



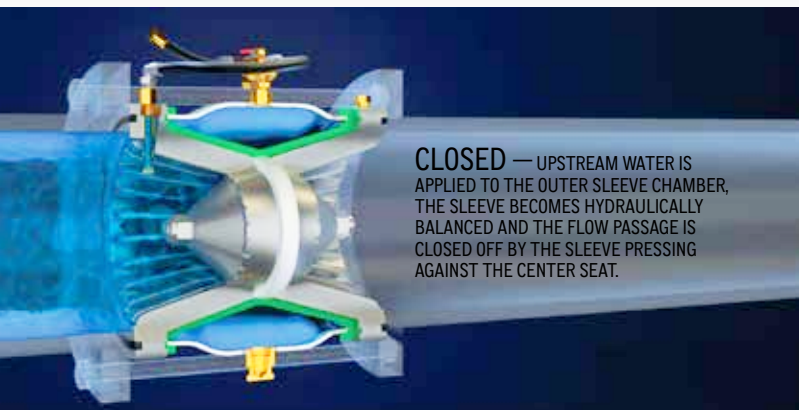
2018

# 800 SERIES CONTROL VALVE SELECTION GUIDE

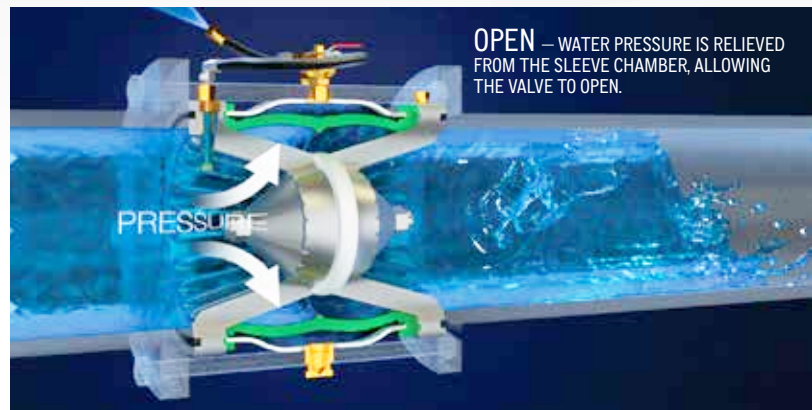


# CONTROL YOU CAN COUNT ON SEASON AFTER SEASON

INTERNAL CAGE



**CLOSED** — UPSTREAM WATER IS APPLIED TO THE OUTER SLEEVE CHAMBER, THE SLEEVE BECOMES HYDRAULICALLY BALANCED AND THE FLOW PASSAGE IS CLOSED OFF BY THE SLEEVE PRESSING AGAINST THE CENTER SEAT.



**OPEN** — WATER PRESSURE IS RELIEVED FROM THE SLEEVE CHAMBER, ALLOWING THE VALVE TO OPEN.

2

SEE PAGE 64 FOR GUN/VALVE COMBO / MOUNT AN ANSI FLANGED BIG GUN® DIRECTLY ONTO AN 800 SERIES CONTROL VALVE FOR END OF PIVOT OR SOLID SET APPLICATIONS.



### MANUAL ON-OFF

ALL 800 SERIES VALVES (EXCEPT 800P) ARE EQUIPPED WITH A 3-WAY MANUAL ON-OFF SELECTOR VALVE.



