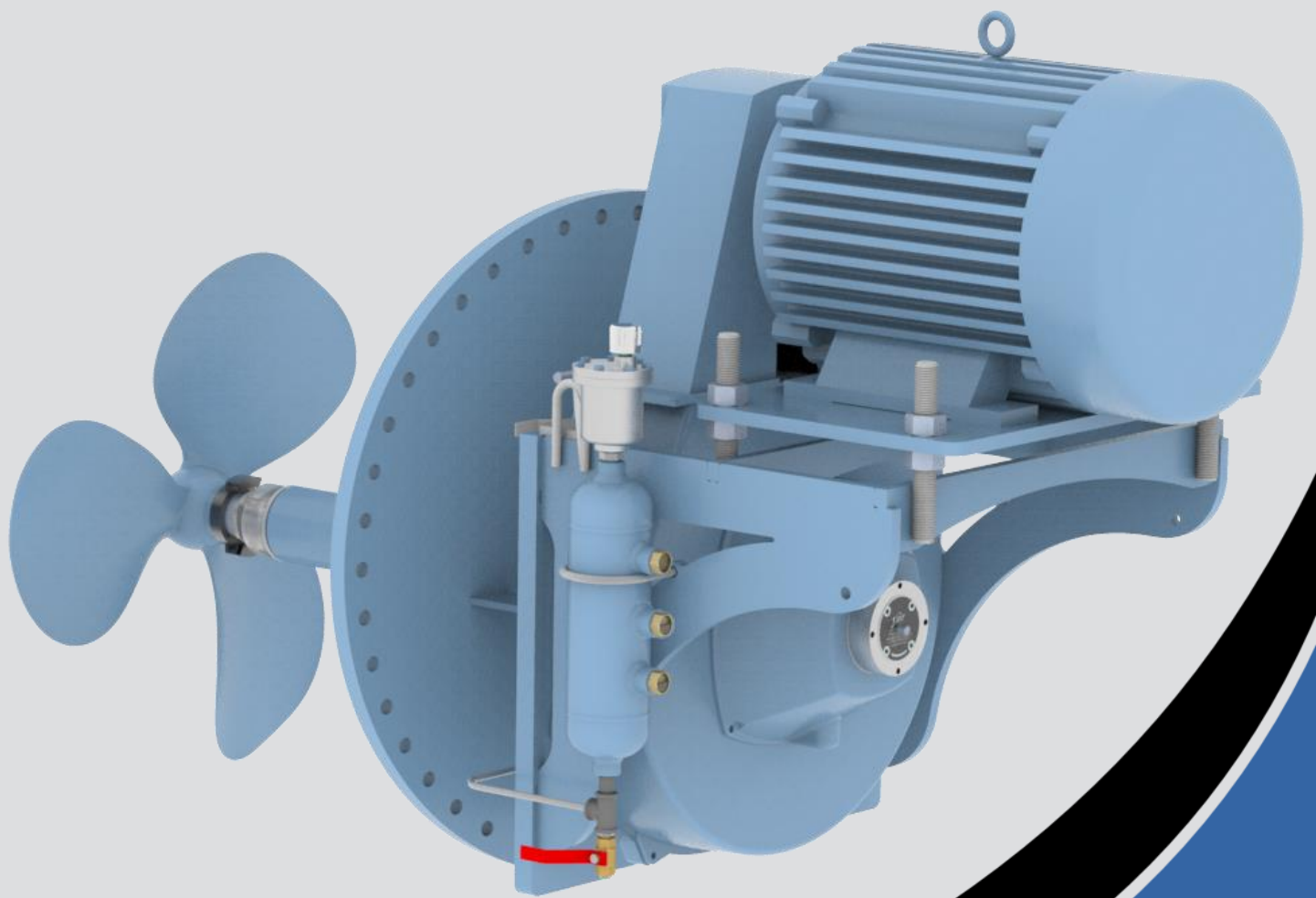


# *Jensen*

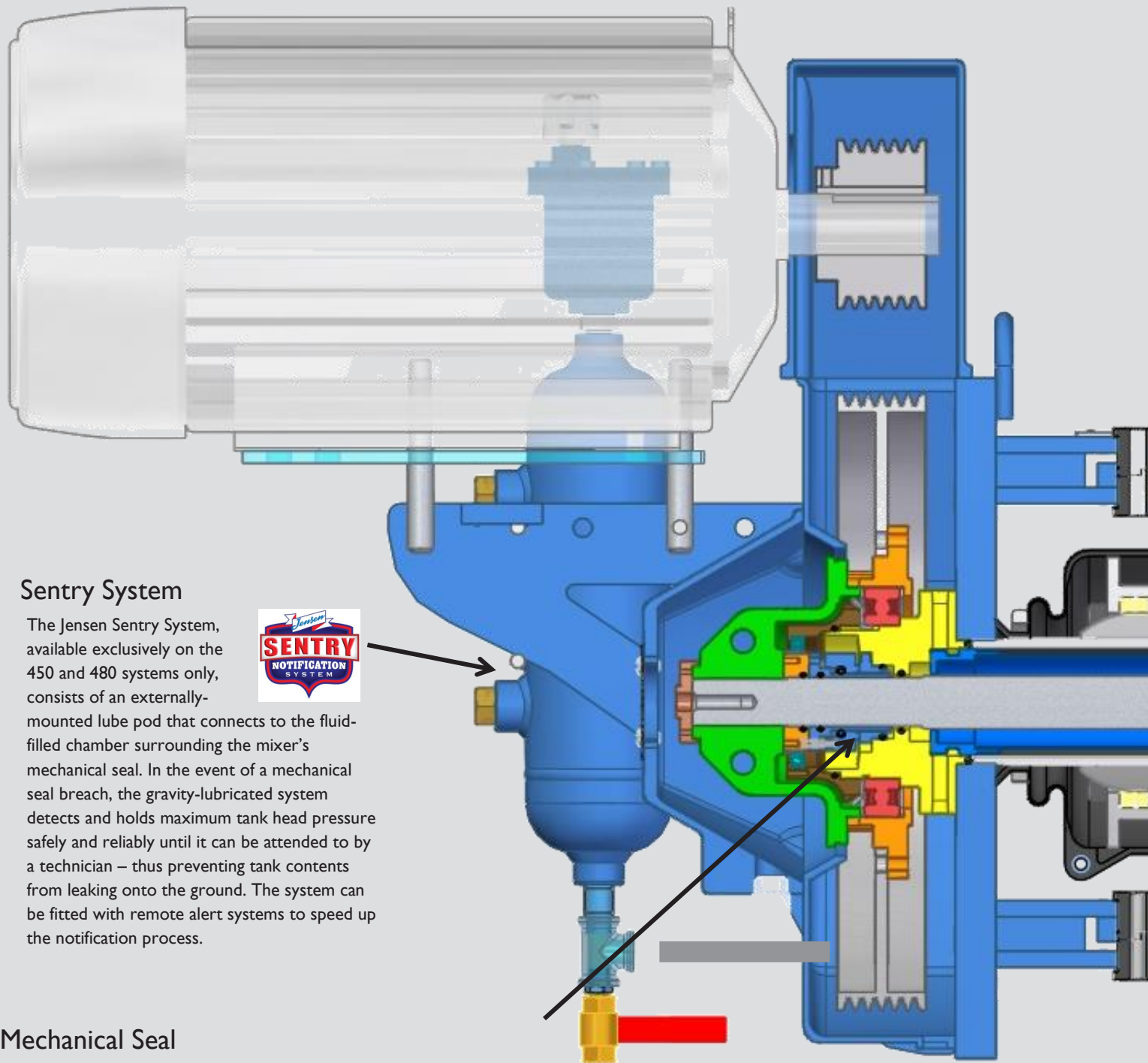
## **Mixers**



SI8H-5

**Series**  
**400**  
**Mixers**

<b>MODEL</b>	<b>450</b>	<b>480</b>
<b>H.P. (MAX)</b>	<b>30</b>	<b>75</b>
<b>SHAFT R.P.M.</b>	<b>425</b>	<b>425</b>
<b>CRITICAL SPEED</b>	<b>1,960 RPM</b>	<b>2,520 RPM</b>



## Sentry System

The Jensen Sentry System, available exclusively on the 450 and 480 systems only, consists of an externally-mounted lube pod that connects to the fluid-filled chamber surrounding the mixer's mechanical seal. In the event of a mechanical seal breach, the gravity-lubricated system detects and holds maximum tank head pressure safely and reliably until it can be attended to by a technician – thus preventing tank contents from leaking onto the ground. The system can be fitted with remote alert systems to speed up the notification process.



## Mechanical Seal

The Jensen Type "F" mechanical seal is an integral part of every Series 400 Mixer and is designed for long life at low cost.

Materials of construction were especially selected to suit petroleum applications.

Rotating Seal Face – Carbon Standard, (Manganese Bronze, Tungsten, or Silicon Carbide Optional)

Stationary Seal Face – Ni-Resist (High Nickel Cast Iron) Standard, Tungsten Optional

Both sealing members are extra heavy to prevent face distortion

If seal replacement is necessary, wearing parts may be purchased separately, cutting replacement cost in half.

# MIXER

Jensen standard materials offer optimum performance in any hydrocarbon application.

