

**CRANE** PUMPS & SYSTEMS

**INSTALLATION and OPERATION MANUAL  
METAL STAND FOR VERTICAL INSTALLATION**



envie<sup>3</sup>

**E21/E28/E32 FRAME**

**MODEL:**

**3" Vertical Stand Assembly**

**4" Vertical Stand Assembly**

**6" Vertical Stand Assembly**

**8" Vertical Stand Assembly**

**10" Vertical Stand Assembly**

**IMPORTANT!**

*Read all instructions in this manual before operating pump.*

*As a result of Crane Pumps & Systems, Inc., constant product improvement program, product changes may occur. As such Crane Pumps & Systems reserves the right to change product without prior written notification.*

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Form No. 147787-Rev. B

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# SAFETY FIRST!

Please Read This Before Installing Or Operating Pump. This information is provided for **SAFETY and to PREVENT EQUIPMENT PROBLEMS**. To help recognize this information, observe the following symbols:



**IMPORTANT!** Warns about hazards that can result in personal injury or Indicates factors concerned with assembly, installation, operation, or maintenance which could result in damage to the machine or equipment if ignored.

**CAUTION !** Warns about hazards that can or will cause minor personal injury or property damage if ignored. Used with symbols below.

**WARNING !** Warns about hazards that can or will cause serious personal injury, death, or major property damage if ignored. Used with symbols below.



Hazardous fluids can cause fire or explosions, burns or death could result.



Extremely hot - Severe burnes can occur on contact.



Biohazard can cause serious personal injury.



Hazardous fluids can Hazardous pressure, eruptions or explosions could cause personal injury or property damage.



Rotating machinery Amputation or severe laceration can result.



Hazardous voltage can shock, burn or cause death.

Only qualified personnel should install, operate and repair pump. Any wiring of pumps should be performed by a qualified electrician.



**WARNING !** - To reduce risk of electrical shock, pumps and control panels must be properly grounded in accordance with the National Electric Code (NEC) or the Canadian Electrical Code (CEC) and all applicable state, province, local codes and ordinances.

**WARNING!** - To reduce risk of electrical shock, always disconnect the pump from the power source before handling or servicing. Lock out power and tag.



**WARNING!** Operation against a closed discharge valve will cause premature bearing and seal failure on any pump, and on end suction and

self priming pump the heat build may cause the generation of steam with resulting dangerous pressures. It is recommended that a high case temperature switch or pressure relief valve be installed on the pump body.



**CAUTION!** Pumps build up heat and pressure during operation-allow time for pumps to cool before handling or servicing.



**WARNING!** - **DO NOT** pump hazardous materials (flammable, caustic, etc.) unless the pump is specifically designed and designated to handle them.



Do not block or restrict discharge hose, as discharge hose may whip under pressure.



**WARNING!** - **DO NOT** wear loose clothing that may become entangled in the impeller or other moving parts.

**WARNING!** - Keep clear of suction and discharge openings. **DO NOT** insert fingers in pump with power connected.



Always wear eye protection when working on pumps.



Make sure lifting handles are securely fastened each time before lifting. **DO NOT** operate pump without safety devices in place. Always replace safety devices that have been removed during service or repair. Secure the pump in its operating position so it can not tip over, fall or slide.

**DO NOT** exceed manufacturers recommendation for maximum performance, as this could cause the motor to overheat.

**DO NOT** remove cord and strain relief. Do not connect conduit to pump.



**WARNING!** Cable should be protected at all times to avoid punctures, cut, bruises and abrasions - inspect frequently. Never handle connected power cords with wet hands.

**WARNING!** To reduce risk of electrical shock, all wiring and junction connections should be made per the NEC or CEC and applicable state or province and local codes. Requirements may vary depending on usage and location.

**WARNING!** Submersible Pumps are not approved for use in swimming pools, recreational water installations, decorative fountains or any installation where human contact with the pumped fluid is common.



**WARNING!** Products Returned Must Be Cleaned, Sanitized, Or Decontaminated As Necessary Prior To Shipment, To Insure That Employees Will Not Be Exposed To Health Hazards In Handling Said Material. All Applicable Laws And Regulations Shall Apply.

Bronze/brass and bronze/brass fitted pumps may contain lead levels higher than considered safe for potable water systems. Lead is known to cause cancer and birth defects or other reproductive harm. Various government agencies have determined that leaded copper alloys should not be used in potable water applications. For non-leaded copper alloy materials of construction, please contact factory.



**IMPORTANT!** - Crane Pumps & Systems, Inc. is not responsible for losses, injury, or death resulting from a failure to observe these safety precautions, misuse or abuse of pumps or equipment.

## **GENERAL INFORMATION**

### **TO THE PURCHASER:**

Congratulations! You are the owner of one of the finest units on the market today. These units are products engineered and manufactured with high quality components. Our years of pump building experience and systems controls allows us to produce a unit which will stand up to the toughest applications. Product shall be installed in accordance with the Local Codes of Authority having Jurisdiction.

### **RECEIVING:**

Upon receiving the unit, it should be inspected for damage or shortages. If damage has occurred, file a claim immediately with the company that delivered the pump. If the manual is removed from the crating, do not lose or misplace.

### **STORAGE:**

This unit has been packaged and protected for shipping and indoor storage. If it is to be stored outside for an extended period, additional protection must be added.

**Short Term** - For best results, pumps can be retained in storage, as Factory assembled, in a dry atmosphere with constant temperatures for up to six (6) months.

**Long Term** - Any length of time exceeding six (6) months, but not exceeding twenty-four (24) months. The units should be stored in a temperature controlled location that provides protection from the elements (rain, snow, wind-blow dust, etc). The enclosure should be sturdy, with walls and a roof. The temperature must be maintained between +40°F and +120°F. If extended high humidity is expected, any surfaces with scratched, damaged and/or worn paint must be recoated. All surfaces should then be sprayed with a rust-inhibiting oil.

### **SERVICE CENTERS:**

For the location of the nearest Service Center, local representative or Crane Pumps & Systems Service Department in Piqua, Ohio, telephone (937) 778-8947 or Crane Pumps & Systems Canada, Inc., Brampton, Ontario, (905) 457-6223.

## **INSTALLATION**

### **FOUNDATION:**

The pump foundation should be sufficiently substantial to form a level, rigid support for the combined weight of the pump and driver and maintain alignment of the installed unit. Foundation bolts of the proper size should be imbedded in the concrete. Should be used to allow for final positioning of the bolts. Alternatively, a concrete weldable anchor may be used with minimum pull out strength 2000 lb.

### **MOUNTING:**

Position the unit on the foundation and level the pump stand faces using metal shims within 3/4 inch bubble on level, so that the pump shaft axis maintain perpendicular to the pump foundation and get aligned with suction piping. Base may be grouted following alignment.

### **GROUTING:**

Grouting compensates for unevenness in the foundation and prevents vibration and shifting after mounting is complete. Build a form around the base plate to contain the grout, and sprinkle area with water to obtain a good bond. The base should be completely supported with a good quality, non-shrinking grout. The usual mixture for grouting is one part Portland cement and two parts sand with sufficient water to flow freely. It is also desirable to grout the leveling pieces, shims or wedges in place. Foundation bolts should be fully tightened when grout has hardened, usually about 48 hours after pouring.

### **PIPING:**

The piping practices you follow will directly affect the efficiency and power consumption of your pump. Pay particular attention to the seemingly insignificant details involved in piping for they make the difference between a good and bad installation. Both the suction and discharge piping should be independently supported near the pump. Liberal use of pipe hangers and support blocks will prevent excessive strain on the pump casing and on the pipe joints. Proper piping alignment is essential before connections are made. Piping alignment should never be achieved by force, this could produce strain on the pump casing.

**SUCTION PIPING:**

Avoiding errors frequently made in suction piping, such as abrupt changes in pipe size, the use of a concentric reducer, and the placing of an elbow in a horizontal plane next to the suction nozzle of a single suction type of pump, etc.

The following are of equal importance and should be carefully observed:

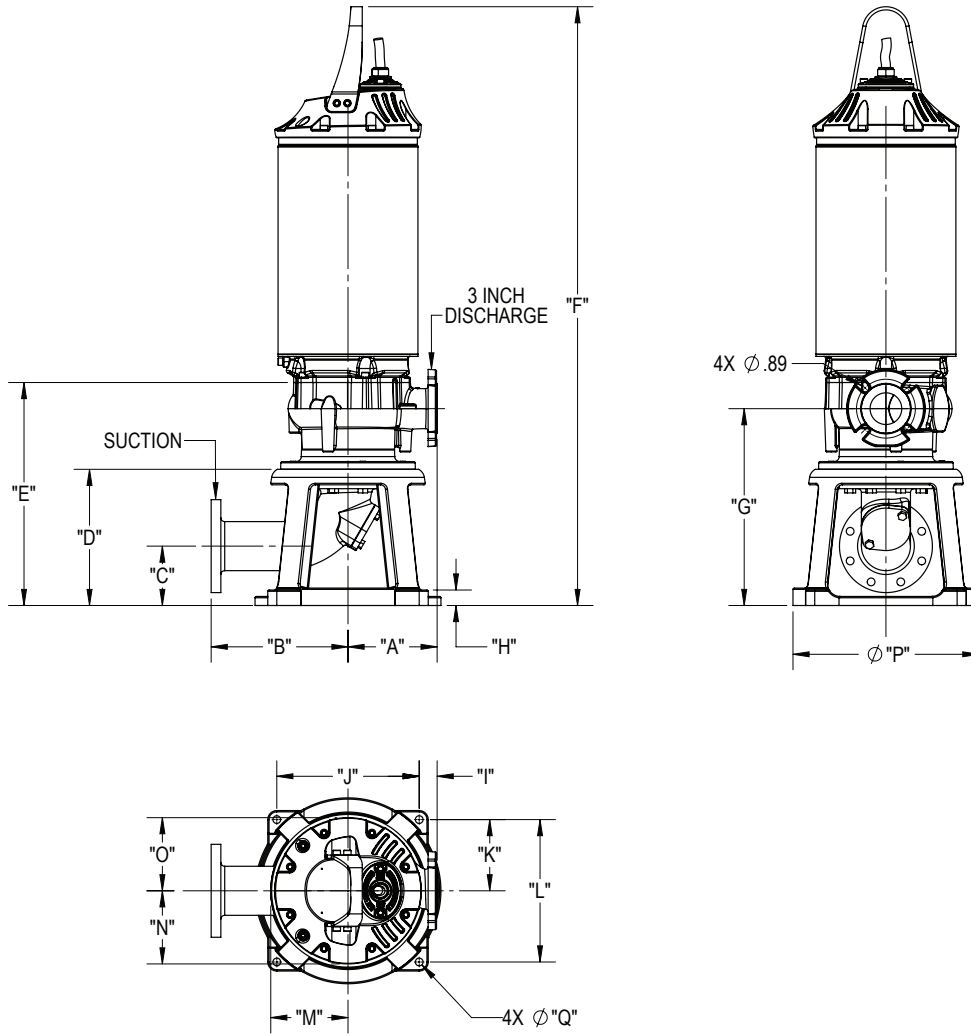
1. Never use pipe of a smaller size than the suction connection of the pump. Usually, it is necessary to use one pipe size larger, and sometimes several sizes larger in order to avoid excessive frictional loss with a resultant low NPSH available. Select the size pipe necessary so that NPSHA exceeds NPSHR by at least 3-5 feet. When centrifugal pumps are operated with insufficient NPSHA, cavitation will occur, resulting in noisy operation and damage to the pump.
2. The suction pipe from the source of water supply should be laid with a gradual incline, not on a level, toward the pump, with the highest point in the line at the pump suction connection. If the pipe is level and there are any high points in the line air pockets will form and the pump will not operate properly.
3. If a gate valve is used on the suction line to a pump operating under suction lift conditions, the valve stem should be placed in a horizontal plane, or a vertical, downward position in order to avoid a possible air leak.
4. On pumps operating under high suction lift, the suction piping should be tested thoroughly for air leaks. A small volume of air will reduce the capacity of the pump, and a larger volume will frequently cause loss of prime.
5. Installations which will be subjected to considerable temperature variation should be provided with some means for compensating for expansion and contraction. A 50°F temperature change means an expansion or contraction of approximately 3/8" in a pipeline of 100ft. length. This will result in distortion and misalignment of the pump, and sometimes actual breakage.
6. The pipe should not be pulled into position by tightening the piping joints. The pipe should be moved to meet the pump and the pump should not be moved to meet the pipe. All piping should be supported independently of the pump. Pumps are not designed for carrying loads imposed by piping and its contents.
7. When installing, guard against the possibility of foreign material such as nails, bolts or pieces of waste being left in the line, which are likely to lodge in the impeller and cause loss of capacity and mechanical damage.

**DISCHARGE PIPING:**

The discharge piping should never be of a smaller size than the discharge connection of the pump and, in most cases, should be one and sometimes two sizes larger in order to avoid excessive frictional loss. Avoid sudden or abrupt changes in pipe sizes which cause shock or frictional losses. Use increasers of the concentric type. Eccentric increasers are not required for the discharge line. Gate and check valves should be installed in the line with the check placed between pump and gate valve. A check valve is required as a protection to the pump against water hammer, excessive surge pressure, when a foot valve is used on the suction, as well as for protection against reversed rotation if no foot valve is used.

