



CHEMINEER AGITATOR DATA SHEET

Customer	:	Flexachem
Serial Number	:	143131-01
Model	:	30DTL-0.25
Document Number/Revision/By	:	143131-01-ADS

<u>Agitator Duty</u>	:	Blending
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Design Conditions

Liquid - Viscosity (cp)	:	15
Liquid - Specific Gravity	:	1
Operating Temperature (Deg C)	:	50
Design Temperature (Deg C)	:	(-)0 to 50 deg C
Operating Pressure (barg)	:	0.0
Design Pressure (barg)	:	0.0

Vessel Dimensions

Type:	:	cylindrical
Diameter or Length x Width (mm)	:	400
Straight Side (mm)	:	350
Top Head	:	ASME 80-10
Tophead (mm)	:	90
Bottom Head	:	ASME 80-10
Bottomhead (mm)	:	90
Mounting Nozzle (mm)	:	0
High Liquid level (m)	:	0.456
Low Liquid level (m)	:	0.106
Volume (m3)	:	0.053
Overall height	:	530

Agitator Details

Service Rating	:	1.5
Service Class	:	class III
Power (Hp)	:	0.33
Power (kW)	:	0.25
Speed Actual & Nominal (rpm)	:	970/1000

Shaft

Shaft - length (mm)	:	457
Diameter (mm)	:	25
Shaft Material	:	SS316L

Impellers

Impeller Type	:	JP-3
Impeller Diameter (mm)	:	125
Blade Width (mm)	:	35
Location on shaft (mm)	:	457
Impeller Material	:	SS316L
Stations	:	

Baffles

Chemineer recommended	:	yes
Number of Baffles	:	3
Baffle Width (mm)	:	33
Baffle Length (mm)	:	350
Baffle offset (mm)	:	6

Shaft Seal

	:	Lipseal
Make	:	Chemineer
Type	:	25 mm
Notes	:	FDA Silicon
Seal Support System	:	

Motor Details

	:	
Supply	:	400V 3Phase 50Hz IP55
Make	:	ABB
Inverter	:	yes - supplied by others.
Variable Speed	:	10:01

Mounting

Mounting type	:	Flange
Flange Size	:	6", 150lb ANSI

Mounting Loads

	:	
Mounted Weight (kg)	:	57
Shipping Weight (kg)	:	65
Bending Moment (Nm)	:	15
Torque (Nm)	:	6

Speed Sensor

:	yes
:	Pepperl & Fuchs NJ6-22-N-G.

Polishing

:	0.8 microns internal.
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Notes

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Chemineer
7 Cranmer Road, West Meadows
Derby DE21 6XT
Telephone: (01332) 363175
Facsimile: (01332) 290323

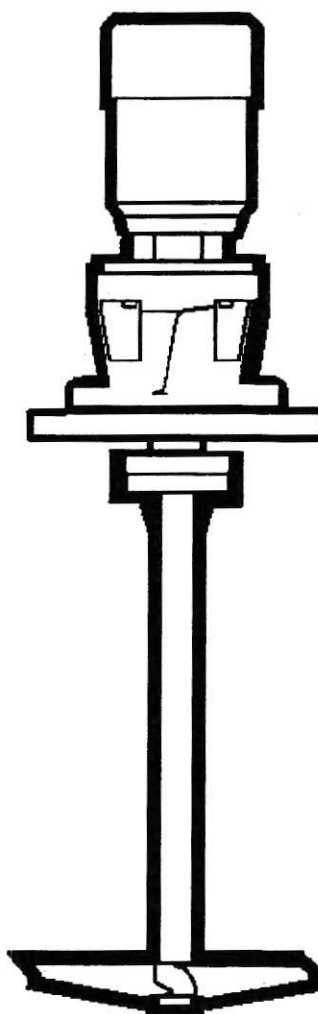
Customer Document

Chemineer Job No.	143131	
Customer Name	Flexachem	
Customer PO No.	042223	
Customer Equipment No.		
Document Title	I.O.M. Manual	
Customer Document No.		
Chemineer Document No.	143131-IOM	
Chemineer Revision No.	0	
Notes		



DT Small Mixers Installation, Operation, Maintenance Manual

MODEL 30DTL



MANUAL 29852

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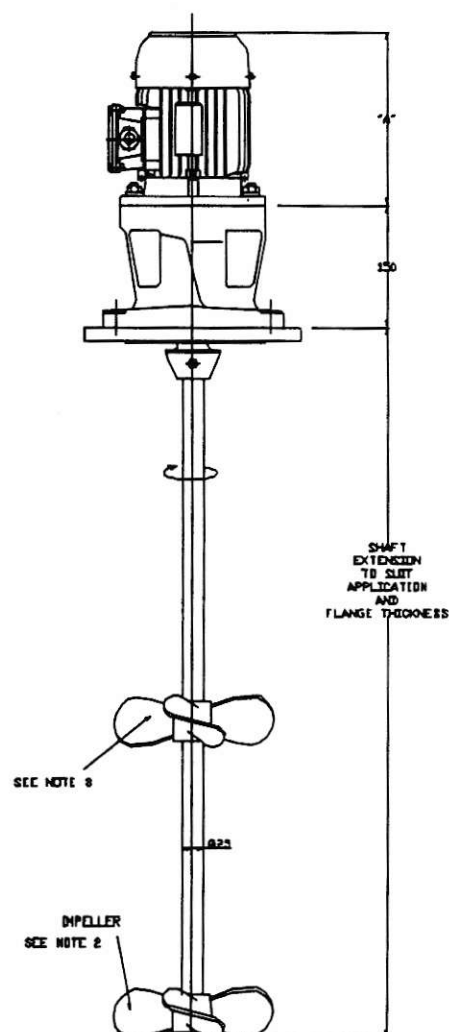
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INSTRUCTION MANUAL

