

---

## W770 Series Back Pressure Regulator

The WNS Lowery Series W770 Back Pressure Regulator (BPR) offers an affordable solution for maintaining a constant back pressure and an automatic relief of pressure in liquid or gas applications. By maintaining a constant and reliable back pressure on the oil column, this valve ensures gas bubbles do not break out of solution and reduces the paraffin build up in the well. The decrease of gas pockets in the oil also provides a continuous lubrication of the polished rod, extending the life of the stuffing box cone packing, while also enhancing the efficiency of the bottom hole pump.

Several spring ranges are available to allow operation between 10-1500 psi. Tungsten Carbide and Hardened Steel Sand Trims allow for extended life in highly abrasive applications. A new PolyPak sealing option on the adjustment screw replaces the old rope seal design.

### Features:

- Lapped Piston and Seat
- Standard Stainless Steel Trim
- Optional PolyPak Seal
- Optional Sand Trim in Tungsten Carbide or Harden Steel
- Easy access to the internal parts for ease of repair and maintenance
- Field adjustable
- Multiple seal and material options for a wide variety of applications
- Reduces paraffin by keeping gas in solution

### Applications:

- Paraffin
- Bypass to Casing
- Pump Relief
- Pipeline Relief
- Heading Up





WNS Lowery  
2221 SE 69<sup>th</sup> St  
Oklahoma City, OK 73149  
(405) 677-7222

---

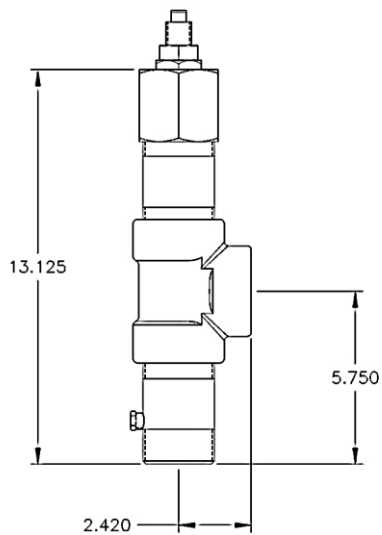


WNS Lowery  
 2221 SE 69<sup>th</sup> St  
 Oklahoma City, OK 73149  
 (405) 677-7222

Selection Matrix

1	2	3	4	5	-	6	7	8	9	10	11	12	
W	7	7			-								
													Size
			0	2									2"
													Body Type
						T							Tee Body
						C							Cross Body
													Trim
							S						Stainless Steel Trim (0.825" orifice)
							C						Carbide Sand Trim (0.875" orifice)
							H						Hardened Steel Sand Trim (0.875" orifice)
													Spring Range
								2	0				10-200, Red
								5	0				10-500, White
								9	0				10-900, Blue
								1	5				10-1500, Blue
													Body Material
									C	S			LCC Carbon Steel (Standard)
													Inlet & Outlet
											7		2"

Specifications



Materials of Construction	
Body	LCC Steel
Bonnet	LCC Steel
Cage	17-4PH H900 SS
Body Plug	Xylan Coated CS
Seat	440C SS Hardened Steel Tungsten Carbide
Piston	Annealed 17-4PH H900 SS Hardened Steel Tungsten Carbide w/ SS
Spring	17-7PH SS or 302 SS

