innovation in irrigation™ NELSON

PARTS & ASSEMBLY
800 SERIES CONTROL VALVES

1

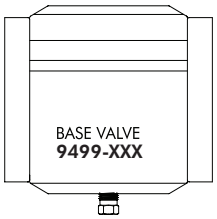
2" (A2) — PN 9508-XXX
VALVE WITH HARDWARE

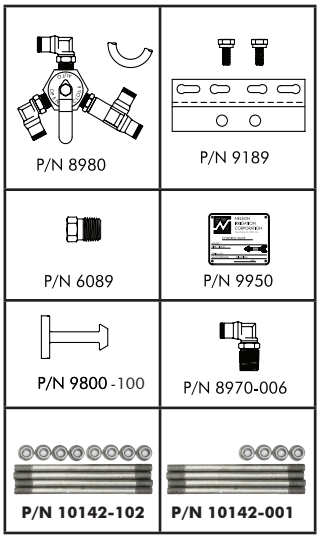
2" WAFER CONNECTION

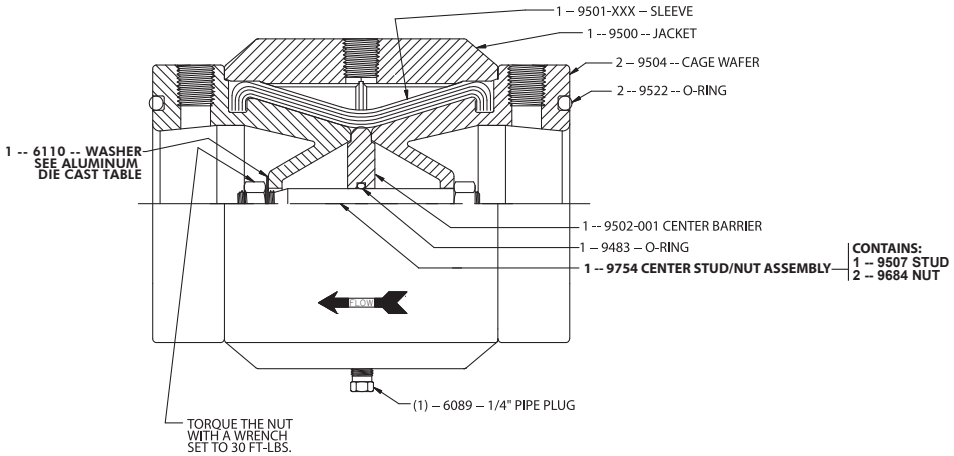
9508-XXX	Model No.	Base Valve 9499-XXX	Sleeve PSI Rating	Cage Material	Included Hardware					
					Stud Kit	8980 Manual Selector	9189 Mounting Bracket	8970-006 Elbow	6089 Plug Qty.	9800-100 Drains Qty.
-004*	A2B4C1	-004	50	Cast Iron	-	✓	✓	✓	3	-
-005*	A2B5C1	-004	50	Cast Iron	10142-102	✓	✓	✓	3	-
-009*	A2B4C2	-009	200	Cast Iron	-	✓	✓	✓	3	-
-010*	A2B5C2	-009	200	Cast Iron	10142-102	✓	✓	✓	3	-
-015*	A2B4C3	-015	80	Cast Iron	-	✓	✓	✓	3	-
-019*	A2B5C3	-015	80	Cast Iron	10142-102	✓	✓	✓	3	-
-024	A2B9C1	-019	50	Alum	-	✓	✓	✓	3	-
-025	A2B10C1	-019	50	Alum	10142-102	✓	✓	✓	3	-
-026	A2B9C2	-020	200	Alum	-	✓	✓	✓	3	-
-027	A2B10C2	-020	200	Alum	10142-102	✓	✓	✓	3	-
-028	A2B9C3	-021	80	Alum	-	✓	✓	✓	3	-
-029	A2B10C3	-021	80	Alum	10142-102	✓	✓	✓	3	-
-034	A2B17C2	-020	200	Alum	10142-001	✓	✓	✓	2	1 (discharge)
-035	A2B17C3	-021	80	Alum	10142-001	✓	✓	✓	2	1 (discharge)
-036*	A2B18C2	-009	200	Cast Iron	10142-001	✓	✓	✓	2	1 (discharge)
-037*	A2B18C3	-015	80	Cast Iron	10142-001	✓	✓	✓	2	1 (discharge)
-038	A2B19C2	-020	200	Alum	-	✓	✓	✓	2	1 (discharge)
-039	A2B19C3	-021	80	Alum	-	✓	✓	✓	2	1 (discharge)
-040*	A2B20C2	-009	200	Cast Iron	-	✓	✓	✓	2	1 (discharge)
-041*	A2B20C3	-015	80	Cast Iron	-	✓	✓	✓	2	1 (discharge)

* Contact Factory for Availability

INCLUDED HARDWARE







PN 9499-XXX -- 2" BASE VALVE
CAST IRON

SUFFIX NO.	CAGE P/N	SLEEVE P/N	VALVE PRESSURE RATING	
			PSI	BAR
-004	9504	9501-002	10-50	.7-3.5
-009	9504	9501-001	30-200	2-14
-015	9504	9501-003	18-80	1.2-5.5

ALUMINUM DIE CAST

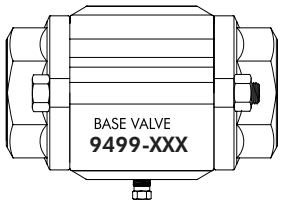
SUFFIX NO.	CAGE P/N	SLEEVE P/N	VALVE PRESSURE RATING		6110 WASHER QTY.
			PSI	BAR	
-019	11141	9501-002	10-50	.7-3.5	1
-020	11141	9501-001	30-200	2-14	1
-021	11141	9501-003	18-80	1.2-5.5	1

Assembly Note: Check for the presence of 9483 O-Ring just before installing 9507 stud.

