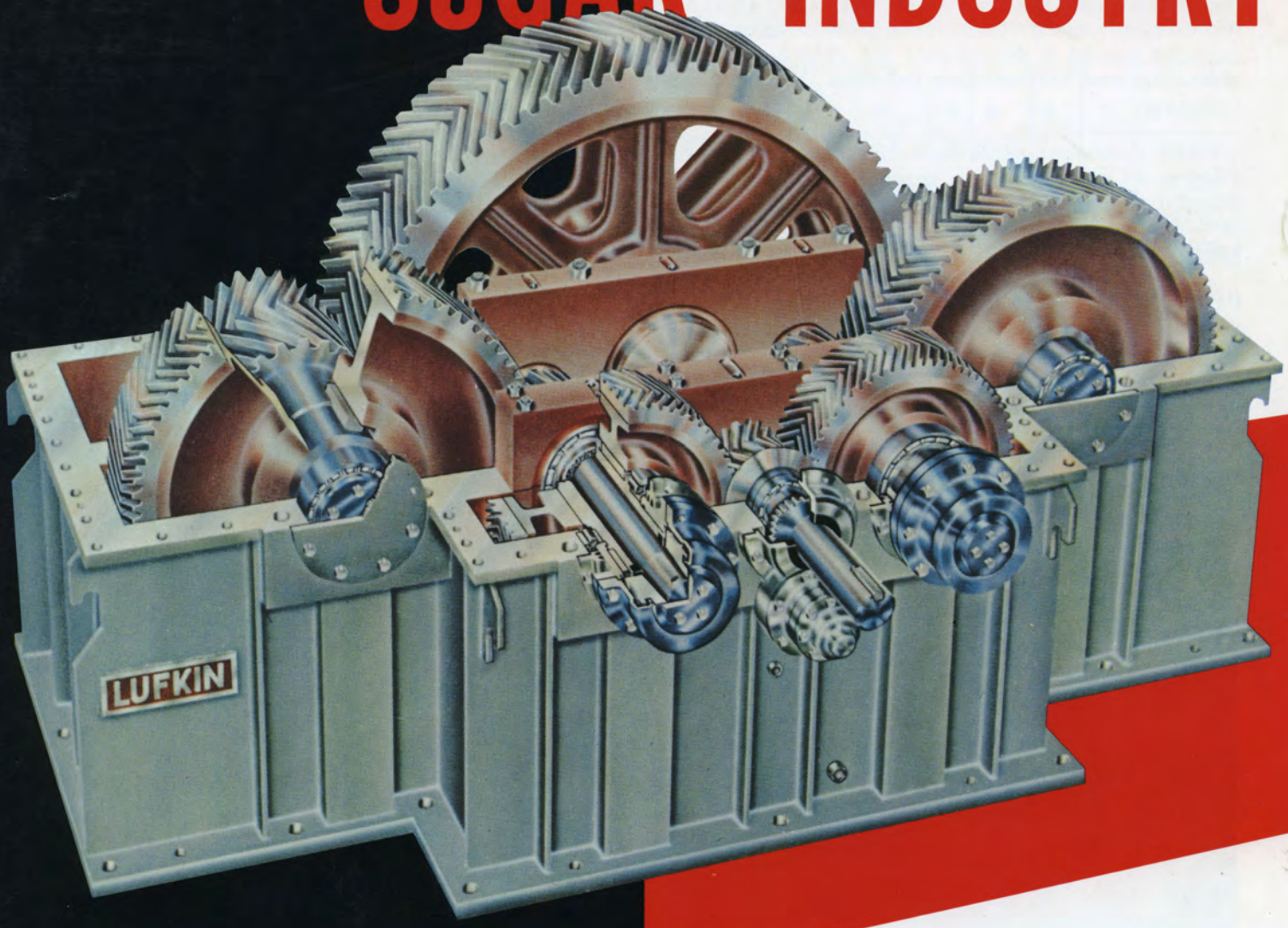
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# LUFKIN GEARS for the SUGAR INDUSTRY




BULLETIN
NO.SG-35A

LUFKIN INDUSTRIES, INC.
LUFKIN, TEXAS

MEMBER OF AGMA

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# LUFKIN TYPE TC SPEED REDUCER

The Lufkin Type TC triple reduction drives have been designed to give maximum economy and torque capacity for a minimum space requirement. The SPLITORQUE gear train and inline shaft arrangement allow updating and increasing capacities within space limits of existing facilities. Some design features are listed below.

