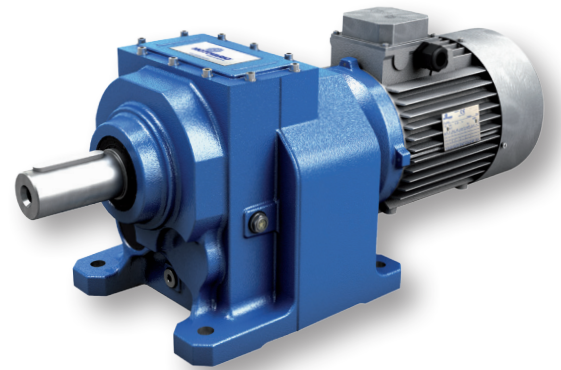




Helical geared motors



MOTOVARIO[®]

HEART OF MOTION

a **TECO Group** company

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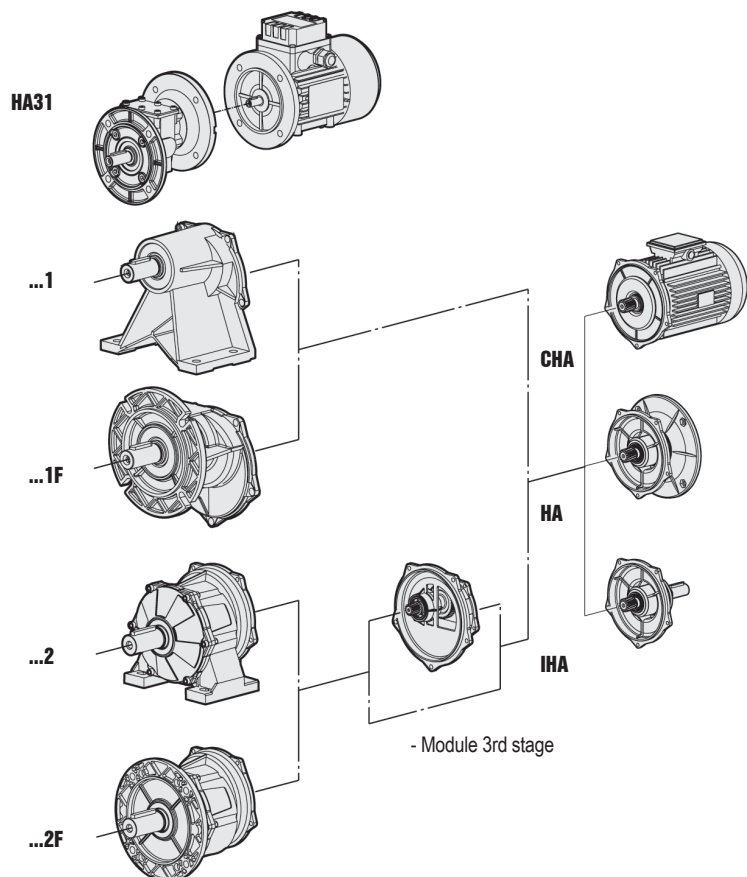
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Symbols

P	=	Power (HP)
Pr	=	Requested power (HP)
Pn	=	Nominal power (HP)
M	=	Torque (in-lb)
Mr	=	Requested torque (in-lb)
Mn	=	Nominal torque (in-lb)
n	=	Speed (RPM)
i	=	Reduction ratio
η_d	=	Dynamic efficiency
F	=	Load (lb)
m	=	Weight (lb)
f.s.	=	Service factor
ips	=	Speed (inch/second)
1	=	Input
2	=	Output
r	=	Overhung load (OHL)
a	=	Thrust load
s	=	Static
d	=	Dynamic
c	=	Calculated
max	=	Maximum
min	=	Minimum

Modularity

HA Aluminium alloy series

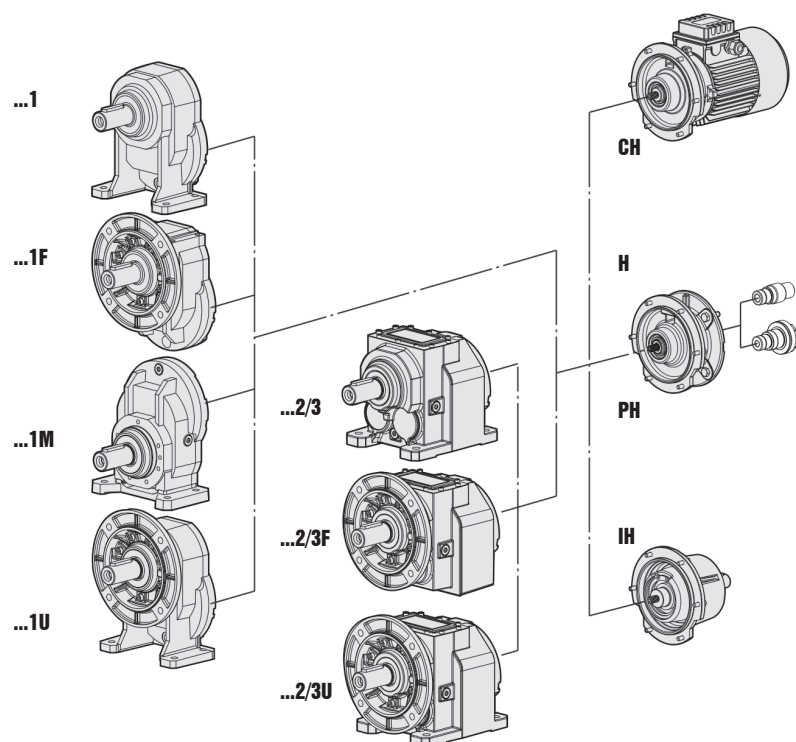


CHA Compact electric motor versions.

HA Fitted for motor coupling version (PAM).

IHA Input shaft versions.

H Grey cast iron series



CH Compact electric motor versions.

H Fitted for motor coupling version (PAM).

PH Fitted for motor mounting with flexible coupling.

IH Input shaft versions.

Design features

Motovario products are supplied with the following surface treatment features:

Die-cast aluminium alloy cases for gears

Die-cast materials undergo the following surface cleaning operations:

- De-burring by means of a mechanically operated shearing system
- Accurate shot-peening
- Painting
- Washing and passivation

Grey-coloured cast-iron cases for gears

- Die-cast materials are always painted

Painting specifications:

Orange-peel blue epoxy-polyester RAL 5010. Polyester resin based heat-hardening powders, altered with epoxy resins.

Mechanical properties

- Tests carried out onto degreased Unichim white latters film thickness: 2.5 mils comply with the following specifications: adherence (ISO2409), Erichsen drawing (ISO152), inverted shock (DIN53158), cone-shaped mandrel (DIN53151), hardness (ASTM D3363/74).

Heat resistance

- 24 HOURS AT 302°F.

Corrosion strength

- ASTM B 117/97 salt fog from 100 to 500 hours depending on the support's preliminary treatment.

Performance:

Loading capacity in accordance with DIN 3990, ISO 6336, AGMA 2101, ISO 10300, DIN 3991, ISO 281, DIN 743

Dynamic efficiency η_d :

The operating efficiency is the ratio between the output power P2 and the power absorbed by the gear reducer P1:

$$\eta_d = P_2/P_1$$

H/HA-range helical gear reducers have an average value equal to:

H..1 stages = 0.97

H..2 stages = 0.96

H..3 stages = 0.94

Product selection guide

For correctly selecting a gear reducer or geared motor, several essential pieces of data are required:

A - The rotational input speed to the gear reducer (**n1**) and the rotational output speed (**n2**).

Through these two values it is possible to calculate the reduction ratio (**i**) of the gear reducer using the following formula:

$$i = \frac{n1}{n2}$$

B - The torque required by the application (**Mr2**).

The geared motor or gear reducer can be selected once this data is known.

This guide helps you to select the right product in just a few steps:

Geared motor selection

This guide indicates a brief sequence of steps for selecting a suitable product:

- 1 Determine the application's actual service factor (**s.f.**). This parameter depends on the type of load of the powered machine, the number of starts per hour and the hours of operation (refer to the "Service factor" paragraph on page 5)
- 2 Calculate the input power **Pr1** using the required torque value **Mr2**, the speed **n2** and dynamic efficiency value.

$$Pr1 = \frac{Mr2 \cdot n2}{\mu d \cdot 63.025}$$

The dynamic efficiency value depends on the type of gear reducer and on the number of gear reduction stages. (To calculate the efficiency value see page 3).

- 3 Consult the geared motor performance tables and identify a normalised power value **Pn1** exceeding the required power **Pr1**, such that:

$$Pn1 \geq Pr1$$

- 4 Once the suitable nominal power has been identified, select the geared motor capable of generating the rotational speed closest to the desired **n2** value and with service factor **s.f.** greater or equal to that required by the application.

In the geared motor selection tables the combinations include, 4-pole motors powered at 60Hz.

Gear reducer selection

- 1 Determine the application's service factor (**s.f.**) (consult to the "Service factor" paragraph on page 5).
- 2 Calculate the reduction ratio **i** from the requested output speed **n2** and from the input speed **n1**.

$$i = \frac{n1}{n2}$$

- 3 Calculate the torque **Mc2** for selecting the gear reducer through the torque required by the application **Mr2** and the service factor **s.f.**:

$$Mc2 = Mr2 \cdot (f.s.)$$

- 4 Consult the Gear Reducer Performance tables looking for the reducer that, with the reduction ratio closer to the calculated one, has a nominal torque **M2** so that:

$$M2 \geq Mc2$$

Checks

Once the gear reducer or geared motor has been selected, the following checks should be performed:

A - Thermal power

The gear reducer's thermal power must be equal to or greater than the installed mechanical power, or the power required by the application according to the indications contained in the section (refer to the "Thermal power" paragraph on page 7).

B - Maximum torque

Generally, the maximum torque (peak instantaneous load) that can be applied to the gear reducer must not exceed 200% of the nominal torque **M2**.

C - Radial loads

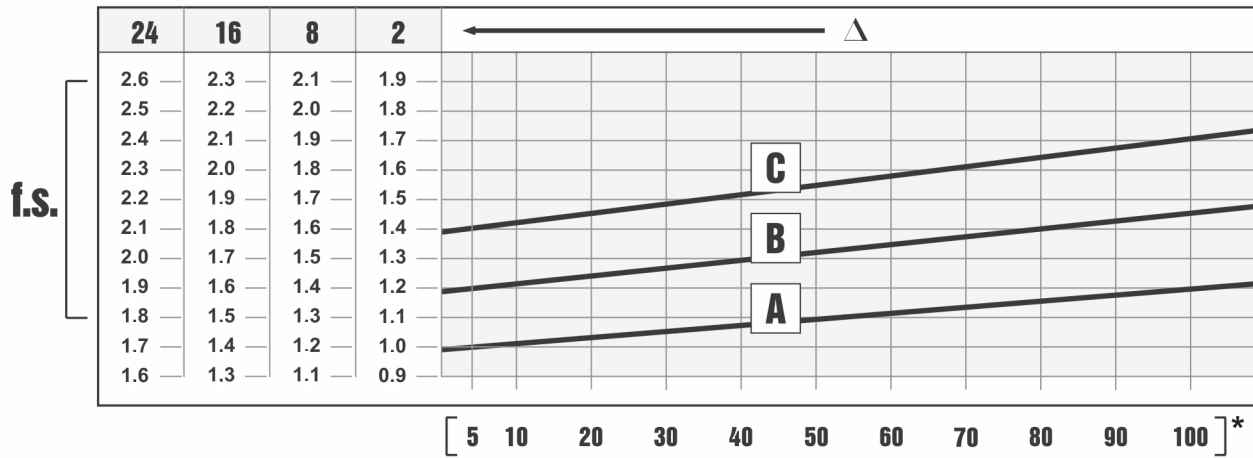
- 1 Verify that the radial loads acting on the input and/or output shafts are within with the values indicated in the catalogue. If they exceed these values, increase the size of the gear reducer or modify the external load capacity.

During the checking phase, it is important to remember that the values indicated in the catalogue refer to loads acting on the mid-point of the shaft protrusion, therefore, if the load is applied to a different position, appropriate formulas must be used to calculate the admissible load in the desired position (refer to the "Radial loads" paragraph on page 10).

- 2 If accessory output shafts are present, make sure that the applied load is compatible with shaft size. If help is needed: contact MOTOVARIO TECHNICAL SERVICE.

- D - If an electric motor is going to be fitted to the selected gear reducer, check for its applicability by referring to the configuration table (see paragraph "Configurations" page 15).

Service factor



The service factor (f.s.) depends on the operating conditions the gear reducer is subjected to. The parameters that need to be taken into consideration to select the most adequate service factor correctly comprise:

- type of load of the operated machine : A - B - C
- length of daily operating time: hours/day (Δ)
- start-up frequency: starts/hour (*)

- LOAD:**
- A - uniform $fa \leq 0.3$
 - B - moderate shocks $fa \leq 3$
 - C - heavy shocks $fa \leq 10$

fa = Je/Jm

- Je (in-lb²) moment of reduced external inertia at the drive-shaft
- Jm (in-lb²) moment of inertia of motor

If fa > 10 call our Technical Service.

A - Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, fillers, control machines.

B - Winding devices, woodworking machine feeders, goods lifts, balancers, threading machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.

C - Mixers for heavy materials, shears, presses, centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, cam presses, folding machines, turntables, tumbling barrels, vibrators, shredders.

Critical applications

H	030	040	050	060	080	100	125	140
V5 - V1: 1500 < n1 < 3000	-	-	-	-	-	-	B	B
n1 > 3000	B	B	B	B	B	B	A	A
V3 - V6	B	B	B	B	B	B	B	B

H	A31	A30	A40	A50	A60
V5 - V1: 1500 < n1 < 3000	-	-	-	-	-
n1 > 3000	B	B	B	B	B
V3 - V6	B	B	B	B	B

A - Application not recommended **B** - Check the application and/or call our technical service

The performance given in the catalogue correspond to mounting position B3 or similar, ie. when the first stage is not entirely immersed in oil. For other mounting positions and/or particular input speeds, refer to the tables that highlight different critical situations for each size of gear reducer.

It is also necessary to take due consideration of and carefully assess the following applications by calling our Technical Service:

- To avoid the use as multiplier.
- Use in services that could be hazardous for people if the gear reducer fails.
- Applications with especially high inertia.
- Use as a lifting winch.
- Applications with high dynamic strain on the case of the gear reducer.
- In places with T° under 23°F °C or over 104°F.
- Use in chemically aggressive environments.
- Use in a salty environment.
- Mounting positions not envisaged in the catalogue.
- Use in radioactive environments.
- Use in environments pressures other than atmospheric pressure.

Avoid applications where even partial immersion of the reducer is required.

The maximum torque (*) that the reducer can support must not exceed two times the nominal torque (f.s.=1) stated in the performance tables.

(*) intended for momentary overloads due to starting at full load, braking, shocks or other causes, particularly those that are dynamic.

Thermal power Pth [HP]

The table below lists the nominal thermal power values expressed in kW, in the following reference conditions:

- mounting position B3
- continuous operation at input speed ≤ 1.800 rpm
- ambient temperature 77°F
- sea level altitude
- air speed near the gear reducer ≥ 38 ips
- absence of external radial and/or axial loads

Thermal power values at 1.750 rpm			
Gear reducer	Pth [HP]	Gear reducer	Pth [HP]
HA31	/	H081	27
HA41	6.5	H101	38
HA51	9	H121	50
HA61	18	H032	5.6
HA32	5.5	H042	8
HA42	7.5	H052	9
HA52	12.5	H062	15
HA62	18.5	H082	24
H041	7.8	H102	36
H051	9.2	H122	42
H061	12	H142	50

(/) Not available

Applying a power level not exceeding Pth

- at the above-mentioned reference conditions - guarantees the correct lubrication and efficient operation of the gear reducer.

NOTE: checking the thermal power of gear reducer versions with three reduction stages is unnecessary, as the thermal thresholds are not reached.

Application check

Except for continuous operating times below two (2) hours and successive pauses capable of bringing the gear reducer back to ambient temperature, for each application it is advisable to verify the gear reducer's thermal limit according to the following formula:

$$P_m < P_{th} * F_c * F_v * F_a,$$

where:

P_m = input power to the gear reducer at 1.400 rpm (4-pole motors)

P_{th} = thermal power at the reference conditions (see above table)

F_c = ambient and operating temperature correction factor

F_v = ventilation correction factor

F_a = altitude correction factor

The correction factors refer to different operating conditions compared to the reference conditions, and are provided by the following ISO14179 tables:

Thermal power Pth [HP]

Fc		Duty per hour of operation %				
		100	80	70	40	20
Ambient temperature °F	13.4	1.15	1.21	1.32	1.55	2.07
	24.1	1.07	1.12	1.23	1.44	1.93
	33.5	1.00	1.05	1.15	1.35	1.80
	40.2	0.93	0.98	1.07	1.26	1.67
	53.6	0.83	0.87	0.95	1.12	1.49
	57.7	0.75	0.79	0.86	1.01	1.35
	67.1	0.67	0.70	0.77	0.90	1.21

Ventilation correction factor	Fv
Stagnant air (<19.5 ips)	0.75
Indoor installation with slight ventilation	1
Indoor installation with good ventilation (>55.1 ips)	1.4
Outdoor installation (>145.7 ips)	1.9

Altitude correction factor	Fa
0*	1
29527 in	0.95
59055 in	0.90
88582 in	0.85
118110 in	0.81

* Sea level

- In case of operation at input speeds exceeding 2.000 rpm, or ambient temperatures greater than 104°F, it is advisable to contact our technical department.

Installation

To install the gear reducer it is necessary to note the following recommendations:

- Check the correct direction of rotation of the gear reducer output shaft before fitting the unit to the machine.
- In the case of particularly lengthy periods of storage (4/6 months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity it needs to function properly.
- Whenever possible, protect the gear reducer against solar radiation and bad weather.
- Ensure the motor cools correctly by ensuring good passage of air from the fan side.
- In the case of ambient temperatures < 23°F or > 104°F call the Technical Service.
- The various parts (pulleys, gear wheels, couplings, shafts, etc.) must be mounted on the solid or hollow shafts using special threaded holes or other systems that anyhow ensure correct operation without risking damage to the bearings or external parts of the units. Lubricate the surfaces in contact to avoid seizure or oxidation.
- Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.
- For units equipped with oil plugs, replace the closed plug used for shipping with the special breather plug.
- Check the correct level of the lubricant through the indicator, if there is one.
- Starting must take place gradually, without immediately applying the maximum load.
- When there are parts, objects or materials under the motor drive that can be damaged by even limited spillage of oil, special protection should be fitted.

Assembling motor on pam flanges

When the unit is supplied without motor, it is necessary to follow these recommendation to ensure the correct assembly of the electric motor.

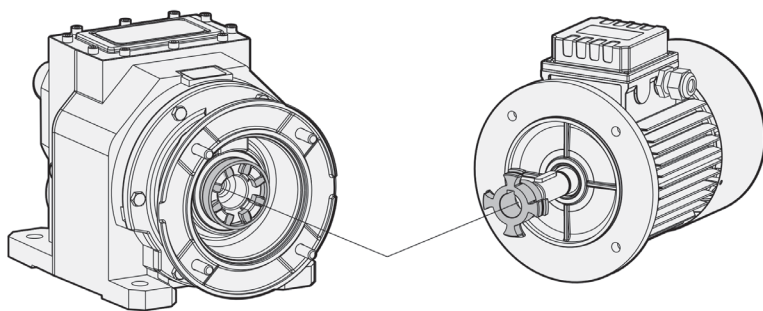
Check that the tolerances for the motor shaft and flange correspond to the "standard". Carefully clean the shaft, spigot and surfaces of the flange removing traces of paint and dirt, and confirm the key is fitted correctly.

Fit the half coupling/sleeve to the motor shaft (see picture) taking care to ensure the motor shaft and bearings are not damaged by avoiding excessive force and where necessary using assembly equipment.

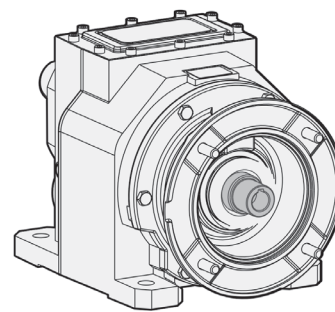
Place the couplings elastic element onto the motor half coupling and position the motor up to the gear unit ensuring the coupling element is aligned with the driven half coupling. Complete the assembly using the fixing bolts.

Key-ways with tightened tolerances.

Flexible joint



PAM Sleeve



Overhung load

The value of the admissible radial load (lb) is given in the tables relating to the performance of the gear reducer at issue. It is related to the load applied on the centre line of the shaft and in the most unfavourable conditions of angle of application and direction of rotation.

The maximum admissible axial loads are 1/5 of the value of the given radial load when they are applied in combination with the radial load.

The tables relating to the output shafts give the maximum admissible value. This value must never be exceeded since it relates to the strength of the case.

Particular conditions of radial load higher than the limits of the catalogue may occur. In this case, call our Technical Service and provide details on the application: direction of the load, direction of rotation of the shaft, type of service.

In case of double extension shafts with radial load applied on both ends, the max. admissible radial loads must be defined according to the specific running conditions, in this case call our Technical Service.

The radial load on the shaft is calculated with the following formula:

$$F_{re} = \frac{2 \cdot M \cdot fz}{D} \leq Fr_1 \text{ or } Fr_2$$

- Fre** (lb) Resulting radial load
- M** (lb-in) Torque on the shaft
- D** (in) Diameter of the transmission member mounted on the shaft
- Fr** (lb) Value of the maximum admitted radial load
- Fr1-Fr2** (see relative tables)
- fz** = 1.1 gear pinion
- 1.4 chain wheel
- 1.7 v-pulley
- 2.5 flat pulley

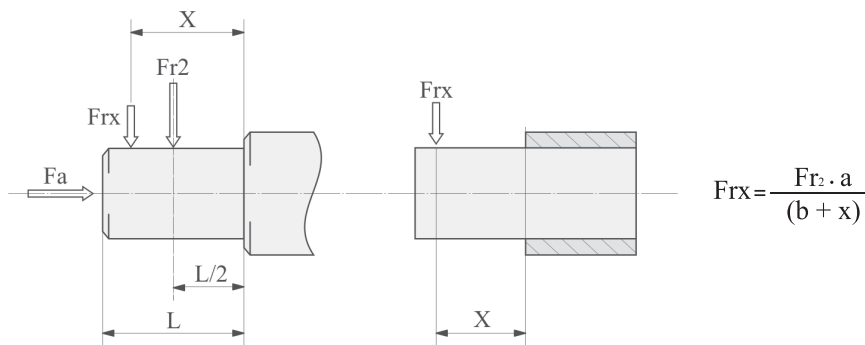
When the resulting radial load is not applied on the centre line of the shaft, it is necessary to adjust the admissible radial load Fr1-2 with the following formula:

$$Fr_x = \frac{Fr_1 \cdot 2 \cdot a}{(b + x)}$$

- a, b** = values given in the tables on page 10 - 11
- x** = distance from the point of application of the load to the shaft shoulder

Output radial loads

When the radial load is not on the centre line of the shaft, it is necessary to adjust the admissible radial load Fr2 with the following formula:



H	A31	A41	A51	A61	A32 A33	A42 A43	A52 A53	A62 A63
a	3.09	3.19	3.27	4.06	4.13	4.53	5.31	6.10
b	2.30	2.40	2.28	2.87	3.35	3.54	4.13	4.53
Fr2 max(**)	247	247	674	1012	450	967	1349	1798

H	041	051	061	081	101	121
a	3.50	3.86	4.53	5.94	8.27	9.13
b	3.11	2.87	3.35	4.37	6.10	6.97
Fr2 max(**)	225	562	832	899	1124	1349
Fa max (*)	1236	1461	1574	1911	2585	3035

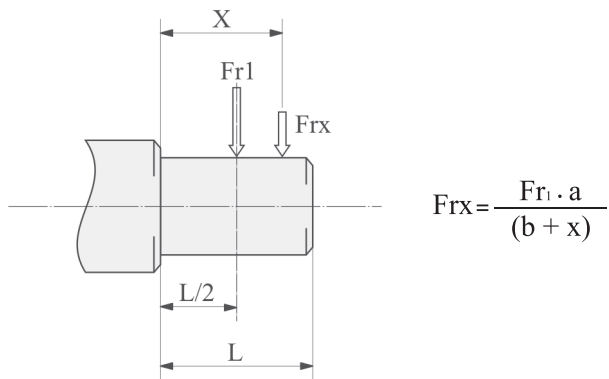
H	032 033	042 043	052 053	062 063	082 083	102 103	122 123	142 143
a	4.72	5.43	6.65	7.68	9.37	11.06	13.03	14.45
b	3.78	4.25	5.28	6.10	7.40	8.70	10.28	11.10
Fr2 max(**)	1236	1484	1798	2698	4047	4946	6744	12365

(**Fr₂) Max. admissible value of the reducer; verify max. admissible value on performances tables.