2" THREADED CONNECTION

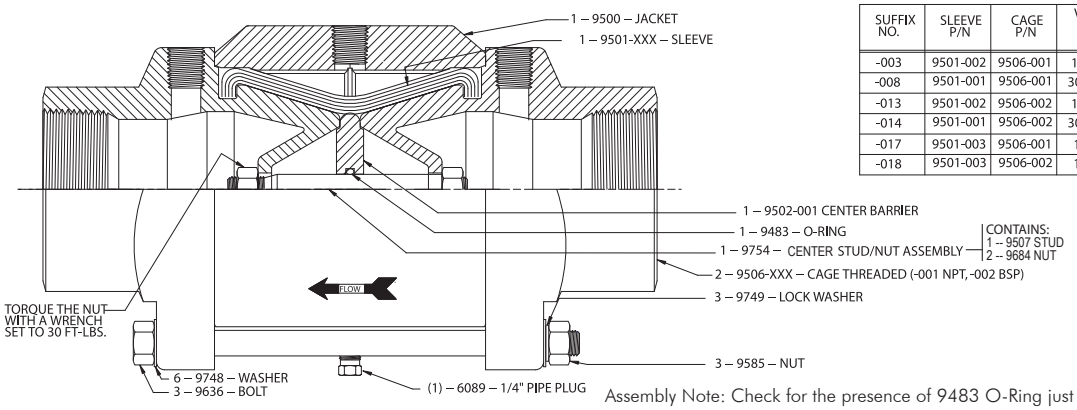
2" = A2

9508-XXX	Model No.	Base Valve 9499-xxx	Sleeve PSI Rating	Cage Material	Included Hardware					
					Thread Style	Stud Kit	8980 Manual Selector	9189 Mounting Bracket	8970-006 Elbow	6089 Plug Qty 3
-003	A2B3C1	-003	50	Cast Iron	NPT	-	✓	✓	✓	✓
-008	A2B3C2	-008	200	Cast Iron	NPT	-	✓	✓	✓	✓
-013	A2B3C1	-013	50	Cast Iron	BSP	-	✓	✓	✓	✓
-014	A2B3C2	-014	200	Cast Iron	BSP	-	✓	✓	✓	✓
-017	A2B3C3	-017	80	Cast Iron	NPT	-	✓	✓	✓	✓
-018	A2B3C3	-018	80	Cast Iron	BSP	-	✓	✓	✓	✓



PN 9499-XXX - 2" BASE VALVE

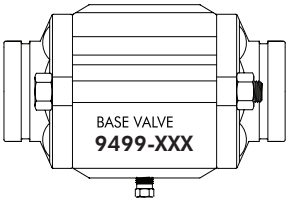
SUFFIX NO.	SLEEVE P/N	CAGE P/N	VALVE PRESSURE RATING PSI	BAR
-003	9501-002	9506-001	10-50	.7-3.5
-008	9501-001	9506-001	30-200	2-14
-013	9501-002	9506-002	10-50	.7-3.5
-014	9501-001	9506-002	30-200	2-14
-017	9501-003	9506-001	18-80	1.2-5.5
-018	9501-003	9506-002	18-80	1.2-5.5



Assembly Note: Check for the presence of 9483 O-Ring just before installing 9507 stud.

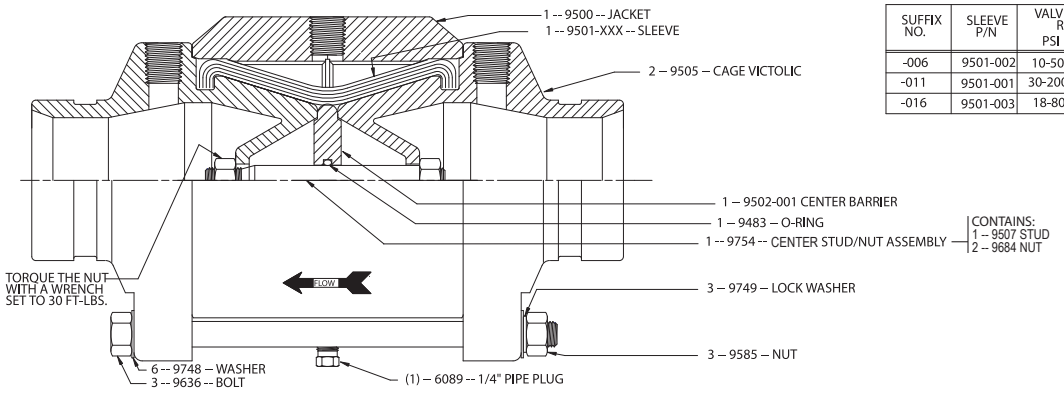
2" VICTAULIC CONNECTION

9508-XXX	Model No.	Base Valve 9499-XXX	Sleeve PSI Rating	Cage Material	Included Hardware				
					Stud Kit	8980 Manual Selector	9189 Mounting Bracket	8970-006 Elbow	6089 Plug Qty. 3
-006	A2B6C1	-006	50	CI	-	✓	✓	✓	✓
-011	A2B6C2	-011	200	CI	-	✓	✓	✓	✓
-016	A2B6C3	-016	80	CI	-	✓	✓	✓	✓