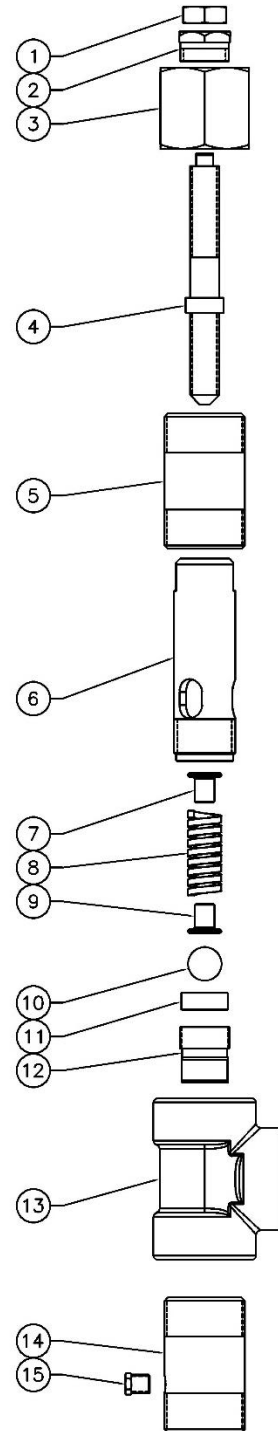
## Installation and Maintenance

### Installation and Start-Up:

1. Remove all shipping and protective material from the BPR and inspect the unit for any damage that might have occurred during shipping and handling.
2. Install the BPR based on the flow direction of the system and the flow arrow on the unit.
3. All BPRs come preset at a given value within the rated spring range. If the preset pressure is not at the desired pressure, the unit can be adjusted by loosening the Jam Nut (item 1) and Packing Nut (item 2). The adjustment screw should be turned counterclockwise to reduce the set pressure or clockwise to increase the set pressure until the desired setting is achieved. Once the BPR is properly set, tighten the Packing Nut and Jam Nut back into place.

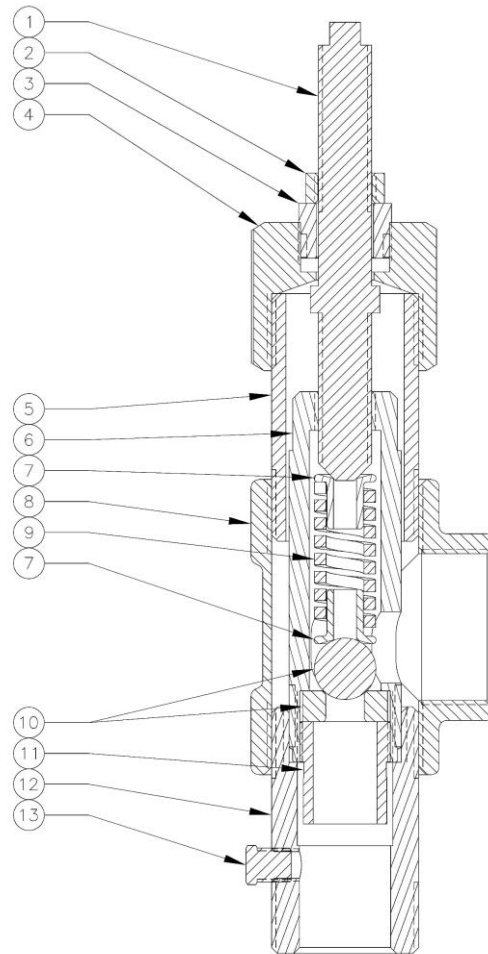
### Operation and Maintenance:

1. The BPR should be monitored to ensure it is functioning properly. If the BPR no longer performs as intended, the unit should be inspected for wear of the internal components.
2. Prior to performing any maintenance to the unit, it should be isolated from the system and all pressure released.
3. To begin maintenance, loosen the Jam Nut (Item 1) and Packing Nut (item 2). Back off the Adjustment Screw (item 4) to relieve all the spring force.
4. To gain access to the internals, unthread the Cap (item 3) from the Pipe Nipple (item 5).
5. Pull the Cage and Seat assembly out of the body (item 6 thru 12). Using the wrench flats on the Seat Retainer (item 12) and Cage (item 6), unthread the parts from each other to gain access to the internals.
6. Replace the Seat (item 11) and Ball (item 10) and clean any debris from the Cage.
7. Rebuild the unit by reversing these steps.



Part Numbers

Item	Description	Item Number
1	Adjustment Screw	W770119101
2	Jam Nut	W770113801
3	Gland Nut	W770113601
4	Cap	W770106501
5	Pipe Nipple	W770113202
6	Cage	W770105901
7	Spring Keeper	W770112801
8	Tee Body	W770120401
	Cross Body	W770112001
9	Spring, 10-200, Red	W770120201
	Spring, 10-500, White	W770120202
	Spring, 10-900, Blue	W770120203
	Spring, 10-1500, Blue	W770120203
10	Trim, SS Ball and Seat	W770100201
	Trim, SS Ball and Seat, HP	W770100202
11	Seat Retainer	W770118701
12	Body	W770100501
13	Xylan Plug	117501
Not Shown	Packing Rope	W770117201



Standard BPR w/ SS Trim

PolyPak Conversion Kit		
	W770112830 SS Trim	W770112835 Sand Trim
Description	Part Number	Part number
Adjustment Screw	W770119111	
Cap	W770106511	
Gland Nut	W770113611	
PolyPak	W770117111	
Back up Ring (2)	W770117101	
Keeper	W770112801	W770112811

Sand Trim Kit		
	W770112815 Hardened Steel	W770112820 Tungsten Carbide
Description	Part Number	Part number
Seat	W770100302	W770100301
Stem	W770120131	W770120101
Spring Keeper	W770112811	