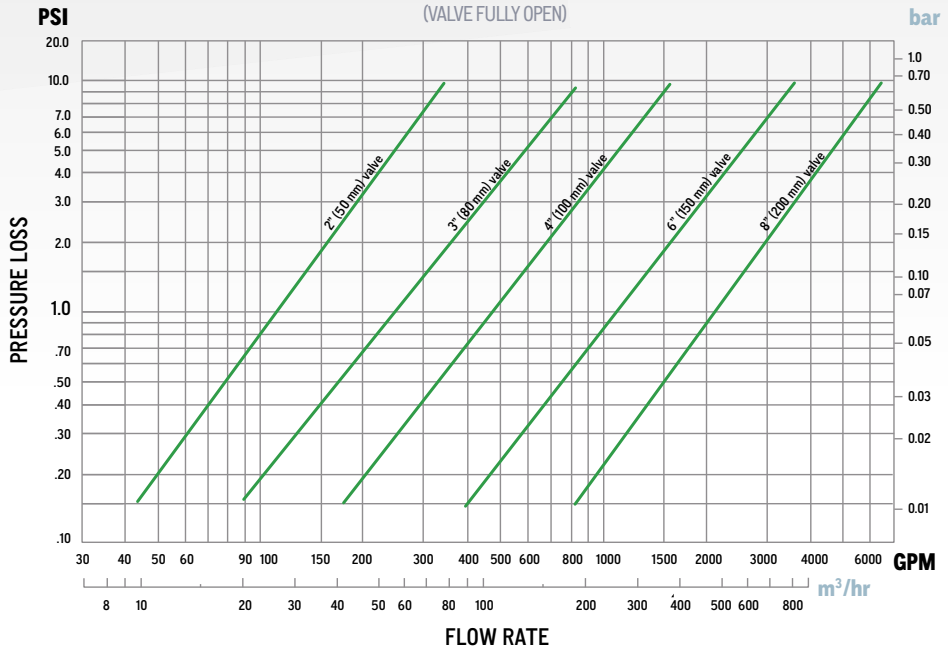
### ELECTRIC ON-OFF

ADD A SOLENOID FOR ELECTRIC ON-OFF CAPABILITY.





800 SERIES CONTROL VALVES PRESSURE LOSS DATA



AS A HYDRAULICALLY OPERATED SLEEVE-TYPE VALVE, THE 800 SERIES CONTROL VALVE IS DESIGNED FOR VERSATILITY. THE BASIC BODY CAN BE EQUIPPED WITH SEVERAL DIFFERENT OPTIONS FOR CONTROLLING PRESSURE AND FLOW. IT'S ALSO ENGINEERED FOR EXTREMELY HIGH EFFICIENCY, RESULTING IN LOW PRESSURE LOSS AND HIGH FLOW CAPACITY.



**PRESSURE CONTROL**  
 THE PRESSURE CONTROL REGULATOR ("REDUCING" FOR DOWNSTREAM, "SUSTAINING" FOR UPSTREAM) DIRECTS WATER FLOW WHICH POSITIONS THE SLEEVE DURING OPERATION.

**RATE-OF-FLOW**  
 ADD THE RATE-OF-FLOW (MODEL D18) CONTROL TO REGULATE THE FLOW RATE DURING SYSTEM START UP.

# 800 SERIES - 2" & 3" VALVES

To Order: Specify 800 Series Control Valve and Select From Each Letter Option. Any item in section D, E & H can be ordered separately as a Kit. Specify the option letter and number (example "E23" for a 9/12V, 3/64" Solenoid Kit).

BASE VALVE			ACCESSORIES			
A	B	C	D		E	H
VALVE MATERIAL/SIZE	CONNECTION STYLE & HARDWARE	OPERATING PRESSURE	PRESSURE/FLOW CONTROL		ON/OFF MODE	FILTER
<b>ALUMINUM</b>  <b>A2"</b>  <b>A3"</b>	<b>WAFER STYLE</b> <b>B9</b> (No studs) Includes Manual Selector & Mounting Bracket Kits  <b>B10</b> (4 studs, 8 nuts) Includes Manual Selector & Mounting Bracket Kits	<b>C1</b> 10-50 PSI  <b>C2</b> 30-200 PSI  <b>C3</b> 18-80 PSI	<b>NONE</b> <b>D01</b>	<b>RATE-OF-FLOW</b> <b>D18</b> Specify flow rate & pipe size.	<b>MANUAL</b> <b>E01</b> (No Solenoid)	<b>H2</b> External
			<b>REDUCING</b> <b>5-30 PSI</b> <b>D11</b> (Brass) <b>D21</b> (Plastic 2") <b>D31</b> (Plastic 3")	<b>SLEEVE EXHAUST</b> <b>D06</b> 30 psi <b>D06-1</b> 10 psi	<b>ELECTRIC SOLENOID</b> <b>DC</b> (voltage, orifice diam.) <b>E21</b> (12V, 1/16") <b>E34</b> (24V, 3/64")	<b>H3*</b> Internal for 2" & 3"
<b>CAST IRON</b>  <b>A2"</b>  <b>A3"</b>	<b>THREADED</b> <b>B3</b> (Specify NPT or BSP) Includes Manual Selector & Mounting Bracket Kits  <b>VICTAULIC</b> <b>B6</b> Includes Manual Selector & Mounting Bracket Kits		<b>5-60 PSI</b> <b>D12</b> (Brass) <b>D22</b> (Plastic 2") <b>D32</b> (Plastic 3")	<b>SHUTTLE CHECK</b> <b>D07</b> (Must also order solenoid or pressure control.)	<b>DC LATCHING</b> <b>E23</b> (9/12V, 3/64") <b>E29</b> (12-40 V, 5/64")	<b>H4</b> External w/ tube protection for 2"-8"
			<b>10-120 PSI</b> <b>D13</b> (Brass) <b>D23</b> (Plastic 2") <b>D33</b> (Plastic 3")		<b>AC</b> (voltage, orifice diam.) <b>E40</b> (24V, 1/16", 0.15A) <b>E43</b> (24V, 3/64") <b>E46</b> (24V, 1/16") <b>E50</b> (120V, 1/16") <b>E53</b> (110V, 1/16")	<b>H5*</b> Internal w/ tube protection for 2" & 3"
			<b>SUSTAINING</b> <b>5-60 PSI</b> <b>D15</b> (Brass) <b>D25</b> (Plastic 2") <b>D35</b> (Plastic 3")			
			<b>10-120 PSI</b> <b>D16</b> (Brass) <b>D26</b> (Plastic 2") <b>D36</b> (Plastic 3")			