PN 9499-XXX - 2" BASE VALVE

SUFFIX NO.	SLEEVE P/N	VALVE PRESSURE RATING PSI	BAR
-006	9501-002	10-50	.7-3.5
-011	9501-001	30-200	2-14
-016	9501-003	18-80	1.2-5.5



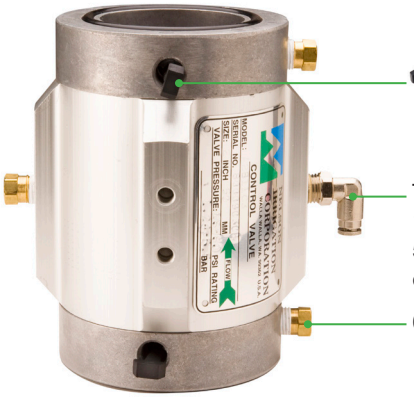
Assembly Note: Check for the presence of 9483 O-Ring just before installing 9507 stud.

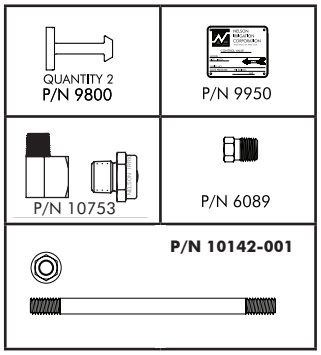
2" PIVOT END GUN VALVE (800P) -- PN 9508-XXX

VALVE WITH HARDWARE

9508-XXX	Model No.	Base Valve 9499-XXX	Sleeve PSI Rating	Cage Material	Included Hardware						
					Stud Kit	8980 Manual Selector	9189 Mounting Bracket	Tube Fitting	6089 Plug Qty.	9800 Drains Qty.	10753 Ball Vent
-030*	A2B12C2	-020	200	Alum	-	-	-	see below	2	2	✓
-031*	A2B11C2	-020	200	Alum	10142-001	-	-	see below	2	2	✓
-032	A2B12C3	-021	80	Alum	-	-	-	see below	2	2	✓
-033	A2B11C3	-021	80	Alum	10142-001	-	-	see below	2	2	✓

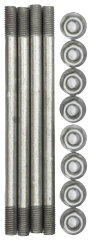
*contact factory for availability





For Valmont machines, the 800P is typically installed remote from the End Gun. (Order flanges & stud kit separately)

Valve A2B12 with 2 - 10356 2" FNPT Flanges and 10142-101 Stud Kit



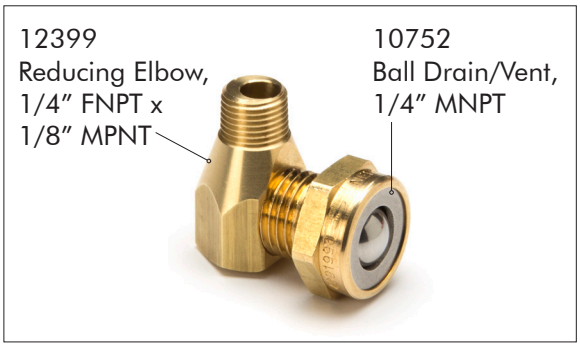
10142-101
Stud Kit:
4 - 1/2" x 8.25"
Studs, 8 nuts

10356
2" x FNPT
Metal Flange

800P AIR VENT INSTALLATION

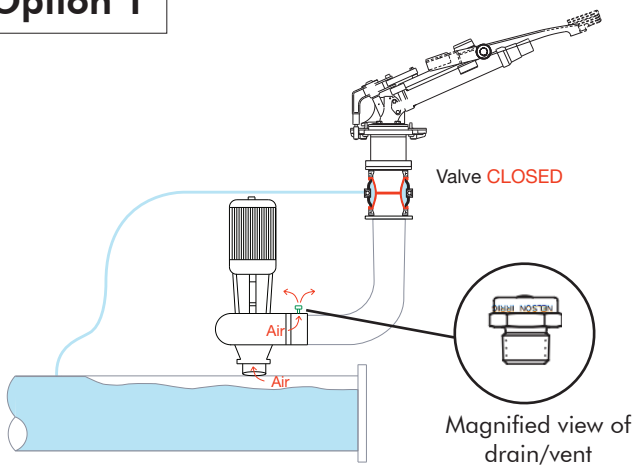
Prevent Booster Pump Air-lock

10753 Ball Drain/Vent Kit



If the Ball Drain/Vent Kit (#10753) included with the 800P is not properly installed, air may be trapped in the pump, preventing the pump from priming. Follow these guidelines to help prevent booster pump air-lock.

