



PRODUCT CATALOG

1000 SERIES VALVES & TWIG[®] WIRELESS CONTROLS



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A PERFECT MATCH



twig

the most **reliable**
wireless controls



Each component of an irrigation system, including how it's operated, plays a vital role in raising a healthy crop. That's why we've engineered the industry's most efficient and accurate valves, the 1000 Series, and paired them with reliable TWIG[®] wireless controls to bring you the most hydraulically advanced yet operationally simple irrigation system available.

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1000 SERIES

the most **efficient**[®]
& **accurate** valves

1000 SERIES

CONTROL VALVES

EFFICIENT - ACCURATE - RELIABLE

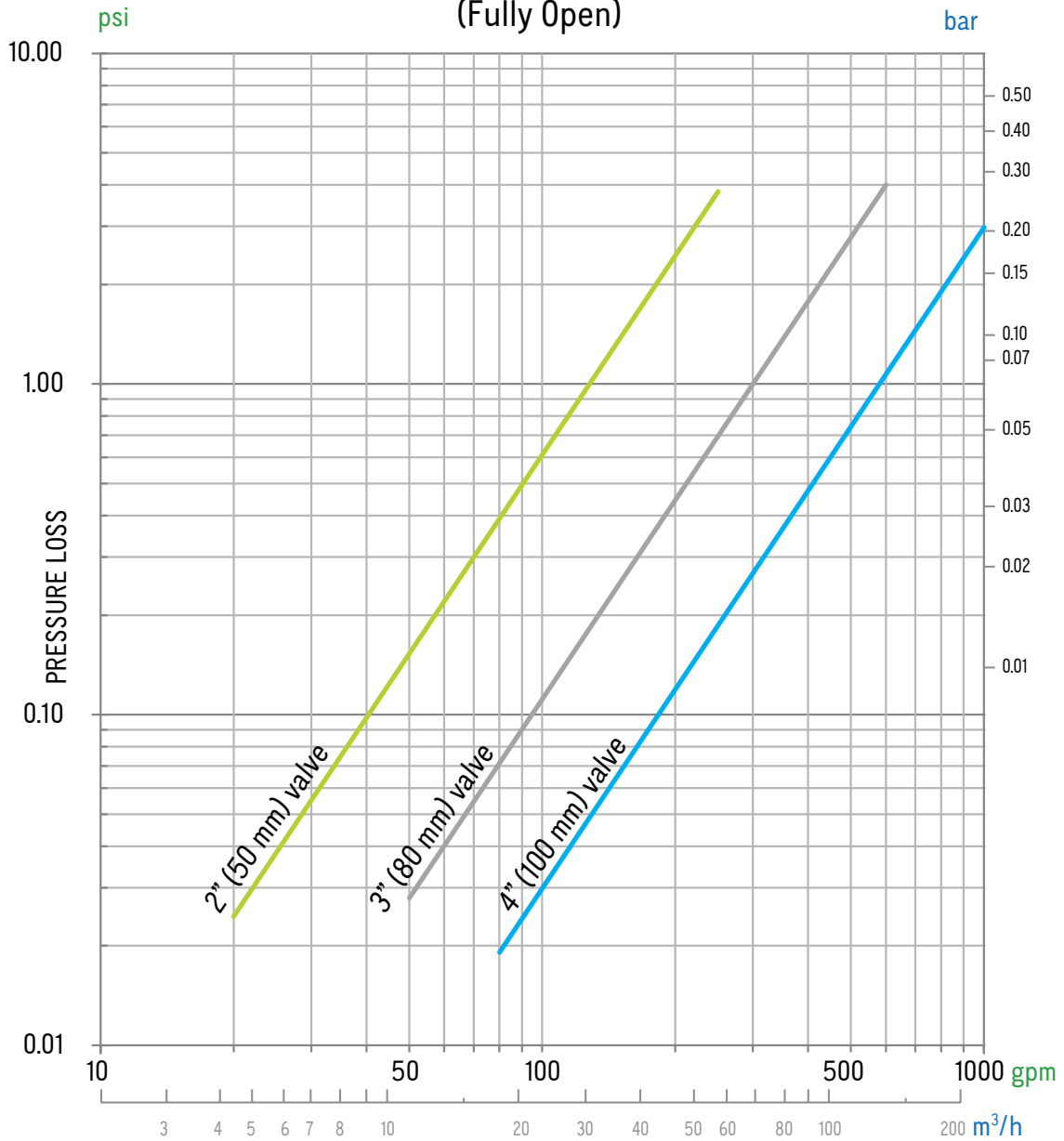
The 1000 Series is geared to handle tough agricultural environments. High flow capacity and a modular design provide ultimate flexibility in valve style and connection type while simplifying installation, trouble-shooting and maintenance — great for the grower, installer and system designer!