**SPLITORQUE DESIGN:** Input torque is equally divided between gear trains by gear coupling adjustment at initial assembly. Symmetrical design assures equal tooth contact in each gear train that cannot change with load, speed, deflection, or worn thrust bearings. The high speed pinion is locked in position and cannot "float" as in other designs. This permits use of a disconnect air clutch without affecting load distribution between the two gear trains.

**GEARS:** Precision Double Helical Gears, cut from high alloy steel and computer rated for strength and durability according to latest AGMA standards. Herringbone design eliminates thrust on bearings and housing.

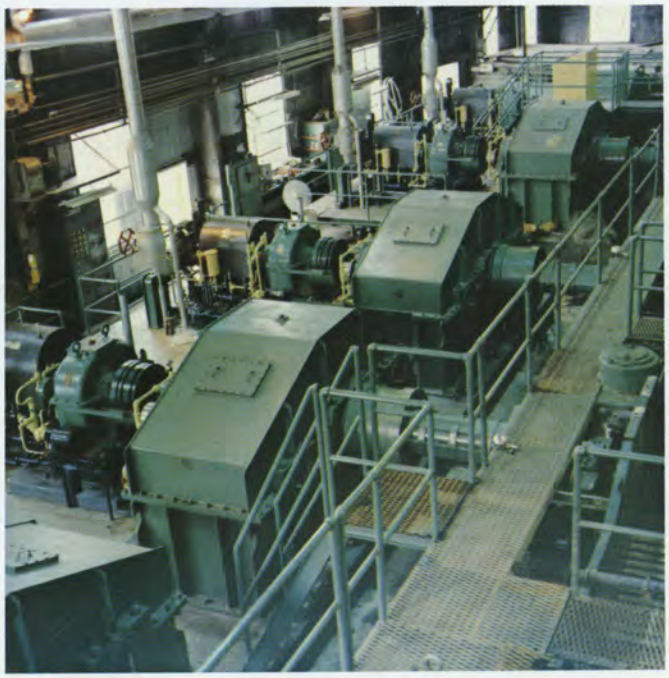
**BEARINGS:** Bronze sleeve bearings on the slow speed shaft have large thrust faces and are generously sized to give long life and maximum protection from failure caused by high external loads. Other shafts have precision straight and spherical roller bearings for accurate gear alignment and high efficiency.

**LUBRICATION:** All bearings and gears are positively lubricated by self-contained lubrication system which includes a shaft driven oil pump, auxiliary motor driven pump, duplex filter system, and two pressure operated switches for protection from lube system failure.

**HOUSING:** The gear housing is fabricated of heavy steel plate and is fully stress relieved before machining. Accurate line boring insures exact centers and parallel shafts. Lifting lugs and leveling screws ease on site installation.

**CAPACITIES:** The AGMA torque ratings of the reducers are as shown below. Larger sizes will be quoted on request.

**AUXILIARY EQUIPMENT:** High quality LUFKIN High Speed Gear Units can be furnished for initial speed reduction to match any size and speed requirements. Disconnect air clutches and steam turbines can also be furnished.



*LUFKIN TC4824 Triple Reduction Gears with N1811B Single Reduction High Speed Gear Units driving Louisiana Sugar Mill.*

## TORQUE RATINGS*

| Unit | Standard Ratio | Input Speed (RPM) | Torque Ratings (In. Lbs.) |
|---|---|---|---|
| TC3620 | 102.2:I | 600 | 6,041,584 |
| TC4020 | 100.2:I | 600 | 7,576,503 |
| TC4421 | 101.4:I | 600 | 8,960,472 |
| TC4824 | 101.8:I | 600 | 12,241,045 |
| TC5424 | 99.2:I | 600 | 16,145,000 |
| TC5425H | 99.5:I | 600 | 17,929,017 |
| TC6025H | 101.1:I | 600 | 22,087,718 |
| TC6226H | 100.7:I | 600 | 24,115,720 |
| TC6626H | 99.9:I | 600 | 26,823,687 |
| TC6827H | 100.0:I | 600 | 29,503,740 |

