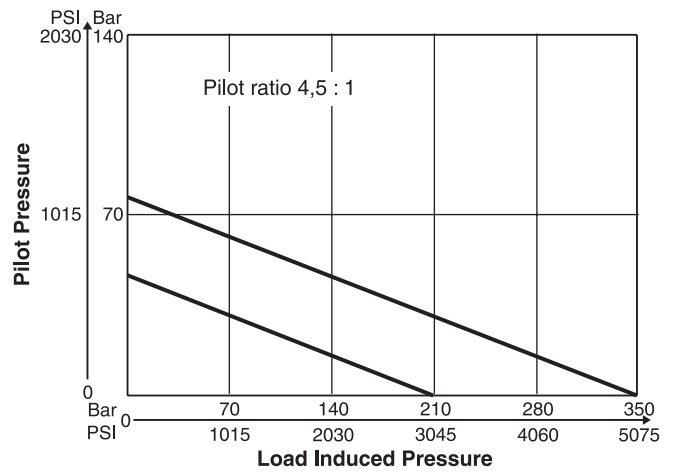
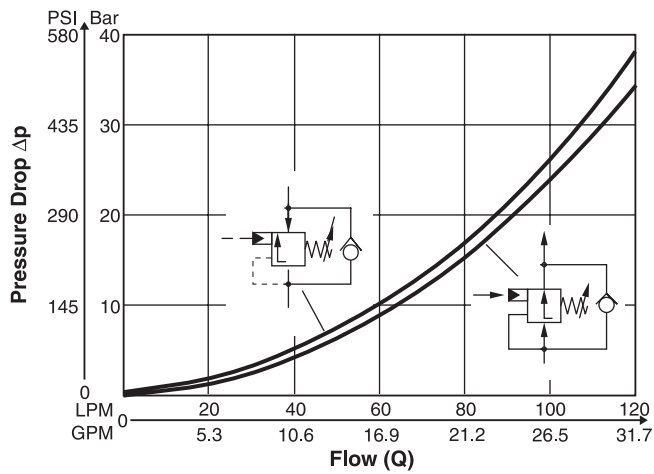
B