Shaft and wear sleeve – 416 Stainless Steel

Lock ring, Lock bushing – 316 Stainless Steel

Propeller - Cast Steel

Drive Yoke – 356-T6 Aluminum

O-Rings – Viton GFLT

The Jensen Series 400 Mixer is supported entirely by the tank manway or nozzle. No tie rods, slings, bases or other external supports are required. Light weight and low-overhang design are the keys to this money-saving feature.

Support for the propeller shaft is provided by the main thrust bearing at the outboard end of the mixer and by the shaft end bearing close to the tank shutoff device. The long bearing span eliminates virtually any possibility of shaft whip. All moving parts are completely enclosed by protective covers.

The rugged V-Belt drive train in the series 400 Mixers is designed for long life and maximum reliability. Recent advances in V-belt technology have largely eliminated the need for frequent belt inspection and adjustment.

Drive pulley is machined steel.

The end support material is solid Tungsten Carbide for greatest resistance to wear in the most abrasive environments.

The tank shutoff device is keyed to the shaft and seated against the propeller. Corrosion resistant material and self-cleaning design assure positive sealing even after years of service.

Model	Deflection	V-Belt Size	Cog Belt Size
420	3/16 (4.5 mm)	3V450	NA
450	1/4 (6 mm)	3V710	8MGT-1792-21
480	3/8 (9.5 mm)	5VX1000	14MGT-2520-37

## Selection

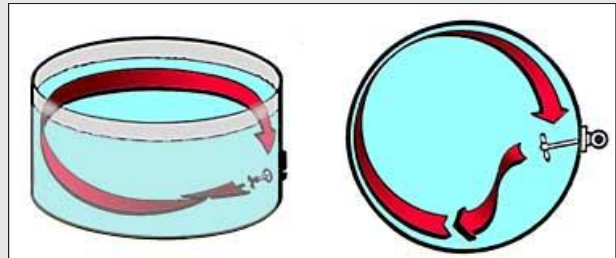
Defining your requirement and selecting the right mixer to do the job is most important. Jensen offers a mixer specifically tailored to every need.