SECTION 0

MODEL 30DTL DIMENSIONAL DRAWING

MOTOR POWER	HA	APPROX WEIGHT KGS
0.25KW	220	42
0.37KW	230	45
0.75KW	245	52
1.1KW	265	56
1.5KW	295	58



NOTES

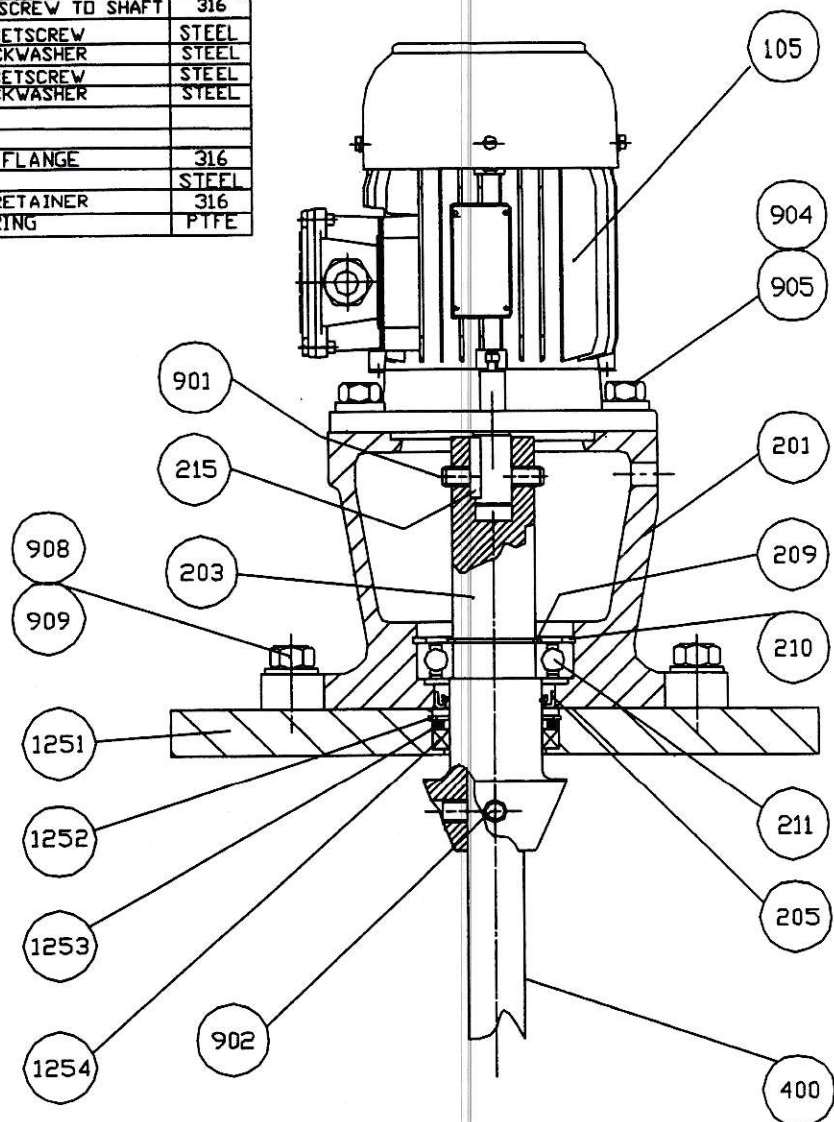
- ① MOTOR DIMENSIONS ARE FOR TEFV IP55 NON-HAZARDOUS AREAS ONLY. MOTORS ARE IEC.
- ② AGITATOR SHAFT LENGTH, IMPELLER DIA & QUANTITY AND FLANGE THICKNESS TO SUIT APPLICATION.
- ③ OPTIONAL ADDITIONAL IMPELLER LOCATED AT A POSITION OF BETWEEN TWO AND THREE IMPELLER DIAMETERS ABOVE THE LOWER IMPELLER.

INSTRUCTION MANUAL

SECTION 0

SECTIONAL ARRANGEMENT DRAWING

ITEM	QTY	MATERIAL	MATERIAL
105	1	GEARMOTOR	
201	1	PEDESTAL	CAST
203	1	DRIVE SHAFT	316
205	1	LIP SEAL	
209	1	EXTERNAL CIRCLIP	STEEL
210	1	INTERNAL CIRCLIP	STEEL
211	1	BEARING	STEEL
215	1	KEY	STEEL
400	1	EXTENSION SHAFT	316
901	2	GRUBSCREW	316
902	2	SOCKET SETSCREW TO SHAFT	316
904	4	HEX HEAD SETSCREW	STEEL
905	4	FLAT & LOCKWASHER	STEEL
908	4	HEX HEAD SETSCREW	STEEL
909	4	FLAT & LOCKWASHER	STEEL
1251	1	MOUNTING FLANGE	316
1252	1	CIRCLIP	STEEL
1253	1	PACKING RETAINER	316
1254	1	PACKING RING	PTFE



INSTRUCTION MANUAL	SECTION 1	GENERAL INSTRUCTIONS
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1.1 Introduction

The 30DTL mixer supplied is a direct drive flange mounted mixer for use on closed vessels. The mounting flange is fitted with packing rings suitable for atmospheric use on closed vessels. Normally the mixer is shipped with the drive head assembled. The chuck style drive shaft, which has bearing support, extends from the flange for extension shaft attachment. The main shipping carton will contain the drive assembly, mounting flange, impellers, any other accessories, and this manual. The shaft is shipped separately.

Following the instructions in this manual will give the best performance of the mixer. Correct assembly of the mixer requires referring to both the unit assembly drawing and this manual.

1.2 CE Marking

Any CE marking and associated documentation applies to the mixer only on the basis it is an individual product. After incorporation of the mixer into the users mixing system it becomes an integral part of a larger installation. CE Marking of this larger installation is the responsibility of others.

1.3 Safety Checklist

- All site rules must be observed for the installation and operation of this mixer.
- Ensure all external connections are made in accordance with applicable codes of practice.
- The mixer must be earthed.
- Do not touch rotating components
- During servicing of the mixer the motor must be isolated from the power supply and the supply locked out.
- Do not operate the mixer for applications other than for its intended use.
- Do not modify the mixer without reviewing the change with Chemineer Ltd.
- This Installation, Operation and Maintenance Manual should be reviewed and understood before commencing installation and operation.

1.4 Initial Inspection

- Upon receipt check all cartons and equipment for shipping damage. Report shipping damage to your local Chemineer representative or the factory in Derby. A claim should be filed immediately with the carrier involved.
- Check the contents of the cartons. Do not open the cartons until familiar with the product through reference to the drawings and this manual. Care should be taken during unpacking and handling. Do not discard the packaging without making sure that all the agitator parts have been removed.

If the shipment is not complete, or it is not clear what has been received please contact your local Chemineer representative.