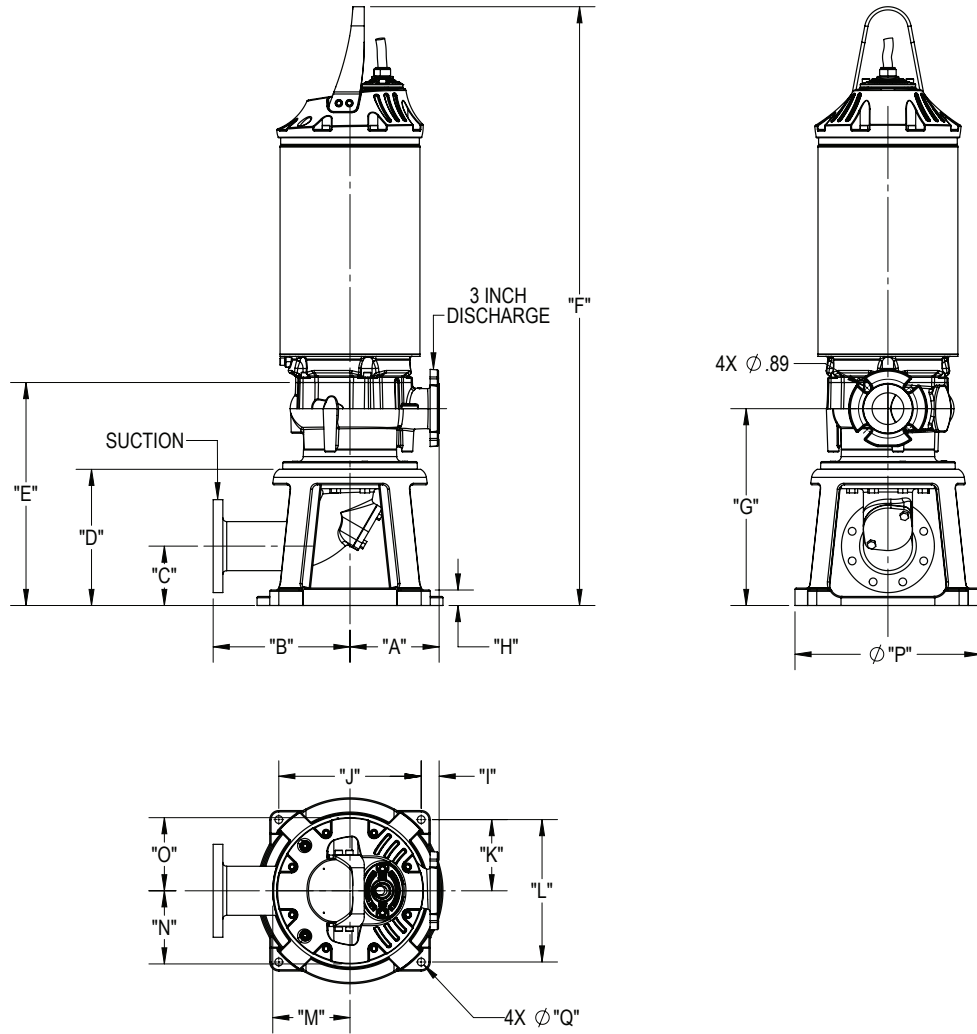
**NOTE:** In installations where noise is undesirable, such as hospitals, hotels or apartment buildings, the discharge pipe should not be attached to steel work or hollow walls without being insulated properly against vibration. In extreme cases, it is desirable that the discharge line be provided with a flexible connection.

## 3" DISCHARGE PUMP DIMENSIONS—CHOPPER



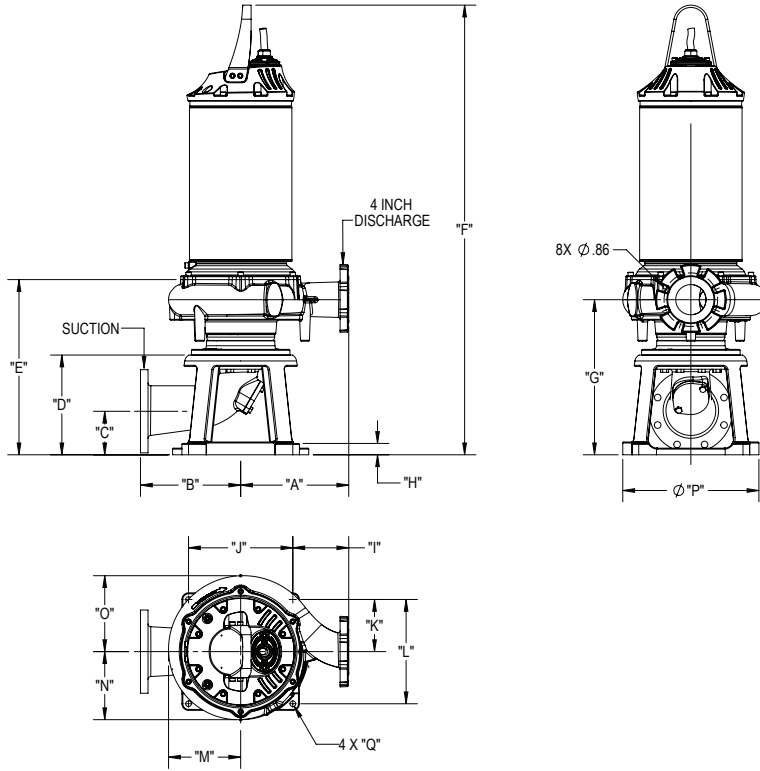
PUMP				SUCTION ELBOW		DIMENSIONS (INCHES)																		
DISCHARGE	BARNES MODEL	DEMING MODEL	Suction Elbow	Model	SUCTION FLANGE ANSI CLASS 125	"A"	"B"	"C"	"D"	"E"			"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"
										21	28	32												
3" CLASS 125 DIN DN20 COMPATIBLE MOUNTING	3ESCMPA	3MA	4"	4 X 4 ST	4"	8.63	6.50	5.75	13.19	22.34	57.73	N/A	N/A	19.82	1.50	1.74	13.78	6.89	13.78	7.48	6.89	6.89	18.00	0.75
			4"	4 X 4 LG	4"	8.63	13.25	5.75	13.19	22.34	57.73	N/A	N/A	19.82	1.50	1.74	13.78	6.89	13.78	7.48	6.89	6.89	18.00	0.75
			4"	4 X 6	6"	8.63	13.25	5.75	13.19	22.34	57.73	N/A	N/A	19.82	1.50	1.74	13.78	6.89	13.78	7.48	6.89	6.89	18.00	0.75

### 3" DISCHARGE PUMP DIMENSIONS—NON-CLOG



PUMP				SUCTION ELBOW		DIMENSIONS (INCHES)																		
DISCHARGE	BARNES MODEL	DEMING MODEL	Suction Elbow	Model	SUCTION FLANGE ANSI CLASS 125	"A"	"B"	"C"	"D"	"E"			"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"
										21	28	32												
3" CLASS 125 DIN DN20 COMPATIBLE MOUNTING	3ESHVRA	3VRA	4"	4 X 4 ST	4"	8.63	6.50	5.75	13.19	22.34	57.73	N/A	N/A	19.82	1.50	1.74	13.78	6.89	13.78	7.48	6.89	6.89	18.00	0.75
			4"	4 X 4 LG	4"	8.63	13.25	5.75	13.19	22.34	57.73	N/A	N/A	19.82	1.50	1.74	13.78	6.89	13.78	7.48	6.89	6.89	18.00	0.75
			4"	4 X 6	6"	8.63	13.25	5.75	13.19	22.34	57.73	N/A	N/A	19.82	1.50	1.74	13.78	6.89	13.78	7.48	6.89	6.89	18.00	0.75
	3ESHMPA	3MA	4"	4 X 4 ST	4"	8.63	6.50	5.75	13.19	21.51	57.98	57.98	N/A	18.98	1.50	1.74	13.79	6.89	13.78	7.48	6.89	6.89	18.00	0.75
			4"	4 X 4 LG	4"	8.63	13.25	5.75	13.19	21.51	57.98	57.98	N/A	18.98	1.50	1.74	13.79	6.89	13.78	7.48	6.89	6.89	18.00	0.75
			4"	4 X 6	6"	8.63	13.25	5.75	13.19	21.51	57.98	57.98	N/A	18.98	1.50	1.74	13.79	6.89	13.78	7.48	6.89	6.89	18.00	0.75

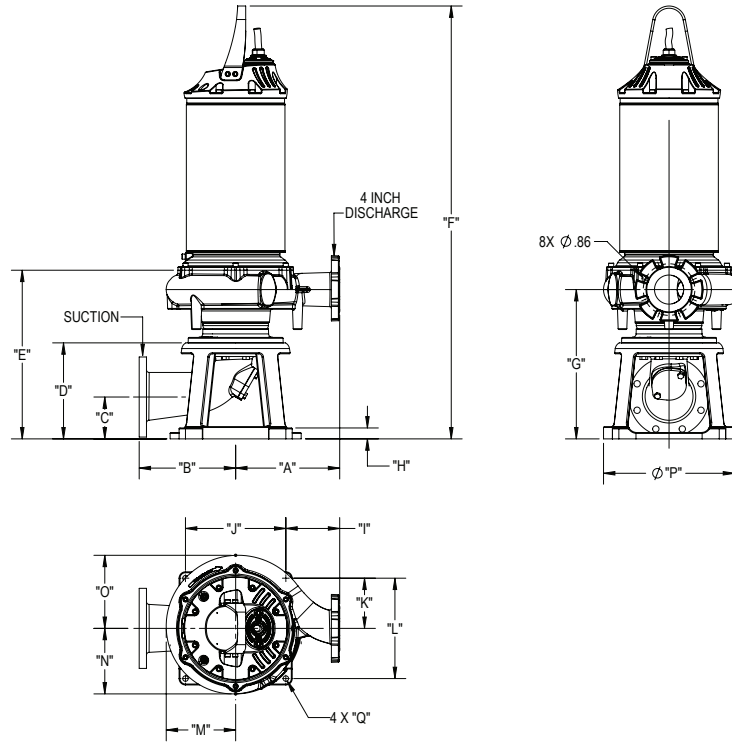
## 4" DISCHARGE PUMP DIMENSIONS—CHOPPER



PUMP			SUCTION ELBOW		DIMENSIONS (INCHES)																			
DISCHARGE	BARNES MODEL	DEMING MODEL	Suction Elbow	Model	SUCTION FLANGE ANSI CLASS 125	"A"	"B"	"C"	"D"	"E"			"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"
										21	28	32												
4" CLASS 125 DIN DN20 COMPATIBLE MOUNTING	4ESCMB	4MB	4"	4 X 4 ST	4"	14.29	6.50	5.75	13.19	22.63	57.92	58.92	62.76	20.28	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
			4"	4 X 4 LG	4"	14.29	13.25	5.75	13.19	22.63	57.92	58.92	62.76	20.28	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
			4"	4 X 6	6"	14.29	13.25	5.75	13.19	22.63	57.92	58.92	62.76	20.28	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
	4ESCMC	4ML	4"	4 X 4 ST	4"	11.85	6.50	5.75	13.19	22.15	57.54	N/A	N/A	19.82	1.50	4.95	13.79	6.89	13.79	7.13	7.28	7.68	18.00	0.75
			4"	4 X 4 LG	4"	11.85	13.25	5.75	13.19	22.15	57.54	N/A	N/A	19.82	1.50	4.95	13.79	6.89	13.79	7.13	7.28	7.68	18.00	0.75
			4"	4 X 6	6"	11.85	13.25	5.75	13.19	22.15	57.54	N/A	N/A	19.82	1.50	4.95	13.79	6.89	13.79	7.13	7.28	7.68	18.00	0.75
	4ESCMD	4MM	4"	4 X 4 ST	4"	11.47	6.50	5.75	13.19	22.37	57.66	58.66	N/A	19.98	1.50	4.57	13.79	6.89	13.79	7.57	7.08	8.07	18.00	0.75
			4"	4 X 4 LG	4"	11.47	13.25	5.75	13.19	22.37	57.66	58.66	N/A	19.98	1.50	4.57	13.79	6.89	13.79	7.57	7.08	8.07	18.00	0.75
			4"	4 X 6	6"	11.47	13.25	5.75	13.19	22.37	57.66	58.66	N/A	19.98	1.50	4.57	13.79	6.89	13.79	7.57	7.08	8.07	18.00	0.75
	4ESCME	4MH	4"	4 X 4 ST	4"	14.29	6.50	5.75	13.19	22.63	N/A	58.92	62.76	20.28	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
			4"	4 X 4 LG	4"	14.29	13.25	5.75	13.19	22.63	N/A	58.92	62.76	20.28	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
			4"	4 X 6	6"	14.29	13.25	5.75	13.19	22.63	N/A	58.92	62.76	20.28	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
	4ESCMEA	4MHA	4"	4 X 4 ST	4"	14.29	6.50	5.75	13.19	22.96	N/A	59.25	63.09	20.30	1.50	7.40	13.79	6.89	13.79	9.54	9.00	10.04	18.00	0.75
			4"	4 X 4 LG	4"	14.29	13.25	5.75	13.19	22.96	N/A	59.25	63.09	20.30	1.50	7.40	13.79	6.89	13.79	9.54	9.00	10.04	18.00	0.75
			4"	4 X 6	6"	14.29	13.25	5.75	13.19	22.96	N/A	59.25	63.09	20.30	1.50	7.40	13.79	6.89	13.79	9.54	9.00	10.04	18.00	0.75
	4ESCMS	4M	4"	4 X 4 ST	4"	10.59	6.50	5.75	13.19	22.33	57.72	N/A	N/A	20.07	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
			4"	4 X 4 LG	4"	10.59	13.25	5.75	13.19	22.33	57.72	N/A	N/A	20.07	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
			4"	4 X 6	6"	10.59	13.25	5.75	13.19	22.33	57.72	N/A	N/A	20.07	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
	4ESCDF	4D	4"	4 X 4 ST	4"	10.59	6.50	5.75	13.19	22.33	57.72	N/A	N/A	20.07	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
			4"	4 X 4 LG	4"	10.59	13.25	5.75	13.19	22.33	57.72	N/A	N/A	20.07	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
			4"	4 X 6	6"	10.59	13.25	5.75	13.19	22.33	57.72	N/A	N/A	20.07	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
	4ESCDG	4DM	5"	5 X 6	6"	11.85	8.00	6.50	15.44	24.50	59.89	60.89	N/A	22.17	2.00	2.30	19.09	9.55	19.09	7.13	7.28	7.68	25.00	0.88
	4ESCDI	4DH	6"	6 X 6	6"	14.29	8.00	6.50	15.44	25.37	60.76	59.19	65.50	22.82	2.00	4.75	19.09	9.55	19.09	10.24	10.18	10.43	25.00	0.88