Mixer application can be separated into two categories:

## Blending

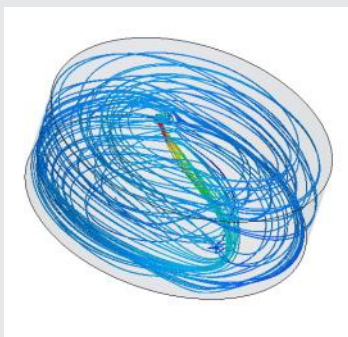
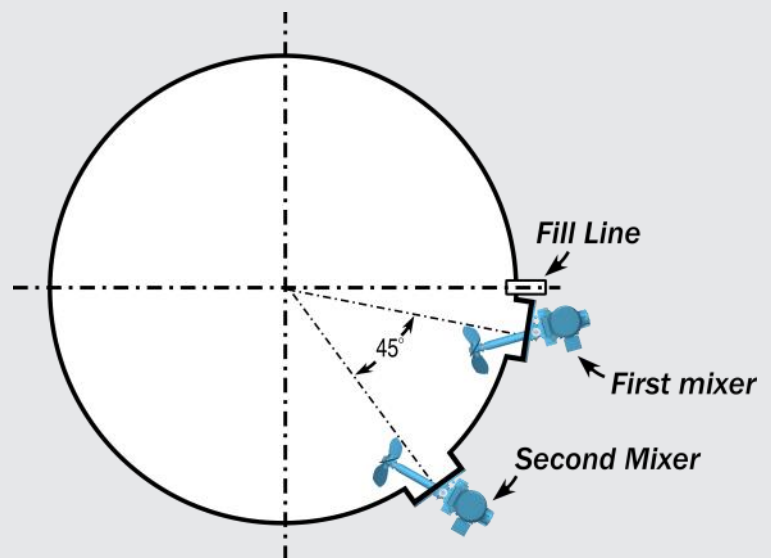
A Jensen 400 fixed angle mixer is perfect for blending two miscible fluids, prevention of stratification, elimination of solidification at the product surface, or heat transfer for uniform temperature.

All of these applications require basically the same approach with respect to fluid flow patterns and mixer horsepower rating. It is generally accepted that the most desirable flow pattern in blending operation is a slight horizontal “swirl” combined with considerable vertical turnover.



To accomplish this, Jensen Fixed Angle mixers are installed at a slight angle with respect to the tank center line. This angle will vary from 10 degrees in large tanks to 7 degrees in small tanks. In most cases it is desirable to locate the mixer close to and clockwise from the fill line as shown.

Operating procedure is one of the most important factors affecting blending applications. Engineers should give special attention to this as required horsepower



in identical tanks may vary greatly due to different procedures

Jensen process recommendations are fully guaranteed. Jensen Mixers are guaranteed against defects for 12 months.



# Cleaning –

Customers removing sediment accumulation from tank bottoms should select the Jensen Model 400-VA Vari-Angle Mixer.

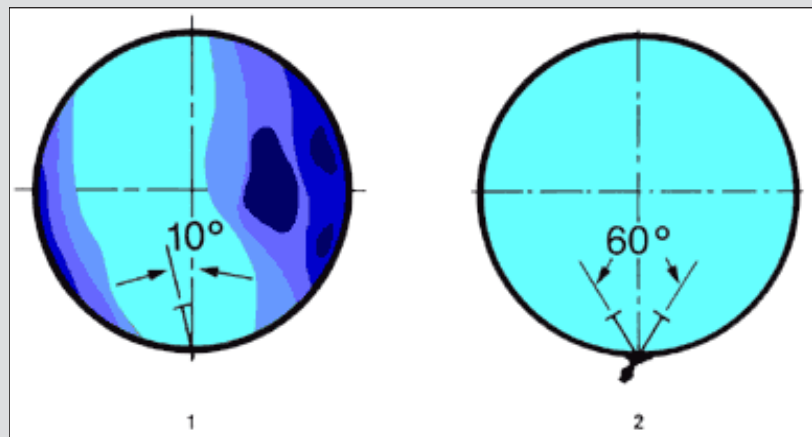
In cases where both services are required, the Vari-Angle model should be selected.

There are significant differences between blending and cleaning operations which must be recognized when applying side-entering mixers to crude oil storage tanks.

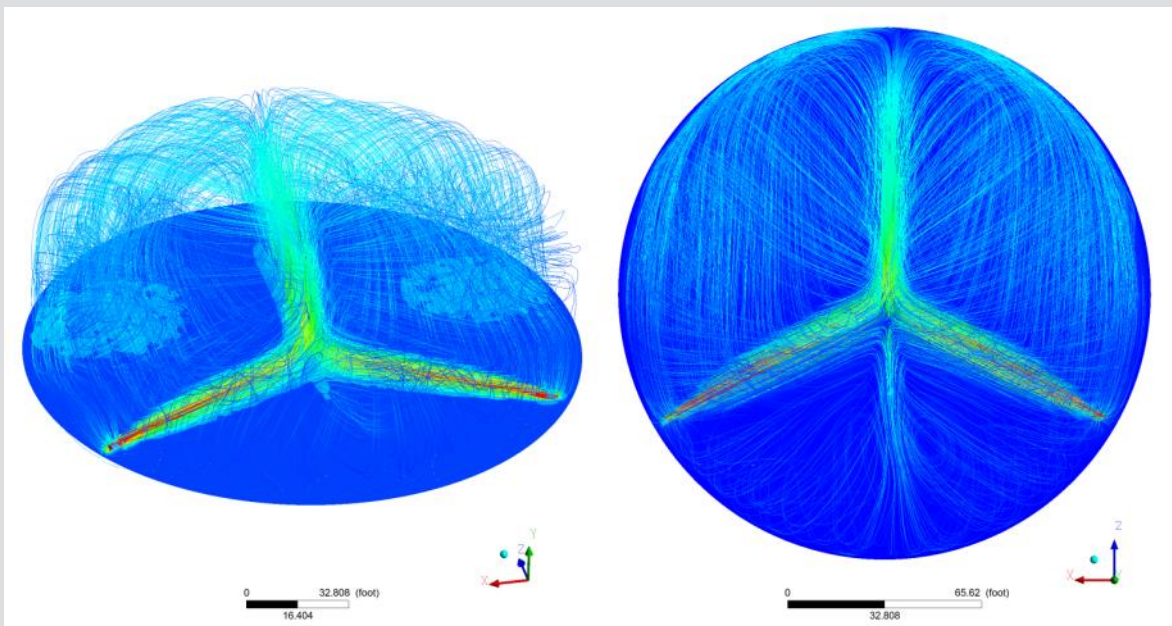
The flows patterns established by blending mixers allow sediment accumulations as indicated by figure 1. These “dead spots” are not affected by increased running time or by

ineffective reversal of propeller operation. They are removed only by the direct sweeping action of the propeller flow stream.

