

800 SERIES VALVE SPECIFICATION

1. GENERAL:

The 800 Series Nelson valve is capable of operating in a pressure range from 10 PSI through 200 PSI depending upon the selected internal rubber sleeve diaphragm. See the latest valve configuration table on page 19.3. The valve shall have optional accessories which may include devices that will:

- a) open by electric solenoid,
- b) control the downstream pressure (pressure reducing control),
- c) control the upstream pressure (pressure sustaining control),
- d) pressure relief (pressure sustaining control),
- e) limit flow rate (rate-of-flow control),
- f) check flow
- g) selected combination of the above.

2. DESIGN

1. The valve body is of the wafer style which will fit between two standard flanges. Threaded and Victaulic connections also available for 2" and 3" size valves. Materials shall be as shown on the 800 Series materials guide (page 19.2).
2. If equipped with a pressure control, the pressure regulator shall be 3-way pilot operation. The adjustment bolt shall have a label attached to assist the user in selecting the correct pressure.
3. The internal rubber sleeve diaphragm shall be molded in the normally closed position. The valve will require operating pressure in order to open the valve but no pressure will be required to close the valve.
4. Special controls and operational options can be ordered by designating the 'S##' number at the end of the valve code. These codes are listed in the table found in Section 16 of the 800 Series Valve Resource Manual.

MATERIALS GUIDE

ITEMS	2 INCH VALVE	3 INCH VALVE	4 INCH VALVE*	NEW STYLE 4 INCH VALVE**	6 INCH VALVE	8 INCH VALVE
JACKET	ANODIZED ALUMINUM	ANODIZED ALUMINUM	ANODIZED ALUMINUM	ANODIZED ALUMINUM	GALVANIZED STEEL	GALVANIZED STEEL
CAGE	ALUMINUM OR EPOXY COATED CAST IRON	ALUMINUM OR EPOXY COATED CAST IRON	EPOXY COATED CAST IRON	ALUMINUM OR EPOXY COATED CAST IRON	ALUMINUM OR EPOXY COATED CAST IRON	ALUMINUM OR EPOXY COATED CAST IRON
SLEEVE DIAPHRAGM	NATURAL RUBBER	NATURAL RUBBER	NATURAL RUBBER	NATURAL RUBBER	NATURAL RUBBER	NATURAL RUBBER
CENTER BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
CENTER BARRIER	UHMW (PLASTIC)	UHMW (PLASTIC)	UHMW (PLASTIC)	UHMW (PLASTIC)	UHMW (PLASTIC)	UHMW (PLASTIC)

*Pre-2011.

**2011-now.

PRESSURE CONTROL MATERIALS:

BRASS, STAINLESS STEEL, POWDER COATED & ANODIZED ALUMINUM, TEFLON, AND NITRILE RUBBER

PLASTIC TUBING:

NYLON

TUBE FITTINGS:

NICKEL PLATED BRASS BODIES AND COLLETS

ELECTRIC SOLENOIDS:

BRASS, STAINLESS STEEL, NITRILE RUBBER, PLASTIC, AND EPDM SEALS

STUD KITS:

CARBON STEEL W/ ZINC-NICKLE COATING

MANUAL SELECTOR:

BRASS, TEFLON, NITRILE RUBBER (O-RING), STAINLESS STEEL (HANDLE)

MOUNTING BRACKET:

ALUMINUM

TO ORDER: Select one option from each of the five sections to build the valve description code.

SECTION	1. SIZE/MATERIAL/CONNECTIONS	2. PRESSURE	3. PRESSURE CONTROL	4. ON/OFF CONTROL	5. FILTER
CODE	A6 B5	C3	D01	E01	H3
DESCRIPTION	6" Cast Iron Wafer w/Stud Kit	Medium (18-80 psi)	None	Manual Selector Only	Internal Filter

See page 19.4 for control and filter options.

1. SIZE/MATERIAL/CONNECTIONS		
CODE	MATERIAL	CONNECTIONS
2" VALVES		
A2 B3	Cast Iron	2" Threaded (NPT)
A2 B6		2" Victaulic
A2 B9	Aluminum	Wafer (no stud kit)
A2 B10		Wafer w/stud kit for 2" Flanges
A2 B17		Wafer w/stud kit for 75/100 Big Gun
3" VALVES		
A3 B6	Cast Iron	3" Victaulic
A3 B9	Aluminum	Wafer (no stud kit)
A3 B10		Wafer w/stud kit for 3" Flanges
A3 B17		Wafer w/stud kit for 150 Big Gun
4" VALVES		
A4 B9	Aluminum	Wafer (no stud kit)
A4 B10		Wafer w/stud kit for 4" Flanges
A4 B17		Wafer w/stud kit for 200 Big Gun
A4 B23		Wafer 6x4x6 (no stud kit)
A4 B24		Wafer 6x4x6 w/stud kit
6" VALVES		
A6 B4	Cast Iron	Wafer (no stud kit)
A6 B5		Wafer w/stud kit for 6" flanges
A6 B21		Wafer 8x6x8 (no stud kit)
A6 B22		Wafer 8x6x8 w/stud kit
A6 B9	Aluminum	Wafer (no stud kit)
A6 B10		Wafer w/stud kit for 6" flanges
A6 B23		Wafer 8x6x8 (no stud kit)
A6 B24		Wafer 8x6x8 w/stud kit
8" VALVES		
A8 B4	Cast Iron	Wafer (no stud kit)
A8 B5		Wafer w/stud kit for 8" flanges
A8 B9	Aluminum	Wafer (no stud kit)
A8 B10		Wafer w/stud kit for 8" flanges