Option 1



Install Ball Drain/Vent in Top of Pump Outlet

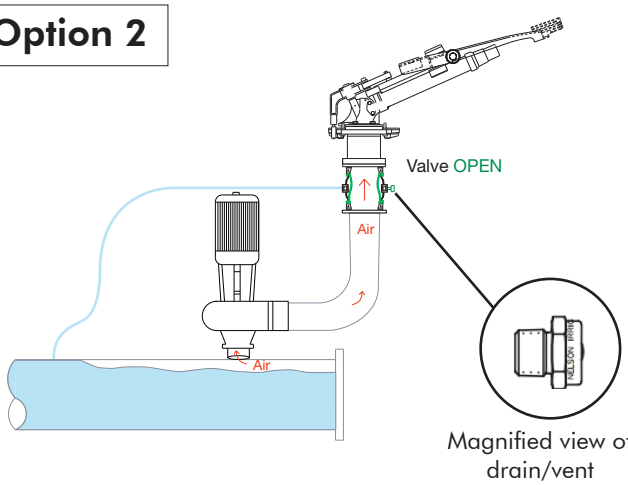
(If unable to install in top of pump discharge, the ball drain/vent may be alternatively installed in the upstream valve cage.)

Works best when system end pressure is LESS than ~30psi* and system is filled SLOWLY.

Air is evacuated through ball drain/vent in top of pump discharge.

Important: if the pressure spikes during filling then the vent could seal off, causing air entrapment which could prevent the pump from priming.

Option 2



Install Ball Drain/Vent in Valve Chamber

Works best when system end pressure is MORE than ~30psi* and system is filled QUICKLY.

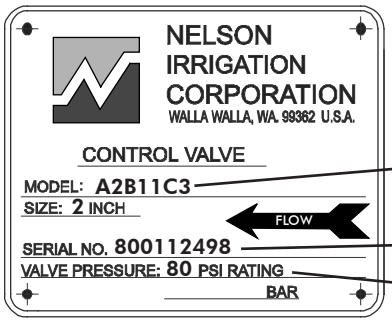
Ball drain/vent in valve chamber keeps 800P open, allowing air to escape through the valve until system pressure builds up.

Important: if the system pressure drops at any time then the valve might not close completely.

*Exact pressure depends on specific plumbing and water quality

2" 800 SERIES VALVE SERVICE

Sample Valve Nameplate



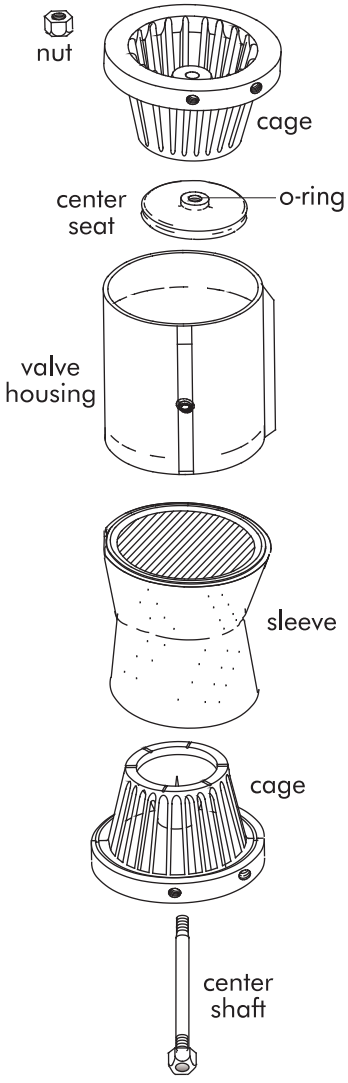
Model Code: Example 2" size valve with bolts for GUN/ANSI, pressure rating 18-80 PSI

Serial Number Identifies Valve as 800 Series; Last Six Numbers Tell Date of Manufacture: 11/24/1998.

80 PSI Pressure Rating

To Disassemble the 2 inch valve:

Use two ratchets with 9/16" sockets; place one on each of the center shaft nuts. Remove one nut by twisting the ratchets in the unthread direction. After one nut is off, remove the center shaft. Pry apart one cage from the housing and sleeve. Tap the center seat out from inside the sleeve. Pull the valve housing off and then the sleeve can be pulled from the other cage.



To Assemble:

1. Both cages are the same. Select one to begin. If the sleeve is replaced use the same pressure rated sleeve. Press the sleeve onto the first cage. Press the housing onto the sleeve and make sure that the bottom end of the sleeve is well seated all the way down into the first cage. Make sure that a small amount of sleeve length extends slightly up above the top edge of the valve housing. This will make step 5 easier.
2. Insert the center shaft through the center hole on the first cage. Set this cage, sleeve and valve housing on a table with the open end facing up; the center shaft with the nut end down and the thread end without nut sticking up through the center hole of the cage.
3. Replace the center seat into the valve guiding it onto the center shaft (before doing this lubricate the o-ring with liquid dish-soap so that the shaft does not push the o-ring out of the center seat). Press the center seat down until fully against the first cage.
4. Align the two 1/4" port holes on the cage as shown on the drawing. Keep end holes aligned with the housing ribs.
5. Soap the top lip on the inside of the sleeve. Place the second cage onto the top end as shown in the drawing making sure the center shaft goes into the center cage hole. Check port alignment and if necessary, align the two ports as before. Press the cages together making sure the lips of the sleeve fit into the cage grooves. Hint: Assembly of the valves can be made easier by a sharp tap on the top of the cage using a rubber mallet to drive the cage onto the sleeve. Also air pressure applied to the sleeve chamber will hold the sleeve in position while the last cage is pressed on (this can help assembly a lot).
6. Thread on the second center shaft nut. Make sure the nut nylon lock ring engages the threads of the shaft. If the nut nylon lock feels loose then use Locktite #271 on the threads of the nut to help prevent the nut from coming loose during operation of the valve. Torque wrench the nut to 30 foot-pounds for the 2" valve.
7. Reconnect any control tube into the correct fittings and return the valve to service.