(*) Max. axial load admissible in only one direction with the use of a thrust bearing (on request).

Input radial loads

When the radial load is not on the centre line of the shaft, it is necessary to adjust the admissible radial load Fr_1 with the following formula:



IH	A32 A33 A41 A42 A43 A51 A53 A63	A52 A61 A62
a	3.31	3.50
b	2.52	2.72
Fr1 max(**)	108	180

IH	041	051	061	081	101	121
a	4.13	4.13	4.13	5.39	6.89	6.89
b	3.15	3.15	3.15	4.25	5.31	5.31
Fr1 max(**)	297	405	495	562	674	674

IH	032 033	042 043	052 053	062 063	082 083	102 103	122 123	142 143
a	4.13	4.13	4.13	5.39	5.39	6.89	6.89	8.86
b	3.15	3.15	3.15	4.25	4.25	5.31	5.31	6.69
Fr1 max(**)	495	495	562	809	809	1619	1619	3372

(** Fr_1) Max. admissible value of the reducer; verify max. admissible value on performances tables.

Moments of inertia

Following values are indicative only and refer to gear reducers fitted with input PAM.
These values refer to maximum moment of inertia.

HA-1	J *1E-4 [Kg*m2]	J *1E-4 [lb*in ²]
30	1.0	3313
40	0.5	1808
50	0.8	2818
60	4.2	14475

HA-2/3	J *1E-4 [Kg*m2]	J *1E-4 [lb*in ²]
30	0.5	1600
40	0.5	1686
50	2.6	8857
60	3.2	10841

H-1	J *1E-4 [Kg*m2]	J *1E-4 [lb*in ²]
040	0.8	2901
050	1.9	6522
060	4.6	15685
080	11.0	37625
100	34.5	118013
125	76.4	261080

H-2/3	J *1E-4 [Kg*m2]	J *1E-4 [lb*in ²]
030	0.7	2352
040	0.7	2414
050	0.9	3075
060	2.0	6768
080	6.8	23288
100	10.6	36214
125	28.2	96275
140	44.2	151205

Lubrication

In cases of ambient temperatures not envisaged in the table, call our Technical Service. In the case of temperatures under -22°F or over 140°F it is necessary to use oil seals with special properties.

For operating ranges with temperatures under 32°F it is necessary to consider the following:

- 1 The motors need to be suitable for operation at the envisaged ambient temperature.
- 2 The power of the electric motor needs to be adequate for exceeding the higher starting torques required.
- 3 In case of cast-iron gear reducers, pay attention to impact loads since cast iron may have problems of fragility at temperatures under 5°F.
- 4 During the early stages of service, problems of lubrication may arise due to the high level of viscosity taken on by the oil and so it is wise to have a few minutes of rotation under no load.

Oil must be changed after approx. 10,000 hours/2 years of operation; this time varies based on the type of service and on the environment inside which the gear reducer is installed. Units not featuring any oil plug are life-lubricated, and therefore maintenance-free.

Lubrication

	Mineral oil						
	*T°F ISO/SAE	ENI	SHELL	KLUBER	MOBIL	CASTROL	BP
H A30 ÷ A60 H O30 ÷ 140	(+23) ÷ (+104) ISO VG220	BLASIA 220	OMALA OIL220	KLUBEROIL GEM 1-220N	MOBILGEAR 600 XP 220	ALPHA MAX 220	ENERGOL GR-XP220
	(+5) ÷ (+77) ISO VG150	BLASIA 150	OMALA OIL150	KLUBEROIL GEM 1-150N	MOBILGEAR 600 XP 150	ALPHA MAX 150	ENERGOL GR-XP150



- standard supply

- Specifications of lubricants recommended by Motovario S.p.A.

* Working ambient temperature

Special lubricants			
		*T°F ISO VG...	Synthetic oil
			H-HA
Oils for low temperature	ENI	(-13) ÷ (+68)	BLASIA 150 S (ISO VG150)
	KLUBER	(-31) ÷ (+50)	KLUBERSYNTH GH 6-80 (ISO VG68)
	MOBIL	(-40) ÷ (+41)	SCH 624 (ISO VG32)
	KLUBER	(-40) ÷ (+41)	KLUBERSYNTH GH 6-32 (ISO VG32)
Oils for low temperature - Food sector	KLUBER	(-22) ÷ (+50)	KLUBERSYNTH UH1-6 100 (ISO VG100)
Oils for high temperature	KLUBER	(-14) ÷ (+122)	KLUBERSYNTH GH 6-460 (ISO VG460)
	KLUBER	(-14) ÷ (+158)	KLUBERSYNTH GH 6-680 (ISO VG680)
Oils for high temperature - Food sector	KLUBER	(-14) ÷ (+122)	KLUBERSYNTH UH1-6 460 (ISO VG460)
Food sector	KLUBER	(+5) ÷ (+104)	KLUBERSYNTH UH1-6 220 (ISO VG220)

- If 'special' lubricant is required please contact for Technical Assistance

HA/H - Lubrication

- For the gear reducer HA series with 2, 3 stages and for the reducers H series with 1, 2, 3 stages it is always necessary to specify the envisaged position.
- The gear reducer HA series with 1, 2, 3 stages all sizes, H series ...with 1 stage sizes 040, 050, 060 and H series ... with 2, 3 stages sizes 030, 040, 050 are supplied complete with lubricant, have no oil plugs and need no maintenance.
- The gear reducer H series ... with 1 stage sizes 80,100,125 and with 2, 3 stages sizes 060, 080, 100, 125, 140 are supplied complete with lubricant and are fitted with oil plugs to suit any mounting position included in the catalogue. It is recommended, after installation, to replace the closed plug used for transportation with the supplied breather plug.

H - CH	HA31	H A41	CHA41	A51	A61	A32	A42	A52	A62	A33	A43	A53	A63
B3-B5	0.07	0.23	0.13	0.25	0.62	0.68	0.7	1.2	1.9	1.1	1.16	1.9	2.4
B8													
B6-B7								1.6	2.1			2.5	3.1
V5-V1													
V6-V3													

H - CH	041	051	061	081	101	121	041M	051M	061M	081M	101M	121M
B3-B5	0.5	0.7	0.7	1.45	3.5	4.7	0.5	0.5	0.5	1.5	3.5	3.9
B8	0.5	0.5	0.5	1.5	3.5	3.9	0.5	0.7	0.7	1.45	3.5	4.7
B6-B7	0.5	0.7	0.7	1.5	3.5	4.1	0.5	0.7	0.7	1.5	3.5	4.1
V5-V1	0.5	0.7	0.9	1.5	3.5	4.7	0.5	0.7	0.9	1.5	3.5	4.7
V6-V3	0.5	0.7	0.7	1.5	3.5	4.1	0.5	0.7	0.7	1.5	3.5	4.1

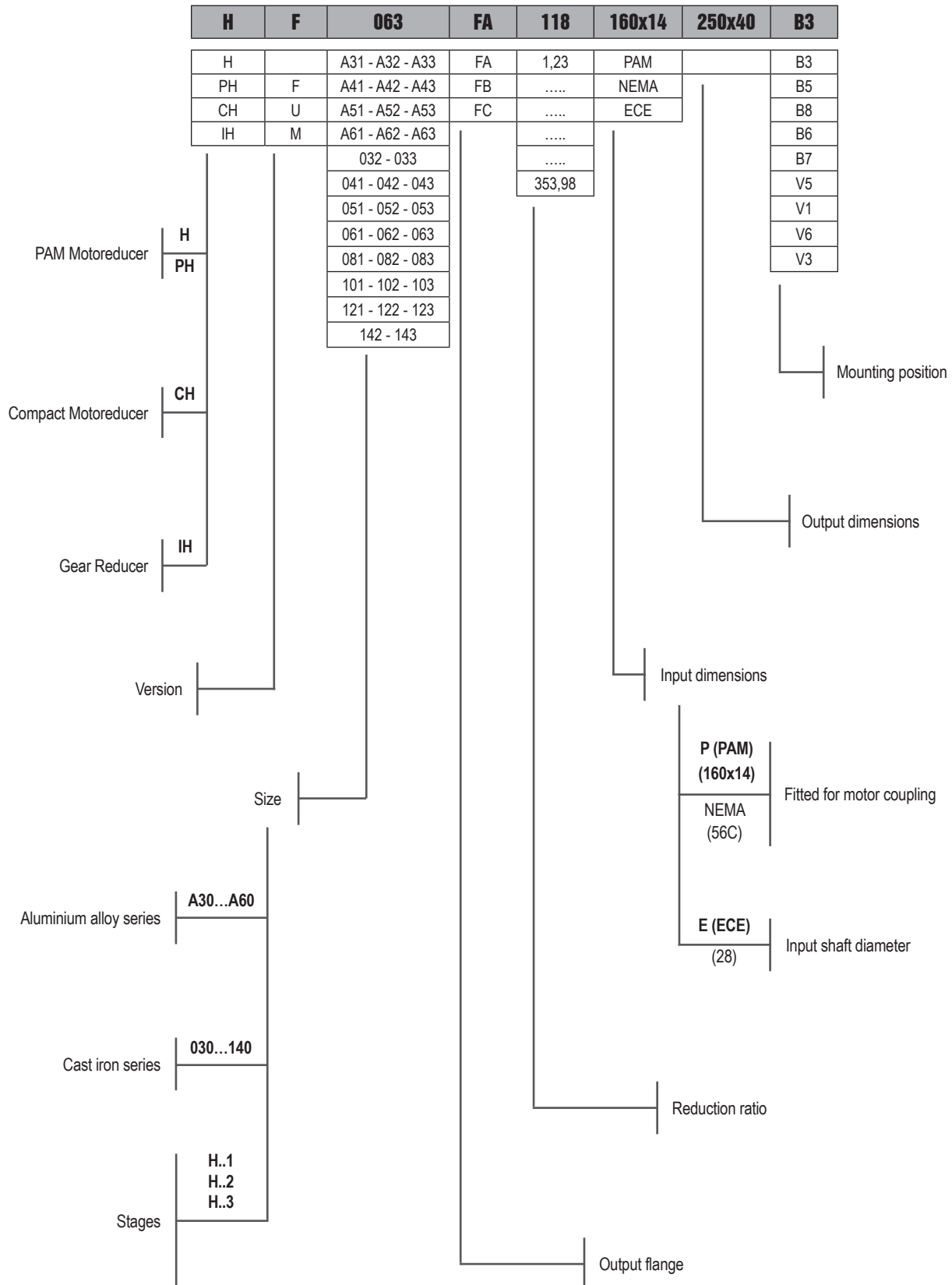
H - CH	032/..3	042/..3	052/..3	062/..3	082/..3	102/..3	122/..3	142/..3
B3-B5	0.8	1.2	1.4	2.4	4.5	8.1	12.5	22.5
B8	0.85	1.2	1.4	3.1	5	8.9	12.5	20
B6-B7	1	1.2	1.8	3	4.6	8.4	12.1	22.5
V5-V1	1.3	1.75	2.15	3.9	7.6	12.7	20.5	30.5
V6-V3	1.2	1.7	2.1	4.4	7.5	14.2	21	38

- Quantity of oil in litres

Lubricant quantities are only indicative. For correct filling always refer to the sight glass or the dipstick, when this is supplied.

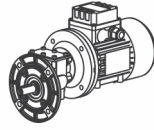
Any oil level differences can be caused by constructive tolerances but also on the mounting position or the assembly scheme of the customer. Therefore it is very important for the customer to check oil level and if necessary to add the necessary quantity.

Designation

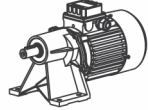


Versions

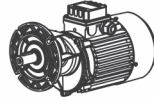
CH - H - IH
Aluminium alloy series.



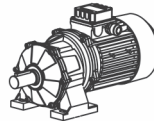
A31



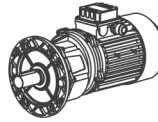
A41 - A51 - A61



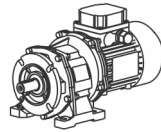
A41F - A51F - A61F



A32 - A33 - A42 - A43 - A52 - A53 - A62 - A63

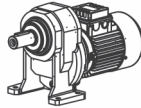


A32F - A33F - A42F - A43F - A52F - A53F - A62F - A63F

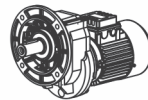


A32U - A33U - A42U - A43U - A52U - A53U - A62U - A63U

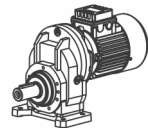
CH - H - PH - IH
Grey cast iron series.



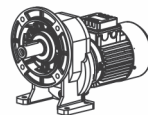
041 - 051 - 061 - 081 - 101 - 121



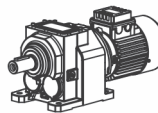
041F - 051F - 061F - 081F - 101F - 121F



041M - 051M - 061M - 081M - 101M - 121M



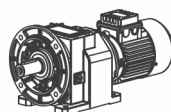
041U - 051U - 061U - 081U - 101U - 121U



032 - 033 - 042 - 043 - 052 - 053 - 062 - 063
082 - 083 - 102 - 103 - 122 - 123 - 142 - 143



032F - 033F - 042F - 043F - 052F - 053F - 062F - 063F
082F - 083F - 102F - 103F - 122F - 123F - 142F - 143F



032U - 033U - 042U - 043U - 052U - 053U - 062U - 063U
082U - 083U - 102U - 103U - 122U - 123U - 142U - 143U

 - Casing with foot

F - Casing with flange

U - Casing universal

M - Casing mono

Predisposition

CH...A30 - A40 - A50 - A60

	i	063	071	080	090	100	112
CH A32	5.38 ÷ 30.55	B10	B10	B10			
CH A32	35.44 ÷ 60.67	B10	B10				
CH A33	51.32 ÷ 166.61	B10	B10				
CH A33	193.3 ÷ 347.29	B10	B10	B10			
CH A41	1.45 ÷ 5.45	B10	B10	B10			
CH A41	7.88 ÷ 10.83	B10	B10				
CH A42	5.38 ÷ 30.55	B10	B10	B10	B10		
CH A42	35.44 ÷ 60.67	B10	B10				
CH A43	51.32 ÷ 166.61	B10	B10	B10	B10		
CH A43	193.3 ÷ 347.29	B10	B10				
CH A51	1.45 ÷ 5.45	B10	B10	B10	B10		
CH A51	7.88 ÷ 10.83	B10	B10				
CH A52	5.14 ÷ 25.43			B10	B10	B10	B10
CH A52	29.89 ÷ 61.87			B10	B10		
CH A53	49.8 ÷ 163.05	B10	B10	B10	B10		
CH A53	200.27 ÷ 353.98	B10	B10				
CH A61	1.33 ÷ 4.38			B10	B10	B10	B10
CH A61	7.75 ÷ 10.67			B10	B10		
CH A62	5.14 ÷ 25.43			B10	B10	B10	B10
CH A62	29.89 ÷ 61.87			B10	B10		
CH A63	49.8 ÷ 163.05	B10	B10	B10	B10		
CH A63	200.27 ÷ 353.98	B10	B10				

B10 = Compact electric motor versions

H...A30 - A40 - A50 - A60

	i	063	071	080	090	100	112
H A31	2.55 ÷ 4.75	B5	B5	B5			
H A31	5.1 ÷ 7.88	B5	B5				
H A31	10.83	B5					
H A32	5.38 ÷ 30.55	B5	B5-B14	B5-B14			
H A32	35.44 ÷ 60.67	B5	B5-B14				
H A33	51.32 ÷ 166.61	B5	B5-B14				
H A33	193.3 ÷ 347.29	B5	B5-B14	B5-B14			
H A41	1.45 ÷ 5.45	B5	B5-B14	B5-B14			
H A41	7.88 ÷ 10.83	B5	B5-B14				
H A42	5.38 ÷ 30.55	B5	B5-B14	B5-B14	B5-B14		
H A42	35.44 ÷ 60.67	B5	B5-B14				
H A43	51.32 ÷ 166.61	B5	B5-B14	B5-B14	B5-B14		
H A43	193.3 ÷ 347.29	B5	B5-B14				
H A51	1.45 ÷ 5.45	B5	B5-B14	B5-B14	B5-B14		
H A51	7.88 ÷ 10.83	B5	B5-B14				
H A52	5.14 ÷ 25.43			B5-B14	B5-B14	B5-B14	B5-B14
H A52	29.89 ÷ 61.87			B5-B14	B5-B14		
H A53	49.8 ÷ 163.05	B5	B5-B14	B5-B14	B5-B14		
H A53	200.27 ÷ 353.98	B5	B5-B14				
H A61	1.33 ÷ 4.38			B5-B14	B5-B14	B5-B14	B5-B14
H A61	7.75 ÷ 10.67			B5-B14	B5-B14		
H A62	5.14 ÷ 25.43			B5-B14	B5-B14	B5-B14	B5-B14
H A62	29.89 ÷ 61.87			B5-B14	B5-B14		
H A63	49.8 ÷ 163.05	B5	B5-B14	B5-B14	B5-B14		
H A63	200.27 ÷ 353.98	B5	B5-B14				

- These tables report all possible dimensions. Please verify service factor.

Predisposition

H...A30 - A40 - A50 - A60

	i	56C	140TC	180TC
H A32	5.38 ÷ 30.55			
H A32	35.44 ÷ 60.67			
H A33	51.32 ÷ 347.29			
H A41	1.45 ÷ 5.45			
H A41	7.88 ÷ 10.83			
H A42	5.38 ÷ 30.55			
H A42	35.44 ÷ 60.67			
H A43	51.32 ÷ 347.29			
H A51	1.45 ÷ 5.45			
H A51	7.88 ÷ 10.83			
H A52	5.14 ÷ 25.43			
H A52	29.89 ÷ 61.87			
H A53	49.8 ÷ 163.05			
H A53	200.27 ÷ 353.98			
H A61	1.33 ÷ 4.38			
H A61	7.75 ÷ 10.67			
H A62	5.14 ÷ 25.43			
H A62	29.89 ÷ 61.87			
H A63	49.8 ÷ 163.05			
H A63	200.27 ÷ 353.98			

- These tables report all possible dimensions. Please verify service factor.

Predisposition

CH - H - PH ...032

i	071	080	090	100	112
4.70	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
6.23	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
7.76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8.87	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
10.14	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
11.76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
13.72	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
14.66	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
16.77	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
18.20	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
19.90	B5-B11	B5-B11	B5-B11		
22.68	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
23.83	B5-B11	B5-B11	B5-B11		
26.39	B5-B11	B5-B11	B5-B11		
29.70	B5-B11	B5-B11	B5-B11		
32.89	B5-B11	B5-B11	B5-B11		
37.92	B5-B11	B5-B11	B5-B11		
41.40	B5-B11	B5-B11	B5-B11		
47.25	B5-B11	B5-B11	B5-B11		

CH - H - PH ...033

i	063	071	080	090
53.59	B5-B11	B5-B11	B5-B11	B5-B11
66.78	B5-B11	B5-B11	B5-B11	B5-B11
74.84	B5-B11	B5-B11	B5-B11	B5-B11
99.27	B5-B11	B5-B11	B5-B11	B5-B11
108.05	B5-B11	B5-B11		
123.71	B5-B11	B5-B11	B5-B11	B5-B11
143.33	B5-B11	B5-B11		
178.61	B5-B11	B5-B11		
197.17	B5-B11	B5-B11		
245.70	B5-B11	B5-B11		

CH - H - PH ...041

i	071	080	090
1.44	B5-B11	B5-B11	B5-B11
2.00	B5-B11	B5-B11	B5-B11
2.55	B5-B11	B5-B11	B5-B11
2.71	B5-B11	B5-B11	B5-B11
3.11	B5-B11	B5-B11	B5-B11
3.59	B5-B11	B5-B11	B5-B11
4.20	B5-B11	B5-B11	B5-B11
5.00	B5-B11	B5-B11	B5-B11
5.50	B5-B11	B5-B11	B5-B11
6.09	B5-B11	B5-B11	B5-B11
7.67	B5-B11	B5-B11	B5-B11
8.75	B5-B11	B5-B11	B5-B11

CH - H - PH ...042

i	071	080	090	100	112
5.46	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
7.19	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8.91	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
10.31	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
11.80	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
13.57	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
15.96	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
19.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
21.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
23.15	B5-B11	B5-B11	B5-B11		
26.04	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
27.50	B5-B11	B5-B11	B5-B11		
30.45	B5-B11	B5-B11	B5-B11		
34.10	B5-B11	B5-B11	B5-B11		
37.76	B5-B11	B5-B11	B5-B11		
43.75	B5-B11	B5-B11	B5-B11		
47.53	B5-B11	B5-B11	B5-B11		
54.25	B5-B11	B5-B11	B5-B11		

CH - H - PH ...043

i	063	071	080	090
61.83	B5-B11	B5-B11	B5-B11	B5-B11
76.67	B5-B11	B5-B11	B5-B11	B5-B11
87.05	B5-B11	B5-B11	B5-B11	B5-B11
114.55	B5-B11	B5-B11	B5-B11	B5-B11
125.69	B5-B11	B5-B11		
142.04	B5-B11	B5-B11	B5-B11	B5-B11
165.38	B5-B11	B5-B11		
205.07	B5-B11	B5-B11		
227.50	B5-B11	B5-B11		
282.10	B5-B11	B5-B11		

B11 = Compact electric motor versions

- For motor size 063 the PH version does not exist
- These tables report all possible dimensions. Please verify service factor.