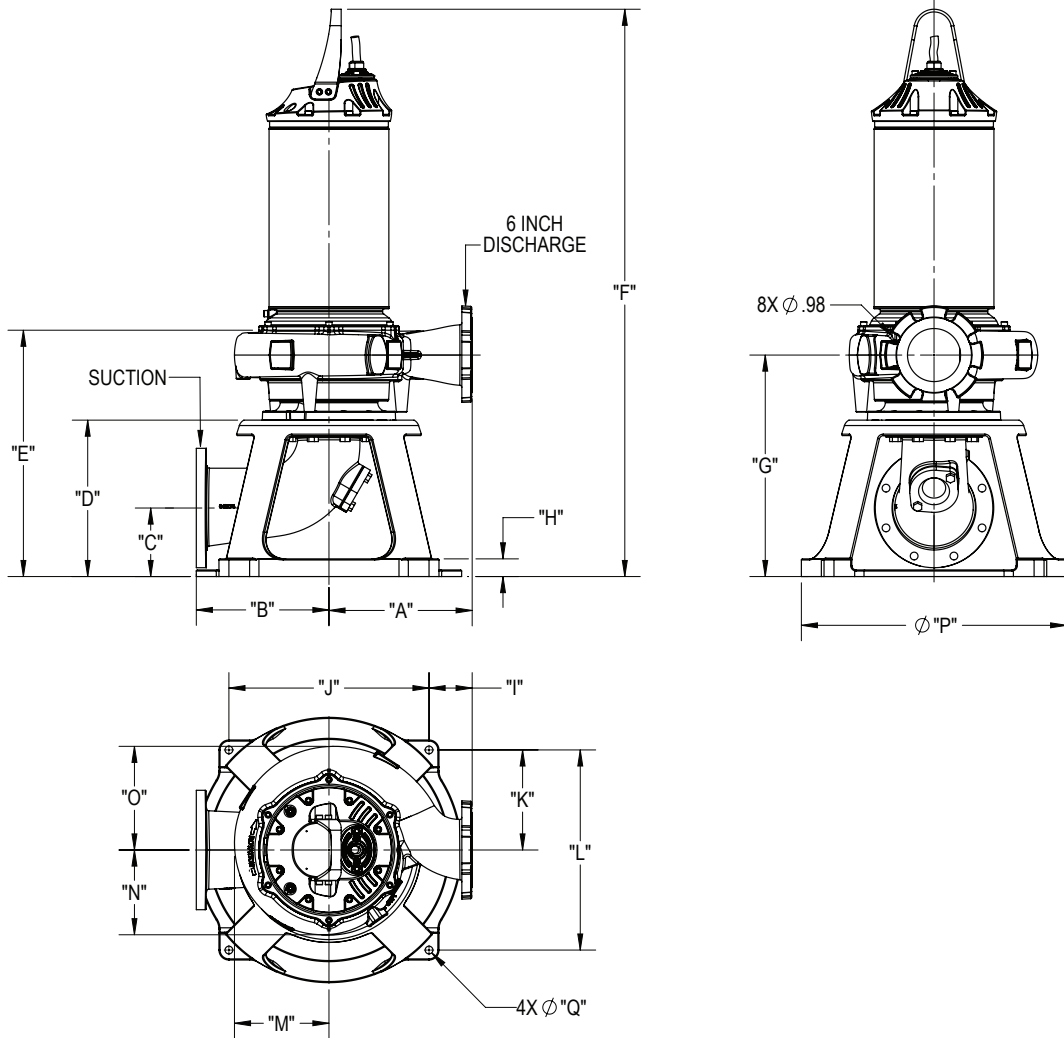


## 4" DISCHARGE PUMP DIMENSIONS—NON-CLOG



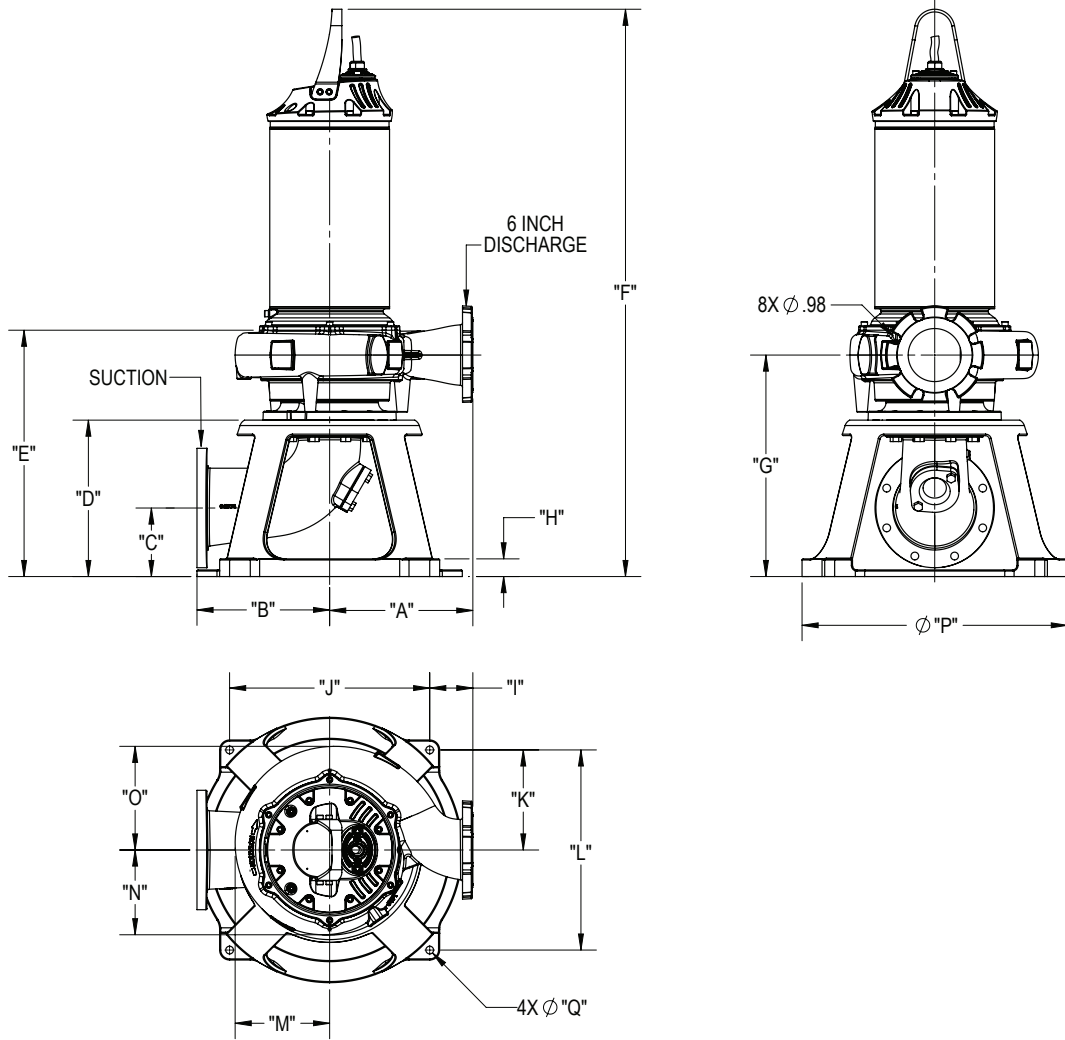
PUMP			SUCTION ELBOW		DIMENSIONS (INCHES)																			
DISCHARGE	BARNES MODEL	DEMING MODEL	Suction Elbow Model	SUCTION FLANGE ANSI CLASS 125	"A"	"B"	"C"	"D"	"E"			"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"	
									21	28	32													
4" CLASS 125 DIN DN20 COMPATIBLE MOUNTING	4ESHVA	4VL	4"	4 X 4 ST	4"	11.06	6.50	5.75	13.19	22.07	57.46	58.46	N/A	19.22	1.50	4.16	13.79	6.89	13.79	7.09	7.08	7.08	18.00	0.75
			4"	4 X 4 LG	4"	11.06	13.25	5.75	13.19	22.07	57.46	58.46	N/A	19.22	1.50	4.16	13.79	6.89	13.79	7.09	7.08	7.08	18.00	0.75
			4"	4 X 6	6"	11.06	13.25	5.75	13.19	22.07	57.46	58.46	N/A	19.22	1.50	4.16	13.79	6.89	13.79	7.09	7.08	7.08	18.00	0.75
	4ESHBV	4VH	4"	4 X 4 ST	4"	11.06	6.50	5.75	13.19	22.07	57.46	58.46	N/A	19.22	1.50	4.16	13.79	6.89	13.79	7.09	7.08	7.08	18.00	0.75
			4"	4 X 4 LG	4"	11.06	13.25	5.75	13.19	22.07	57.46	58.46	N/A	19.22	1.50	4.16	13.79	6.89	13.79	7.09	7.08	7.08	18.00	0.75
			4"	4 X 6	6"	11.06	13.25	5.75	13.19	22.07	57.46	58.46	N/A	19.22	1.50	4.16	13.79	6.89	13.79	7.09	7.08	7.08	18.00	0.75
	4ESHVA	4VHA	3"	3 X 4	4"	11.85	13.25	5.75	13.19	21.46	56.48	57.48	N/A	18.96	1.50	4.96	13.79	6.89	13.79	7.09	7.08	7.46	18.00	0.75
			4"	4 X 4 ST	4"	14.29	6.50	5.75	13.19	22.04	57.27	58.27	62.11	19.43	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
	4ESHMB	4MB	4"	4 X 4 LG	4"	14.29	13.25	5.75	13.19	22.04	57.27	58.27	62.11	19.43	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
			4"	4 X 6	6"	14.29	13.25	5.75	13.19	22.04	57.27	58.27	62.11	19.43	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
			4"	4 X 4 ST	4"	11.85	6.50	5.75	13.19	21.39	56.78	N/A	N/A	19.05	1.50	4.95	13.79	6.89	13.79	7.13	7.28	7.68	18.00	0.75
	4ESHMC	4ML	4"	4 X 4 LG	4"	11.85	13.25	5.75	13.19	21.39	56.78	N/A	N/A	19.05	1.50	4.95	13.79	6.89	13.79	7.13	7.28	7.68	18.00	0.75
			4"	4 X 6	6"	11.85	6.50	5.75	13.19	21.39	56.78	N/A	N/A	19.05	1.50	4.95	13.79	6.89	13.79	7.13	7.28	7.68	18.00	0.75
			4"	4 X 4 ST	4"	11.47	6.50	5.75	13.19	21.72	57.01	58.01	N/A	19.13	1.50	4.57	13.79	6.89	13.79	7.57	7.08	8.07	18.00	0.75
	4ESHMD	4MM	4"	4 X 4 LG	4"	11.47	13.25	5.75	13.19	21.72	57.01	58.01	N/A	19.13	1.50	4.57	13.79	6.89	13.79	7.57	7.08	8.07	18.00	0.75
			4"	4 X 6	6"	11.47	13.25	5.75	13.19	21.72	57.01	58.01	N/A	19.13	1.50	4.57	13.79	6.89	13.79	7.57	7.08	8.07	18.00	0.75
			4"	4 X 4 ST	4"	14.29	6.50	5.75	13.19	22.04	N/A	58.27	62.16	19.43	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
	4ESHME	4MH	4"	4 X 4 LG	4"	14.29	13.25	5.75	13.19	22.04	N/A	58.27	62.16	19.43	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
			4"	4 X 6	6"	14.29	13.25	5.75	13.19	22.04	N/A	58.27	62.16	19.43	1.50	7.40	13.79	6.89	13.79	10.11	10.04	10.30	18.00	0.75
			4"	4 X 4 ST	4"	14.29	6.50	5.75	13.19	22.31	N/A	58.60	62.44	19.65	1.50	7.40	13.79	6.89	13.79	9.54	9.00	10.04	18.00	0.75
	4ESHMEA	4MHA	4"	4 X 4 LG	4"	14.29	13.25	5.75	13.19	22.31	N/A	58.60	62.44	19.65	1.50	7.40	13.79	6.89	13.79	9.54	9.00	10.04	18.00	0.75
			4"	4 X 6	6"	14.29	13.25	5.75	13.19	22.31	N/A	58.60	62.44	19.65	1.50	7.40	13.79	6.89	13.79	9.54	9.00	10.04	18.00	0.75
			4"	4 X 4 ST	4"	10.59	6.50	5.75	13.19	21.48	56.86	N/A	N/A	19.22	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
	4ESHMS	4M	4"	4 X 4 LG	4"	10.59	13.25	5.75	13.19	21.48	56.86	N/A	N/A	19.22	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
			4"	4 X 6	6"	10.59	6.50	5.75	13.19	21.48	56.86	N/A	N/A	19.22	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
			4"	4 X 4 ST	4"	10.59	6.50	5.75	13.19	21.48	56.86	N/A	N/A	19.22	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
	4ESHDF	4D	4"	4 X 4 LG	4"	10.59	13.25	5.75	13.19	21.48	56.86	N/A	N/A	19.22	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
			4"	4 X 6	6"	10.59	6.50	5.75	13.19	21.48	56.86	N/A	N/A	19.22	1.50	3.69	13.79	6.89	13.79	6.24	6.15	6.95	18.00	0.75
			4"	4 X 4 ST	4"	11.85	8.00	6.50	15.44	23.64	59.03	60.03	N/A	21.31	2.00	2.30	19.09	9.55	19.09	7.13	7.28	7.68	25.00	0.88
	4ESHDG	4DM	4"	4 X 4 ST	4"	14.29	6.50	5.75	13.19	22.04	57.27	58.27	62.11	19.43	1.50	7.40	13.79	6.89	13.79	10.24	10.18	10.43	18.00	0.75
			4"	4 X 4 LG	4"	14.29	13.25	5.75	13.19	22.04	57.27	58.27	62.11	19.43	1.50	7.40	13.79	6.89	13.79	10.24	10.18	10.43	18.00	0.75
			4"	4 X 6	6"	14.29	13.25	5.75	13.19	22.04	57.27	58.27	62.11	19.43	1.50	7.40	13.79	6.89	13.79	10.24	10.18	10.43	18.00	0.75