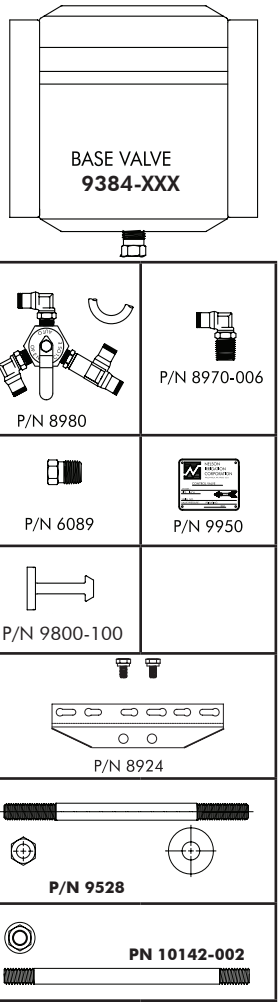
3" (A3) — PN 9404-XXX

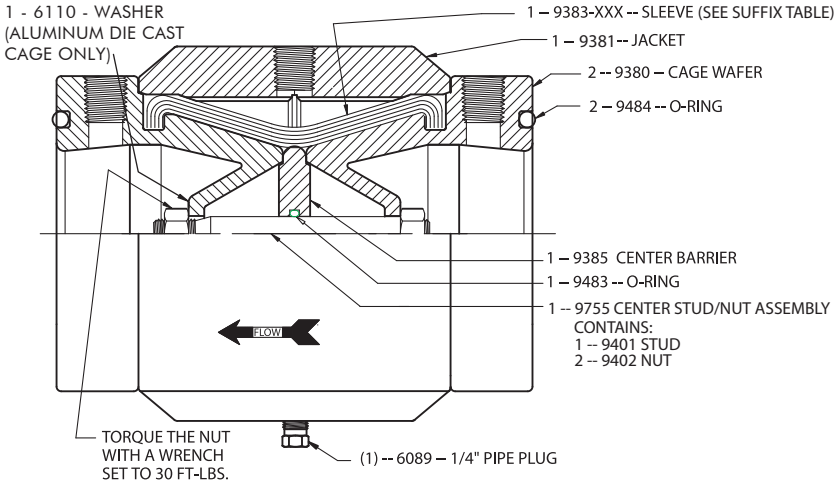
VALVE WITH HARDWARE

3" WAFER CONNECTION

9404-XXX	Model No.	Base Valve 9384-XXX	Sleeve PSI Rating	Cage Material	Included Hardware						
					Stud Kit	8980 Manual Selector	8924 Mounting Bracket	8970-006 Elbow	6089 Plug Qty.	9800-100 Drains Qty.	10753 Ball Vent
-004*	A3B4C1	-004	50	Cast Iron							-
-005*	A3B5C1	-004	50	Cast Iron	9528	✓	✓	✓	3	-	-
-009*	A3B4C2	-009	200	Cast Iron	-	✓	✓	✓	3	-	-
-010*	A3B5C2	-009	200	Cast Iron	9528	✓	✓	✓	3	-	-
-015*	A3B4C3	-015	80	Cast Iron	-	✓	✓	✓	3	-	-
-019*	A3B5C3	-015	80	Cast Iron	9528	✓	✓	✓	3	-	-
-020*	A3B8C2	-009	200	Cast Iron	-	-	-	-	2	2	✓
-021*	A3B7C2	-009	200	Cast Iron	10142-002	-	-	-	2	2	✓
-022*	A3B8C3	-015	80	Cast Iron	-	-	-	-	2	2	✓
-023*	A3B7C3	-015	80	Cast Iron	10142-002	-	-	-	2	2	✓
-024	A3B9C1	-019	50	Alum	-	✓	✓	✓	3	-	-
-025	A3B10C1	-019	50	Alum	9528	✓	✓	✓	3	-	-
-026	A3B9C2	-020	200	Alum	-	✓	✓	✓	3	-	-
-027	A3B10C2	-020	200	Alum	9528	✓	✓	✓	3	-	-
-028	A3B9C3	-021	80	Alum	-	✓	✓	✓	3	-	-
-029	A3B10C3	-021	80	Alum	9528	✓	✓	✓	3	-	-
-030	A3B12C2	-020	200	Alum	-	-	-	-	2	2	✓
-031	A3B11C2	-020	200	Alum	10142-002	-	-	-	2	2	✓
-032	A3B12C3	-021	80	Alum	-	-	-	-	2	2	✓
-033	A3B11C3	-021	80	Alum	10142-002	-	-	-	2	2	✓
-034	A3B17C2	-020	200	Alum	10142-002	✓	✓	✓	2	1 (discharge)	-
-035	A3B17C3	-021	80	Alum	10142-002	✓	✓	✓	2	1 (discharge)	-
-036*	A3B18C2	-009	200	Cast Iron	10142-002	✓	✓	✓	2	1 (discharge)	-
-037*	A3B18C3	-015	80	Cast Iron	10142-002	✓	✓	✓	2	1 (discharge)	-
-038	A3B19C2	-020	200	Alum	-	✓	✓	✓	2	1 (discharge)	-
-039	A3B19C3	-021	80	Alum	-	✓	✓	✓	2	1 (discharge)	-
-040*	A3B20C2	-009	200	Cast Iron	-	✓	✓	✓	2	1 (discharge)	-
-041*	A3B20C3	-015	80	Cast Iron	-	✓	✓	✓	2	1 (discharge)	-

*contact factory for availability





Assembly Note: Check for the presence of 9483 O-Ring just before installing 9401 stud.

