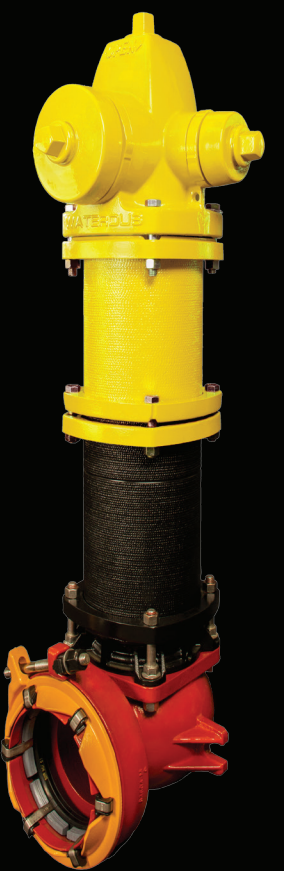
AMERICAN Flow Control
Valves and Fire Hydrants with ALPHA™ Ends



- Available in sizes 4”-12”
- Faster Installation Saves Time and Money
- ANSI/AWWA C515 Rated at 250 psig
- Compatible with Ductile Iron, Cast Iron, HDPE and PVC Pipe

Size (in)	OD Range (in)
4	4.50 - 4.90
6	6.60 - 7.00
8	8.60 - 9.10
10	10.75 - 11.20
12	12.75 - 13.30

- ALPHA XL for Oversized Cast Iron Coming Soon

AMERICAN
FLOW CONTROL

THE RIGHT WAY

AMERICAN FLOW CONTROL VALVES AND HYDRANTS WITH ALPHA™ ENDS

- MATERIAL FLEXIBILITY – The ALPHA joint is compatible with several pipe materials, including ductile iron, cast iron, HDPE and PVC pipe.
- EASIER TO INSTALL - Compared to the Mechanical Joint, which uses up to eight bolts on each end, the ALPHA uses only one stainless steel bolt. This makes the ALPHA joint easier to install, saving time and money.
- PREASSEMBLED - Unlike the Mechanical Joint, ALPHA comes with the restraint accessories attached, saving more time and money.
- FULLY RESTRAINED SYSTEM - Available on 4" -12" AMERICAN Flow Control Series 2500 Resilient Wedge Gate Valves and on the American-Darling and Waterous brands of fire hydrants.
- WORKS WITH PRESSURE - ALPHA works with the pressure to achieve joint restraint

IT'S THE ONLY GATE VALVE OR HYDRANT YOU'LL EVER NEED

SAMPLE SPECIFICATION

When specifying your AMERICAN Flow Control valves and hydrants, be sure to include the following requirements:

- Hydrant or valve inlet shall be a restrained joint designed for use with ductile iron, cast iron, HDPEand PVC pipe materials.
- Inlet shall incorporate a stab-fit design using a single Type 304 stainless steel fastener and heattreated ductile iron grippers. The assembly of mechanical joint restrainers using multiple fasteners or wedge bolts that point load the pipe are not permitted.
- The joint design shall work with the pressure to achieve joint restraint. All accessories shall be factory installed.
- All hydrant or valve inlets shall be the Romac ALPHA design, as furnished by AMERICAN Flow Control.

