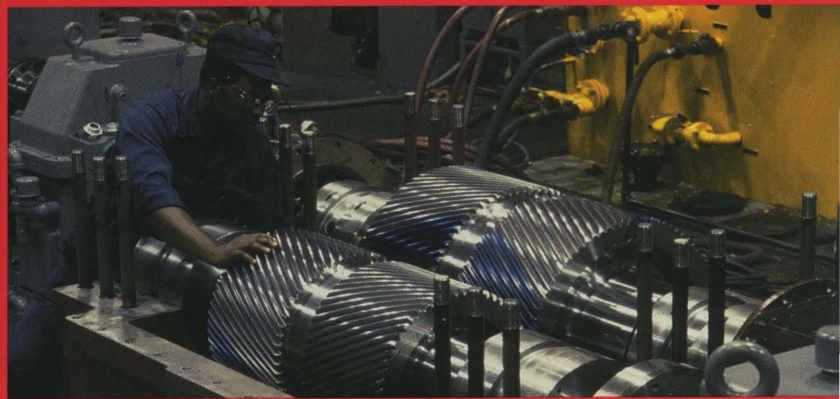
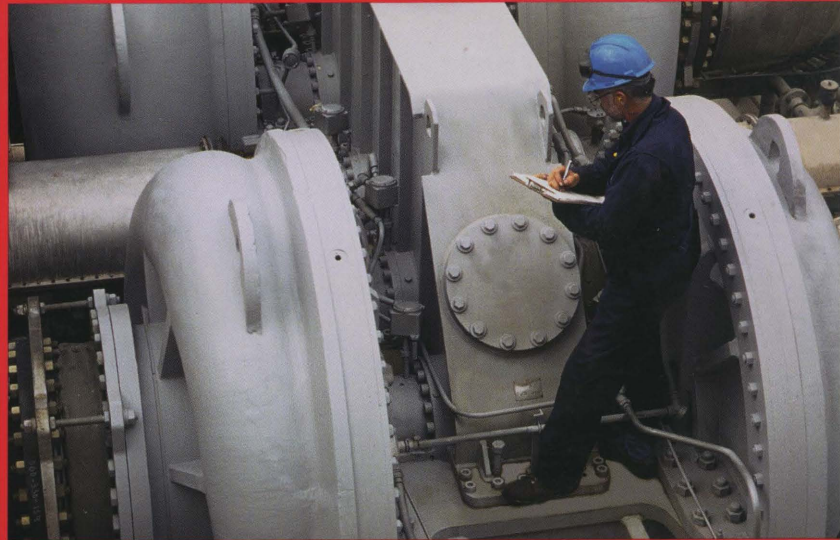
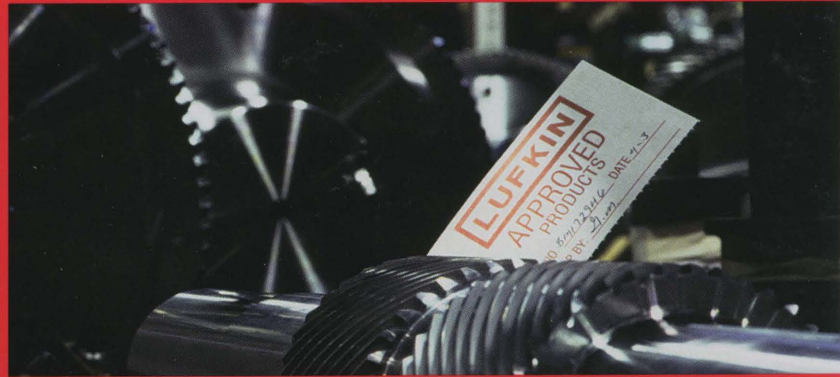
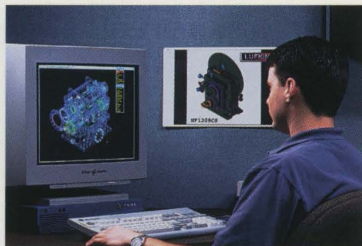


LUFKIN

High Speed Gear Drives Proven Quality, Performance and Reliability



Lufkin Industries is a certified ISO 9001 company committed to supplying customers throughout the world with the highest quality products possible. For more than 50 years, Lufkin has been a market leader in the design and manufacturing of high-speed precision gear units. By combining vertically-integrated manufacturing with state-of-the-art 3-D design capabilities, Lufkin is able to provide customers with the quality, performance and reliability that is essential in high-speed gearing applications.