PN 9384-XXX - 3"BASE VALVE

WAFER - CAST IRON

SUFFIX NO.	CAGE P/N	SLEEVE P/N	VALVE PRESSURE RATING	
			PSI	BAR
-004	9380	9383-002	10-50	.7-3.5
-009	9380	9383-001	30-200	2-14
-015	9380	9383-003	18-80	1.2-5.5

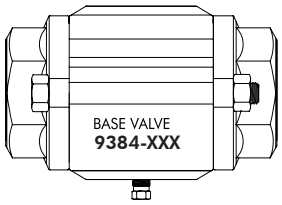
WAFER - ALUMINUM DIE CAST

SUFFIX NO.	CAGE P/N	SLEEVE P/N	VALVE PRESSURE RATING	
			PSI	BAR
-019	11158	9383-002	10-50	.7-3.5
-020	11158	9383-001	30-200	2-14
-021	11158	9383-003	18-80	1.2-5.5

3" = A3

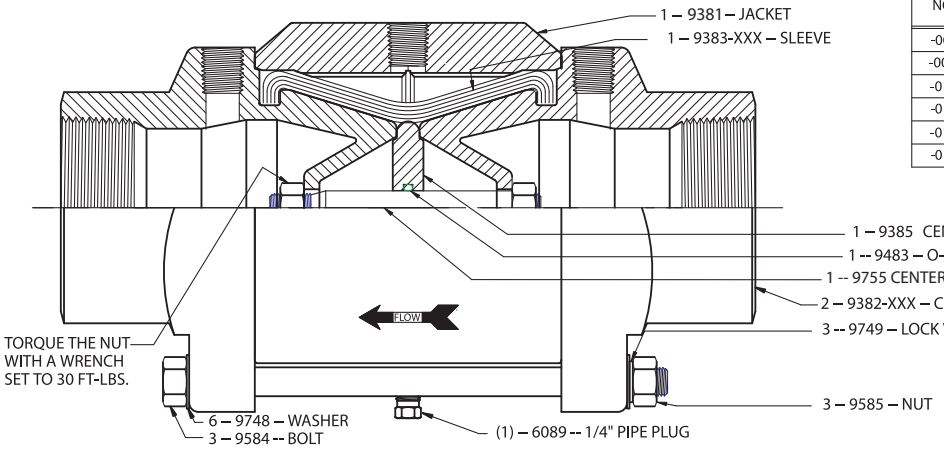
3" THREADED CONNECTION

9404-XXX	Model No.	Base Valve 9384-XXX	Sleeve PSI Rating	Cage Material	Included Hardware: Thread Style	Stud Kit	8980 Manual Selector	8924 Mounting Bracket	8970-006 Elbow	6089 Plug Qty 3
-003	A3B3C1	-003	50	Cast Iron	NPT	-	✓	✓	✓	✓
-008	A3B3C2	-008	200	Cast Iron	NPT	-	✓	✓	✓	✓
-013	A3B3C1	-013	50	Cast Iron	BSP	-	✓	✓	✓	✓
-014	A3B3C2	-014	200	Cast Iron	BSP	-	✓	✓	✓	✓
-017	A3B3C3	-017	80	Cast Iron	NPT	-	✓	✓	✓	✓
-018	A3B3C3	-018	80	Cast Iron	BSP	-	✓	✓	✓	✓



PN 9384-XXX - 3" BASE VALVE

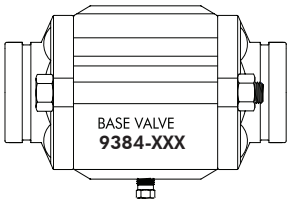
SUFFIX NO.	SLEEVE P/N	CAGE P/N	VALVE PRESSURE RATING PSI	BAR
-003	9383-002	9382-001	10-50	.7-3.5
-008	9383-001	9382-001	30-200	2-14
-013	9383-002	9382-002	10-50	.7-3.5
-014	9383-001	9382-002	30-200	2-14
-017	9383-003	9382-001	18-80	1.2-5.5
-018	9383-003	9382-002	18-80	1.2-5.5



Assembly Note: Check for the presence of 9483 O-Ring just before installing 9507 stud.