Pressure Loss Data

1000 Series Inline Valves

(Fully Open)



	Cv (gpm @ 1 psi loss)	Kv (m³/hr @ 1 bar loss)
2" (50 mm)	128	111
3x2x3	135	117
3" (80 mm)	300	259
4x3x4	308	266
4" (100 mm)	580	501
6x4x6	TBA	TBA

$$\text{Pressure Loss (psi)} = \frac{\text{Flow (gpm)}^2}{Cv^2}$$

$$\text{Pressure Loss (bar)} = \frac{\text{Flow (m}^3\text{/h)}^2}{Kv^2}$$

1000 SERIES

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

SECTION	1. SIZE	2. STYLE	3. PRESSURE	4. CONNECTIONS	5. ON/OFF CONTROL	6. PRESSURE CONTROL	7. FILTER
CODE	1000V2	INL	MED	B03	E01	R60	H3
DESCRIPTION	1000 Series 2" Valve	Inline	Medium (18-80 psi)	2" PVC Socket	Manual Selector Only	Pressure Reducing 5-60 psi	Internal Filter

1. SIZE	
CODE	SIZE
1000V2	2"
1000V3	3"
1000V4	4"

2. STYLE	
CODE	STYLE
INL	Inline
BGV	Big Gun® Valve
TEE*	Tee
ELB*	Elbow

*Tee and Elbow in 2" only

3. PRESSURE	
CODE	OPERATING PRESSURE
LO	Low (10-40 psi)
MED	Medium (18-80 psi)
HI	High (30-150 psi)

4. CONNECTIONS	
CODE	CONNECTIONS
CONNECTIONS FOR 2" VALVES	
B01	None (wafer only, no stud kit)
B02	2" FNPT (metal)
B03	2" PVC Socket
B04	Wafer 3x2x3 (no stud kit)
B05	2" Victaulic
B06	3" Victaulic (3x2x3)
B08	2" FNPT (plastic)
B09	3" OD Spline (Certa-Set)
B11	1.5" FNPT
B14	2" FBSP
B16	3" PVC Socket (3x2x3)
B17	Wafer w/stud kit for 2" flanges
B19	Wafer w/stud kit for 75/100 Big Gun®
B21	Wafer 3x2x3 w/stud kit
CONNECTIONS FOR 3" VALVES	
B01	None (wafer only, no stud kit)
B15	3" PVC Socket
B18	Wafer w/stud kit for 3" flanges
B20	Wafer w/stud kit for 150 Big Gun®
B22	Wafer 4x3x4 w/stud kit
B23	Wafer 4x3x4 (no stud kit)
B24	3" Victaulic
B25	4" PVC Socket (4x3x4)
CONNECTIONS FOR 4" VALVES	
B01	None (wafer only, no stud kit)
B26	4" PVC Socket
B27	Wafer w/stud kit for 4" flanges
B29	Wafer 6x4x6 w/stud kit
B30	Wafer 6x4x6 (no stud kit)
B31	6" PVC Socket (6x4x6)
B32	4" Victaulic

PROTECT CONTROL TUBING FROM DAMAGE CAUSED BY COYOTES AND OTHER ANIMALS.

Available on any valve configuration by selecting option H4 (external filter with tubing protection) or H5 (internal filter with tubing protection)



5. ON/OFF CONTROLS*			
CODE	ON/OFF CONTROL	CODE	SINGLE/DUAL CTRL.
E00	None	Tee Valves Only:	
E01	Manual Selector Only	-1	Single Control
E11*	Manual Sel. w/E11 Solenoid - 12VDC, NC	-2	Dual Control
E23	Manual Sel. w/E23 Solenoid - DC Lat.		
E29	Manual Sel. w/E29 Solenoid - DC Lat.		
E31	Manual Sel. w/E31 Window+ Controller		
E34	Manual Sel. w/E34 Solenoid - 24VDC		
E40	Manual Sel. w/E40 Solenoid - 24VAC		
E43	Manual Sel. w/E43 Solenoid - 24VAC		
E46	Manual Sel. w/E46 Solenoid - 24VAC		
E50	Manual Sel. w/E50 Solenoid - 120VAC		
E53	Manual Sel. w/E53 Solenoid - 110VAC		

6. PRESSURE CONTROL	
CODE	ADJ. RANGE
PRESSURE REDUCING	
R0	None
R30	5-30 psi
R60	5-60 psi
R120	10-120 psi
PRESSURE SUSTAINING	
S0	None
S60	5-60 psi
S120	10-120 psi

7. FILTER	
CODE	FILTER
H0	None
H2	External Filter
H3	Internal Filter
FILTER W/ TUBING PROTECTION	
H4	External Filter
H5	Internal Filter

*Contact factory for full solenoid specifications.

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

Nelson Control Valves come standard normally closed. Use the following codes to specify non-standard, normally open, or special solenoid plumbing logic.

OPTIONAL SOLENOID LOGIC								
SOLENOID ONLY			SUSTAINING W/ SOLENOID			REDUCING W/ SOLENOID		
CODE	SOLENOID STATUS	VALVE STATUS	CODE	SOLENOID STATUS	VALVE STATUS	CODE	SOLENOID STATUS	VALVE STATUS
L02	Energized	Closed	L03	Energized	Sustaining	L08	Energized	Closed
	De-energized	Open		De-energized	Closed		De-energized	Reducing
L04 *	Energized	Sustaining	L05	Energized	Closed	L06	Energized	Open
	De-energized	Open		De-energized	Sustaining		De-energized	Sustaining

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

► SOLID SET BIG GUN® VALVES

See page 12 for End Gun Valves.

