

AMERICAN FLOW CONTROL® RW GATE VALVES & FIRE HYDRANTS
WITH ALPHA™ RESTRAINED JOINT ENDS



AMERICAN

FLOW CONTROL

THE RIGHT WAY

CONSTRUCTION

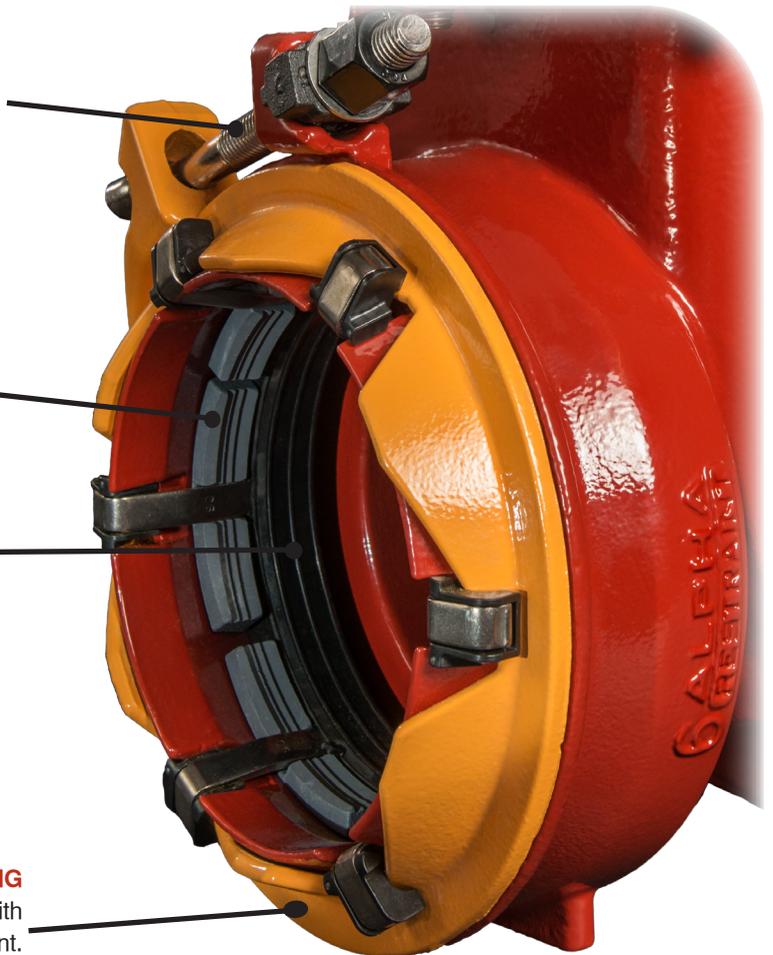
ALPHA™ SINGLE BOLT RESTRAINED JOINT Available on American-Darling and Waterous fire hydrants and all 4"-12" AMERICAN Series 2500 RW Gate Valves.

INSTALLATION NUT & BOLT
Low installation bolt torque, employs only 45 ft-lbs or less of torque, which improves ease and speed of installation

DUCTILE IRON GRIPPER STYLE RESTRAINT
Provides an even distribution of thrust restraint.

PRESSURE-ENERGIZED GASKET
Accommodates a wide range of pipe materials including ductile iron, cast iron, HDPE and PVC.

FULL CIRCUMFERENTIAL ONE-PIECE END RING
Allows for an efficient loading of the gasket, so it can work with the pressure to provide even distribution of thrust restraint.



FEATURES/SPECIFICATIONS

FEATURES/BENEFITS

The AMERICAN Flow Control® Series 2500 Ductile Iron Resilient Wedge Gate Valve is available with ALPHA™ restrained joint ends in sizes 4"-12", as well as American-Darling® and Waterous® fire hydrants. Its unique design offers the following benefits when compared to a valve or hydrant inlet configured with mechanical joint ends:

Material Flexibility

The ALPHA inlet is compatible with several pipe materials, including ductile iron, cast iron, HDPE and PVC pipe. ALPHA's unique design does not require the use of a stiffener in HDPE pipe, DR17 or less. This means it will work with just about any pipe material on the job.