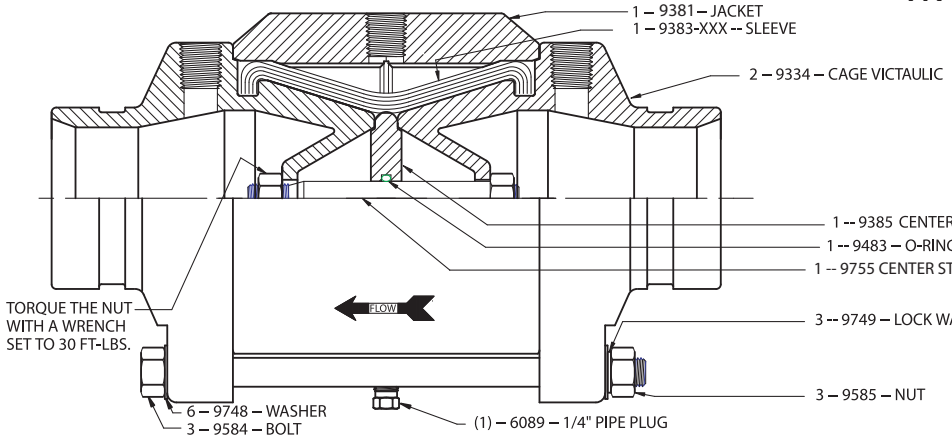
3" VICTAULIC CONNECTION

9404-XXX	Model No.	Base Valve 9384-XXX	Sleeve PSI Rating	Cage Material	Included Hardware: Stud Kit	8980 Manual Selector	8924 Mounting Bracket	8970-006 Elbow	6089 Plug Qty. 3
-006	A3B6C1	-006	50	Cast Iron	-	✓	✓	✓	✓
-011	A3B6C2	-011	200	Cast Iron	-	✓	✓	✓	✓
-016	A3B6C3	-016	80	Cast Iron	-	✓	✓	✓	✓



PN 9384-XXX - 3" BASE VALVE

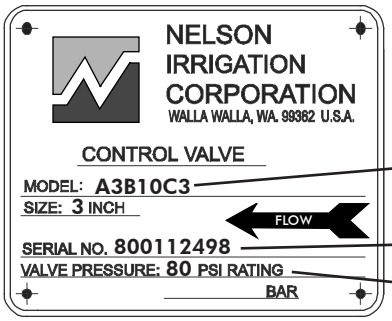
SUFFIX NO.	SLEEVE P/N	VALVE PRESSURE RATING PSI	BAR
-006	9383-002	10-50	.7-3.5
-011	9383-001	30-200	2-14
-016	9383-003	18-80	1.2-5.5



Assembly Note: Check for the presence of 9483 O-Ring just before installing 9507 stud.

3" 800 SERIES VALVE SERVICE

Sample Valve Nameplate



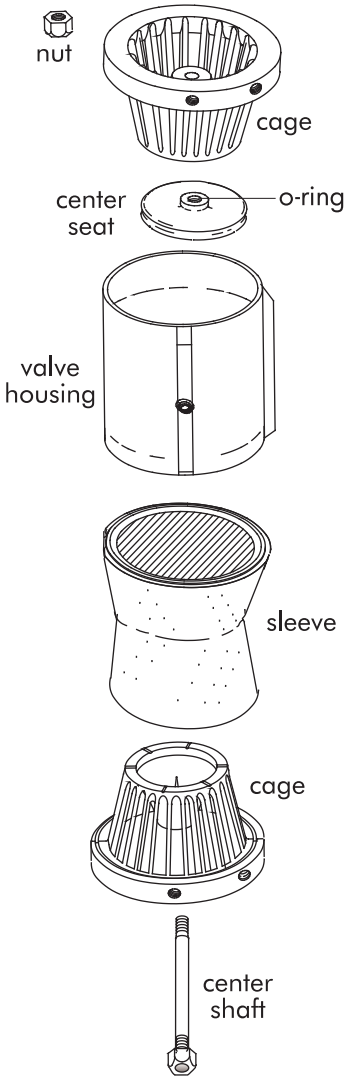
Model Code: Example 3" size valve with stud kit, pressure rating 18-80 PSI

Serial Number Identifies Valve as 800 Series; Last Six Numbers Tell Date of Manufacture: 11/24/1998.

80 PSI Pressure Rating

To Disassemble the 3 inch valve:

Use two ratchets with 9/16" sockets; place one on each of the center shaft nuts. Remove one nut by twisting the ratchets in the unthread direction. After one nut is off, remove the center shaft. Pry apart one cage from the housing and sleeve. Tap the center seat out from inside the sleeve. Pull the valve housing off and then the slee can be pulled from the other cage.



To Assemble:

1. Both cages are the same. Select one to begin. If the sleeve is replaced use the sar pressure rated sleeve. Press the sleeve onto the first cage. Press the housing onto t sleeve and make sure that the bottom end of the sleeve is well seated all the way dov into the first cage. Make sure that a small amount of sleeve length extends slightly above the top edge of the valve housing. This will make step 5 easier.
2. Insert the center shaft through the center hole on the first cage. Set this cage, slee and valve housing on a table with the open end facing up; the center shaft with t nut end down and the thread end without nut sticking up through the center ho of the cage.
3. Replace the center seat into the valve guiding it onto the center shaft (before doing th lubricate the o-ring with liquid dish-soap so that the shaft does not push the o-ri out of the center seat). Press the center seat down until fully against the first cag
4. Align the two 1/4" port holes on the cage as shown on the drawing. Keep end hol aligned with the housing ribs.
5. Soap the top lip on the inside of the sleeve. Place the second cage onto the top e as shown in the drawing making sure the center shaft goes into the center ca hole. Check port alignment and if necessary, align the two ports as before. Pre the cages together making sure the lips of the sleeve fit into the cage grooves. Hi Assembly of the valves can be made easier by a sharp tap on the top of the ca using a rubber mallet to drive the cage onto the sleeve. Also air pressure appli to the sleeve chamber will hold the sleeve in position while the last cage is press on (this can help assembly a lot).
6. Thread on the second center shaft nut. Make sure the nut nylon lock ring engag the threads of the shaft. If the nut nylon lock feels loose then use Locktite #271 the threads of the nut to help prevent the nut from coming loose during operati of the valve. Torque wrench the nut to 30 foot-pounds for the 3" valve.
7. Reconnect any control tube into the correct fittings and return the valve to service

