

Integral Gearmotors

Moduline®

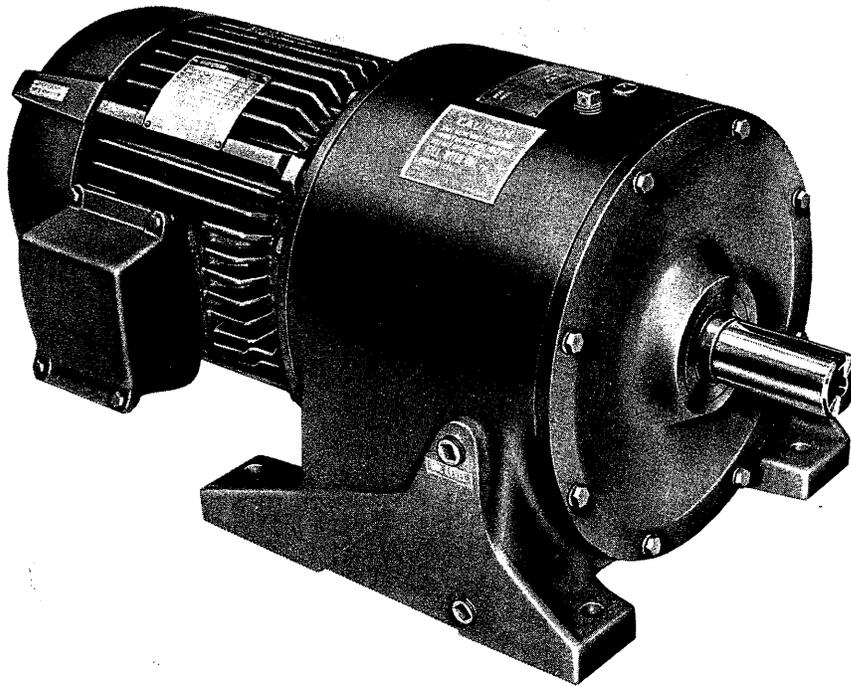
Type G

In the early 1920's, after many years of experience in the field of industrial gearing, Nuttall Gear pioneered the gearmotor concept. Continued development, utilizing advances in both materials and methods, has resulted in the present line of tough compact gearmotors unequalled in field proved reliability.

The **Moduline Type G** integral gearmotor utilizes a standardized motor flange and rabbet fit for built-in align-

ment of the motor and gear, assuring long gear life and minimum maintenance, as well as single source responsibility for performance of both the gearing and the motor.

Many modifications, both mechanical and electrical, such as brakes, special motor insulation, various enclosures, special oil seals and marine duty are all available to make the Nuttall **Type G Moduline** gearmotor the right drive for your application.



INDEX

	Section	Page		Section	Page
Construction Features	210	2	Exact Gear Ratios	217	1
How to Select/Order	210	3	Overhung Load/Thrust Ratings	217	2, 3
Ratings and Pricing	210	4-10	Application/Service Factor Classes	217	4, 5
Mounting Positions	215	1	Dimensions	220	1-9
Gearcase Modifications	215	2, 3			
Optional Motors	215	4			
Motor Modifications	215	5, 6			

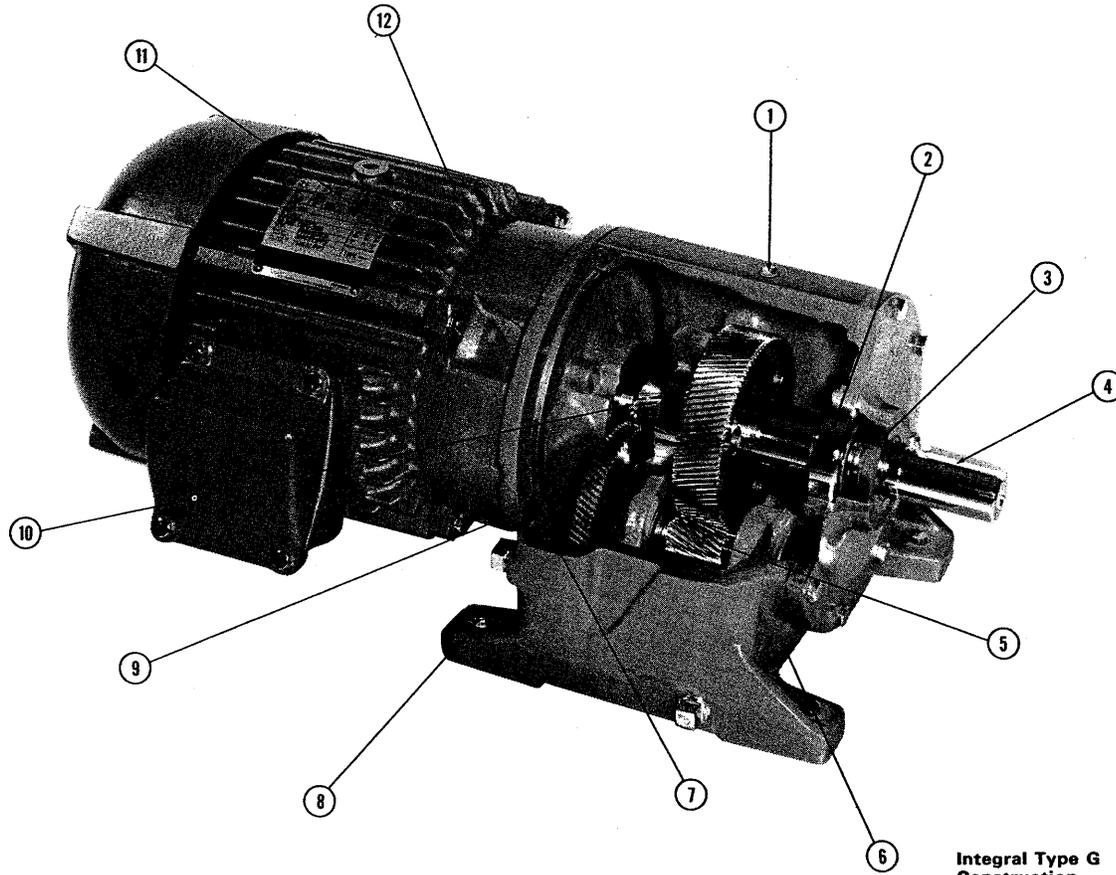
Effective: 1, May 1984

Supersedes: New

Integral Gearmotors

Type G

Moduline®

CONSTRUCTION
FEATURESIntegral Type G
Construction

① A combination breather — filler plug keeps overall height at a minimum.

② Single row tapered roller bearings are used on all gear unit shafts. These bearings are conservatively selected in accordance with bearing manufacturers' recommendations to provide maximum load carrying capacity and reliability.

③ Dual lip seals are used exclusively by Nuttall Gear to retain oil effectively and to protect against entry of contaminants. This assures long, trouble-free life.

④ Output shaft of chrome-moly steel supported on a wide bearing span provides generous overhung load capacity.

⑤ Helical gears, pioneered by Nuttall Gear, permits more than one gear tooth face to carry the load, and allow gradual progressive transmission of the load from tooth to tooth.

⑥ A sturdy one-piece cast iron housing with integrally cast and precision machined bearing supports provides proper internal alignment of components. The inherent corrosion resistance of cast iron allows placement of the unit in many severe atmospheres without special finishes.

⑦ Large oil reservoir and splash system provide positive lubrication of all gears and bearings.

⑧ Rugged feet are integrally cast to provide maximum strength. Foot pads are accurately milled to assure ease of alignment.

⑨ All gears and pinions are made of high quality chrome-moly steel generated on Pfafter hobbors, and then heat treated by a special ion nitriding process. This assures gears of consistent accuracy, resulting in long trouble free life and quiet operation.

⑩ The high speed pinion and gear are mounted on splined shafts. The splines are cold rolled and the major diameter ground to close tolerances to assure concentricity of the gear and pinion with the shaft. This design permits easy change in the high speed gear set.

⑪ A standardized motor flange and rabbet fit provide accurate, built in alignment of motor and gear, on Integral Type G units, assuring longer gear life and minimum maintenance.

⑫ The standard Nuttall Gearmotor is totally enclosed; however, a wide variety of motor enclosures and designs are available in both AC and DC types. High efficiency, Mill and Chemical duty, multi-speed, high torque and high slip are among the selections available to assure you of single source responsibility, regardless of your requirements.

Effective: 1, May 1984

Supersedes: New

Your Total Drive Source 

Moduline®

Integral Gearmotors

Type G

SELECTION
AND ORDERING

1. REQUIRED APPLICATION INFORMATION.

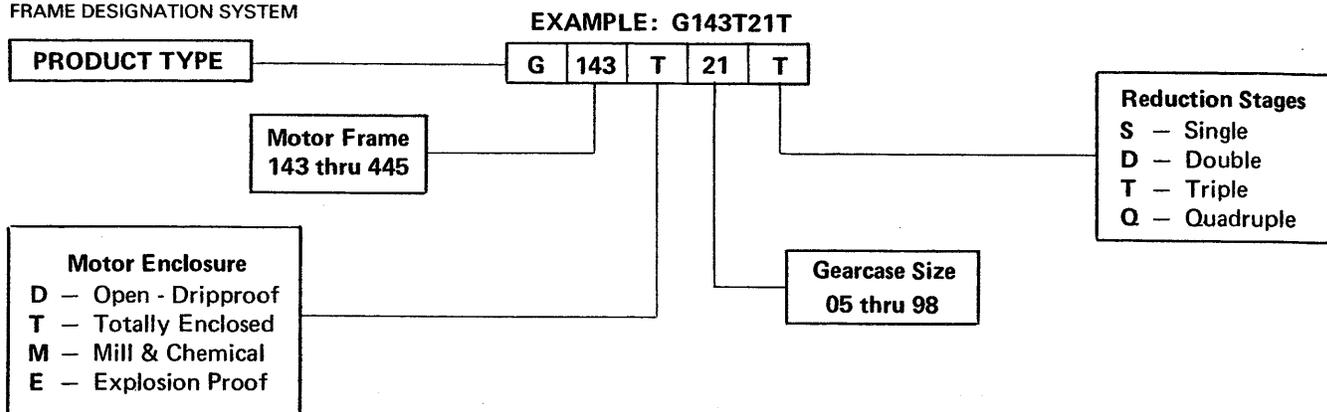
- A. **Horsepower**
- B. **Output speed**
- C. **Motor characteristics**
 1. Design - B, C, D
 2. Enclosure (TEFC standard)
 3. AC or DC (for DC refer to office)
 4. Voltage, frequency, phase
- D. **AGMA load classification** (Refer to section 217, pages 4 and 5)
- E. **Thrust and overhung load** requirements, if any. (See section 217, pages 2 and 3.)
- F. **Mounting position** (see section 215, page 1)

2. SELECTION PROCEDURE

- A. Locate required horsepower. Refer to Section 210, pages 4 thru 10.
 1. Read down column to the desired output speed.
 2. **Locate required service class** (I, II or III).
 3. Note list price and frame designation.
- B. **Check overhung load and/or thrust capacities** of the selected unit in the engineering data (section 217, pages 2 and 3) against application requirements.
- C. Select required options and modifications from section 215. Add (or deduct) list prices to (from) basic unit list price.
- D. Use N-1 multiplier for appropriate customer class to obtain net price.

Note: Brake motors - When the torque rating of a brake exceeds the torque rating of the motor, the rating of the brake should be considered in selecting the proper gearmotor service class.

3. FRAME DESIGNATION SYSTEM



4. SELECTION & PRICING EXAMPLES

Example I:

A gearmotor is required for a uniformly loaded belt conveyor running at 37 rpm, 24 hours a day with steady torque requirements. The motor is to be 10 HP, AC, 3 phase, 60 Hertz, 230/460 volts NEMA design B with totally enclosed fan cooled enclosure. The gearmotor will be horizontal, floor mounted, and direct coupled to the conveyor.

Solution I:

1. All information required to use the selection and pricing tables is known except for the AGMA load classification. Turn to Section 217, page 4. Find "conveyors, belt, uniform load," 24 hours per day service, and note that Class II gearing is required.
2. Turn to Section 210, page 7 and locate the Class II table. In the first column find 37 rpm. Read across the 37 rpm column and select gear frame size - G215T54T, at \$4,010 list.
3. No modifications are involved.
4. Mounting is standard. Overhung and thrust loads are not involved since direct connection is used.
5. Use N-1 multiplier.

Example II:

Repeat example I, except the conveyor is not uniformly fed but has 20 load peaks per hour with a 5-second duration on each peak and a peak load 200% of full load. The conveyor operates 8 hours per day.

Solution II:

1. The AGMA load classification table in Section 217, page 4 carries an introductory statement that the table does not cover duty cycle applications and to refer to page 5. On page 5 allowable peak load curves are provided to permit selection of the proper AGMA load class.
2. 20 peaks per hour at 200% of full load at 5 seconds each exceeds the AGMA Class I table. From the AGMA Class II table, 20 peaks per hour at 200% of full load is permissible, with a 10-second duration on the peak load. Since the application involves only 5-second duration, Class II gearing is adequate and the gearmotor previously selected is also correct for this situation.
3. Note that increasing the peak load to 250% of full load would necessitate use of Class III gearing.

5. ORDERING:

The following information must be provided for each order to permit the manufacture and assembly of the correct gearmotor.

1. Quantity
2. Motor characteristics:
 - Horsepower
 - Type
 - Enclosure
 - Phase
 - Hertz
 - Voltage
 - Modifications (describe in detail)
3. Gearmotor characteristics:
 - Type (integral type G)

Output rpm
 AGMA class (I, II, III)
 Designation (e.g., G184T21T)
 Mounting position
 Modification (describe in detail)
 Overhung load and thrust load requirements, if applicable

4. Pricing:
 - Gearmotor list price
 - Modifications
 - Discount (multiplier)
 - Net price
5. Shipment required.

Note: List prices in examples are subject to change without notice.

Effective: 1, May 1984

Supersedes: New

Integral Gearmotors

Type G

Moduline®

1 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	1,140	G143T10S	1,140	G143T10S	1,140	G143T10S
1170	1,140	G143T10S	1,140	G143T10S	1,140	G143T10S
950	1,140	G143T10S	1,140	G143T10S	1,140	G143T10S
780	1,140	G143T10S	1,140	G143T10S	1,140	G143T10S
640	1,140	G143T10S	1,140	G143T10S	1,140	G143T10S
520	1,140	G143T10S	1,140	G143T10S	1,140	G143T10S
420	985	G143T05D	985	G143T05D	985	G143T05D
350	985	G143T05D	985	G143T05D	985	G143T05D
280	985	G143T05D	985	G143T05D	985	G143T05D
230	985	G143T05D	985	G143T05D	985	G143T05D
190	985	G143T05D	985	G143T05D	985	G143T05D
155	985	G143T05D	985	G143T05D	985	G143T05D
125	985	G143T05D	985	G143T05D	985	G143T05D
100	985	G143T05D	985	G143T05D	985	G143T05D
84	985	G143T05D	985	G143T05D	985	G143T05D
68	985	G143T05D	985	G143T05D	1,210	G143T10D
56	985	G143T05D	1,210	G143T10D	1,210	G143T10D
45	1,520	G143T21D	1,520	G143T21D	1,520	G143T21D
37	1,675	G143T21T	1,675	G143T21T	1,675	G143T21T
30	1,675	G143T21T	1,675	G143T21T	1,675	G143T21T
25	1,675	G143T21T	1,675	G143T21T	1,675	G143T21T
20	1,675	G143T21T	1,675	G143T21T	1,675	G143T21T
16.5	1,675	G143T21T	1,675	G143T21T	2,110	G143T32T
13.5	1,675	G143T21T	1,675	G143T21T	2,110	G143T32T
11.0	2,110	G143T32T	2,110	G143T32T	2,790	G143T43T
9.0	2,110	G143T32T	2,980	G143T32Q	3,485	G143T43Q
7.5	2,980	G143T32Q	3,485	G143T43Q	3,485	G143T43Q
6.0	2,980	G143T32Q	3,485	G143T43Q	3,715	G145T54T*
5.0	3,485	G143T43Q	3,485	G143T43Q	4,150	G143T54Q
4.0	3,485	G143T43Q	4,150	G143T54Q	5,185	G143T64Q
3.2	4,150	G143T54Q	4,150	G143T54Q	5,185	G143T64Q
2.7	4,150	G143T54Q	5,185	G143T64Q	6,850	G143T76Q
2.2	6,850	G143T76Q	6,850	G143T76Q	6,850	G143T76Q
1.8	12,180	G143T88Q	12,180	G143T88Q	12,180	G143T88Q
1.5	12,215	G145T88Q*	12,215	G145T88Q*	12,215	G145T88Q*
1.2	12,215	G145T88Q*	12,215	G145T88Q*	12,215	G145T88Q*

1-1/2 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1,165	G145T10S	1,165	G145T10S	1,165	G145T10S	1430
1,165	G145T10S	1,165	G145T10S	1,165	G145T10S	1170
1,165	G145T10S	1,165	G143T10S	1,165	G145T10S	950
1,165	G145T10S	1,165	G145T10S	1,165	G145T10S	780
1,165	G145T10S	1,165	G145T10S	1,165	G145T10S	640
1,165	G145T10S	1,165	G145T10S	1,165	G145T10S	520
1,015	G145T05D	1,015	G145T05D	1,015	G145T05D	420
1,015	G145T05D	1,015	G145T05D	1,015	G145T05D	350
1,015	G145T05D	1,015	G145T05D	1,015	G145T05D	280
1,015	G145T05D	1,015	G145T05D	1,015	G145T05D	230
1,015	G145T05D	1,015	G145T05D	1,015	G145T05D	190
1,015	G145T05D	1,015	G145T05D	1,015	G145T05D	155
1,015	G145T05D	1,015	G145T05D	1,015	G145T05D	125
1,015	G145T05D	1,015	G145T05D	1,245	G145T10D	100
1,015	G145T05D	1,245	G145T10D	1,245	G145T10D	84
1,015	G145T05D	1,245	G145T10D	1,245	G145T10D	68
1,245	G145T10D	1,245	G145T10D	1,245	G145T10D	56
1,550	G145T21D	1,550	G145T21D	1,550	G145T21D	45
1,695	G145T21T	1,695	G145T21T	1,695	G145T21T	37
1,695	G145T21T	1,695	G145T21T	1,695	G145T21T	30
1,695	G145T21T	1,695	G145T21T	2,130	G145T32T	25
1,695	G145T21T	1,695	G145T21T	2,130	G145T32T	20
1,695	G145T21T	2,130	G145T32T	2,835	G145T43T	16.5
1,695	G145T21T	2,130	G145T32T	2,835	G145T43T	13.5
2,280	G182T32T*	2,835	G145T43T	2,985	G182T43T*	11.0
2,280	G184T32T*	3,520	G145T43Q	3,715	G145T54T	9.0
2,985	G182T43T*	3,715	G145T54T	3,820	G182T54T*	7.5
3,520	G145T32Q	3,820	G182T54T*	5,235	G145T64Q	6.0
3,820	G182T54T*	4,190	G145T54Q	5,640	G182T64Q*	5.0
4,190	G145T54Q	5,235	G145T64Q	6,920	G145T76Q	4.0
4,190	G145T54Q	5,235	G145T64Q	6,920	G145T76Q	3.2
5,235	G145T64Q	6,920	G145T76Q	6,920	G145T76Q	2.7
6,920	G145T76Q	6,920	G145T76Q	12,215	G145T88Q	2.2
12,215	G145T88Q	12,215	G145T88Q	12,215	G145T88Q	1.8
12,320	G182T88Q*	12,320	G182T88Q*	12,320	G182T88Q*	1.5
12,320	G182T88Q*	12,320	G182T88Q*	12,320	G182T88Q*	1.2

* Denotes 1170 RPM Motor Supplied. All other ratings are supplied with 1750 RPM motors. Listed price includes the appropriate TEFC motor.