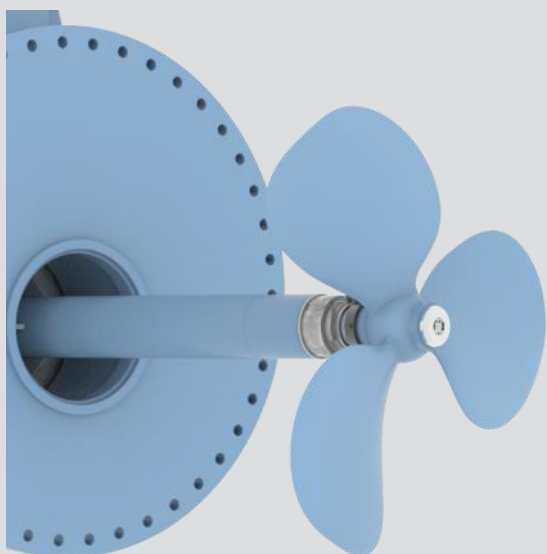
The unique Jensen Vari-Angle feature allows this flow stream to be directed to any area of the tank assuring complete tank cleaning.



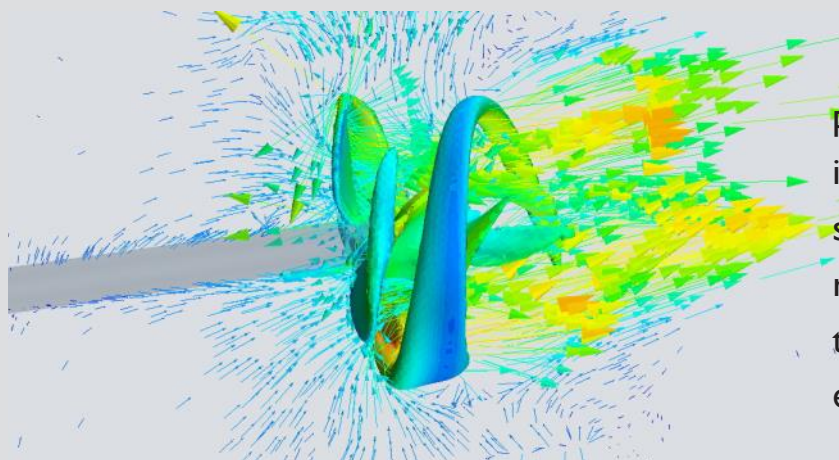
Jensen Vari-Angle Mixer will remove sediment build-up from old tanks and reduce the need for manual tank cleaning.



# PROPELLER

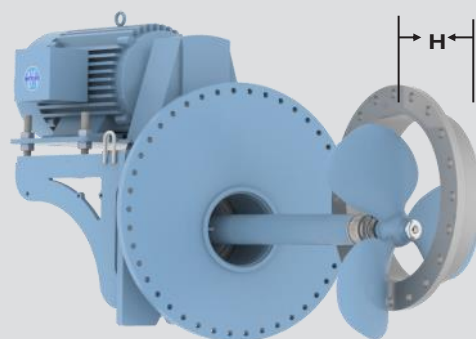


The exclusive Jensen Pitch-Adjusted propeller is a highly efficient, three blade, marine type propeller precision set and *permanently fixed* at our factory to assure superior mixing performance in each individual application. Factory selection of optimum pitch/diameter ratio results in high thrust, increased flow and maximum utilization of available power.



Jensen Pitch-Adjusted propeller can easily be installed through most standard manways without removing the prop from the mixer shaft or entering the tank.

PROPELLER SIZE						
H	20"	23"	26"	29"	32"	35"
Manway inside diameter required to insert propeller.						
4	14	16	17	19	20	22
5	15	16	18	19	21	22
6	16	17	19	20	22	24
7	16	19	19	22	24	25
8	16	19	20	23	25	26
9	18	19	20	24	26	28

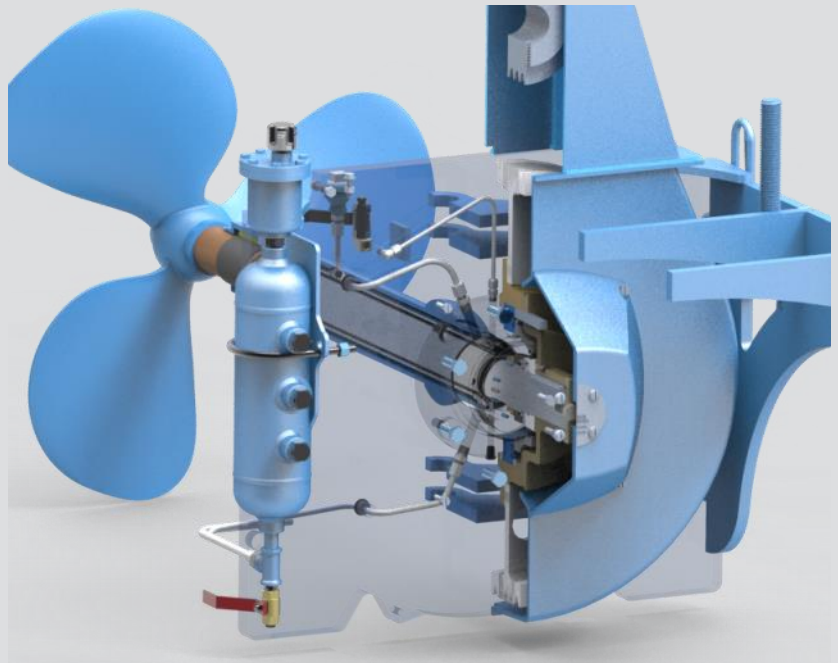


The Jensen Pitch-Adjusted propeller is the most tested and most inspected propeller available on any mixer. **ALL PROPS BALANCED TO THE ISO 1940 G6.3 SCALE.**