Scan to Learn More

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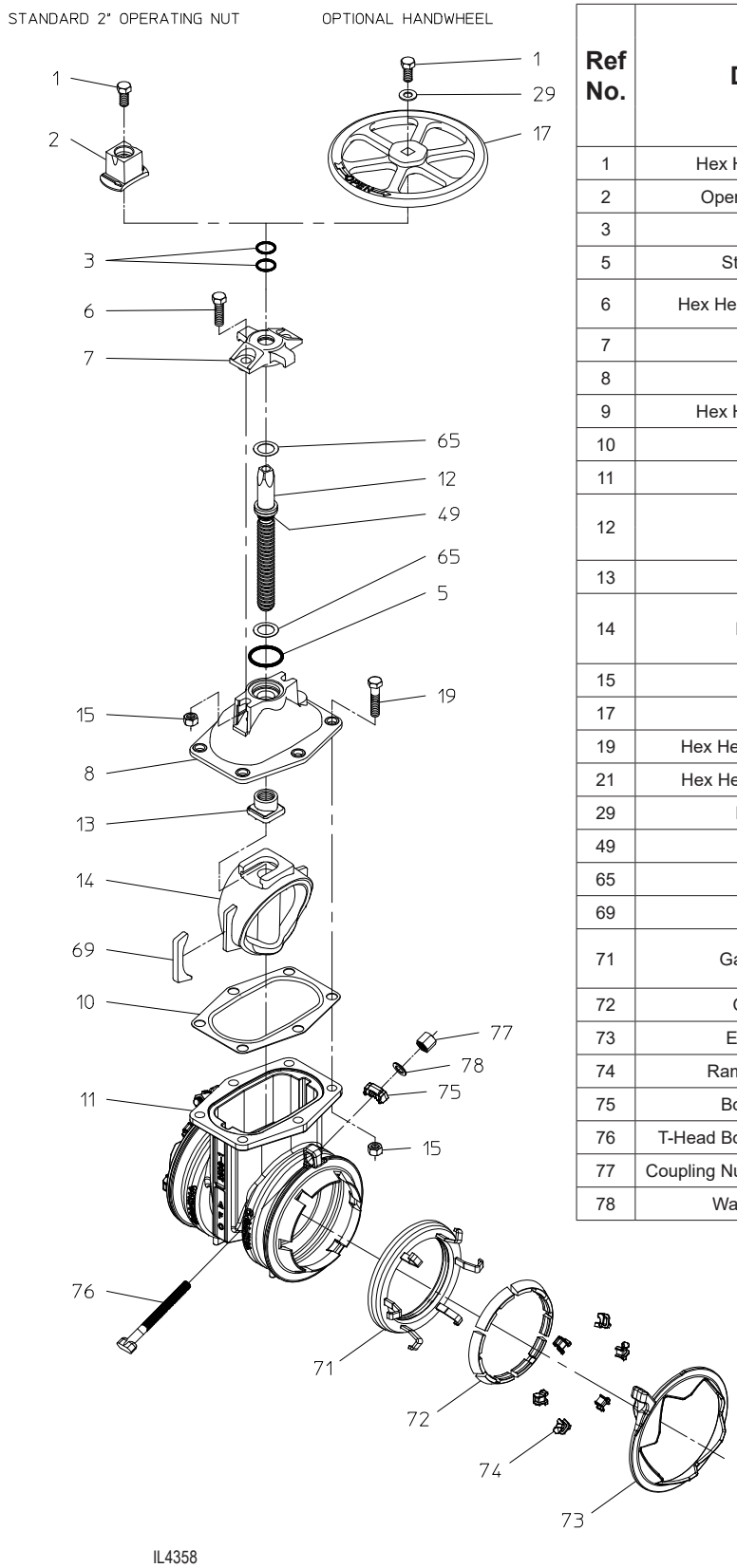
SERIES 2500 - NRS PARTS LIST, ALPHA™ RESTRAINED JOINT 4” - 8” SIZES