Easier to Install

The ALPHA restrained joint also works with the pressure to achieve restraint. This reduces the amount of torque needed to achieve a solid connection to 45 ft-lbs or less.

Significantly Reduces Installation Times

Compared to mechanical joint, which uses up to eight T-head and eight wedge bolts on each end, the ALPHA restrained joint uses only one top-mounted stainless steel bolt. This makes the valve or hydrant with ALPHA restrained joint ends easier to install, which saves time and money.

Preassembled

Unlike the mechanical joint, the ALPHA restrained joint comes with the restraint accessories attached. Another money and time saver.

Accessibility

The ALPHA restrained joint is much more accessible than other end connections. Mechanical joints, which require bolts on the bottom of the valve, can be harder to install. ALPHA can be quickly and easily installed by one person in a fraction of the time it takes to install a mechanical joint valve. In some instances, the mechanical joint may require more than one person install.

VALVE & HYDRANT SPECIFICATION ADDITION

When specifying AMERICAN Flow Control RW Gate Valves and; American-Darling and Waterous fire hydrants, add the following requirements to the valve and hydrant specifications:

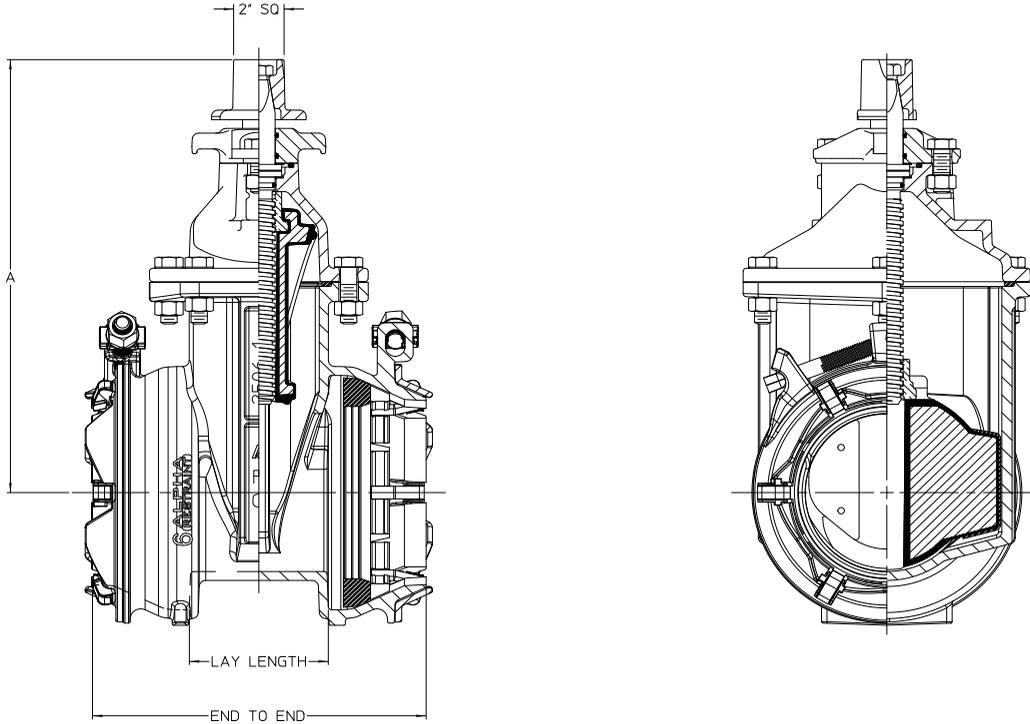
Valve inlet shall be designed for multi-purpose material use with a wide range of outside diameters (O.D.) including ductile iron per AWWA C151, PVC per ASTM D1748 (Schedule 40 and 80), PVC per ASTM D2241 (SDR21), PVC per AWWA C900, HDPE per AWWA C906 SDR 9,11,13.5 and 17) and gray cast iron (classes A, B, C and D). Inlet shall incorporate a stab-fit design requiring the use of only one Type 304 stainless steel fastener. The joint shall be designed such that installation torque shall be 45 ft-lbs or less. Joint to be configured with a one-piece full circumferential end ring and ductile iron grippers for an even distribution of thrust loads. The assembly of flange or mechanical joint restrainers using multiple fasteners or wedge or wedge bolts is not permitted. Restraint accessories shall be factory installed.