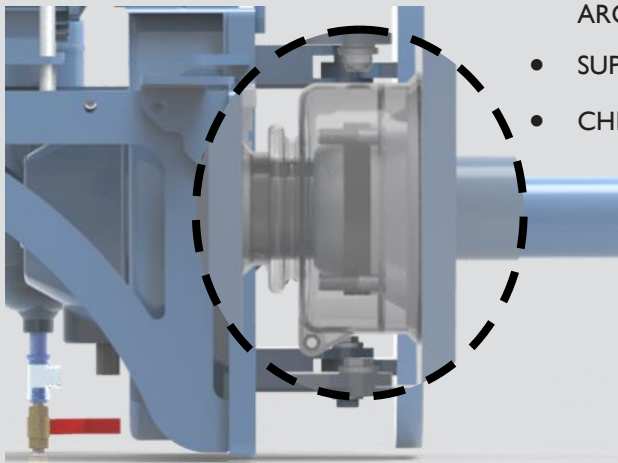


The Jensen Sentry System consists of an externally-mounted lube pod that

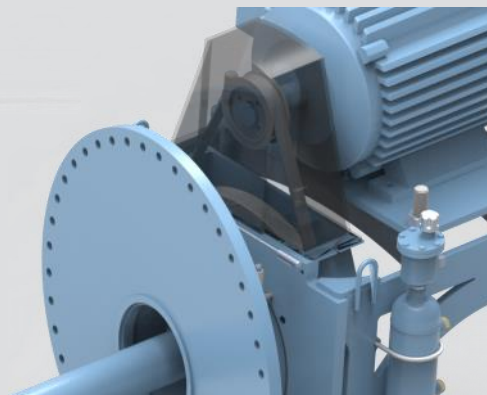
connects to the fluid-filled chamber surrounding the mixer's mechanical seal. In the event of a mechanical seal breach, the gravity-lubricated system detects and temporally holds maximum tank head pressure safely and reliably until it can be attended to by a technician – thus preventing tank contents from leaking onto the ground. The system can be fitted with remote alert systems to speed up the notification process. Similar to a PLAN 65B.



## ***FERRULE SEAL***



- DESIGNED FOR PERFECT FIT AROUND VA BALL AND NOZZLE
- SUPERIOR SEALING
- CHEMICALLY INERT MATERIAL



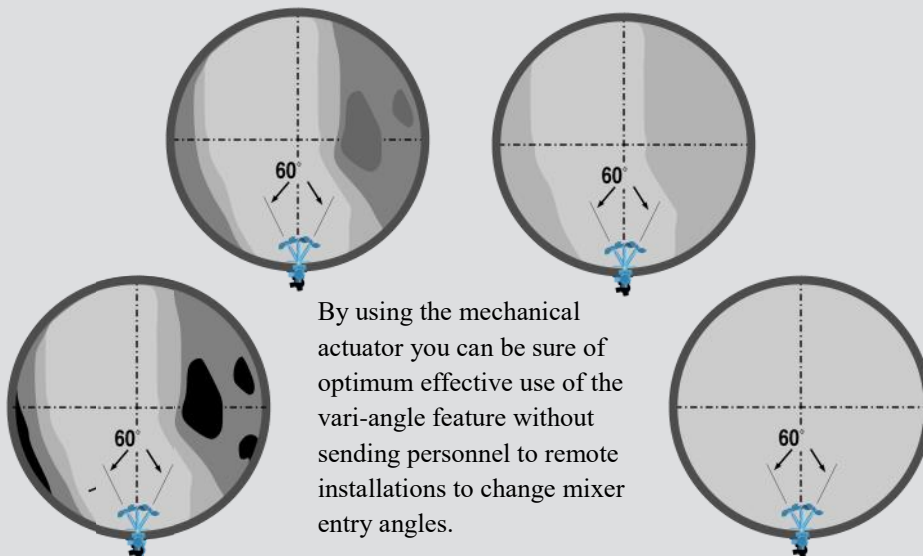
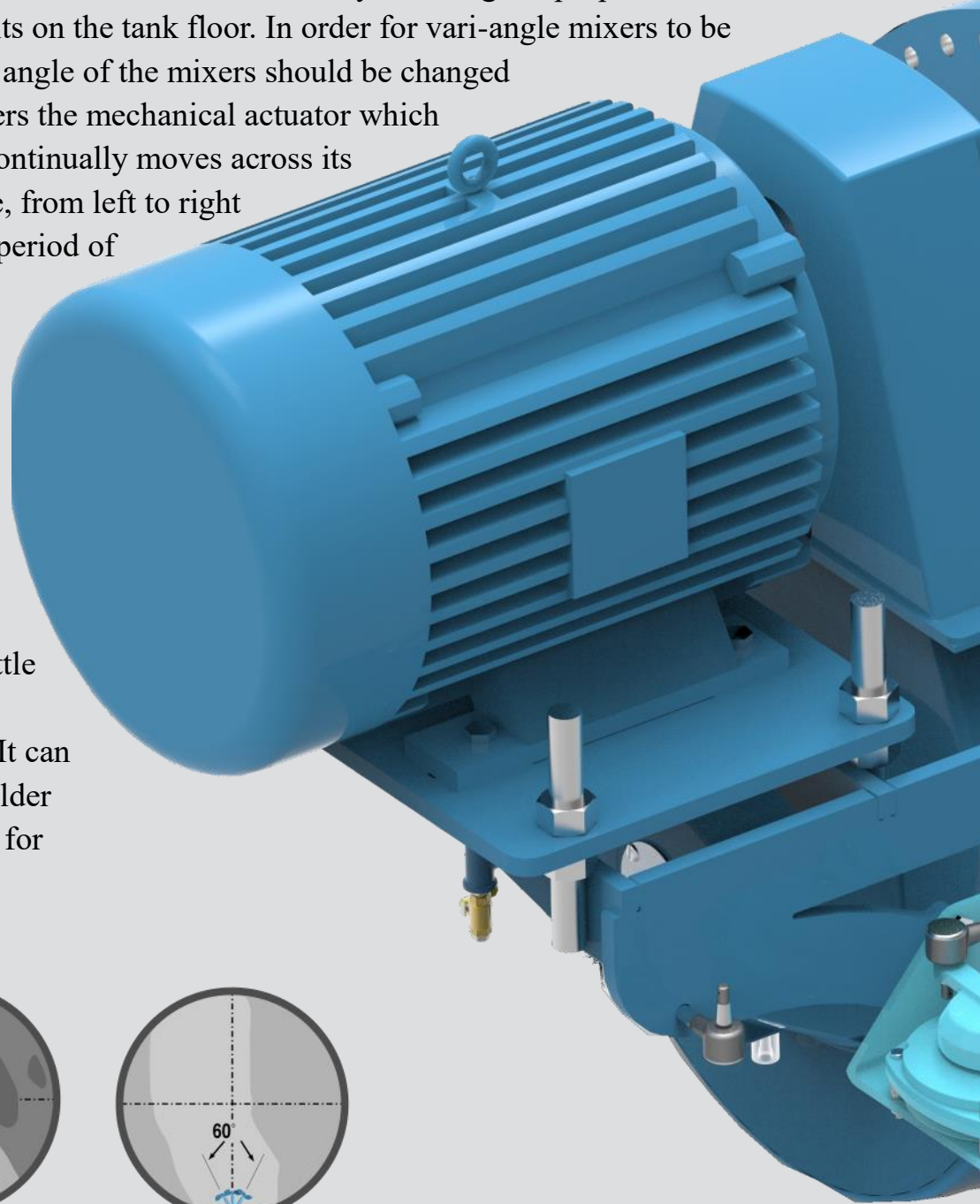
- SUPERIOR FLEX FATIGUE RESISTANCE
- LONGER RUNNING TIME
- 14MM PITCH
- UNMATCHED PERFORMANCE