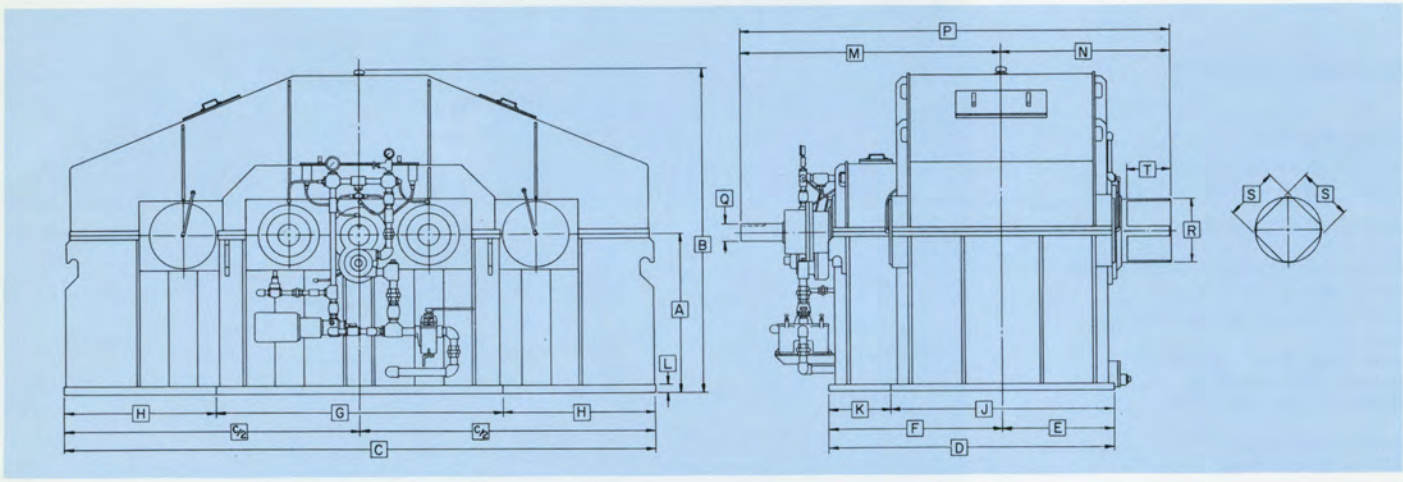
$$\text{Service HP Rating} = \frac{\text{Torque(In.lbs.) X Output Speed(rpm)}}{63000 \quad \text{X Service Factor}}$$

* THE ABOVE TORQUE RATINGS ARE AGMA 1 AND ARE INTENDED FOR USE WITH MINIMUM SERVICE FACTOR OF 1.75 BASED ON THE MAXIMUM CONTINUOUS HORSEPOWER RATING OF THE PRIME MOVER.

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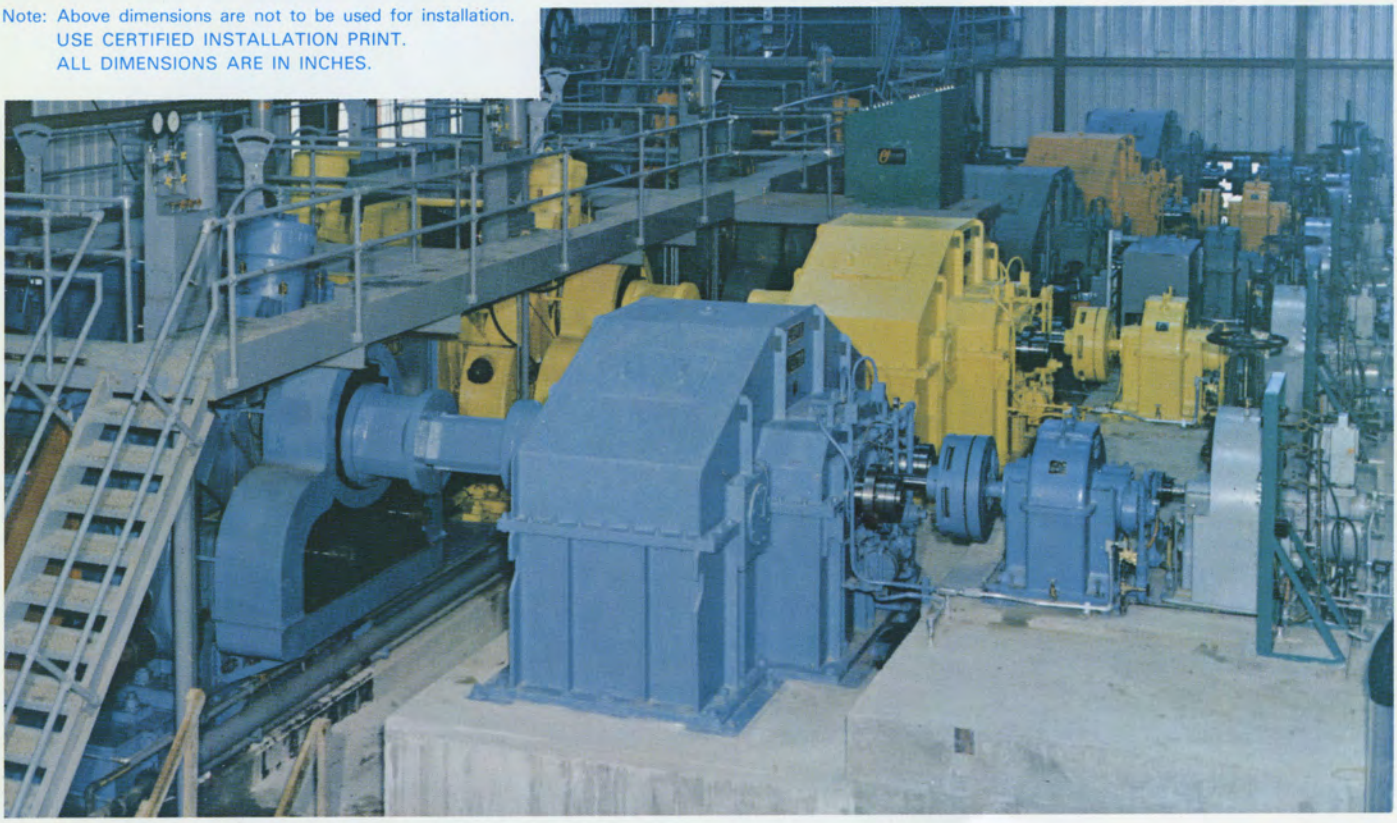
2C80