All valves shall be the AMERICAN Flow Control Series 2500 Resilient Wedge Gate Valves and shall be equipped with ALPHA Restrained Joint ends.

Hydrant inlet shall be designed for multi-purpose material use with a wide range of outside diameters (O.D.) including ductile iron per AWWA C151, PVC per ASTM D1748 (Schedule 40 and 80), PVC per ASTM D2241 (SDR21), PVC per AWWA C900, HDPE per AWWA C906 SDR 9,11,13.5 and 17) and gray cast iron (classes A, B, C and D). Hydrant inlet shall incorporate a stab-fit design requiring the use of only one Type 304 stainless steel fastener. The joint shall be designed such that installation torque shall be 45 ft-lbs or less. Joint to be configured with a one-piece full circumferential end ring and ductile iron grippers for an even distribution of thrust loads. The assembly of flange or mechanical joint restrainers using multiple fasteners or wedge or wedge bolts is not permitted. Restraint accessories shall be factory installed.

All hydrants shall be American-Darling or Waterous and shall be equipped with ALPHA hydrant inlets, furnished by AMERICAN Flow Control.

STANDARD 4"–12" NRS ALPHA X ALPHA DIMENSIONS



DIMENSION	VALVE SIZE				
	Series 2500-1				
ALPHA X ALPHA	4"	6"	8"	10"	12"
End to End	12.64	13.40	17.38	18.30	20.27
A	13.91	17.12	20.47	24.06	27.59
Lay Length	4.24	5.32	6.37	7.15	8.31
No. of Turns to Open	14	20	26	32	38

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

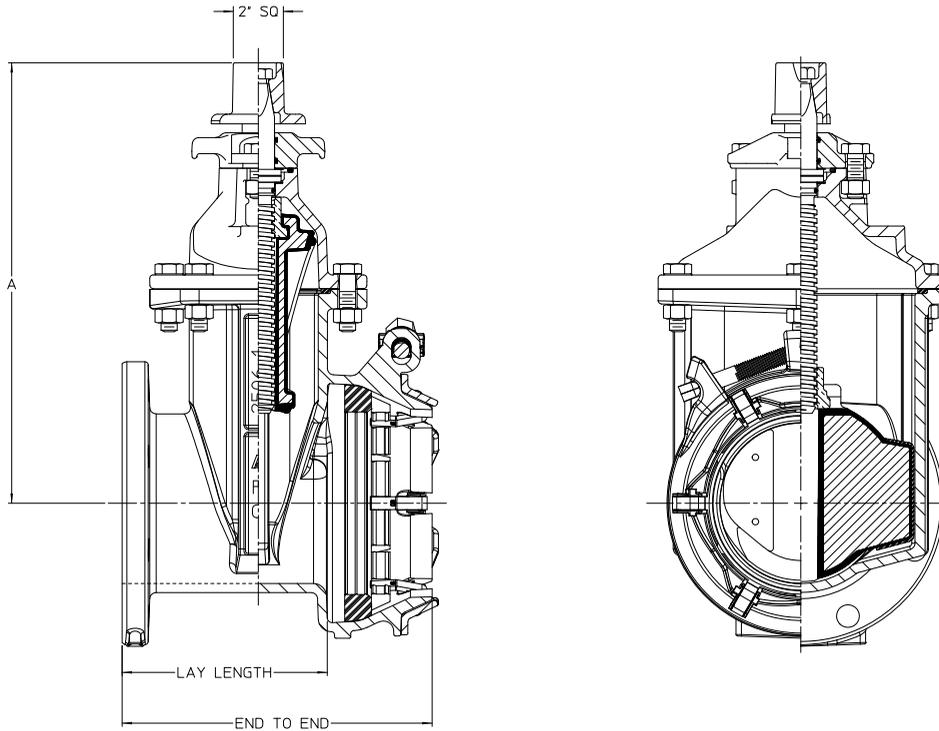
- Ductile iron per AWWA C151
- Gray iron (Class A, B, C and D)

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 - 7.10
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. 4"- 12" valves meet or exceed requirements of ANSI/AWWA C515.
2. 4"- 12" valves have 250 psig AWWA rated working pressure.
3. Fusion-bonded epoxy coating on the valve body meets or exceeds requirements of ANSI/AWWA C550.
4. Valve is certified to NSF/NSI/CAN 61 and NSF/ANSI/CAN 372.

