



Installation, Operation & Maintenance Manual



Stang Elevated Intakes for Stang Elevated Monitors & Standpipes

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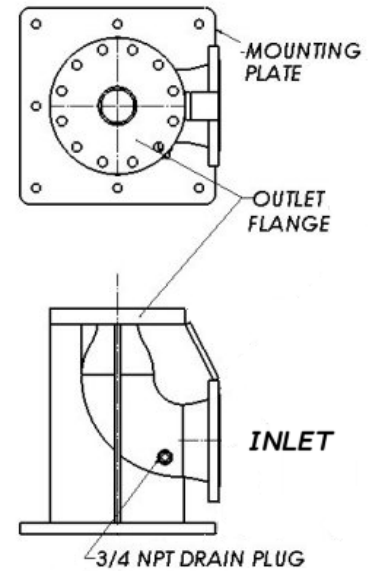
07/2009

1. Introduction

The Stang Elevated Intake is a heavy duty welded assembly that is designed to be used for Stang elevated monitors & standpipes. Used to support & connect elevated monitors & standpipes to their foundations, these units are designed to withstand all structural loads that may be seen by elevated monitor & standpipe systems.

The intake base also serves as the water delivery inlet for the elevated systems. Water comes in horizontally and gets directed vertically.

There are many different configurations allowing for various inlet & outlet sizes. The mounting plate is available in two sizes and is dependant on the system requirements.



2. Equipment Shipment

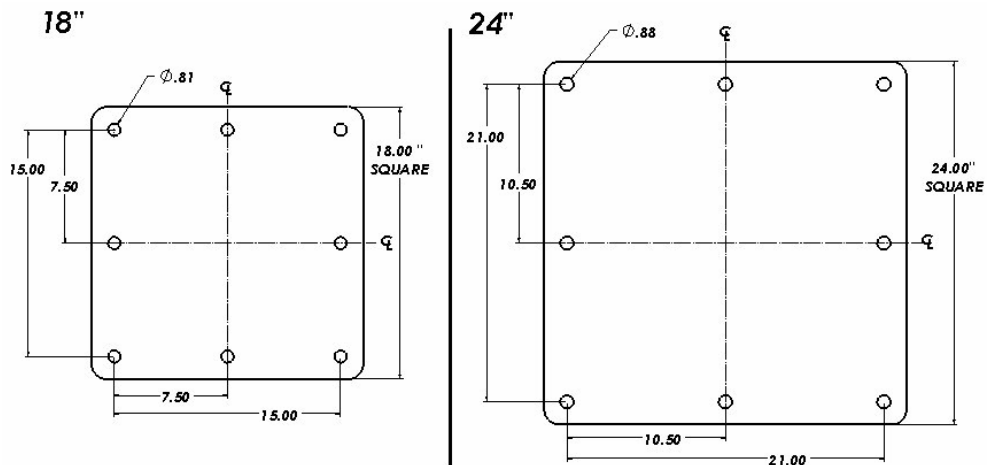
Generally these intake bases are shipped bolted on pallets. If multiple bases are on one order then there may be as many as six bases on one pallet.