# BASIC DIMENSIONAL DATA




| UNIT | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T | EST.NET WT(LBS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TC3620 | 34 | 70 | 126 | 73 | 28½ | 44½ | 64 | 31 | 57 | 16 | 2 | 63½ | 43½ | 107 | 4 | 13 3/16 | 10½ | 10 | 45,000 |
| TC4020 | 37 | 75½ | 139 | 71 | 27¾ | 43¼ | 71½ | 33¾ | 55½ | 15½ | 2 | 63½ | 42 | 105½ | 4 | 16 | 13 | 11 | 50,000 |
| TC4421 | 40 | 83 | 149 | 73 | 28 | 45 | 77 | 36 | 56 | 17 | 2 | 64 | 42 | 106 | 4 | 16 | 13 | 11 | 60,000 |
| TC4824 | 44 | 90 | 161 | 78 | 30½ | 47½ | 83 | 39 | 61 | 17 | 2 | 71½ | 45 | 116½ | 5 | 17 3/8 | 14 | 12 | 72,000 |
| TC5424 | 48 | 98 | 179 | 83 | 31½ | 51½ | 92 | 43½ | 63 | 20 | 2 | 75½ | 47½ | 123 | 5 | 20 | 16 | 12 | 83,000 |
| TC5425H | 48 | 98 | 179 | 91 | 35½ | 55½ | 92 | 43½ | 71 | 20 | 2 | 79½ | 54 | 133½ | 5 | 22 | 17 | 15 | 95,000 |
| TC6025H | 58 | 118 | 211 | 104 | 41 | 63 | 101 | 55 | 82 | 22 | 2¾ | 86 | 63 | 149 | 5 | 22 | 17 | 15 | 120,000 |
| TC6226H | 60 | 122 | 215 | 104 | 41 | 63 | 101 | 57 | 82 | 22 | 2¾ | 88 | 64 | 152 | 6 | 23 | 18 | 16 | 150,000 |
| TC6626H | 62 | 126 | 228 | 106 | 42 | 64 | 112 | 58 | 84 | 22 | 2¾ | 90 | 65 | 155 | 6 | 24 | 19 | 17 | 170,000 |
| TC6827H | 64 | 130 | 232 | 106 | 42½ | 63½ | 116 | 58 | 85 | 21 | 3¼ | 90 | 67 | 157 | 7 | 25 | 20 | 18 | 190,000 |

Note: Above dimensions are not to be used for installation.
USE CERTIFIED INSTALLATION PRINT.
ALL DIMENSIONS ARE IN INCHES.



*LUFKIN TC4421 Reducers, NM149B and NM1410H*
*High Speed Reducers driving Florida Sugar Mill.*

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July, 1975