Lufkin Industries is a leading global supplier of high-speed precision gear drives.

By vertically integrating the most advanced design and manufacturing technology, Lufkin assures quality in each high-speed gear unit that is produced.

Technological innovation is the cornerstone of Lufkin Industries. Lufkin's dedication to advanced technology and quality is evident from the inception of each project. During product development, Lufkin engineers utilize the latest in 3-D design software to ensure that all high-speed gear drives meet even the most exacting customer specifications. Each high-speed gear unit receives a sophisticated Rotor Dynamics Analysis to assure smooth operation under all working conditions. A Lufkin specialty is tailoring units for specific customer applications.

Lufkin's entire production process is carefully integrated and monitored to eliminate potential problems before they occur. A steadfast commitment to excellence in the design, manufacturing and testing of high-speed gear units ensures that each Lufkin drive delivers optimum



During production, a Lufkin Model CVC804L is inspected by a Lufkin engineer to ensure optimum accuracy and operating performance.

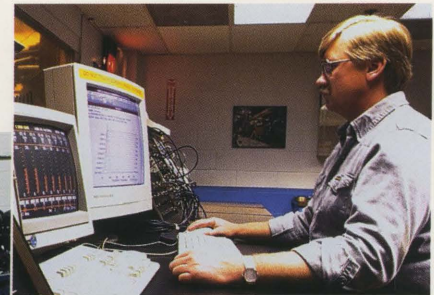
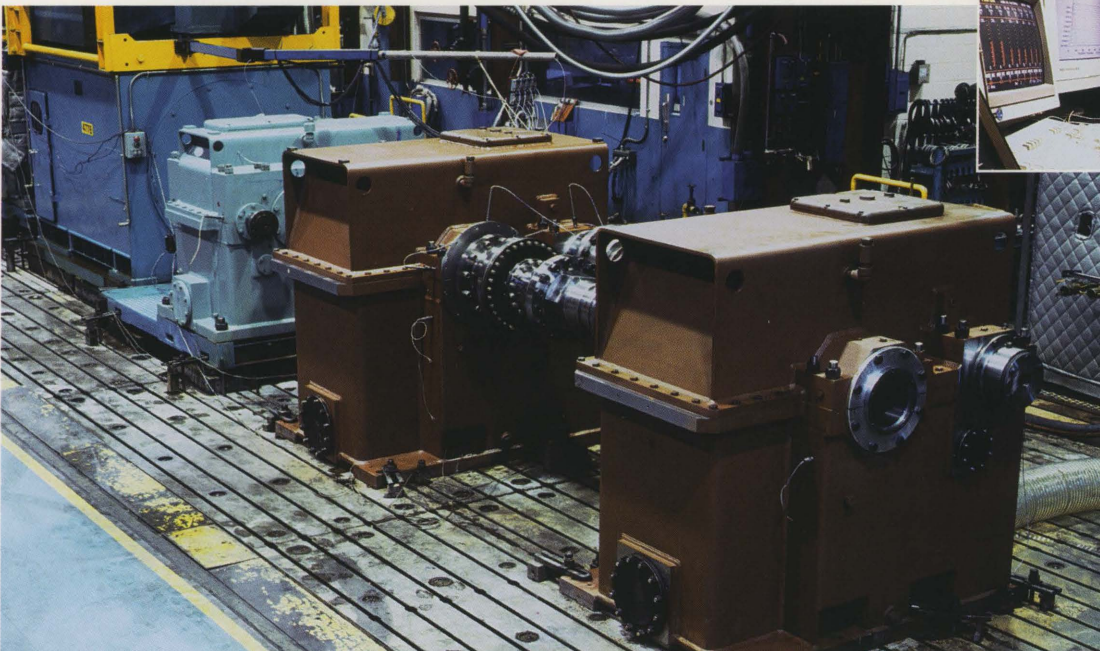
performance and accuracy. Processes such as the carburizing of gears and CBN finish grinding of gear teeth enable Lufkin to produce units with the durability and precision required in high-speed applications.