Predisposition

CH - H - PH ...051

i	071	080	090	100	112
1.27		B5-B11	B5-B11	B5-B11	B5-B11
1.42		B5-B11	B5-B11	B5-B11	B5-B11
2.13		B5-B11	B5-B11	B5-B11	B5-B11
2.57	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
3.17	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
3.69	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
4.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
4.77	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
5.25	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
5.82	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
7.33	B5-B11	B5-B11	B5-B11		
8.38	B5-B11	B5-B11	B5-B11		

CH - H - PH ...052

i	071	080	090	100	112
5.73		B5-B11	B5-B11	B5-B11	B5-B11
6.89		B5-B11	B5-B11	B5-B11	B5-B11
8.53		B5-B11	B5-B11	B5-B11	B5-B11
9.56		B5-B11	B5-B11	B5-B11	B5-B11
11.51		B5-B11	B5-B11	B5-B11	B5-B11
14.24		B5-B11	B5-B11	B5-B11	B5-B11
16.59	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
18.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
19.97	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
21.67	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
24.71	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
26.18	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
28.44	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
31.52	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
33.00	B5-B11	B5-B11	B5-B11		
38.98	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
45.36	B5-B11	B5-B11	B5-B11		
49.13	B5-B11	B5-B11	B5-B11		
56.11	B5-B11	B5-B11	B5-B11		

CH - H - PH ...053

i	063	071	080	090
58.81	B5-B11	B5-B11	B5-B11	B5-B11
72.75	B5-B11	B5-B11	B5-B11	B5-B11
90.51	B5-B11	B5-B11	B5-B11	B5-B11
108.95	B5-B11	B5-B11	B5-B11	B5-B11
134.76	B5-B11	B5-B11	B5-B11	B5-B11
157.29	B5-B11	B5-B11		
194.56	B5-B11	B5-B11		
216.38	B5-B11	B5-B11		
267.65	B5-B11	B5-B11		

CH - H - PH ...061

i	080	090	100	112
1.34	B5-B11	B5-B11	B5-B11	B5-B11
2.13	B5-B11	B5-B11	B5-B11	B5-B11
2.57	B5-B11	B5-B11	B5-B11	B5-B11
3.17	B5-B11	B5-B11	B5-B11	B5-B11
3.69	B5-B11	B5-B11	B5-B11	B5-B11
4.00	B5-B11	B5-B11	B5-B11	B5-B11
4.77	B5-B11	B5-B11	B5-B11	B5-B11
5.25	B5-B11	B5-B11	B5-B11	B5-B11
5.82	B5-B11	B5-B11	B5-B11	B5-B11
7.33	B5-B11	B5-B11	B5-B11	B5-B11
8.38	B5-B11	B5-B11	B5-B11	B5-B11

CH - H - PH ...062

i	080	090	100	112	132
5.38	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
5.93	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
7.39	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8.50	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
9.39	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
11.69	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
12.67	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
14.75	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
16.29	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
17.67	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
20.28	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
23.27	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
25.70	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
29.33	B5-B11	B5-B11	B5-B11	B5-B11	
32.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
36.99	B5-B11	B5-B11	B5-B11	B5-B11	
40.33	B5-B11	B5-B11	B5-B11	B5-B11	
46.06	B5-B11	B5-B11	B5-B11	B5-B11	

CH - H - PH ...063

i	071	080	090	100	112
49.45		B5-B11	B5-B11	B5-B11	B5-B11
54.61		B5-B11	B5-B11	B5-B11	B5-B11
68.00		B5-B11	B5-B11	B5-B11	B5-B11
85.82	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
94.76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
118.00	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
135.40	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
149.51	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
170.67	B5-B11	B5-B11	B5-B11		
186.18	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
215.21	B5-B11	B5-B11	B5-B11		
234.67	B5-B11	B5-B11	B5-B11		
268.00	B5-B11	B5-B11	B5-B11		

B11 = Compact electric motor versions

- For motor size 063 the PH version does not exist
- These tables report all possible dimensions. Please verify service factor.

Predisposition

CH - H - PH ...081

i	080	090	100	112	132
1.30					B5-B11
1.43					B5-B11
1.93					B5-B11
2.54			B5-B11	B5-B11	B5-B11
3.25			B5-B11	B5-B11	B5-B11
3.72			B5-B11	B5-B11	B5-B11
4.00			B5-B11	B5-B11	B5-B11
4.67			B5-B11	B5-B11	B5-B11
5.54	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
6.08	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
7.50	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8.44	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11

CH - H - PH ...082

i	080	090	100	112	132	160
5.39					B5-B11	B5
5.95					B5-B11	B5
7.39					B5-B11	B5
8.02					B5-B11	B5
8.85					B5-B11	B5
11.01					B5-B11	B5
13.50			B5-B11	B5-B11	B5-B11	B5
14.90			B5-B11	B5-B11	B5-B11	B5
16.60			B5-B11	B5-B11	B5-B11	B5
18.53			B5-B11	B5-B11	B5-B11	B5
19.38			B5-B11	B5-B11	B5-B11	B5
21.39			B5-B11	B5-B11	B5-B11	B5
22.80			B5-B11	B5-B11	B5-B11	B5
26.60			B5-B11	B5-B11	B5-B11	B5
27.90	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
31.15	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
34.38	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
38.70	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
42.75	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
48.13	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	

CH - H - PH ...083

i	080	090	100	112	132
56.53	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
71.48	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
78.87	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
85.60	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
98.09	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
112.78	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
124.44	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
142.15	B5-B11	B5-B11	B5-B11	B5-B11	
154.76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
162.35	B5-B11	B5-B11			
179.13	B5-B11	B5-B11			
195.07	B5-B11	B5-B11			
222.78	B5-B11	B5-B11			

CH - H - PH ...101

i	100	112	132	160	180
1.29			B5-B11	B5	B5
1.41			B5-B11	B5	B5
2.03			B5-B11	B5	B5
2.48			B5-B11	B5	B5
3.27	B5-B11	B5-B11	B5-B11	B5	B5
3.70	B5-B11	B5-B11	B5-B11	B5	B5
4.22			B5-B11	B5	B5
4.88	B5-B11	B5-B11	B5-B11	B5	B5
5.27	B5-B11	B5-B11	B5-B11	B5	B5
6.23	B5-B11	B5-B11	B5-B11	B5	
7.55	B5-B11	B5-B11	B5-B11	B5	
8.40	B5-B11	B5-B11	B5-B11	B5	

CH - H - PH ...102

i	100	112	132	160	180
5.26			B5-B11	B5	B5
6.36			B5-B11	B5	B5
7.05			B5-B11	B5	B5
8.27			B5-B11	B5	B5
9.99			B5-B11	B5	B5
11.09			B5-B11	B5	B5
13.32	B5-B11	B5-B11	B5-B11	B5	B5
16.09	B5-B11	B5-B11	B5-B11	B5	B5
17.85	B5-B11	B5-B11	B5-B11	B5	B5
19.80	B5-B11	B5-B11	B5-B11	B5	B5
21.44	B5-B11	B5-B11	B5-B11	B5	B5
24.00	B5-B11	B5-B11	B5-B11	B5	B5
25.89	B5-B11	B5-B11	B5-B11	B5	B5
28.73	B5-B11	B5-B11	B5-B11	B5	B5
30.70	B5-B11	B5-B11	B5-B11	B5	
34.20	B5-B11	B5-B11	B5-B11	B5	
38.45	B5-B11	B5-B11	B5-B11		
41.30	B5-B11	B5-B11	B5-B11	B5	
45.82	B5-B11	B5-B11	B5-B11	B5	
51.52	B5-B11	B5-B11	B5-B11		

CH - H - PH ...103

i	090	100	112	132	160
55.47				B5-B11	B5
69.69		B5-B11	B5-B11	B5-B11	B5
79.80		B5-B11	B5-B11	B5-B11	B5
84.16		B5-B11	B5-B11	B5-B11	B5
93.36		B5-B11	B5-B11	B5-B11	B5
100.07		B5-B11	B5-B11	B5-B11	B5
120.84		B5-B11	B5-B11	B5-B11	B5
134.06		B5-B11	B5-B11	B5-B11	B5
143.40	B5-B11	B5-B11	B5-B11	B5-B11	
160.82	B5-B11	B5-B11	B5-B11	B5-B11	
181.07	B5-B11	B5-B11	B5-B11	B5-B11	
194.21	B5-B11	B5-B11	B5-B11	B5-B11	
215.45	B5-B11	B5-B11	B5-B11	B5-B11	
242.59	B5-B11	B5-B11	B5-B11	B5-B11	

B11 = Compact electric motor versions

- These tables report all possible dimensions. Please verify service factor.

Predisposition

CH - H - PH ...121

i	132	160	180	200
1.23		B5	B5	B5
1.42		B5	B5	B5
1.81		B5	B5	B5
2.00	B5-B11	B5	B5	B5
2.48	B5-B11	B5	B5	B5
2.95	B5-B11	B5	B5	B5
3.14	B5-B11	B5	B5	B5
3.58	B5-B11	B5	B5	B5
4.12	B5-B11	B5	B5	B5
4.80	B5-B11	B5	B5	B5
5.21	B5-B11	B5	B5	
6.25	B5-B11	B5	B5	
7.70	B5-B11	B5	B5	

CH - H - PH ...122

i	132	160	180	200
5.27		B5	B5	B5
5.78		B5	B5	B5
7.05		B5	B5	B5
7.74		B5	B5	B5
8.48		B5	B5	B5
10.35		B5	B5	B5
12.66	B5-B11	B5	B5	B5
13.86	B5-B11	B5	B5	B5
16.92	B5-B11	B5	B5	B5
19.30	B5-B11	B5	B5	B5
20.57	B5-B11	B5	B5	B5
22.52	B5-B11	B5	B5	B5
24.50	B5-B11	B5	B5	
27.49	B5-B11	B5	B5	B5
29.90	B5-B11	B5	B5	
33.00	B5-B11	B5	B5	
36.13	B5-B11	B5	B5	
44.10	B5-B11	B5	B5	

CH - H - PH ...123

i	100	112	132	160	180	200
45.77			B5-B11	B5	B5	B5
55.87			B5-B11	B5	B5	B5
67.32	B5-B11	B5-B11	B5-B11	B5	B5	B5
73.71	B5-B11	B5-B11	B5-B11	B5	B5	B5
83.30	B5-B11	B5-B11	B5-B11	B5	B5	B5
89.97	B5-B11	B5-B11	B5-B11	B5	B5	B5
100.30	B5-B11	B5-B11	B5-B11	B5	B5	B5
108.34	B5-B11	B5-B11	B5-B11	B5	B5	B5
118.62	B5-B11	B5-B11	B5-B11	B5	B5	B5
128.20	B5-B11	B5-B11	B5-B11	B5	B5	
144.79	B5-B11	B5-B11	B5-B11	B5	B5	B5
155.20	B5-B11	B5-B11	B5-B11	B5	B5	
172.80	B5-B11	B5-B11	B5-B11	B5	B5	
189.19	B5-B11	B5-B11	B5-B11	B5	B5	
207.40	B5-B11	B5-B11	B5-B11	B5	B5	
230.92	B5-B11	B5-B11	B5-B11	B5	B5	
259.60	B5-B11	B5-B11	B5-B11			

B11 = Compact electric motor versions

- These tables report all possible dimensions. Please verify service factor.

H - PH ...142

i	160	180	200	225
5.27	B5	B5	B5	B5
6.36	B5	B5	B5	B5
7.04	B5	B5	B5	B5
7.84	B5	B5	B5	B5
9.45	B5	B5	B5	B5
10.47	B5	B5	B5	B5
13.07	B5	B5	B5	B5
15.75	B5	B5	B5	B5
17.45	B5	B5	B5	B5
20.04	B5	B5	B5	B5
24.15	B5	B5	B5	B5
26.76	B5	B5	B5	B5
32.24	B5	B5	B5	B5
38.85	B5	B5	B5	B5
43.05	B5	B5	B5	B5

H - PH ...143

i	132	160	180	200
48.35		B5	B5	B5
53.50	B5	B5	B5	B5
59.22	B5	B5	B5	B5
63.00	B5	B5	B5	B5
71.35	B5	B5	B5	B5
79.07	B5	B5	B5	B5
86.40	B5	B5	B5	B5
96.21	B5	B5	B5	B5
104.50	B5	B5	B5	
115.92	B5	B5	B5	B5
128.47	B5	B5	B5	B5
139.60	B5	B5	B5	
154.33	B5	B5	B5	
185.96	B5	B5	B5	
206.08	B5	B5	B5	

- These tables report all possible dimensions. Please verify service factor.

Predisposition

PH032

i	56C	140TC	180TC
4.70			
6.23			
7.76			
8.87			
10.14			
11.76			
13.72			
14.66			
16.77			
18.20			
19.90			
22.68			
23.83			
26.39			
29.70			
32.89			
37.92			
41.40			
47.25			

PH033

i	56C	140TC
53.59		
66.78		
74.84		
99.27		
108.05		
123.71		
143.33		
178.61		
197.17		
245.70		

PH041

i	56C	140TC	180TC
1.44			
2.00			
2.55			
2.71			
3.11			
3.59			
4.20			
5.00			
5.50			
6.09			
7.67			
8.75			

PH042

i	56C	140TC	180TC
5.46			
7.19			
8.91			
10.31			
11.80			
13.57			
15.96			
19.00			
21.00			
23.15			
26.04			
27.50			
30.45			
34.10			
37.76			
43.75			
47.53			
54.25			

PH043

i	56C	140TC
61.83		
76.67		
87.05		
114.55		
125.69		
142.04		
165.38		
205.07		
227.50		
282.10		

- These tables report all possible dimensions. Please verify service factor.

Predisposition

PH051

I	56C	140TC	180TC
1.27			
1.42			
2.13			
2.57			
3.17			
3.69			
4.00			
4.77			
5.25			
5.82			
7.33			
8.38			

PH052

I	56C	140TC	180TC
5.73			
6.89			
8.53			
9.56			
11.51			
14.24			
16.59			
18.00			
19.97			
21.67			
24.71			
26.18			
28.44			
31.52			
33.00			
38.98			
45.36			
49.13			
56.11			

PH053

I	56C	140TC
58.81		
72.75		
90.51		
108.95		
134.76		
157.29		
194.56		
216.38		
267.65		

PH061

I	56C	140TC	180TC
1.34			
2.13			
2.57			
3.17			
3.69			
4.00			
4.77			
5.25			
5.82			
7.33			
8.38			

PH062

I	56C	140TC	180TC	210TC
5.38				
5.93				
7.39				
8.50				
9.39				
11.69				
12.67				
14.75				
16.29				
17.67				
20.28				
23.27				
25.70				
29.33				
32.00				
36.99				
40.33				
46.06				

PH063

I	56C	140TC	180TC
49.45			
54.61			
68.00			
85.82			
94.76			
118.00			
135.40			
149.51			
170.67			
186.18			
215.21			
234.67			
268.00			

- These tables report all possible dimensions. Please verify service factor.

Predisposition

PH081

i	56C	140TC	180TC	210TC
1.30				
1.43				
1.93				
2.54				
3.25				
3.72				
4.00				
4.67				
5.54				
6.08				
7.50				
8.44				

PH082

i	56C	140TC	180TC	210TC	250TC
5.39					
5.95					
7.39					
8.02					
8.85					
11.01					
13.50					
14.90					
16.60					
18.53					
19.38					
21.39					
22.80					
26.60					
27.88					
31.15					
34.38					
38.70					
42.75					
48.13					

PH083

i	56C	140TC	180TC	210TC	250TC
56.53					
71.48					
78.87					
85.60					
98.09					
112.78					
124.44					
142.15					
154.76					
162.35					
179.13					
195.07					
222.78					

- These tables report all possible dimensions. Please verify service factor.

Predisposition

PH101

i	180TC	210TC	250TC
1.29			
1.41			
2.03			
2.48			
3.27			
3.70			
4.22			
4.88			
5.27			
6.23			
7.55			
8.40			

PH102

i	180TC	210TC	250TC	280TC
5.26				
6.36				
7.05				
8.27				
9.99				
11.09				
13.32				
16.09				
17.85				
19.80				
21.44				
24.00				
25.89				
28.73				
30.70				
34.20				
38.45				
41.30				
45.82				
51.52				

PH103

i	140TC	180TC	210TC	250TC
55.47				
69.69				
79.80				
84.16				
93.36				
100.07				
120.84				
134.06				
143.40				
160.82				
181.07				
194.21				
215.45				
242.59				

- These tables report all possible dimensions. Please verify service factor.

Predisposition

PH121

i	210TC	250TC	320TC
1.23			
1.42			
1.81			
2.00			
2.48			
2.95			
3.14			
3.58			
4.12			
4.80			
5.21			
6.25			
7.70			

PH122

i	210TC	250TC	280TC	320TC
5.27				
5.78				
7.05				
7.74				
8.48				
10.35				
12.66				
13.86				
16.92				
19.30				
20.57				
22.52				
24.47				
27.49				
29.86				
33.00				
36.13				
44.10				

PH123

i	180TC	210TC	250TC	280TC	320TC
45.77					
55.87					
67.32					
73.71					
83.30					
89.97					
100.30					
108.34					
118.62					
128.18					
144.79					
155.22					
172.80					
189.19					
207.40					
230.92					
259.60					

PH142

i	210TC	250TC	280TC	320TC	360TC
5.27					
6.36					
7.04					
7.84					
9.45					
10.47					
13.07					
15.75					
17.45					
20.04					
24.15					
26.76					
32.24					
38.85					
43.05					

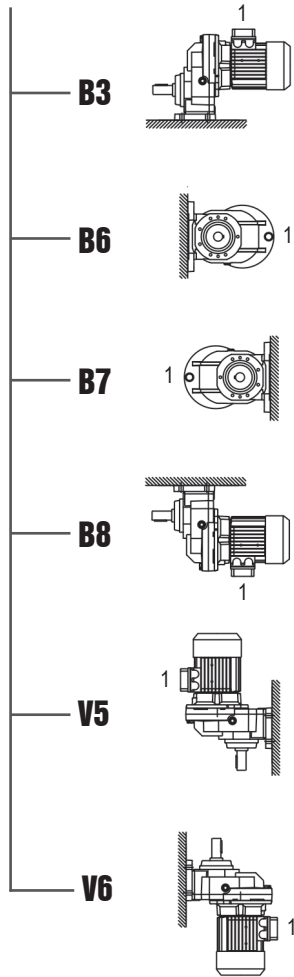
PH143

i	180TC	210TC	250TC	280TC	320TC	360TC
48.35						
53.50						
59.22						
63.00						
71.35						
79.07						
86.40						
96.21						
104.51						
115.92						
128.47						
139.55						
154.33						
185.96						
206.08						

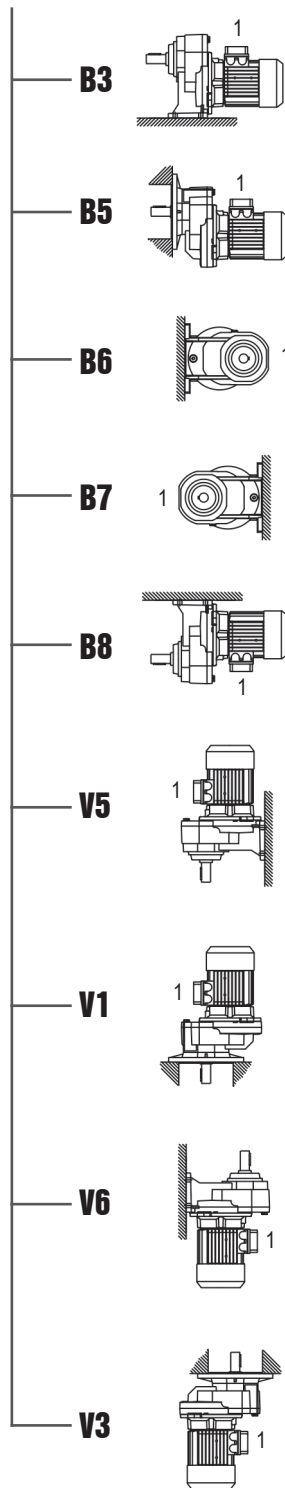
- These tables report all possible dimensions. Please verify service factor.

Mounting positions

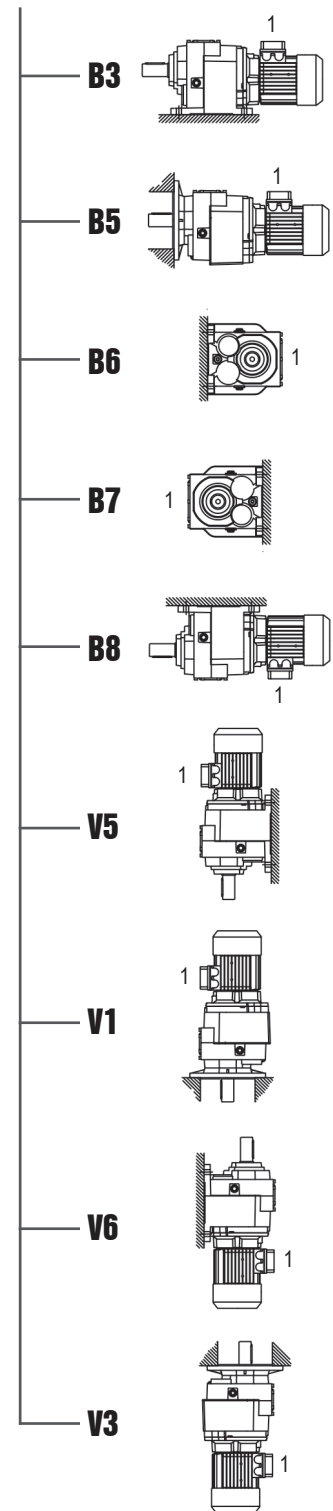
H..1M



H... - HA...1



H... - HA..2/3



- For vertical positions, check with pages 6.
- Unless specified otherwise, the standard positions are B3/B5.
- For positions not envisaged, it is necessary to call our Technical Service.