5. MAINTENANCE: Each valve should be operated through a full cycle and returned to its normal position. This should be done on a time schedule that is designed to prevent a buildup of tuberculation or other deposits that could render the valve inoperable or prevent a tight shutoff. It is recommended this be done once a year.
6. ALPHA should not be used on as-cast plain end fittings or materials exhibiting hard material characteristics.

STANDARD 4"–12" NRS FLANGE X ALPHA DIMENSIONS



DIMENSION	VALVE SIZE				
	Series 2500-1				
FLANGE X ALPHA	4"	6"	8"	10"	12"
End to End	10.82	11.95	14.44	15.65	17.14
A	13.91	17.12	20.47	24.06	27.59
Lay Length	6.62	7.91	8.93	10.07	11.15
No. of Turns to Open	14	20	26	32	38

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

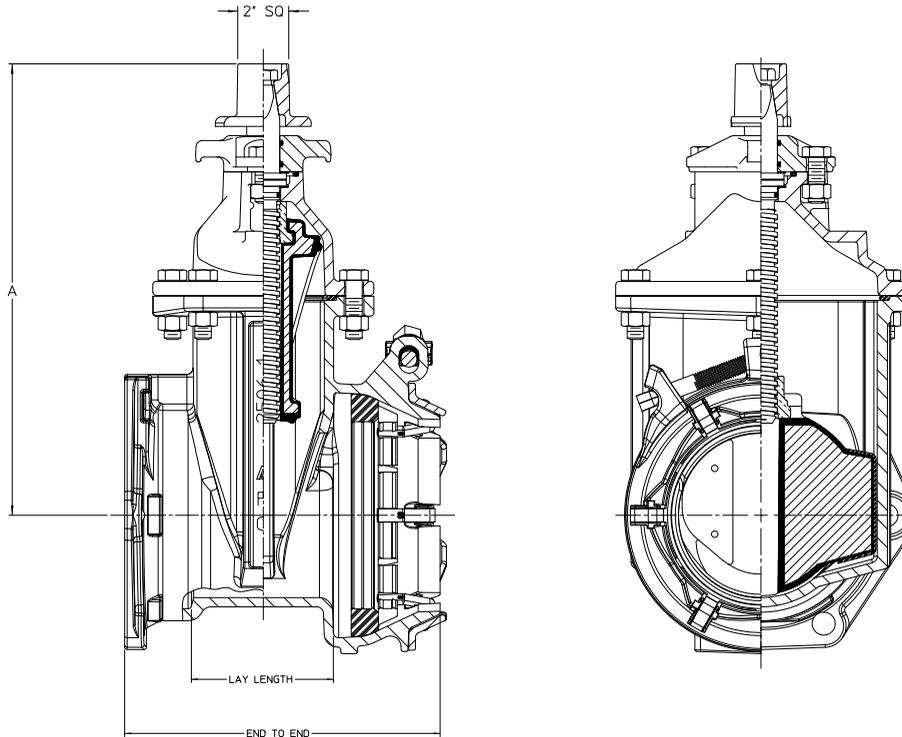
- Ductile iron per AWWA C151
- Gray iron (Class A, B, C and D)

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 - 7.10
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. 4"- 12" valves meet or exceed requirements of ANSI/AWWA C515.
2. 4"- 12" valves have 250 psig AWWA rated working pressure.
3. Fusion-bonded epoxy coating on the valve body meets or exceeds requirements of ANSI/AWWA C550.
4. Valve is certified to NSF/NSI/CAN 61 and NSF/ANSI/CAN 372.

5. MAINTENANCE: Each valve should be operated through a full cycle and returned to its normal position. This should be done on a time schedule that is designed to prevent a buildup of tuberculation or other deposits that could render the valve inoperable or prevent a tight shutoff. It is recommended this be done once a year.
6. ALPHA should not be used on as-cast plain end fittings or materials exhibiting hard material characteristics.