4



## PROBLEM

"I spend too much time running from pivot to pivot turning manual valves on/off."

## SOLUTION

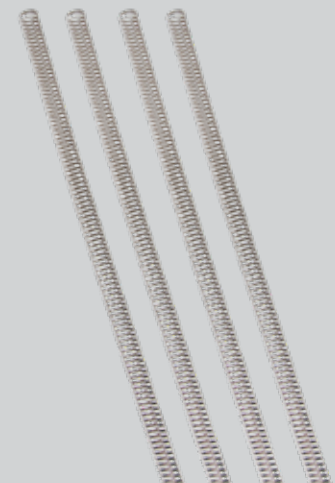
"Nelson hydraulic control valves open and close at the command of the pivot panel and can control pressure and fill rate too."

# 4", 6" & 8" VALVES

SAMPLE ORDER: A6" B5 C2 D03 E40 H3. This configuration represents a 6" valve with wafer style connection (studs & nuts included), 30 to 200 PSI pressure rating, pressure reducing (10 - 120 PSI) control package with a 24VAC 1/16" solenoid, and an internal filter.

BASE VALVE			ACCESSORIES		
A	B	C	D	E	H
VALVE MATERIAL/SIZE	CONNECTION STYLE & HARDWARE	OPERATING PRESSURE	PRESSURE/FLOW CONTROL	ON/OFF MODE	FILTER
<b>ALUMINUM</b>  <b>A4"</b>	<b>WAFER STYLE</b> <b>B9</b> (No studs) Includes Manual Selector & Mounting Bracket Kits  <b>B10</b> (8 studs, 16 nuts) Includes Manual Selector & Mounting Bracket Kits  <b>B23</b> (No studs) 4 x 6" Flange Adapters – Includes Manual Selector & Mounting Bracket Kits  <b>B24</b> (8 studs, 16 nuts) 4 x 6" Flange Adapters w/ Stud Kit – Includes Manual Selector & Mounting Bracket Kits	<b>C1</b> 10-50 PSI  <b>C2</b> 30-200 PSI  <b>C3</b> 18-80 PSI	<b>NONE</b> <b>D01</b>  <b>REDUCING</b> large body pilot <b>D02</b> (5-50 psi) <b>D03</b> (10-120 psi) <b>D04</b> (25-200 psi)  <b>SUSTAINING</b> large body pilot <b>D05</b> (25-200 psi) <b>D08</b> (10-120 psi) <b>D09</b> (5-50 psi)  <b>RATE-OF-FLOW</b> <b>D18</b> Specify flow rate & pipe size.  <b>SLEEVE EXHAUST</b> <b>D06</b> 30 psi <b>D06-1</b> 10 psi  <b>SHUTTLE CHECK</b> <b>D07</b> (Brass) (Must also order solenoid or sustaining control.)	<b>MANUAL</b> <b>E01</b> (No Solenoid)  <b>ELECTRIC SOLENOID DC</b> (voltage, orifice diam.) <b>E21</b> (12V, 1/16") <b>E30</b> (24V, 1/16")  <b>DC LATCHING</b> <b>E29</b> (12-40 V, 5/64")  <b>AC</b> (voltage, orifice diam.) <b>E40</b> (24V, 1/16", 0.15A) <b>E41</b> (24V, 1/16", 1.1A) <b>E46</b> (24V, 1/16", 0.8A) <b>E50</b> (120V, 1/16") <b>E52</b> (120V, 1/8") (6 & 8" only)	<b>H2</b> External  <b>H3</b> Internal for 4", 6", 8"  <b>H4</b> External w/ tube protection for 2"-8"  <b>H5</b> Internal w/ tube protection for 4", 6", 8"

Protect control tubing from damage caused by coyotes and other animals. Choose Factory installed H4, H5, or H5\* depending on valve size or order kit #13038. See page 67 for example.