HA/H - Performance

0.16 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
40.0	3.2	245.0	44.1	797	450	CHA32	63A4	HA32	56C
36.0	2.6	271.0	48.75	708	450	CHA32	63A4	HA32	56C
29.0	2.5	338.0	60.67	841	450	CHA32	63A4	HA32	56C
34.0	3.2	280.0	51.32	885	450	CHA33	63A4	HA33	56C
29.0	2.7	325.0	59.65	885	450	CHA33	63A4	HA33	56C
24.0	2.2	394.0	72.27	885	450	CHA33	63A4	HA33	56C
19.0	1.8	490.0	89.94	885	450	CHA33	63A4	HA33	56C
16.0	1.5	602.0	110.51	885	450	CHA33	63A4	HA33	56C
13.0	1.2	729.0	133.88	885	450	CHA33	63A4	HA33	56C
162.0	2.9	61.0	10.83	177	209	CHA41	63A4	HA41	56C
36.0	3.8	271.0	48.75	1018	967	CHA42	63A4	HA42	56C
29.0	3.4	338.0	60.67	1151	967	CHA42	63A4	HA42	56C
24.0	3.4	394.0	72.27	1328	967	CHA43	63A4	HA43	56C
19.0	2.7	490.0	89.94	1328	967	CHA43	63A4	HA43	56C
16.0	2.2	602.0	110.51	1328	967	CHA43	63A4	HA43	56C
13.0	1.8	729.0	133.88	1328	967	CHA43	63A4	HA43	56C
11.0	1.5	908.0	166.61	1328	967	CHA43	63A4	HA43	56C
9.1	1.3	1053.0	193.3	1328	967	CHA43	63A4	HA43	56C
7.3	1.0	1311.0	240.55	1328	967	CHA43	63A4	HA43	56C
162.0	3.6	61.0	10.83	221	575	CHA51	63A4	HA51	56C
13.0	3.5	756.0	138.71	2655	1349	CHA53	63A4	HA53	56C
11.0	3.0	888.0	163.05	2655	1349	CHA53	63A4	HA53	56C
8.7	2.4	1091.0	200.27	2655	1349	CHA53	63A4	HA53	56C
7.4	2.1	1283.0	235.41	2655	1349	CHA53	63A4	HA53	56C
6.1	1.7	1552.0	284.81	2655	1349	CHA53	63A4	HA53	56C
4.9	1.4	1929.0	353.98	2655	1349	CHA53	63A4	HA53	56C
8.7	3.9	1091.0	200.27	4248	1798	CHA63	63A4	HA63	56C
7.4	3.3	1283.0	235.41	4248	1798	CHA63	63A4	HA63	56C
6.1	2.7	1552.0	284.81	4248	1798	CHA63	63A4	HA63	56C
4.9	2.2	1929.0	353.98	4248	1798	CHA63	63A4	HA63	56C
18.0	3.3	541.0	99.27	1770	1236	CH033	63A4	PH033	56C
16.0	3.0	589.0	108.05	1770	1236	CH033	63A4	PH033	56C
14.0	2.6	674.0	123.71	1770	1236	CH033	63A4	PH033	56C
12.0	2.3	781.0	143.33	1770	1236	CH033	63A4	PH033	56C
9.8	1.8	973.0	178.61	1770	1236	CH033	63A4	PH033	56C
8.9	1.6	1074.0	197.17	1770	1236	CH033	63A4	PH033	56C
7.1	1.3	1339.0	245.7	1770	1236	CH033	63A4	PH033	56C
14.0	3.9	685.0	125.69	2655	1484	CH043	63A4	PH043	56C
12.0	3.4	774.0	142.04	2655	1484	CH043	63A4	PH043	56C
11.0	2.9	901.0	165.38	2655	1484	CH043	63A4	PH043	56C
8.5	2.4	1117.0	205.07	2655	1484	CH043	63A4	PH043	56C
7.7	2.1	1239.0	227.5	2655	1484	CH043	63A4	PH043	56C
6.2	1.7	1537.0	282.1	2655	1484	CH043	63A4	PH043	56C
8.1	3.8	1179.0	216.38	4425	1798	CH053	63A4	PH053	56C
6.5	3.0	1458.0	267.65	4425	1798	CH053	63A4	PH053	56C
162.0	2.0	61.0	10.83	124	207	HA31	63A4	-	-

HA/H - Performance

0.25 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL		Gearmotor		Gear Reducer	
					Output shaft lbs		Reducer	Motor	Reducer	NEMA C-input
71.0	3.7	205.0	24.55	752		379	CHA32	63B4	HA32	56C
57.0	2.8	255.0	30.55	708		408	CHA32	63B4	HA32	56C
49.0	2.7	296.0	35.44	797		429	CHA32	63B4	HA32	56C
40.0	2.2	368.0	44.1	797		450	CHA32	63B4	HA32	56C
36.0	1.7	407.0	48.75	708		450	CHA32	63B4	HA32	56C
29.0	1.7	506.0	60.67	841		450	CHA32	63B4	HA32	56C
34.0	2.1	419.0	51.32	885		450	CHA33	63B4	HA33	56C
29.0	1.8	488.0	59.65	885		450	CHA33	63B4	HA33	56C
24.0	1.5	591.0	72.27	885		450	CHA33	63B4	HA33	56C
19.0	1.2	735.0	89.94	885		450	CHA33	63B4	HA33	56C
222.0	3.3	66.0	7.88	221		188	CHA41	63B4	HA41	56C
162.0	1.9	91.0	10.83	177		209	CHA41	63B4	HA41	56C
40.0	3.4	368.0	44.1	1239		967	CHA42	63B4	HA42	56C
36.0	2.5	407.0	48.75	1018		967	CHA42	63B4	HA42	56C
29.0	2.3	506.0	60.67	1151		967	CHA42	63B4	HA42	56C
34.0	3.2	419.0	51.32	1328		967	CHA43	63B4	HA43	56C
29.0	2.7	488.0	59.65	1328		967	CHA43	63B4	HA43	56C
24.0	2.2	591.0	72.27	1328		967	CHA43	63B4	HA43	56C
19.0	1.8	735.0	89.94	1328		967	CHA43	63B4	HA43	56C
16.0	1.5	903.0	110.51	1328		967	CHA43	63B4	HA43	56C
13.0	1.2	1094.0	133.88	1328		967	CHA43	63B4	HA43	56C
162.0	2.4	91.0	10.83	221		575	CHA51	63B4	HA51	56C
20.0	3.7	719.0	88.02	2655		1349	CHA53	63B4	HA53	56C
16.0	2.9	912.0	111.61	2655		1349	CHA53	63B4	HA53	56C
13.0	2.3	1134.0	138.71	2655		1349	CHA53	63B4	HA53	56C
11.0	2.0	1333.0	163.05	2655		1349	CHA53	63B4	HA53	56C
8.7	1.6	1637.0	200.27	2655		1349	CHA53	63B4	HA53	56C
7.4	1.4	1924.0	235.41	2655		1349	CHA53	63B4	HA53	56C
6.1	1.1	2328.0	284.81	2655		1349	CHA53	63B4	HA53	56C
13.0	3.7	1134.0	138.71	4248		1798	CHA63	63B4	HA63	56C
11.0	3.2	1333.0	163.05	4248		1798	CHA63	63B4	HA63	56C
8.7	2.6	1637.0	200.27	4248		1798	CHA63	63B4	HA63	56C
7.4	2.2	1924.0	235.41	4248		1798	CHA63	63B4	HA63	56C
6.1	1.8	2328.0	284.81	4248		1798	CHA63	63B4	HA63	56C
4.9	1.5	2893.0	353.98	4248		1798	CHA63	63B4	HA63	56C
26.0	3.2	546.0	66.78	1770		1236	CH033	63B4	PH033	56C
23.0	2.9	612.0	74.84	1770		1236	CH033	63B4	PH033	56C
18.0	2.2	811.0	99.27	1770		1236	CH033	63B4	PH033	56C
16.0	2.0	883.0	108.05	1770		1236	CH033	63B4	PH033	56C
14.0	1.8	1011.0	123.71	1770		1236	CH033	63B4	PH033	56C
12.0	1.5	1171.0	143.33	1770		1236	CH033	63B4	PH033	56C
9.8	1.2	1460.0	178.61	1770		1236	CH033	63B4	PH033	56C
8.9	1.1	1611.0	197.17	1770		1236	CH033	63B4	PH033	56C
20.0	3.7	711.0	87.05	2655		1484	CH043	63B4	PH043	56C
15.0	2.8	936.0	114.55	2655		1484	CH043	63B4	PH043	56C
14.0	2.6	1027.0	125.69	2655		1484	CH043	63B4	PH043	56C
12.0	2.3	1161.0	142.04	2655		1484	CH043	63B4	PH043	56C
11.0	2.0	1351.0	165.38	2655		1484	CH043	63B4	PH043	56C
8.5	1.6	1676.0	205.07	2655		1484	CH043	63B4	PH043	56C
7.7	1.4	1859.0	227.5	2655		1484	CH043	63B4	PH043	56C
6.2	1.2	2305.0	282.1	2655		1484	CH043	63B4	PH043	56C
11.0	3.4	1285.0	157.29	4425		1798	CH053	63B4	PH053	56C

HA/H - Performance

0.25 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
9.0	2.8	1590.0	194.56	4425	1798	CH053	63B4	PH053	56C
8.1	2.5	1768.0	216.38	4425	1798	CH053	63B4	PH053	56C
6.5	2.0	2187.0	267.65	4425	1798	CH053	63B4	PH053	56C
7.5	3.9	1918.0	234.67	7523	2698	-	-	PH063	56C
6.5	3.4	2190.0	268	7523	2698	-	-	PH063	56C
278.0	3.8	53.0	6.3	204	172	HA31	63B4	-	-
222.0	2.9	66.0	7.88	195	186	HA31	63B4	-	-
162.0	1.4	91.0	10.83	124	207	HA31	63B4	-	-

0.33 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
106.0	3.7	191.0	16.49	708	332	CHA32	63D4/71A4	HA32	56C
86.0	3.4	235.0	20.26	797	356	CHA32	63D4/71A4	HA32	56C
71.0	2.6	285.0	24.55	752	379	CHA32	63D4/71A4	HA32	56C
57.0	2.0	354.0	30.55	708	408	CHA32	63D4/71A4	HA32	56C
49.0	1.9	411.0	35.44	797	429	CHA32	63D4/71A4	HA32	56C
40.0	1.6	511.0	44.1	797	450	CHA32	63D4/71A4	HA32	56C
36.0	1.3	565.0	48.75	708	450	CHA32	63D4/71A4	HA32	56C
29.0	1.2	703.0	60.67	841	450	CHA32	63D4/71A4	HA32	56C
34.0	1.5	583.0	51.32	885	450	CHA33	63D4/71A4	HA33	56C
29.0	1.3	677.0	59.65	885	450	CHA33	63D4/71A4	HA33	56C
24.0	1.1	820.0	72.27	885	450	CHA33	63D4/71A4	HA33	56C
222.0	2.4	92.0	7.88	221	188	CHA41	63D4/71A4	HA41	56C
162.0	1.4	127.0	10.83	177	209	CHA41	63D4/71A4	HA41	56C
57.0	3.5	354.0	30.55	1239	859	CHA42	63D4/71A4	HA42	56C
49.0	3.2	411.0	35.44	1328	903	CHA42	63D4/71A4	HA42	56C
40.0	2.4	511.0	44.1	1239	967	CHA42	63D4/71A4	HA42	56C
36.0	1.8	565.0	48.75	1018	967	CHA42	63D4/71A4	HA42	56C
29.0	1.6	703.0	60.67	1151	967	CHA42	63D4/71A4	HA42	56C
34.0	2.3	583.0	51.32	1328	967	CHA43	63D4/71A4	HA43	56C
29.0	2.0	677.0	59.65	1328	967	CHA43	63D4/71A4	HA43	56C
24.0	1.6	820.0	72.27	1328	967	CHA43	63D4/71A4	HA43	56C
19.0	1.3	1021.0	89.94	1328	967	CHA43	63D4/71A4	HA43	56C
16.0	1.1	1254.0	110.51	1328	967	CHA43	63D4/71A4	HA43	56C
222.0	3.8	92.0	7.88	354	517	CHA51	63D4/71A4	HA51	56C
162.0	1.7	127.0	10.83	221	575	CHA51	63D4/71A4	HA51	56C
28.0	3.6	717.0	61.87	2567	1349	-	-	HA52	56C
29.0	3.9	684.0	60.25	2655	1347	CHA53	63D4/71A4	HA53	56C
23.0	3.1	850.0	74.88	2655	1349	CHA53	63D4/71A4	HA53	56C
20.0	2.7	999.0	88.02	2655	1349	CHA53	63D4/71A4	HA53	56C
16.0	2.1	1267.0	111.61	2655	1349	CHA53	63D4/71A4	HA53	56C
13.0	1.7	1574.0	138.71	2655	1349	CHA53	63D4/71A4	HA53	56C
11.0	1.4	1851.0	163.05	2655	1349	CHA53	63D4/71A4	HA53	56C
8.7	1.2	2273.0	200.27	2655	1349	CHA53	63D4/71A4	HA53	56C
16.0	3.4	1267.0	111.61	4248	1798	CHA63	63D4/71A4	HA63	56C
13.0	2.7	1574.0	138.71	4248	1798	CHA63	63D4/71A4	HA63	56C
11.0	2.3	1851.0	163.05	4248	1798	CHA63	63D4/71A4	HA63	56C
8.7	1.9	2273.0	200.27	4248	1798	CHA63	63D4/71A4	HA63	56C

HA/H - Performance

0.33 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
7.4	1.6	2672.0	235.41	4248	1798	CHA63	63D4/71A4	HA63	56C
6.1	1.3	3233.0	284.81	4248	1798	CHA63	63D4/71A4	HA63	56C
4.9	1.1	4018.0	353.98	4248	1798	CHA63	63D4/71A4	HA63	56C
42.0	3.7	480.0	41.4	1770	1236	CH032	71A4	PH032	56C
37.0	3.2	548.0	47.25	1770	1236	CH032	71A4	PH032	56C
33.0	2.9	608.0	53.59	1770	1236	CH033	63D4/71A4	PH033	56C
26.0	2.3	758.0	66.78	1770	1236	CH033	63D4/71A4	PH033	56C
23.0	2.1	849.0	74.84	1770	1236	CH033	63D4/71A4	PH033	56C
18.0	1.6	1127.0	99.27	1770	1236	CH033	63D4/71A4	PH033	56C
16.0	1.4	1226.0	108.05	1770	1236	CH033	63D4/71A4	PH033	56C
14.0	1.3	1404.0	123.71	1770	1236	CH033	63D4/71A4	PH033	56C
12.0	1.1	1627.0	143.33	1770	1236	CH033	63D4/71A4	PH033	56C
32.0	3.9	629.0	54.25	2478	1484	CH042	71A4	PH042	56C
28.0	3.8	702.0	61.83	2655	1484	CH043	63D4/71A4	PH043	56C
23.0	3.1	870.0	76.67	2655	1484	CH043	63D4/71A4	PH043	56C
20.0	2.7	988.0	87.05	2655	1484	CH043	63D4/71A4	PH043	56C
15.0	2.0	1300.0	114.55	2655	1484	CH043	63D4/71A4	PH043	56C
14.0	1.9	1427.0	125.69	2655	1484	CH043	63D4/71A4	PH043	56C
12.0	1.6	1612.0	142.04	2655	1484	CH043	63D4/71A4	PH043	56C
11.0	1.4	1877.0	165.38	2655	1484	CH043	63D4/71A4	PH043	56C
8.5	1.1	2328.0	205.07	2655	1484	CH043	63D4/71A4	PH043	56C
7.7	1.0	2582.0	227.5	2655	1484	CH043	63D4/71A4	PH043	56C
16.0	3.6	1237.0	108.95	4425	1798	CH053	63D4/71A4	PH053	56C
13.0	2.9	1530.0	134.76	4425	1798	CH053	63D4/71A4	PH053	56C
11.0	2.5	1785.0	157.29	4425	1798	CH053	63D4/71A4	PH053	56C
9.0	2.0	2208.0	194.56	4425	1798	CH053	63D4/71A4	PH053	56C
8.1	1.8	2456.0	216.38	4425	1798	CH053	63D4/71A4	PH053	56C
6.5	1.5	3038.0	267.65	4425	1798	CH053	63D4/71A4	PH053	56C
10.0	3.9	1937.0	170.67	7523	2698	CH063	71A4	PH063	56C
9.4	3.6	2113.0	186.18	7523	2698	CH063	71A4	PH063	56C
8.1	3.1	2443.0	215.21	7523	2698	CH063	71A4	PH063	56C
7.5	2.8	2664.0	234.67	7523	2698	CH063	71A4	PH063	56C
6.5	2.5	3042.0	268	7523	2698	CH063	71A4	PH063	56C
415.0	3.8	49.0	4.21	186	151	HA31	63D4/71A4	-	-
368.0	3.5	56.0	4.75	195	157	HA31	63D4/71A4	-	-
343.0	3.4	60.0	5.1	204	161	HA31	63D4/71A4	-	-
321.0	3.2	64.0	5.45	204	164	HA31	63D4/71A4	-	-
278.0	2.8	74.0	6.3	204	172	HA31	63D4/71A4	-	-
222.0	2.1	92.0	7.88	195	186	HA31	63D4/71A4	-	-

0.50 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
132.0	3.1	227.0	13.25	708	309	CHA32	71B4	HA32	56C
106.0	2.5	283.0	16.49	708	332	CHA32	71B4	HA32	56C
86.0	2.3	348.0	20.26	797	356	CHA32	71B4	HA32	56C
71.0	1.8	421.0	24.55	752	379	CHA32	71B4	HA32	56C
57.0	1.4	524.0	30.55	708	408	CHA32	71B4	HA32	56C
49.0	1.3	608.0	35.44	797	429	CHA32	71B4	HA32	56C

HA/H - Performance

0.50 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
40.0	1.1	757.0	44.1	797	450	CHA32	71B4	HA32	56C
34.0	1.0	862.0	51.32	885	450	CHA33	71B4	HA33	56C
368.0	3.2	82.0	4.75	266	159	CHA41	71B4	HA41	56C
321.0	2.8	95.0	5.45	266	166	CHA41	71B4	HA41	56C
222.0	1.6	137.0	7.88	221	188	CHA41	71B4	HA41	56C
86.0	3.8	348.0	20.26	1328	749	CHA42	71B4	HA42	56C
71.0	3.3	421.0	24.55	1372	799	CHA42	71B4	HA42	56C
57.0	2.4	524.0	30.55	1239	859	CHA42	71B4	HA42	56C
49.0	2.2	608.0	35.44	1328	903	CHA42	71B4	HA42	56C
40.0	1.6	757.0	44.1	1239	967	CHA42	71B4	HA42	56C
36.0	1.2	836.0	48.75	1018	967	CHA42	71B4	HA42	56C
29.0	1.1	1041.0	60.67	1151	967	CHA42	71B4	HA42	56C
34.0	1.5	862.0	51.32	1328	967	CHA43	71B4	HA43	56C
29.0	1.3	1002.0	59.65	1328	967	CHA43	71B4	HA43	56C
24.0	1.1	1214.0	72.27	1328	967	CHA43	71B4	HA43	56C
222.0	2.6	137.0	7.88	354	517	CHA51	71B4	HA51	56C
162.0	1.2	188.0	10.83	221	575	CHA51	71B4	HA51	56C
39.0	3.2	771.0	44.95	2478	1222	-	-	HA52	56C
35.0	3.1	854.0	49.78	2655	1264	-	-	HA52	56C
28.0	2.4	1061.0	61.87	2567	1349	-	-	HA52	56C
35.0	3.2	837.0	49.8	2655	1264	CHA53	71B4	HA53	56C
29.0	2.6	1012.0	60.25	2655	1347	CHA53	71B4	HA53	56C
23.0	2.1	1258.0	74.88	2655	1349	CHA53	71B4	HA53	56C
20.0	1.8	1479.0	88.02	2655	1349	CHA53	71B4	HA53	56C
16.0	1.4	1875.0	111.61	2655	1349	CHA53	71B4	HA53	56C
13.0	1.1	2330.0	138.71	2655	1349	CHA53	71B4	HA53	56C
164.0	3.4	185.0	10.67	620	857	-	-	HA61	56C
35.0	3.8	854.0	49.78	3275	1798	-	-	HA62	56C
28.0	3.7	1061.0	61.87	3894	1798	-	-	HA62	56C
23.0	3.4	1258.0	74.88	4248	1798	CHA63	71B4	HA63	56C
20.0	2.9	1479.0	88.02	4248	1798	CHA63	71B4	HA63	56C
16.0	2.3	1875.0	111.61	4248	1798	CHA63	71B4	HA63	56C
13.0	1.8	2330.0	138.71	4248	1798	CHA63	71B4	HA63	56C
11.0	1.6	2739.0	163.05	4248	1798	CHA63	71B4	HA63	56C
8.7	1.3	3364.0	200.27	4248	1798	CHA63	71B4	HA63	56C
7.4	1.1	3955.0	235.41	4248	1798	CHA63	71B4	HA63	56C
66.0	3.9	453.0	26.39	1770	1236	CH032	71B4	PH032	56C
59.0	3.5	510.0	29.7	1770	1236	CH032	71B4	PH032	56C
53.0	3.1	564.0	32.89	1770	1236	CH032	71B4	PH032	56C
46.0	2.7	651.0	37.92	1770	1236	CH032	71B4	PH032	56C
42.0	2.5	710.0	41.4	1770	1236	CH032	71B4	PH032	56C
37.0	2.2	811.0	47.25	1770	1236	CH032	71B4	PH032	56C
33.0	2.0	900.0	53.59	1770	1236	CH033	71B4	PH033	56C
26.0	1.6	1122.0	66.78	1770	1236	CH033	71B4	PH033	56C
23.0	1.4	1257.0	74.84	1770	1236	CH033	71B4	PH033	56C
18.0	1.1	1668.0	99.27	1770	1236	CH033	71B4	PH033	56C
228.0	3.3	133.0	7.67	443	225	CH041	71B4	PH041	56C
200.0	3.2	152.0	8.75	487	225	CH041	71B4	PH041	56C
46.0	3.8	648.0	37.76	2478	1484	CH042	71B4	PH042	56C
40.0	3.3	751.0	43.75	2478	1484	CH042	71B4	PH042	56C
37.0	3.0	815.0	47.53	2478	1484	CH042	71B4	PH042	56C
32.0	2.7	931.0	54.25	2478	1484	CH042	71B4	PH042	56C

HA/H - Performance

0.50 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
28.0	2.6	1039.0	61.83	2655	1484	CH043	71B4	PH043	56C
23.0	2.1	1288.0	76.67	2655	1484	CH043	71B4	PH043	56C
20.0	1.8	1462.0	87.05	2655	1484	CH043	71B4	PH043	56C
15.0	1.4	1924.0	114.55	2655	1484	CH043	71B4	PH043	56C
14.0	1.3	2111.0	125.69	2655	1484	CH043	71B4	PH043	56C
12.0	1.1	2386.0	142.04	2655	1484	CH043	71B4	PH043	56C
24.0	3.6	1222.0	72.75	4425	1798	CH053	71B4	PH053	56C
19.0	2.9	1520.0	90.51	4425	1798	CH053	71B4	PH053	56C
16.0	2.4	1830.0	108.95	4425	1798	CH053	71B4	PH053	56C
13.0	2.0	2264.0	134.76	4425	1798	CH053	71B4	PH053	56C
11.0	1.7	2642.0	157.29	4425	1798	CH053	71B4	PH053	56C
9.0	1.4	3268.0	194.56	4425	1798	CH053	71B4	PH053	56C
8.1	1.2	3635.0	216.38	4425	1798	CH053	71B4	PH053	56C
15.0	3.8	1982.0	118	7523	2698	CH063	71B4	PH063	56C
13.0	3.3	2275.0	135.4	7523	2698	CH063	71B4	PH063	56C
12.0	3.0	2512.0	149.51	7523	2698	CH063	71B4	PH063	56C
10.0	2.6	2867.0	170.67	7523	2698	CH063	71B4	PH063	56C
9.4	2.4	3128.0	186.18	7523	2698	CH063	71B4	PH063	56C
8.1	2.1	3615.0	215.21	7523	2698	CH063	71B4	PH063	56C
7.5	1.9	3942.0	234.67	7523	2698	CH063	71B4	PH063	56C
6.5	1.7	4502.0	268	7523	2698	CH063	71B4	PH063	56C
686.0	3.8	44.0	2.55	168	128	HA31	71B4	-	-
594.0	3.5	51.0	2.94	177	134	HA31	71B4	-	-
551.0	3.2	55.0	3.18	177	137	HA31	71B4	-	-
521.0	3.0	58.0	3.36	177	140	HA31	71B4	-	-
453.0	2.8	67.0	3.87	186	146	HA31	71B4	-	-
415.0	2.5	73.0	4.21	186	151	HA31	71B4	-	-
368.0	2.4	82.0	4.75	195	157	HA31	71B4	-	-
343.0	2.3	88.0	5.1	204	161	HA31	71B4	-	-
321.0	2.2	95.0	5.45	204	164	HA31	71B4	-	-
278.0	1.9	109.0	6.3	204	172	HA31	71B4	-	-
222.0	1.4	137.0	7.88	195	186	HA31	71B4	-	-