DISCOUNT N-1

Effective: 31, May 1986
Supersedes: 1, May 1984

Your Total Drive Source 

Integral Gearmotors

Moduline®

Type G

RATINGS - PRICES
2 - 3 HP

2 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	1,185	G145T10S	1,185	G145T10S	1,185	G145T10S
1170	1,185	G145T10S	1,185	G145T10S	1,185	G145T10S
950	1,185	G145T10S	1,185	G145T10S	1,185	G145T10S
780	1,185	G145T10S	1,185	G145T10S	1,185	G145T10S
640	1,185	G145T10S	1,185	G145T10S	1,185	G145T10S
520	1,185	G145T10S	1,185	G145T10S	1,185	G145T10S
420	1,040	G145T05D	1,040	G145T05D	1,040	G145T05D
350	1,040	G145T05D	1,040	G145T05D	1,040	G145T05D
280	1,040	G145T05D	1,040	G145T05D	1,040	G145T05D
230	1,040	G145T05D	1,040	G145T05D	1,040	G145T05D
190	1,040	G145T05D	1,040	G145T05D	1,040	G145T05D
155	1,040	G145T05D	1,040	G145T05D	1,330	G145T10D
125	1,040	G145T05D	1,040	G145T05D	1,330	G145T10D
100	1,040	G145T05D	1,330	G145T10D	1,330	G145T10D
84	1,040	G145T05D	1,330	G145T10D	1,330	G145T10D
68	1,330	G145T10D	1,575	G145T21D	1,575	G145T21D
56	1,330	G145T10D	1,575	G145T21D	1,715	G145T21T
45	1,575	G145T21D	1,575	G145T21D	1,715	G145T21T
37	1,715	G145T21T	1,715	G145T21T	2,150	G145T32T
30	1,715	G145T21T	1,715	G145T21T	2,150	G145T32T
25	1,715	G145T21T	2,150	G145T32T	2,880	G145T43T
20	1,715	G145T21T	2,150	G145T32T	2,880	G145T43T
16.5	2,150	G145T32T	2,150	G145T32T	2,880	G145T43T
13.5	2,150	G145T32T	2,880	G145T43T	3,790	G145T54T
11.0	2,880	G145T43T	3,040	G184T43T*	3,790	G145T54T
9.0	2,880	G145T43T	3,790	G145T54T	3,880	G184T54T*
7.5	3,540	G145T43Q	3,880	G184T54T*	4,515	G184T64T*
6.0	3,880	G184T54T*	5,440	G145T64Q	7,215	G145T76Q
5.0	4,230	G145T54Q	5,440	G145T64Q	7,215	G145T76Q
4.0	5,540	G145T64Q	7,215	G145T76Q	7,215	G145T76Q
3.2	5,540	G145T64Q	7,215	G145T76Q	12,520	G145T88Q
2.7	7,215	G145T76Q	7,215	G145T76Q	12,520	G145T88Q
2.2	7,215	G145T76Q	12,520	G145T88Q	12,520	G145T88Q
1.8	12,520	G145T88Q	12,520	G145T88Q	-	-
1.5	12,610	G184T88Q*	12,610	G184T88Q*	-	-

3 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	1,245	G182T10S	1,245	G182T10S	1,245	G182T10S
1170	1,245	G182T10S	1,245	G182T10S	1,245	G182T10S
950	1,245	G182T10S	1,245	G182T10S	1,245	G182T10S
780	1,245	G182T10S	1,245	G182T10S	1,245	G182T10S
640	1,245	G182T10S	1,245	G182T10S	1,245	G182T10S
520	1,345	G182T21S	1,345	G182T21S	1,345	G182T21S
420	1,105	G182T05D	1,105	G182T05D	1,105	G182T05D
350	1,105	G182T05D	1,105	G182T05D	1,105	G182T05D
280	1,105	G182T05D	1,105	G182T05D	1,105	G182T05D
230	1,105	G182T05D	1,105	G182T05D	1,330	G182T10D
190	1,105	G182T05D	1,105	G182T05D	1,330	G182T10D
155	1,105	G182T05D	1,330	G182T10D	1,330	G182T10D
125	1,105	G182T05D	1,330	G182T10D	1,330	G182T10D
100	1,330	G182T10D	1,330	G182T10D	1,635	G182T21D
84	1,330	G182T10D	1,635	G182T21D	1,635	G182T21D
68	1,635	G182T21D	1,635	G182T21D	1,985	G182T32D
56	1,635	G182T21D	1,925	G182T21T	1,985	G182T32D
45	1,635	G182T21D	1,925	G182T21T	2,280	G182T32T
37	1,925	G182T21T	2,280	G182T32T	2,985	G182T43T
30	1,925	G182T21T	2,280	G182T32T	2,985	G182T43T
25	2,280	G182T32T	2,985	G182T43T	2,985	G182T43T
20	2,280	G182T32T	2,985	G182T43T	3,820	G182T54T
16.5	2,985	G182T43T	2,985	G182T43T	3,820	G182T54T
13.5	2,985	G182T43T	3,820	G182T54T	3,820	G182T54T
11.0	3,820	G182T54T	3,940	G213T54T*	4,455	G182T64T
9.0	3,940	G213T54T*	4,730	G213T64T*	4,730	G213T64T*
7.5	4,265	G182T54Q	4,730	G213T64T*	5,720	G213T76T*
6.0	5,640	G182T64Q	7,300	G182T76Q	7,300	G182T76Q
5.0	5,640	G182T64Q	7,300	G182T76Q	12,610	G182T88Q
4.0	7,300	G182T76Q	7,300	G182T76Q	12,610	G182T88Q
3.2	7,300	G182T76Q	12,610	G182T88Q	12,610	G182T88Q
2.7	7,300	G182T76Q	12,610	G182T88Q	12,960	G182T92Q
2.2	12,610	G182T88Q	12,610	G182T88Q	-	-
1.8	-	-	-	-	-	-
1.5	-	-	-	-	-	-

* Denotes 1170 RPM Motor Supplied. All other ratings are supplied with 1750 RPM motors. Listed price includes the appropriate TEFC motor.

DISCOUNT N-1

Effective: 31, May 1986

Supersedes: 1, March 1985

Integral Gearmotors

Type G

Moduline®

RATINGS — PRICES
5 — 7-1/2 HP

5 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	1,290	G184T10S	1,290	G184T10S	1,290	G184T10S
1170	1,290	G184T10S	1,290	G184T10S	1,290	G184T10S
950	1,290	G184T10S	1,290	G184T10S	1,395	G184T21S
780	1,290	G184T10S	1,290	G184T10S	1,395	G184T21S
640	1,290	G184T10S	1,395	G184T21S	1,665	G184T32S
520	1,395	G184T21S	1,395	G184T21S	1,665	G184T32S
420	1,160	G184T05D	1,160	G184T05D	1,160	G184T05D
350	1,160	G184T05D	1,365	G18410D	1,365	G184T10D
280	1,160	G184T05D	1,365	G184T10D	1,365	G184T10D
230	1,160	G184T05D	1,365	G184T10D	1,365	G184T10D
190	1,365	G184T10D	1,365	G184T10D	1,365	G184T10D
155	1,365	G184T10D	1,365	G184T10D	1,655	G184T21D
125	1,365	G184T10D	1,655	G184T21D	1,655	G184T21D
100	1,365	G184T10D	1,655	G184T21D	2,055	G184T32D
84	1,655	G184T21D	1,655	G184T21D	2,055	G184T32D
68	1,655	G184T21D	2,055	G184T32D	2,220	G184T43D
56	2,055	G184T32D	2,335	G184T32T	3,040	G184T43T
45	2,055	G184T32D	2,335	G184T32T	3,040	G184T43T
37	2,335	G184T32T	3,040	G184T43T	3,880	G184T54T
30	3,040	G184T43T	3,040	G184T43T	3,880	G184T54T
25	3,040	G184T43T	3,880	G184T54T	3,880	G184T54T
20	3,040	G184T43T	3,880	G184T54T	4,515	G184T64T
16.5	3,880	G184T54T	3,880	G184T54T	4,515	G184T64T
13.5	3,880	G184T54T	4,515	G184T64T	5,625	G184T76T
11.0	3,880	G184T54T	4,515	G184T64T	5,625	G184T76T
9.0	4,910	G215T64T*	6,030	G215T76T*	7,580	G184T88T
7.5	4,910	G215T64T*	6,030	G215T76T*	7,580	G184T88T
6.0	7,365	G184T76Q	7,990	G215T88T*	12,680	G184T88Q
5.0	7,365	G184T76Q	12,680	G184T88Q	13,580	G215T92Q*
4.0	12,680	G184T88Q	12,680	G184T88Q	16,140	G184T98Q
3.2	12,680	G184T88Q	13,035	G184T92Q	16,140	G184T98Q
2.7	12,680	G184T88Q	13,035	G184T92Q	-	-

7-1/2 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1,500	G213T21S	1,500	G213T21S	1,500	G213T21S	1430
1,500	G213T21S	1,500	G213T21S	1,500	G213T21S	1170
1,500	G213T21S	1,500	G213T21S	1,765	G213T32S	950
1,765	G213T32S	1,765	G213T32S	1,765	G213T32S	780
1,765	G213T32S	1,765	G213T32S	1,765	G213T32S	640
1,765	G213T32S	1,765	G213T32S	2,090	G213T43S	520
1,740	G213T21D	1,740	G213T21D	1,740	G213T21D	420
1,740	G213T21D	1,740	G213T21D	1,740	G213T21D	350
1,740	G213T21D	1,740	G213T21D	1,740	G213T21D	280
1,740	G213T21D	1,740	G213T21D	1,740	G213T21D	230
1,740	G213T21D	1,740	G213T21D	1,740	G213T21D	190
1,740	G213T21D	1,740	G213T21D	2,080	G213T32D	155
1,740	G213T21D	1,740	G213T21D	2,080	G213T32D	125
1,740	G213T21D	2,080	G213T32D	2,305	G213T43D	100
2,080	G213T32D	2,080	G213T32D	2,305	G213T43D	84
2,080	G213T32D	2,305	G213T43D	2,305	G213T43D	68
2,305	G213T43D	3,100	G213T43T	3,120	G213T54D	56
2,305	G213T43D	3,100	G213T43T	3,940	G213T54T	45
3,100	G213T43T	3,940	G213T54T	3,940	G213T54T	37
3,100	G213T43T	3,940	G213T54T	4,730	G213T64T	30
3,940	G213T54T	3,940	G213T54T	4,730	G213T64T	25
3,940	G213T54T	4,730	G213T64T	5,720	G213T76T	20
4,730	G213T64T	4,730	G213T64T	5,720	G213T76T	16.5
4,730	G213T64T	5,720	G213T76T	7,820	G213T88T	13.5
5,720	G213T76T	5,720	G213T76T	7,820	G213T88T	11.0
7,505	G213T76Q	7,820	G213T88T	8,215	G254T88T*	9.0
7,505	G213T76Q	10,610	G213T92T	10,610	G213T92T	7.5
12,820	G213T88Q	12,820	G213T88Q	16,280	G213T98Q	6.0
12,820	G213T88Q	13,180	G213T92Q	16,280	G213T98Q	5.0
12,820	G213T88Q	16,280	G213T98Q	-	-	4.0
13,180	G213T92Q	16,280	G213T98Q	-	-	3.2

* Denotes 1170 RPM Motor Supplied. All other ratings are supplied with 1750 RPM motors. Listed price includes the appropriate TEFC motor.

DISCOUNT N-1

Effective: 31, May 1986

Supersedes: 1, March 1985

Your Total Drive Source 

Integral Gearmotors

Moduline®

Type G

**RATINGS – PRICES
10 – 15 HP**

10 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	1,650	G215T21S	1,650	G215T21S	1,650	G215T21S
1170	1,650	G215T21S	1,650	G215T21S	1,880	G215T32S
950	1,650	G215T21S	1,880	G215T32S	1,880	G215T32S
780	1,880	G215T32S	1,880	G215T32S	2,205	G215T43S
640	1,880	G215T32S	2,205	G215T43S	2,205	G215T43S
520	1,880	G215T32S	2,205	G215T43S	2,205	G215T43S
420	1,800	G215T21D	1,800	G215T21D	2,140	G215T32D
350	1,800	G215T21D	1,800	G215T21D	2,140	G215T32D
280	1,800	G215T21D	1,800	G215T21D	2,140	G215T32D
230	1,800	G215T21D	1,800	G215T21D	2,140	G215T32D
190	1,800	G215T21D	1,800	G215T21D	2,140	G215T32D
155	1,800	G215T21D	1,800	G215T21D	2,140	G215T32D
125	1,800	G215T21D	2,140	G215T32D	2,615	G215T43D
100	2,140	G215T32D	2,140	G215T32D	2,615	G215T43D
84	2,140	G215T32D	2,615	G215T43D	3,295	G215T54D
68	2,615	G215T43D	2,615	G215T43D	3,295	G215T54D
56	3,360	G215T43T	3,360	G215T43T	4,010	G215T54T
45	4,010	G215T54T	4,010	G215T54T	4,910	G215T64T
37	4,010	G215T54T	4,010	G215T54T	4,910	G215T64T
30	4,010	G215T54T	4,910	G215T64T	6,030	G215T76T
25	4,910	G215T64T	4,910	G215T64T	6,030	G215T76T
20	4,910	G215T64T	6,030	G215T76T	7,990	G215T88T
16.5	6,030	G215T76T	6,030	G215T76T	7,990	G215T88T
13.5	6,030	G215T76T	6,030	G215T76T	7,990	G215T88T
11.0	7,990	G215T88T	7,990	G215T88T	10,850	G215T92T
9.0	13,215	G215T88Q	7,990	G215T88T	10,850	G215T92T
7.5	13,215	G215T88Q	13,215	G215T88Q	16,870	G215T98Q
6.0	13,580	G215T92Q	16,870	G215T98Q	16,870	G215T98Q
5.0	13,580	G215T92Q	16,870	G215T98Q	-	-
4.0	16,870	G215T98Q	16,870	G215T98Q	-	-

15 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	2,100	G254T32S	2,100	G254T32S	2,100	G254T32S
1170	2,100	G254T32S	2,100	G254T32S	2,285	G254T43S
950	2,100	G254T32S	2,285	G254T43S	2,285	G254T43S
780	2,100	G254T32S	2,285	G254T43S	2,285	G254T43S
640	2,285	G254T43S	2,285	G254T43S	2,605	G254T54S
520	2,285	G254T43S	2,605	G254T54S	2,605	G254T54S
420	2,325	G254T32D	2,325	G254T32D	2,325	G254T32D
350	2,325	G254T32D	2,325	G254T32D	2,325	G254T32D
280	2,325	G254T32D	2,325	G254T32D	2,325	G254T32D
230	2,325	G254T32D	2,325	G254T32D	2,325	G254T32D
190	2,325	G254T32D	2,325	G254T32D	2,700	G254T43D
155	2,325	G254T32D	2,325	G254T32D	2,700	G254T43D
125	2,325	G254T32D	2,700	G254T43D	3,400	G254T54D
100	2,700	G254T43D	2,700	G254T43D	3,400	G254T54D
84	2,700	G254T43D	3,400	G254T54D	3,400	G254T54D
68	3,400	G254T54D	3,400	G254T54D	4,045	G254T64D
56	3,400	G254T54D	4,185	G254T54T	5,125	G254T64T
45	4,185	G254T54T	5,125	G254T64T	6,215	G254T76T
37	4,185	G254T54T	5,125	G254T64T	6,215	G254T76T
30	5,125	G254T64T	6,215	G254T76T	8,215	G254T88T
25	5,125	G254T64T	6,215	G254T76T	8,215	G254T88T
20	6,215	G254T76T	8,215	G254T88T	8,215	G254T88T
16.5	6,215	G254T76T	8,215	G254T88T	11,095	G254T92T
13.5	8,215	G254T88T	11,095	G254T92T	11,095	G254T92T
11.0	8,215	G254T88T	11,095	G254T92T	15,945	G254T98T
9.0	13,520	G254T88Q	17,125	G254T98Q	17,125	G254T98Q
7.5	13,870	G254T92Q	17,125	G254T98Q	-	-
6.0	17,125	G254T98Q	17,125	G254T98Q	-	-
5.0	17,125	G254T98Q	-	-	-	-

* Denotes 1170 RPM Motor Supplied. All other ratings are supplied with 1750 RPM motors. Listed price includes the appropriate TEFC motor.