2" (50 mm) & 3" (80 mm) Big Gun® Valves

TWIG-READY 1000 SERIES BIG GUN® VALVE
with 12-40VDC latching solenoid (E29), high pressure (30-150 psi)
sleeve, and stud kit for ANSI Big Gun®

ANSI Big Gun®	Valve Size	Filter	Valve Part Number
75 or 100 Series	2"	Internal Filter	12255-0167
		External Filter	12255-0163
150 Series	3"	Internal Filter	12239-0152
		External Filter	12239-0041

See pages 6-7 to configure other options.
See pages 18-23 for TWIG® pricing.

THREADED FLANGE
2" FNPT - 10356PV
2" FBSP - 12940
Additional sizes provided
by other suppliers.



SOLID SET BIG GUN® IRRIGATION REINVENTED

Easier and more efficient than ever before by combining TWIG® automation
with 1000 Series Control Valves directly under an ANSI Big Gun®.

► TEE & ELBOW VALVES

2" (50 mm) Tee and Elbow Valves

3" Certa-Lok Inlet x 3" Certa-Set Outlet(s)

(See pages 6-7 to configure other options.)

TWIG-READY TEE & ELBOW VALVES

Electric on/off with manual selector(s) and solenoid(s) as indicated below. 30-150 psi (2.1-10.3 bar), w/ 3" OD spline (Certa-Set) outlet(s) and internal filter.

See page 20 for TWIG® pricing.

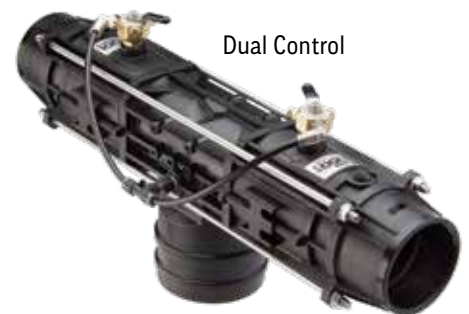
VALVE WITH SOLENOID	Part Number
Elbow Valve	
E23 Solenoid (9/12VDC latch)	12217-0004
E29 Solenoid (12-40VDC latch)	12217-0007
Single Control Tee Valve	
E23 Solenoid (9/12VDC latch)	11614-0014
E29 Solenoid (12-40VDC latch)	11614-0011
Dual Control Tee Valve	
E23 Solenoids (9/12VDC latch)	11614-0008
E29 Solenoids (12-40VDC latch)	11614-0010



MANUAL ON/OFF TEE & ELBOW VALVES

30-150 psi (2.1-10.3 bar), w/ 3" OD Spline (Certa-Set) Outlet, Manual Selector(s) & Internal Filter

VALVE	Part Number
Elbow Valve	12217-0001
Single Control Tee Valve	11614-0001
Dual Control Tee Valve	11614-0004



▶ MANUAL & TWIG® READY INLINE VALVES

ELECTRIC ON/OFF VALVES are used to open or close a valve electrically. They are commonly used to automate zone control. Common configurations are shown below. Other options available. (See pages 6-7.)

TWIG-READY ELECTRIC ON/OFF INLINE VALVES

9-12VDC latching solenoid (E23), medium sleeve (18-80 psi), and internal filter.

Size	Connections	Part Number
2"	(B03) 2" PVC Socket	12255-0360
	(B16) 3" PVC Socket	12255-0325
3"	(B15) 3" PVC Socket	12239-0139
	(B25) 4" PVC Socket	12239-0324
4"	(B26) 4" PVC Socket	12531-0205
	(B27) Wafer w/stud kit	12531-0206
	(B31) 6" PVC Socket	12531-0368



PRESSURE REDUCING VALVES accurately maintain a constant downstream pressure regardless of changing flow rate or pressure. Nelson pressure reducing valves are the most accurate in the industry and regulate across a wide flow range. Common configurations are shown below. Other options available. (See pages 6-7.)

TWIG-READY ELECTRIC ON/OFF, PRESSURE REDUCING (5-60 PSI) INLINE VALVES

9-12VDC latching solenoid (E23), medium sleeve (18-80 psi), and internal filter.

Size	Connections	Part Number
2"	(B03) 2" PVC Socket	12255-0363
	(B16) 3" PVC Socket	12255-0328
3"	(B15) 3" PVC Socket	12239-0107
	(B25) 4" PVC Socket	12239-0252
4"	(B26) 4" PVC Socket	12531-0080
	(B27) Wafer w/stud kit	12531-0023
	(B31) 6" PVC Socket	12531-0325



MANUAL ON/OFF, PRESSURE REDUCING (5-60 PSI) INLINE VALVES

Manual selector, medium sleeve (18-80 psi), and internal filter.

Size	Connections	Part Number
2"	(B03) 2" PVC Socket	12255-0361
	(B16) 3" PVC Socket	12255-0326
3"	(B15) 3" PVC Socket	12239-0095
	(B25) 4" PVC Socket	12239-0200
4"	(B26) 4" PVC Socket	12531-0004
	(B27) Wafer w/stud kit	12531-0061
	(B31) 6" PVC Socket	12531-0194



► PRESSURE SUSTAINING & COMBO VALVES

PRESSURE SUSTAINING VALVES are closed until the upstream pressure exceeds the set point on the control pilot, then open to relieve pressure as required. They are often used as relief valves to prevent damage to system components, or downstream of filter stations to provide adequate backflush pressure. Common configurations are shown below. Other options available. (See pages 6-7.)