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INSTRUCTION MANUAL	SECTION 1	GENERAL INSTRUCTIONS
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1.4 Chemineer Assistance

Chemineer maintains a Parts and Field Service Department ready to assist with any servicing requirement. To use this facility please contact your local representative, or call the Parts /Field Service personnel at the Chemineer factory in Derby, England:

Chemineer
Cranmer Road
West Meadows
Derby DE21 6XT
England

Telephone: + 44 (0) 1332 363175

Facsimile: + 44 (0) 1332 290323

Services available are:

Installation and Maintenance training seminars
Installation and start up services or supervision
Preventative maintenance planning
Parts order service
Special instructions

1.5 Storage

Chemineer mixers are carefully engineered and manufactured and must be protected against corrosion during prolonged periods of inactivity. If the procedures outlined below are not followed, any expressed or implied warranty may be voided.

The mixer has been prepared for short term storage prior to despatch. This storage period should not exceed six months.

- Do not remove protective packaging or coatings (generally applied to the motor output shafts) until the mixer is to be put into service.
- If equipment is to be stored do not stack the cartons.
- Store in a clean dry indoor location that is free from wide variations in temperature. Storage area should be free from vibration and excessive heat.
- Inspect for external corrosion at six month intervals. Apply rust preventative as required.
- Rotate the shaft system 10 to 15 times at least once a month to reduce the possibility brinelling of the bearings and to redistribute bearing grease.

Electric motors are not suitable for long term storage and if subject to adverse moisture conditions damage may occur to the windings. This will require a drying operation as a minimum. If problems due to storage seem to have occurred we recommend you contact the motor manufacturer.

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INSTRUCTION MANUAL	SECTION 2	MOUNTING & INSTALLATION
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2.1 VESSEL EVALUATION

Refer to the mixer assembly drawing for the required support structure design loads.

In designing the structure to accommodate bending moment, the structure should be sufficiently rigid so that the mixer extension shaft will not move more than 1.3mm per metre of length due to deflection of the mounting system.

These units are supplied with a standard flange designed to mount on an ANSI or DIN nozzle or pad located on the vessel top head. Refer to the mixer assembly drawing for agitator mounting flange size and type. Special flanges, including ferrule type, are also available.

The following methodology will help determine if the designated vessel top head is sufficiently rigid to properly support a mixer or if reinforcement through gusseting is required.

1. Evaluate the designated vessel top head. Recommended head thicknesses are listed for unguiseted nozzles (*Table 1*) and unguiseted pads (*Table 2*). If the designated vessel head thickness conforms to the given dimension, refer to *page 10* for **Mixer Installation**. No further vessel head thickness evaluation is required.


**TABLE 1: RECOMMENDED MINIMUM HEAD THICKNESSES, "t" mm
FOR UNGUSSETED NOZZLE MOUNTING**

CASE SIZE	TANK DIAMETER, "T" Metres									
	0.6	0.75	1.0	1.25	1.5	1.75	2.0	2.5	2.75	3.0
30DTL	6.0	6.0	10.0	10.0	10.0	12.5	12.5			

 Cells shaded in grey are "not recommended".

**TABLE 2: RECOMMENDED MINIMUM HEAD THICKNESS, "t" mm
FOR PAD MOUNTING**

CASE SIZE	TANK DIAMETER, "T" Metres									
	0.60	0.75	1.0	1.25	1.50	1.75	2.0	2.5	2.75	3.0
30DTL	10.0	10.0	10.	12.5	12.5	16.0	16.0			

 Cells shaded in grey are "not recommended".

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VESSEL EVALUATION

1. If the designated vessel top head **does not** meet *Table 1* or *Table 2* criteria, reinforcement support may be added to provide the equivalent rigidity of a thicker head, providing that the existing head thickness meets the minimum thicknesses as noted in *Table 3*, below, for nozzles or pads. Reference *Figure 1*, page 8.

If the vessel head still does not meet the minimum thicknesses listed below, consult Chemineer Field Service for assistance.

**TABLE 3: RECOMMENDED MINIMUM HEAD THICKNESSES, "t"mm
FOR REINFORCED NOZZLE OR PAD MOUNTING**

CASE SIZE	TANK DIAMETER, "T" Metres									
	0.6	0.75	1.0	1.25	1.5	1.75	2.0	2.5	2.75	3.0
30DTL	5.0	5.0	5.0	6.0	6.0	6.0	6.0			

 Cells shaded in grey are "not recommended".

2. If reinforcement is applicable, refer to *Tables 4 and 5*, below and *Figure 2*, page 9 for proper reinforcement dimensions.

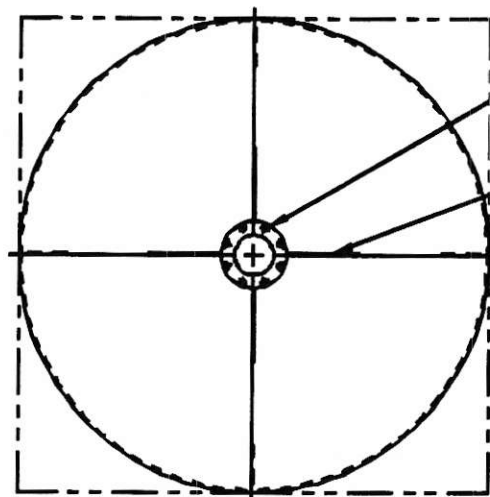
TABLE 4: MOUNTING NOZZLE REINFORCEMENT DIMENSIONS, inches (mm)

A ANSI – DIN	B NOZZLE HEIGHT MINIMUM	C GUSSET DIMENSI ON	D BACKUP PLATE RADIUS
6" (150)	100mm	165mm	300mm

TABLE 5: MOUNTING PAD REINFORCEMENT DIMENSIONS, inches (mm)