DISCOUNT N-1

Effective: 1, May 1984

Supersedes: New

Integral Gearmotors

Type G

Moduline®

20 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	2,275	G256T32S	2,275	G256T32S	2,275	G256T32S
1170	2,275	G256T32S	2,430	G256T43S	2,430	G256T43S
950	2,275	G256T32S	2,430	G256T43S	2,775	G256T54S
780	2,430	G256T43S	2,430	G256T43S	2,775	G256T54S
640	2,430	G256T43S	2,775	G256T54S	3,280	G256T76S
520	2,430	G256T43S	2,775	G256T54S	3,280	G256T76S
420	2,470	G256T32D	2,470	G256T32D	2,825	G256T43D
350	2,470	G256T32D	2,470	G256T32D	2,825	G256T43D
280	2,470	G256T32D	2,470	G256T32D	2,825	G256T43D
230	2,470	G256T32D	2,470	G256T32D	2,825	G256T43D
190	2,470	G256T32D	2,825	G256T43D	2,825	G256T43D
155	2,470	G256T32D	2,825	G256T43D	3,490	G256T54D
125	2,825	G256T43D	3,490	G256T54D	3,490	G256T54D
100	2,825	G256T43D	3,490	G256T54D	4,125	G256T64D
84	3,490	G256T54D	3,490	G256T54D	4,125	G256T64D
68	3,490	G256T54D	4,125	G256T64D	5,275	G256T76D
56	4,640	G256T54T	5,245	G256T64T	6,300	G256T76T
45	5,245	G256T64T	6,300	G256T76T	6,300	G256T76T
37	5,245	G256T64T	6,300	G256T76T	8,360	G256T88T
30	6,300	G256T76T	6,300	G256T76T	8,360	G256T88T
25	6,300	G256T76T	8,360	G256T88T	8,360	G256T88T
20	8,360	G256T88T	8,360	G256T88T	11,310	G256T92T
16.5	8,360	G256T88T	11,310	G256T92T	16,125	G256T98T
13.5	8,360	G256T88T	11,310	G256T92T	16,125	G256T98T
11.0	11,310	G256T92T	16,125	G256T98T	16,125	G256T98T
9.0	11,310	G256T92T	17,840	G256T98Q	-	-
7.5	17,840	G256T98Q	-	-	-	-
6.0	17,840	G256T98Q	-	-	-	-

25 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	2,760	G284T43S	2,760	G284T43S	2,760	G284T43S
1170	2,760	G284T43S	2,760	G284T43S	2,760	G284T43S
950	2,760	G284T43S	2,760	G284T43S	3,040	G284T54S
780	2,760	G284T43S	3,040	G284T54S	3,685	G284T76S
640	2,760	G284T43S	3,040	G284T54S	3,685	G284T76S
520	3,040	G284T54S	3,685	G284T76S	3,685	G284T76S
420	2,800	G284T32D	2,800	G284T32D	3,695	G284T54D
350	2,800	G284T32D	2,800	G284T32D	3,695	G284T54D
280	2,800	G284T32D	2,800	G284T32D	3,695	G284T54D
230	2,800	G284T32D	3,120	G284T43D	3,695	G284T54D
190	2,800	G284T32D	3,120	G284T43D	3,695	G284T54D
155	3,120	G284T43D	3,695	G284T54D	3,695	G284T54D
125	3,120	G284T43D	3,695	G284T54D	4,355	G284T64D
100	3,695	G284T54D	3,695	G284T54D	4,355	G284T64D
84	3,695	G284T54D	4,355	G284T64D	5,595	G284T76D
68	4,355	G284T64D	4,355	G284T64D	5,595	G284T76D
56	5,685	G284T64T	6,510	G284T76T	8,305	G284T88D
45	5,685	G284T64T	6,510	G284T76T	8,305	G284T88D
37	6,510	G284T76T	8,690	G284T88T	8,690	G284T88T
30	6,510	G284T76T	8,690	G284T88T	11,595	G284T92T
25	8,690	G284T88T	8,690	G284T88T	11,595	G284T92T
20	8,690	G284T88T	11,595	G284T92T	16,465	G284T98T
16.5	8,690	G284T88T	11,595	G284T92T	16,465	G284T98T
13.5	11,595	G284T92T	16,465	G284T98T	16,465	G284T98T
11.0	11,595	G284T92T	16,465	G284T98T	-	-
9.0	18,190	G284T98Q	-	-	-	-
7.5	18,190	G284T98Q	-	-	-	-
6.0	18,190	G284T98Q	-	-	-	-

* Denotes 1170 RPM Motor Supplied. All other ratings are supplied with 1750 RPM motors. Listed price includes the appropriate TEFC motor.

DISCOUNT N-1

Effective: 31, May 1986

Supersedes: 1, May 1984

Your Total Drive Source 

Integral Gearmotors

Moduline®

Type G

RATINGS - PRICES
30 - 60 HP

30 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	3,010	G286T43S	3,010	G286T43S	3,290	G286T54S
1170	3,010	G286T43S	3,010	G286T43S	3,290	G286T54S
950	3,010	G286T43S	3,290	G286T54S	3,970	G286T76S
780	3,010	G286T43S	3,290	G286T54S	3,970	G286T76S
640	3,290	G286T54S	3,970	G286T76S	3,970	G286T76S
520	3,290	G286T54S	3,970	G286T76S	3,970	G286T76S
420	3,370	G286T43D	3,850	G286T54D	3,850	G286T54D
350	3,370	G286T43D	3,850	G286T54D	3,850	G286T54D
280	3,370	G286T43D	3,850	G286T54D	3,850	G286T54D
230	3,370	G286T43D	3,850	G286T54D	3,850	G286T54D
190	3,370	G286T43D	3,850	G286T54D	3,850	G286T54D
155	3,370	G286T43D	3,850	G286T54D	4,545	G286T64D
125	3,850	G286T54D	3,850	G286T54D	4,545	G286T64D
100	3,850	G286T54D	4,545	G286T64D	5,865	G286T76D
84	3,850	G286T54D	4,545	G286T64D	5,865	G286T76D
68	4,545	G286T64D	5,865	G286T76D	8,580	G286T88D
56	6,305	G286T64T	6,625	G286T76T	8,580	G286T88D
45	6,625	G286T76T	8,580	G286T88D	8,580	G286T88D
37	6,625	G286T76T	9,020	G286T88T	11,820	G286T92T
30	9,020	G286T88T	9,020	G286T88T	11,820	G286T92T
25	9,020	G286T88T	11,820	G286T92T	16,735	G286T98T
20	9,020	G286T88T	11,820	G286T92T	16,735	G286T98T
16.5	11,820	G286T92T	16,735	G286T98T	-	-
13.5	11,820	G286T92T	16,735	G286T98T	-	-
11.0	18,310	G286T98Q	-	-	-	-
9.0	18,310	G286T98Q	-	-	-	-

40 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	3,800	G324T54S	3,800	G324T54S	3,800	G324T54S
1170	3,800	G324T54S	3,800	G324T54S	4,295	G324T76S
950	3,800	G324T54S	3,800	G324T54S	4,295	G324T76S
780	3,800	G324T54S	4,295	G324T76S	4,295	G324T76S
640	4,295	G324T76S	4,295	G324T76S	-	-
520	4,295	G324T76S	4,295	G324T76S	-	-
420	4,165	G324T54D	4,165	G324T54D	4,165	G324T54D
350	4,165	G324T54D	4,165	G324T54D	4,165	G324T54D
280	4,165	G324T54D	4,165	G324T54D	4,165	G324T54D
230	4,165	G324T54D	4,165	G324T54D	4,825	G324T64D
190	4,165	G324T54D	4,165	G324T54D	4,825	G324T64D
155	4,165	G324T54D	4,825	G324T64D	6,125	G324T76D
125	4,165	G324T54D	4,825	G324T64D	6,125	G324T76D
100	4,825	G324T64D	6,125	G324T76D	6,125	G324T76D
84	4,825	G324T64D	6,125	G324T76D	8,715	G324T88D
68	6,125	G324T76D	8,715	G324T88D	8,715	G324T88D
56	6,985	G324T76T	8,715	G324T88D	10,915	G324T88T
45	6,985	G324T76T	8,715	G324T88D	11,275	G324T92D
37	10,915	G324T88T	10,915	G324T88T	12,400	G324T92T
30	10,915	G324T88T	12,400	G324T92T	17,250	G324T98T
25	10,915	G324T88T	17,250	G324T98T	17,250	G324T98T
20	12,400	G324T92T	17,250	G324T98T	-	-
16.5	17,250	G324T98T	17,250	G324T98T	-	-
13.5	18,870	G324T98Q	-	-	-	-
11.0	18,870	G324T98Q	-	-	-	-

50 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	4,780	G326T54S	4,780	G326T54S	4,825	G326T76S
1170	4,780	G326T54S	4,780	G326T54S	4,825	G326T76S
950	4,780	G326T54S	4,825	G326T76S	4,825	G326T76S
780	4,825	G326T76S	4,825	G326T76S	-	-
640	4,825	G326T76S	4,825	G326T76S	-	-
520	4,825	G326T76S	-	-	-	-
420	4,495	G326T54D	4,495	G326T54D	6,355	G326T76D
350	4,495	G326T54D	4,495	G326T54D	5,155	G326T64D
280	4,495	G326T54D	4,495	G326T54D	5,155	G326T64D
230	4,495	G326T54D	4,495	G326T54D	5,155	G326T64D
190	4,495	G326T54D	5,155	G326T64D	6,355	G326T76D
155	4,495	G326T54D	5,155	G326T64D	6,355	G326T76D
125	5,155	G326T64D	6,355	G326T76D	6,355	G326T76D
100	5,155	G326T64D	6,355	G326T76D	8,840	G326T88D
84	6,355	G326T76D	8,840	G326T88D	8,840	G326T88D
68	6,355	G326T76D	8,840	G326T88D	11,715	G326T92D
56	8,840	G326T88D	8,840	G326T88D	11,715	G326T92D
45	8,840	G326T88D	11,520	G326T88T	17,810	G326T98T
37	11,520	G326T88T	12,880	G326T92T	17,810	G326T98T
30	12,880	G326T92T	17,810	G326T98T	17,810	G326T98T
25	12,880	G326T92T	17,810	G326T98T	-	-
20	17,810	G326T98T	17,810	G326T98T	-	-
16.5	17,810	G326T98T	-	-	-	-
13.5	19,550	G326T98Q	-	-	-	-

60 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
1430	6,150	G364T76S	6,150	G364T76S	-	-
1170	6,150	G364T76S	-	-	-	-
950	6,150	G364T76S	-	-	-	-
780	7,175	G364T76D	7,175	G364T76D	7,175	G364T76D
640	7,175	G364T76D	7,175	G364T76D	7,175	G364T76D
520	5,975	G364T64D	5,975	G364T64D	5,975	G364T64D
420	5,975	G364T64D	5,975	G364T64D	7,175	G364T76D
350	5,975	G364T64D	5,975	G364T64D	7,175	G364T76D
280	5,975	G364T64D	7,175	G364T76D	7,175	G364T76D
230	5,975	G364T64D	7,175	G364T76D	9,660	G364T88D
190	7,175	G364T76D	7,175	G364T76D	9,660	G364T88D
155	9,660	G364T88D	9,660	G364T88D	12,050	G364T92D
125	9,660	G364T88D	12,050	G364T92D	16,295	G364T98D
100	9,660	G364T88D	12,050	G364T92D	19,095	G364T98T
84	13,490	G364T92T	19,095	G364T98T	19,095	G364T98T
68	13,490	G364T92T	19,095	G364T98T	-	-
56	19,095	G364T98T	19,095	G364T98T	-	-
45	19,095	G364T98T	19,095	G364T98T	-	-
37	19,095	G364T98T	19,095	G364T98T	-	-
30	19,095	G364T98T	19,095	G364T98T	-	-
25	19,095	G364T98T	19,095	G364T98T	-	-

* Denotes 1170 RPM Motor Supplied. All other ratings are supplied with 1750 RPM motors. Listed price includes the appropriate TEFC motor.

DISCOUNT N-1

Effective: 1, May 1984
Supersedes: New

Integral Gearmotors

RATINGS — PRICES
75 — 150 HP

Type G

Moduline®

75 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
780	7,135	G365T76S	-	-	-	-
640	7,135	G365T76S	-	-	-	-
520	-	-	-	-	-	-
420	8,730	G365T76D	8,730	G365T76D	8,730	G365T76D
350	8,730	G365T76D	8,730	G365T76D	8,730	G365T76D
280	8,730	G365T76D	8,730	G365T76D	8,730	G365T76D
230	8,730	G365T76D	8,730	G365T76D	8,730	G365T76D
190	8,730	G365T76D	8,730	G365T76D	8,730	G365T76D
155	8,730	G365T76D	8,730	G365T76D	10,275	G365T88D
125	8,730	G365T76D	10,275	G365T88D	10,275	G365T88D
100	8,730	G365T76D	10,275	G365T88D	12,350	G365T92D
84	10,275	G365T88D	10,275	G365T88D	12,350	G365T92D
68	10,275	G365T88D	12,350	G365T92D	17,400	G365T98D
56	12,350	G365T92D	12,350	G365T92D	17,400	G365T98D
45	12,350	G365T92D	21,220	G365T98T	21,220	G365T98T
37	14,430	G365T92T	21,220	G365T98T	-	-
30	21,220	G365T98T	21,220	G365T98T	-	-
25	21,220	G365T98T	-	-	-	-

100 HORSEPOWER						
RPM	CLASS I		CLASS II		CLASS III	
	List Price	Frame	List Price	Frame	List Price	Frame
420	10,985	G405T88D	10,985	G405T88D	10,985	G405T88D
350	10,985	G405T88D	10,985	G405T88D	10,985	G405T88D
280	9,660	G405T76D	9,660	G405T76D	9,660	G405T76D
230	9,660	G405T76D	9,660	G405T76D	10,985	G405T88D
190	9,660	G405T76D	9,660	G405T76D	10,985	G405T88D
155	9,660	G405T76D	10,985	G405T88D	10,985	G405T88D
125	9,660	G405T76D	10,985	G405T88D	13,060	G405T92D
100	10,985	G405T88D	13,060	G405T92D	18,640	G405T98D
84	10,985	G405T88D	13,060	G405T92D	18,640	G405T98D
68	13,060	G405T92D	18,640	G405T98D	18,640	G405T98D
56	13,060	G405T92D	18,640	G405T92D	-	-
45	15,460	G405T92T	22,280	G405T98T	-	-
37	22,280	G405T98T	-	-	-	-
30	22,280	G405T98T	-	-	-	-

125 HORSEPOWER

150 HORSEPOWER

REFER
TO
OFFICE

REFER
TO
OFFICE

* Denotes 1170 RPM Motor Supplied. All other ratings are supplied with 1750 RPM motors. Listed price includes the appropriate TEFC motor.

DISCOUNT N-1

Effective: 1, May 1984

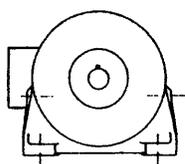
Supersedes: New

Your Total Drive Source 

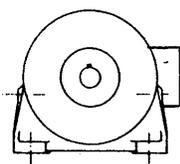
Integral Gearmotors

Moduline®

Type G

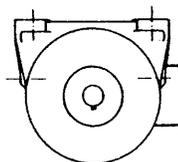


Standard Position F

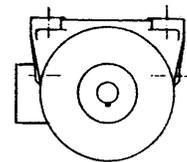


Position FX

Floor Mounted

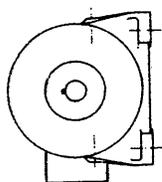


Standard Position C

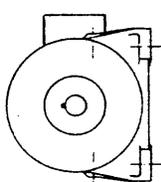


Position CX

Ceiling Mounted

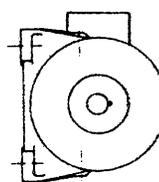


Standard Position W-R

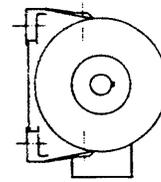


Position W-RX

Right Hand Wall Mounting



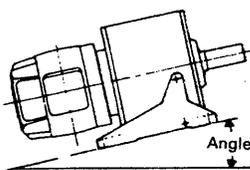
Standard Position W-L



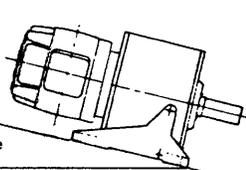
Position W-LX

Left Hand Wall Mounting

For mounting position W-L (and W-LX) on sizes 88, 92, and 98, please contact Nuttall Gear.

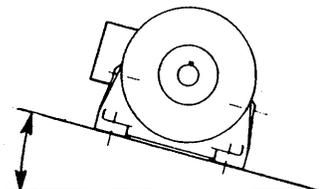


Position F-I
Output shaft up
maximum 10 degrees

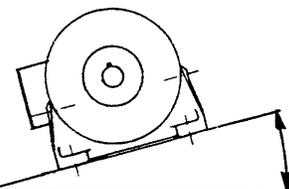


Position F-D
Output shaft down
maximum 15 degrees

For units with inclines or declines exceeding the above, please contact Nuttall Gear.