PRESSURE SUSTAINING (5-60 PSI) INLINE VALVES

Manual selector, medium sleeve (18-80 psi), and internal filter.

Size	Connections	Part Number
2"	(B03) 2" PVC Socket	12255-0364
	(B16) 3" PVC Socket	12255-0329
3"	(B15) 3" PVC Socket	12239-0140
	(B25) 4" PVC Socket	12239-0238
4"	(B26) 4" PVC Socket	12531-0047
	(B27) Wafer w/stud kit	12531-0175
	(B31) 6" PVC Socket	12531-0369



COMBINATION PRESSURE SUSTAINING/REDUCING VALVES combine the functions of the pressure sustaining and pressure reducing in one valve. They are often used to prevent system drain-down in undulating terrain, or downstream of filter stations to automatically transition between supplying adequate backflush pressure and regulating downstream pressure. Common configurations are shown below. Other options available. (See pages 6-7.)

PRESSURE SUSTAINING (5-60 PSI) & PRESSURE REDUCING (5-60 PSI) INLINE VALVES

Manual selector, medium sleeve (18-80 psi), and internal filter.

Size	Connections	Part Number
2"	(B03) 2" PVC Socket	12255-0365
	(B16) 3" PVC Socket	12255-0330
3"	(B15) 3" PVC Socket	12239-0141
	(B25) 4" PVC Socket	12239-0277
4"	(B26) 4" PVC Socket	12531-0036
	(B27) Wafer w/stud kit	12531-0026
	(B31) 6" PVC Socket	12531-0370



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► PIVOT POINT CONTROL VALVES

PIVOT POINT CONTROL VALVES open and close at the command of the pivot point, making pivot automation possible by eliminating trips to the pivot point to start and stop the pivot. The high flow capacity of the 4" valve together with the 6x4x6 flange adapter kit saves money by allowing the use of a smaller valve that fits easily within 6" flanges. Common configurations are shown below. Other options available. (See pages 6-7.)

Manual selector with E50 solenoid (120 VAC, 1.6mm), high sleeve (30-150 psi), and H5 internal filter with tubing protection.



Size	Connections	Reducing	Part Number
4"	(B27) Wafer w/stud kit	No	12531-0382
	(B29) Wafer 6x4x6 w/stud kit	No	12531-0251
4"	(B27) Wafer w/stud kit	10-120 psi	12531-0383
	(B29) Wafer 6x4x6 w/stud kit	10-120 psi	12531-0384

▶ END OF PIVOT VALVES FOR SR75 & SR100

1000P – 2” (50 mm) Pivot End Gun Valve (Booster Pump Controlled – no solenoid required)

Model	Description	PN (18-80 psi)
STANDARD — FOR ALL PIVOT BRANDS EXCEPT VALLEY (includes ball drain/vent, 2 rubber drains, and 1/4” tube fitting)		
1000P	Valve	12254-0007
	Valve with Stud Kit	12254-0001
FOR VALLEY PIVOTS (includes ball drain/vent, 1 rubber drain, and two 1/4” tube fittings)		
1000P-V	Valve with Stud Kit and 2” FNPT Metal Flanges	12254-0013

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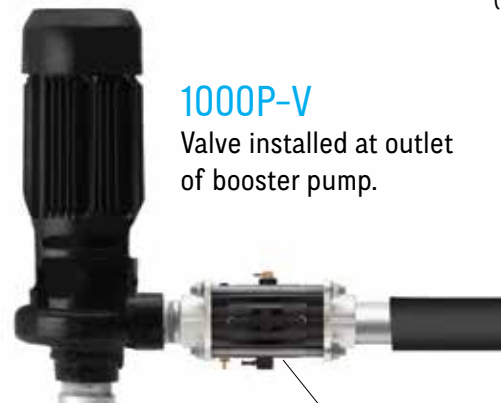
1000P
Valve installed directly below ANSI-flanged Big Gun®. Order lower 2” metal flange (#10356PV) separately.



#10753PV – Ball Drain/Vent Kit for 1000P (included)



#9800-100PV Rubber Drain (included)



1000P-V
Valve installed at outlet of booster pump.



► END OF PIVOT VALVES FOR R55 & R75

1000P – 2” (50 mm) End of Pivot Pressure Regulating and/or Electric On/Off Metal 2” Threaded Connections

Contact factory for other connection types.



Model	Valve Function	Internal Filter	Rubber Drains QTY 2	On/off	Press. Reg. Adjust. Range (psi)	Part Number
1000P-R	Pressure regulating only. No on/off control.	✓	✓	-	5-60	12254-0036
1000P-X*	Electric on/off by solenoid located at pivot tower box*.	-	✓	solenoid at tower*	-	12254-0037
1000P-RX*	Pressure regulating with electric on/off by solenoid located at pivot tower box*.	✓	✓	solenoid at tower*	5-60	12254-0038

*1000P-X and 1000P-RX models have electric on/off capability, but do not include a solenoid. The solenoid is provided by others and typically is located at the last tower on the pivot.