## 6" DISCHARGE PUMP DIMENSIONS—CHOPPER



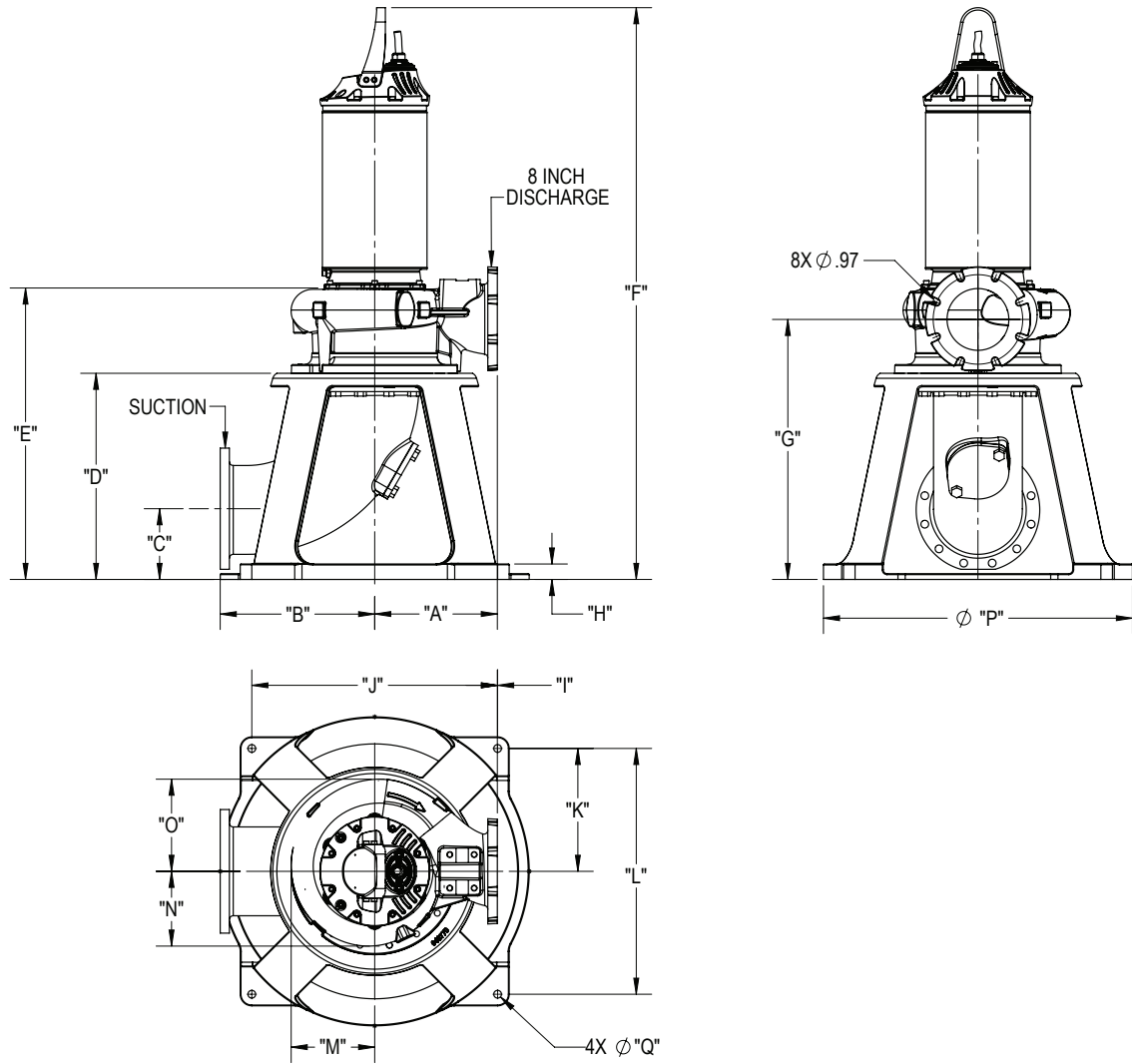
PUMP				SUCTION ELBOW		DIMENSIONS (INCHES)																		
DISCHARGE	BARNES MODEL	DEMING MODEL	Suction Elbow	Model	SUCTION FLANGE ANSI CLASS 125	"A"	"B"	"C"	"D"	"E"			"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"
										21	28	32												
6" CLASS 125 DIN DN20 COMPATIBLE	6ESCMH	6MM	6"	6X6	6"	16.19	8.00	6.50	17.69	28.70	N/A	64.99	68.83	25.89	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
			6"	6X8	8"	16.19	15.00	7.75	17.69	28.70	N/A	64.99	68.83	25.89	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
	6ESCMJ	6MH	6"	6X6	6"	16.19	8.00	6.50	17.69	28.70	N/A	64.99	68.83	25.89	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
			6"	6X8	8"	16.19	15.00	7.75	17.69	28.70	N/A	64.99	68.83	25.89	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
	6ESCMN	6ML	6"	6X6	6"	16.19	8.00	6.50	17.69	28.70	63.99	64.99	N/A	25.89	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
			6"	6X8	8"	16.19	15.00	7.75	17.69	28.70	63.99	64.99	N/A	25.89	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
	6ESCDO	6DL	6"	6X6	6"	14.50	8.00	6.50	17.69	28.06	63.35	64.36	N/A	24.71	2.00	3.19	22.63	11.31	22.63	9.31	8.20	10.20	30.00	0.88
			6"	6X8	8"	14.50	15.00	7.75	17.69	28.06	63.35	64.36	N/A	24.71	2.00	3.19	22.63	11.31	22.63	9.31	8.20	10.20	30.00	0.88
	6ESCDK	6D	8"	8X8 ST	8"	16.19	9.00	7.75	17.69	28.41	N/A	64.70	68.54	25.60	2.00	4.88	22.63	11.31	22.63	10.59	9.68	11.49	30.00	0.88
			8"	8X8 LG	8"	16.19	14.00	7.75	22.69	33.41	N/A	69.70	73.54	30.60	2.00	2.76	26.87	13.14	26.87	10.69	9.68	11.49	35.00	0.88

## 6" DISCHARGE PUMP DIMENSIONS—NON-CLOG



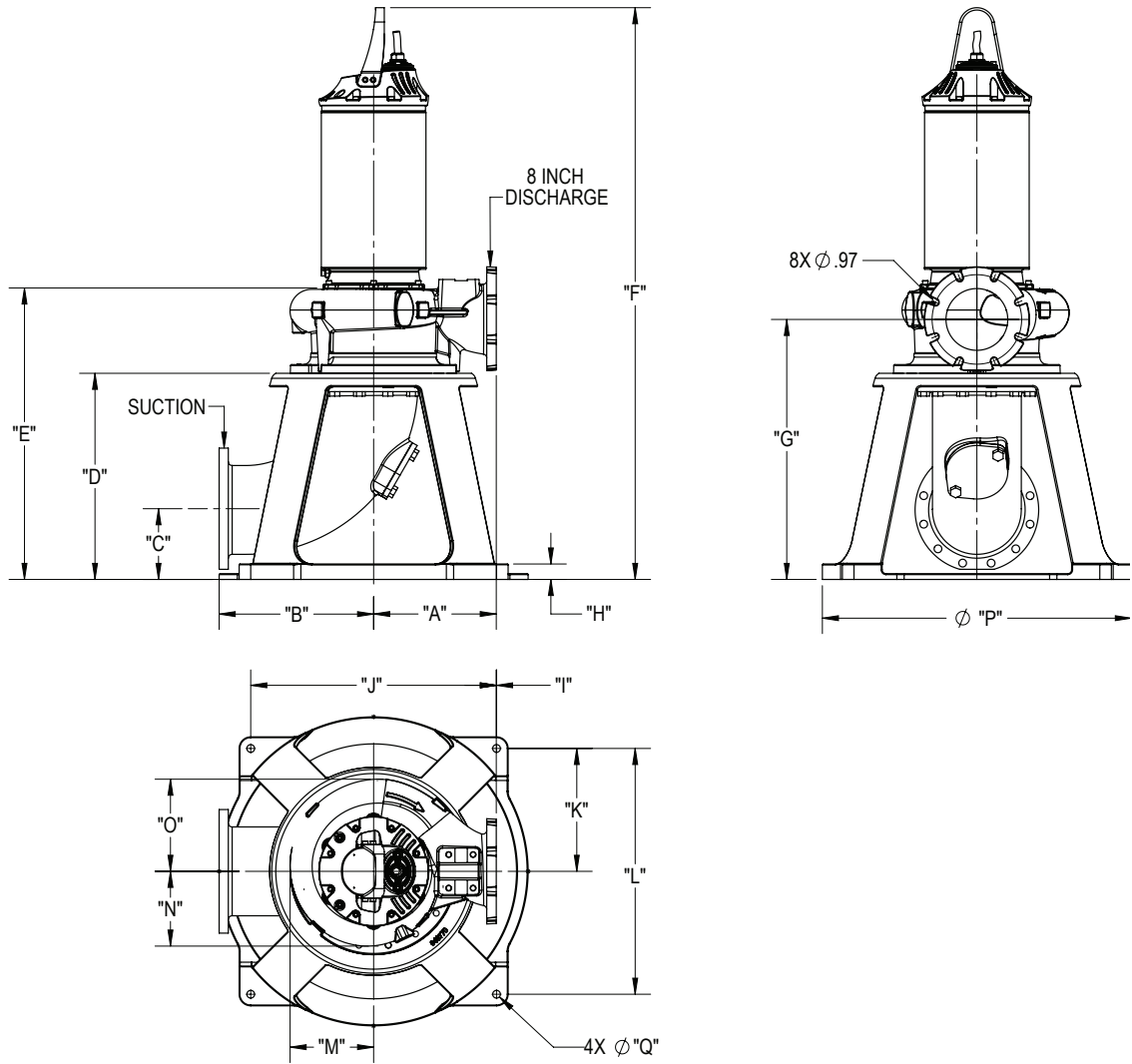
PUMP			SUCTION ELBOW		DIMENSIONS (INCHES)																			
DISCHARGE	BARNES MODEL	DEMING MODEL	Suction Elbow	Model	SUCTION FLANGE ANSI CLASS 125	"A"	"B"	"C"	"D"	"E"			"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"
										21	28	32												
6" CLASS 125 DIN DN20 COMPATIBLE	6ESHVL	6V	5"	5 X 6	6"	15.81	8.00	6.50	15.44	25.23	N/A	61.52	65.36	21.42	2.00	6.25	19.09	9.55	19.09	7.98	8.65	8.65	25.00	0.88
	6ESHMH	6MM	6"	6X6	6"	16.19	8.00	6.50	17.69	27.78	N/A	64.07	67.91	24.97	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
			6"	6X8	8"	16.19	15.00	7.75	17.69	27.78	N/A	64.07	67.91	24.97	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
	6ESHMJ	6MH	6"	6X6	6"	16.19	8.00	6.50	17.69	27.78	N/A	64.07	67.91	24.97	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
			6"	6X8	8"	16.19	15.00	7.75	17.69	27.78	N/A	64.07	67.91	24.97	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
	6ESHMN	6ML	6"	6X6	6"	16.19	8.00	6.50	17.69	27.78	63.07	64.07	N/A	24.97	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
			6"	6X8	8"	16.19	15.00	7.75	17.69	27.78	63.07	64.07	N/A	24.97	2.00	4.88	22.63	11.31	22.63	10.69	9.58	11.72	30.00	0.88
	6ESHDO	6DL	6"	6X6	6"	14.50	8.00	6.50	17.69	27.14	62.43	63.44	N/A	23.79	2.00	3.19	22.63	11.31	22.63	9.31	8.20	10.20	30.00	0.88
			6"	6X8	8"	14.50	15.00	7.75	17.69	27.14	62.43	63.44	N/A	23.79	2.00	3.19	22.63	11.31	22.63	9.31	8.20	10.20	30.00	0.88
	6ESHDK	6D	8"	8X8 ST	8"	16.19	9.00	7.75	17.69	27.54	N/A	63.83	67.67	24.73	2.00	4.88	22.63	11.31	22.63	10.59	9.68	11.49	30.00	0.88
			8"	8X8 LG	8"	16.19	14.00	7.75	22.69	32.54	N/A	68.83	72.67	29.73	2.00	2.76	26.87	13.14	26.87	10.69	9.68	11.49	35.00	0.88

## 8" DISCHARGE PUMP DIMENSIONS—CHOPPER



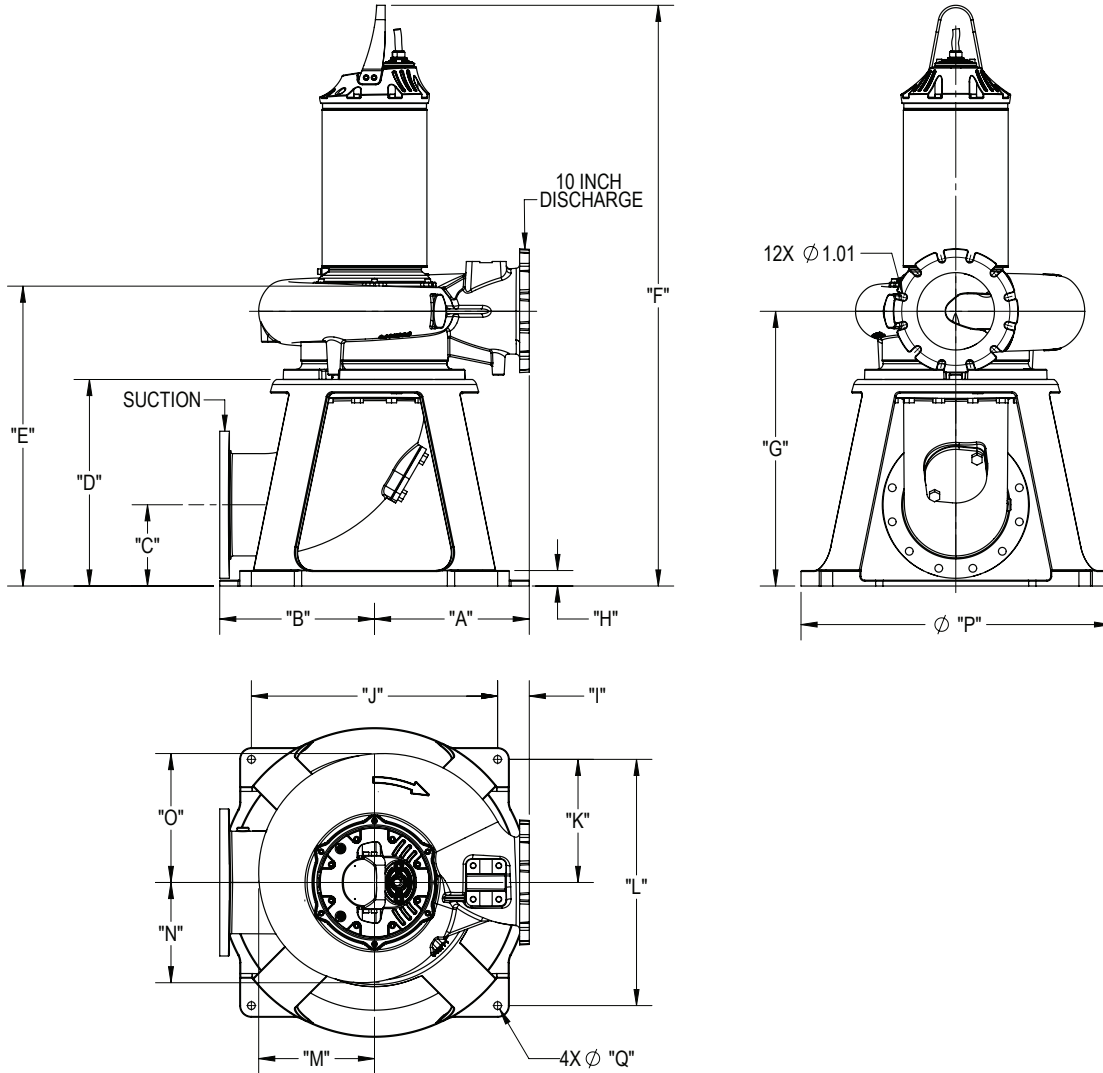
PUMP				SUCTION ELBOW		DIMENSIONS (INCHES)																		
DISCHARGE	BARNES MODEL	DEMING MODEL	Suction Elbow	Model	SUCTION FLANGE ANSI CLASS 125	"A"	"B"	"C"	"D"	"E"			"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"
										21	28	32												
8" CLASS 125 DIN DN20 COMPATIBLE MOUNTING	8ESCDU	8D	10"	10X10	10"	15.88	20.00	9.00	26.69	38.89	N/A	75.18	79.03	34.82	2.00	0.03	31.82	15.91	31.82	10.81	9.68	11.93	40.00	1.00
	8ESCTM	8T	10"	10X10	10"	18.44	20.00	9.00	26.69	40.01	N/A	N/A	80.14	36.76	2.00	2.53	31.82	15.91	31.82	11.62	10.19	12.93	40.00	1.00