STANDARD 6" NRS MJ X ALPHA DIMENSIONS



DIMENSION	VALVE SIZE
	Series 2500-1
MJ X ALPHA	6"
End to End	11.95
A	17.12
Lay Length	5.41
No. of Turns to Open	20

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

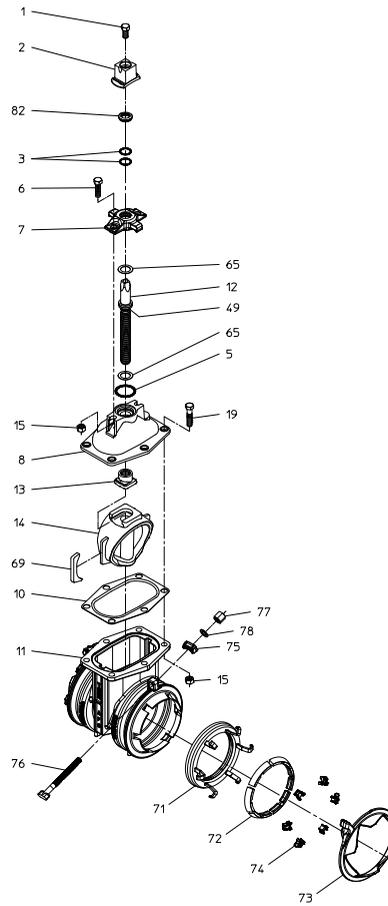
- Ductile iron per AWWA C151
- Gray iron (Class A, B, C and D)

Nominal Size (in)	ALPHA OD Range (in)	ALPHA XL OD Range (in)
6	6.60 - 7.00	6.90 - 7.10

1. 4"- 12" valves meet or exceed requirements of ANSI/AWWA C515.
2. 4"- 12" valves have 250 psig AWWA rated working pressure.
3. Fusion-bonded epoxy coating on the valve body meets or exceeds requirements of ANSI/AWWA C550.
4. Valve is certified to NSF/NSI/CAN 61 and NSF/ANSI/CAN 372.

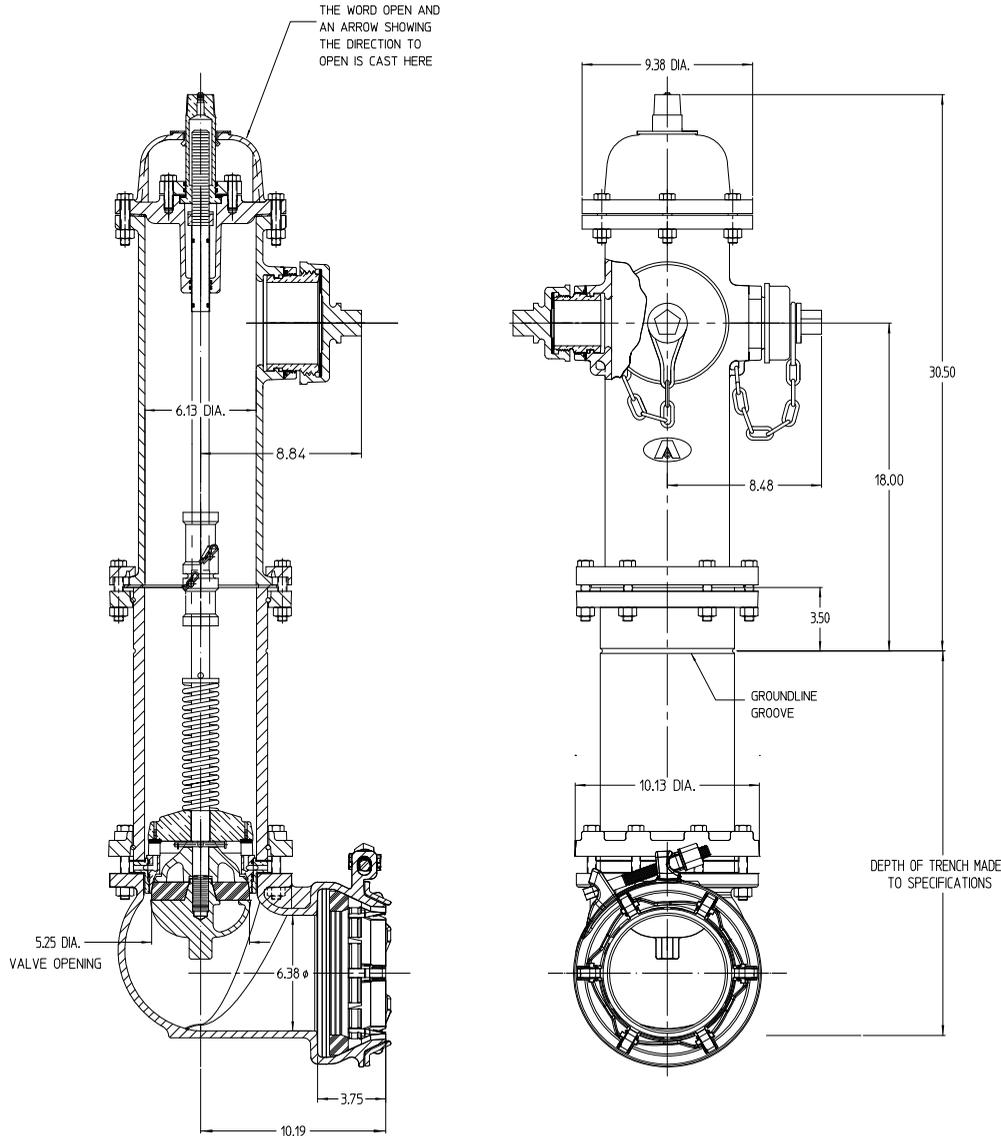
5. **MAINTENANCE:** Each valve should be operated through a full cycle and returned to its normal position. This should be done on a time schedule that is designed to prevent a buildup of tuberculation or other deposits that could render the valve inoperable or prevent a tight shutoff. It is recommended this be done once a year.
6. ALPHA should not be used on as-cast plain end fittings or materials exhibiting hard material characteristics.