Quality is assured throughout each phase of the production process because Lufkin controls each facet of design and production. The gear casings produced by Lufkin are either cast in Lufkin's Foundry or fabricated in the Heavy Weldment Facility. This permits Lufkin engineers to oversee every aspect of each high-speed gear drive produced.

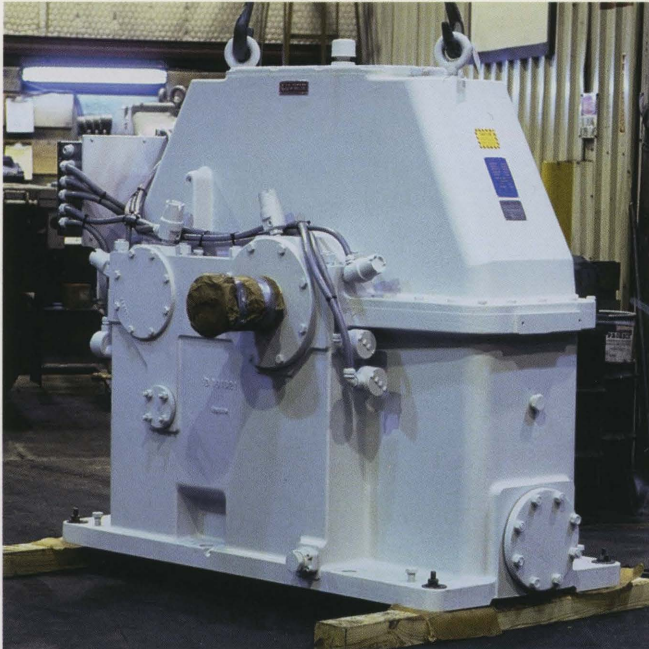
Lufkin has one of the finest full-range performance testing facilities in the world. Before a product is ready for delivery, it must pass a thorough inspection. Tests are conducted to be sure that Lufkin products meet or exceed customer requirements and industry standards, including the demanding API 613 and 677 specifications. Adherence to rigorous performance testing criteria means that Lufkin high-speed gear drives provide a smooth initial start-up and years of trouble-free operation.



Lufkin is a major supplier of high-speed reducers for sugar mill service, shown here with disengaging clutches.



Utilizing the latest technology for data monitoring and acquisition, Lufkin's Test Facility is recognized as one of the finest in the industry and the world.



Lufkin's centrifugal compressor drive provides unsurpassed performance in petrochemical applications.

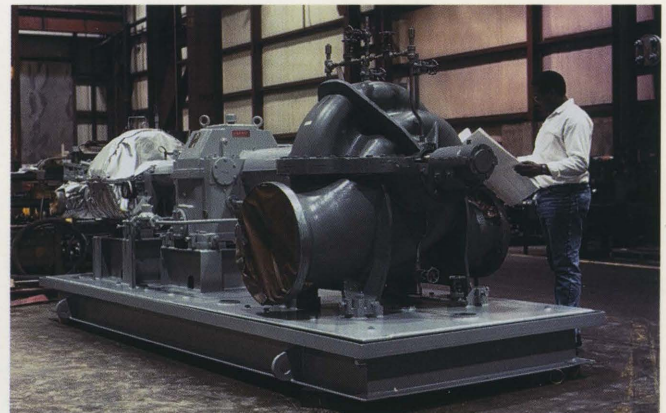


Customers can depend on Lufkin's round-the-clock field diagnosis, repair and technical support at any location.

Lufkin products are sold through a global network of factory sales offices. Therefore, customers can rely on the technical knowledge of Lufkin Sales Engineers who are experienced in selecting the best product for specific applications. Lufkin's expertise goes beyond the design, manufacturing and testing of high-speed precision gear units. Lufkin also provides comprehensive field diagnosis and service, as well as all types of gear repair. By maintaining a global presence, Lufkin is able to respond quickly at any time to any location to provide customer support and service.