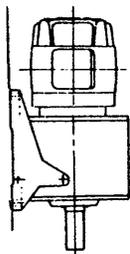


Position F-RR



Position F-RL

For units mounted as above, please contact Nuttall Gear.



Position W-D

For foot mounted or flange mounted vertical units, please see modification section.

For vertical units with drywell construction, please see section 600.

Standard Conduit Box Location

When looking at the output shaft, the conduit box will be located on the left side when floor mounted, and on the right side when ceiling mounted.

When other locations are required, use the following suffixes to the assembly position code:

- X - opposite standard
- T - mounted opposite mounting feet
- B - same side as mounting feet

Conduit box location is a no charge option.

UNLESS SPECIFIED BY CUSTOMER, THE CONDUIT BOX WILL BE LOCATED IN THE STANDARD POSITION

Effective: 1, May 1984

Supersedes: New

Integral Gearmotors

MODIFICATIONS
GEARCASE

Type G

Moduline®

Gear Case Size	05	10	21	32	43	54	64	76	88	92	98
1. Special Shafts											
A. Basic Addition											
1. Any modification up to standard length.											
1 - 5 units	150	150	155	175	185	215	230	260	365	425	485
6 - 25 units	90	90	95	100	110	125	140	155	220	260	300
26 + units	55	55	60	65	70	85	95	105	145	170	195
B. 1. For each 5" or fraction above standard length add -	40	40	55	55	60	75	90	110	150	200	240
2. For special features other than length, add the following charges to the basic addition.											
A. Drilling and tapping end of shaft.	30	30	35	35	40	45	45	55	70	85	100
B. Special Keyway	30	30	35	35	40	45	45	55	70	85	100
C. Splined Shaft	90	90	95	100	110	130	140	155	220	260	300
D. Special Diameter: One special diameter is included in the basic addition. For each additional diameter add the following.	30	30	35	35	40	45	45	55	70	85	100
E. Threaded shaft: For each set of threads.	30	30	35	35	40	45	45	55	70	85	100
F. Tapered shaft with threaded end.	70	70	80	85	90	110	120	130	180	210	245
2. Mounting Customer's Equipment Pressing customer's material on output shaft (couplings, sprockets, pinions). NOTE: Customer's material must be delivered to Nuttall Gear transportation prepaid and ready for mounting. Shipment must be marked for application to specific order and item number. Any machining of customer's material must be negotiated with Nuttall Gear in advance of mounting. Nuttall Gear is not responsible for loss or damage to customer's material.	120	120	125	140	145	160	170	185	205	215	225

DISCOUNT N-1

Effective: 1, May 1984

Supersedes: New

Your Total Drive Source



Integral Gearmotors

Moduline®

Type G

**MODIFICATIONS
GEARCASE**

Gear Case Size	05	10	21	32	43	54	64	76	88	92	98
3. Mounting Positions. There is no additional charge for floor, wall, or ceiling mounted units in which the shaft is horizontal, or for floor mounted units whose shaft is inclined up to 10 degrees or declined up to 15 degrees from horizontal.											
1. Vertical shaft down (foot mounted)	110	110	130	165	210	275	335	440	-	-	-
2. Vertical shaft down (flange mounted) Note: Moduline units, other than dry well construction or Veri-dri units, running at 155 rpm or greater may run too hot with the low speed shaft down, therefore the thermal hp capacity should be reduced by approximately 30 percent. (Refer to Nuttall Gear)	265	265	330	400	525	680	835	995	-	-	-
3. Vertical shaft down (dry well construction)	Refer to Veri-Dri Section 600										
4. Shaft - up	REFER TO NUTTALL OFFICE										
5. Horizontal w/rotation about shaft)	REFER TO NUTTALL OFFICE										
4. Mill & chemical features (gearcase only) Note: Mill and chemical features include wet end seals and epoxy paint. (Motor adder listed in motor option listing.)	35	35	40	50	60	85	110	130	180	215	240
5. Special Paint											
A. Addition for standard commercial paints, available in one gallon units.	85	85	100	110	135	155	155	170	195	195	210
B. Customer supplied paint.	REFER TO NUTTALL OFFICE										
C. Primer only.	25	25	25	25	25	25	25	25	25	25	25
D. Special primers, paints, finish.	REFER TO NUTTALL OFFICE										
6. Special Seals											
A. Wet end for moisture laden atmospheres such as wet end paper mill drives.	35	35	40	50	60	85	110	130	180	215	265
B. Taconite duty: for taconite, cement or other abrasive dust atmospheres. If dust is not abrasive no modification is needed.	150	150	190	245	300	400	495	600	1005	1280	1475
7. Slide Rails (pair)	REFER TO NUTTALL OFFICE										
8. Oil Sight Gauge	35	35	35	35	35	35	35	35	35	35	35
9. Special Output Speeds 1 - 2 units	615	615	615	615	615	615	615	615	615	615	615
3 - 24 units	325	325	325	325	325	325	325	325	325	325	325
25 + units	No charge.										

DISCOUNT N-1

Effective: 1, March 1985

Supersedes: 1 May 1984

Integral Gearmotors

Type G

Moduline®

MODIFICATIONS
OPTIONAL MOTORS *

1. For motors with other than the standard enclosure and/or efficiency, make the following list price additions (or deductions).

Motor Efficiency	Open Dripproof 40°C Ambient		Totally Enclosed Fan-Cooled 40°C Ambient		Explosion Proof Class I - Group D T1 thru T2D 40°C Ambient		Explosion Proof Class I, Group D Class II, Groups F, G T1 thru T3B 40°C Ambient		Mill & Chemical Totally Enclosed Fan Cooled 40°C Ambient		Mill & Chemical Explosion Proof Class I - Group D T1 thru T2D 40°C Ambient	
	Normal	High	Normal	High	Normal	High	Normal	High	Normal	High	Normal	High
Motor Insulation	B	B	F	F	B	F	B	B	F	F	F	F
Motor Service Factor	1.15	1.15	1.15	1.15	1.0	1.15	1.0	1.0	1.15	1.15	1.15	1.15
Standard Voltages (See Notes 1-3)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(3)	(2)	(3)	(2)
Horsepower	Frame											
1	143T		Standard									
1-1/2	145T		Standard									
2	145T		Standard									
3	182T		Standard									
5	184T		Standard									
7-1/2	213T		Standard									
10	215T		Standard									
15	254T		Standard									
20	256T		Standard									
25	284T		Standard									
30	286T		Standard									
40	324T		Standard									
50	326T		Standard									
60	364T		Standard									
75	365T		Standard									
100	405T		Standard									
125	444T		Standard									
150												
200												

CONTACT
NUTTALL
GEAR

CONTACT
NUTTALL
GEAR

2. For other motor options such as multi-speed, high slip, high torque, or DC motors, please contact Nuttall Gear.

Notes 1, 2, 3.

Standard Voltages:	(1)	(2)	(3)
Frames 143T - 326T	200, 230, 230/460, 575	200, 230, 230/460, 460, 575	460
Frames 364T - 449T	460, 575	460, 575	460

(4) 100HP Open Dripproof Frame 404T

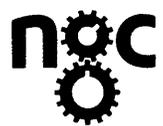
(5) 125HP Open Dripproof Frame 405T

*All price additions for motor options or modifications are based on 1750 RPM motors. Please contact Nuttall Gear if other motor speeds are required.

DISCOUNT N-1

Effective: 1, May 1991

Supersedes: 1, May 1984

Your Total Drive Source 

Integral Gearmotors

Moduline®

Type G

Horsepower (based on 1750 RPM)	1	1-1/2	2	3	5	7-1/2	10	15	20	25	30	40	50	60	75	100	125	150	
1. Basic Motor Modification Adder For motor modifications, other than enclosure (see above), the basic motor modification adder must be added before adding for any of the following allowable modifications listed. The basic modification adder, plus any other modification, is added directly to the tabulated price or is added after the unit is modified for enclosure.																			
	25	25	30	40	60	80	100	130	160	210	250	330	390	490	535	580	725		
2. Insulation																			
A. Class F - Class F insulation with Class B temperature rise.	30	30	30	40	40	75	75	95	95	155	155	210	210	265	385	385	545		
B. Class H - Class H insulation with Class B temperature rise.	① ②	① ②	① ②	① ②	① ②	150 ②	150 ②	190 ②	190 ②	310	310	420	420	530	770	770	1090		
C. Special service conditions - Premium insulation systems can be supplied for operation in special environments or for conditions too severe for standard insulation.	NOTE: ① Consult office. NOTE: ② Not available on ODP motor.																		
C1. Premium insulation in drip proof enclosure is recommended for extra protection in humid or damp locations without long idle periods. When long idle periods will be encountered, space heaters are recommended. Premium insulation in enclosed motors affords utmost in protection against high humidity moisture and where splashing chemicals or vapors are present, including salt spray.																			
	25	25	25	30	30	45	45	60	60	100	100	125	125	155	210	210	270		
C2. Tropical Protection - Premium insulation and fungus protection will apply unless otherwise specified. Price adder includes both. Screens are often required in drip proof motors. Contact Nuttall Gear for price addition. If high ambient conditions exist, contact Nuttall Gear.																			
	30	30	30	40	40	75	75	85	85	150	150	200	200	255	335	335	440		
C3. Fungus protection is recommended where fungi is apt to attack metal, insulation or other material.																			
a. Windings only:	10	10	10	10	10	25	25	25	25	55	55	75	75	100	130	130	170		
b. All internal metal surfaces (including winding).	30	30	30	40	40	75	75	85	85	150	150	200	200	255	335	335	440		
C4. Abrasion resistant system is recommended in gravel plants, and for pulverizers of non-combustible and non-clogging materials.																			
	-	-	-	-	-	-	-	-	-	200	200	250	250	310	410	410	540		
3. Space Heaters Space heaters are recommended for motors installed in damp locations to prevent condensation on the motor windings when the motor is not operating. Price additions shown include space heater with leads brought to the standard conduit box. Space heaters voltage (115, 230, 460) must be specified when order is entered.																			
ODP/TEFC	N/A	N/A	N/A	160	160	160	160	160	160	245	245	245	245	290	355	355	420		
Explosion Proof	325	325	325	325	325	325	325	325	325	485	485	485	485	580	710	710	840		

* All price additions for motor options or modifications are based on 1750 RPM motors. Please contact NUTTALL GEAR if other motor speeds are required.

DISCOUNT N-1

Effective: 1, May 1984

Supersedes: New

Integral Gearmotors

Type G

Moduline®

MODIFICATIONS
MOTOR END*

Horsepower (based on 1750 RPM)	1	1-1/2	2	3	5	7-1/2	10	15	20	25	30	40	50	60	75	100	125	150	
4. Thermal protection using a bi-metallic disc thermostat which may be connected into a holding coil circuit of the motor starter. The sensor opens the control circuit, shutting down the motor, on over temperature. Because of thermal inertia, it does not protect the motor from damage due to locked rotor or phase failure. Standard unit has normally closed contacts. Class B Class F Class H	25	25	25	25	25	35	35	35	35	55	55	75	75	75	75	110	110		
	Refer to Office																		
	N/A	N/A	N/A	N/A	N/A	70	70	70	70	75	75	110	110	110	110	155	155		
5. Brakes - Disc Type - Motor Mounted Magnetic Either Dings of Stearns disc brakes will be supplied at Nuttall option. Stearns are single phase brakes. Dings are single phase to 9 lb-ft, and polyphase in larger sizes. These list price additions apply to disc brakes of the ratings shown. Nuttall Gear reserves the right to supply a brake type and manufacturer of their choice. Specified disc brake models or types will be negotiated at a list price addition. Spring set electrically released - automatic reset: Unless otherwise specified a brake of the same voltage and frequency as the motor will be furnished. In the case of dual-voltage motors, a brake of the lower voltage will be furnished unless specified otherwise. 60 cycles - 200, 230, 460, 575, volts, 50 cycles - 200, 220, 380, 400, 500, 550 volts. Torque Rating of brake in pound feet.	3	6	6	10	15	25	35	50	75	75	105	125	175	230	230	330	440		
	A. Standard Enclosure is used for applications with open drip-proof, TENV & TEFC motors, for indoor or semi-protected outdoor installations. Suitable for atmospheres containing chips, non-abrasive, non-conductive, non-explosive dusts and coolants.																		
	275	340	340	375	490	665	750	915	1305	1305	1670	2110	2810	3475	3475	4285	4650		
B. Dust-tight, Waterproof Enclosure is suitable for totally enclosed non-ventilated, and fan cooled motors. Used under conditions of extreme moisture, abrasive or conductive dusts, acid or alkali fumes, or outdoor installation.																			
485	520	520	630	755	966	1040	1235	1630	1815	2160	2705	3700	4320	4320	5205	5605			
C. Explosion Proof CLI, Group D																			
815	870	870	1010	1080	1250	1360	1570	1935	2110	2340	-	-	-	-	-	-	-	-	-
D. Explosion Proof CLII, Group F, G																			
815	870	870	1115	1245	1370	1515	1925	2420	2570	3000	-	-	-	-	-	-	-	-	-
Severe Duty Where severe duty cycles are involved, the thermal capacity of the brake must be considered. Refer details to Nuttall office.																			
DISCOUNT N-1																			

*All price additions for motor options or modifications are based on 1750 RPM motors. Please contact NUTTALL GEAR if other motor speeds are required.

Effective: 1, May 1984

Supersedes: New

Your Total Drive Source



Integral Gearmotors

Moduline®

Type G

**ENGINEERING DATA
EXACT GEAR RATIOS**

AGMA Nominal Ratio	Single Reduction Units										Nominal Output Speeds With Input Speed Of	
		10S	21S	32S	43S	54S		76S			1750	1170
1.225		1.271	1.265	1.275	1.271	1.271		1.271			1430	950
1.500		1.535	1.578	1.578	1.535	1.512		1.535			1170	780
1.837		1.868	1.850	1.854	1.868	1.868		1.868			950	640
2.250		2.203	2.257	2.314	2.303	2.303		2.303			780	520
2.756		2.759	2.800	2.806	2.793	2.793		2.793			640	420
3.375		3.360	3.560	3.538	3.542	3.542		3.542			520	350
4.134		4.190	4.227	4.318	4.190	4.190		4.238			420	280

Double Reduction Units													
	05D	10D	21D	32D	43D	54D	64D	76D	88D	92D	98D		
4.134	4.12	4.12	4.119	4.125	4.128	4.131	-	4.125	4.099	-	-	420	280
5.06	5.141	5.141	5.079	5.169	5.150	5.154	5.023	5.147	5.017	-	-	350	230
6.20	6.209	6.209	6.386	6.399	6.220	6.130	6.269	6.216	6.145	6.257	6.142	280	190
7.59	7.559	7.559	7.488	7.518	7.572	7.577	7.614	7.567	7.575	7.658	7.528	230	155
9.30	9.317	9.317	9.136	9.386	9.333	9.340	9.327	9.327	9.248	9.418	9.311	190	125
11.39	11.70	11.70	11.33	11.38	11.32	11.33	11.58	11.31	11.35	11.56	11.238	155	100
13.95	14.33	14.33	14.41	14.35	14.35	14.36	14.08	14.34	13.94	14.24	13.767	125	84
17.09	16.95	16.95	17.11	17.51	16.98	16.99	17.48	17.16	16.99	17.30	16.681	100	68
20.93	20.45	20.45	20.45	20.92	20.49	20.50	21.22	20.48	20.90	21.28	20.90	84	56
25.63	25.41	25.41	25.65	25.09	25.40	25.42	25.19	25.15	25.85	26.33	25.40	68	45
31.39	30.65	30.65	30.65	31.25	30.65	30.65	-	-	31.65	32.23	29.95	56	37
38.44	-	-	37.54	37.49	37.99	37.99	-	-	37.93	38.62	-	45	30

Triple Reduction Units													
			21T	32T	43T	54T	64T	76T	88T	92T	98T		
31.39			31.83	31.89	32.28	31.89	32.11	31.97	32.16	-	-	56	37
38.44			38.44	38.52	38.98	40.10	39.75	38.61	38.84	-	38.98	45	30
47.08			46.79	46.89	47.45	47.02	46.70	47.00	48.20	49.06	47.45	37	25
57.66			57.68	57.79	58.49	57.37	58.30	57.93	58.21	58.38	58.49	30	20
70.62			72.45	72.59	73.47	71.16	70.70	70.25	70.86	72.15	70.93	25	16.5
86.50			88.70	88.87	89.95	90.48	89.15	89.08	87.35	88.95	89.94	20	13.5
105.9			104.9	105.2	106.4	107.4	108.8	105.4	105.9	107.9	107.6	16.5	11
129.7			126.6	126.9	128.4	128.4	129.9	127.2	134.3	136.8	128.4	13.5	9
158.9			157.3	157.3	159.2	157.3	155.9	157.6	158.9	161.8	157.7	11.0	7.5
194.6			189.8	189.5	192.1	191.9	-	-	191.7	195.3	-	9	6
238.4			-	-	-	235.1	-	-	237.7	-	242.0	7.5	5

Quadruple Reduction Units													
				32Q	43Q	54Q	64Q	76Q	88Q	92Q	98Q		
194.6				197.3	199.7	197.6	199.4	200.6	201.8	-	197.06	9	6
238.4				283.3	241.2	243.6	242.8	235.7	237.1	-	239.9	7.5	.5
291.9				290.1	293.6	305.9	299.3	294.3	296.1	315.1	295.7	6	4
357.5				357.6	361.9	374.5	375.9	356.9	359.0	382.1	358.6	5	3.2
437.9				449.2	454.6	443.2	460.2	450.0	452.7	484.5	454.7	4	2.7
536.3				549.9	556.5	534.6	544.5	549.1	552.4	573.2	538.0	3.2	2.2
656.8				650.6	658.5	662.5	656.9	655.9	659.8	691.8	649.1	2.7	1.8
804.5				785.0	794.4	799.2	-	786.8	791.5	-	-	2.2	1.5
985.3				973.0	984.8	-	-	-	989.0	-	-	1.8	1.2