STANDARD 4"–12" NRS ALPHA PARTS LIST



REFERENCE NUMBER	DESCRIPTION	MATERIAL
1	Hex Head Bolt	Stainless Steel
2	Operating Nut, 2" Square	Ductile Iron
3	O-ring	Rubber
5	Stuffing Box Gasket	Rubber O-ring
6	Hex Head Bolt	Stainless Steel
7	Stuffing Box	Ductile Iron
8	Bonnet	Ductile Iron
9	Hex Head Bolt	Stainless Steel
10	Bonnet Gasket	EPDM Rubber
11	Body	Ductile Iron
12	Stem	Bronze (Stainless Steel Optional)
13	Wedge Nut	Bronze
14	Resilient Wedge	Ductile Iron, Encapsulated with EPDM Rubber
15	Hex Nut	Stainless Steel
29	Flat Washer	Stainless Steel
49	O-ring	Rubber
65	Thrust Washer	Stainless Steel
69	Wedge Cover	Polymer
71	Gasket Assembly (ALPHA)	Rubber & Stainless Steel
72	Gripper (ALPHA)	Ductile Iron
73	End Ring (ALPHA)	Ductile Iron
74	Ramp Runner (ALPHA)	Nylon
75	Bolt Guide (ALPHA)	Ductile Iron
76	T-Head Bolt (ALPHA)	Stainless Steel
77	Coupling Nut (ALPHA)	Stainless Steel
78	Washer (ALPHA)	Stainless Steel
82	Debris Seal	Rubber

AMERICAN-DARLING FIRE HYDRANTS WITH ALPHA BASE



ALPHA is available on the following American-Darling fire hydrant models:

- 5 1/4" American-Darling B-84-B-5
- 5 1/4" American-Darling B-62-B-5
- 4 1/2" American-Darling Mark-73-5
- 6" American-Darling B-84-B-5

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)