Lufkin supplies high-speed precision gear drives for a variety of industries and applications:

- **Axial Compressors**
- **Centrifugal Compressors**
- **Process Compressors**
- **Reciprocating Compressors**
- **Refrigeration Compressors**
- **Rotary Compressors**
- **Blowers**
- **Centrifugal Pumps**
- **Reciprocating Pumps**
- **FD Fans**
- **ID Fans**
- **Generators**
- **High-Speed Balance Stands**
- **Integrally Geared Compressor Drives**
- **Sugar Cane Mills**
- **Sugar Cane Shredders**
- **Turbo Expanders**
- **Gas Turbine Accessory Drives**



As a custom-designed and manufactured unit, this Model N1200 has a Lufkin built baseplate incorporating customer equipment.

Lufkin also can furnish custom baseplates and common lubrication systems for drive trains involving a Lufkin gear box and customer-furnished equipment.

Design and Construction Features

Housings:

Lufkin poured high tensile strength, heavy section cast iron and Lufkin fabricated steel housings provide maximum rigidity and stability for accurate gear alignment.

Pinions:

High alloy, high tensile strength steel forgings, heat treated for superior strength and durability. Shafts are forged integrally with pinions.

Gears:

High alloy, high tensile strength steel forgings are press fit and keyed to the low-speed shaft. Concentricity is assured by turning and precision grinding the gear after the assembly is made.

Bearings:

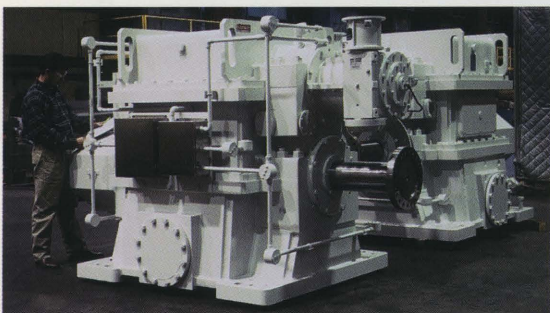
Split shell, babbitt-lined, steel-backed journal bearings are provided on Type N units. Integral babbitted thrust faces are provided on the low-speed bearings for axial alignment and coupling thrust. Tilt pad thrust bearings are furnished with units built to API 613. Type NM units are furnished with anti-friction, self-aligning type bearings on the low-speed shaft.

Lubrication:

Pressure lubrication required on N and NM units is routed through internally milled passages and piping that eliminate the necessity of external headers.

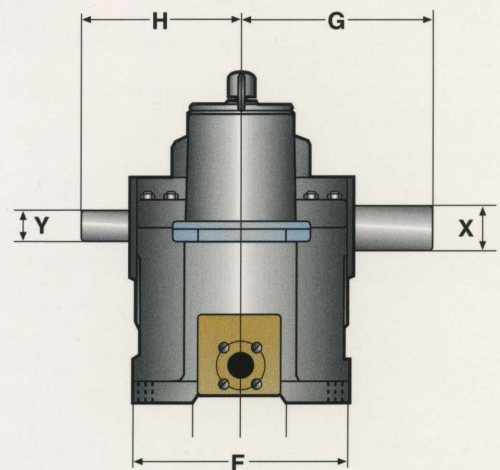
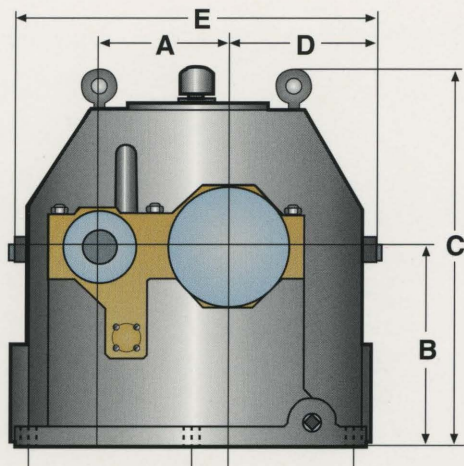
Gearing Specifications:

Double helical gearing, which balances internal thrust for maximum efficiency, is standard for most Lufkin units. Single helical gearing is furnished when required by the application. Both case hardened and through hardened gearing are used, depending on the design requirements, and gear teeth are finish-ground using ultra-precision CBN form finishing technology.