****Warning****

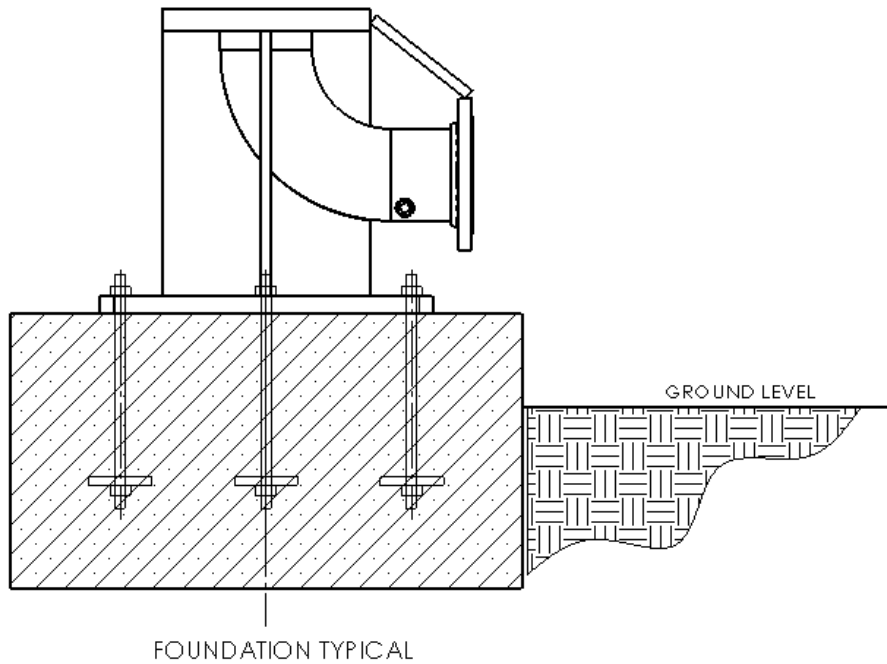
Installation should be conducted by qualified personnel only. Improper installation can be hazardous & deadly to property & life.

3. Pre-Installation (New Installations)

During the design stage of the project, Stang will supply anchor bolt loading data & system weights. The engineering firm responsible for foundation design will use this data to design the foundation. Anchor bolts should be cast in place and not the expansion type.



Make sure that foundation is fully cured prior to installation.



4. Pre-Installation (Replacement)

When replacing an intake base with a new one, shut off water to the system. Loosen bolts at intake flange. Remove valve prior to intake base (when applicable). Make sure the connection to the intake base is loose.

Loosen & remove anchor bolt nuts to allow the removal of intake base.

Remove intake base.

Inspect the existing anchor bolts and look for wear & corrosion. In the event that the existing bolts are in substandard quality, bolt replacement will be necessary.

5. Installation

1. Make sure foundation is clear of any debris.
2. Verify spacing of anchor bolts.
3. Verify the orientation of the intake base in reference to the incoming water supply.
4. Place intake base on foundation and make sure bolts protrude through base plate holes.
5. Tighten nuts on bolts as per torque specifications at the end of this manual.
6. Keep flange surfaces clean prior to installing mating components.



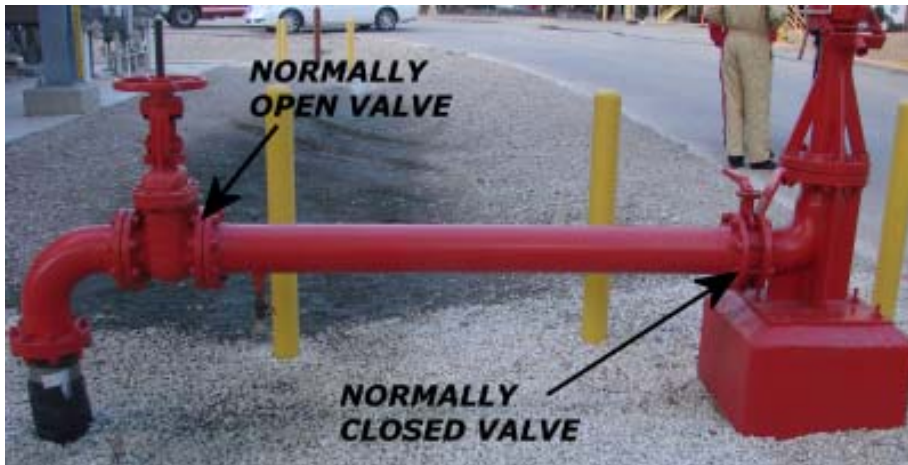
6. Water Supply System Integration

Once the intake base is installed then the connection to the incoming water supply can be made. Typical installations call for a valve to be between the inlet flange of the intake base & the outlet flange of the water supply. This is not mandatory but highly recommended. It is also highly recommended to have a normally open valve up stream of the system to allow for system maintenance.

If installing a new piping inlet system then it will be best to install the valve as well as the corresponding flange and pipe up to the flange. Once everything is tacked in place, remove valve & weld per pipe fitters codes or standards.