0.75 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
216.0	3.2	207.0	8.11	664	262	CHA32	71C4/80A4	HA32	56C
160.0	2.9	279.0	10.94	797	290	CHA32	71C4/80A4	HA32	56C
132.0	2.1	338.0	13.25	708	309	CHA32	71C4/80A4	HA32	56C
106.0	1.7	421.0	16.49	708	332	CHA32	71C4/80A4	HA32	56C
86.0	1.5	517.0	20.26	797	356	CHA32	71C4/80A4	HA32	56C
71.0	1.2	626.0	24.55	752	379	CHA32	71C4/80A4	HA32	56C
594.0	2.9	76.0	2.94	221	135	CHA41	71C4/80A4	HA41	56C
368.0	2.2	122.0	4.75	266	159	CHA41	71C4/80A4	HA41	56C
321.0	1.9	141.0	5.45	266	166	CHA41	71C4/80A4	HA41	56C
222.0	1.1	203.0	7.88	221	188	CHA41	71C4	HA41	56C
132.0	3.7	338.0	13.25	1239	651	CHA42	71C4/80A4	HA42	56C
106.0	2.9	421.0	16.49	1239	700	CHA42	71C4/80A4	HA42	56C
86.0	2.6	517.0	20.26	1328	749	CHA42	71C4/80A4	HA42	56C

HA/H - Performance

0.75 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
71.0	2.2	626.0	24.55	1372	799	CHA42	71C4/80A4	HA42	56C
57.0	1.6	779.0	30.55	1239	859	CHA42	71C4/80A4	HA42	56C
49.0	1.5	904.0	35.44	1328	903	CHA42	71C4	HA42	56C
40.0	1.1	1125.0	44.1	1239	967	CHA42	71C4	HA42	56C
34.0	1.0	1282.0	51.32	1328	967	CHA43	71C4	HA43	56C
368.0	3.6	122.0	4.75	443	437	CHA51	71C4/80A4	HA51	56C
321.0	3.1	141.0	5.45	443	458	CHA51	71C4/80A4	HA51	56C
222.0	1.7	203.0	7.88	354	517	CHA51	71C4	HA51	56C
69.0	3.8	649.0	25.43	2478	1011	CHA52	80A4	HA52	56C
59.0	3.5	762.0	29.89	2655	1066	CHA52	80A4	HA52	56C
48.0	2.9	922.0	36.17	2655	1136	CHA52	80A4	HA52	56C
39.0	2.2	1146.0	44.95	2478	1222	CHA52	80A4	HA52	56C
35.0	2.1	1269.0	49.78	2655	1264	CHA52	80A4	HA52	56C
28.0	1.6	1578.0	61.87	2567	1349	CHA52	80A4	HA52	56C
35.0	2.1	1243.0	49.8	2655	1264	CHA53	71C4/80A4	HA53	56C
29.0	1.8	1504.0	60.25	2655	1347	CHA53	71C4/80A4	HA53	56C
23.0	1.4	1870.0	74.88	2655	1349	CHA53	71C4/80A4	HA53	56C
20.0	1.2	2198.0	88.02	2655	1349	CHA53	71C4/80A4	HA53	56C
226.0	4.0	200.0	7.75	797	770	CHA61	80A4	HA61	56C
164.0	2.3	275.0	10.67	620	857	CHA61	80A4	HA61	56C
39.0	3.4	1146.0	44.95	3894	1798	CHA62	80A4	HA62	56C
35.0	2.6	1269.0	49.78	3275	1798	CHA62	80A4	HA62	56C
28.0	2.5	1578.0	61.87	3894	1798	CHA62	80A4	HA62	56C
35.0	3.4	1243.0	49.8	4248	1798	CHA63	71C4/80A4	HA63	56C
29.0	2.8	1504.0	60.25	4248	1798	CHA63	71C4/80A4	HA63	56C
23.0	2.3	1870.0	74.88	4248	1798	CHA63	71C4/80A4	HA63	56C
20.0	1.9	2198.0	88.02	4248	1798	CHA63	71C4/80A4	HA63	56C
16.0	1.5	2787.0	111.61	4248	1798	CHA63	71C4/80A4	HA63	56C
13.0	1.2	3464.0	138.71	4248	1798	CHA63	71C4/80A4	HA63	56C
11.0	1.0	4072.0	163.05	4248	1798	CHA63	71C4/80A4	HA63	56C
104.0	3.9	428.0	16.77	1682	1158	CH032	71C4/80A4	PH032	56C
96.0	3.8	464.0	18.2	1770	1183	CH032	71C4/80A4	PH032	56C
88.0	3.5	507.0	19.9	1770	1211	CH032	71C4/80A4	PH032	56C
77.0	3.1	578.0	22.68	1770	1236	CH032	71C4/80A4	PH032	56C
73.0	2.9	608.0	23.83	1770	1236	CH032	71C4/80A4	PH032	56C
66.0	2.6	673.0	26.39	1770	1236	CH032	71C4/80A4	PH032	56C
59.0	2.3	757.0	29.7	1770	1236	CH032	71C4/80A4	PH032	56C
53.0	2.1	839.0	32.89	1770	1236	CH032	71C4/80A4	PH032	56C
46.0	1.8	967.0	37.92	1770	1236	CH032	71C4/80A4	PH032	56C
42.0	1.7	1056.0	41.4	1770	1236	CH032	71C4/80A4	PH032	56C
37.0	1.5	1205.0	47.25	1770	1236	CH032	71C4/80A4	PH032	56C
33.0	1.3	1338.0	53.59	1770	1236	CH033	71C4/80A4	PH033	56C
26.0	1.1	1668.0	66.78	1770	1236	CH033	71C4/80A4	PH033	56C
645.0	3.8	70.0	2.71	266	174	CH041	71C4/80A4	PH041	56C
417.0	3.7	108.0	4.2	398	199	CH041	71C4/80A4	PH041	56C
350.0	3.1	129.0	5	398	209	CH041	71C4/80A4	PH041	56C
318.0	3.1	142.0	5.5	443	215	CH041	71C4/80A4	PH041	56C
287.0	2.8	157.0	6.09	443	221	CH041	71C4/80A4	PH041	56C
228.0	2.2	198.0	7.67	443	225	CH041	71C4/80A4	PH041	56C
200.0	2.2	225.0	8.75	487	225	CH041	71C4/80A4	PH041	56C
76.0	3.9	590.0	23.15	2301	1484	CH042	71C4/80A4	PH042	56C
67.0	3.5	664.0	26.04	2301	1484	CH042	71C4/80A4	PH042	56C

HA/H - Performance

0.75 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
64.0	3.5	701.0	27.5	2478	1484	CH042	71C4/80A4	PH042	56C
57.0	3.2	777.0	30.45	2478	1484	CH042	71C4/80A4	PH042	56C
51.0	2.8	870.0	34.1	2478	1484	CH042	71C4/80A4	PH042	56C
46.0	2.6	963.0	37.76	2478	1484	CH042	71C4/80A4	PH042	56C
40.0	2.2	1116.0	43.75	2478	1484	CH042	71C4/80A4	PH042	56C
37.0	2.0	1212.0	47.53	2478	1484	CH042	71C4/80A4	PH042	56C
32.0	1.8	1383.0	54.25	2478	1484	CH042	71C4/80A4	PH042	56C
28.0	1.7	1544.0	61.83	2655	1484	CH043	71C4/80A4	PH043	56C
23.0	1.4	1915.0	76.67	2655	1484	CH043	71C4/80A4	PH043	56C
20.0	1.2	2174.0	87.05	2655	1484	CH043	71C4/80A4	PH043	56C
39.0	3.7	1157.0	45.36	4337	1798	CH052	71C4/80A4	PH052	56C
36.0	3.5	1253.0	49.13	4337	1798	CH052	71C4/80A4	PH052	56C
31.0	3.0	1431.0	56.11	4337	1798	CH052	71C4/80A4	PH052	56C
30.0	3.0	1469.0	58.81	4425	1798	CH053	71C4/80A4	PH053	56C
24.0	2.4	1817.0	72.75	4425	1798	CH053	71C4/80A4	PH053	56C
19.0	2.0	2260.0	90.51	4425	1798	CH053	71C4/80A4	PH053	56C
16.0	1.6	2721.0	108.95	4425	1798	CH053	71C4/80A4	PH053	56C
13.0	1.3	3365.0	134.76	4425	1798	CH053	71C4/80A4	PH053	56C
11.0	1.1	3928.0	157.29	4425	1798	CH053	71C4	PH053	56C
20.0	3.5	2143.0	85.82	7523	2698	CH063	71C4/80A4	PH063	56C
18.0	3.2	2366.0	94.76	7523	2698	CH063	71C4/80A4	PH063	56C
15.0	2.6	2947.0	118	7523	2698	CH063	71C4/80A4	PH063	56C
13.0	2.2	3381.0	135.4	7523	2698	CH063	71C4/80A4	PH063	56C
12.0	2.0	3733.0	149.51	7523	2698	CH063	71C4/80A4	PH063	56C
10.0	1.8	4262.0	170.67	7523	2698	CH063	71C4/80A4	PH063	56C
9.4	1.6	4649.0	186.18	7523	2698	CH063	71C4/80A4	PH063	56C
8.1	1.4	5374.0	215.21	7523	2698	CH063	71C4/80A4	PH063	56C
7.5	1.3	5860.0	234.67	7523	2698	CH063	71C4/80A4	PH063	56C
6.5	1.1	6692.0	268	7523	2698	CH063	71C4/80A4	PH063	56C
11.0	3.9	4054.0	162.35	15931	4047	CH083	80A4	PH083	56C
9.8	3.6	4473.0	179.13	15931	4047	CH083	80A4	PH083	56C
9.0	3.3	4871.0	195.07	15931	4047	CH083	80A4	PH083	56C
7.9	2.9	5563.0	222.78	15931	4047	CH083	80A4	PH083	56C
686.0	2.6	66.0	2.55	168	128	HA31	71C4/80A4	-	-
594.0	2.3	76.0	2.94	177	134	HA31	71C4/80A4	-	-
551.0	2.2	82.0	3.18	177	137	HA31	71C4/80A4	-	-
521.0	2.0	87.0	3.36	177	140	HA31	71C4/80A4	-	-
453.0	1.9	100.0	3.87	186	146	HA31	71C4/80A4	-	-
415.0	1.7	109.0	4.21	186	151	HA31	71C4/80A4	-	-
368.0	1.6	122.0	4.75	195	157	HA31	71C4/80A4	-	-
343.0	1.5	131.0	5.1	204	161	HA31	71C4	-	-
321.0	1.4	141.0	5.45	204	164	HA31	71C4	-	-
278.0	1.3	162.0	6.3	204	172	HA31	71C4	-	-

1 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
325.0	3.8	187.0	5.38	708	229	CHA32	80B4	HA32	56C/143/145TC
269.0	3.1	227.0	6.52	708	244	CHA32	80B4	HA32	56C/143/145TC

HA/H - Performance

1 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
216.0	2.4	282.0	8.11	664	262	CHA32	80B4	HA32	56C/143/145TC
160.0	2.1	380.0	10.94	797	290	CHA32	80B4	HA32	56C/143/145TC
132.0	1.5	461.0	13.25	708	309	CHA32	80B4	HA32	56C/143/145TC
106.0	1.2	573.0	16.49	708	332	CHA32	80B4	HA32	56C/143/145TC
86.0	1.1	705.0	20.26	797	356	CHA32	80B4	HA32	56C/143/145TC
594.0	2.1	103.0	2.94	221	135	CHA41	80B4	HA41	56C/143/145TC
368.0	1.6	167.0	4.75	266	159	CHA41	80B4	HA41	56C/143/145TC
321.0	1.4	192.0	5.45	266	166	CHA41	80B4	HA41	56C/143/145TC
160.0	3.5	380.0	10.94	1328	610	CHA42	80B4	HA42	56C/143/145TC
132.0	2.7	461.0	13.25	1239	651	CHA42	80B4	HA42	56C/143/145TC
106.0	2.2	573.0	16.49	1239	700	CHA42	80B4	HA42	56C/143/145TC
86.0	1.9	705.0	20.26	1328	749	CHA42	80B4	HA42	56C/143/145TC
71.0	1.6	854.0	24.55	1372	799	CHA42	80B4	HA42	56C/143/145TC
57.0	1.2	1062.0	30.55	1239	859	CHA42	80B4	HA42	56C/143/145TC
49.0	1.1	1232.0	35.44	1328	903	-	-	HA42	56C
594.0	3.4	103.0	2.94	354	373	CHA51	80B4	HA51	56C/143/145TC
368.0	2.7	167.0	4.75	443	437	CHA51	80B4	HA51	56C/143/145TC
321.0	2.3	192.0	5.45	443	458	CHA51	80B4	HA51	56C/143/145TC
222.0	1.3	277.0	7.88	354	517	-	-	HA51	56C
86.0	3.6	712.0	20.46	2567	940	CHA52	80B4	HA52	56C/143/145TC
69.0	2.8	884.0	25.43	2478	1011	CHA52	80B4	HA52	56C/143/145TC
59.0	2.6	1040.0	29.89	2655	1066	CHA52	80B4	HA52	56C/143/145TC
48.0	2.1	1258.0	36.17	2655	1136	CHA52	80B4	HA52	56C/143/145TC
39.0	1.6	1563.0	44.95	2478	1222	CHA52	80B4	HA52	56C/143/145TC
35.0	1.5	1731.0	49.78	2655	1264	CHA52	80B4	HA52	56C/143/145TC
28.0	1.2	2151.0	61.87	2567	1349	CHA52	80B4	HA52	56C/143/145TC
35.0	1.6	1696.0	49.8	2655	1264	CHA53	80B4	HA53	56C/143/145TC
29.0	1.3	2052.0	60.25	2655	1347	CHA53	80B4	HA53	56C/143/145TC
23.0	1.0	2550.0	74.88	2655	1349	CHA53	80B4	HA53	56C/143/145TC
226.0	2.9	272.0	7.75	797	770	CHA61	80B4	HA61	56C/143/145TC
164.0	1.7	375.0	10.67	620	857	CHA61	80B4	HA61	56C/143/145TC
59.0	3.8	1040.0	29.89	3983	1574	CHA62	80B4	HA62	56C/143/145TC
48.0	3.3	1258.0	36.17	4160	1677	CHA62	80B4	HA62	56C/143/145TC
39.0	2.5	1563.0	44.95	3894	1798	CHA62	80B4	HA62	56C/143/145TC
35.0	1.9	1731.0	49.78	3275	1798	CHA62	80B4	HA62	56C/143/145TC
28.0	1.8	2151.0	61.87	3894	1798	CHA62	80B4	HA62	56C/143/145TC
35.0	2.5	1696.0	49.8	4248	1798	CHA63	80B4	HA63	56C/143/145TC
29.0	2.1	2052.0	60.25	4248	1798	CHA63	80B4	HA63	56C/143/145TC
23.0	1.7	2550.0	74.88	4248	1798	CHA63	80B4	HA63	56C/143/145TC
20.0	1.4	2997.0	88.02	4248	1798	CHA63	80B4	HA63	56C/143/145TC
16.0	1.1	3800.0	111.61	4248	1798	CHA63	80B4	HA63	56C/143/145TC
197.0	3.7	308.0	8.87	1151	946	CH032	80B4	PH032	56C/143/145TC
173.0	3.5	353.0	10.14	1239	982	CH032	80B4	PH032	56C/143/145TC
149.0	3.1	409.0	11.76	1283	1021	CH032	80B4	PH032	56C/143/145TC
128.0	3.2	477.0	13.72	1505	1062	CH032	80B4	PH032	56C/143/145TC
119.0	3.0	510.0	14.66	1505	1080	CH032	80B4	PH032	56C/143/145TC
104.0	2.9	583.0	16.77	1682	1117	CH032	80B4	PH032	56C/143/145TC
96.0	2.8	633.0	18.2	1770	1139	CH032	80B4	PH032	56C/143/145TC
88.0	2.6	692.0	19.9	1770	1163	CH032	80B4	PH032	56C/143/145TC
77.0	2.2	789.0	22.68	1770	1197	CH032	80B4	PH032	56C/143/145TC
73.0	2.1	829.0	23.83	1770	1210	CH032	80B4	PH032	56C/143/145TC
66.0	1.9	918.0	26.39	1770	1236	CH032	80B4	PH032	56C/143/145TC

HA/H - Performance

1 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
59.0	1.7	1033.0	29.7	1770	1236	CH032	80B4	PH032	56C/143/145TC
53.0	1.5	1144.0	32.89	1770	1236	CH032	80B4	PH032	56C/143/145TC
46.0	1.3	1319.0	37.92	1770	1236	CH032	80B4	PH032	56C/143/145TC
42.0	1.2	1440.0	41.4	1770	1236	CH032	80B4	PH032	56C/143/145TC
37.0	1.1	1643.0	47.25	1770	1236	CH032	80B4	PH032	56C/143/145TC
875.0	3.1	70.0	2	221	157	CH041	80B4	PH041	56C/143/145TC
688.0	3.0	89.0	2.55	266	168	CH041	80B4	PH041	56C/143/145TC
645.0	2.8	95.0	2.71	266	171	CH041	80B4	PH041	56C/143/145TC
564.0	3.2	109.0	3.11	354	178	CH041	80B4	PH041	56C/143/145TC
488.0	3.2	126.0	3.59	398	186	CH041	80B4	PH041	56C/143/145TC
417.0	2.7	148.0	4.2	398	194	CH041	80B4	PH041	56C/143/145TC
350.0	2.3	176.0	5	398	203	CH041	80B4	PH041	56C/143/145TC
318.0	2.3	193.0	5.5	443	208	CH041	80B4	PH041	56C/143/145TC
287.0	2.1	214.0	6.09	443	214	CH041	80B4	PH041	56C/143/145TC
228.0	1.6	269.0	7.67	443	225	CH041	80B4	PH041	56C/143/145TC
200.0	1.6	307.0	8.75	487	225	CH041	80B4	PH041	56C/143/145TC
110.0	4.0	555.0	15.96	2213	1437	CH042	80B4	PH042	56C/143/145TC
92.0	3.3	661.0	19	2213	1484	CH042	80B4	PH042	56C/143/145TC
83.0	3.0	730.0	21	2213	1484	CH042	80B4	PH042	56C/143/145TC
76.0	2.9	805.0	23.15	2301	1484	CH042	80B4	PH042	56C/143/145TC
67.0	2.5	906.0	26.04	2301	1484	CH042	80B4	PH042	56C/143/145TC
64.0	2.6	956.0	27.5	2478	1484	CH042	80B4	PH042	56C/143/145TC
57.0	2.3	1059.0	30.45	2478	1484	CH042	80B4	PH042	56C/143/145TC
51.0	2.1	1186.0	34.1	2478	1484	CH042	80B4	PH042	56C/143/145TC
46.0	1.9	1313.0	37.76	2478	1484	CH042	80B4	PH042	56C/143/145TC
40.0	1.6	1521.0	43.75	2478	1484	CH042	80B4	PH042	56C/143/145TC
37.0	1.5	1653.0	47.53	2478	1484	CH042	80B4	PH042	56C/143/145TC
32.0	1.3	1887.0	54.25	2478	1484	CH042	80B4	PH042	56C/143/145TC
28.0	1.3	2106.0	61.83	2655	1484	CH043	80B4	PH043	56C/143/145TC
23.0	1.0	2611.0	76.67	2655	1484	CH043	80B4	PH043	56C/143/145TC
239.0	3.4	258.0	7.33	885	562	CH051	80B4	PH051	56C/143/145TC
209.0	3.0	294.0	8.38	885	562	CH051	80B4	PH051	56C/143/145TC
56.0	4.0	1096.0	31.52	4337	1798	CH052	80B4	PH052	56C/143/145TC
53.0	3.8	1148.0	33	4337	1798	CH052	80B4	PH052	56C/143/145TC
45.0	3.2	1356.0	38.98	4337	1798	CH052	80B4	PH052	56C/143/145TC
39.0	2.7	1578.0	45.36	4337	1798	CH052	80B4	PH052	56C/143/145TC
36.0	2.5	1709.0	49.13	4337	1798	CH052	80B4	PH052	56C/143/145TC
31.0	2.2	1951.0	56.11	4337	1798	CH052	80B4	PH052	56C/143/145TC
30.0	2.2	2003.0	58.81	4425	1798	CH053	80B4	PH053	56C/143/145TC
24.0	1.8	2477.0	72.75	4425	1798	CH053	80B4	PH053	56C/143/145TC
19.0	1.4	3082.0	90.51	4425	1798	CH053	80B4	PH053	56C/143/145TC
16.0	1.2	3710.0	108.95	4425	1798	CH053	80B4	PH053	56C/143/145TC
26.0	3.2	2315.0	68	7523	2698	-	-	PH063	56C/143/145TC
20.0	2.6	2922.0	85.82	7523	2698	CH063	80B4	PH063	56C/143/145TC
18.0	2.3	3227.0	94.76	7523	2698	CH063	80B4	PH063	56C/143/145TC
15.0	1.9	4018.0	118	7523	2698	CH063	80B4	PH063	56C/143/145TC
13.0	1.6	4611.0	135.4	7523	2698	CH063	80B4	PH063	56C/143/145TC
12.0	1.5	5091.0	149.51	7523	2698	CH063	80B4	PH063	56C/143/145TC
10.0	1.3	5811.0	170.67	7523	2698	CH063	80B4	PH063	56C/143/145TC
9.4	1.2	6340.0	186.18	7523	2698	CH063	80B4	PH063	56C/143/145TC
8.1	1.0	7328.0	215.21	7523	2698	CH063	80B4	PH063	56C/143/145TC
14.0	3.8	4238.0	124.44	15931	4047	CH083	80B4	PH083	56C/143/145TC

HA/H - Performance

1 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
12.0	3.3	4841.0	142.15	15931	4047	CH083	80B4	PH083	56C/143/145TC
11.0	3.0	5270.0	154.76	15931	4047	CH083	80B4	PH083	56C/143/145TC
11.0	2.9	5528.0	162.35	15931	4047	CH083	80B4	PH083	56C/143/145TC
9.8	2.6	6100.0	179.13	15931	4047	CH083	80B4	PH083	56C/143/145TC
9.0	2.4	6642.0	195.07	15931	4047	CH083	80B4	PH083	56C/143/145TC
7.9	2.1	7586.0	222.78	15931	4047	CH083	80B4	PH083	56C/143/145TC
7.2	3.9	8260.0	242.59	31863	4946	-	-	PH103	143/145TC
686.0	1.9	90.0	2.55	168	128	HA31	80B4	-	-
594.0	1.7	103.0	2.94	177	134	HA31	80B4	-	-
551.0	1.6	112.0	3.18	177	137	HA31	80B4	-	-
521.0	1.5	118.0	3.36	177	140	HA31	80B4	-	-
453.0	1.4	136.0	3.87	186	146	HA31	80B4	-	-
415.0	1.3	148.0	4.21	186	151	HA31	80B4	-	-
368.0	1.2	167.0	4.75	195	157	HA31	80B4	-	-