# MECHANICAL ACTUATOR

The vari-angle feature of Jensen mixers has been proven to be effective for the resuspending of tank bottom sediment. It does so by directing the propeller flow stream(s) toward deposits on the tank floor. In order for vari-angle mixers to be fully effective the entry angle of the mixers should be changed periodically. Jensen offers the mechanical actuator which assures that the mixer continually moves across its sixty-degree entry angle, from left to right and back to left, over a period of approximately twenty-eight hours running time.

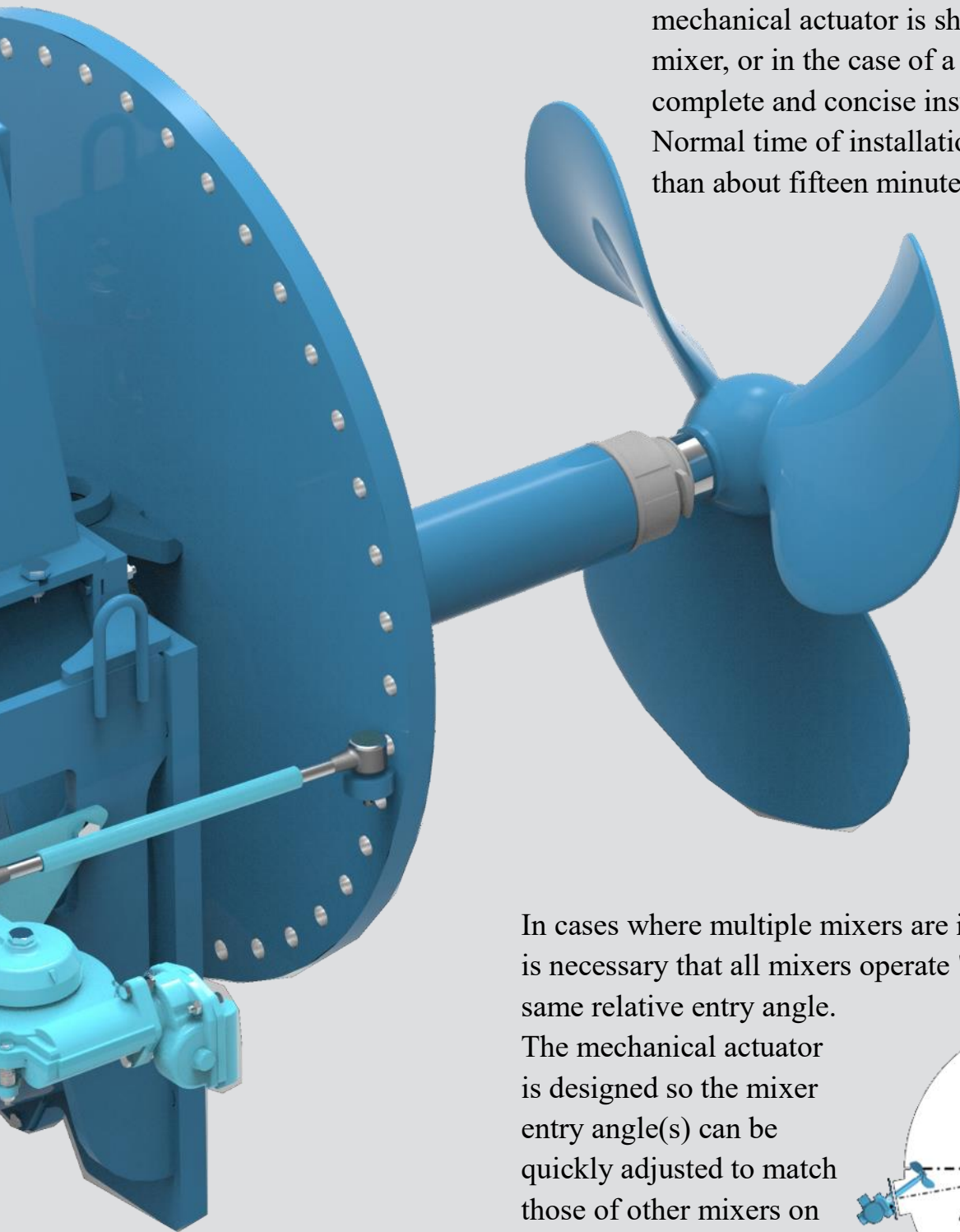
Obviously, any mechanical device requires energy for its operation, however, the Jensen mechanical actuator consumes so little energy as to be nearly impossible to measure. It can be easily retrofitted to older mixers without concern for modifications to power sources.