A ANSI – DIN	D BACKUP PLATE RADIUS
6" (150)	300mm

VESSEL EVALUATION



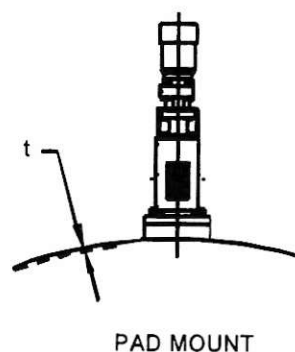
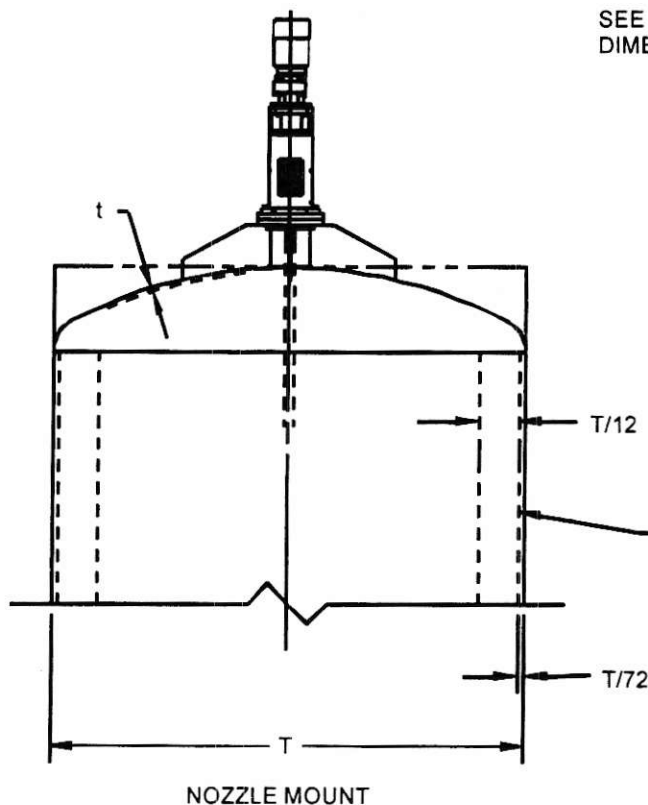
6"-150# FLANGE, BOLT HOLES
STRADDLE CENTERLINE

EQUALLY SPACED GUSSETS
(NOZZLE ONLY) QUANTITY OF
GUSSETS IS ONE HALF OF THE
NUMBER OF MOUNTING FLANGE
BOLT HOLES.
GUSSET THICKNESS EQUALS ONE
HALF OF HEAD THICKNESS

SEE TABLES 1 OR 2 FOR UNREINFORCED
VESSEL HEAD THICKNESSES "t".

SEE TABLE 3 FOR REINFORCED MOUNTING

SEE TABLES 4 OR 5 FOR REINFORCEMENT
DIMENSIONS.



UNLESS OTHERWISE SPECIFIED
(4) BAFFLES AT 90°.
BAFFLES BY OTHERS.

Figure 1: Model DTL Installation

VESSEL EVALUATION

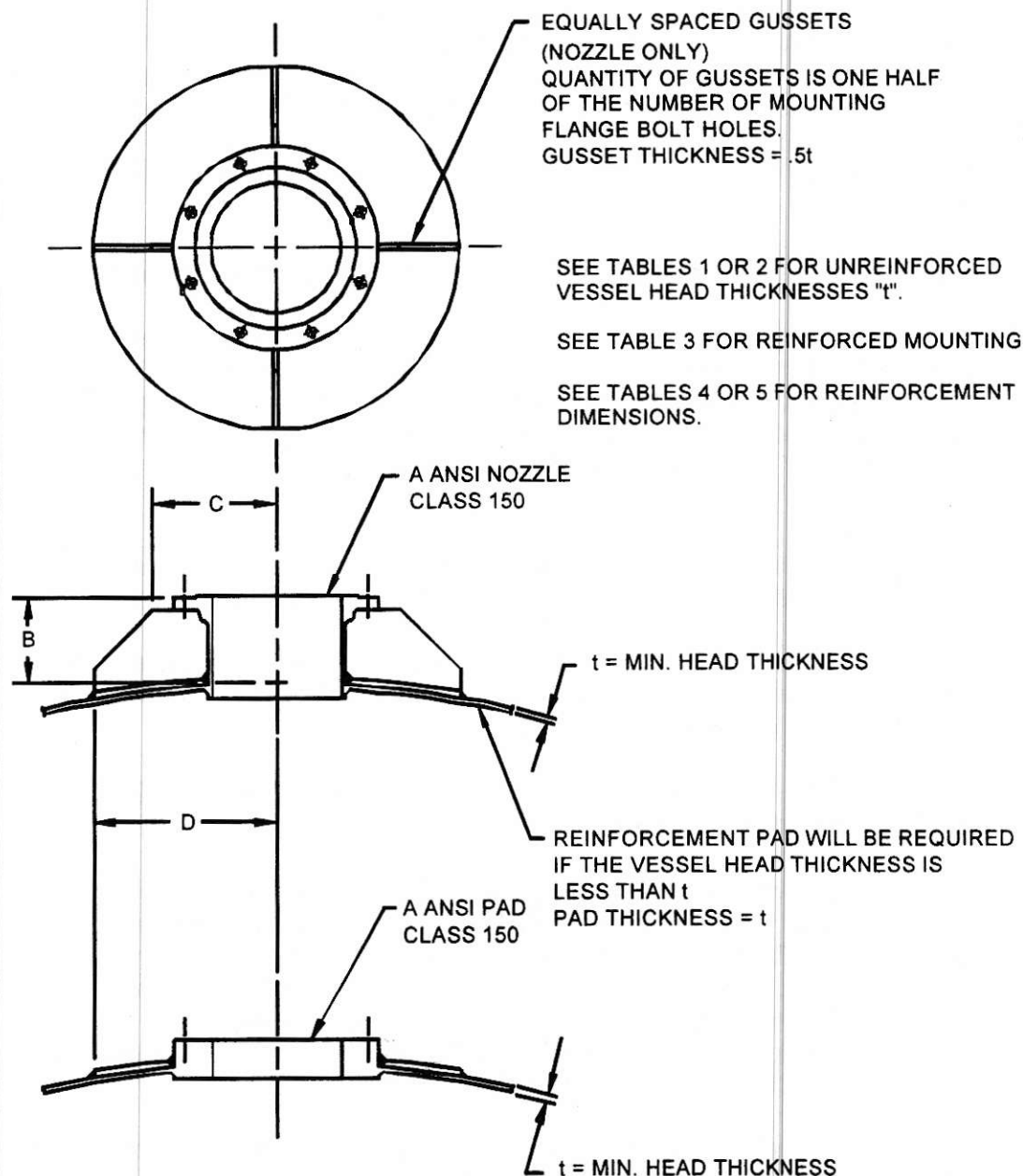


Figure 2: Model DTL Mounting, Nozzle/Pad

INSTRUCTION MANUAL	SECTION 2	MIXER INSTALLATION
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2.2 MIXER INSTALLATION

Correct unit installation requires both the unit assembly drawing and this manual.