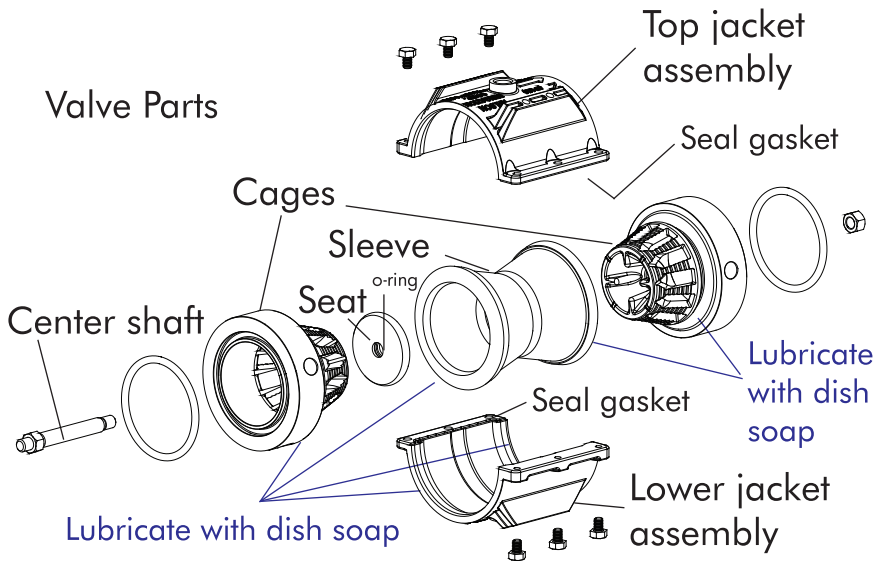
3" 800 SERIES VALVE WITH TWO-PIECE JACKET SERVICE

DISCONTINUED

A VERY SMALL QUANTITY OF 3" VALVES WERE PUT INTO PRODUCTION BEGINNING IN 2000 WITH A PROTOTYPE TWO-PIECE JACKET DESIGN, BUT THE DESIGN WAS DISCONTINUED IN THE FOLLOWING YEARS. THE TWO-PIECE JACKET IS NO LONGER AVAILABLE, AND SHOULD BE REPLACED WITH THE STANDARD JACKET, PART #9381. ALL OTHER PARTS ARE COMMON WITH THE STANDARD 3" VALVE.

TO DISASSEMBLE THE 3 INCH VALVE:

If air pressure is available then leave the jacket assembly together (don't split the jacket apart**). If no air pressure is available then separate the jacket assembly by removing the six bolts.** Use two ratchets wrenches with 9/16" sockets; place one on each of the center shaft nuts. Remove one nut by twisting the ratchets in the unthread direction. After one nut is off, remove the center shaft. Pry apart one cage from the housing and sleeve. Tap the center seat out from inside the sleeve. Pull the valve jacket assembly off then the sleeve can be pulled from the other cage.



TO ASSEMBLE (jacket assembly together)

1. Both cages are the same. Select one to begin. If the sleeve is replaced press the new sleeve onto the first cage. Press the jacket assembly onto the sleeve and make certain that the bottom end of the sleeve is well seated all the way down into the first cage. Make sure that a small amount of sleeve length extends slightly up above the top edge of the valve jacket. This will make step 5 easier. **If the jacket assembly is split apart then go to the step 3.**
2. Insert the center shaft through the center hole on the first cage. Set this cage, sleeve and valve jacket assembly on a table with the open end facing up; the center shaft with the nut end down and the thread end without nut sticking up through the center of the cage.
3. Replace the center seat into the valve sleeve guiding it onto the center shaft (before doing this lubricate the o-ring with liquid dish-soap so that the shaft does not push the o-ring out of the center seat). Press the center seat down until fully against the first cage.
4. Align the two 1/4" port holes on the cage as shown on the drawing. Keep end holes aligned with the jacket ribs.
5. Soap the top lip on the inside of the sleeve. Place the second cage into the sleeve as shown in the drawing making sure the center shaft goes into the center cage hole. Check port alignment and if necessary, align the two ports as before. Press the cages together making sure the lips of the sleeve fit into the cage grooves. Hint: Assembly of the valve can be made easier by a sharp tap on the top of the jacket and cages using a rubber mallet to drive the jacket and cage onto the sleeve. Also air pressure applied to the sleeve chamber will hold the sleeve in position while the last cage is pressed on (this can help assembly a lot). **If the jacket assembly was split apart then after lubrication with dish soap, push the two halves together (making sure the seal gaskets stay in place). Replace the six bolts.**
6. Thread the nut onto the center shaft. Make sure the nut nylon lock ring engages the threads of the shaft. Torque wrench the nut to 30 foot-pounds for the 3" valve.
7. Correctly reconnect any control tubes into the proper fittings and return the valve to service.