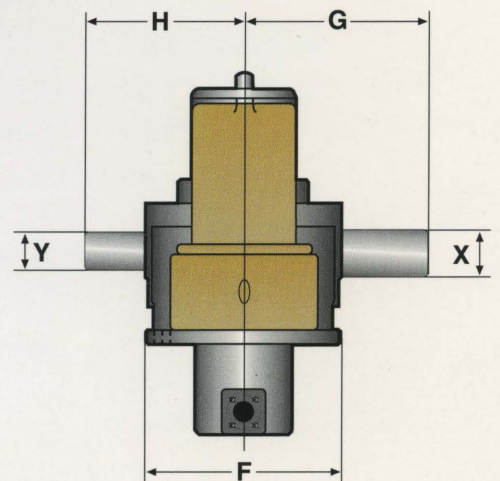
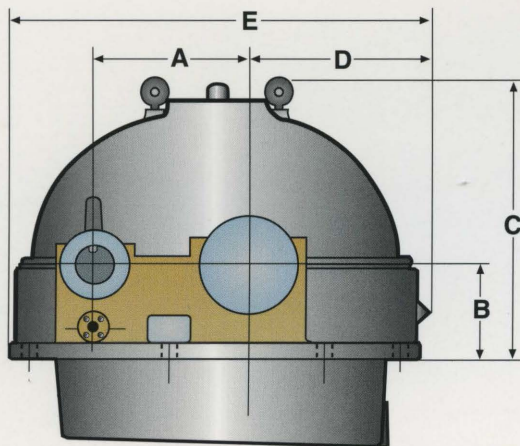


Rated at 52MW, Lufkin's model NFVQ2419C load gear is designed for use with LM6000 gas turbine-generator applications.

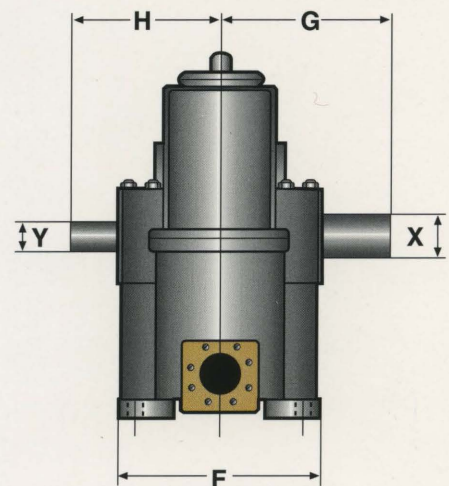
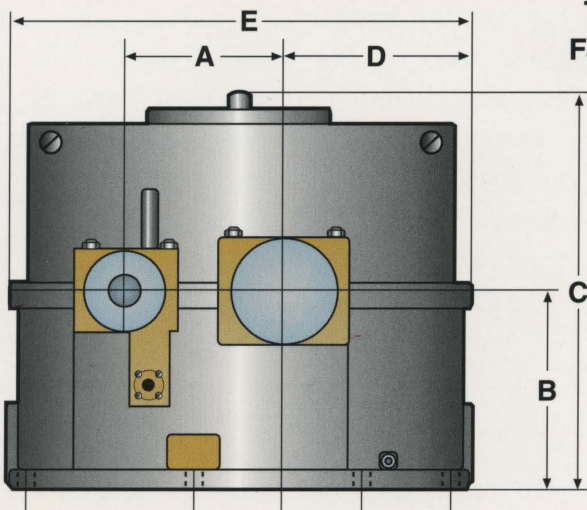
**Type 1 - Model N or NM
Cast Iron Housing**



**Type 2 - Large Model N
Cast Iron Housing**



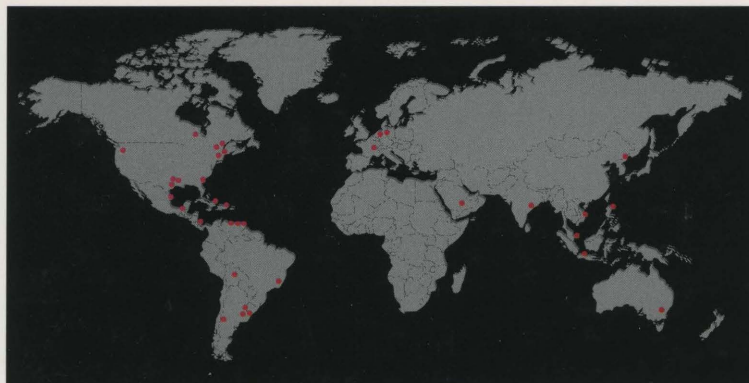
**Type 3 - Large Model N
Fabricated Steel Housing**