## 8" DISCHARGE PUMP DIMENSIONS—NON-CLOG



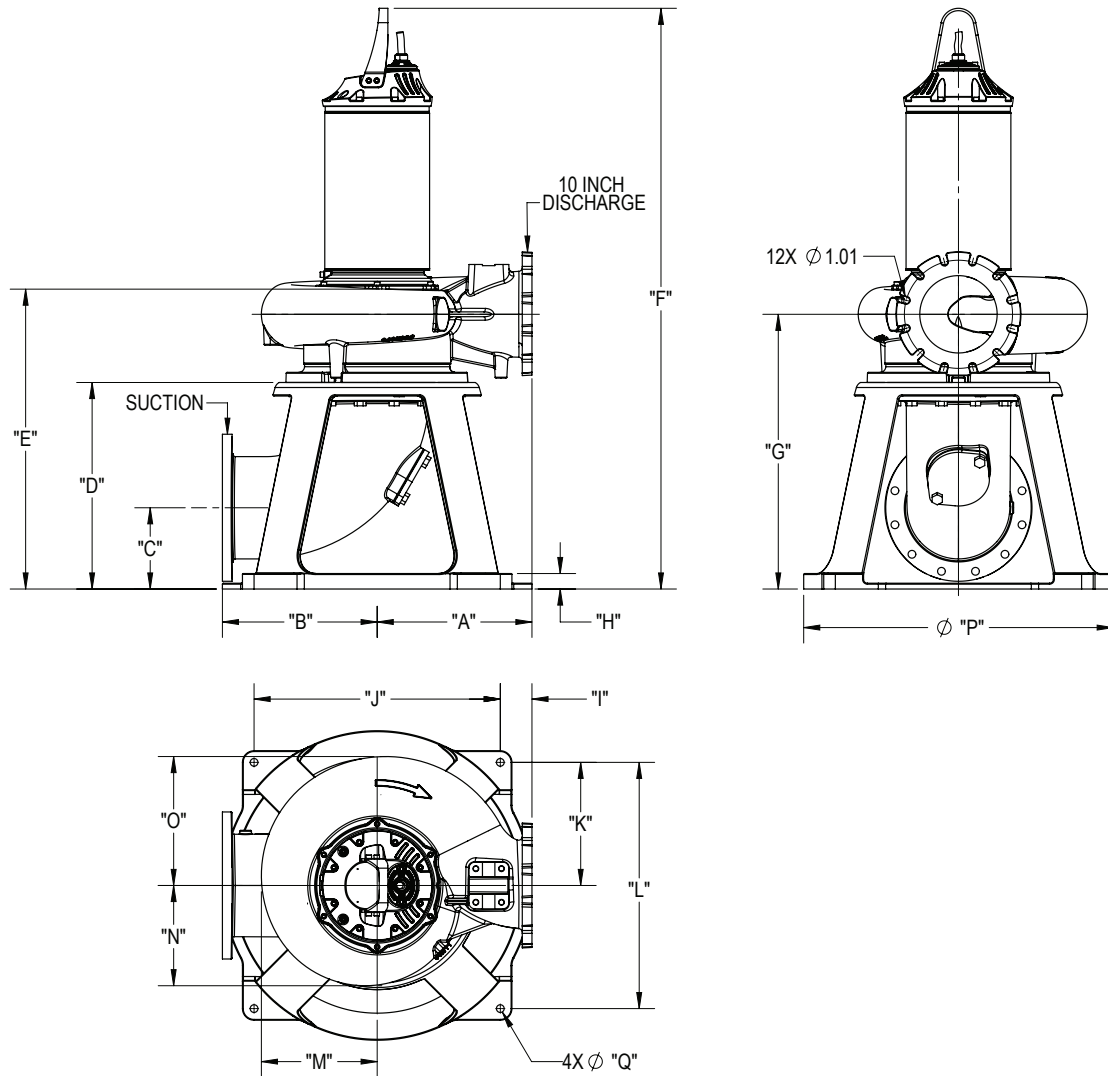
PUMP				SUCTION ELBOW		DIMENSIONS (INCHES)																		
DISCHARGE	BARNES MODEL	DEMING MODEL	Suction Elbow	Model	SUCTION FLANGE ANSI CLASS 125	"A"	"B"	"C"	"D"	"E"			"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"
										21	28	32												
8" CLASS 125 DIN DN20 COMPATIBLE MOUNTING	8ESHDA	8DA	12"	12X12	12"	21.00	20.00	10.50	26.69	37.92	N/A	N/A	78.05	34.89	2.00	5.09	31.82	15.91	31.82	11.15	9.84	12.19	40.00	1.00
	8ESHDU	8D	10"	10X10	10"	15.88	20.00	9.00	26.69	37.73	N/A	74.02	77.86	33.66	2.00	0.03	31.82	15.91	31.82	10.81	9.68	11.93	40.00	1.00
	8ESHTM	8T	10"	10X10	10"	18.44	20.00	9.00	26.69	38.86	N/A	N/A	79.00	35.61	2.00	2.53	31.82	15.91	31.82	11.62	10.19	12.93	40.00	1.00

## 10" DISCHARGE PUMP DIMENSIONS—CHOPPER



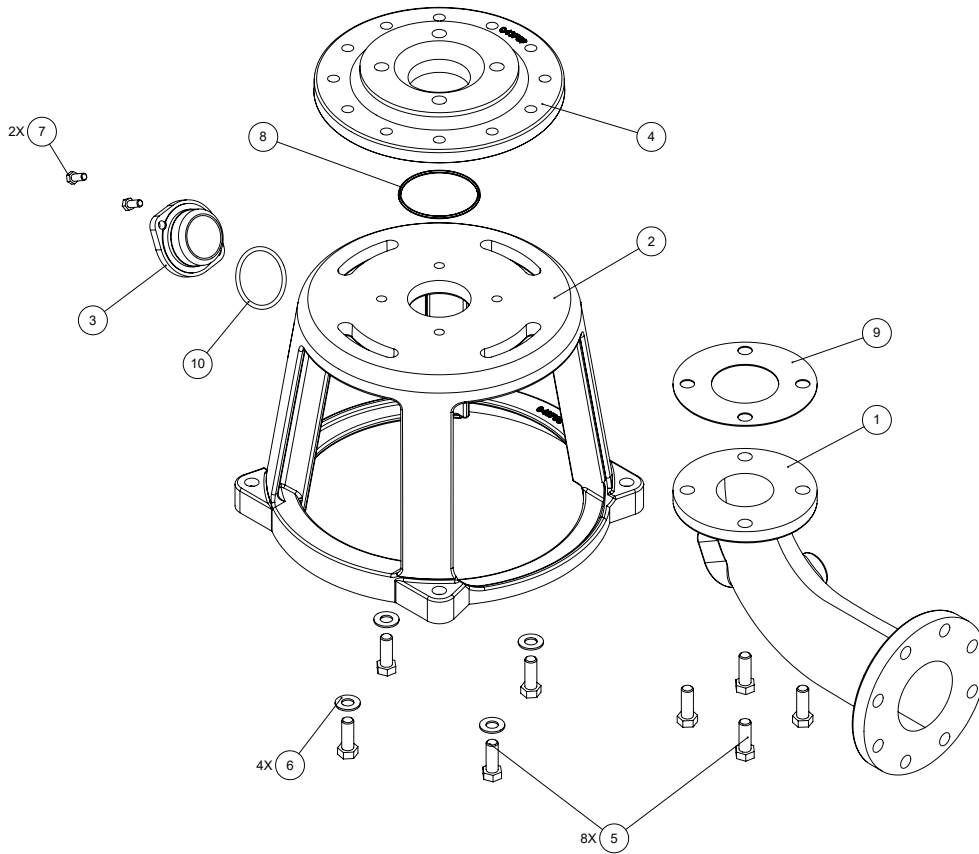
PUMP				SUCTION ELBOW		DIMENSIONS (INCHES)																		
DISCHARGE	BARNES MODEL	DEMING MODEL	Suction Elbow	Model	SUCTION FLANGE ANSI CLASS 125	"A"	"B"	"C"	"D"	"E"			"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"
										21	28	32												
10" CLASS 125 DIN DN20 COMPATIBLE MOUNTING	10ESCDW	10DH	12"	12X12	12"	20.00	20.00	10.50	26.69	39.70	N/A	75.99	79.83	36.45	2.00	4.09	31.82	15.91	31.82	14.96	12.96	16.66	40.00	1.00
	10ESCDX	10DL	12"	12X12	12"	25.50	20.00	10.50	26.69	39.64	N/A	N/A	79.60	36.14	2.00	9.59	31.82	15.91	31.82	15.22	13.78	16.41	40.00	1.00

## 10" DISCHARGE PUMP DIMENSIONS—NON-CLOG



PUMP				SUCTION ELBOW		DIMENSIONS (INCHES)																		
DISCHARGE	BARNES MODEL	DEMING MODEL	Suction Elbow	Model	SUCTION FLANGE ANSI CLASS 125	"A"	"B"	"C"	"D"	"E"			"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"
										21	28	32												
10" CLASS 125 DIN DN20 COMPATIBLE MOUNTING	10ESHDW	10DH	12"	12X12	12"	20.00	20.00	10.50	26.69	38.75	N/A	75.04	78.88	35.50	2.00	4.09	31.82	15.91	31.82	14.96	12.96	16.66	40.00	1.00
	10ESHDX	10DL	12"	12X12	12"	25.50	20.00	10.50	26.69	38.80	N/A	N/A	78.76	35.30	2.00	9.59	31.82	15.91	31.82	15.22	13.78	16.41	40.00	1.00
	10ESHTB	10TB	12"	12X12	12"	25.50	20.00	10.50	26.69	39.35	N/A	N/A	79.31	35.85	2.00	9.09	31.82	15.91	31.82	15.26	12.67	17.46	40.00	1.00

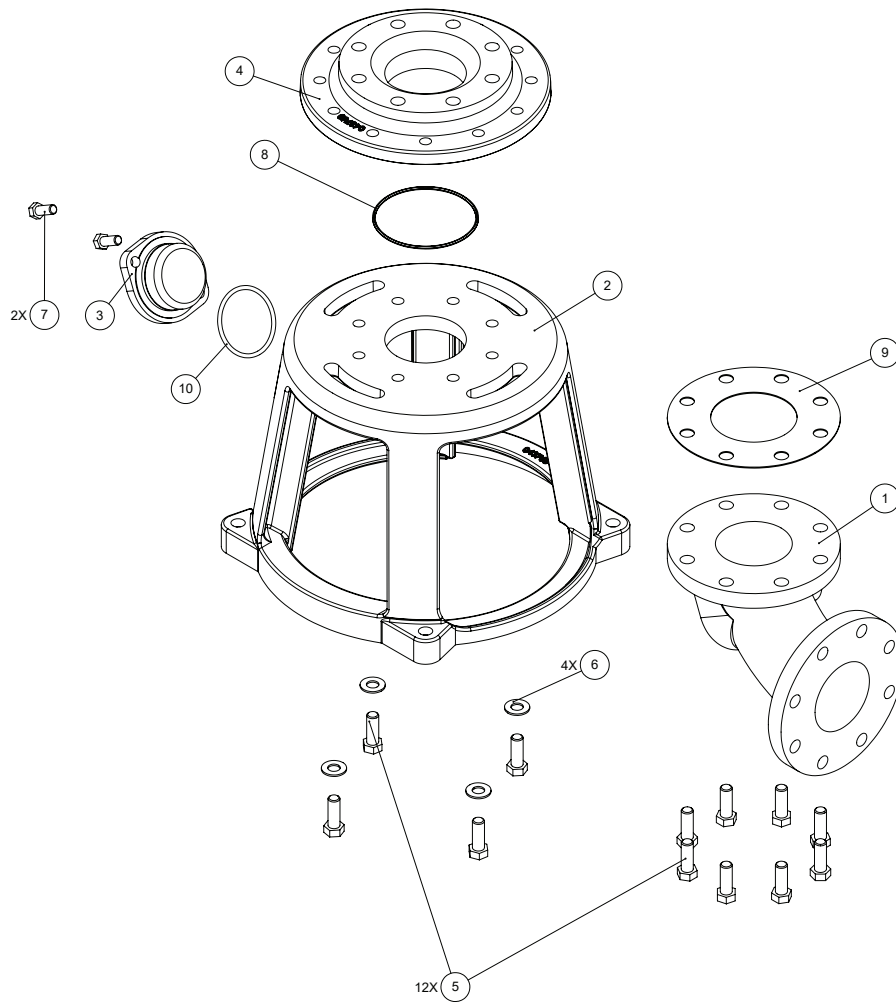
## PARTS LIST— 3X4



ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	147037	Elbow Suction, 3x4	Class 30 CI
2	1	147021	Metal Stand, 3"	Class 30 CI
3	1	0043727	Hand Hole Cover, 3"	Class 30 CI
4	1	147014	Adapter	Class 30 CI
5	8	1-93-1	Screw	18-8 SS
6	4	070320	Washer	18-8 SS
7	2	028913	Screw	18-8 SS
8	1	2-31003-242	O-Ring	Buna-N
9	1	0007200	Gasket, Flange, Pipe, 3"	Buna
10	1	M-6456	O-Ring	Buna