1000P-R



1000P-X



1000P-RX

► BASE VALVE PARTS

Description	2" Valve	3" Valve	4" Valve
	Part Number	Part Number	Part Number
Base Valve, 10-40 psi	12255-0001	12239-0090	12531-0001
Base Valve, 18-80 psi	12255-0002	12239-0001	12531-0002
Base Valve, 30-150 psi	12255-0003	12239-0091	12531-0003
Sleeve, 10-40 psi	11624-002	11909-002	12516-002
Sleeve, 18-80 psi	11624-003	11909-003	12516-003
Sleeve, 30-150 psi	11624-001	11909-001	12516-001
Spacer Assy.	12236	12349	12528
Cage/Barrier Assy.	11630	12348	12529
O-Ring	12352	9484PV	11416PV
Jacket	12767	12766	13109



► SOLENOIDS

3-Way Solenoid Specifications

(For Electric On/Off choose from DC, DC Latching or AC Solenoids.)

Model #	Manufacturer	Voltage ¹	Inrush Amps	Holding Amps	Resistance (ohm)	Watts	Inlet Orifice	Electrical Connection	Kit Part Number*
E11	GEM-SOL	12 VDC, normally closed**	-	0.83	14.3	10	1/16" (1.6 mm)	1/2" FNPT w/Leads	12575-011
E23	BACCARA	9/12 VDC Lat	-	-	4.2	3	3/64" (1.2 mm)	>12" Leads	12575-023
E29	-	12-40 VDC Lat	-	-	-	-	5/64" (2.0 mm)	47" Leads	12575-029
E31	BACCARA	12-24 VDC Lat	-	-	23	3	3/64" (1.2 mm)	Window+Controller	11253-003
E34	BACCARA	24 VDC	0.125	0.125	119	3	3/64" (1.2 mm)	>12" Leads	12575-034
E40	GEM-SOL	24 VAC	0.15	0.15	-	2.5	1/16" (1.6 mm)	1/2" FNPT w/Leads	12575-040
E43	BACCARA	24 VAC	0.125	0.125	-	3	3/64" (1.2 mm)	>12" Leads	12575-043
E46	GEM-SOL	24 VAC	0.8	0.43	9	5.5	1/16" (1.6 mm)	1/2" FNPT w/Leads	12575-046
E50	PARKER	120 VAC	0.2	0.1	184	8	1/16" (1.6 mm)	1/2" FNPT w/Leads	12575-050
E53	GEM-SOL	110 VAC	0.15	0.11	230	5.5	1/16" (1.6 mm)	1/2" FNPT Plug-In	12575-053



*Solenoid kits include mounting clip and all necessary fittings/parts for retrofitting an existing 1000 Series valve.

**E11 solenoid is normally closed, used for logic L02, L04, L05, and L08.

► PRESSURE CONTROL

Accurate and Easy

Nelson Irrigation's pressure control pilot is engineered and tuned to the unique geometry of the 1000 Series valve, resulting in the most accurate pressure control valves in the industry. And the convenient labels make setting the pressure and connecting the tubes easy for just about anyone.

Function	Adjustment Range	For 2" Valves ¹		For 3" and 4" Valves ²	
		Pilot Part #	Kit* Part #	Pilot Part #	Kit* Part #
Reducing	5-30 psi	12342-009	12262-006	12342-003	12262-003
Reducing	5-60 psi	12342-007	12262-004	12342-001	12262-001
Reducing	10-120 psi	12342-008	12262-005	12342-002	12262-002
Sustaining	5-60 psi	12342-010	12262-010	12342-004	12262-007
Sustaining	10-120 psi	12342-011	12262-011	12342-005	12262-008

1. Pressure control pilot for 2" valves contains a bushing with 1 hole (hex retainer painted gray).

2. Pressure control pilot for 3" and 4" valves contains a bushing with 4 holes (hex retainer is brass, unpainted).

*Kit includes mounting clip and all necessary fittings/parts for retrofitting an existing Nelson 1000 Series Valve.



PRESSURE CONTROL KIT
(See table for part number.)

ADJUSTMENT CAP
Fine-tune the pressure by hand; no tools required.

ADJUSTMENT LABEL
Simplifies setting the regulated pressure before installation.

FUNCTION LABEL
Clearly marked ports make plumbing easy.



PRESSURE CONTROL PILOT
(See table for part number.)

SENSITIVITY BUSHING
Engineered to valve size, and easily replaceable to customize performance for unique hydraulic conditions.