30DTL models are direct drive mixers with a ring of packing in the mounting flange for closed tank applications. The drive unit is typically shipped with the motor [105] mounted to the cast housing [201] and the mounting flange [1251] complete with shaft seal [1254] bolted to the housing. A chuck drive shaft [203] with bearing support extends from the mounting flange for extension shaft attachment. Also in the main box will be the impellers [500] and all other required accessories. Shafting [400] is shipped separately.

Be certain to locate all contents before discarding packaging materials.

1. Remove all shipping constraints. A nylon strap, or similar, should be secured around the mixer housing [201] to lift and move the mixer. Please note the approximate net weight of the unit as shown on the assembly drawing and use caution when moving or lifting these items. *At no point during installation or maintenance of the mixer, should the extension shaft ever be used as a lifting point!*

WARNING: *DO NOT connect the mixer to the power source until the unit is fully assembled and properly positioned in the vessel.*

2. Lift the mixer shaft [400] and lower it into the vessel. All welded shaft assemblies may require an alternate vessel opening to lower the shaft assembly through, prior to raising it through the mixer mounting flange.
3. Raise the shaft until approximately 250mm is above the vessel mounting nozzle and block to hold in this position.
4. Lift the mixer drive assembly using a crane or hoist and lower down to the vessel mounting nozzle. As the chuck driveshaft below the mixer mounting flange reaches the shaft protruding from the vessel carefully guide the shaft into the chuck driveshaft. Allow the extension shaft to enter the chuck until the shaft recess is in line with the chuck holding socket setscrews [902]. Screw in the setscrews to lock the extension shaft inside the driveshaft. These setscrews are into a "Threadlock" thread form to lock the screws.
5. Lower the complete mixer assembly onto the vessel nozzle and bolt down using customer supplied gasket and fastener set.

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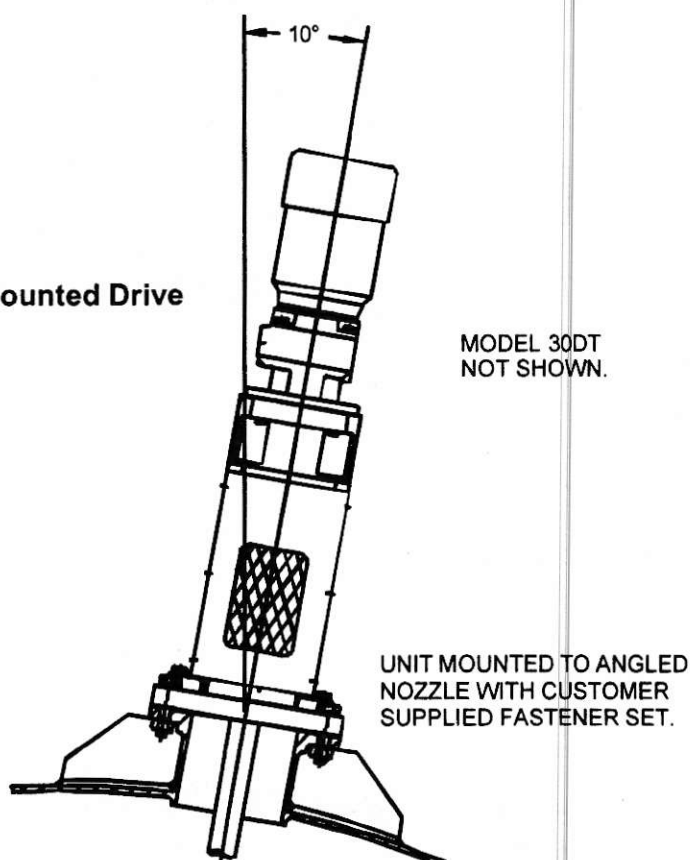
INSTRUCTION MANUAL	SECTION 2	MIXER INSTALLATION
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6. For single impeller assemblies, install the impeller with the lower hub face even with the shaft end. Impeller orientation should allow the driving edge of the impeller to pump toward the bottom of the mixing vessel. Tighten the impeller setscrews (typically quantity two).
7. For dual impeller assemblies, space the upper impeller at a recommended minimum of two impeller diameters and maximum of three impeller diameters above the lower impeller. The upper impeller should be a minimum of one impeller diameter below the liquid surface at all times during mixer operation. Locate the impellers [500] on the shaft in accordance with the drawing supplied to the order and lock in position by tightening the self locking screws in the impeller hub. Lift the shaft up through the mixer mounting flange from the inside of the vessel and block it in place such that the shaft end is approximately 150mm above the mounting flange top surface.

OPTIONAL ANGLE MOUNTED DRIVE

DTL mixers may be angle mounted. See *Figure 5, page 13* for mixer nozzle location. See *Figure 1, page 8* for structural requirements. The drive unit may be angle mounted in any orientation. Unit will attach to vessel nozzle using customer supplied fasteners.