2. PRESSURE	
CODE	OPERATING PRESSURE
C1	Low (10-50 psi)
C2	High (30-200 psi)
C3	Medium (18-80 psi)

3. PRESSURE CONTROL	
CODE	ADJ. RANGE
D01	None
PRESSURE REDUCING	
D02	5-50 psi, 4-8"
D03	10-120 psi, 4-8"
D04	25-200 psi, 4-8"
D11	5-30 psi, 2" and 3"
D12	5-60 psi, 2" and 3"
D13	10-120 psi, 2" and 3"
PRESSURE SUSTAINING	
D05	25-200 psi, 4-8"
D08	10-120 psi, 4-8"
D09	5-50 psi, 4-8"
D15	5-60 psi, 2" and 3"
D16	10-120 psi, 2" and 3"
RATE OF FLOW	
D18-1	3" Pipe, 120-400 gpm
D18-2	4" Pipe, 200-550 gpm
D18-3	6" Pipe, 350-1000 gpm
D18-4	6" Pipe, 500-2000 gpm
D18-5	8" Pipe, 500-1550 gpm
D18-6	8" Pipe, 900-3800 gpm
SLEEVE EXHAUST	
D06	Valve open below 30 psi
D06-1	Valve open below 10 psi
SHUTTLE CHECK	
D07	Shuttle Check

800P - 2" (50 MM) PIVOT END GUN VALVE

(Booster Pump Controlled - no solenoid required) Medium Pressure sleeve (18-80 psi)

DESCRIPTION	PART NUMBER
800P End Gun Valve, A2B12C3, no stud kit	13271-003
800P End Gun Valve, A2B11C3, with stud kit	13271-001

4. ON/OFF CONTROLS*

CODE	ON/OFF CONTROL
E00	None
E01	Manual Selector Only
MANUAL SELECTOR WITH SOLENOID	
E11	E11 Solenoid - 12 VDC, 1.6mm, NC*
E20	E20 Window+ Controller, 1.6mm (4-8")
E21	E21 Solenoid - 12 VDC, 1.6mm
E23	E23 Solenoid - 9-12 VDC Lat., 1.2mm
E25	E25 Solenoid - 12 VDC, 3.2mm, NC*
E29	E29 Solenoid - 12-40 VDC Lat., 2.0mm
E30	E30 Solenoid - 24 VDC, 1.6mm
E31	E31 Window+ Controller, 1.2mm (2" and 3")
E34	E34 Solenoid - 24 VDC, 1.2mm
E40	E40 Solenoid - 24 VAC, 1.6mm, 2.5W
E41	E41 Solenoid - 24 VAC, 1.6mm, 8W
E43	E43 Solenoid - 24 VAC, 1.2mm, 3W
E46	E46 Solenoid - 24 VAC, 1.6mm, 5.5W
E50	E50 Solenoid - 120 VAC, 1.6mm, 8W
E52	E52 Solenoid - 120 VAC, 3.2mm, 17W
E53	E53 Solenoid - 110 VAC, 1.6mm, 5.5W

5. FILTER

CODE	FILTER
H2	External Filter
H3	Internal Filter (2" and 3")
	Internal Filter (4-8")
FILTER WITH TUBING PROTECTION	
H4	External Filter
H5	Internal Filter (2" and 3")
	Internal Filter (4-8")

*Contact Factory for full solenoid specifications. Other models available for special order.

*Normally closed solenoid for pressure sustaining, normally open valve ("PSNO") for applications at filter stations.

Nelson Control Valves come standard normally closed. Use the following codes to specify special solenoid plumbing logic.

OPTIONAL SOLENOID LOGIC

SOLENOID ONLY			SUSTAINING W/ SOLENOID			REDUCING W/ SOLENOID			SUSTAINING/REDUCING W/ SOLENOID		
CODE	SOLENOID STATUS	VALVE STATUS	CODE	SOLENOID STATUS	VALVE STATUS	CODE	SOLENOID STATUS	VALVE STATUS	CODE	SOLENOID STATUS	VALVE STATUS
L01*	Energized	Open	L03	Energized	Sustaining	L07*	Energized	Reducing	L09	Energized	Sustaining-Reducing
	De-energized	Closed		De-energized	Closed		De-energized	Closed		De-energized	Closed
L02	Energized	Closed	L04*	Energized	Sustaining	L08	Energized	Closed	L10	Energized	Sustaining
	De-energized	Open		De-energized	Open		De-energized	Reducing		De-energized	Reducing
			L05	Energized	Closed	*Standard			L11	Energized	Reducing
				De-energized	Sustaining		De-energized	Sustaining			
			L06	Energized	Open						
				De-energized	Sustaining						

*Standard

*Pressure Sustaining normally-open valve ("PSNO") for applications at filter stations.