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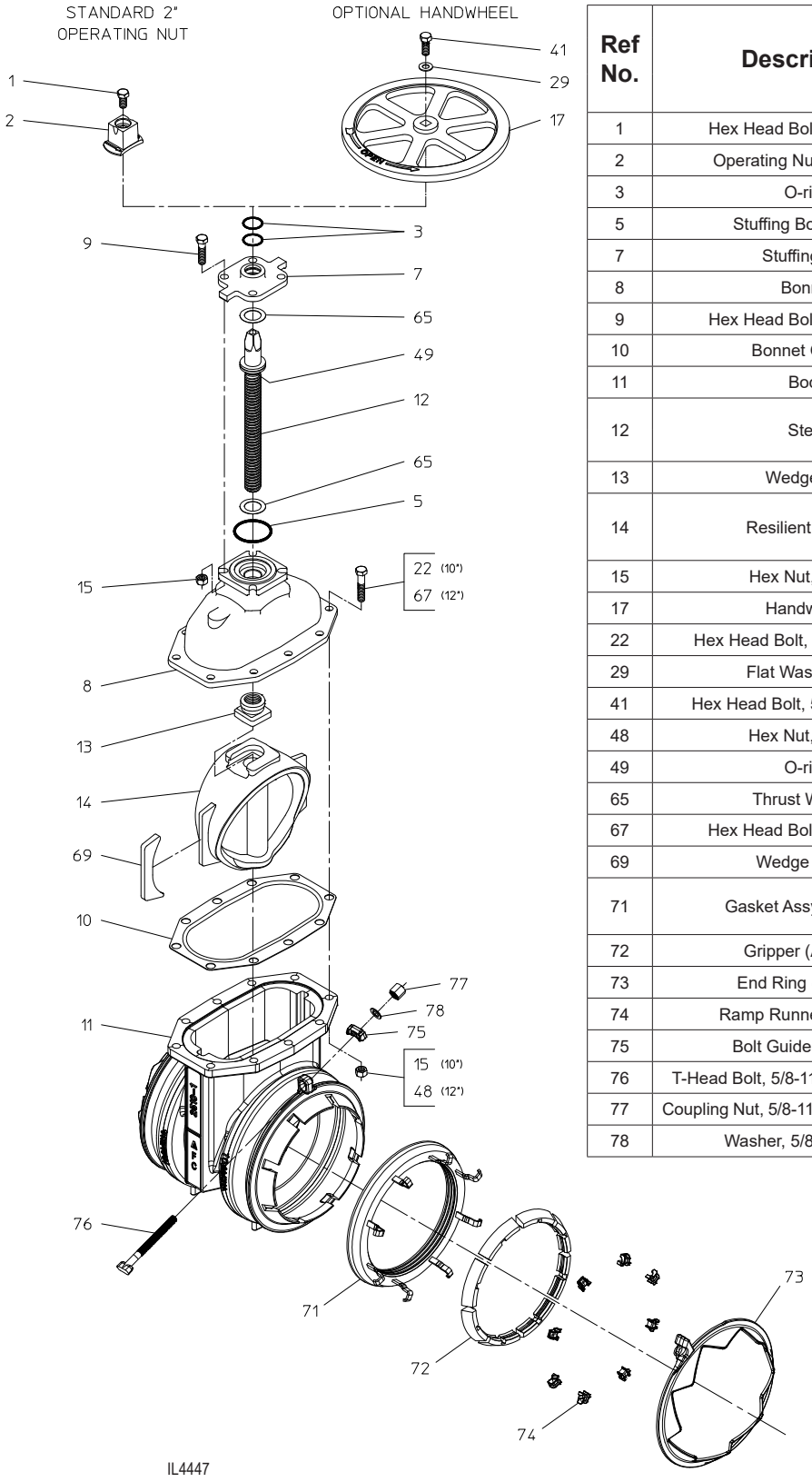
Ref No.	Description	Material	Qty. Series 2500-1		
			4”	6”	8”
1	Hex Head Bolt, 5/8-11 x 1”	Stainless Steel	1	1	1
2	Operating Nut, 2” Square	Ductile Iron	1	1	1
3	O-ring	Rubber	2	2	2
5	Stuffing Box Gasket	Rubber O-ring	1	1	1
6	Hex Head Bolt, 5/8”-11 x 1-3/4”	Stainless Steel	2	2	2
7	Stuffing Box	Ductile Iron	1	1	1
8	Bonnet	Ductile Iron	1	1	1
9	Hex Head Bolt, 5/8-11 x 2”	Stainless Steel	4	-	-
10	Bonnet Gasket	Rubber	1	1	1
11	Body	Ductile Iron	1	1	1
12	Stem	Bronze	1	1	1
		Stainless Steel (Optional)			
13	Wedge Nut	Bronze	1	1	1
14	Resilient Wedge	Ductile Iron, Encapuslated With EPDM Rubber	1	1	1
15	Hex Nut, 5/8-11	Stainless Steel	6	8	10
17	Handwheel	Ductlle Iron	1	1	1
19	Hex Head Bolt, 5/8-11 x 2-1/4”	Stainless Steel	-	6	-
21	Hex Head Bolt, 5/8-11 x 2 1/2”	Stainless Steel	-	-	8
29	Flat Washer, 5/8	Stainless Steel	1	1	1
49	O-ring	Rubber	1	1	1
65	Thrust Washer	Stainless Steel	2	2	2
69	Wedge Cover	Polymer	2	2	2
71	Gasket Assy (Alpha)	NBR or SBR Rubber, ASTM D2000 304 Stainless Steel	2	2	2
72	Gripper (ALPHA)	Ductile Iron, ASTM A536	12	12	12
73	End Ring (ALPHA)	Ductile Iron, ASTM A536	2	2	2
74	Ramp Runner (ALPHA)	Nylon	12	12	12
75	Bolt Guide (ALPHA)	Ductile Iron, ASTM A536	2	2	2
76	T-Head Bolt, 5/8-11 x 7.25” (ALPHA)	Stainless Steel	2	2	2
77	Coupling Nut, 5/8-11 x 1-1/16” (ALPHA)	Stainless Steel	2	2	2
78	Washer, 5/8” (ALPHA)	Stainless Steel	2	2	2