**ZNS01**



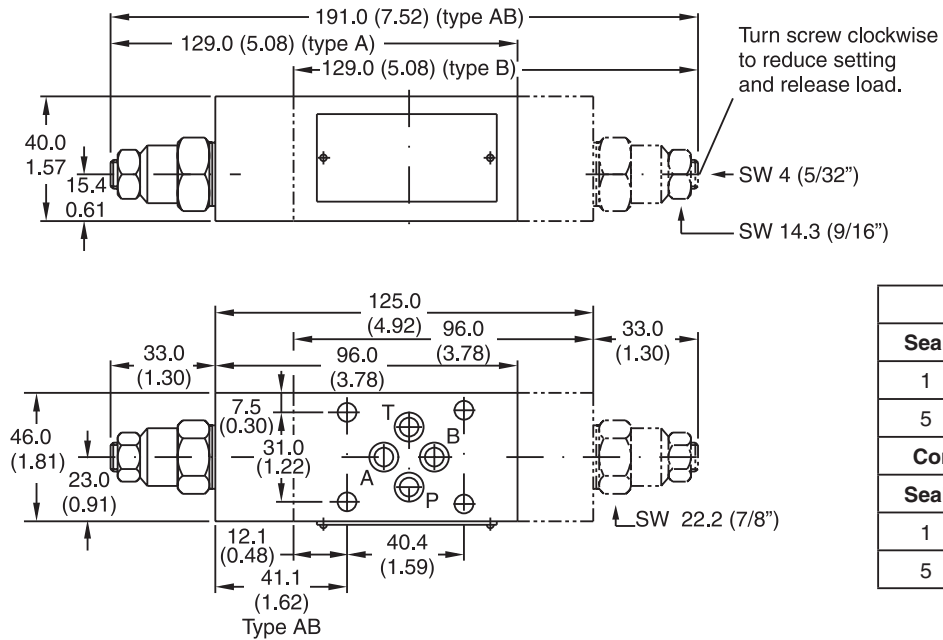
**B**

**ZNS02**



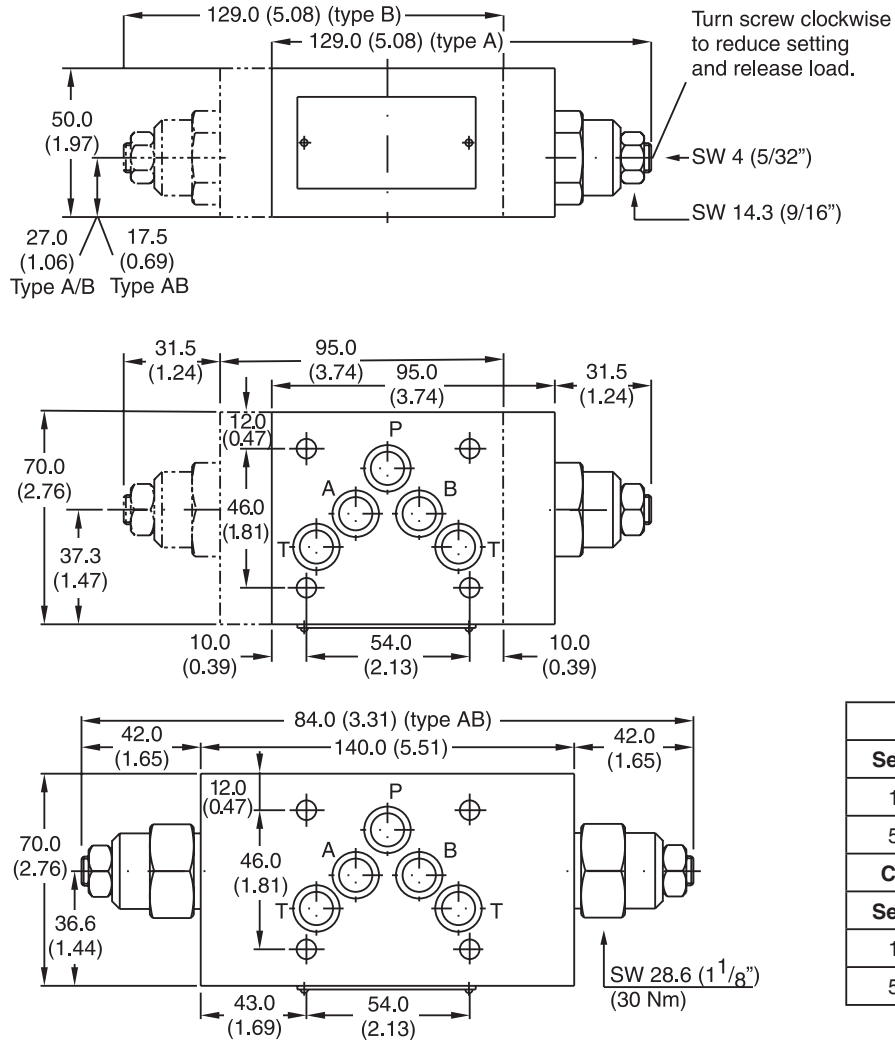
All characteristic curves measured with HLP46 at 50°C (122°F).

**ZNS01** – Inch equivalents for millimeter dimensions are shown in (\*\*)



Seal Kit	
Seal	Order Code
1	098-91153-0
5	098-91154-0
Complete Cartridge	
Seal	Order Code
1	517-01017-2
5	517-00448-8

**ZNS02** – Inch equivalents for millimeter dimensions are shown in (\*\*)



Seal Kit	
Seal	Order Code
1	098-91155-0
5	098-91183-0
Complete Cartridge	
Seal	Order Code
1	517-00449-8
5	517-00450-8