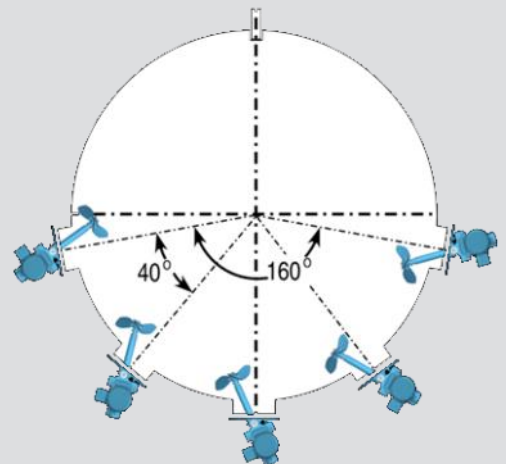
By using the mechanical actuator you can be sure of optimum effective use of the vari-angle feature without sending personnel to remote installations to change mixer entry angles.



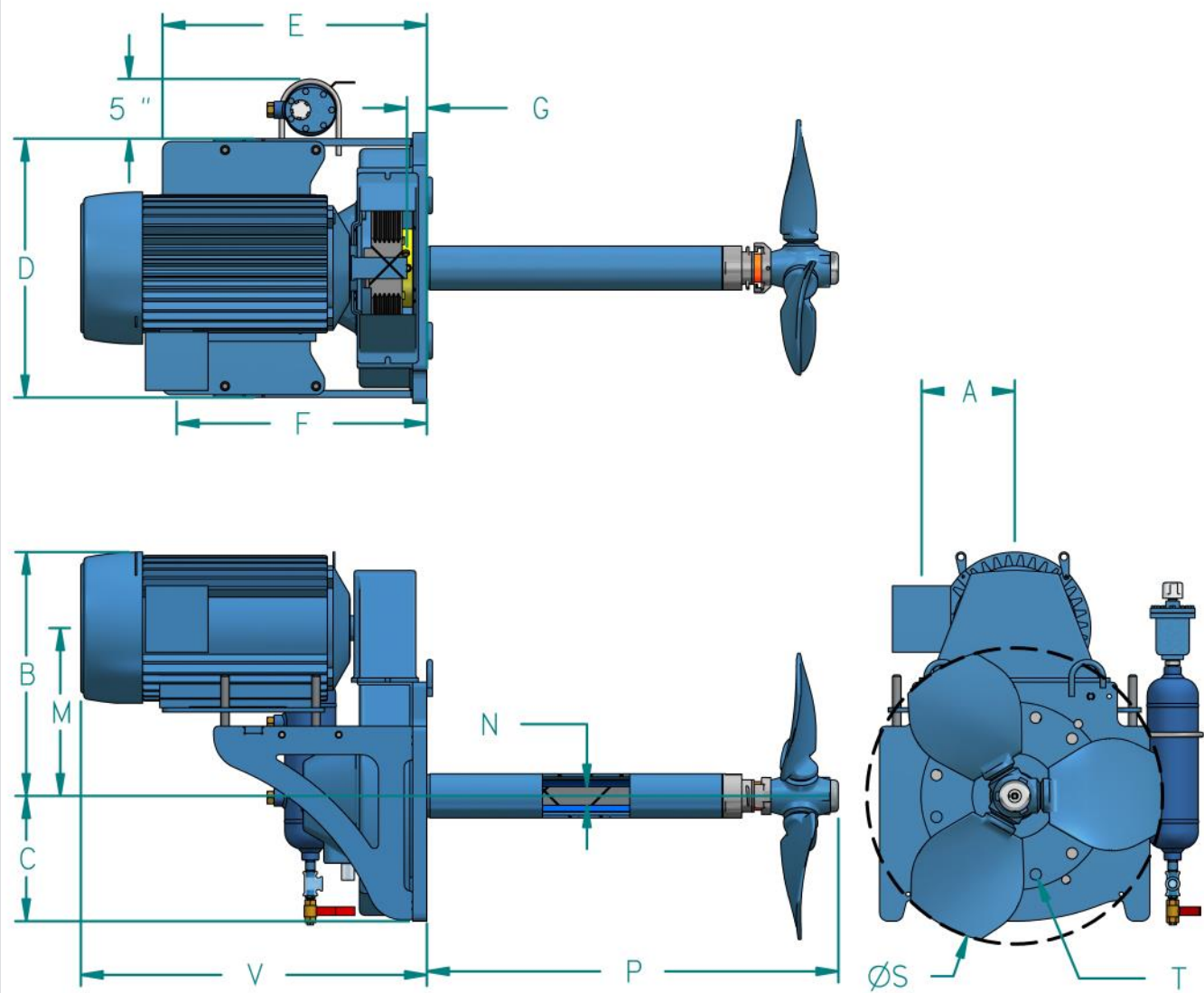
External power is not required and installation is simple, requiring only basic hand tools. Each mechanical actuator is shipped either on the mixer, or in the case of a retrofit, shipped with complete and concise installation instructions. Normal time of installation does not require more than about fifteen minutes per mixer.



In cases where multiple mixers are installed on one tank it is necessary that all mixers operate "in phase": or at the same relative entry angle. The mechanical actuator is designed so the mixer entry angle(s) can be quickly adjusted to match those of other mixers on the tank.