SERIES 2500 - NRS PARTS LIST, ALPHA™ RESTRAINED JOINT 10” - 12” SIZES



Ref No.	Description	Material	Qty.	
			Series 2500-1	
			10”	12”
1	Hex Head Bolt, 5/8-11 x 1”	Stainless Steel	1	1
2	Operating Nut, 2” Square	Ductile Iron	1	1
3	O-ring	Rubber	2	2
5	Stuffing Box Gasket	Rubber O-ring	1	1
7	Stuffing Box	Ductile Iron	1	1
8	Bonnet	Ductile Iron	1	1
9	Hex Head Bolt, 5/8-11 x 2”	Stainless Steel	4	4
10	Bonnet Gasket	Rubber	1	1
11	Body	Ductile Iron	1	1
12	Stem	Bronze	1	1
		Stainless Steel (Optional)		
13	Wedge Nut	Bronze	1	1
14	Resilient Wedge	Ductile Iron, Encapuslated With EPDM Rubber	1	1
15	Hex Nut, 5/8-11	Stainless Steel	14	4
17	Handwheel	Ductlle Iron	1	1
22	Hex Head Bolt, 5/8-11 x 2-3/4”	Stainless Steel	10	-
29	Flat Washer, 5/8	Stainless Steel	1	1
41	Hex Head Bolt, 5/8”-11 x 1 1/2”	Stainless Steel	1	1
48	Hex Nut, 3/4-10	Stainless Steel	-	10
49	O-ring	Rubber	1	1
65	Thrust Washer	Stainless Steel	2	2
67	Hex Head Bolt, 3/4-10 x 3”	Stainless Steel	-	10
69	Wedge Cover	Polymer	2	2
71	Gasket Assy (ALPHA)	NBR or SBR Rubber, ASTM D2000 304 Stainless Steel	2	2
72	Gripper (ALPHA)	Ductile Iron, ASTM A536	16	16
73	End Ring (ALPHA)	Ductile Iron, ASTM A536	2	2
74	Ramp Runner (ALPHA)	Nylon	16	16
75	Bolt Guide (ALPHA)	Ductile Iron, ASTM A536	2	2
76	T-Head Bolt, 5/8-11 x 7.25” (ALPHA)	Stainless Steel	2	2
77	Coupling Nut, 5/8-11 x 1-1/16” (ALPHA)	Stainless Steel	2	2
78	Washer, 5/8” (ALPHA)	Stainless Steel	2	2

ALPHA™ Restraint Joint Installation Instructions

Read installation instructions first before installing. Check parts to ensure that no damage has occurred during transit and that no parts are missing.

ALPHA restraint joints will accommodate the following pipe types and sizes:

ALPHA

- Ductile iron per AWWA C151
- PVC per ASTM D1785 (Schedule 40 and 80)
- PVC per ASTM D2241 (SDR 21)
- PVC per AWWA C900
- HDPE per AWWA C906 (SDR 9, 11, 13.5, and 17)

ALPHA XL

- Gray iron (Class A, B, C, and D)

Nominal Size (in)	ALPHA OD Range (in)	ALPHA XL OD Range (in)
4	4.50 - 4.90	4.80 - 5.10
6	6.60 - 7.00	6.90 - 7.20
8	8.60 - 9.10	9.05 - 9.40
10	10.75 - 11.20	11.10 - 11.45
12	12.75 - 13.30	13.20 - 13.60