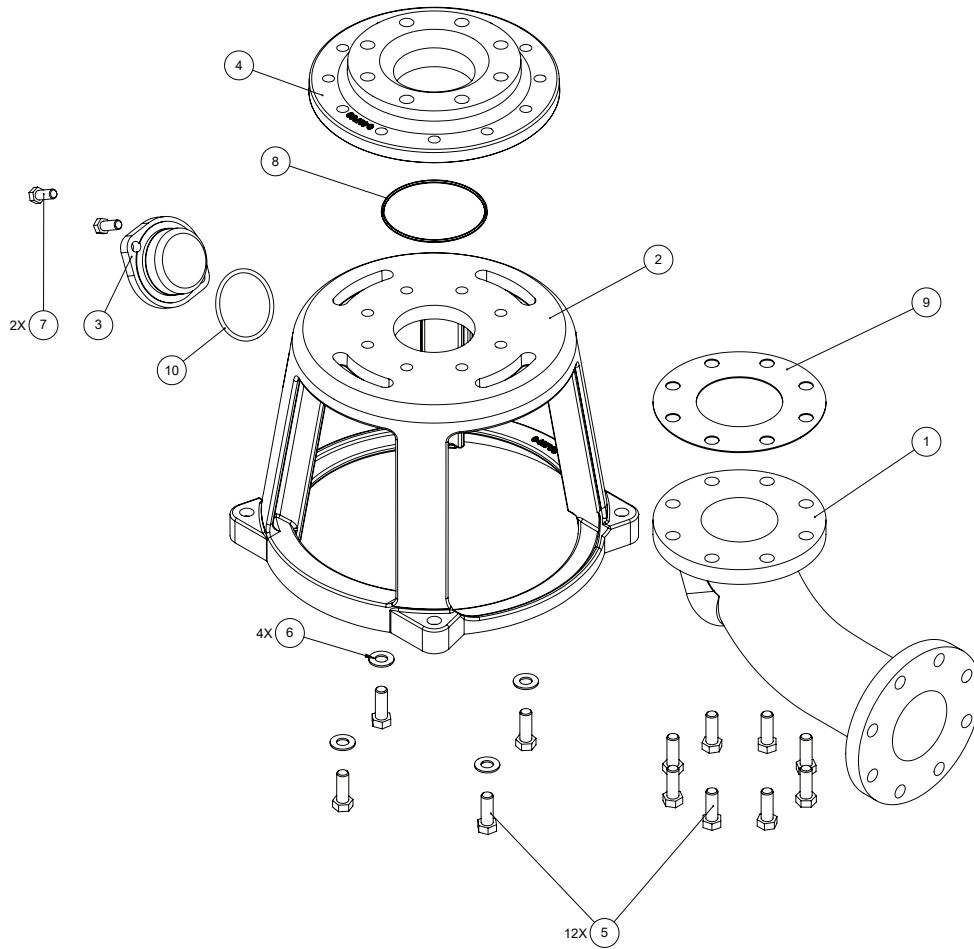


## PARTS LIST— 4X4 SHORT ELBOW



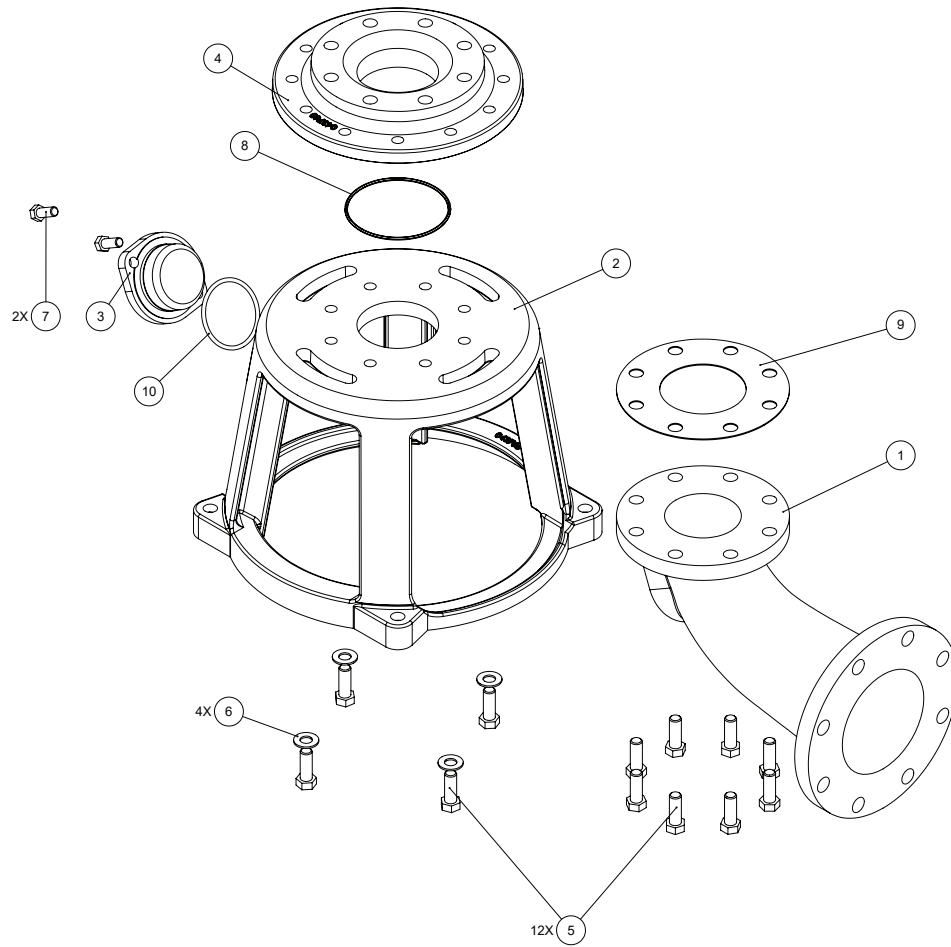
ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	0045058	Elbow Suction, 4x4 Short	Class 30 CI
2	1	147022	Metal Stand, 4"	Class 30 CI
3	1	0043723	Hand Hole Cover, 4"	Class 30 CI
4	1	147015	Adapter	Class 30 CI
5	12	1-93-1	Screw	18-8 SS
6	4	070320	Washer	18-8 SS
7	2	1-68-1	Screw	18-8 SS
8	1	2-31003-252	O-Ring	Buna-N
9	1	0007201	Gasket, Flange, Pipe, 4"	Buna
10	1	0035052	O-Ring	Buna

## PARTS LIST— 4X4 LONG ELBOW



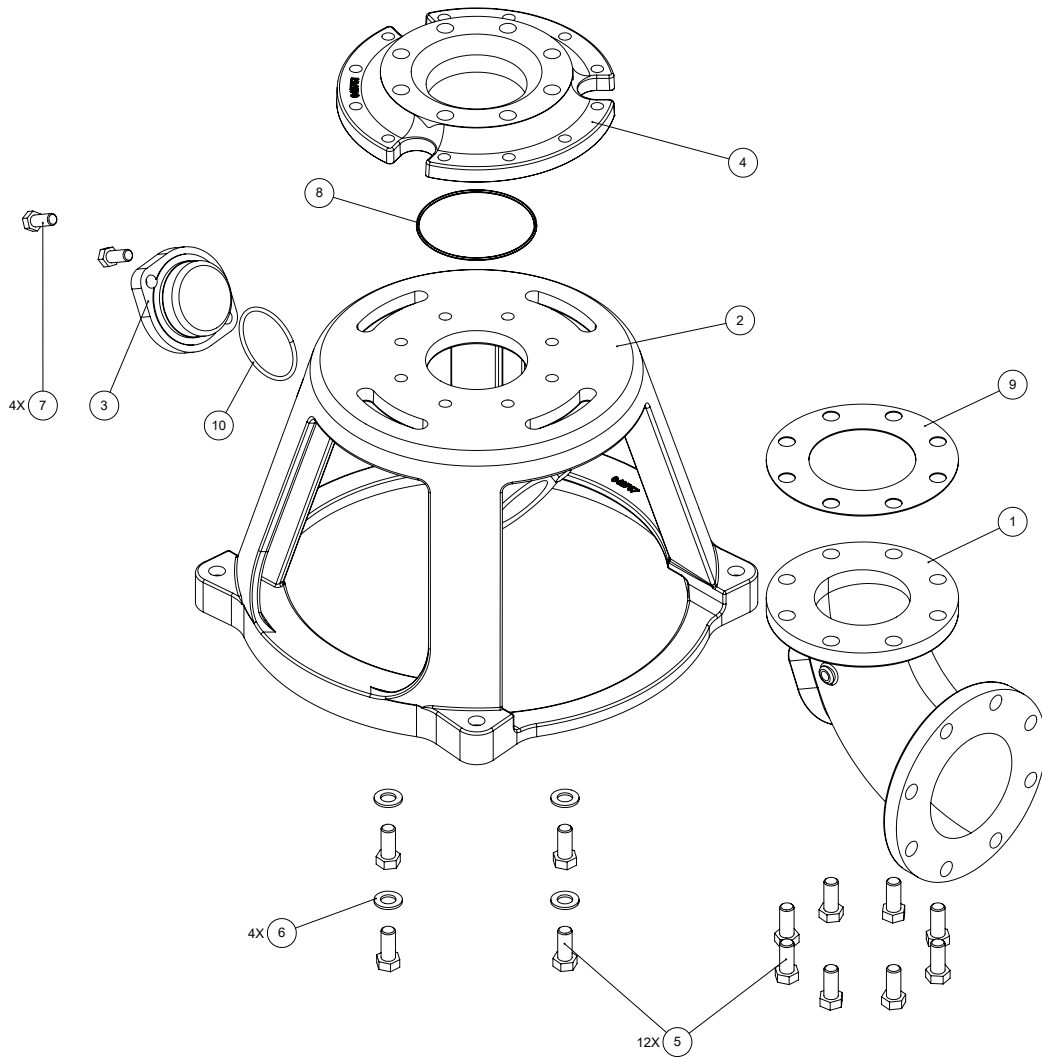
ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	0071821	Elbow Suction 4X4 Long	Class 30 CI
2	1	147022	Metal Stand 4"	Class 30 CI
3	1	0043723	Hand Hole Cover, 4"	Class 30 CI
4	1	147015	Adapter	Class 30 CI
5	12	1-93-1	Screw	18-8 SS
6	4	070320	Washer	18-8 SS
7	2	1-68-1	Screw	18-8 SS
8	1	2-31003-252	O-Ring	Buna-N
9	1	0007201	Gasket, Flange, Pipe, 4"	Buna
10	1	0035052	O-Ring	Buna

## PARTS LIST— 4X6



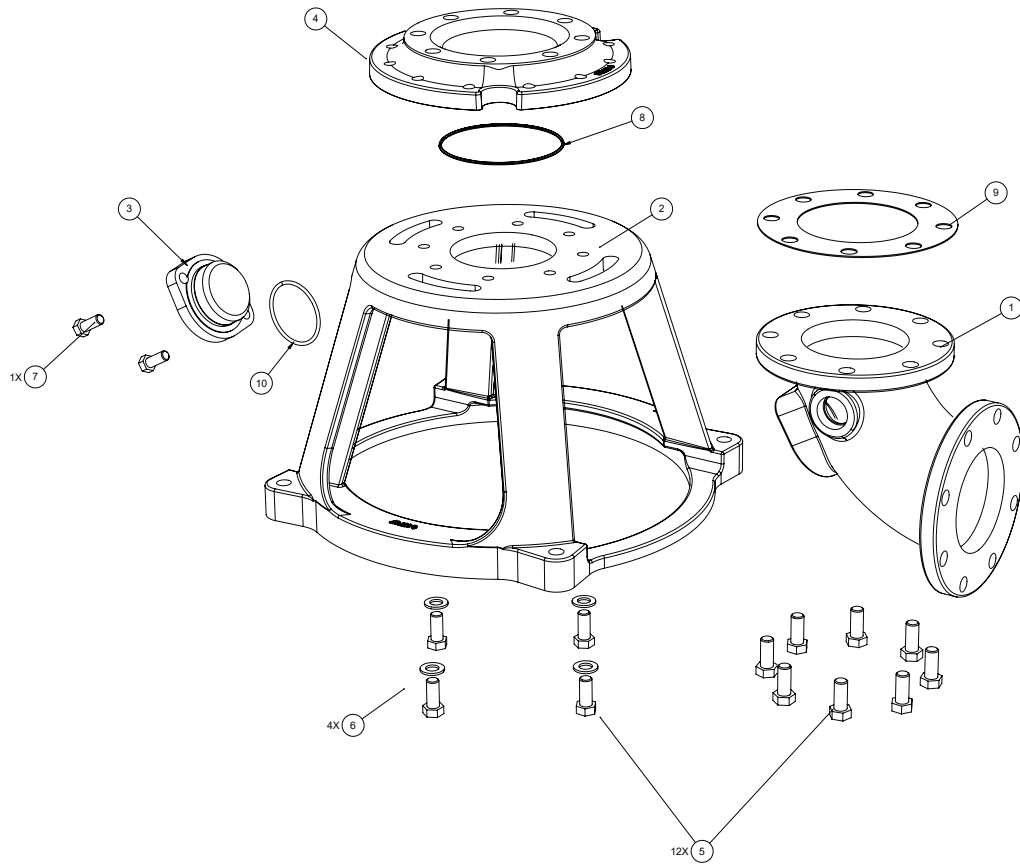
ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	0071817	Elbow Suction 4X6	Class 30 CI
2	1	147022	Metal Stand 4"	Class 30 CI
3	1	0043723	Hand Hole Cover, 4"	Class 30 CI
4	1	147015	Adapter	Class 30 CI
5	12	1-93-1	Screw	18-8 SS
6	4	070320	Washer	18-8 SS
7	2	1-68-1	Screw	18-8 SS
8	1	2-31003-252	O-Ring	Buna-N
9	1	0007201	Gasket, Flange, Pipe, 4"	Buna
10	1	0035052	O-Ring	Buna