# FA DIMENSIONS



ALL DIMENSIONS IN INCHES

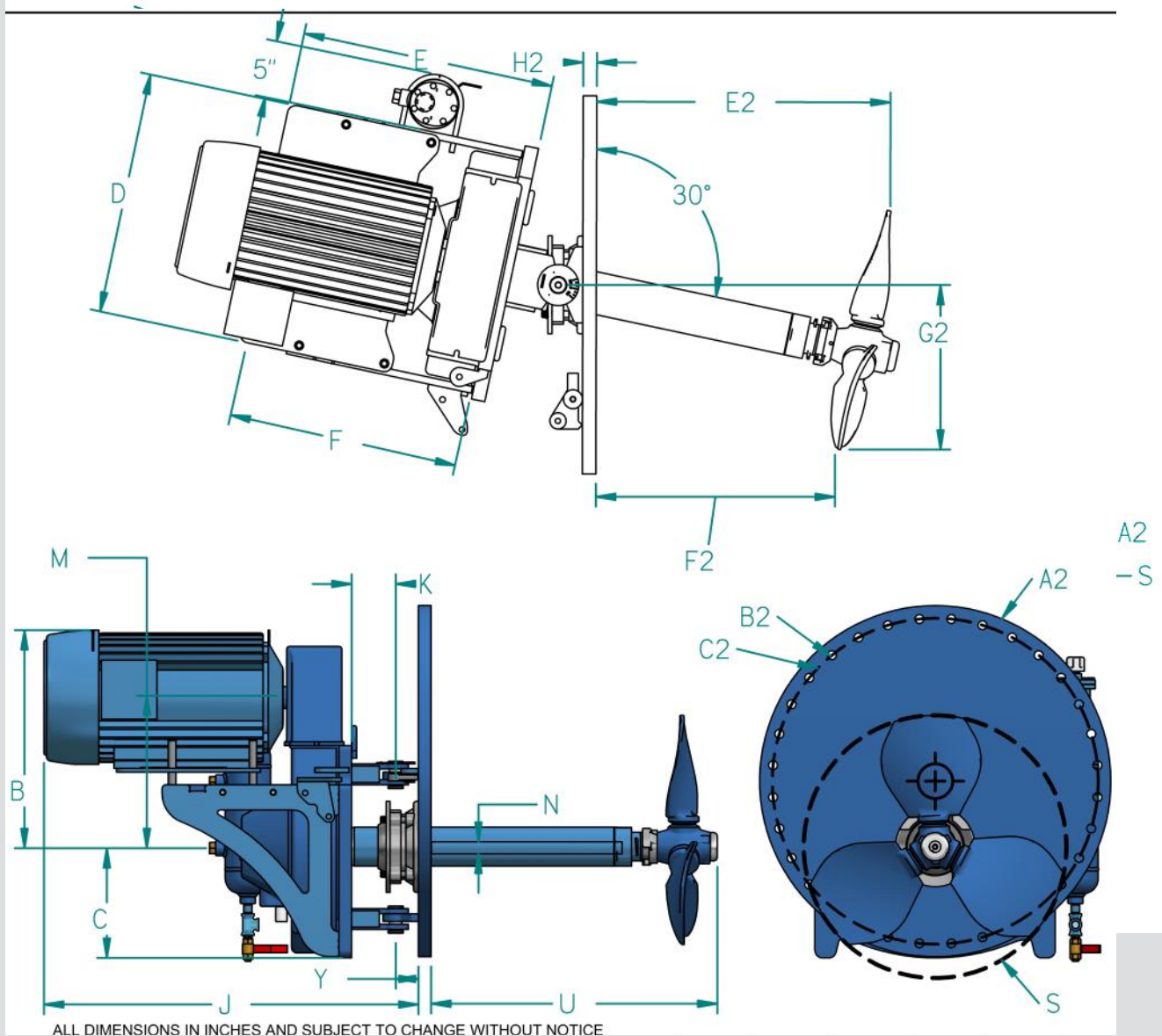
ALL DIMENSIONS IN INCHES

	A	B	C	D	E	F	G	M
420-			6.75	13.25	14.75		2.75	11.44
450-			11.00	22.25	21.50		1.88	15.25
480--			14.50	28.25	23.50		2.12	23.80

	N	P	R	S	T*	V
420-	1.250	31.125	5.87		8" 150# ANSI	
450-	1.625	36.375	8.00		10" 150# ANSI	
480--	2.625	41.375	7.38		12" 150# ANSI	

\* TOP HOLES STRADDLE  
VERTICAL CENTER LINE

# VA DIMENSIONS



ALL DIMENSIONS IN INCHES

	A	B	C	D	E	F	G	J	K
420-VA-			6.75	13.25	14.75		2.75		3.75
450-VA-			11.00	22.25	21.50		1.88		4.37
480--VA-			14.50	28.25	23.50		2.12		23.80

	M	N	R	S	U	Y	E2	F2	G2
420-VA-	11.44	1.250	5.875		25.37	2.00			
450-VA-	15.25	1.625	8.000		29.75	2.25			
480--VA-	23.80	2.625	7.375		34.12	2.25			

L	A2	B2		C2	D2			H2
MIXER C.L. FROM HORIZONTAL C.L.	PLATE O.D.	BOLT HOLES		BOLT CIRCLE DIA.	TOP HOLES STR. VERT.C.L.	TOP HOLE		PLATE THICKNESS
						ON VERT. C.L.	CLOCKWISE FROM C.L.	



***Mixers International, Inc.***

5354 SOUTH GARNETT ROAD, TULSA, OK 74147-5904 • P.O. BOX 470368, TULSA, OK 74147-0368  
TELEPHONES: 918-627-5770 800-826-5646 • FAX 918-663-4939

## **LIMITED WARRANTY**

Jensen Mixers are warranted against defects in materials or workmanship for a period of 12 months following date of purchase. This warranty is limited to replacement or repair of the agitator by Jensen only and does not cover consequential damages, removal, freight or re-installation. Electric motors are warranted by their respective manufacturers and are excluded from Jensen warranty.