► CONNECTIONS & STUD KITS

Code	Connection Type	Connection Part Number	Stud Dia.	Stud Length	Nuts (Qty)	Stud Kit Part Number
CONNECTIONS FOR 2" VALVES			STUD KITS FOR 2" INLINE VALVES			
B02	2" FNPT (metal)	10356PV	1/2" (12 mm)	8.25" (210 mm)	8	10142-101
B03	2" PVC Socket	12334	1/2" (12 mm)	9.75" (248 mm)	8	10142-102
B04	Wafer 3x2x3 (no stud kit)	12167	-	-	-	-
B05	2" Victaulic	12165	5/16" (8 mm)	7.5" (190 mm)	8	12264-002
B06	3" Victaulic (3x2x3)	12163	5/16" (8 mm)	7.5" (190 mm)	8	12264-002
B08	2" FNPT (plastic)	12156	5/16" (8 mm)	7.5" (190 mm)	8	12264-002
B09	3" OD Spline (Certa-Set)	11635	5/16" (8 mm)	7.5" (190 mm)	8	12264-002
B14	2" FBSP (plastic)	12475	5/16" (8 mm)	7.5" (190 mm)	8	12264-002
B16	3" PVC Socket (3x2x3 adapter)	12489 12167	1/2" (12 mm)	10.75" (273 mm)	8	10142-103
B17	Wafer w/stud kit for 2" flanges	-	1/2" (12 mm)	9.75" (248 mm)	8	10142-102
B19	Wafer w/stud kit for 75/100 Big Gun®	-	1/2" (12 mm)	8.25" (210 mm)	4	10142-001PV
B21	Wafer 3x2x3 w/stud kit	12167	1/2" (12 mm)	11.5" (292 mm)	8	10142-104
CONNECTIONS FOR 3" VALVES			STUD KITS FOR 3" INLINE VALVES			
B15	3" PVC Socket	12489	1/2" (12 mm)	10.75" (273 mm)	8	10142-103
B18	Wafer w/stud kit for 3" flanges	-	1/2" (12 mm)	11.5" (292 mm)	8	10142-104
B20	Wafer w/stud kit for 150 Big Gun®	-	1/2" (12 mm)	9.75" (248 mm)	4	10142-002PV
B22	Wafer 4x3x4 w/stud kit	12518	1/2" (12 mm)	12" (305 mm)	8	10142-105
B23	Wafer 4x3x4 (no stud kit)	12518	-	-	-	-
B24	3" Victaulic	12785	1/2" (12 mm)	10.75" (273 mm)	8	10142-103
B25	4" PVC Socket (4x3x4 adapter)	12515 12518	1/2" (12 mm)	11.5" (292 mm)	8	10142-104
CONNECTIONS FOR 4" VALVES			STUD KITS FOR 4" INLINE VALVES			
B26	4" PVC Socket	12515	1/2" (12 mm)	11.5" (292 mm)	8	10142-104
B27	Wafer w/stud kit for 4" flanges	-	1/2" (12 mm)	12" (305 mm)	16	10142-205
B29	Wafer 6x4x6 w/stud kit	13217	3/4" (19 mm)	13.5" (343 mm)	16	8976PV
B30	Wafer 6x4x6 (no stud kit)	13217	-	-	-	-
B31	6" PVC Socket (6x4x6 adapter, plastic)	13039 12991	1/2" (12 mm)	13.5" (343 mm)	16	10142-206
B32	4" Victaulic	12824	1/2" (12 mm)	11.5" (292 mm)	8	10142-104

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Flange Adapter Kits

Cost-effective way of installing a Nelson 1000 Series valve in the next larger pipe size. (Includes stud kit and two flange adapters. The 6x4x6 kit also includes hardware to extend the manual selector above the studs.)

Description	Stud Dia.	Stud Length	Nuts (QTY)	Part Number
Stud Kit with 3x2x3 flange adapters	1/2" (12 mm)	11.5" (292 mm)	8	12323
Stud Kit with 6x4x6 alum. flange adapters	3/4" (19 mm)	13.5" (343 mm)	16	13065



▶ ACCESSORIES

Fittings, Filters, Clips & Kits

Part Description	Part Number
Mounting Clips	
Solenoid to 2" & 3" valves	12637
Solenoid to 4" Valve	12637-001
Press. Control Pilot or External Filter to 2" & 3"	12443
Press. Control Pilot or External Filter to 4" valve	12498
Filters	
Internal Filter, 1/4" MNPT x 1/8" FNPT	11632
External Filter Kit	12454
1/4" Plastic Tube Fittings	
1/4" Threaded Plug	12964
Vent Restrictor, 1/4" barb	12818
Pressure Gauge	
Gauge (specify range: 0-30psi = -001; 0-60 psi = -002; 0-100 psi = -003)	8968-XXX
Schrader Valve Chuck	10103
Spline Fittings	
3" IPS Spline x 3" IPS Male Slip	12482
3" IPS Spline x 3" IPS Female Slip	12495
3" IPS Spline x 3" MNPT (9" long)	12496
3" OD (Certa-Set) Spline x 3" Hose Barb Spline	12359
Spline	12347
Tubing Protection	
Tubing Protection Kit	13038



12637 (to 2" and 3" valves)
12637-001 (to 4" valves)
Mounting Clip Assy
for Solenoid



12443 (to 2" and 3" valves)
12498 (to 4" valves)
Mounting Clip for
Pilot or External Filter



8968-XXX Pressure Gauge
10103 Schrader Valve Chuck



12818
Vent restrictor, 1/4" barb



12964
1/4" threaded plug



11632
Internal Filter



12454
External Filter Kit



12482
3" IPS Spline
(Certa-Lok) x 3"
IPS Male Slip



12495
3" IPS Spline
(Certa-Lok) x 3"
IPS Female Slip



12496
3" IPS Spline
(Certa-Lok) x 3"
MNPT (9" long)



12359
3" OD
(Certa-Set) Spline
x 3" Hose Barb



12347
Spline



13038
Tubing Protection Kit

▶ WIRELESS AUTOMATION

twig[®]

HOW TO ORDER*:

STEP 1 – CONTROLLER

- ▶ Select power option. (Order solar power kit if necessary.)
- ▶ Order antenna kit.