# BIG GUN® VALVE COMBOS

Mount an 800 Series Control Valve directly to a Big Gun® Sprinkler with an ANSI base. For control of a pivot end gun with booster pump, use the 2" 800P Valve (D, E, H accessories not needed). For solid set applications, add a filter, solenoid and/or pressure control to your valve.

BASE VALVE			ACCESSORIES		
A	B	C	D	E	H
VALVE MATERIAL/SIZE	CONNECTION STYLE & HARDWARE	OPERATING PRESSURE	PRESSURE/FLOW CONTROL	ON/OFF MODE	FILTER
ALUMINUM <b>A2"</b>	800P-2" PIVOT END GUN <b>B12</b> (No studs) <b>B11</b> (4 studs, 4 nuts) See chart below for hardware included.	<b>C2</b> 30-200 PSI <b>C3</b> 18-80 PSI			
ALUMINUM <b>A2"</b> <b>A3"</b> <b>A4"</b>	SOLID SET BIG GUN VALVE <b>B17</b> 2" & 3" Valve (4 studs, 4 nuts) 4" Valve (8 studs, 8 nuts) See below for hardware included.	<b>C2</b> 30-200 PSI <b>C3</b> 18-80 PSI	NONE <b>D01</b> REDUCING 10-120 PSI <b>D13</b> (Brass) <b>D23</b> (Plastic 2") <b>D33</b> (Plastic 3") <b>D03</b> (Brass 4")	MANUAL <b>E01</b> (No Solenoid) ELECTRIC SOLENOID DC LATCHING (voltage, orifice diam.) <b>E29</b> (12-40 V, 5/64") AC (voltage, orifice diam.) <b>E46</b> (24V, 1/16")	<b>H2</b> External <b>H3*</b> Internal for 2" & 3" <b>H3</b> Internal for 4" <b>H4</b> External w/tube protection for 2"-8" <b>H5</b> Internal w/tube protection for 4", 6", 8" <b>H5*</b> External w/tube protection for 2"&3"
CAST IRON <b>A4"</b>	SOLID SET BIG GUN VALVE <b>B18</b> (8 studs, 8 nuts) See chart below.				

6

800P - 2" PIVOT END GUN CONTROL VALVE  
Example: A2B11C3

SOLID SET BIG GUN® VALVE  
Example: A4B18C2D01E01H3

INCLUDED HARDWARE



3-way manual on/off selector kit (8980)



Mounting bracket kit (2" - 9189) (+3" - 8924)



Rubber drain/plug



Ball drain/vent (10753)

FOR <b>B11/B12</b> 2" PIVOT END GUN CONTROL VALVE	—	—	(1) 9800 UPSTREAM (1) 9800-100 DOWNSTREAM	INCLUDED W/ BASE VALVE
FOR <b>B17/B18</b> SOLID SET BIG GUN VALVE	INCLUDED W/ BASE VALVE	INCLUDED W/ BASE VALVE	(1) 9800-100 DOWNSTREAM	—