General Dimensions

	Unit Size	A	B	C	D	E	F	G	H	X	Y	Weight
Type 1	N or NM											
	6	6.0 152.4	12.5 318	22.75 578	7.25 184	18.25 464	14.0 356	13.0 331	11.0 279.4	3.0 76	1.88 47.6	575 261
	8	8.0 203.2	14.0 356	26.88 683	10.0 254	24.5 622	19.0 483	16.25 413	14.25 362	3.5 89	2.5 63.5	950 431
	10	10.0 254	17.0 432	32.63 829	12.0 305	30.0 762	23.0 584	20.0 508	17.75 450.9	4.5 114	3.5 88.9	1700 772
	12	12.0 304.8	20.0 508	37.0 940	14.0 356	34.0 864	24.0 610	21.25 540	18.25 463.6	5.0 127	3.5 88.9	2300 1044
	14	14.0 355.6	22.0 559	41.25 1048	16.0 406	39.0 991	27.0 686	24.0 610	19.75 501.7	5.5 140	3.5 88.9	3200 1453
	16	16.0 406.4	24.0 610	47.38 1203	18.5 470	45.0 1143	31.0 787	27.25 692	23.5 569.9	6.0 152	4.5 114.3	4200 1907
	18	18.0 457.2	26.0 660	50.88 1292	20.0 508	48.5 1232	32.0 813	28.0 712	24.5 622.3	6.5 165	5.0 127.0	5150 2338
	21	21.0 533.4	28.0 711	55.13 1400	22.5 572	55.5 1410	33.0 838	29.75 755	26.0 660.4	7.0 178	5.5 139.7	6400 2906
	24	24.0 609.6	30.0 762	61.38 1559	27.0 686	64.0 1626	36.0 914	31.0 788	28.25 723.9	8.0 203	6.5 165.1	9700 4404
Type 2	27	27.0 685.8	38.0 962.4	75.38 1702	33.0 838.2	79.0 2007	37.0 940	31.5 800	29.0 736.6	8.0 203	6.5 165.1	12500 5682
	N30	30.0 762	20.0 508	57.5 1461	38.0 965	83.5 2121	37.0 940	35.5 902	30.5 774.7	9.0 229	7.5 190.5	14700 6674
Type 3	N33	33.0 838.2	20.0 508	60.25 1530	39.5 1003	89.0 2261	40.5 1029	38.5 978	32.0 812.8	10.0 254	8.5 215.9	20000 9080
	NF27	27.0 685.8	38.0 962.4	67.0 1702	31.75 806	78.0 1981	37.0 940	31.5 800	29.0 736.6	8.0 203	6.5 165.1	13400 6084
	NF30	30.0 762	40.0 1016	75.0 1905	33.5 851	81.0 2057	38.5 978	36.25 921	31.25 793.8	9.0 229	7.5 190.5	18500 8399
	NF33	33.0 838.2	44.0 1118	85.0 2159	35.0 889	86.0 2184	42.0 1067	39.25 997	32.75 831.9	10.0 254	8.5 215.9	24000 10896
	NF38	38.0 965.2	48.0 1219	91.0 2311	40.0 1016	96.0 2438	49.0 1245	42.75 1086	36.25 920.8	10.0 254	8.5 215.9	26000 11804

Black dimensions/weights are in inches/pounds. Red dimensions/weights are in millimeters/kilograms. USE ONLY A CERTIFIED INSTALLATION PRINT. Above dimensions are not to be used for installation purposes. Type NM unit is not available in size NM24 and larger.



Lufkin Industries' worldwide service and sales offices create a network of experienced professionals committed to providing technical support anywhere at any time.

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