STEP 2 – TWIGS

- ▶ Specify internal or external antennas.
- ▶ Specify how many valves each TWIG will control (1, up to 2, or up to 4).
- ▶ Determine how you will mount the TWIG (on the valve, or remotely), and order the corresponding mounting hardware.

STEP 3 – REPEATER

If necessary to extend the range of the radio network.

- ▶ Select power option. (Order solar power kit if necessary.)
- ▶ Order antenna kit.

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TWIG products available in select countries. Go to TWIG FAQ at nelsonirrigation.com.



Available to select dealers. Contact the factory for purchasing terms and conditions.



▶ CONTROLLER

TD200 Controller

The TD200 is programmed to turn valves on/off by establishing a radio network to communicate with the TWIGs.

Order antenna kit separately. (See page 22.)

Model	Description	Part Number
TD200 Controller 110 VAC	110 VAC Power	11953-001
TD200 Controller 12 VDC	12 Volt DC Power (Order solar kit separately. See page 22.)	11953-005



TD200 CONTROLLER

- » Easy to learn and use.
- » Controls up to 100 TWIGs and 200 valves.
- » Multiple start times with multiple irrigation programs.
- » Reads actual battery and radio signal strength of each TWIG in the network.
- » Menus in English and Spanish.

SIMPLE

Designed for the irrigator

RELIABLE

Automation you can trust



▶ TWIG® RADIO MODULE

TWIG®

- » Turns low voltage DC-latching solenoids on and off at the command of the TD200.
- » Proprietary Nelson high-powered radio. Adjustable between 902 and 924 MHz.
- » Powered by two D-cell batteries, good for one irrigation season.
- » Rugged, field ready water-resistant box.
- » Versatile mounting for different applications.

TWIG-i (Internal Antenna)

The TWIG-i contains dual internal antennas for powerful radio reception and is standard for most installations. Order mounting bracket separately.

Model	Description	Part Number
TWIG-1i	Operates one valve	11737-001
TWIG-2i	Operates up to two valves independently	11737-002
TWIG-4i	Operates up to four valves independently	11737-004
TWIG-1iT	TWIG-1i for Single Control Tee Valve or Elbow	11737-005
TWIG-2iT	TWIG 2i for Dual Control Tee Valve	11737-006



TWIG-e (External Antenna)

The TWIG-e is used when conditions require both ground-level accessibility to the TWIG and high antenna mounting for better reception. Order remote mounting bracket 11948-002 and antenna kit separately. (See page 22).

Model	Description	Part Number
TWIG-1e	Operates one valve	12110-001
TWIG-2e	Operates up to two valves independently	12110-002
TWIG-4e	Operates up to four valves independently	12110-004

TWIG Mounting

Select the required mounting hardware.

Model	Description	Part Number
800V Mount Bracket	Mount TWIG to 800 Series Valves	11948-001
1000V Mount Bracket	Mount TWIG to 2" & 3" 1000 Series Inline Valves (4" and BGV style valves use mount 13245.)	11948-003
Post/Wall Mount Bracket	Mount TWIG to post/wall.	11948-002
Pipe/Riser Mount Bracket	Mount TWIG to pipe/riser.	13245
1000V-T/E Plastic Bracket	Mount TWIG to 1000 Series Tee/Elbow Valve	11950
QC Key Mounting Kit	Used to attach TWIG bracket 11948-001 to a QC Key	11949-001
Factory Mounting	Mount TWIG to valve (does not include brackets or wire connectors). Not available for 4" 1000 Series, or BGV style.	ASSY-T
Wire Connector	Compression connector for stranded wire. Gel filled.	10145



11948-001 and 11948-003
Mounting Bracket
for installation on valve
(800V or 1000V/2/3 INL
only)



11948-002 Mounting
Bracket for installation
on post/wall.



11950 Mounting Bracket
for installation on 1000
Series Tee/Elbow Valve



13245 Mounting Bracket
for installation on pipe/
riser, especially for Big Gun
risers. Use band clamps or
zip ties, not included.



10145 Gel-filled Wire
Connector (sold individually)

► REPEATER

TWIG® Repeater

- » When blind spots or poor communications occur in a network due to vegetation, topography or excessive distances, a repeater can be installed in the network to facilitate communications. The Repeater greatly extends the range of the network, and can bridge obstacles that might otherwise block communications.
- » Automatically directs the radio signal where the signal strength is greatest, either between the TD200 and the TWIG®, or through the Repeater.
- » A TWIG® network may contain up to 9 repeaters.
- » Optional Power Sources: 110-Volt AC or 12-Volt DC battery with solar panel.
- » TWIG Repeaters require an external antenna. (Order separately. See page 22.)