1. Compare diameter of pipe with those listed above to ensure that the correct size joint has been selected.

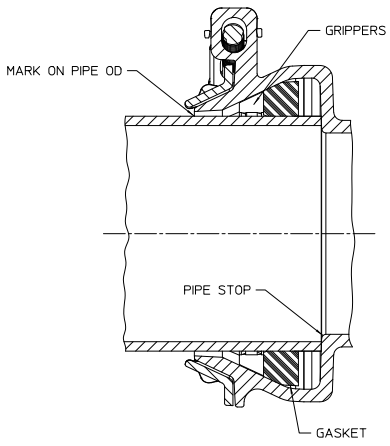
2. Remove any scale or debris that could interfere with the grippers' engagement with the pipe. Clean the pipe surface wherever the gasket will come in contact with the pipe, and check to see that the pipe surface is smooth (no depressions, projections, gouges, etc.) where the gaskets seal against the pipe. Also verify that the pipe is round within the OD limits described in step 1 and that the pipe cut is square.

3. Mark the OD of the pipe as a means of verifying full insertion in the joint. The pipe should be marked at the following locations as measured from the end of the pipe.

Nominal Size (in)	Distance From the End of Pipe (in)
4	3.50
6	3.75
8	5.00
10	5.13
12	5.38

4. Lubricate the gasket and pipe surface with a suitable gasket lubricant.

5. With the bolts in the extended position, insert pipe into the ALPHA socket until it contacts the pipe stop. The mark applied to the pipe OD in step 3 should be aligned with the edge of the pipe socket.



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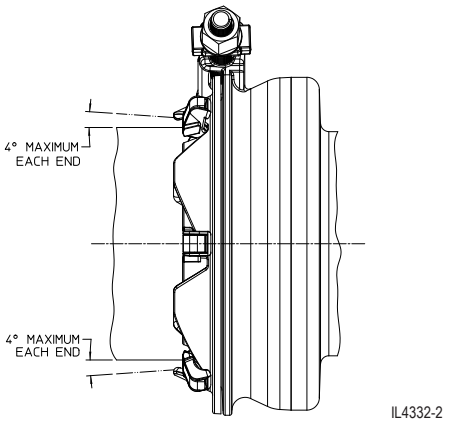
6. Set the desired pipe deflection angle (4° maximum). ALPHA XL installations on pipe at the top of the OD range may have limited deflection (2° maximum).

Note: Do not deflect pipe joint after installation.



7. Tighten nut until the gasket contacts the pipe and the pipe is snugly held in place. This should happen after applying approximately 10-15 ft-lbs of torque.

8. Tighten the nut to the torque value shown in the table below and confirm that the grippers are contacting the pipe.

Nominal Size (in)	Torque (ft-lbs)
4	20
6	20
8	45
10	45
12	45

Note: Do not overtorque or retighten. If a good seal is not achieved after tightening nut to the torque value shown in the table above, check condition of pipe (Step 2), verify maximum pipe deflection is not exceeded (Step 6), and ensure pipe is fully inserted into the socket and contacting the pipe stop.

9. Confirm proper installation by pressurizing the line and checking for leaks.

10. Backfill and compact carefully around the pipe and joint.

PRECAUTIONS

1. Make sure no foreign material is trapped between the gasket and pipe, between the grippers, or in the end ring mechanism.

2. Carefully inspect gasket for damage and ensure that the cut end of the pipe has been sufficiently deburred to prevent damage to the gasket during installation.

3. Keep bolt threads free of debris to allow proper tightening.

4. To ensure proper nut tightening, use of a torque wrench is recommended. Do not overtorque. Do not use an impact wrench.

5. Do not strike or pry on the joint with hammers, shovels, or other equipment.

6. Operating pressure shall not exceed whichever is lower; the rated working pressure of the pipe, or that of the adjoining valve or hydrant.

7. When used with HDPE pipe, application shall be limited to buried service with water temperature between 32° F and 85° F.

8. For cold weather conditions (below 40° F), performance can be improved by warming

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