## PARTS LIST— 5X6



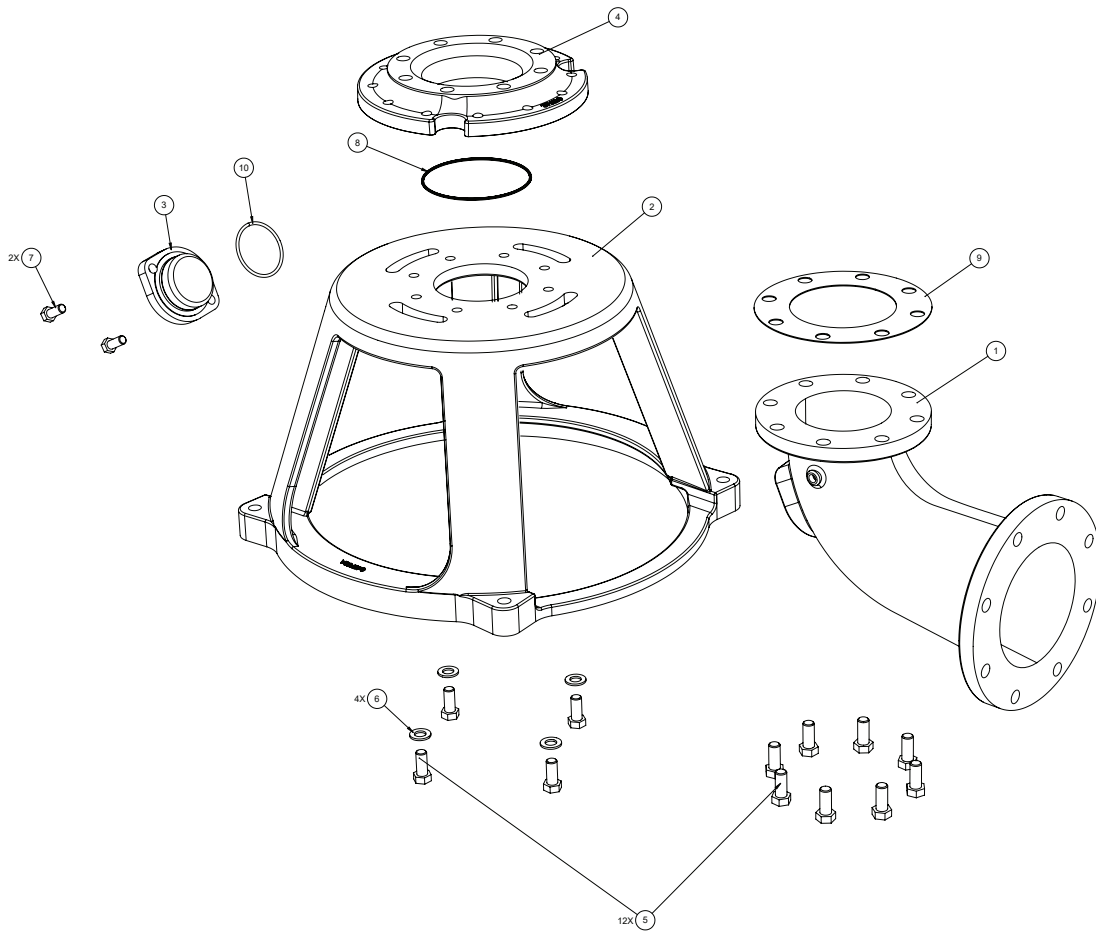
ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	147038	Elbow Suction 5X6	Class 30 CI
2	1	147023	Metal Stand 5"	Class 30 CI
3	1	0043987	Hand hole Cover 4"	Class 30 CI
4	1	147016	Adapter	Class 30 CI
5	12	1-110-1	Screw	18-8 SS
6	4	20-8-1	Washer	18-8 SS
7	2	1-92-1	Screw	18-8 SS
8	1	053602	O-Ring	Buna-N
9	1	0007202	Gasket Metal Stand 5"	Buna
10	1	0089525	O-Ring	Buna

## PARTS LIST— 6X6



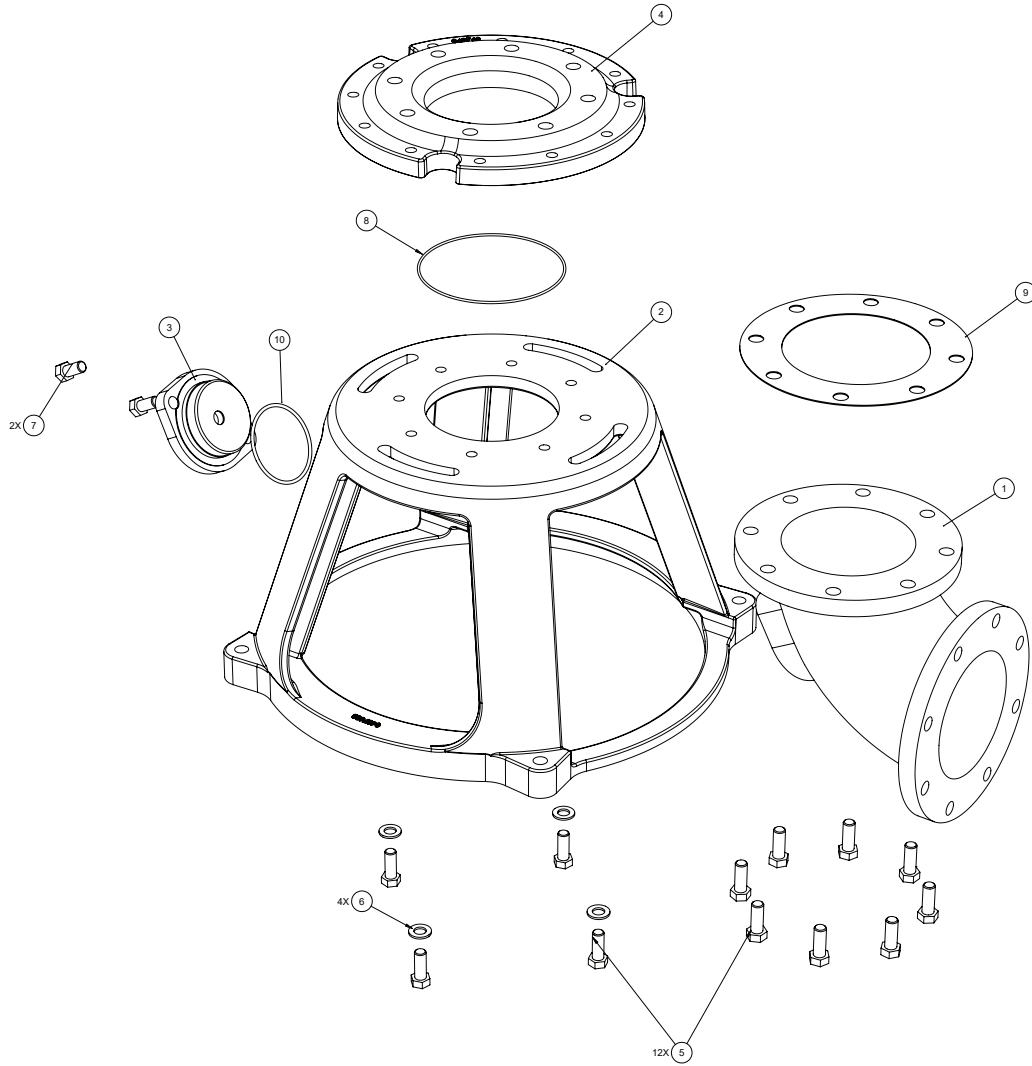
ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	0045128	Elbow Suction 6X6	Class 30 CI
2	1	147024	Metal Stand 6"	Class 30 CI
3	1	0043987	Hand hole Cover	Class 30 CI
4	1	147017	Adapter	Class 30 CI
5	12	1-110-1	Screw	18-8 SS
6	4	20-8-1	Washer	18-8 SS
7	2	1-92-1	Screw	18-8 SS
8	1	2-31003-262	O-Ring	Buna-N
9	1	0007203	Gasket Metal Stand 6"	Buna
10	1	0089525	O-Ring	Buna

## PARTS LIST— 6X8



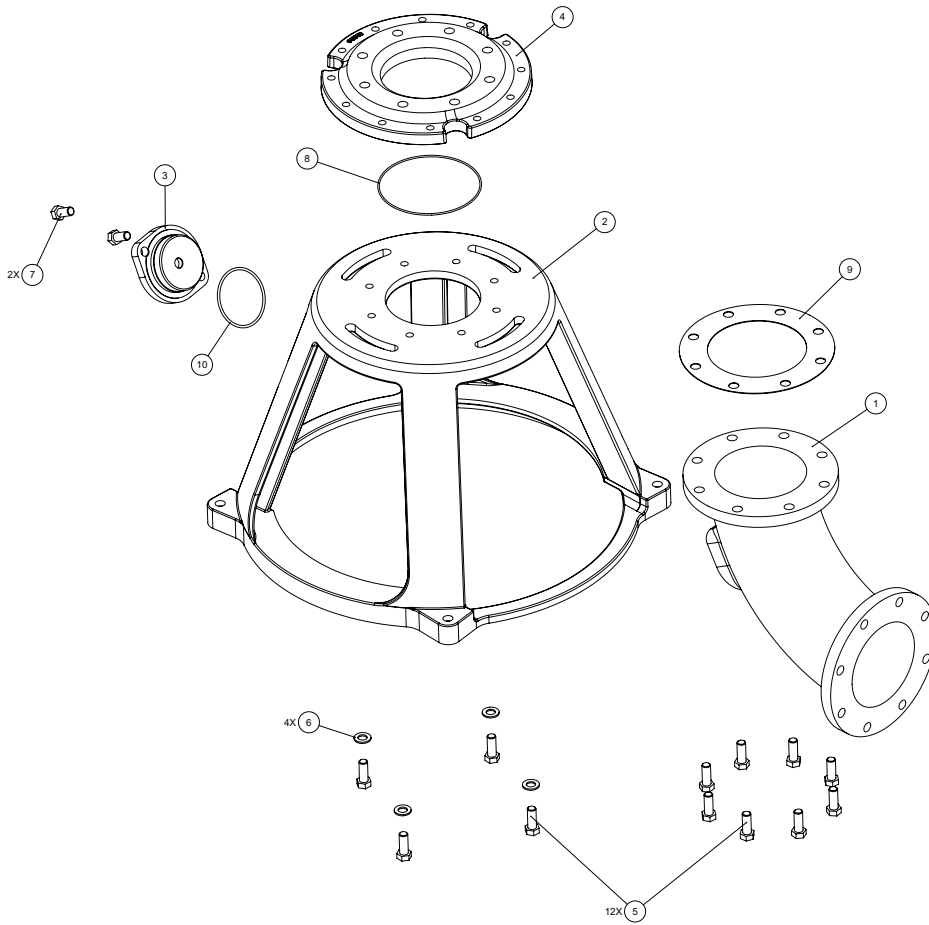
ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	147039	Elbow Suction 6X8	Class 30 CI
2	1	147025	Metal Stand 6"	Class 30 CI
3	1	0043987	Hand hole Cover	Class 30 CI
4	1	147017	Adapter	Class 30 CI
5	12	1-110-1	Screw	18-8 SS
6	4	20-8-1	Washer	18-8 SS
7	2	1-92-1	Screw	18-8 SS
8	1	2-31003-262	O-Ring	Buna-N
9	1	0007203	Gasket Metal Stand 6"	Buna
10	1	0089525	O-Ring	Buna

## PARTS LIST—8X8 SHORT ELBOW



ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	0045329	Elbow Suction 8X8 Short	Class 30 CI
2	1	147026	Metal Stand 8" Short	Class 30 CI
3	1	0044232	Hand hole Cover	Class 30 CI
4	1	147018	Adapter	Class 30 CI
5	12	1-111-1	Screw	18-8 SS
6	4	20-8-1	Washer	18-8 SS
7	2	1-109-1	Screw	18-8 SS
8	1	017713	O-Ring	Buna-N
9	1	0007274	Gasket Metal Stand 8"	Buna
10	1	0040844	O-Ring	Buna

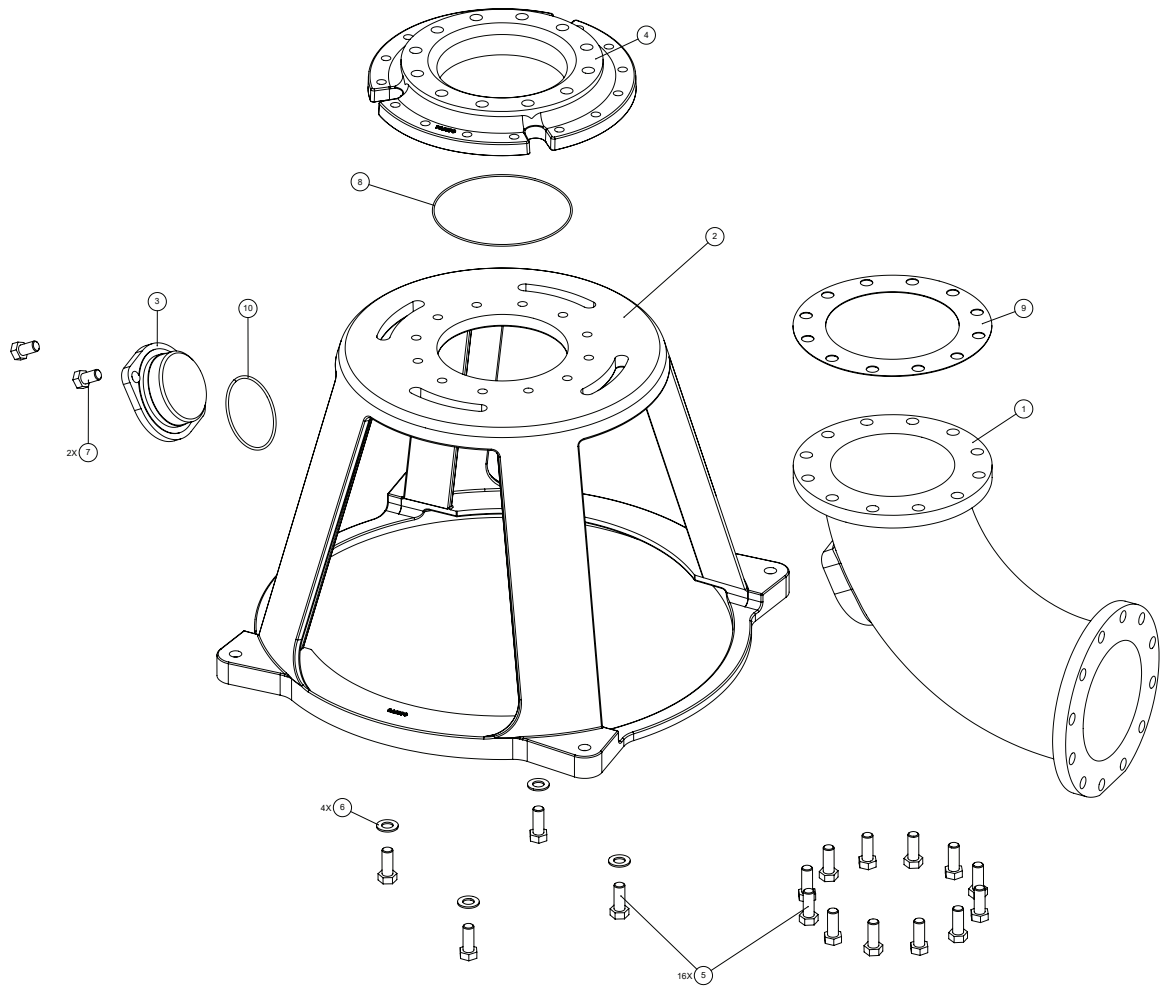
## PARTS LIST—8X8 LONG ELBOW



ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	0085131	Elbow Suction 8X8 Long	Class 30 CI
2	1	147027	Metal Stand 8" Long	Class 30 CI
3	1	0044232	Hand hole Cover	Class 30 CI
4	1	147018	Adapter	Class 30 CI
5	12	1-111-1	Screw	18-8 SS
6	4	20-8-1	Washer	18-8 SS
7	2	1-109-1	Screw	18-8 SS
8	1	017713	O-Ring	Buna-N
9	1	0007274	Gasket Metal Stand 8"	Buna
10	1	0040844	O-Ring	Buna