1.5 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
325.0	2.6	274.0	5.38	708	229	CHA32	80D4	HA32	56C/143/145TC
269.0	2.1	332.0	6.52	708	244	CHA32	80D4	HA32	56C/143/145TC
216.0	1.6	414.0	8.11	664	262	CHA32	80D4	HA32	56C/143/145TC
160.0	1.4	558.0	10.94	797	290	CHA32	80D4	HA32	56C/143/145TC
132.0	1.0	676.0	13.25	708	309	CHA32	80D4	HA32	56C/143/145TC
1208.0	3.0	75.0	1.45	221	107	CHA41	80D4	HA41	56C/143/145TC
594.0	1.5	152.0	2.94	221	135	CHA41	80D4	HA41	56C/143/145TC
368.0	1.1	245.0	4.75	266	159	CHA41	80D4	HA41	56C/143/145TC
269.0	3.7	332.0	6.52	1239	513	CHA42	80D4/90S4	HA42	56C/143/145TC
216.0	2.8	414.0	8.11	1151	552	CHA42	80D4/90S4	HA42	56C/143/145TC
160.0	2.4	558.0	10.94	1328	610	CHA42	80D4/90S4	HA42	56C/143/145TC
132.0	1.8	676.0	13.25	1239	651	CHA42	80D4/90S4	HA42	56C/143/145TC
106.0	1.5	841.0	16.49	1239	700	CHA42	80D4/90S4	HA42	56C/143/145TC
86.0	1.3	1033.0	20.26	1328	749	CHA42	80D4/90S4	HA42	56C/143/145TC
71.0	1.1	1252.0	24.55	1372	799	CHA42	80D4/90S4	HA42	56C/143/145TC
594.0	2.3	152.0	2.94	354	373	CHA51	80D4/90S4	HA51	56C/143/145TC
368.0	1.8	245.0	4.75	443	437	CHA51	80D4/90S4	HA51	56C/143/145TC
321.0	1.6	281.0	5.45	443	458	CHA51	80D4/90S4	HA51	56C/143/145TC
121.0	3.4	740.0	14.5	2478	838	CHA52	80D4/90S4	HA52	56C/143/145TC
103.0	3.1	863.0	16.91	2655	882	CHA52	80D4/90S4	HA52	56C/143/145TC
86.0	2.5	1044.0	20.46	2567	940	CHA52	80D4/90S4	HA52	56C/143/145TC
69.0	1.9	1297.0	25.43	2478	1011	CHA52	80D4/90S4	HA52	56C/143/145TC
59.0	1.7	1525.0	29.89	2655	1066	CHA52	80D4/90S4	HA52	56C/143/145TC
48.0	1.4	1845.0	36.17	2655	1136	CHA52	80D4/90S4	HA52	56C/143/145TC
39.0	1.1	2293.0	44.95	2478	1222	CHA52	80D4/90S4	HA52	56C/143/145TC
35.0	1.0	2539.0	49.78	2655	1264	CHA52	80D4/90S4	HA52	56C/143/145TC
35.0	1.1	2487.0	49.8	2655	1264	CHA53	80D4/90S4	HA53	56C/143/145TC
226.0	2.0	399.0	7.75	797	770	CHA61	80D4/90S4	HA61	56C/143/145TC
164.0	1.1	550.0	10.67	620	857	CHA61	80D4/90S4	HA61	56C/143/145TC
86.0	3.9	1044.0	20.46	4071	1387	CHA62	80D4/90S4	HA62	56C/143/145TC
69.0	2.9	1297.0	25.43	3806	1492	CHA62	80D4/90S4	HA62	56C/143/145TC

HA/H - Performance

1.5 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
59.0	2.6	1525.0	29.89	3983	1574	CHA62	80D4/90S4	HA62	56C/143/145TC
48.0	2.3	1845.0	36.17	4160	1677	CHA62	80D4/90S4	HA62	56C/143/145TC
39.0	1.7	2293.0	44.95	3894	1798	CHA62	80D4/90S4	HA62	56C/143/145TC
35.0	1.3	2539.0	49.78	3275	1798	CHA62	80D4/90S4	HA62	56C/143/145TC
28.0	1.2	3155.0	61.87	3894	1798	CHA62	80D4/90S4	HA62	56C/143/145TC
35.0	1.7	2487.0	49.8	4248	1798	CHA63	80D4/90S4	HA63	56C/143/145TC
29.0	1.4	3009.0	60.25	4248	1798	CHA63	80D4/90S4	HA63	56C/143/145TC
23.0	1.1	3740.0	74.88	4248	1798	CHA63	80D4/90S4	HA63	56C/143/145TC
373.0	3.5	240.0	4.7	841	768	CH032	80D4/90S4	PH032	56C/143/145TC
281.0	2.9	318.0	6.23	929	830	CH032	80D4/90S4	PH032	56C/143/145TC
225.0	2.8	396.0	7.76	1106	878	CH032	80D4/90S4	PH032	56C/143/145TC
197.0	2.5	452.0	8.87	1151	908	CH032	80D4/90S4	PH032	56C/143/145TC
173.0	2.4	517.0	10.14	1239	938	CH032	80D4/90S4	PH032	56C/143/145TC
149.0	2.1	600.0	11.76	1283	971	CH032	80D4/90S4	PH032	56C/143/145TC
128.0	2.2	700.0	13.72	1505	1004	CH032	80D4/90S4	PH032	56C/143/145TC
119.0	2.0	748.0	14.66	1505	1017	CH032	80D4/90S4	PH032	56C/143/145TC
104.0	2.0	855.0	16.77	1682	1045	CH032	80D4/90S4	PH032	56C/143/145TC
96.0	1.9	928.0	18.2	1770	1061	CH032	80D4/90S4	PH032	56C/143/145TC
88.0	1.7	1015.0	19.9	1770	1077	CH032	80D4/90S4	PH032	56C/143/145TC
77.0	1.5	1157.0	22.68	1770	1100	CH032	80D4/90S4	PH032	56C/143/145TC
73.0	1.5	1216.0	23.83	1770	1108	CH032	80D4/90S4	PH032	56C/143/145TC
66.0	1.3	1346.0	26.39	1770	1123	CH032	80D4/90S4	PH032	56C/143/145TC
59.0	1.2	1515.0	29.7	1770	1137	CH032	80D4/90S4	PH032	56C/143/145TC
53.0	1.1	1678.0	32.89	1770	1148	CH032	80D4/90S4	PH032	56C/143/145TC
1217.0	3.0	74.0	1.44	221	139	CH041	80D4/90S4	PH041	56C/143/145TC
875.0	2.1	103.0	2	221	153	CH041	80D4/90S4	PH041	56C/143/145TC
688.0	2.0	131.0	2.55	266	163	CH041	80D4/90S4	PH041	56C/143/145TC
645.0	1.9	140.0	2.71	266	166	CH041	80D4/90S4	PH041	56C/143/145TC
564.0	2.2	160.0	3.11	354	172	CH041	80D4/90S4	PH041	56C/143/145TC
488.0	2.2	185.0	3.59	398	179	CH041	80D4/90S4	PH041	56C/143/145TC
417.0	1.8	216.0	4.2	398	186	CH041	80D4/90S4	PH041	56C/143/145TC
350.0	1.5	258.0	5	398	194	CH041	80D4/90S4	PH041	56C/143/145TC
318.0	1.6	283.0	5.5	443	198	CH041	80D4/90S4	PH041	56C/143/145TC
287.0	1.4	314.0	6.09	443	202	CH041	80D4/90S4	PH041	56C/143/145TC
228.0	1.1	395.0	7.67	443	212	CH041	80D4/90S4	PH041	56C/143/145TC
200.0	1.1	451.0	8.75	487	217	CH041	80D4/90S4	PH041	56C/143/145TC
243.0	3.9	367.0	7.19	1416	1114	CH042	80D4/90S4	PH042	56C/143/145TC
148.0	3.7	602.0	11.8	2213	1279	CH042	80D4/90S4	PH042	56C/143/145TC
129.0	3.2	692.0	13.57	2213	1327	CH042	80D4/90S4	PH042	56C/143/145TC
110.0	2.7	814.0	15.96	2213	1383	CH042	80D4/90S4	PH042	56C/143/145TC
92.0	2.3	969.0	19	2213	1443	CH042	80D4/90S4	PH042	56C/143/145TC
83.0	2.1	1071.0	21	2213	1478	CH042	80D4/90S4	PH042	56C/143/145TC
76.0	1.9	1181.0	23.15	2301	1484	CH042	80D4/90S4	PH042	56C/143/145TC
67.0	1.7	1328.0	26.04	2301	1484	CH042	80D4/90S4	PH042	56C/143/145TC
64.0	1.8	1403.0	27.5	2478	1484	CH042	80D4/90S4	PH042	56C/143/145TC
57.0	1.6	1553.0	30.45	2478	1484	CH042	80D4/90S4	PH042	56C/143/145TC
51.0	1.4	1739.0	34.1	2478	1484	CH042	80D4/90S4	PH042	56C/143/145TC
46.0	1.3	1926.0	37.76	2478	1484	CH042	80D4/90S4	PH042	56C/143/145TC
40.0	1.1	2231.0	43.75	2478	1484	CH042	80D4/90S4	PH042	56C/143/145TC
37.0	1.0	2424.0	47.53	2478	1484	CH042	80D4/90S4	PH042	56C/143/145TC
438.0	3.9	206.0	4	797	484	CH051	80D4/90S4	PH051	56C/143/145TC
367.0	3.4	246.0	4.77	841	510	CH051	80D4/90S4	PH051	56C/143/145TC

HA/H - Performance

1.5 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
333.0	3.3	271.0	5.25	885	525	CH051	80D4/90S4	PH051	56C/143/145TC
301.0	3.0	300.0	5.82	885	541	CH051	80D4/90S4	PH051	56C/143/145TC
239.0	2.3	378.0	7.33	885	562	CH051	80D4/90S4	PH051	56C/143/145TC
209.0	2.1	432.0	8.38	885	562	CH051	80D4/90S4	PH051	56C/143/145TC
88.0	4.0	1019.0	19.97	4071	1798	CH052	80D4/90S4	PH052	56C/143/145TC
81.0	3.8	1105.0	21.67	4160	1798	CH052	80D4/90S4	PH052	56C/143/145TC
71.0	3.3	1260.0	24.71	4160	1798	CH052	80D4/90S4	PH052	56C/143/145TC
67.0	3.2	1335.0	26.18	4337	1798	CH052	80D4/90S4	PH052	56C/143/145TC
62.0	3.0	1450.0	28.44	4337	1798	CH052	80D4/90S4	PH052	56C/143/145TC
56.0	2.7	1607.0	31.52	4337	1798	CH052	80D4/90S4	PH052	56C/143/145TC
53.0	2.6	1683.0	33	4337	1798	CH052	80D4/90S4	PH052	56C/143/145TC
45.0	2.2	1988.0	38.98	4337	1798	CH052	80D4/90S4	PH052	56C/143/145TC
39.0	1.9	2314.0	45.36	4337	1798	CH052	80D4/90S4	PH052	56C/143/145TC
36.0	1.7	2506.0	49.13	4337	1798	CH052	80D4/90S4	PH052	56C/143/145TC
31.0	1.5	2862.0	56.11	4337	1798	CH052	80D4/90S4	PH052	56C/143/145TC
30.0	1.5	2937.0	58.81	4425	1798	CH053	80D4/90S4	PH053	56C/143/145TC
24.0	1.2	3633.0	72.75	4425	1798	CH053	80D4/90S4	PH053	56C/143/145TC
239.0	4.0	378.0	7.33	1505	832	CH061	80D4/90S4	PH061	56C/143/145TC
209.0	3.5	432.0	8.38	1505	832	CH061	80D4/90S4	PH061	56C/143/145TC
47.0	3.8	1887.0	36.99	7081	2698	CH062	80D4/90S4	PH062	56C/143/145TC
43.0	3.7	2057.0	40.33	7523	2698	CH062	80D4/90S4	PH062	56C/143/145TC
38.0	3.2	2349.0	46.06	7523	2698	CH062	80D4/90S4	PH062	56C/143/145TC
35.0	3.0	2470.0	49.45	7523	2698	CH063	90S4	PH063	56C/143/145TC
32.0	2.8	2727.0	54.61	7523	2698	CH063	90S4	PH063	56C/143/145TC
26.0	2.2	3396.0	68	7523	2698	CH063	90S4	PH063	56C/143/145TC
20.0	1.8	4286.0	85.82	7523	2698	CH063	80D4/90S4	PH063	56C/143/145TC
18.0	1.6	4732.0	94.76	7523	2698	CH063	80D4/90S4	PH063	56C/143/145TC
15.0	1.3	5893.0	118	7523	2698	CH063	80D4/90S4	PH063	56C/143/145TC
13.0	1.1	6762.0	135.4	7523	2698	CH063	80D4/90S4	PH063	56C/143/145TC
12.0	1.0	7467.0	149.51	7523	2698	CH063	80D4/90S4	PH063	56C/143/145TC
20.0	3.7	4273.0	85.56	15931	4047	CH083	80D4/90S4	PH083	56C/143/145TC
18.0	3.3	4899.0	98.09	15931	4047	CH083	80D4/90S4	PH083	56C/143/145TC
16.0	2.8	5633.0	112.78	15931	4047	CH083	80D4/90S4	PH083	56C/143/145TC
14.0	2.6	6215.0	124.44	15931	4047	CH083	80D4/90S4	PH083	56C/143/145TC
12.0	2.2	7099.0	142.15	15931	4047	CH083	80D4/90S4	PH083	56C/143/145TC
11.0	2.1	7729.0	154.76	15931	4047	CH083	80D4/90S4	PH083	56C/143/145TC
11.0	2.0	8108.0	162.35	15931	4047	CH083	80D4/90S4	PH083	56C/143/145TC
9.8	1.8	8946.0	179.13	15931	4047	CH083	80D4/90S4	PH083	56C/143/145TC
9.0	1.6	9742.0	195.07	15931	4047	CH083	80D4/90S4	PH083	56C/143/145TC
7.9	1.4	11126.0	222.78	15931	4047	CH083	80D4/90S4	PH083	56C/143/145TC
11.0	3.9	8032.0	160.82	30978	4946	CH103	90S4	PH103	143/145TC
9.7	3.4	9043.0	181.07	30978	4946	CH103	90S4	PH103	143/145TC
9.0	3.2	9699.0	194.21	30978	4946	CH103	90S4	PH103	143/145TC
8.1	2.9	10760.0	215.45	30978	4946	CH103	90S4	PH103	143/145TC
7.2	2.6	12115.0	242.59	31863	4946	CH103	90S4	PH103	143/145TC
686.0	1.3	131.0	2.55	168	128	HA31	80D4	-	-
594.0	1.2	152.0	2.94	177	134	HA31	80D4	-	-
551.0	1.1	164.0	3.18	177	137	HA31	80D4	-	-
521.0	1.0	173.0	3.36	177	140	HA31	80D4	-	-

HA/H - Performance

2 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
325.0	1.9	374.0	5.38	708	229	-	-	HA32	56C/143/145TC
269.0	1.6	453.0	6.52	708	244	-	-	HA32	56C/143/145TC
216.0	1.2	564.0	8.11	664	262	-	-	HA32	56C/143/145TC
160.0	1.0	761.0	10.94	797	290	-	-	HA32	56C/143/145TC
1208.0	2.2	102.0	1.45	221	107	-	-	HA41	56C/143/145TC
594.0	1.1	207.0	2.94	221	135	-	-	HA41	56C/143/145TC
325.0	3.3	374.0	5.38	1239	482	CHA42	90LA4	HA42	56C/143/145TC
269.0	2.7	453.0	6.52	1239	513	CHA42	90LA4	HA42	56C/143/145TC
216.0	2.0	564.0	8.11	1151	552	CHA42	90LA4	HA42	56C/143/145TC
160.0	1.7	761.0	10.94	1328	610	CHA42	90LA4	HA42	56C/143/145TC
132.0	1.3	922.0	13.25	1239	651	CHA42	90LA4	HA42	56C/143/145TC
106.0	1.1	1147.0	16.49	1239	700	CHA42	90LA4	HA42	56C/143/145TC
1208.0	3.5	102.0	1.45	354	294	CHA51	90LA4	HA51	56C/143/145TC
594.0	1.7	207.0	2.94	354	373	CHA51	90LA4	HA51	56C/143/145TC
368.0	1.3	334.0	4.75	443	437	CHA51	90LA4	HA51	56C/143/145TC
321.0	1.2	383.0	5.45	443	458	CHA51	90LA4	HA51	56C/143/145TC
226.0	3.9	538.0	7.73	2124	680	CHA52	90LA4	HA52	56C/143/145TC
181.0	4.0	671.0	9.64	2655	731	CHA52	90LA4	HA52	56C/143/145TC
150.0	3.1	811.0	11.67	2478	779	CHA52	90LA4	HA52	56C/143/145TC
121.0	2.5	1008.0	14.5	2478	838	CHA52	90LA4	HA52	56C/143/145TC
103.0	2.3	1176.0	16.91	2655	882	CHA52	90LA4	HA52	56C/143/145TC
86.0	1.8	1423.0	20.46	2567	940	CHA52	90LA4	HA52	56C/143/145TC
69.0	1.4	1769.0	25.43	2478	1011	CHA52	90LA4	HA52	56C/143/145TC
59.0	1.3	2079.0	29.89	2655	1066	CHA52	90LA4	HA52	56C/143/145TC
48.0	1.1	2515.0	36.17	2655	1136	CHA52	90LA4	HA52	56C/143/145TC
399.0	3.2	308.0	4.38	974	637	CHA61	90LA4	HA61	56C/143/145TC
226.0	1.5	545.0	7.75	797	770	CHA61	90LA4	HA61	56C/143/145TC
121.0	3.7	1008.0	14.5	3717	1237	CHA62	90LA4	HA62	56C/143/145TC
103.0	3.8	1176.0	16.91	4425	1302	CHA62	90LA4	HA62	56C/143/145TC
86.0	2.9	1423.0	20.46	4071	1387	CHA62	90LA4	HA62	56C/143/145TC
69.0	2.2	1769.0	25.43	3806	1492	CHA62	90LA4	HA62	56C/143/145TC
59.0	1.9	2079.0	29.89	3983	1574	CHA62	90LA4	HA62	56C/143/145TC
48.0	1.7	2515.0	36.17	4160	1677	CHA62	90LA4	HA62	56C/143/145TC
39.0	1.2	3126.0	44.95	3894	1798	CHA62	90LA4	HA62	56C/143/145TC
35.0	1.3	3391.0	49.8	4248	1798	CHA63	90LA4	HA63	56C/143/145TC
29.0	1.0	4103.0	60.25	4248	1798	CHA63	90LA4	HA63	56C/143/145TC
373.0	2.6	327.0	4.7	841	745	CH032	90LA4	PH032	56C/143/145TC
281.0	2.1	433.0	6.23	929	799	CH032	90LA4	PH032	56C/143/145TC
225.0	2.0	540.0	7.76	1106	840	CH032	90LA4	PH032	56C/143/145TC
197.0	1.9	617.0	8.87	1151	865	CH032	90LA4	PH032	56C/143/145TC
173.0	1.8	706.0	10.14	1239	888	CH032	90LA4	PH032	56C/143/145TC
149.0	1.6	818.0	11.76	1283	913	CH032	90LA4	PH032	56C/143/145TC
128.0	1.6	954.0	13.72	1505	936	CH032	90LA4	PH032	56C/143/145TC
119.0	1.5	1019.0	14.66	1505	946	CH032	90LA4	PH032	56C/143/145TC
104.0	1.4	1166.0	16.77	1682	963	CH032	90LA4	PH032	56C/143/145TC
96.0	1.4	1266.0	18.2	1770	972	CH032	90LA4	PH032	56C/143/145TC
88.0	1.3	1384.0	19.9	1770	980	CH032	90LA4	PH032	56C/143/145TC
77.0	1.1	1577.0	22.68	1770	989	CH032	90LA4	PH032	56C/143/145TC
73.0	1.1	1658.0	23.83	1770	991	CH032	90LA4	PH032	56C/143/145TC
1217.0	2.2	101.0	1.44	221	136	CH041	90LA4	PH041	56C/143/145TC
875.0	1.6	141.0	2	221	148	CH041	90LA4	PH041	56C/143/145TC
688.0	1.5	179.0	2.55	266	158	CH041	90LA4	PH041	56C/143/145TC

HA/H - Performance

2 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
645.0	1.4	191.0	2.71	266	160	CH041	90LA4	PH041	56C/143/145TC
564.0	1.6	218.0	3.11	354	165	CH041	90LA4	PH041	56C/143/145TC
488.0	1.6	252.0	3.59	398	171	CH041	90LA4	PH041	56C/143/145TC
417.0	1.3	295.0	4.2	398	177	CH041	90LA4	PH041	56C/143/145TC
350.0	1.1	351.0	5	398	183	CH041	90LA4	PH041	56C/143/145TC
318.0	1.1	387.0	5.5	443	186	CH041	90LA4	PH041	56C/143/145TC
287.0	1.0	428.0	6.09	443	189	CH041	90LA4	PH041	56C/143/145TC
320.0	3.7	380.0	5.46	1416	1007	CH042	90LA4	PH042	56C/143/145TC
243.0	2.8	500.0	7.19	1416	1086	CH042	90LA4	PH042	56C/143/145TC
196.0	3.0	620.0	8.91	1859	1149	CH042	90LA4	PH042	56C/143/145TC
170.0	3.0	717.0	10.31	2124	1193	CH042	90LA4	PH042	56C/143/145TC
148.0	2.7	821.0	11.8	2213	1233	CH042	90LA4	PH042	56C/143/145TC
129.0	2.3	944.0	13.57	2213	1274	CH042	90LA4	PH042	56C/143/145TC
110.0	2.0	1110.0	15.96	2213	1320	CH042	90LA4	PH042	56C/143/145TC
92.0	1.7	1321.0	19	2213	1369	CH042	90LA4	PH042	56C/143/145TC
83.0	1.5	1461.0	21	2213	1396	CH042	90LA4	PH042	56C/143/145TC
76.0	1.4	1610.0	23.15	2301	1420	CH042	90LA4	PH042	56C/143/145TC
67.0	1.3	1811.0	26.04	2301	1448	CH042	90LA4	PH042	56C/143/145TC
64.0	1.3	1913.0	27.5	2478	1460	CH042	90LA4	PH042	56C/143/145TC
57.0	1.2	2118.0	30.45	2478	1482	CH042	90LA4	PH042	56C/143/145TC
51.0	1.0	2372.0	34.1	2478	1484	CH042	90LA4	PH042	56C/143/145TC
1375.0	4.0	89.0	1.27	354	336	CH051	90LA4	PH051	143/145TC
824.0	3.6	149.0	2.13	531	394	CH051	90LA4	PH051	143/145TC
681.0	3.4	181.0	2.57	620	417	CH051	90LA4	PH051	56C/143/145TC
553.0	3.2	223.0	3.17	708	444	CH051	90LA4	PH051	56C/143/145TC
475.0	3.1	259.0	3.69	797	464	CH051	90LA4	PH051	56C/143/145TC
438.0	2.8	281.0	4	797	475	CH051	90LA4	PH051	56C/143/145TC
367.0	2.5	335.0	4.77	841	500	CH051	90LA4	PH051	56C/143/145TC
333.0	2.4	369.0	5.25	885	514	CH051	90LA4	PH051	56C/143/145TC
301.0	2.2	409.0	5.82	885	529	CH051	90LA4	PH051	56C/143/145TC
239.0	1.7	515.0	7.33	885	562	CH051	90LA4	PH051	56C/143/145TC
209.0	1.5	589.0	8.38	885	562	CH051	90LA4	PH051	56C/143/145TC
123.0	3.8	990.0	14.24	3806	1682	CH052	90LA4	PH052	56C/143/145TC
105.0	3.5	1154.0	16.59	3983	1751	CH052	90LA4	PH052	56C/143/145TC
97.0	3.3	1252.0	18	4071	1788	CH052	90LA4	PH052	56C/143/145TC
88.0	2.9	1389.0	19.97	4071	1798	CH052	90LA4	PH052	56C/143/145TC
81.0	2.8	1507.0	21.67	4160	1798	CH052	90LA4	PH052	56C/143/145TC
71.0	2.4	1718.0	24.71	4160	1798	CH052	90LA4	PH052	56C/143/145TC
67.0	2.4	1821.0	26.18	4337	1798	CH052	90LA4	PH052	56C/143/145TC
62.0	2.2	1978.0	28.44	4337	1798	CH052	90LA4	PH052	56C/143/145TC
56.0	2.0	2192.0	31.52	4337	1798	CH052	90LA4	PH052	56C/143/145TC
53.0	1.9	2295.0	33	4337	1798	CH052	90LA4	PH052	56C/143/145TC
45.0	1.6	2711.0	38.98	4337	1798	CH052	90LA4	PH052	56C/143/145TC
39.0	1.4	3155.0	45.36	4337	1798	CH052	90LA4	PH052	56C/143/145TC
36.0	1.3	3417.0	49.13	4337	1798	CH052	90LA4	PH052	56C/143/145TC
31.0	1.1	3903.0	56.11	4337	1798	CH052	90LA4	PH052	56C/143/145TC
30.0	1.1	4005.0	58.81	4425	1798	CH053	90LA4	PH053	56C/143/145TC
301.0	3.7	409.0	5.82	1505	832	CH061	90LA4	PH061	56C/143/145TC
239.0	2.9	515.0	7.33	1505	832	CH061	90LA4	PH061	56C/143/145TC
209.0	2.6	589.0	8.38	1505	832	CH061	90LA4	PH061	56C/143/145TC
60.0	3.5	2040.0	29.33	7081	2698	CH062	90LA4	PH062	56C/143/145TC
55.0	3.4	2226.0	32	7523	2698	CH062	90LA4	PH062	56C/143/145TC