Integral Gearmotors

ENGINEERING DATA
OVERHUNG LOAD, THRUST RATINGS

Type G

Moduline®

Output Shaft – Overhung Load and Thrust Capacities Single Reduction

Gear Size	Pounds	Output Rpm								
		1400	1165	950	780	640	520	420	350	280
10S	Overhung Load	300	320	360	400	420	450	500	540	580
	Thrust (Down or Out)	130	190	270	340	400	475	525	590	600
	Thrust (Up or In)	130	190	270	340	400	475	525	590	600
21S	Overhung Load	650	720	800	860	930	1000	1075	1140	1200
	Thrust (Down or Out)	540	630	770	880	1000	1120	1160	1190	1210
	Thrust (Up or In)	540	630	770	880	1000	1120	1160	1190	1210
32S	Overhung Load	900	980	1075	1150	1250	1360	1490	1500	1500
	Thrust (Down or Out)	950	1090	1200	1200	1200	1200	1200	1200	1200
	Thrust (Up or In)	950	1090	1200	1200	1200	1200	1200	1200	1200
43S	Overhung Load	920	1000	1080	1170	1180	1300	1400	1500	1500
	Thrust (Down or Out)	500	675	825	900	900	900	900	900	900
	Thrust (Up or In)	500	675	825	900	900	900	900	900	900
54S	Overhung Load	1000	1000	1000	1000	1000	1050	1090	1180	1200
	Thrust (Down or Out)	775	775	775	775	775	775	775	775	775
	Thrust (Up or In)	775	775	775	775	775	775	775	775	775
76S	Overhung Load	1000	1000	1000	1000	1000	1000	1000	1025	1100
	Thrust (Down or Out)	775	775	775	775	775	775	775	775	775
	Thrust (Up or In)	775	775	775	775	775	775	775	775	775

Output Shaft – Overhung Load and Thrust Capacities Double, Triple and Quadruple Reduction

Gear Size	Pounds	Output Rpm												
		420	350	280	230	190	155	125	100	84	68	56	45	37 and Below
05	Overhung Load	870	970	1060	1140	1220	1300	1400	1500	1600	1700	1700	.....	.....
	Thrust (Down or Out)	640	700	780	830	910	990	1080	1180	1280	1380	1500	.....	.....
	Thrust (Up or In)	600	660	720	780	830	900	970	1050	1130	1220	1300	.....	.....
10	Overhung Load	1000	1100	1160	1240	1320	1400	1500	1600	1700	1700	1700	.....	.....
	Thrust (Down or Out)	860	920	1000	1050	1130	1210	1300	1400	1500	1600	1720	1850	.....
	Thrust (Up or In)	700	760	820	880	930	1000	1070	1150	1230	1320	1400	1500	.....
21	Overhung Load	1260	1330	1420	1500	1600	1700	1800	1930	2020	2150	2300	2300	2300
	Thrust (Down or Out)	1220	1300	1400	1500	1600	1720	1850	2000	2110	2260	2420	2600	2600
	Thrust (Up or In)	1000	1060	1150	1230	1300	1400	1500	1620	1720	1850	1970	2120	2200
32	Overhung Load	1600	1690	1800	1920	2020	2150	2300	2450	2580	2750	2900	3000	3000
	Thrust (Down or Out)	1640	1750	1880	2000	2150	2300	2470	2660	2820	3020	3250	3500	3500
	Thrust (Up or In)	1430	1520	1640	1750	1870	2000	2150	2320	2450	2630	2810	3000	3000
43	Overhung Load	1950	2050	2200	2340	2480	2620	2800	3000	3150	3370	3570	3800	4000
	Thrust (Down or Out)	2270	2420	2600	2800	2950	3200	3400	3700	3900	4200	4500	4800	5000
	Thrust (Up or In)	2000	2150	2320	2470	2640	2800	3050	3270	3460	3710	3950	4300	4500
54	Overhung Load	3450	3680	3920	4180	4400	4700	5000	5000	5000	5000	5000	5000	5000
	Thrust (Down or Out)	3600	3850	4150	4400	4700	5000	5400	5800	6150	6600	7000	7400	7400
	Thrust (Up or In)	2850	3000	3260	3500	3740	4000	4300	4650	4950	5300	5650	6100	6200
64	Overhung Load	.....	4400	4700	5000	5300	5600	6000	6400	6750	7200	7600	8000	8000
	Thrust (Down or Out)	.....	4600	5000	5300	5700	6000	6500	7000	7400	7900	8500	9000	9000
	Thrust (Up or In)	.....	3600	3900	4200	4500	4800	5200	5600	5900	6400	6800	7300	7500
76	Overhung Load	5200	5450	5850	6200	6600	7000	7450	8000	8400	8950	9500	10000	10000
	Thrust (Down or Out)	5050	5350	5750	6150	6550	7000	7500	8100	8550	9150	9800	10500	11000
	Thrust (Up or In)	4100	4350	4700	5000	5350	5750	6200	6650	7100	7600	8100	8700	9000
88	Overhung Load	10000	10500	11250	12000	13000	14500	15250	16500	17750	19250	20000	20000	20000
	Thrust (Down or Out)	9500	10000	10750	11500	12500	13500	14750	16250	17500	20000	20000	20000	20000
	Thrust (Up or In)	9500	10000	10750	11500	12500	13500	14750	16250	17500	20000	20000	20000	20000
92	Overhung Load	.....	.....	12000	12800	13800	14800	16000	17400	18500	10000	21500	22500	22500
	Thrust (Down or Out)	.....	.....	14000	15000	15800	16900	18000	19500	20500	22000	23400	25000	25000
	Thrust (Up or In)	.....	.....	12750	13600	14500	15500	16500	18000	19000	20500	21500	23000	23000
98	Overhung Load	.....	.....	12800	13700	14800	16000	17700	19000	20400	22000	22800	22800	22800
	Thrust (Down or Out)	.....	.....	12400	13000	14000	15100	16900	18000	19200	20000	20400	20400	20400
	Thrust (Up or In)	.....	.....	12000	12600	13200	14000	15300	16700	17900	18200	18500	18500	18500

Note: The thrust capacities published above are for units with pure thrust loads. Refer to Nuttall Gear when there are combined radial and thrust loads or when loads exceed capacities listed. Indicate direction of rotation of shaft and location and direction of applied load.

Effective: 1, May 1984

Supersedes: New

Your Total Drive Source 

Integral Gearmotors

Moduline®

Type G

ENGINEERING DATA
OVERHUNG LOAD DETERMINATION

Overhung Load Capacities

Moduline Gearmotors provide generous overhung load capacity which is seldom exceeded; however, when a pulley, sprocket or pinion is to be mounted on the output shaft, the overhung load capacity of the Gearmotor must be checked.

The overhung load capacities listed in Section 217, Page 2 are calculated for a sprocket, pinion or pulley mounted with the centerline of its face at the midpoint of the output shaft extension.

If the sprocket, pinion or pulley is to be mounted at a location other than the above, use the following formula to calculate the overhung load on the shaft after selecting appropriate L_c and L_f factors from the tables below.

If the calculated overhung load for the Gearmotor selected exceeds the capacity listed in the table, select the next larger Gearmotor.

Overhung Load Formula

$$OHL \text{ (lbs)} = \frac{\text{motor hp} \times 126,000 \times L_c}{\text{output rpm} \times \text{pitch diameter (inches)} \times L_f}$$

Load Connection Factor, L_c

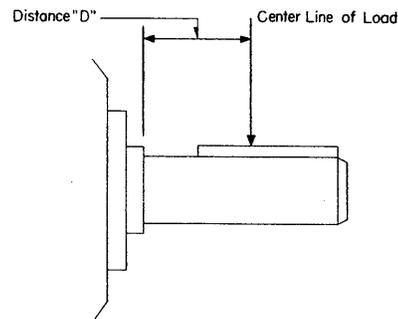
Type of Load Connection	Factor, L _c
Sprocket	1.00
Pinion	1.25
V-Belt	1.50
Flat Belt	2.50

Load Location Factor, L_f

Shaft Dia. Inches	"D" - Distance From Center Line of Load to Gearmotor Shaft Shoulder, Inches															
	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5
.875	1.06	.90	.77	.68	....	....	....	....	....	....	....	....	....	....	....	....
1.125	1.12	.98	.83	.74	....	....	....	....	....	....	....	....	....	....	....	....
1.375	1.15	1.03	.91	.79	.73	....	....	....	....	....	....	....	....	....	....	....
1.500	1.17	1.06	.94	.83	.76	.70	....	....	....	....	....	....	....	....	....	....
1.625	1.18	1.08	.97	.86	.78	.73	.68	....	....	....	....	....	....	....	....	....
1.875	1.22	1.13	1.04	.94	.85	.78	.74	.69	....	....	....	....	....	....	....	....
2.125	1.23	1.14	1.06	.96	.88	.80	.76	.71	.67	....	....	....	....	....	....	....
2.375	1.24	1.17	1.09	1.01	.94	.85	.79	.75	.71	.67	....	....	....	....	....	....
2.625	1.25	1.18	1.11	1.04	.97	.89	.82	.77	.74	.70	.67	....	....	....	....	....
3.125	1.25	1.22	1.15	1.09	1.04	.97	.91	.85	.79	.76	.73	.70	....	....	....	....
3.625	1.25	1.24	1.18	1.13	1.08	1.02	.97	.91	.86	.80	.78	.75	.72	.69	....	....
4.500	1.25	1.25	1.23	1.18	1.14	1.08	1.04	1.00	.96	.92	.87	.83	.79	.77	.74	.72
5.000	1.25	1.25	1.24	1.20	1.16	1.12	1.07	1.04	.99	.95	.91	.87	.83	.79	.77	.75
5.500	1.25	1.25	1.25	1.20	1.17	1.13	1.08	1.05	1.00	.91	.83	.77	.72	.67	.63	.59

Shaft Diameters

Gear Size	Output	
	Single	Double, Triple and Quadruple
05	1.125	1.375
10	1.125	1.375
21	1.500	1.625
32	2.125	1.875
43	2.125	2.125
54	2.375	2.625
64	....	3.125
76	2.375	3.625
88	....	4.500
92	....	5.000
98	....	5.500



Example

A belt conveyor is to be driven by a 5 hp size 21D Moduline Gearmotor, 280 rpm output using a 4" diameter V-belt sheave on the output shaft. The output shaft diameter on a size 21D is 1.625 inches. The centerline of the load is to be placed 1.5 inches from the shaft shoulder.

Procedure - Calculate overhung load
L_c = 1.50 and L_f = 1.08

$$OHL = \frac{5 \times 126,000 \times 1.50}{280 \times 4 \times 1.08} = 781 \text{ lbs.}$$

Refer to overhung load table. Since the overhung load capacity of the gear size 21D at 280 rpm is 1420 lbs., the gear unit has ample capacity.

Integral Gearmotors

Type G

Moduline®

APPLICATION SERVICE CLASSES

Typical Gearmotor Applications – AGMA Standard Practices

AGMA standard practice recognizes three classes of integral and all-motor gearmotors based on load conditions and service required. The table illustrates the difference between these classes. For load conditions not in-

cluded in the table, refer to Nuttall Gear. For peak loading applications, refer to curves on page 5.

Class I: For steady loads not exceeding normal rating of motor and 10 hours a day service. Moderate shock loads where service is intermittent.

Class II: For steady loads not exceeding normal rating of motor and 24 hours a day. Moderate shock loads for 10 hours a day.

Class III: Moderate shock loads for 24 hours a day. Heavy shock loads for 10 hours a day.

Table 1: Typical Applications

Application	Hours Service per Day		Application	Hours Service per Day		Application	Hours Service per Day	
	Over 3 Up to 10	Over 10		Over 3 Up to 10	Over 10		Over 3 Up to 10	Over 10
AGMA Classes			AGMA Classes			AGMA Classes		
Agitators								
Pure liquids	I	II						
Liquids and solids	II	II						
Liquids, variable density	II	II						
Semi-liquids	II	II①						
Blowers								
Centrifugal	I	II						
Lobe	II	II						
Vane	I	II						
Brewing and Distilling								
Bottling machinery	I	II						
Brew kettles, cont. duty	II	II						
Cookers, continuous duty	II	II						
Mash tube, cont. duty	II	II						
Scale hopper, frequent starts	II	II						
Car Dumpers								
	III	..						
Can Filling Machines								
	I	II						
Cane Knives								
	II	II						
Car Pullers								
Intermittent duty	I	..						
Clarifiers								
	I	II						
Classifiers								
	II	II						
Clay Working Machinery								
Brick press	III	III①						
Briquette machine	III	III①						
Clay working machinery	II	II						
Pug mill	II	II						
Compressors								
Centrifugal	I	II						
Lobe	II	II						
Reciprocating								
Multi-cylinder	II	II①						
Single Cylinder	III	III①						
Conveyors, Uniformly Loaded or Fed								
Apron	I	II						
Assembly	I	II						
Belt	I	II						
Bucket	I	II						
Chain	I	II						
Flight	I	II						
Oven	I	II						
Screw	I	II						
Conveyors, Heavy Duty – Not Uniformly Fed								
Apron	II	II						
Assembly	II	II						
Belt	II	II						
Bucket	II	II						
Chain	II	II						
Flight	II	II						
Live roll (package)	I	II						
Oven	II	II						
Reciprocating	III	III①						
Screw	II	II						
Shaker	III	III①						
Cranes and Hoists								
Main hoists								
Heavy duty	III	III①						
Medium duty	II	II						
Reversing	II	II						
Skip hoists	II	II						
Trolley drive	II	II①						
Bridge drive	II	II①						
Crushers								
Ore	III	III						
Stone	III	III						
Dredges								
Cable reels	II	..						
Conveyors	II	II						
Cutter head drives	III	III①						
Jig drives	III	III①						
Maneuvering winches	II	..						
Pumps	II	II						
Screen drive	III	III①						
Stackers	II	II						
Utility winches	II	..						
Elevators								
Bucket, uniform load	I	II						
Bucket, heavy load	II	II						
Bucket, continuous	I	II						
Centrifugal discharge	I	II						
Escalators	I	..						
Freight	II	II						
Gravity discharge	I	..						
Man lifts	②	②						
Passenger	②	②						
Service, hand lift	III	..						
Fans								
Centrifugal	II	II						
Cooling towers								
Induced draft	II	II						
Forced draft	②	②						
Induced draft	II	II						
Large (mine, etc)	II	II①						
Large industrial	II	II①						
Light (small diameter)	I	II						
Feeders								
Apron	II	II						
Belt	II	II						
Disk	I	..						
Reciprocating	III	III①						
Screw	II	II						
Food industry								
Beet slicer	II	II						
Cereal cooker	I	..						
Dough mixer	II	II						
Meat grinders	II	II						
Generators (not Welding)								
	I	II						
Hammer Mills								
	III	III①						
Laundry Tumblers								
	II	II						
Laundry Washers								
Reversing	II	II						
Line Shafts								
Heavy shock load	III	III①						
Moderate shock load	II	II						
Uniform shock load	I	II						
Lumber								
Barkers – Spindle Feed	II	III						
Barkers – Main Drive	III	III①						
Carriage Drive	②	②						
Conveyors – Burner	II	III						
Conveyors – Main or Heavy Duty	II	III						
Conveyors – Main Log	III	III①						
Conveyors – Merry-Go-Round	II	III						
Conveyors – Slab	III	III①						
Conveyors – Transfer	II	III						
Conveyors – Waste	II	II						
Chains – Floor	II	III						
Chains – Green	II	III						
Cut-Off Saws – Chain	II	III						
Cut-Off Saws – Drag	II	III						
Debarking Drums	III	III①						
Feeds – Edger	..	III						
Feeds – Gang	..	III①						
Feeds – Trimmer	II	III						
Log Deck	III	III①						
Log Hauls – Incline – Well Type	III	III①						
Log Turning Devices	III	III①						
Planer Feed	II	III						
Planer Tilting Hoists	II	III						
Rolls – Live-Off Brg. –	..	III①						
Roll Cases	III	III①						
Sorting Table	II	III						
Tipple Hoist	II	III						
Transfers – Chain	II	III						
Transfers – Craneway	II	III						
Tray Drives	II	III						
Veneer Lathe Drives	②	②						
Machine Tools								
Bending roll	II	II						
Notching press, belt driven	②	②						
Plate planer	III	III①						
Punch press, gear driven	III	III①						
Tapping machines	III	III①						
Other machine tools								
Main drives	II	II						
Auxiliary drives	I	II						
Metal Mills								
Bridle Roll Drives	III	III①						
Draw bench, carriage	III	III①						
Draw bench, main drive	III	III①						
Forming machines	III	III①						
Pinch dryer and scrubber								
rolls, reversing	②	②						
Slitters	II	II						
Table conveyors								
Non-reversing	II	III						
Reversing	..	III						
Winding reels – strip	..	III						
Wire drawing and flattening machine	II	III						
Wire winding machine	II	II						
Mills, Rotary Type								
Ball	III	III①						
Cement kilns	②	②						
Dryers and coolers	II	II						
Kilns	II	II						
Pebble	III	III①						
Rod	III	III①						
Tumbling barrels	III	III①						

① Classes listed are minimum, and normal conditions are assumed. In view of varying load conditions, it is suggested that these applications be carefully reviewed before final selection is made.

② Check safety codes and refer to Nuttall Gear.