Figure 3: Angle Mounted Drive



MIXER INSTALLATION

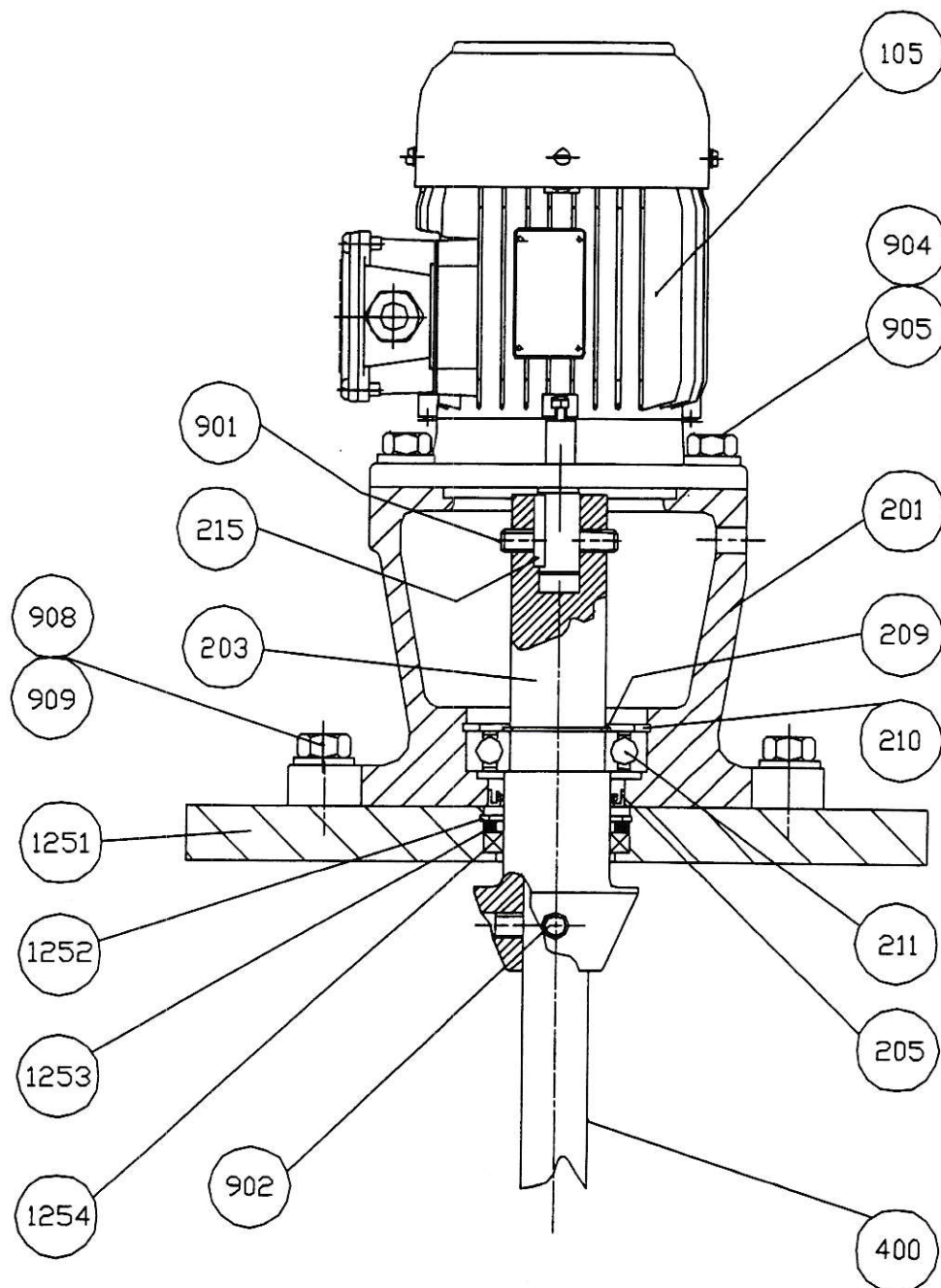


Figure 4 Sectional of 30DTL

**MIXER INSTALLATION
OPTIONAL ANGLE MOUNTED DRIVE**

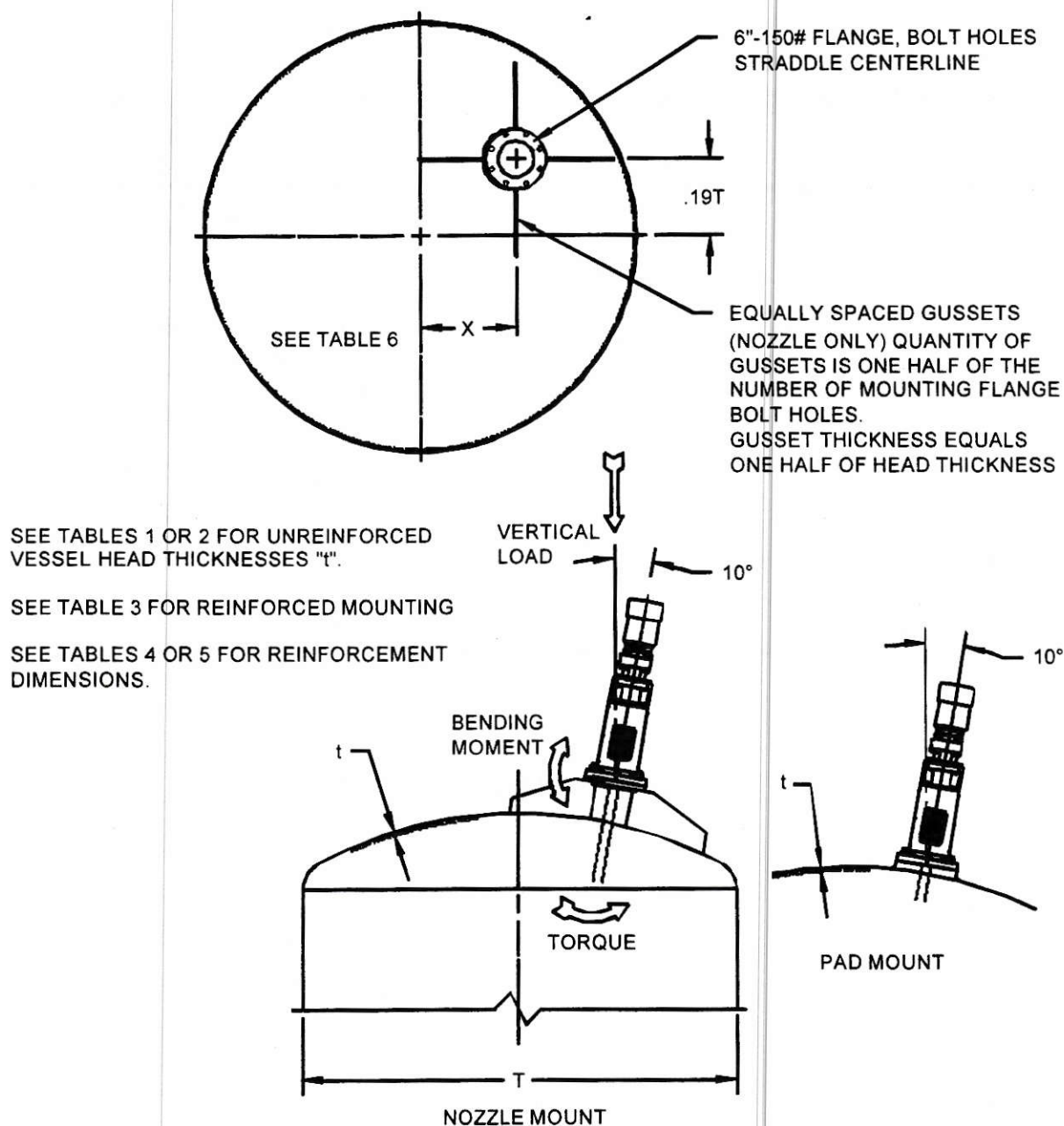


Figure 5: Angle Mount Installation

INSTRUCTION MANUAL	SECTION 2	MIXER INSTALLATION
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**MIXER INSTALLATION
OPTIONAL ANGLE MOUNTED DRIVE**