HA/H - Performance

2 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
47.0	2.8	2573.0	36.99	7081	2698	CH062	90LA4	PH062	56C/143/145TC
43.0	2.7	2805.0	40.33	7523	2698	CH062	90LA4	PH062	56C/143/145TC
38.0	2.3	3204.0	46.06	7523	2698	CH062	90LA4	PH062	56C/143/145TC
35.0	2.2	3368.0	49.45	7523	2698	CH063	90LA4	PH063	56C/143/145TC
32.0	2.0	3719.0	54.61	7523	2698	CH063	90LA4	PH063	56C/143/145TC
26.0	1.6	4631.0	68	7523	2698	CH063	90LA4	PH063	56C/143/145TC
20.0	1.3	5844.0	85.82	7523	2698	CH063	90LA4	PH063	56C/143/145TC
18.0	1.2	6453.0	94.76	7523	2698	CH063	90LA4	PH063	56C/143/145TC
31.0	3.7	3850.0	56.53	14161	4047	CH083	90LA4	PH083	56C/143/145TC
24.0	3.3	4868.0	71.48	15931	4047	CH083	90LA4	PH083	56C/143/145TC
22.0	3.0	5371.0	78.87	15931	4047	CH083	90LA4	PH083	56C/143/145TC
20.0	2.7	5827.0	85.56	15931	4047	CH083	90LA4	PH083	56C/143/145TC
18.0	2.4	6680.0	98.09	15931	4047	CH083	90LA4	PH083	56C/143/145TC
16.0	2.1	7681.0	112.78	15931	4047	CH083	90LA4	PH083	56C/143/145TC
14.0	1.9	8475.0	124.44	15931	4047	CH083	90LA4	PH083	56C/143/145TC
12.0	1.6	9681.0	142.15	15931	4047	CH083	90LA4	PH083	56C/143/145TC
11.0	1.5	10540.0	154.76	15931	4047	CH083	90LA4	PH083	56C/143/145TC
11.0	1.4	11056.0	162.35	15931	4047	CH083	90LA4	PH083	56C/143/145TC
9.8	1.3	12199.0	179.13	15931	4047	CH083	90LA4	PH083	56C/143/145TC
9.0	1.2	13285.0	195.07	15931	4047	CH083	90LA4	PH083	56C/143/145TC
7.9	1.1	15172.0	222.78	15931	4047	CH083	90LA4	PH083	56C/143/145TC
12.0	3.2	9767.0	143.42	30978	4946	CH103	90LA4	PH103	143/145TC
11.0	2.8	10952.0	160.82	30978	4946	CH103	90LA4	PH103	143/145TC
9.7	2.5	12332.0	181.07	30978	4946	CH103	90LA4	PH103	143/145TC
9.0	2.3	13226.0	194.21	30978	4946	CH103	90LA4	PH103	143/145TC
8.1	2.1	14673.0	215.45	30978	4946	CH103	90LA4	PH103	143/145TC
7.2	1.9	16521.0	242.59	31863	4946	CH103	90LA4	PH103	143/145TC

3 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
281.0	3.3	635.0	6.22	2124	632	CHA52	100LA4	HA52	182/184TC
226.0	2.7	789.0	7.73	2124	680	CHA52	100LA4	HA52	182/184TC
181.0	2.7	984.0	9.64	2655	731	CHA52	100LA4	HA52	182/184TC
150.0	2.1	1190.0	11.67	2478	779	CHA52	100LA4	HA52	182/184TC
121.0	1.7	1479.0	14.5	2478	838	CHA52	100LA4	HA52	182/184TC
103.0	1.5	1725.0	16.91	2655	882	CHA52	100LA4	HA52	182/184TC
86.0	1.2	2087.0	20.46	2567	940	CHA52	100LA4	HA52	182/184TC
700.0	3.1	258.0	2.5	797	528	CHA61	100LA4	HA61	182/184TC
399.0	2.2	452.0	4.38	974	637	CHA61	100LA4	HA61	182/184TC
150.0	3.3	1190.0	11.67	3894	1150	CHA62	100LA4	HA62	182/184TC
121.0	2.5	1479.0	14.5	3717	1237	CHA62	100LA4	HA62	182/184TC
103.0	2.6	1725.0	16.91	4425	1302	CHA62	100LA4	HA62	182/184TC
86.0	2.0	2087.0	20.46	4071	1387	CHA62	100LA4	HA62	182/184TC
69.0	1.5	2594.0	25.43	3806	1492	CHA62	100LA4	HA62	182/184TC
373.0	1.8	479.0	4.7	841	705	CH032	100LA4	PH032	182/184TC
281.0	1.5	635.0	6.23	929	746	CH032	100LA4	PH032	182/184TC
225.0	1.4	792.0	7.76	1106	774	CH032	100LA4	PH032	182/184TC
197.0	1.3	904.0	8.87	1151	789	CH032	100LA4	PH032	182/184TC

HA/H - Performance

3 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
173.0	1.2	1035.0	10.14	1239	801	CH032	100LA4	PH032	182/184TC
149.0	1.1	1200.0	11.76	1283	812	CH032	100LA4	PH032	182/184TC
128.0	1.1	1400.0	13.72	1505	819	CH032	100LA4	PH032	182/184TC
119.0	1.0	1495.0	14.66	1505	820	CH032	100LA4	PH032	182/184TC
1217.0	1.5	148.0	1.44	221	130	-	-	PH041	182/184TC
875.0	1.1	206.0	2	221	141	-	-	PH041	182/184TC
688.0	1.0	262.0	2.55	266	148	-	-	PH041	182/184TC
564.0	1.1	320.0	3.11	354	153	-	-	PH041	182/184TC
488.0	1.1	370.0	3.59	398	157	-	-	PH041	182/184TC
320.0	2.5	557.0	5.46	1416	970	CH042	100LA4	PH042	182/184TC
243.0	1.9	733.0	7.19	1416	1037	CH042	100LA4	PH042	182/184TC
196.0	2.0	909.0	8.91	1859	1088	CH042	100LA4	PH042	182/184TC
170.0	2.0	1052.0	10.31	2124	1122	CH042	100LA4	PH042	182/184TC
148.0	1.8	1204.0	11.8	2213	1152	CH042	100LA4	PH042	182/184TC
129.0	1.6	1384.0	13.57	2213	1181	CH042	100LA4	PH042	182/184TC
110.0	1.4	1628.0	15.96	2213	1211	CH042	100LA4	PH042	182/184TC
92.0	1.1	1938.0	19	2213	1239	CH042	100LA4	PH042	182/184TC
83.0	1.0	2142.0	21	2213	1252	CH042	100LA4	PH042	182/184TC
1375.0	2.7	131.0	1.27	354	331	CH051	100LA4	PH051	182/184TC
1233.0	3.6	146.0	1.42	531	342	CH051	100LA4	PH051	182/184TC
824.0	2.4	219.0	2.13	531	386	CH051	100LA4	PH051	182/184TC
681.0	2.3	265.0	2.57	620	408	CH051	100LA4	PH051	182/184TC
553.0	2.2	326.0	3.17	708	432	CH051	100LA4	PH051	182/184TC
475.0	2.1	380.0	3.69	797	451	CH051	100LA4	PH051	182/184TC
438.0	1.9	412.0	4	797	461	CH051	100LA4	PH051	182/184TC
367.0	1.7	492.0	4.77	841	483	CH051	100LA4	PH051	182/184TC
333.0	1.6	541.0	5.25	885	495	CH051	100LA4	PH051	182/184TC
301.0	1.5	600.0	5.82	885	508	CH051	100LA4	PH051	182/184TC
306.0	3.9	584.0	5.73	2301	1267	CH052	100LA4	PH052	182/184TC
254.0	3.6	703.0	6.89	2567	1334	CH052	100LA4	PH052	182/184TC
205.0	3.5	870.0	8.53	3009	1412	CH052	100LA4	PH052	182/184TC
183.0	3.4	975.0	9.56	3275	1455	CH052	100LA4	PH052	182/184TC
152.0	2.9	1174.0	11.51	3452	1524	CH052	100LA4	PH052	182/184TC
123.0	2.6	1452.0	14.24	3806	1604	CH052	100LA4	PH052	182/184TC
105.0	2.4	1693.0	16.59	3983	1660	CH052	100LA4	PH052	182/184TC
97.0	2.2	1836.0	18	4071	1689	CH052	100LA4	PH052	182/184TC
88.0	2.0	2038.0	19.97	4071	1725	CH052	100LA4	PH052	182/184TC
81.0	1.9	2210.0	21.67	4160	1753	CH052	100LA4	PH052	182/184TC
71.0	1.7	2520.0	24.71	4160	1796	CH052	100LA4	PH052	182/184TC
67.0	1.6	2671.0	26.18	4337	1798	CH052	100LA4	PH052	182/184TC
62.0	1.5	2901.0	28.44	4337	1798	CH052	100LA4	PH052	182/184TC
56.0	1.3	3215.0	31.52	4337	1798	CH052	100LA4	PH052	182/184TC
45.0	1.1	3977.0	38.98	4337	1798	CH052	100LA4	PH052	182/184TC
553.0	3.5	326.0	3.17	1151	691	CH061	100LA4	PH061	182/184TC
475.0	3.5	380.0	3.69	1328	722	CH061	100LA4	PH061	182/184TC
438.0	3.2	412.0	4	1328	738	CH061	100LA4	PH061	182/184TC
367.0	2.9	492.0	4.77	1416	775	CH061	100LA4	PH061	182/184TC
333.0	2.8	541.0	5.25	1505	796	CH061	100LA4	PH061	182/184TC
301.0	2.5	600.0	5.82	1505	818	CH061	100LA4	PH061	182/184TC
239.0	2.0	756.0	7.33	1505	832	CH061	100LA4	PH061	182/184TC
209.0	1.7	863.0	8.38	1505	832	CH061	100LA4	PH061	182/184TC
86.0	3.6	2069.0	20.28	7523	2698	CH062	100LA4	PH062	182/184TC

HA/H - Performance

3 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
75.0	3.2	2374.0	23.27	7523	2698	CH062	100LA4	PH062	182/184TC
68.0	2.9	2621.0	25.7	7523	2698	CH062	100LA4	PH062	182/184TC
60.0	2.4	2992.0	29.33	7081	2698	CH062	100LA4	PH062	182/184TC
55.0	2.3	3264.0	32	7523	2698	CH062	100LA4	PH062	182/184TC
47.0	1.9	3773.0	36.99	7081	2698	CH062	100LA4	PH062	182/184TC
43.0	1.8	4114.0	40.33	7523	2698	CH062	100LA4	PH062	182/184TC
38.0	1.6	4699.0	46.06	7523	2698	CH062	100LA4	PH062	182/184TC
35.0	1.5	4940.0	49.45	7523	2698	CH063	100LA4	PH063	182/184TC
32.0	1.4	5454.0	54.61	7523	2698	CH063	100LA4	PH063	182/184TC
26.0	1.1	6792.0	68	7523	2698	CH063	100LA4	PH063	182/184TC
207.0	3.6	870.0	8.44	3098	899	CH081	100LA4	PH081	182/184TC
45.0	3.6	3948.0	38.7	14161	4047	CH082	100LA4	PH082	182/184TC
41.0	3.2	4361.0	42.75	14161	4047	CH082	100LA4	PH082	182/184TC
36.0	2.9	4910.0	48.13	14161	4047	CH082	100LA4	PH082	182/184TC
31.0	2.5	5646.0	56.53	14161	4047	CH083	100LA4	PH083	182/184TC
24.0	2.2	7140.0	71.48	15931	4047	CH083	100LA4	PH083	182/184TC
22.0	2.0	7878.0	78.87	15931	4047	CH083	100LA4	PH083	182/184TC
20.0	1.9	8546.0	85.56	15931	4047	CH083	100LA4	PH083	182/184TC
18.0	1.6	9797.0	98.09	15931	4047	CH083	100LA4	PH083	182/184TC
16.0	1.4	11265.0	112.78	15931	4047	CH083	100LA4	PH083	182/184TC
14.0	1.3	12430.0	124.44	15931	4047	CH083	100LA4	PH083	182/184TC
12.0	1.1	14199.0	142.15	15931	4047	CH083	100LA4	PH083	182/184TC
11.0	1.0	15458.0	154.76	15931	4047	CH083	100LA4	PH083	182/184TC
22.0	3.9	7972.0	79.82	30978	4946	CH103	100LA4	PH103	182/184TC
21.0	3.7	8406.0	84.16	30978	4946	CH103	100LA4	PH103	182/184TC
19.0	3.3	9326.0	93.36	30978	4946	CH103	100LA4	PH103	182/184TC
17.0	3.1	9995.0	100.07	30978	4946	CH103	100LA4	PH103	182/184TC
14.0	2.6	12070.0	120.84	30978	4946	CH103	100LA4	PH103	182/184TC
13.0	2.3	13391.0	134.06	30978	4946	CH103	100LA4	PH103	182/184TC
12.0	2.2	14325.0	143.42	30978	4946	CH103	100LA4	PH103	182/184TC
11.0	1.9	16063.0	160.82	30978	4946	CH103	100LA4	PH103	182/184TC
9.7	1.7	18086.0	181.07	30978	4946	CH103	100LA4	PH103	182/184TC
9.0	1.6	19398.0	194.21	30978	4946	CH103	100LA4	PH103	182/184TC
8.1	1.4	21520.0	215.45	30978	4946	CH103	100LA4	PH103	182/184TC
7.2	1.3	24230.0	242.59	31863	4946	CH103	100LA4	PH103	182/184TC
15.0	3.7	11848.0	118.62	44254	6744	CH123	100LA4	PH123	182/184TC
14.0	3.5	12803.0	128.18	44254	6744	CH123	100LA4	PH123	182/184TC
12.0	3.1	14462.0	144.79	44254	6744	CH123	100LA4	PH123	182/184TC
11.0	2.9	15504.0	155.22	44254	6744	CH123	100LA4	PH123	182/184TC
10.0	2.6	17260.0	172.8	44254	6744	CH123	100LA4	PH123	182/184TC
9.2	2.3	18897.0	189.19	44254	6744	CH123	100LA4	PH123	182/184TC
8.4	2.1	20719.0	207.43	44254	6744	CH123	100LA4	PH123	182/184TC
7.6	1.9	23066.0	230.92	44254	6744	CH123	100LA4	PH123	182/184TC
6.7	1.7	25934.0	259.64	44254	6744	CH123	100LA4	PH123	182/184TC
9.4	3.8	18574.0	185.96	70806	12364	-	-	PH143	182/184TC
8.5	3.4	20584.0	206.08	70806	12364	-	-	PH143	182/184TC

HA/H - Performance

5 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
340.0	2.2	954.0	5.14	2124	593	CHA52	112MA4	HA52	182/184TC
281.0	1.8	1154.0	6.22	2124	632	CHA52	112MA4	HA52	182/184TC
226.0	1.5	1434.0	7.73	2124	680	CHA52	112MA4	HA52	182/184TC
181.0	1.5	1788.0	9.64	2655	731	CHA52	112MA4	HA52	182/184TC
150.0	1.1	2164.0	11.67	2478	779	CHA52	112MA4	HA52	182/184TC
1313.0	3.2	250.0	1.33	797	428	CHA61	112MA4	HA61	182/184TC
700.0	1.7	469.0	2.5	797	528	CHA61	112MA4	HA61	182/184TC
399.0	1.2	822.0	4.38	974	637	CHA61	112MA4	HA61	182/184TC
340.0	3.5	954.0	5.14	3363	875	CHA62	112MA4	HA62	182/184TC
281.0	2.9	1154.0	6.22	3363	933	CHA62	112MA4	HA62	182/184TC
226.0	2.3	1434.0	7.73	3363	1003	CHA62	112MA4	HA62	182/184TC
181.0	2.3	1788.0	9.64	4071	1080	CHA62	112MA4	HA62	182/184TC
150.0	1.8	2164.0	11.67	3894	1150	CHA62	112MA4	HA62	182/184TC
121.0	1.4	2689.0	14.5	3717	1237	CHA62	112MA4	HA62	182/184TC
103.0	1.4	3137.0	16.91	4425	1302	CHA62	112MA4	HA62	182/184TC
86.0	1.1	3795.0	20.46	4071	1387	CHA62	112MA4	HA62	182/184TC
320.0	1.4	1013.0	5.46	1416	874	CH042	112MA4	PH042	182/184TC
243.0	1.1	1333.0	7.19	1416	911	CH042	112MA4	PH042	182/184TC
196.0	1.1	1653.0	8.91	1859	932	CH042	112MA4	PH042	182/184TC
170.0	1.1	1913.0	10.31	2124	941	CH042	112MA4	PH042	182/184TC
148.0	1.0	2189.0	11.8	2213	944	CH042	112MA4	PH042	182/184TC
1375.0	1.5	239.0	1.27	354	319	CH051	112MA4	PH051	182/184TC
1233.0	2.0	266.0	1.42	531	329	CH051	112MA4	PH051	182/184TC
824.0	1.3	398.0	2.13	531	366	CH051	112MA4	PH051	182/184TC
681.0	1.3	482.0	2.57	620	384	CH051	112MA4	PH051	182/184TC
553.0	1.2	593.0	3.17	708	403	CH051	112MA4	PH051	182/184TC
475.0	1.2	691.0	3.69	797	417	CH051	112MA4	PH051	182/184TC
438.0	1.1	750.0	4	797	424	CH051	112MA4	PH051	182/184TC
306.0	2.2	1062.0	5.73	2301	1186	CH052	112MA4	PH052	182/184TC
254.0	2.0	1279.0	6.89	2567	1236	CH052	112MA4	PH052	182/184TC
205.0	1.9	1582.0	8.53	3009	1291	CH052	112MA4	PH052	182/184TC
183.0	1.8	1774.0	9.56	3275	1319	CH052	112MA4	PH052	182/184TC
152.0	1.6	2135.0	11.51	3452	1361	CH052	112MA4	PH052	182/184TC
123.0	1.4	2641.0	14.24	3806	1402	CH052	112MA4	PH052	182/184TC
105.0	1.3	3078.0	16.59	3983	1425	CH052	112MA4	PH052	182/184TC
97.0	1.2	3338.0	18	4071	1434	CH052	112MA4	PH052	182/184TC
88.0	1.1	3705.0	19.97	4071	1443	CH052	112MA4	PH052	182/184TC
81.0	1.0	4019.0	21.67	4160	1446	CH052	112MA4	PH052	182/184TC
1302.0	2.8	252.0	1.34	708	518	CH061	112MA4	PH061	182/184TC
824.0	2.7	398.0	2.13	1062	589	CH061	112MA4	PH061	182/184TC
681.0	2.2	482.0	2.57	1062	619	CH061	112MA4	PH061	182/184TC
553.0	1.9	593.0	3.17	1151	653	CH061	112MA4	PH061	182/184TC
475.0	1.9	691.0	3.69	1328	677	CH061	112MA4	PH061	182/184TC
438.0	1.8	750.0	4	1328	690	CH061	112MA4	PH061	182/184TC
367.0	1.6	894.0	4.77	1416	717	CH061	112MA4	PH061	182/184TC
333.0	1.5	984.0	5.25	1505	732	CH061	112MA4	PH061	182/184TC
301.0	1.4	1090.0	5.82	1505	747	CH061	112MA4	PH061	182/184TC
239.0	1.1	1374.0	7.33	1505	778	CH061	112MA4	PH061	182/184TC
237.0	3.6	1371.0	7.39	4868	2277	CH062	112MA4	PH062	182/184TC
206.0	3.4	1577.0	8.5	5310	2365	CH062	112MA4	PH062	182/184TC
186.0	3.1	1741.0	9.39	5310	2428	CH062	112MA4	PH062	182/184TC
150.0	2.7	2168.0	11.69	5753	2568	CH062	112MA4	PH062	182/184TC