Once piping is ready for reinstallation, bolt everything back in place.

If installing a replacement intake base, make sure valve & hardware is still in good working order. Reconnect water supply piping and torque.



7. Elevated Monitor/Standpipe Integration

Lift and place the Elevated Monitor/Standpipe onto the intake base outlet as per instructions provided with equipment. Make sure mating flange is in proper condition before attaching monitor/standpipe.

8. Intake Base Maintenance

Visual inspection is all that is required for maintenance.

Verify the following:

1. Verify that all hardware is tight and not corroded.
2. Surface finish is in good shape.
3. There is no major corrosion on the weldment.
4. Leaking drain valve (when applicable).

9. Applicable Documents

TD-4 Bolt Torque Specifications

Disclaimer: This advice is given in good faith but not without liability







Technical Data



Stang Industrial Products
951-479-9810
www.stangindustrial.com

Technical Data #: TD-4
Part #: N/A
Description: Bolt Torque Specifications
TD Description: Torque specifications for various bolt sizes & grades

BOLT TORQUE SPECIFICATIONS

Bolt Size Inches	Coarse Thread / inch						
		SAE 0-1-2 74,000 psi Low Carbon Steel	SAE Grade 3 100,000 psi Med. Carbon Steel	SAE Grade 5 120,000 psi Med. Carbon Heat T. Steel	SAE Grade 6 133,000 psi Med Carbon Temp. Steel	SAE Grade 7 133,000 psi Med. Carbon Alloy Steel	SAE Grade 8 150,000 psi Med. Carbon Alloy Steel
Standard Dry Torque in Foot-Pounds							
1/4	20	6	9	10	12.5	13	14
5/16	18	12	17	19	24	25	29
3/8	16	20	30	33	43	44	47
7/16	14	32	47	54	69	71	78
1/2	13	47	69	78	106	110	119
9/16	12	69	103	114	150	154	169
5/8	11	96	145	154	209	215	230
3/4	10	155	234	257	350	360	390
7/8	9	206	372	382	550	570	600
1	8	310	551	587	825	840	903
1-1/8	7	480	794	872	1304	1325	1430
1-1/4	7	675	1105	1211	1815	1825	1975
1-3/8	6	900	1500	1624	2434	2500	2650
1-1/2	6	1100	1775	1943	2913	3000	3200
1-5/8	5.5	1470	2425	2660	3985	4000	4400
1-3/4	5	1900	3150	3463	5189	5300	5650
1-7/8	5	2360	4200	4695	6980	7000	7600
2	4.5	2750	4550	5427	7491	7500	8200

In order to determine the torque for a fine thread bolt, increase the above coarse thread ratings by 9%.

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Effect of Lubrication on Torque

Lubricant	Torque Rating in Foot-Pounds	
	5/16-18 thread/inch	1/2-13 thread/inch
NO LUBE, steel	29	121
Plated & cleaned	19 (34%)	90 (26%)
SAE 20 oil	18 (38%)	87 (28%)
SAE 40 oil	17 (41%)	83 (31%)
Plated & SAE 30	16 (45%)	79 (35%)
White grease	16 (45%)	79 (35%)
Dry Moly film	14 (52%)	66 (45%)
Graphite & oil	13 (55%)	62 (49%)

Use the above lubrication percentages to calculate the approximate decrease in torque rating for other bolt sizes.

Grades over Grade 8 are not common commercially, except in aircraft use. The following are a few of those types:
Supertanium, 160,000 psi, 8 points on head, quenched and tempered special alloy steel.
A354BD/A490, 150,000 psi, no markings, med. carbon quenched and tempered steel.
N.A.S. 144, MS2000, Military and Aircraft Std, 160,000 psi, high carbon alloy, quenched and tempered.
N.A.S. 623, National Aircraft Standard, 180,000 psi, high carbon alloy, quenched and tempered.
Aircraft Assigned Steel, no number, 220,000 psi, high carbon alloy, quenched and tempered.

Torque ratings for the above special alloy bolts should be obtained from the manufacturer.