SHAFT EXTENSION RANGE MM	"X" DIMENSION MM	MINIMUM TANK DIAMETER "T" MM
500 – 950	125	450
960 – 1350	190	560
1360 – 1950	275	810
1960 – 2800	395	1170
2810 – 3430	540	1625

TABLE 6: OFF-CENTER POSITIONING

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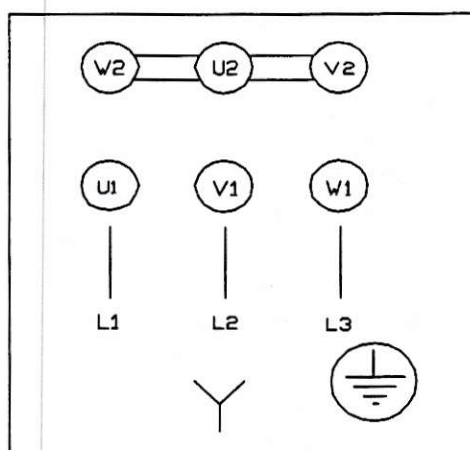
2.3 Motors

- Check the nameplate data on the motor to ensure the available power supply agrees with the motor requirements. Protective devices should be of the proper size and rating to safely carry the load and interrupt the circuit on overloads.
- If the motor has been stored in a damp location, the windings may require drying.

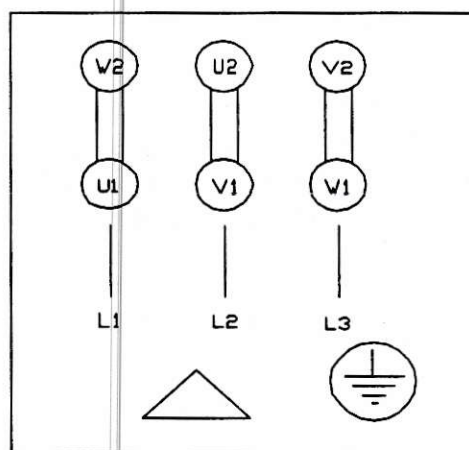
NOTE: Do not obstruct the normal flow of ventilating air through or over the motor.

- Chemineer is not responsible for supplying the necessary motor connections and for properly wiring the motors. Refer to wiring diagrams shown in *Figure 8 below* for normal motor connections. Consult *Chemineer Field Service* if there are any questions pertaining to the installation or operation of the motor or mixer unit.
- Connect the motor in accordance with the National Electric Code and local requirements, but do not make the connections permanent until the motor rotation has been checked. Jog the motor to check for correct rotation prior to securing wiring. Normal mixer rotation is clockwise when viewed from above.
- To reverse direction of rotation change over any two supply leads.

If any additional motor auxiliary devices such as space heaters or temperature sensors are used, these should be connected in proper circuits and insulated from motor power cables.



Direct on line (STAR) starting
(Normal for high voltage)



Direct on line (DELTA) starting
(Normal for low voltage)

Figure 6 Wiring Diagrams for 3 phase single speed induction motor

INSTRUCTION MANUAL	SECTION 2	MIXER INSTALLATION
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MIXER INSTALLATION

2.4 TIGHTENING TORQUES

THREAD SIZE	STAINLESS STEEL ⁽¹⁾				CARBON STEEL ⁽²⁾	
	GRADE 50		GRADE 70		GRADE 8.8	
	Nm	Ft lb	Nm	Ft lb	Nm	Ft lb
M6	3.3	2.4	7.0	5.2	12.1	8.9
M8	7.8	5.8	17.0	12.5	29.4	21.6
M10	15.0	11.0	33.0	24.3	58.3	43.0
M12	27.0	20.0	57.0	42.0	102.0	75.0
M16	65.0	48.0	140.0	103.0	252.0	186.0

Tighten all fasteners to values shown unless specifically instructed to do otherwise. Lubricate all fasteners at assembly with grease, oil or an anti-seize material. Bolt threads and contact surfaces of bolt heads and nuts should be lubricated. The assembly of unlubricated stainless steel fasteners cannot be recommended

⁽¹⁾ If fasteners cannot be lubricated, multiply table values by 1.25.

⁽²⁾ If fasteners cannot be lubricated, multiply table values by 1.33.

TABLE 7

INSTRUCTION MANUAL	SECTION 3	OPERATION
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3.1 Mixer operation

Proper operating procedures will allow maximum performance of your Chemineer DT Mixer. The following list will assist in the safe operation of your unit.

- **Do not** operate the mixer before reading and following the instructions on all tags and nameplates attached to the unit.
- **Do not** operate the mixer with less than one propeller's diameter liquid coverage above the uppermost propeller. Increased side loading caused by operations at liquid level will decrease unit life.
- **Do not** operate the unit in a fluid with a specific gravity or viscosity higher than that for which the unit was designed.
- **Do not** attempt to start the unit with the mixing propeller buried in solids or a "set up" fluid.
- **Do not** locate tank internals or other rotating equipment close to the mixer propellers or extension shaft.
- **Do not** make any modifications to the mixer unit in the field (i.e. motor horsepower, mixer speed, shaft length, impeller diameter, etc.) without reviewing the change with your local Chemineer representative or Chemineer Field Service.

CAUTION: There may be a speed range where the unit cannot be operated because of shaft resonant frequency. This range must be avoided or passed through quickly or destructive forces can be generated. On mixers where no speed variator are fitted these resonant problems have been addressed. Normal start up acceleration is sufficient to pass through any problem areas. Refer to the main unit assembly drawing for speed range information or consult your local Chemineer office.

Should there be problems operating the mixer, confirm that the installation is correct. If you are unable to resolve the problem, contact your local Chemineer representative.

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INSTRUCTION MANUAL	SECTION 3	OPERATION
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3.2 Motor operation

Air circulation is very important to get full performance and long life from an electric Motor. Do not block the suction inlets on fan cooled motors. Motor life will be decreased if its temperature exceeds its thermal rating. The allowable temperature is stamped on the motor nameplate.

Prior to permanently wiring the electric motor:

- Check nameplate data on the motor to ensure the available power supply agrees with the motor requirements. Protective devices and cables should be the correct size and rating for safe load carrying and to interrupt the circuit on overload.
- Check motor leads with connection diagrams on motor nameplate and/or conduit box so that the correct connections are made. All motors should be installed in accordance with the National Electric Code and local requirements.
- Check the output shaft rotation against the proper rotation indicated on the assembly drawing. This is normally clockwise when viewed from the top. For standard three-phase electric motors, the rotation is reversed by switching any two power leads.
- Check operating motor amperage against nameplate amperage.