# SOLENOIDS & VALVE ACCESSORIES



## 3-Way Solenoid Specifications (For Electric On-Off choose from DC, DC Latching or AC Solenoids.)

MODEL #	MANUFACTURER	PART NUMBERS			VOLTAGE <sup>1</sup>	RECOMM. VALVE SIZE	IN-RUSH AMPS	HOLDING AMPS	RESISTANCE (OHM)	WATTS	INLET ORIFICE		ELECTRICAL CONNECTION	MAX. PRESSURE
		KIT	COIL +BASE	COIL										
E21	PARKER	8925-001	7510-001	7510-101	12 VDC	-	-	0.6	20	8	1.6 mm	1/16"	1/2" FNPT w/ Leads	175 psi
E23	BACCARA	8925-035	7510-052	7510-152	9/12 VDC Lat	2" & 3"	-	-	4.2	3	1.2 mm	3/64"	>12" Leads	175 psi
E29		8925-029	7510-029	NA	12-40 VDC Lat	-	-	-	-	-	2 mm	5/64"	47" Leads	175 psi
E30	PARKER	8925-002	7510-002	7510-102	24 VDC	4", 6", & 8"	-	0.3	83	8	1.6 mm	1/16"	1/2" FNPT w/ Leads	175 psi
E34	BACCARA	8925-037	7510-054	7510-154	24 VDC	2" & 3"	0.125	0.125	119	3	1.2 mm	3/64"	>12" Leads	175 psi
E40	GEM-SOL	8925-043	7510-015	7510-115	24 VAC	4", 6", & 8"	0.15	0.15	diode <sup>2</sup>	2.5	1.6 mm	1/16"	1/2" FNPT Plug-In	175 psi
E41	PARKER	8925-003	7510-003	7510-103	24 VAC	4", 6", & 8"	1.1	0.65	7.8	8	1.6 mm	1/16"	1/2" FNPT w/ Leads	175 psi
E43	BACCARA	8925-033	7510-050	7510-150	24 VAC	2" & 3"	0.125	0.125	diode <sup>2</sup>	3	1.2 mm	3/64"	>12" Leads	175 psi
E46	GEM-SOL	8925-044	7510-016	7510-116	24 VAC	-	0.8	0.43	9	5.5	1.6 mm	1/16"	1/2" FNPT Plug-In	175 psi
E50	PARKER	8925-004	7510-004	7510-104	120 VAC	2", 3", 4", 6", & 8"	0.2	0.1	184	8	1.6 mm	1/16"	1/2" FNPT w/ Leads	175 psi
E52	PARKER	8925-024	7510-033	7510-133	120 VAC	6" & 8"	0.7	0.3	27	17	3.2 mm	1/8"	1/2" FNPT w/ Leads	175 psi
E53	GEM-SOL	8925-045	7510-051	7510-151	110 VAC	2" & 3"	0.15	0.11	230	5.5	1.6 mm	1/16"	1/2" FNPT Plug-In	175 psi

NOTES: "Lat" = Latch. The solenoid contains a magnet which holds the coil in the open/closed position, such that a constant current is not required, as in the case of non-latching solenoids. If the solenoid contains a diode, the resistance reading obtained using a voltmeter will be inaccurate (extremely high). This is because a diode acts like a check valve that only opens when a sufficient amount of "pressure" (voltage) is present.



Two male quick connect fittings are recommended with reducing or sustaining functions.



DESCRIPTION	4" Valve x 6" Flange Adapter Kit	6" Valve x 8" Flange Adapter Kit	Gauge	Male QC Fitting	Female QC Fitting	Gauge & Fittings Kit*	1/4" Valve Stem	Lock-on Gauge Chuck for 1/4" Valve Stem	Window + Controller w/ 12/24 VDC Lat.
PART NO.	11433, 11433-001 (w/6" stud kit)	12225, 12225-001 (w/8" stud kit)	8968-xxx (Specify Range: 0-60 PSI = -002; 0-100 PSI = -003; 0-160 PSI = -004; 0-200 PSI = -005)	9498	9438-002	10105-xxx	10104	10103	E33-1 for 2, 3"; E20-1 for 4, 6, 8"

\*Includes 2 Valve Stems & 1 lock-on chuck



# IMAGINED, ENGINEERED & MANUFACTURED WITH INTENT

NELSON IRRIGATION CORPORATION IS FULLY COMMITTED TO IMPROVING AGRICULTURAL IRRIGATION. WE BELIEVE IN OUR PEOPLE & OUR PRODUCTS AND WE CONTINUE TO INVEST IN STATE-OF-THE-ART MANUFACTURING PROCESSES TO ENSURE YOU RECEIVE THE MOST EFFECTIVE WATER APPLICATION SOLUTION POSSIBLE.

**BUY AMERICAN — CHOOSE NELSON.**



848 Airport Road, Walla Walla, Washington 99362 U.S.A.

Tel: +1 509.525.7660 / Fax: +1 509.525.7907

[info@nelsonirrigation.com](mailto:info@nelsonirrigation.com) / [nelsonirrigation.com](http://nelsonirrigation.com)

WARRANTY & DISCLAIMER: Nelson Irrigation products are warranted for one year from the date of original sale to be free of defective material and workmanship when used within the working specifications for which the product was designed and under normal use and service. The manufacturer assumes no responsibility for installation, removal or unauthorized repair of defective parts and the manufacturer will not be liable for any crop or other consequential damages resulting from any defects or breach of warranty. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES AND OF ALL OTHER OBLIGATIONS OR LIABILITIES OF MANUFACTURER. No agent, employee or representative of the manufacturer has authority to waive, alter or add to the provisions of this warranty nor to make any representations or warranty not contained herein.

Copyright © 2018 Nelson Irrigation Corporation.