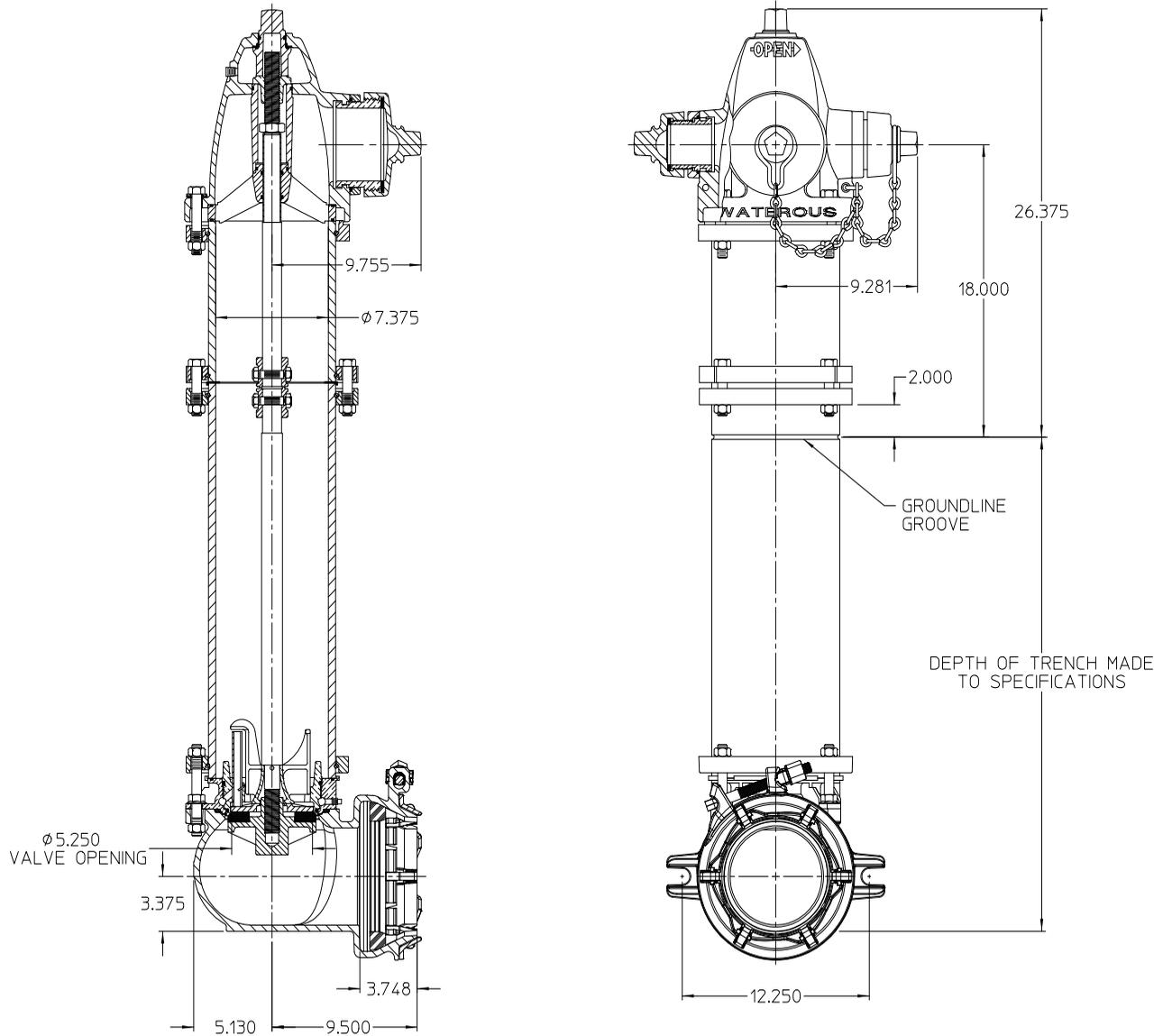
ALPHA XL

- Ductile iron per AWWA C151
- Gray iron (Class A, B, C and D)

Nominal Size (in)	ALPHA OD Range (in)	ALPHA XL OD Range (in)
6	6.60 - 7.00	6.90 - 7.10

1. ALPHA should not be used on as-cast plain end fittings or materials exhibiting hard material characteristics.

WATEROUS FIRE HYDRANTS WITH ALPHA BASE



ALPHA is available on the following Waterous fire hydrant model:

- 5 1/4" Waterous Pacer

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)