Integral Gearmotors

Moduline®

Type G

APPLICATION SERVICE CLASSES

Table 1: Typical Applications Continued

Application	Hours Service per Day		Application	Hours Service per Day		Application	Hours Service per Day	
	Over 3 Up to 10	Over 10		Over 3 Up to 10	Over 10		Over 3 Up to 10	Over 10
AGMA Classes			AGMA Classes			AGMA Classes		
Mixers			Printing Presses I II			Sewage Disposal Equip. (Cont.)		
Concrete mixers, continuous....	II	II	Pullers			Slow or rapid mixers.....	II	II
Concrete mixers, intermittent....	I	..	Barge haul.....	III	III①	Sludge collectors.....	I	II
Constant density.....	I	..	Pumps			Thickeners.....	II	II
Variable density.....	II	II	Centrifugal.....	I	II	Vacuum filters.....	II	II
Oil Industry			Proportioning.....	II	II①	Slab Pushers II II		
Chillers.....	II	II	Reciprocating			Steering Gear II II		
Oil well pumping.....	②	②	Single acting			Stokers I II		
Paraffin filter press.....	II	II	3 or more cylinders.....	II	II	Textile Industry		
Rotary kilns.....	II	II	Double acting, 2 or more			Batchers.....	II	II
Paper Mills			cylinders.....	II	II	Calenders.....	II	II
Aerators.....	②	②	Single acting, 1 or 2 cylinders.....	②	②	Card machines.....	II	II①
Agitators (mixers).....	II	II	Double acting, single cylinder.....	②	②	Cloth finishing machines		
Barker auxiliaries, hydraulic.....	..	..	Rotary - gear type.....	I	II	(washers, pads, tenters,		
Barker, mechanical.....	III	..	Lobe, vane.....	I	II	dryers, calenders, etc).....	II	II
Barking drum.....	III①	..	Rubber Industry			Dry cans.....	II	II
Beater and pulper.....	II①	..	Mixer.....	III	III①	Dyeing machinery.....	II	II
Bleacher.....	II	..	Rubber calender.....	II	II①	Knitting machines (Looms, etc).....	II	II
Calenders.....	II①	..	Rubber mill (2 or more).....	II	II①	Looms.....	II	II
Calenders, super.....	II	..	Sheeter.....	..	II①	Mangles.....	II	II
Converting machines, except			Tire building machines.....	②	②	Nappers.....	II	II
cutters, platers.....	II	..	Tire and tube press openers.....	②	②	Range drives.....	②	②
Conveyors.....	II	..	Subers and strainers.....	II	II	Slashers.....	II	II
Couch.....	II①	..	Screens			Soapers.....	II	II
Cutters, platers.....	III①	..	Air washing.....	I	II	Spinners.....	II	II
Cylinders.....	II	..	Rotary - stone or gravel.....	II	II	Tenter frames.....	II	II
Dryers.....	II①	..	Traveling water intake.....	I	II	Washers.....	II	II
Felt stretcher.....	II	..	Sewage Disposal Equip.			Winders (other than batchers)....	II	II
Felt whipper.....	III①	..	Aerators.....	②	②	Yarn preparatory machines		
Jordans.....	III	..	Bar screens.....	I	II	(cards, spinners, slashers, etc)....	II	II
Log haul.....	III①	..	Chemical feeders.....	I	II	Windlass II II①		
Presses.....	II①	..	Collectors, circuline or					
Pulp machines.....	II	..	straightline.....	I	II			
Reel.....	II	..	Dewatering screws.....	II	II			
Stock chests.....	..	..	Grit collectors.....	I	II			
Suction roll.....	II①	..	Scum breakers.....	II	II			
Washers and thickeners.....	II①	..						
Winders.....	II	..						

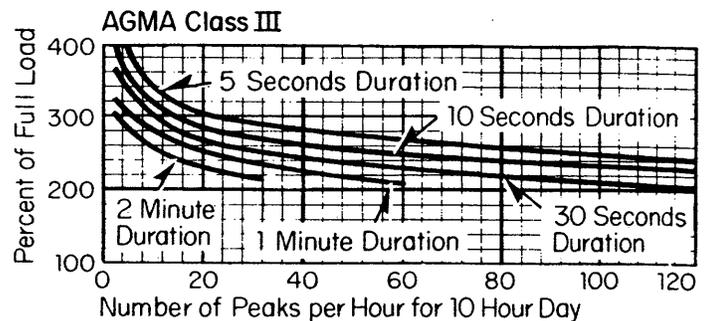
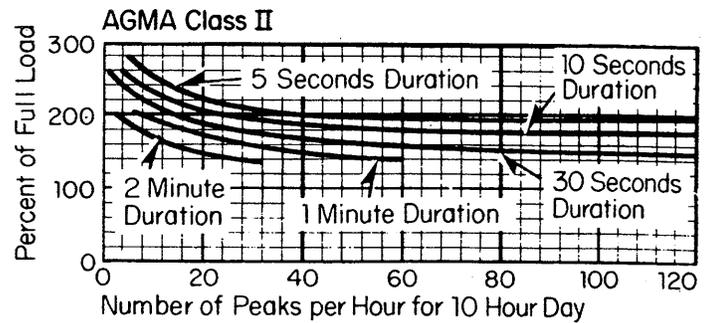
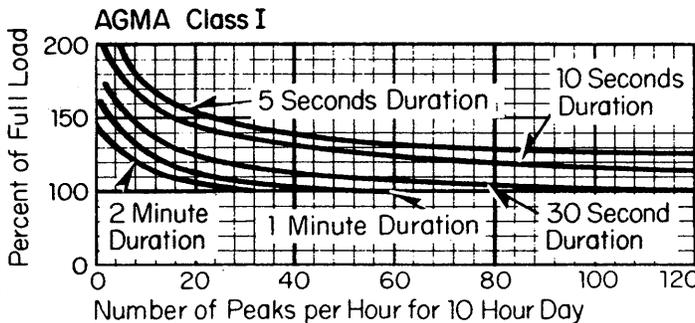
① Classes listed are minimum, and normal conditions are assumed. In view of varying load conditions, it is sug-

gested that these applications be carefully reviewed before final selection is made.

② Check safety codes and refer to Nuttall Gear.

Allowable Peak Loadings

For duty cycle applications, consult the following curves to determine the correct AGMA class.



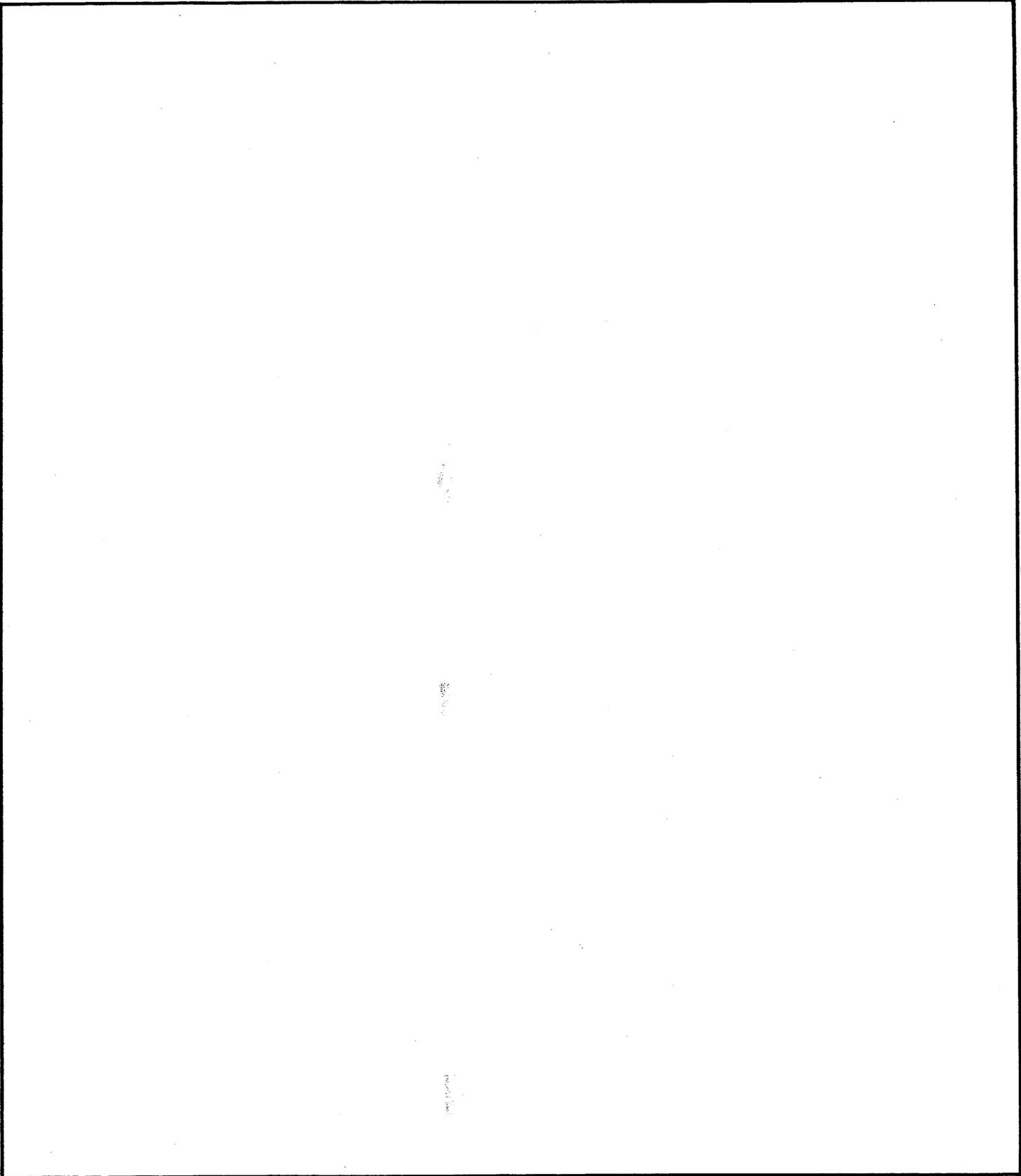
Effective: 1, May 1984

Supersedes: New

Integral Gearmotors

Type G

Moduline®



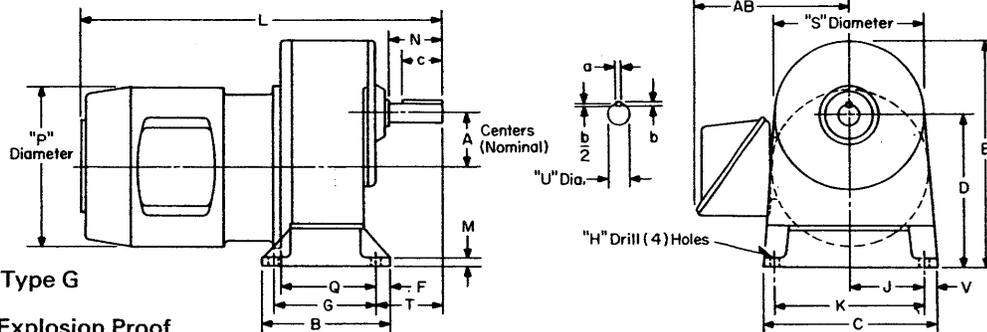
Your Total Drive Source



Integral Gearmotors

Moduline®

Type G



Single Reduction, Type G
T Frame Motors
Drip-Proof, TEFC, Explosion Proof

Dimensions, Inches Not to be used for construction purposes unless dimensions are approved.

Gear Case Dimensions

Gear Size	U ^①	Key a	b	c	A	B	C	D ^②	E	F	G	H	J	K	M	N	Q	S	T	V	Approx. Wt. Lbs. ^③
10S	1.125	.25	.25	2.25	3.00	7.0	9.8	8.50	12.5	.8	5.44	.56	4.06	8.12	.5	3.0	5.2	8.0	3.66	.8	60
21S	1.500	.38	.38	2.75	3.50	8.0	12.0	10.25	14.7	.8	6.50	.56	5.25	10.50	.9	3.5	6.1	8.9	4.25	.8	70
32S	2.125	.50	.50	3.25	4.00	9.0	15.0	12.19	19.2	.8	7.50	.69	6.69	13.38	.9	4.2	7.3	13.0	5.06	.8	90
43S	2.125	.50	.50	3.25	5.00	9.0	15.0	13.19	19.2	.8	7.50	.69	6.69	13.38	.9	4.2	7.3	13.0	5.06	.8	100
54S	2.375	.50	.50	3.75	6.00	12.0	19.9	17.00	26.5	.8	10.38	.69	9.19	18.38	1.0	5.0	9.5	16.0	5.88	.8	135
76S	2.375	.50	.50	3.75	7.50	12.0	19.9	18.50	26.5	.8	10.38	.69	9.19	18.38	1.0	5.0	9.5	16.0	5.88	.8	155

AC Motor Dimensions, ^⑤T Frame

Motor Frame	Drip-proof, TEFC & Explosion Proof				L Dimension - Drip-proof Motor								L Dimension - TEFC & Expl. Proof Motor									
	AB ^④		P Dia.		Motor Wt. Lbs.		Gear Size								Gear Size							
	DP	TEFC	DP	TEFC	DP	TEFC	10	21	32	43	54	76	10	21	32	43	54	76				
143T	....	8.2	....	7.8	....	70	....	....	....	....	....	....	22.3	23.6	....	....	....	....
145T	....	8.2	....	7.8	....	70	....	....	....	....	....	....	22.3	23.6	....	....	....	....
182T	....	9.4	....	9.6	....	115	....	....	....	....	....	....	22.3	23.6	25.3	25.3	....	....		
184T	....	9.4	....	9.6	....	115	....	....	....	....	....	....	22.5	23.8	25.5	25.5	....	....		
213T	....	10.3	....	11.2	....	190	....	25.0	....	....	....	....	....	26.2	27.9	27.9	30.4	....			
215T	8.4	10.3	11.0	11.2	150	190	....	25.0	26.7	26.7	29.2	....	....	27.1	28.3	28.8	31.3	....			
254T	10.3	12.4	13.1	13.3	210	290	....	....	29.3	29.3	31.8	31.3	....	....	33.3	33.3	35.8	35.3
256T	10.3	12.4	13.1	13.3	250	290	....	....	31.1	31.1	33.6	33.1	....	....	33.5	33.5	36.0	35.5
284T	12.1	13.3	14.7	14.7	320	370	31.1	33.6	33.1	33.8	36.3	35.8			
286T	12.1	13.3	14.7	14.7	390	460	32.6	35.1	34.6	35.3	37.8	37.3			
324T	14.3	17.1	16.8	17.0	500	565	36.3	35.8	39.3	38.8			
326T	14.3	17.1	16.8	17.0	550	625	37.8	37.3	40.8	40.3			
364T	17.9	18.8	18.6	19.1	650	855	38.6	38.1	43.1	42.4			
365T	17.9	18.8	18.6	19.1	700	940	39.6	39.1	43.3	42.8			

① Tolerance = +.000 to -.001.

② This dimension will never be exceeded. When exact dimension is required, shims up to .03 inch may be necessary.

③ Weight without motor. To obtain total weight add motor weight.

④ For explosion proof motor AB dimensions, refer to Nuttall Gear.

⑤ All motor dimensions are maximum dimensions, and will not be exceeded.

Note: For Moduline slide bases, see Dimension Sheet Section 220, page 4.

Reproduced from Drawing 5639-D-42.

PRELIMINARY CERTIFIED PRINT FOR:

Customer				Customer Order			
G.O.		Cat. No.		Item No.			
Motor Rpm	Output Rpm	AGMA Class	Hp.	Phase	Hz.	Volts	
Application		Signed				Date	

Effective: 1, May 1984

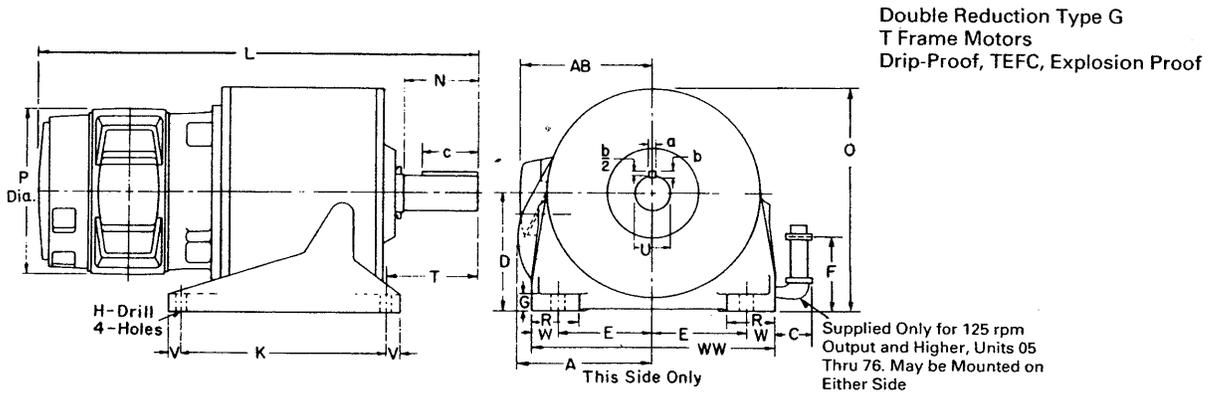
Supersedes: New

Integral Gearmotors

Moduline®

Type G

**DIMENSIONS
DOUBLE REDUCTION
05D thru 76D**



Double Reduction Type G
T Frame Motors
Drip-Proof, TEFC, Explosion Proof

Dimensions, Inches Not to be used for construction purposes unless dimensions are approved.