Model	Description	Part Number
TWIG-Repeater, AC	110VAC Power	12025-001
TWIG-Repeater, DC	12VDC Power (Order solar kit separately. See page 22.)	12025-002

► RELAY



TWIG Relay

Connect a standard TWIG to this relay assembly to start a pump or other device by closing a contact at the command of the TD200.

Model	Description	Part Number
Single Relay	One latching relay in a weather resistant enclosure	13108-001
Dual Relay	Two latching relays in a weather resistant enclosure	13108-002

▶ ANTENNA & SOLAR POWER KITS

Antenna Kits for TD200, TWIG-e, or TWIG Repeater

Model	Description	Part Number
Omni w/ 10' cable	Multi-directional Omni antenna (6 dBi) with cable assembly, mounting hardware, lightning arrester*, and coax tape, for connecting antenna to TD200, TWIG-e, or TWIG Repeater.	12000-010
Omni w/ 20' of cable		12000-020
Omni w/ 30' of cable		12000-030
Omni w/ 40' of cable		12000-040
Omni w/ 50' of cable		12000-050
Di-pole Articulating	Small, short-range antenna (2 dBi)	12281

Note: A grounding rod (supplied by others) must be used in conjunction with the lightning arrester.



Solar Power Kits for TD200 or TWIG Repeater

Model	Description	Part Number
Solar Kit for TD200, with Battery	10 Watt, 12VDC solar kit with mounting hardware for solar panel and TD200, battery and charge controller in weather resistant enclosure.	12075-001
Solar Kit for TWIG Repeater, with Battery	10 Watt, 12VDC solar kit with mounting hardware for solar panel, battery and charge controller in weather resistant enclosure. For TWIG-Repeater.	12075-002



Replacement Parts

Additional parts can be found in the TWIG Resource Manual.

Model	Description	Part Number
RP-SMA to N, 10' cable	10' cable connects TD200/TWIG-e/TWIG Repeater to lightning arrester	11865-010
RP-SMA to N, 20' cable	20' cable connects TD200/TWIG-e/TWIG Repeater to lightning arrester	11865-020
N to N, 20' cable	20' cable connects antenna to lightning arrester	11996-020
N to N, 30' cable	30' cable connects antenna to lightning arrester	11996-030
Lightning Arrester	Replacement lightning arrester used in the antenna kits	11997
Conn1 Connector Kit	Connector and 6' of 18 AWG wire for the "Conn1" port on the TD200	12706
Solar Charge Controller	Replacement 12VDC charge controller for solar kits	12330

► INTEGRATION

The TWIG® system is built with a single goal in mind: turning valves on and off. Additional features and functions, such as remote monitoring and control via the internet, can be achieved by connecting the TD200 to approved third-party controllers. Contact factory for more information.



Baseline Controller

For internet connectivity and/or a hybrid wireless/two-wire system, pair the TD200 with a Nelson exclusive, TWIG-enabled AG1000X Controller by Baseline Systems.

Model	Description	Part Number
AG1000X*	AG1000X, TWIG-enabled, Ethernet port, 110VAC. Includes BaseManager subscription - first year free, \$199/yr thereafter. Administered by Baseline - contact Baseline for details.	12027-001
AG1000X-CM*	AG1000X, TWIG-enabled, Ethernet port, Cell Modem, 110VAC. Includes BaseManager and cell service - first year free, \$199/yr thereafter. Activated & administered by Baseline - contact Baseline for details.	12027-003
TD200 to AG1000X Cable	This Baseline cable connection kit is required to integrate with the TD200.	12729

*These Baseline controllers are TWIG-enabled using an exclusive Nelson expansion module. They are more powerful models only available from Nelson Irrigation, and there is no limit to the maximum number of valves that can be activated at a time. The standard two-wire limit for protecting the controller has been removed because it is not necessary to limit DC-latching solenoids used with the wireless controls. **CAUTION! If 24 VAC two-wire type solenoids are connected to the TWIG-enabled AG1000X controller, then never turn on more than 8 solenoids at a time. If too many two-wire solenoids are on at once, it could damage the controller.**

Integration Cable

Model	Description	Part Number
TD200 Serial Cable Kit	Connects 3rd Party Controller (non-Baseline) to TD200	12647
RS-232 to RS-485 Adapter	Connects TD200 to 3rd Party Controllers that use RS-485	12988



12729
TD200 to AG1000X Cable



12647
TD200 Serial Cable Kit



12988
RS-232 to RS-485 Adapter

BETTER TOGETHER



Nelson Irrigation makes a full range of products for agricultural and industrial irrigation. All development and testing is performed with the big picture in mind. No product operates independently. Our sprinklers, regulators, valves and controllers are developed together and made to deliver water as efficiently and effectively as possible. Whether you're irrigating strawberries or cooling cattle, think of not only us but our products as a team.

SAVE WATER, SAVE ENERGY, SAVE LABOR AND DO A BETTER JOB OF IRRIGATING WITH NELSON PRODUCTS.



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

Tel: +1 509.525.7660 / Fax: +1 509.525.7907

info@nelsonirrigation.com / nelsonirrigation.com

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