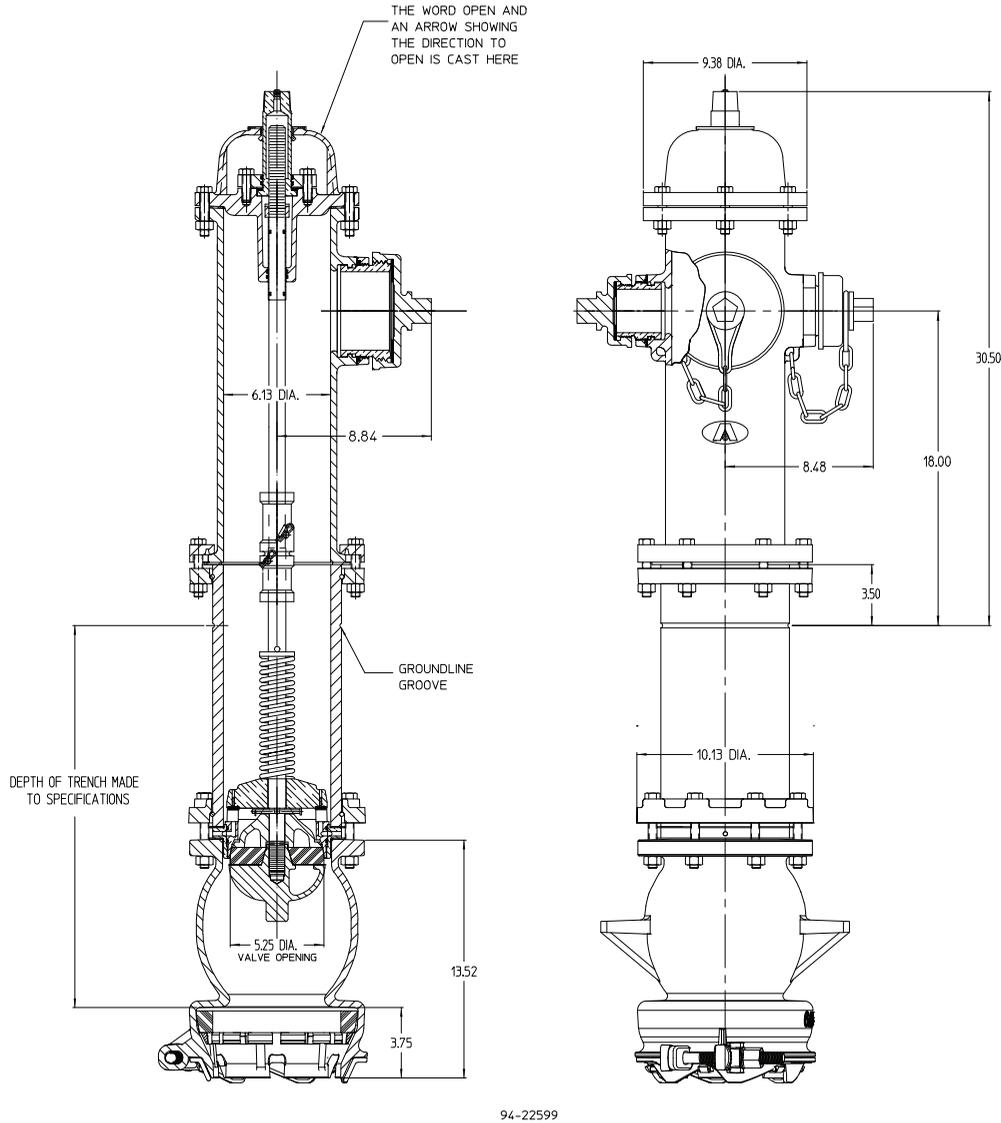
ALPHA XL

- Ductile iron per AWWA C151
- Gray iron (Class A, B, C and D)

Nominal Size (in)	ALPHA OD Range (in)	ALPHA XL OD Range (in)
6	6.60 - 7.00	6.90 - 7.10

1. ALPHA should not be used on as-cast plain end fittings or materials exhibiting hard material characteristics.

AMERICAN-DARLING FIRE HYDRANTS WITH VERTICAL ALPHA BASE



ALPHA vertical base is available on the following American-Darling fire hydrant models:

- 5 1/4" American-Darling B-84-B-5
- 4 1/2" American-Darling Mark-73-5

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

- Ductile iron per AWWA C151

Nominal Size (in)	ALPHA OD Range (in)
6	6.60 - 7.00

1. ALPHA should not be used on as-cast plain end fittings or materials exhibiting hard material characteristics.

NOTES



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