The motor should start quickly and run smoothly. If the motor should fail to start or make abnormal noise, immediately shut the motor off, disconnect it from the power supply, and investigate the cause. If the problem cannot be corrected, contact your local Chemineer representative for assistance.

NOTE: Work on the electric motor should be carried out by a suitably qualified electrical engineer.

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INSTRUCTION MANUAL	SECTION 4	MAINTENANCE
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4.1 Routine Maintenance

The hardware on the mixer should be checked for security after one weeks operation and every six months thereafter. The expected life of the bearings is in excess of 20,000 hours depending on size, duty, speed and environmental conditions.

4.2 Lubrication

On the DTL mixer all bearings have double shields fitted, are greased for life and do not require additional lubrication.

4.3 Mixer Removal & Disassembly

Refer to sectional drawing page 3 and *Figure 4 on page 12.*

CAUTION: *Prior to removing mixer, review the installation to assure that all safety issues are resolved.*

1. Lock out and disconnect all power to the mixer motor and any optional devices.
2. Remove the mixer holding down bolts from the vessel mounting nozzle and lift the assembly to height where the chuck coupling can be accessed.
3. Remove the extension shaft [400] by releasing the two setscrews [902]. Support the shaft at the nozzle.
4. Remove the mixer drive assembly from the tank and move to a servicing area.
5. Rotate the chuck drive shaft [203] until one of the driveshaft setscrews [901] is aligned with the setscrew access hole located in the housing [201]. Insert a hex head Allen key into the access hole and engage the setscrew. Loosen the setscrew. Rotate the driveshaft 180 degrees and remove the second setscrew.
6. Remove the motor mounting bolts [904]. Remove the motor [105] .
7. From the housing assembly remove the motor shaft setscrews [901] from the driveshaft. Remove the snap ring [209] from the drive shaft.
8. Mount the assembly, motor end upwards, in an arbor press. Press the drive shaft out of the housing assembly.
9. Remove the snap ring [210] from the housing.
10. Turn the assembly over, motor drive end down, and remove the mounting flange [1251] by removing the 4 setscrews [908].
11. Remove the circlip [1252] from the mounting flange central bore.

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INSTRUCTION MANUAL	SECTION 4	MAINTENANCE
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12. Remove the packing retainer [1253] and single ring of packing [1254].
13. With the housing still in the up turned position remove the lip seal [205].
14. Press the bearing [211] out of the housing.

*The mixer drive is now fully disassembled. Clean parts and inspect for wear.
Replace worn parts as required*

4.4 Mixer Assembly

Refer to sectional drawing page 3 and Figure 4 on page 12

1. Mount the housing [201], motor mounting end upwards in an arbor press. Press the bearing [211] into the housing, to the shoulder of the housing bearing bore.
NOTE: Apply press to the outer bearing race only, to avoid damaging the bearing.
2. Install the snap ring [210] into the housing bearing bore.
3. Turn the housing over, motor mounting end down. Install the lip seal [205] into the housing (seal lip facing the bearing, flush with the bottom of the housing).
4. Fit a new 9.5mm square ring of packing into the mounting flange bore [1254]. Place the packing retainer [1253] on top and hold in place by fitting circlip [1252]
5. Fit the mounting flange [1251] to the housing with the 4 setscrews [908]
6. Support the housing, motor mounting end down, by resting the inner race of the bearing [211] on a suitable pipe or tube fixture. *NOTE: The bearing inner race must be supported while installing the drive shaft to avoid damaging the bearing.*
7. Apply grease to the lip of the lip seal [205].
8. Press the chuck drive shaft [203] into the bearing [211] to the shoulder of the shaft.
9. Install snap ring [209] onto the drive shaft.
10. Install the two motor driveshaft setscrews [901].
11. Align the motor shaft with the driveshaft and install the motor [105] onto the housing.

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12. Install the motor mounting bolts [904] and lockwashers [905]. Tighten bolts securely.
13. Rotate the flanged drive shaft [203] until one of the motor driveshaft setscrews [901] is aligned with the setscrew access hole located in the housing [201]. Insert a hex head Allen key into the access hole and engage the setscrew. Tighten setscrew securely. Repeat for the second setscrew by rotating the driveshaft 180 degrees.

Do not install the extension shaft at this time. Refer to the **Mounting & Installation** section of the manual for mixer drive installation instructions.

4.5 PACKING RING REPLACEMENT (MOUNTING FLANGE SEAL)

30DTL models are mixers fitted with a simple shaft seal. This seal is not intended to seal against pressure and liquid product but will hold vessel vapours and prevent ingress to the vessel at the point of shaft entry.

The lower flange of the pedestal has a groove against the mounting flange to act as an indicator should the packing ring fail to the extent where product vapours or condensation escape from the vessel.

To replace the single ring of packing follow the instructions provided for "Mixer Removal & Disassembly" on the previous pages. Replacing the packing ring as per step 4 in "Mixer Assembly".

INSTRUCTION MANUAL	SECTION 5	SPARE PARTS
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5.1 Parts List

Below is a parts list for the 30DTL mixer. Please refer to the sectional drawing on Page 3 of this manual for location of these parts.

Part	Description	Qty
105	Electric Motor	1
201	Pedestal	1
203	Driveshaft	1
205	Lip seal	1
209	Circlip (External)	1
210	Circlip (Internal)	1
211	Bearing	1
400	Extension shaft	1
500	Impeller or propeller	1 or 2
901	Grubscrew (Motor to Driveshaft)	2
902	Socket head setscrew (Chuck coupling)	2
904	Hex head setscrew (Motor to pedestal)	4
905	Lockwasher (Motor to pedestal)	4
908	Hex head setscrew (Pedestal to mounting flange)	4
909	Locking washers (Pedestal to mounting flange)	4
1251	Mounting Flange	1
1252	Circlip (Internal)	1
1253	Packing Retainer	1
1254	Packing Ring	1

5.2 Ordering Spare Parts

When ordering spare parts please contact your local Chemineer representative or our Customer Service Department stating:

- Model designation
- Order number
- Item number
- Part description
- Quantity required

Chemineer
Cranmer Road
West Meadows
Derby DE21 6XT
England
England

Telephone: + 44 (0) 1332 363175 Facsimile: + 44 (0) 1332 290323

Your local representative is :

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