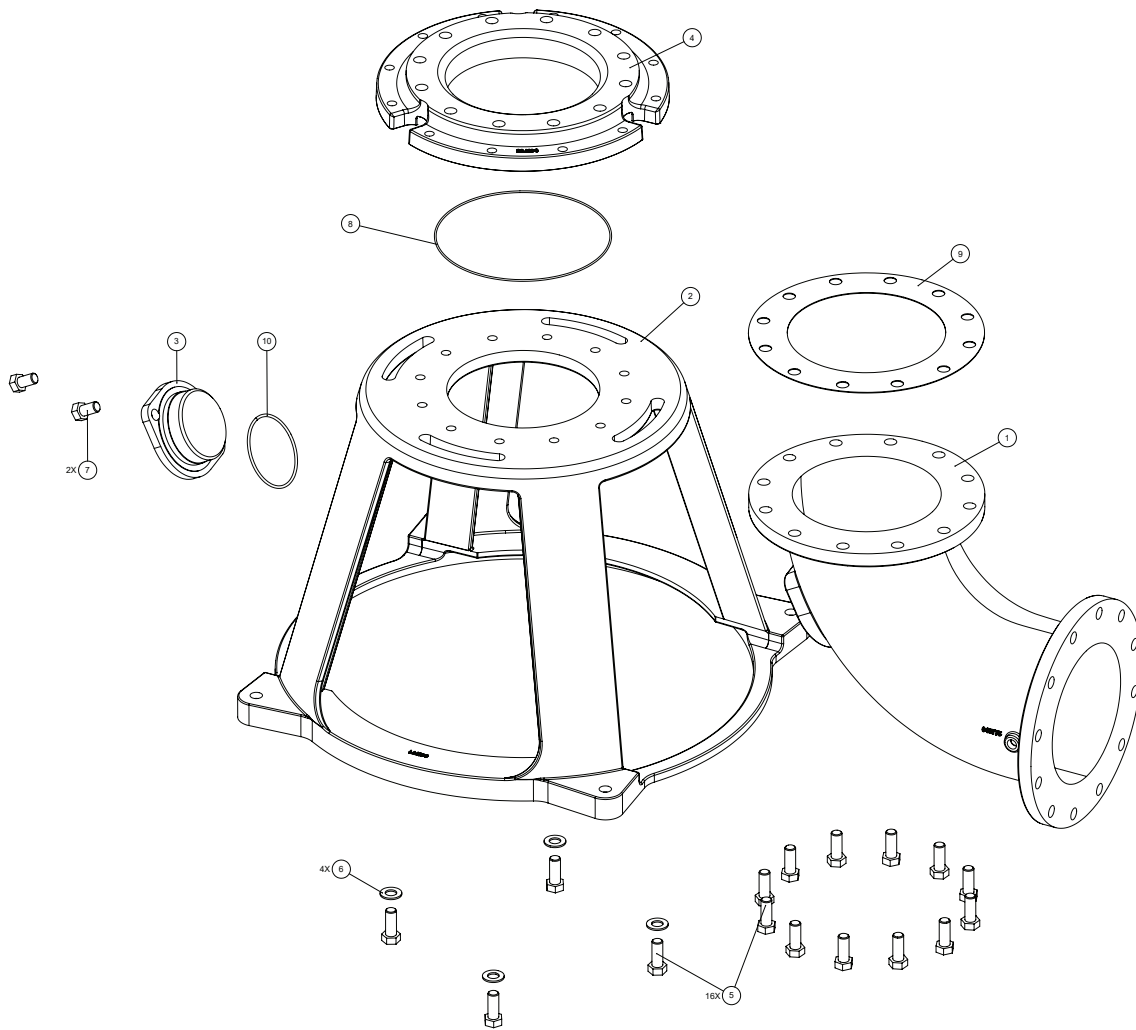


## PARTS LIST—10X10



ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	0082528	Elbow Suction 10X10	Class 30 CI
2	1	147028	Metal Stand 10"	Class 30 CI
3	1	0082530	Hand hole Cover	Class 30 CI
4	1	147019	Adapter	Class 30 CI
5	16	1-440-1	Screw	18-8 SS
6	4	20-29-1	Washer	18-8 SS
7	2	1-436-1	Screw	18-8 SS
8	1	2-31003-276	O-Ring	Buna-N
9	1	0007275	Gasket Metal Stand 8"	Buna
10	1	0000186	O-Ring	Buna

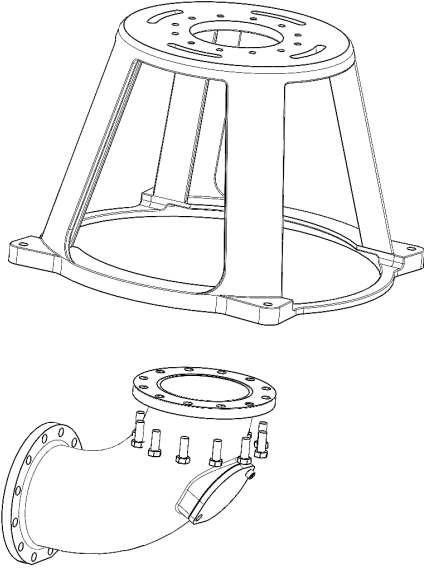
## PARTS LIST—12X12



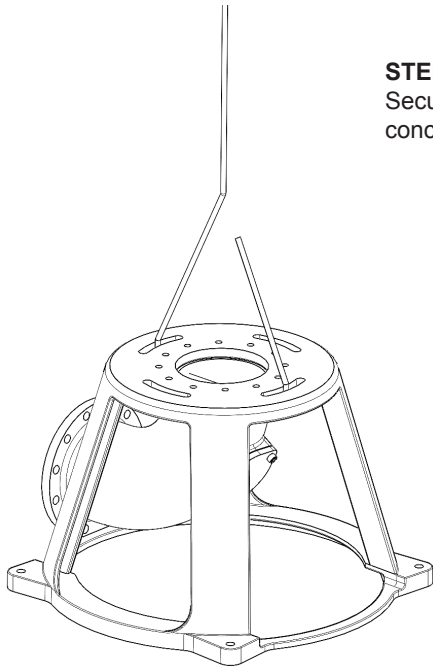
ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL
1	1	147040	ELBOW,SUCTION,12X12"	Class 30 CI
2	1	147029	Metal Stand 12"	Class 30 CI
3	1	0082530	Hand hole Cover	Class 30 CI
4	1	147020	Adapter	Class 30 CI
5	16	1-440-1	Screw	18-8 SS
6	4	20-29-1	Washer	18-8 SS
7	2	1-436-1	Screw	18-8 SS
8	1	2-31003-280	O-Ring	Buna-N
9	1	0007276	Gasket Metal Stand 8"	Buna
10	1	0000186	O-Ring	Buna

## INSTALLATION SEQUENCE

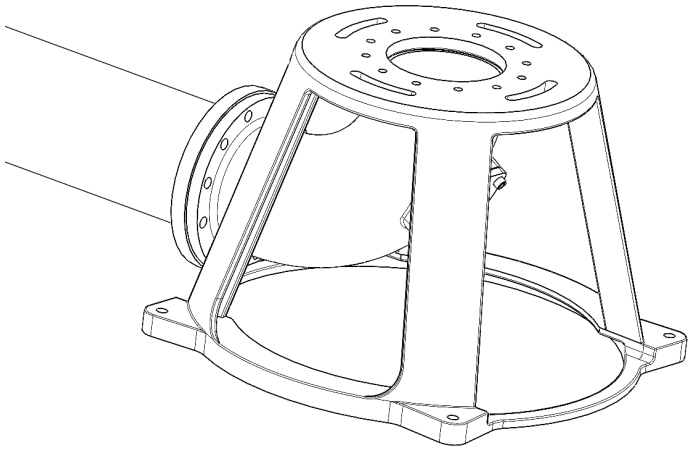
**STEP ONE:** Bolt suction elbow to stand.



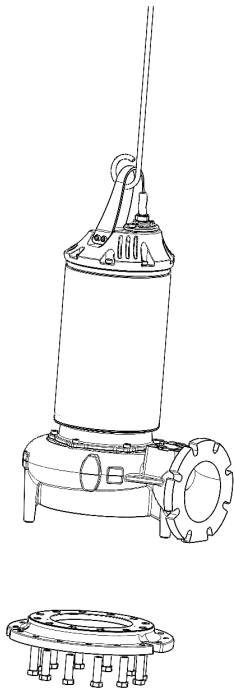
**STEP TWO:** Place stand on floor and level per section B. Secure stand to floor using cast in place J-bolt or expanding concrete anchors.



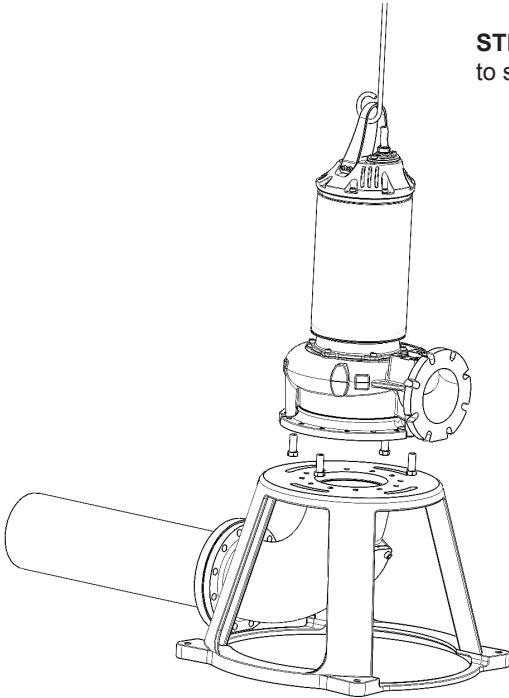
**STEP THREE:** Tighten suction pipe bolts to elbow.



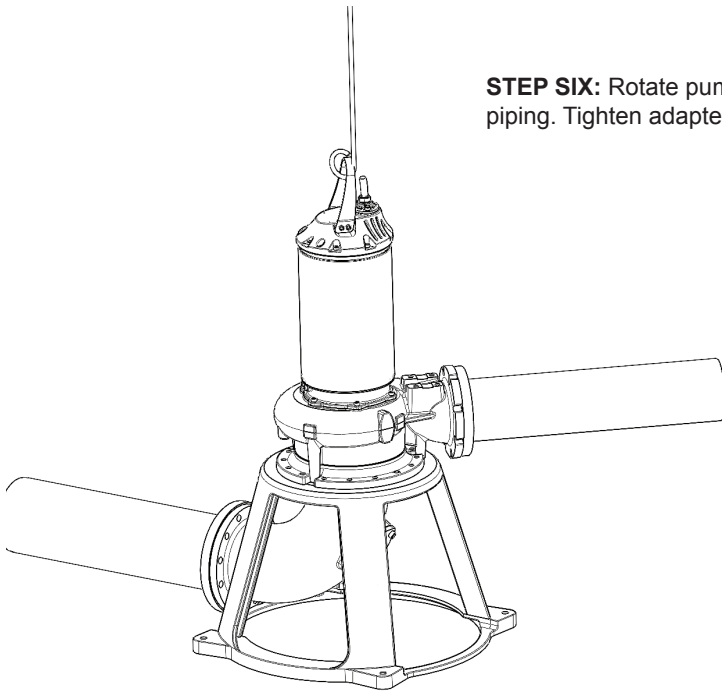
**STEP FOUR:** Bolt adapter to suction of pump.



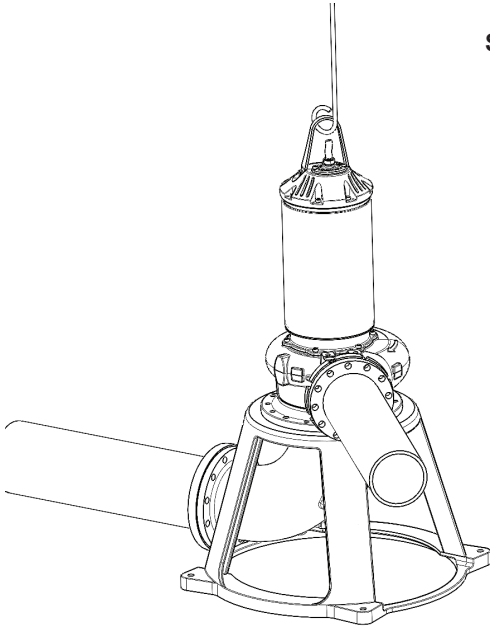
**STEP FIVE:** Place pump adapter assembly on stand and bolt loosely to stand.



**STEP SIX:** Rotate pump to allow discharge of pump with discharge piping. Tighten adapter to stand.



**STEP SEVEN:** Tighten discharge pipe bolts.



### TORQUE TABLE

FASTENER SIZE	TORQUE Lb-Ft
SCREW, HXHD, 3/8-16	11
SCREW, SKHD, 1/2-13	124
SCREW, SKHD, 5/8-11	238
SCREW, HXHD, 3/4-10	93
SCREW, HXHD, 7/8-9	150
STUD .625-11 L1.5	53
NUT .625-11	53
HEX HEAD BOLT, M14-2, L60	38
NUT M12-1.75	26



**IMPORTANT!  
WARRANTY REGISTRATION**

Your product is covered by a warranty:  
[www.cranepumps.com/downloadables/CATALOGS\\_OIPMs/Warranty/2YearWarranty.pdf](http://www.cranepumps.com/downloadables/CATALOGS_OIPMs/Warranty/2YearWarranty.pdf)

START UP GUIDE: <https://www.cranepumps.com/productregistration>

If you have a claim under the provisions of the warranty, contact your local  
Crane Pumps & Systems, Inc. Distributor.

**RETURNED GOODS**

**RETURN OF MERCHANDISE REQUIRES A "RETURNED GOODS AUTHORIZATION".  
CONTACT YOUR LOCAL CRANE PUMPS & SYSTEMS, INC. DISTRIBUTOR.**



**Products Returned Must Be Cleaned, Sanitized,  
Or Decontaminated As Necessary Prior To Shipment,  
To Insure That Employees Will Not Be Exposed To Health  
Hazards In Handling Said Material. All Applicable Laws  
And Regulations Shall Apply.**