Gear Case Dimensions

Gear Size	U ^①	Key a	b	c	A	C	D ^②	E	F	G	H	K	N	O	R	T	V	W	WW	Approx. Wt. Lbs. ^③
05D	1.375	.31	.31	2.00	5.2	1.7	5.69	4.12	3.4	.8	.4	9.00	2.6	10.1	1.6	3.4	.8	1.0	10.3	53
10D	1.375	.31	.31	2.00	5.2	1.7	5.69	4.12	3.4	.8	.4	9.00	2.6	10.1	1.6	3.4	.8	1.0	10.3	53
21D	1.625	.38	.38	2.50	....	1.7	6.25	4.50	4.0	1.0	.6	9.75	3.4	11.7	2.3	4.3	.7	1.5	12.0	88
32D	1.875	.50	.50	3.00	....	1.7	7.25	5.50	4.6	1.1	.7	13.50	3.8	13.9	2.8	4.8	.8	1.8	14.5	135
43D	2.125	.50	.50	3.25	....	1.7	9.25	7.00	5.7	1.2	.8	15.00	4.4	16.6	3.3	5.3	1.0	2.0	18.0	211
54D	2.625	.62	.62	4.00	....	1.7	10.75	8.00	6.7	1.2	.9	17.25	5.3	20.0	4.0	6.5	1.0	2.4	20.8	382
64D	3.125	.75	.75	5.00	12.3	1.7	10.75	8.00	6.7	1.2	.9	17.25	6.2	20.0	4.0	7.7	1.0	2.4	20.8	550
76D	3.625	.88	.88	6.00	13.4	2.2	12.00	9.25	7.8	1.8	1.1	20.00	7.3	22.8	4.8	8.9	1.4	2.8	24.0	582

AC Motor Dimensions, ^⑤ T Frame

Motor Frame	Drip-proof, TEFC & Explosion Proof						L Dimension - Drip-proof Motor								L Dimension - TEFC & Expl. Proof Motor								
	AB ^④		P Dia.		Motor Wt. Lbs.		Gear Size								Gear Size								
	DP	TEFC	DP	TEFC	DP	TEFC	05	10	21	32	43	54	64	76	05	10	21	32	43	54	64	76	
143T	....	8.2	....	7.8	....	70	....	....	....	....	....	....	....	....	22.9	22.9	24.6	26.0	27.4	....	....	....	....
145T	....	8.2	....	7.8	....	70	....	....	....	....	....	....	....	....	22.9	22.9	24.6	26.0	27.4	....	....	....	....
182T	7.4	9.4	9.4	9.6	80	115	23.6	23.6	25.3	26.7	27.5	30.3	....	....	24.6	24.6	26.3	27.7	28.5	31.3	....	....	....
184T	7.4	9.4	9.4	9.6	90	115	23.6	23.6	25.3	26.7	27.5	30.3	....	....	24.8	24.8	26.5	27.9	28.7	31.5	....	....	....
213T	8.4	10.3	11.0	11.2	120	190	....	....	27.4	27.6	28.5	31.2	34.4	....	....	....	28.7	30.4	31.2	34.0	37.1	....	....
215T	8.4	10.3	11.0	11.2	150	190	....	....	28.9	29.1	30.0	32.7	35.9	....	....	....	29.6	31.3	32.1	34.9	38.0	....	....
254T	10.3	12.4	13.1	13.3	210	290	....	....	....	31.8	32.6	35.3	37.8	40.3	....	....	....	35.7	36.5	39.3	41.7	44.2	....
256T	10.3	12.4	13.1	13.3	250	290	....	....	....	33.5	34.3	37.1	39.5	42.0	....	....	....	35.9	36.7	39.5	41.9	44.4	....
284T	12.1	13.3	14.7	14.7	320	370	....	....	....	33.5	34.3	37.1	39.5	42.0	....	....	....	36.6	37.1	39.8	42.2	44.7	....
286T	12.1	13.3	14.7	14.7	390	460	....	....	....	35.0	35.8	38.6	41.0	43.5	....	....	....	34.7	38.6	41.3	43.7	45.3	....
324T	14.3	17.1	16.8	17.0	500	565	....	....	....	....	....	39.8	42.2	44.7	....	....	....	....	....	42.8	45.2	47.7	....
326T	14.3	17.1	16.8	17.0	550	625	....	....	....	....	....	41.3	43.7	46.2	....	....	....	....	....	44.3	46.7	49.2	....
364T	17.9	18.8	18.6	19.1	650	855	....	....	....	....	....	42.1	44.5	47.0	....	....	....	....	....	46.6	49.0	51.5	....
365T	17.9	18.8	18.6	19.1	700	940	....	....	....	....	....	43.1	45.5	48.0	....	....	....	....	....	46.8	49.2	51.7	....
404T	18.9	20.5	21.1	21.5	830	1155	....	....	....	....	....	....	....	51.0	....	....	....	....	....	....	....	56.6	....
405T	18.9	20.5	21.1	21.5	920	1270	....	....	....	....	....	....	....	52.5	....	....	....	....	....	....	....	55.4	....

- ① Tolerance = +.000 to -.001.
- ② This dimension will never be exceeded. When exact dimension is required, shims up to 1/2 inch may be necessary.
- ③ Weight without motor. To obtain total weight add motor weight.

- ④ For explosion proof motor AB dimensions, refer to Nuttall Gear.
 - ⑤ All motor dimensions are maximum and will not be exceeded.
- Note: For Moduline slide bases, see page 4.
Reproduced from Drawing 2731-D-02.

Taconite Seal
Add 1/2 inch to "L" and "T" dimensions for all units except size 64, when Taconite seal is required.

PRELIMINARY CERTIFIED PRINT FOR:

Customer				Customer Order					
G.O.				Cat. No.		Item No.			
Motor Rpm		Output Rpm		AGMA Class		Hp.	Phase	Hz.	Volts
Application				Signed		Date			

Effective: 1, May 1984

Supersedes: New

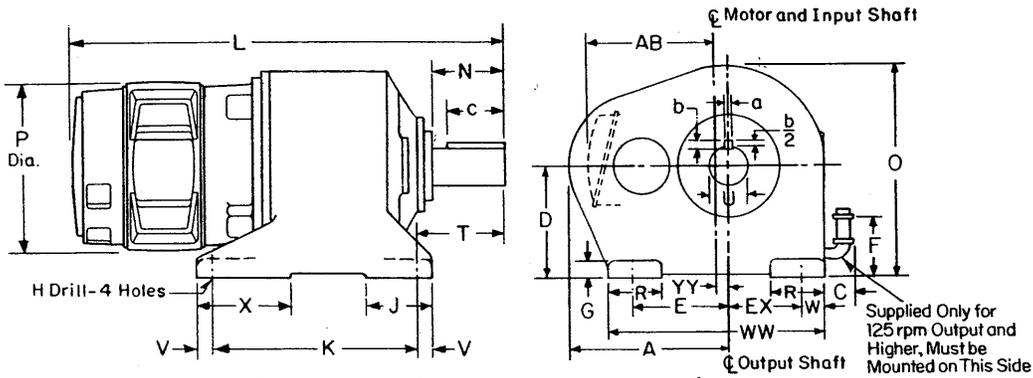
Integral Gearmotors

Type G

Moduline®

DIMENSIONS
DOUBLE REDUCTION
88D thru 98D

Double Reduction,
Type G
T Frame Motors
Drip-proof,
TEFC,
Explosion Proof



Dimensions, Inches Not to be used for construction purposes unless dimensions are approved.

Gear Case Dimensions

Gear Size	U ^①	Key a	b	c	A	C	D ^②	E	F max.	EX	G	H	J	K	N	O	R	T	V	W	WW	X	YY	Approx. Wt. Lbs. ^③
88D	4.50	1.00	1.00	7.5	19.0	2.2	13.0	11.50	9.1	8.75	2.0	1.63	8.5	25.5	9.0	23.9	6.0	11.4	1.8	3.0	26.3	11.5	1.63	1042
92D	5.00	1.25	.88	7.5	20.6	2.2	14.5	12.63	10.2	9.38	2.3	1.88	9.0	28.0	9.0	27.5	7.0	11.4	1.8	3.0	28.0	12.5	1.63	1192
98D	5.50	1.25	.88	7.0	23.8	2.2	16.5	14.31	12.5	10.56	2.3	1.88	10.5	28.75	9.0	31.5	7.0	11.5	1.8	3.3	31.38	14.0	1.18	2150

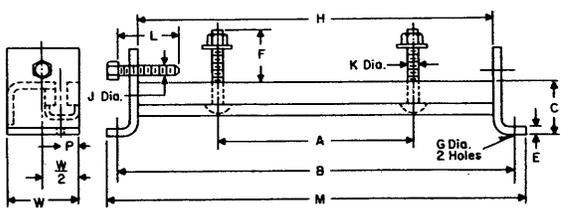
AC Motor Dimensions, T Frame

Motor Frame	Drip-proof, TEFC & Explosion Proof						L Dimension Drip-proof Motor			L Dimension: TEFC & Expl. Proof Motor		
	AB ^⑤		P Dia.		Motor Wt. Lbs.		Gear Size			Gear Size		
	DP	TEFC	DP	TEFC	DP	TEFC	88	92	98	88	92	98
254T	10.3	12.4	13.1	13.3	210	290	....	....	....	....	....	....
256T	10.3	12.4	13.1	13.3	250	290	....	....	....	....	....	....
284T	12.1	13.3	14.7	14.7	320	370	48.0	....	....	50.7	....	....
286T	12.1	13.3	14.7	14.7	390	460	49.5	....	....	51.2	....	....
324T	14.3	17.1	16.8	17.0	500	565	50.7	50.9	....	53.7	53.9	....
326T	14.3	17.1	16.8	17.0	550	625	52.2	52.4	....	55.2	55.4	....
364T	17.9	18.8	18.6	19.1	650	855	53.0	53.2	52.9	57.5	57.7	57.4
365T	17.9	18.8	18.6	19.1	700	940	54.0	54.2	53.9	57.7	57.9	57.6
404T	18.9	20.5	21.1	21.5	830	1155	57.0	57.2	55.0	62.6	62.8	60.9
405T	18.9	20.5	21.1	21.5	920	1270	57.2	57.4	56.5	61.4	61.6	60.9
444T	21.3	20.3	23.6	23.6	1000	1350	....	....	60.8	....	....	65.8
445T	21.3	20.3	23.6	23.6	1150	1500	....	....	60.8	....	....	65.8

- ① Tolerance = +.000 to -.001.
- ② This dimension will never be exceeded. When exact dimension is required, shims up to 1/2 inch may be necessary.
- ③ Weight without motor. To obtain total weight add motor weight.
- ④ Tolerance = +.000 to -.125.
- ⑤ For explosion proof motor AB dimensions refer to Nuttall Gear.
- ⑥ Maximum motor dimensions which will not be exceeded.

Gearmotors:
Reproduced from Drawings 2731-D-04.
Slide Rails:
Reproduced from Drawing 628-B-660.

Moduline Slide Rails



Gear Size	A	B	C ^④	E	F	G	H	J	K	L	M	P	W	Total Adj.
05	8.25	15.25	2.00	.25	1.25	.50	13.25	.38	.38	4.00	16.25	.56	2.25	3.00
10	8.25	15.25	2.00	.25	1.25	.50	13.25	.38	.38	4.00	16.25	.56	2.25	3.00
21	9.00	18.25	2.00	.38	1.75	.62	15.50	.50	.50	5.00	19.50	.62	2.62	3.50
32	11.00	22.00	2.50	.50	2.00	.75	18.50	.50	.62	5.00	23.50	.69	3.00	4.00
43	14.00	26.75	3.00	.50	2.00	.88	23.00	.75	.75	6.00	28.50	.88	3.25	5.00
54-64	16.00	30.75	4.00	.50	1.75	1.00	26.75	.75	.88	7.00	32.75	.94	4.38	6.00
76	18.50	37.50	4.00	.75	2.75	1.25	32.00	.88	1.00	9.50	40.00	1.25	4.75	8.00
88	20.25	45.25	4.50	.75	3.75	1.62	39.00	.88	1.50	10.50	48.50	1.50	5.25	9.00
92	22.00	45.25	4.50	.75	3.75	1.62	39.00	.88	1.50	10.50	48.50	1.50	5.25	9.00
98	24.87	45.25	4.50	.75	3.75	1.62	39.00	.88	1.50	10.50	48.50	1.50	5.25	9.00

PRELIMINARY CERTIFIED PRINT FOR:

Customer		Customer Order	
G.O.		Cat. No.	Item No.
Motor Rpm	Output Rpm	AGMA Class	Hp. Phase Hz. Volts
Application	Signed		Date

Effective: 1, May 1984

Supersedes: New

Your Total Drive Source

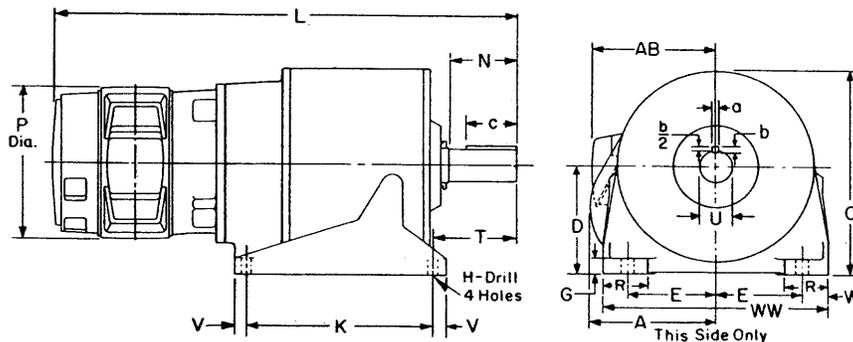


Integral Gearmotors

Moduline®

Type G

DIMENSIONS
TRIPLE REDUCTION
21T thru 76T



Triple Reduction, Type G
T Frame Motors
Drip-proof, TEFC, Explosion Proof

Dimensions, Inches Not to be used for construction purposes unless dimensions are approved.

Gear Case Dimensions

Gear Size	U ^①	Key a	b	c	A	D ^②	E	G	H	K	N	O	R	T	V	W	WW	Approx. Wt. Lbs. ^③
21T	1.625	.38	.38	2.50	....	6.25	4.50	1.0	.6	9.75	3.4	11.7	2.3	4.3	.7	1.5	12.0	106
32T	1.875	.50	.50	3.00	....	7.25	5.50	1.1	.7	13.50	3.8	13.9	2.8	4.8	.8	1.8	14.5	167
43T	2.125	.50	.50	3.25	....	9.25	7.00	1.2	.8	15.00	4.4	16.6	3.3	5.3	1.0	2.0	18.0	243
54T	2.625	.62	.62	4.00	....	10.75	8.00	1.2	.9	17.25	5.3	20.0	4.0	6.5	1.0	2.4	20.8	441
64T	3.125	.75	.75	5.00	12.3	10.75	8.00	1.2	.9	17.25	6.2	20.0	4.0	7.7	1.0	2.4	20.8	570
76T	3.625	.88	.88	6.00	13.4	12.00	9.25	1.8	1.1	20.00	7.3	22.8	4.8	8.9	1.4	2.8	24.0	715

AC Motor Dimensions, ^⑤ T Frame

Motor Frame	Drip-proof, TEFC & Explosion Proof						L Dimension - Drip-proof Motor						L Dimension - TEFC & Expl. Proof Motor					
	AB ^④		P Dia.		Motor Wt. Lbs.		Gear Size						Gear Size					
	DP	TEFC	DP	TEFC	DP	TEFC	21	32	43	54	64	76	21	32	43	54	64	76
143T	....	8.2	....	7.8	....	70	....	....	....	....	....	....	27.7	29.9	30.9	35.0	37.5	41.1
145T	....	8.2	....	7.8	....	70	....	....	....	....	....	....	27.7	29.9	30.9	35.0	37.5	41.1
182T	7.4	9.4	9.4	9.6	80	115	26.9	29.1	30.2	34.3	36.8	40.4	29.4	31.6	32.6	36.7	39.2	42.8
184T	7.4	9.4	9.4	9.6	90	115	27.9	30.1	31.2	35.2	37.8	41.4	29.6	31.8	32.8	36.9	39.4	43.0
213T	8.4	10.3	11.0	11.2	120	190	....	31.5	32.5	36.6	39.1	42.7	....	34.2	35.3	39.4	41.8	45.5
215T	8.4	10.3	11.0	11.2	150	190	....	33.0	34.0	38.1	40.6	44.2	....	35.1	36.2	40.3	42.7	46.4
254T	10.3	12.4	13.1	13.3	210	290	....	....	....	40.8	43.2	46.8	....	....	....	44.7	47.1	60.8
256T	10.3	12.4	13.1	13.3	250	290	....	....	....	42.5	44.9	48.6	....	....	....	44.9	47.4	61.0
284T	12.1	13.3	14.7	14.7	320	370	....	....	....	....	45.0	48.6	....	....	....	....	47.7	51.3
286T	12.1	13.3	14.7	14.7	390	460	....	....	....	....	46.5	50.1	....	....	....	....	49.2	52.8
324T	14.3	17.1	16.8	17.0	500	565	....	....	....	....	....	50.7	....	....	....	....	....	53.8
326T	14.3	17.1	16.8	17.0	550	625	....	....	....	....	....	52.2	....	....	....	....	....	55.3
364T	17.9	18.8	18.6	19.1	650	855	....	....	....	....	....	53.1	....	....	....	....	....	57.6
365T	17.9	18.8	18.6	19.1	700	940	....	....	....	....	....	54.1	....	....	....	....	....	57.8

① Tolerance = +.000 to -.001.

② This dimension will never be exceeded. When exact dimension is required, shims, up to 1/2 inch may be necessary.

③ Weight without motor. To obtain total weight add motor weight.

④ For Explosion proof motor AB dimensions, refer to Nut-tall Gear

⑤ Maximum motor dimensions which will not be exceeded.

Note: For Moduline slide bases, see page 6.

Reproduced from Drawing 2731-D-03.

Taconite Seal

Add 1/2 to "L" and "T" dimensions for all units except size 64, when Taconite seal is required.

PRELIMINARY CERTIFIED PRINT FOR:

Customer		Customer Order			
G.O.		Cat. No.		Item No.	
Motor Rpm	Output Rpm	AGMA Class	Hp.	Phase	Hz.
Application		Signed			Date

Effective: 1, May 1984

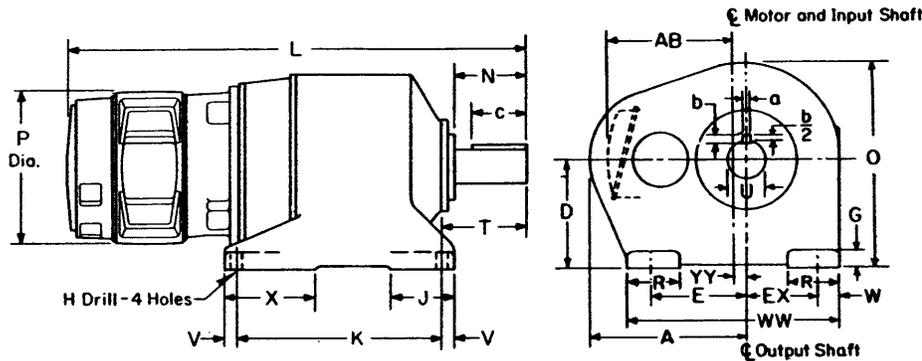
Supersedes: New

Integral Gearmotors

Type G

Moduline®

DIMENSIONS
TRIPLE REDUCTION
88T thru 98T



Triple Reduction,
Type G
T Frame Motors
Drip-proof, TEFC,
Explosion Proof

Dimensions, Inches Not to be used for construction purposes unless dimensions are approved.

Gear Case Dimensions

Gear Size	U①	Key a	b	c	A	D②	E	EX	G	H	J	K	N	O	R	T	V	W	WW	X	YY	Approx. Wt. Lbs. ③
88T	4.50	1.00	1.00	7.5	19.0	13.0	11.50	8.75	2.0	1.63	8.5	25.5	9.0	23.9	6.0	11.4	1.8	3.0	26.3	11.5	....	1178
92T	5.00	1.25	.88	7.5	20.6	14.5	12.63	9.38	2.3	1.88	9.0	28.0	9.0	27.5	7.0	11.4	1.8	3.0	28.0	12.5	1.63	1349
98T	5.50	1.25	.88	7.5	23.8	16.5	14.31	10.56	2.3	1.88	10.5	28.75	9.0	31.5	7.0	11.5	1.8	3.3	31.38	14.0	1.18	2300

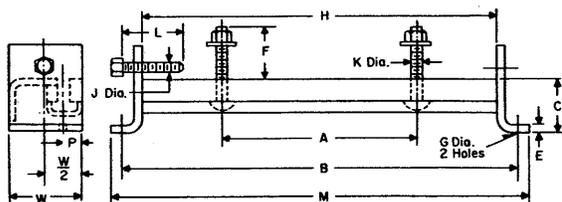
AC Motor Dimensions,® T Frame

Motor Frame	Drip-proof, TEFC & Explosion Proof						L Dimension Drip-proof Motor			L Dimension: TEFC & Expl. Proof Motor		
	AB⑤		P Dia.		Motor Wt. Lbs.		Gear Size			Gear Size		
	DP	TEFC	DP	TEFC	DP	TEFC	88	92	98	88	92	98
143T	....	8.2	....	7.8	....	70	....	....	....	47.1	....	....
145T	....	8.2	....	7.8	....	70	....	....	....	47.1	....	....
182T	7.4	9.4	9.4	9.6	80	115	46.4	....	....	48.8	....	....
184T	7.4	9.4	9.4	9.6	90	115	47.4	....	....	49.0	....	....
213T	8.4	10.3	11.0	11.2	120	190	48.7	49.7	....	51.5	52.5	....
215T	8.4	10.3	11.0	11.2	150	190	50.2	50.3	....	52.4	53.4	....
254T	10.3	12.4	13.1	13.3	210	290	52.8	53.9	56.7	56.8	57.8	60.6
256T	10.3	12.4	13.1	13.3	250	290	54.6	55.6	58.5	57.0	58.0	60.8
284T	12.1	13.3	14.7	14.7	320	370	54.6	55.7	58.5	57.3	58.4	61.2
286T	12.1	13.3	14.7	14.7	390	460	56.1	57.2	60.0	58.8	59.9	62.7
324T	14.3	17.1	16.8	17.0	500	565	56.8	58.4	61.1	59.8	61.4	64.0
326T	14.3	17.1	16.8	17.0	550	625	58.3	59.9	62.6	61.3	62.9	65.5
364T	17.9	18.8	18.6	19.1	650	855	59.0	60.6	63.4	63.6	65.4	67.9
365T	17.9	18.8	18.6	19.1	700	940	60.0	61.6	64.4	63.7	65.3	68.1
404T	18.9	20.5	21.1	21.5	830	1155	....	....	67.4	....	....	71.9
405T	18.9	20.5	21.1	21.5	920	1270	....	....	67.4	....	....	71.9

- ① Tolerance = +.000 to -.001.
- ② This dimension will never be exceeded. When exact dimension is required, shims up to 1/2 inch may be necessary.
- ③ Weight without motor. To obtain total weight add motor weight.
- ④ Tolerance = +.000 to -.125.
- ⑤ For explosion proof motor AB dimensions, refer to Nuttall Gear.
- ⑥ Maximum motor dimensions which will not be exceeded.

Gearmotors:
Reproduced from Drawing 2731-D-04,
Slide Rails:
Reproduced from Drawing 628-B-660,

Moduline Slide Rails



Gear Size	A	B	C④	E	F	G	H	J	K	L	M	P	W	Total Adj.
05	8.25	15.25	2.00	.25	1.25	.50	13.25	.38	.38	4.00	16.25	.56	2.25	3.00
10	8.25	15.25	2.00	.25	1.25	.50	13.25	.38	.38	4.00	16.25	.56	2.25	3.00
21	9.00	18.25	2.00	.38	1.75	.62	15.50	.50	.50	5.00	19.50	.62	2.62	3.50
32	11.00	22.00	2.50	.50	2.00	.75	18.50	.50	.62	5.00	23.50	.69	3.00	4.00
43	14.00	26.75	3.00	.50	2.00	.88	23.00	.75	.75	6.00	28.50	.88	3.25	5.00
54-64	16.00	30.75	4.00	.50	1.75	1.00	26.75	.75	.88	7.00	32.75	.94	4.38	6.00
76	18.50	37.50	4.00	.75	2.75	1.25	32.00	.88	1.00	9.50	40.00	1.25	4.75	8.00
88	20.25	45.25	4.50	.75	3.75	1.62	39.00	.88	1.50	10.50	48.50	1.50	5.25	9.00
92	22.00	45.25	4.50	.75	3.75	1.62	39.00	.88	1.50	10.50	48.50	1.50	5.25	9.00
98	24.81	45.25	4.50	.75	3.75	1.62	39.00	.88	1.50	10.50	48.50	1.50	5.25	9.00

PRELIMINARY CERTIFIED PRINT FOR:

Customer		Customer Order			
G.O.		Cat. No.		Item No.	
Motor Rpm	Output Rpm	AGMA Class	Hp.	Phase	H.z.
Application	Signed				Date

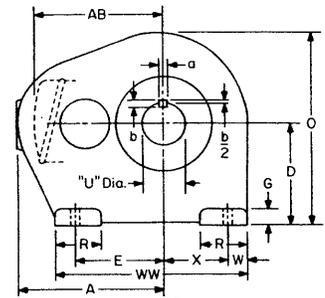
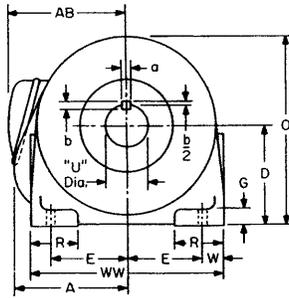
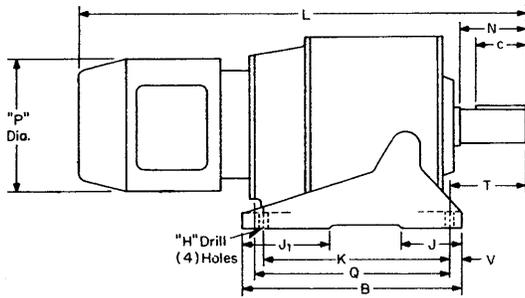
Integral Gearmotors

Moduline®

Type G

DIMENSIONS
QUADRUPLE REDUCTION
32Q thru 98Q

Quadruple Reduction, Type G
T Frame Motors
Drip-proof, TEFC, Explosion Proof



Unit 88, 92, 98 only ⑥

Dimensions, Inches Not to be used for construction purposes unless dimensions are approved.

Gear Case Dimensions

Gear Size	U ^①	Key a	Key b	Key c	A	B	D ^②	E	G	H	J	J ₁	K	N	O	Q	R	T	V	W	WW	X	Approx. Wt. Lbs. ^③
32Q	1.875	.50	.50	3.00	....	15.0	7.25	5.50	1.1	.69	4.0	5.0	13.50	3.81	13.9	15.1	2.8	4.75	.75	1.8	14.5	....	195
43Q	2.125	.50	.50	3.25	....	17.0	9.25	7.00	1.2	.81	4.8	6.5	15.00	4.38	16.6	15.3	3.3	5.31	1.00	2.0	18.0	....	265
54Q	2.625	.62	.62	4.00	....	19.2	10.75	8.00	1.2	.94	6.0	7.0	17.25	5.20	20.0	17.8	4.0	6.50	1.00	2.4	20.8	....	485
64Q	3.125	.75	.75	5.00	12.3	19.2	10.75	8.00	1.2	.94	....	....	17.25	6.20	20.0	18.9	4.0	7.75	1.00	2.4	20.8	....	555
76Q	3.625	.88	.88	6.00	13.4	22.8	12.00	9.25	1.8	1.06	4.8	7.4	20.00	7.30	22.8	21.5	4.8	8.94	1.40	2.8	24.0	....	710
88Q	4.500	1.00	1.00	7.50	19.0	29.0	13.00	11.50	2.0	1.63	8.5	11.5	25.50	9.00	23.9	25.0	6.0	11.40	1.80	3.0	26.3	8.75	1170
92Q	5.000	1.25	.88	7.50	20.6	31.6	14.50	12.63	2.3	1.88	9.0	12.5	28.00	9.00	27.5	31.6	7.0	11.40	1.80	3.0	28.0	9.38	
98Q	5.500	1.25	.88	7.50	23.8	32.4	16.50	14.31	2.3	1.88	10.5	14.0	28.75	9.50	31.5	32.25	7.0	11.50	1.80	3.3	31.4	10.56	

AC Motor Dimensions, T Frame

Motor Frame	Drip-proof, TEFC & Explosion Proof					L Dimension — Drip-proof Motor								L Dimension — TEFC & Expl. Proof Motor									
	AB ^④		P Dia.		Motor Wt. Lbs.	Gear Size								Gear Size									
	DP	TEFC	DP	TEFC	DP	TEFC	32	43	54	64	76	88	92	98	32	43	54	64	76	88	92	98	
143T	....	8.2	....	7.8	....	70	....	....	....	....	....	....	....	31.6	32.4	36.0	38.4	42.2	48.1	....	....	....	....
145T	....	8.2	....	7.8	....	70	....	....	....	....	....	....	....	31.6	32.4	36.0	38.4	42.2	48.1	....	....	....	....
182T	7.4	9.4	9.4	9.6	80	115	....	....	35.3	37.7	41.4	47.4	48.9	51.4	....	....	37.7	40.1	43.9	49.8	51.3	53.8	....
184T	9.4	9.4	9.4	9.6	90	115	....	....	36.3	38.7	42.4	48.4	49.9	52.4	....	....	37.9	40.3	44.1	50.0	51.6	54.1	....
213T	8.4	10.3	11.0	11.2	120	190	....	....	....	....	43.5	49.5	51.4	53.9	....	....	....	....	46.3	52.2	51.2	56.7	....
215T	8.4	10.3	11.0	11.2	150	190	....	....	....	....	45.0	51.0	52.9	55.4	....	....	....	....	47.2	53.1	55.1	57.6	....
254T	10.3	12.4	13.1	13.3	210	290	....	....	....	....	....	53.3	55.9	58.4	....	....	....	....	....	57.3	59.8	62.2	....
256T	10.3	12.4	13.1	13.3	250	290	....	....	....	....	....	55.1	57.6	60.1	....	....	....	....	....	57.5	60.0	62.5	....
284T	....	....	....	....	....	....	....	....	....	....	....	....	....	60.3	....	....	....	....	....	....	....	....	62.8
286T	....	....	....	....	....	....	....	....	....	....	....	....	....	60.3	....	....	....	....	....	....	....	....	62.8

① Tolerance = +.000 to -.001.

② This dimension will never be exceeded. When exact dimension is required, shims up to .03 inch may be necessary.

③ Weight without motor. To obtain total weight add motor weight.

④ For Explosion proof motor AB dimensions, refer to Nuttall Gear

⑤ Maximum motor dimensions which will not be exceeded.

⑥ On Units 92Q and 98Q, the input and output shafts are offset 1.63 and 1.18 respectively.

Note: For Moduline slide bases, see Dimension Sheet page 4.

Reproduced from Drawing 5634-D-99.

PRELIMINARY CERTIFIED PRINT FOR:

Customer				Customer Order			
G.O.				Cat. No.		Item No.	
Motor Rpm	Output Rpm	AGMA Class	Hp.	Phase	Hz.	Volts	
Application		Signed				Date	

Effective: 1, May 1984

Supersedes: New

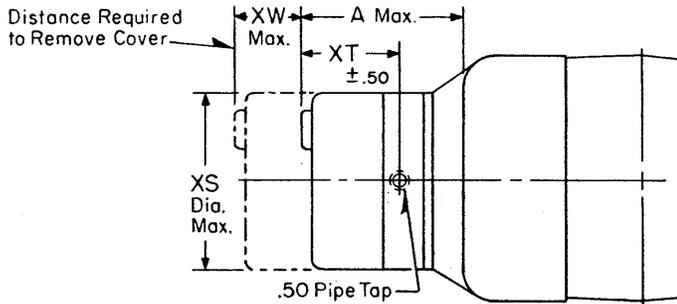
Integral Gearmotors

Moduline®

Type G

**DIMENSIONS
MOTOR MOUNTED
BRAKES**

Disc Brakes Standard, Dust Tight/Water Tight, Explosion Proof



Dimensions, Inches Not to be used for construction purposes unless dimensions are approved.

Standard Enclosure For use with Drip-proof and Fan Cooled Motors

Max. Brake Torque Lb. Feet	Wt., Lbs.	XS	XT	XW	A Dim. - Drip-proof Motor				A Dim. - Fan Cooled Motor				
					182-4	213-5	254-6	284-6	143-5	182-4	213-5	254-6	284-6
3	12	6.90	3.90	3.50	5.4	...	...	...	5.9	5.4	...	...	...
6	13	6.90	3.90	3.50	5.4	...	...	...	5.9	5.4	...	...	...
10	14	6.90	4.20	3.50	5.8	...	...	...	6.3	5.9	...	...	...
15	15	6.90	4.50	3.50	6.1	...	...	...	6.6	5.9	...	...	...
15	35	9.00	4.50	4.62	...	6.8	...	...	...	...	7.3	...	...
25	40	9.38	5.50	4.68	7.2	8.4	8.4	...	...	8.2	8.9	9.4	...
35	40	9.38	5.50	4.68	7.2	8.4	8.4	7.7	...	8.2	8.9	9.4	10.3
50	45	9.38	5.50	4.68	...	9.0	8.9	8.2	...	...	9.4	9.9	10.8
75	50	9.38	5.50	4.68	...	9.0	8.9	8.2	...	...	9.4	9.9	10.8
105	68	11.00	5.50	4.68	...	...	9.4	8.7	...	...	...	10.4	11.3

Dust Tight/Water Tight Enclosure For use with Fan Cooled Motors

Max. Brake Torque Lb. Feet	Wt., Lbs.	XS	XT	XW	A Dim. - Fan Cooled Motor				
					143-5	182-4	213-5	254-6	284-6
3	14	6.90	3.80	3.50	6.1	6.1	...	...	...
6	15	6.90	3.80	3.50	6.1	6.1	...	...	...
10	16	6.90	4.10	3.50	6.3	6.5	...	...	...
15	17	6.90	4.40	3.50	6.6	6.5	9.3	...	...
25	47	9.38	5.75	4.68	...	8.5	9.3	9.8	...
35	48	9.38	5.75	4.68	...	8.5	9.3	9.8	...
50	53	9.38	5.75	4.68	...	...	9.8	10.3	10.6
75	55	9.38	5.75	4.68	...	...	9.8	10.3	10.6
105	75	11.00	5.75	4.68	...	...	...	10.8	11.1

Explosion Proof Enclosure For use with Explosion Proof Motors

Max. Brake Torque Lb. Feet	Wt., Lbs.	XS	XT	XW	A Dim. - Expl. Proof Motors				
					143-5	182-4	213-5	254-6	284-6
3	38	7.88	4.80	3.62	8.1	7.5	...	...	...
6	40	7.88	4.80	3.62	8.4	7.9	...	...	...
10	42	7.88	4.80	3.62	8.7	8.2	...	...	...
15	71	9.25	5.44	4.50	...	11.0	10.5	...	...
25	73	9.25	5.44	4.50	...	11.0	10.5	11.1	...
35	75	9.25	5.44	4.50	...	11.0	11.0	11.6	13.3
50	75.5	9.25	5.44	4.50	...	...	11.0	11.6	13.3
75	78	9.25	5.44	4.50	...	...	11.5	12.1	13.8
105	83	9.25	6.19	5.50	...	...	...	12.8	14.6

**FOR LARGER
SIZES, PLEASE
CONTACT NUTTALL GEAR.**

Note: Use Dimension Sheet, pages 1 through 8 for basic gearmotor dimensions.

PRELIMINARY CERTIFIED PRINT FOR:

Customer				Customer Order			
G.O.		Cat. No.		Item No.			
Motor Rpm	Output Rpm	AGMA Class	Hp.	Phase	Hz.	Volts	
Application		Signed				Date	

Effective: 1, May 1984

Supersedes: New