HA/H - Performance

5 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
138.0	2.6	2349.0	12.67	6196	2620	CH062	112MA4	PH062	182/184TC
119.0	2.3	2736.0	14.75	6196	2698	CH062	112MA4	PH062	182/184TC
107.0	2.3	3021.0	16.29	7081	2698	CH062	112MA4	PH062	182/184TC
99.0	2.2	3277.0	17.67	7346	2698	CH062	112MA4	PH062	182/184TC
86.0	2.0	3762.0	20.28	7523	2698	CH062	112MA4	PH062	182/184TC
75.0	1.7	4316.0	23.27	7523	2698	CH062	112MA4	PH062	182/184TC
68.0	1.6	4766.0	25.7	7523	2698	CH062	112MA4	PH062	182/184TC
60.0	1.3	5440.0	29.33	7081	2698	CH062	112MA4	PH062	182/184TC
55.0	1.3	5935.0	32	7523	2698	CH062	112MA4	PH062	182/184TC
47.0	1.0	6861.0	36.99	7081	2698	CH062	112MA4	PH062	182/184TC
43.0	1.0	7481.0	40.33	7523	2698	CH062	112MA4	PH062	182/184TC
470.0	3.9	698.0	3.72	2744	855	CH081	112MA4	PH081	182/184TC
438.0	3.8	750.0	4	2832	872	CH081	112MA4	PH081	182/184TC
375.0	3.2	875.0	4.67	2832	899	CH081	112MA4	PH081	182/184TC
316.0	2.8	1038.0	5.54	2921	899	CH081	112MA4	PH081	182/184TC
288.0	2.6	1140.0	6.08	3009	899	CH081	112MA4	PH081	182/184TC
233.0	2.2	1406.0	7.5	3098	899	CH081	112MA4	PH081	182/184TC
207.0	2.0	1583.0	8.44	3098	899	CH081	112MA4	PH081	182/184TC
94.0	3.9	3436.0	18.53	13276	3682	CH082	112MA4	PH082	182/184TC
90.0	3.9	3595.0	19.38	14161	3726	CH082	112MA4	PH082	182/184TC
82.0	3.6	3967.0	21.39	14161	3821	CH082	112MA4	PH082	182/184TC
77.0	3.3	4229.0	22.8	14161	3882	CH082	112MA4	PH082	182/184TC
66.0	2.9	4934.0	26.6	14161	4031	CH082	112MA4	PH082	182/184TC
63.0	2.7	5171.0	27.88	14161	4047	CH082	112MA4	PH082	182/184TC
56.0	2.5	5778.0	31.15	14161	4047	CH082	112MA4	PH082	182/184TC
51.0	2.2	6376.0	34.38	14161	4047	CH082	112MA4	PH082	182/184TC
45.0	2.0	7178.0	38.7	14161	4047	CH082	112MA4	PH082	182/184TC
41.0	1.8	7929.0	42.75	14161	4047	CH082	112MA4	PH082	182/184TC
36.0	1.6	8927.0	48.13	14161	4047	CH082	112MA4	PH082	182/184TC
31.0	1.4	10265.0	56.53	14161	4047	CH083	112MA4	PH083	182/184TC
24.0	1.2	12981.0	71.48	15931	4047	CH083	112MA4	PH083	182/184TC
22.0	1.1	14324.0	78.87	15931	4047	CH083	112MA4	PH083	182/184TC
20.0	1.0	15538.0	85.56	15931	4047	CH083	112MA4	PH083	182/184TC
208.0	3.7	1574.0	8.4	5753	1124	CH101	112MA4	PH101	182/184TC
46.0	3.5	7132.0	38.45	24782	4946	CH102	112MA4	PH102	182/184TC
42.0	3.8	7660.0	41.3	29207	4946	CH102	112MA4	PH102	182/184TC
38.0	3.4	8498.0	45.82	29207	4946	CH102	112MA4	PH102	182/184TC
34.0	3.1	9555.0	51.52	29207	4946	CH102	112MA4	PH102	182/184TC
25.0	2.4	12656.0	69.69	30978	4946	CH103	112MA4	PH103	182/184TC
22.0	2.1	14495.0	79.82	30978	4946	CH103	112MA4	PH103	182/184TC
21.0	2.0	15284.0	84.16	30978	4946	CH103	112MA4	PH103	182/184TC
19.0	1.8	16956.0	93.36	30978	4946	CH103	112MA4	PH103	182/184TC
17.0	1.7	18173.0	100.07	30978	4946	CH103	112MA4	PH103	182/184TC
14.0	1.4	21946.0	120.84	30978	4946	CH103	112MA4	PH103	182/184TC
13.0	1.3	24346.0	134.06	30978	4946	CH103	112MA4	PH103	182/184TC
12.0	1.2	26045.0	143.42	30978	4946	CH103	112MA4	PH103	182/184TC
11.0	1.1	29206.0	160.82	30978	4946	CH103	112MA4	PH103	182/184TC
26.0	3.6	12227.0	67.32	44254	6744	CH123	112MA4	PH123	182/184TC
24.0	3.3	13387.0	73.71	44254	6744	CH123	112MA4	PH123	182/184TC
21.0	2.9	15134.0	83.34	44254	6744	CH123	112MA4	PH123	182/184TC
19.0	2.7	16339.0	89.97	44254	6744	CH123	112MA4	PH123	182/184TC
17.0	2.4	18213.0	100.29	44254	6744	CH123	112MA4	PH123	182/184TC

HA/H - Performance

5 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
16.0	2.2	19676.0	108.34	44254	6744	CH123	112MA4	PH123	182/184TC
15.0	2.1	21543.0	118.62	44254	6744	CH123	112MA4	PH123	182/184TC
14.0	1.9	23278.0	128.18	44254	6744	CH123	112MA4	PH123	182/184TC
12.0	1.7	26294.0	144.79	44254	6744	CH123	112MA4	PH123	182/184TC
11.0	1.6	28189.0	155.22	44254	6744	CH123	112MA4	PH123	182/184TC
10.0	1.4	31382.0	172.8	44254	6744	CH123	112MA4	PH123	182/184TC
9.2	1.3	34359.0	189.19	44254	6744	CH123	112MA4	PH123	182/184TC
8.4	1.2	37671.0	207.43	44254	6744	CH123	112MA4	PH123	182/184TC
7.6	1.1	41937.0	230.92	44254	6744	CH123	112MA4	PH123	182/184TC
11.0	2.5	28027.0	154.33	70806	12364	-	-	PH143	182/184TC
9.4	2.1	33771.0	185.96	70806	12364	-	-	PH143	182/184TC
8.5	1.9	37426.0	206.08	70806	12364	-	-	PH143	182/184TC

7.5 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
326.0	3.2	1371.0	5.38	4425	2027	CH062	132S4	PH062	213/215TC
295.0	3.2	1514.0	5.93	4868	2081	CH062	132S4	PH062	213/215TC
237.0	2.6	1885.0	7.39	4868	2201	CH062	132S4	PH062	213/215TC
206.0	2.4	2168.0	8.5	5310	2277	CH062	132S4	PH062	213/215TC
186.0	2.2	2393.0	9.39	5310	2331	CH062	132S4	PH062	213/215TC
150.0	1.9	2981.0	11.69	5753	2448	CH062	132S4	PH062	213/215TC
138.0	1.9	3230.0	12.67	6196	2489	CH062	132S4	PH062	213/215TC
119.0	1.6	3762.0	14.75	6196	2565	CH062	132S4	PH062	213/215TC
107.0	1.7	4153.0	16.29	7081	2612	CH062	132S4	PH062	213/215TC
99.0	1.6	4505.0	17.67	7346	2649	CH062	132S4	PH062	213/215TC
86.0	1.5	5172.0	20.28	7523	2698	CH062	132S4	PH062	213/215TC
75.0	1.3	5935.0	23.27	7523	2698	CH062	132S4	PH062	213/215TC
68.0	1.1	6553.0	25.7	7523	2698	CH062	132S4	PH062	213/215TC
689.0	3.8	655.0	2.54	2478	749	CH081	132S4	PH081	213/215TC
538.0	3.3	837.0	3.25	2744	800	CH081	132S4	PH081	213/215TC
470.0	2.9	959.0	3.72	2744	828	CH081	132S4	PH081	213/215TC
438.0	2.7	1031.0	4	2832	843	CH081	132S4	PH081	213/215TC
375.0	2.4	1203.0	4.67	2832	876	CH081	132S4	PH081	213/215TC
316.0	2.0	1427.0	5.54	2921	899	CH081	132S4	PH081	213/215TC
288.0	1.9	1568.0	6.08	3009	899	CH081	132S4	PH081	213/215TC
233.0	1.6	1933.0	7.5	3098	899	CH081	132S4	PH081	213/215TC
207.0	1.4	2176.0	8.44	3098	899	CH081	132S4	PH081	213/215TC
237.0	3.8	1886.0	7.39	7081	2786	CH082	132S4	PH082	213/215TC
218.0	3.5	2046.0	8.02	7081	2850	CH082	132S4	PH082	213/215TC
198.0	3.5	2257.0	8.85	7966	2928	CH082	132S4	PH082	213/215TC
159.0	3.5	2807.0	11.01	9736	3105	CH082	132S4	PH082	213/215TC
130.0	3.6	3443.0	13.5	12391	3273	CH082	132S4	PH082	213/215TC
117.0	3.5	3799.0	14.9	13276	3354	CH082	132S4	PH082	213/215TC
105.0	3.1	4237.0	16.62	13276	3443	CH082	132S4	PH082	213/215TC
94.0	2.8	4724.0	18.53	13276	3532	CH082	132S4	PH082	213/215TC
90.0	2.9	4944.0	19.38	14161	3569	CH082	132S4	PH082	213/215TC
82.0	2.6	5455.0	21.39	14161	3648	CH082	132S4	PH082	213/215TC
77.0	2.4	5815.0	22.8	14161	3698	CH082	132S4	PH082	213/215TC

HA/H - Performance

7.5 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
66.0	2.1	6784.0	26.6	14161	3816	CH082	132S4	PH082	213/215TC
63.0	2.0	7111.0	27.88	14161	3851	CH082	132S4	PH082	213/215TC
56.0	1.8	7945.0	31.15	14161	3930	CH082	132S4	PH082	213/215TC
51.0	1.6	8766.0	34.38	14161	3997	CH082	132S4	PH082	213/215TC
45.0	1.4	9870.0	38.7	14161	4047	CH082	132S4	PH082	213/215TC
41.0	1.3	10902.0	42.75	14161	4047	CH082	132S4	PH082	213/215TC
36.0	1.2	12275.0	48.13	14161	4047	CH082	132S4	PH082	213/215TC
31.0	1.0	14115.0	56.53	14161	4047	CH083	132S4	PH083	213/215TC
281.0	3.5	1606.0	6.23	5664	1124	CH101	132S4	PH101	213/215TC
232.0	3.0	1944.0	7.55	5753	1124	CH101	132S4	PH101	213/215TC
208.0	2.7	2165.0	8.4	5753	1124	CH101	132S4	PH101	213/215TC
61.0	4.0	7326.0	28.73	29207	4946	CH102	132S4	PH102	213/215TC
57.0	3.6	7835.0	30.72	28322	4946	CH102	132S4	PH102	213/215TC
51.0	3.2	8722.0	34.2	28322	4946	CH102	132S4	PH102	213/215TC
46.0	2.5	9806.0	38.45	24782	4946	CH102	132S4	PH102	213/215TC
42.0	2.8	10532.0	41.3	29207	4946	CH102	132S4	PH102	213/215TC
38.0	2.5	11685.0	45.82	29207	4946	CH102	132S4	PH102	213/215TC
34.0	2.2	13138.0	51.52	29207	4946	CH102	132S4	PH102	213/215TC
32.0	2.2	13852.0	55.47	30978	4946	CH103	132S4	PH103	213/215TC
25.0	1.8	17402.0	69.69	30978	4946	CH103	132S4	PH103	213/215TC
22.0	1.6	19931.0	79.82	30978	4946	CH103	132S4	PH103	213/215TC
21.0	1.5	21015.0	84.16	30978	4946	CH103	132S4	PH103	213/215TC
19.0	1.3	23314.0	93.36	30978	4946	CH103	132S4	PH103	213/215TC
17.0	1.2	24988.0	100.07	30978	4946	CH103	132S4	PH103	213/215TC
14.0	1.0	30175.0	120.84	30978	4946	CH103	132S4	PH103	213/215TC
40.0	3.9	11247.0	44.1	44254	6744	CH122	132S4	PH122	213/215TC
38.0	3.9	11430.0	45.77	44254	6744	CH123	132S4	PH123	213/215TC
31.0	3.2	13951.0	55.87	44254	6744	CH123	132S4	PH123	213/215TC
26.0	2.6	16812.0	67.32	44254	6744	CH123	132S4	PH123	213/215TC
24.0	2.4	18407.0	73.71	44254	6744	CH123	132S4	PH123	213/215TC
21.0	2.1	20810.0	83.34	44254	6744	CH123	132S4	PH123	213/215TC
19.0	2.0	22466.0	89.97	44254	6744	CH123	132S4	PH123	213/215TC
17.0	1.8	25042.0	100.29	44254	6744	CH123	132S4	PH123	213/215TC
16.0	1.6	27054.0	108.34	44254	6744	CH123	132S4	PH123	213/215TC
15.0	1.5	29621.0	118.62	44254	6744	CH123	132S4	PH123	213/215TC
14.0	1.4	32007.0	128.18	44254	6744	CH123	132S4	PH123	213/215TC
12.0	1.2	36154.0	144.79	44254	6744	CH123	132S4	PH123	213/215TC
11.0	1.1	38760.0	155.22	44254	6744	CH123	132S4	PH123	213/215TC
10.0	1.0	43150.0	172.8	44254	6744	CH123	132S4	PH123	213/215TC
25.0	4.0	17817.0	71.35	70806	12364	CH143	132S4	PH143	213/215TC
22.0	3.6	19746.0	79.07	70806	12364	CH143	132S4	PH143	213/215TC
20.0	3.3	21583.0	86.43	70806	12364	CH143	132S4	PH143	213/215TC
18.0	2.9	24024.0	96.21	70806	12364	CH143	132S4	PH143	213/215TC
17.0	2.7	26097.0	104.51	70806	12364	CH143	132S4	PH143	213/215TC
15.0	2.4	28946.0	115.92	70806	12364	CH143	132S4	PH143	213/215TC
14.0	2.2	32079.0	128.47	70806	12364	CH143	132S4	PH143	213/215TC
13.0	2.0	34848.0	139.55	70806	12364	CH143	132S4	PH143	213/215TC
11.0	1.8	38538.0	154.33	70806	12364	CH143	132S4	PH143	213/215TC
9.4	1.5	46435.0	185.96	70806	12364	CH143	132S4	PH143	213/215TC
8.5	1.4	51460.0	206.08	70806	12364	CH143	132S4	PH143	213/215TC

HA/H - Performance

10 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
326.0	2.4	1869.0	5.38	4425	1953	CH062	132MA4	PH062	213/215TC
295.0	2.4	2064.0	5.93	4868	1999	CH062	132MA4	PH062	213/215TC
237.0	1.9	2570.0	7.39	4868	2099	CH062	132MA4	PH062	213/215TC
206.0	1.8	2956.0	8.5	5310	2161	CH062	132MA4	PH062	213/215TC
186.0	1.6	3264.0	9.39	5310	2202	CH062	132MA4	PH062	213/215TC
150.0	1.4	4064.0	11.69	5753	2287	CH062	132MA4	PH062	213/215TC
138.0	1.4	4405.0	12.67	6196	2316	CH062	132MA4	PH062	213/215TC
119.0	1.2	5129.0	14.75	6196	2363	CH062	132MA4	PH062	213/215TC
107.0	1.3	5664.0	16.29	7081	2389	CH062	132MA4	PH062	213/215TC
99.0	1.2	6144.0	17.67	7346	2406	CH062	132MA4	PH062	213/215TC
86.0	1.1	7053.0	20.28	7523	2428	CH062	132MA4	PH062	213/215TC
1349.0	3.9	456.0	1.3	1770	605	CH081	132MA4	PH081	213/215TC
1225.0	3.9	502.0	1.43	1947	622	CH081	132MA4	PH081	213/215TC
906.0	3.0	679.0	1.93	2036	675	CH081	132MA4	PH081	213/215TC
689.0	2.8	893.0	2.54	2478	724	CH081	132MA4	PH081	213/215TC
538.0	2.4	1142.0	3.25	2744	768	CH081	132MA4	PH081	213/215TC
470.0	2.1	1308.0	3.72	2744	792	CH081	132MA4	PH081	213/215TC
438.0	2.0	1406.0	4	2832	805	CH081	132MA4	PH081	213/215TC
375.0	1.7	1640.0	4.67	2832	831	CH081	132MA4	PH081	213/215TC
316.0	1.5	1946.0	5.54	2921	858	CH081	132MA4	PH081	213/215TC
288.0	1.4	2138.0	6.08	3009	872	CH081	132MA4	PH081	213/215TC
233.0	1.2	2635.0	7.5	3098	899	CH081	132MA4	PH081	213/215TC
207.0	1.0	2967.0	8.44	3098	899	CH081	132MA4	PH081	213/215TC
325.0	3.3	1874.0	5.39	6196	2486	CH082	132MA4	PH082	213/215TC
294.0	3.0	2068.0	5.95	6196	2554	CH082	132MA4	PH082	213/215TC
237.0	2.8	2572.0	7.39	7081	2706	CH082	132MA4	PH082	213/215TC
218.0	2.5	2789.0	8.02	7081	2763	CH082	132MA4	PH082	213/215TC
198.0	2.6	3078.0	8.85	7966	2833	CH082	132MA4	PH082	213/215TC
159.0	2.5	3828.0	11.01	9736	2986	CH082	132MA4	PH082	213/215TC
130.0	2.6	4695.0	13.5	12391	3127	CH082	132MA4	PH082	213/215TC
117.0	2.6	5180.0	14.9	13276	3193	CH082	132MA4	PH082	213/215TC
105.0	2.3	5778.0	16.62	13276	3264	CH082	132MA4	PH082	213/215TC
94.0	2.1	6442.0	18.53	13276	3333	CH082	132MA4	PH082	213/215TC
90.0	2.1	6741.0	19.38	14161	3360	CH082	132MA4	PH082	213/215TC
82.0	1.9	7438.0	21.39	14161	3417	CH082	132MA4	PH082	213/215TC
77.0	1.8	7929.0	22.8	14161	3452	CH082	132MA4	PH082	213/215TC
66.0	1.5	9250.0	26.6	14161	3530	CH082	132MA4	PH082	213/215TC
63.0	1.5	9696.0	27.88	14161	3551	CH082	132MA4	PH082	213/215TC
56.0	1.3	10834.0	31.15	14161	3595	CH082	132MA4	PH082	213/215TC
51.0	1.2	11954.0	34.38	14161	3626	CH082	132MA4	PH082	213/215TC
45.0	1.1	13460.0	38.7	14161	3654	CH082	132MA4	PH082	213/215TC
414.0	3.6	1484.0	4.22	5399	1095	CH101	132MA4	PH101	213/215TC
359.0	3.2	1713.0	4.88	5487	1124	CH101	132MA4	PH101	213/215TC
332.0	3.0	1851.0	5.27	5487	1124	CH101	132MA4	PH101	213/215TC
281.0	2.6	2189.0	6.23	5664	1124	CH101	132MA4	PH101	213/215TC
232.0	2.2	2651.0	7.55	5753	1124	CH101	132MA4	PH101	213/215TC
208.0	1.9	2952.0	8.4	5753	1124	CH101	132MA4	PH101	213/215TC
82.0	3.8	7457.0	21.44	28322	4946	CH102	132MA4	PH102	213/215TC
73.0	3.5	8335.0	23.97	29207	4946	CH102	132MA4	PH102	213/215TC
68.0	3.2	9005.0	25.89	29207	4946	CH102	132MA4	PH102	213/215TC
61.0	2.9	9990.0	28.73	29207	4946	CH102	132MA4	PH102	213/215TC
57.0	2.7	10683.0	30.72	28322	4946	CH102	132MA4	PH102	213/215TC

HA/H - Performance

10 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
51.0	2.4	11893.0	34.2	28322	4946	CH102	132MA4	PH102	213/215TC
46.0	1.9	13372.0	38.45	24782	4946	CH102	132MA4	PH102	213/215TC
42.0	2.0	14362.0	41.3	29207	4946	CH102	132MA4	PH102	213/215TC
38.0	1.8	15934.0	45.82	29207	4946	CH102	132MA4	PH102	213/215TC
34.0	1.6	17915.0	51.52	29207	4946	CH102	132MA4	PH102	213/215TC
32.0	1.6	18889.0	55.47	30978	4946	CH103	132MA4	PH103	213/215TC
25.0	1.3	23730.0	69.69	30978	4946	CH103	132MA4	PH103	213/215TC
22.0	1.1	27178.0	79.82	30978	4946	CH103	132MA4	PH103	213/215TC
21.0	1.1	28657.0	84.16	30978	4946	CH103	132MA4	PH103	213/215TC
280.0	3.6	2196.0	6.25	7966	1349	CH121	132MA4	PH121	213/215TC
227.0	3.3	2706.0	7.7	8851	1349	CH121	132MA4	PH121	213/215TC
53.0	3.9	11476.0	33	44254	6744	CH122	132MA4	PH122	213/215TC
48.0	3.5	12565.0	36.13	44254	6744	CH122	132MA4	PH122	213/215TC
40.0	2.9	15336.0	44.1	44254	6744	CH122	132MA4	PH122	213/215TC
38.0	2.8	15586.0	45.77	44254	6744	CH123	132MA4	PH123	213/215TC
31.0	2.3	19024.0	55.87	44254	6744	CH123	132MA4	PH123	213/215TC
26.0	1.9	22925.0	67.32	44254	6744	CH123	132MA4	PH123	213/215TC
24.0	1.8	25100.0	73.71	44254	6744	CH123	132MA4	PH123	213/215TC
21.0	1.6	28377.0	83.34	44254	6744	CH123	132MA4	PH123	213/215TC
19.0	1.4	30636.0	89.97	44254	6744	CH123	132MA4	PH123	213/215TC
17.0	1.3	34149.0	100.29	44254	6744	CH123	132MA4	PH123	213/215TC
16.0	1.2	36892.0	108.34	44254	6744	CH123	132MA4	PH123	213/215TC
15.0	1.1	40392.0	118.62	44254	6744	CH123	132MA4	PH123	213/215TC
14.0	1.0	43646.0	128.18	44254	6744	CH123	132MA4	PH123	213/215TC
33.0	3.9	18227.0	53.53	70806	12364	CH143	132MA4	PH143	213/215TC
30.0	3.5	20164.0	59.22	70806	12364	CH143	132MA4	PH143	213/215TC
28.0	3.3	21450.0	62.99	70806	12364	CH143	132MA4	PH143	213/215TC
25.0	2.9	24296.0	71.35	70806	12364	CH143	132MA4	PH143	213/215TC
22.0	2.6	26926.0	79.07	70806	12364	CH143	132MA4	PH143	213/215TC
20.0	2.4	29431.0	86.43	70806	12364	CH143	132MA4	PH143	213/215TC
18.0	2.2	32759.0	96.21	70806	12364	CH143	132MA4	PH143	213/215TC
17.0	2.0	35587.0	104.51	70806	12364	CH143	132MA4	PH143	213/215TC
15.0	1.8	39472.0	115.92	70806	12364	CH143	132MA4	PH143	213/215TC
14.0	1.6	43744.0	128.47	70806	12364	CH143	132MA4	PH143	213/215TC
13.0	1.5	47520.0	139.55	70806	12364	CH143	132MA4	PH143	213/215TC
11.0	1.3	52551.0	154.33	70806	12364	CH143	132MA4	PH143	213/215TC
9.4	1.1	63320.0	185.96	70806	12364	CH143	132MA4	PH143	213/215TC
8.5	1.0	70173.0	206.08	70806	12364	CH143	132MA4	PH143	213/215TC

15 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
325.0	2.3	2749.0	5.39	6196	2385	CH082	132MC4	PH082	254/256TC
294.0	2.0	3033.0	5.95	6196	2442	CH082	132MC4	PH082	254/256TC
237.0	1.9	3772.0	7.39	7081	2567	CH082	132MC4	PH082	254/256TC
218.0	1.7	4091.0	8.02	7081	2612	CH082	132MC4	PH082	254/256TC
198.0	1.8	4514.0	8.85	7966	2666	CH082	132MC4	PH082	254/256TC
159.0	1.7	5614.0	11.01	9736	2779	CH082	132MC4	PH082	254/256TC
130.0	1.8	6886.0	13.5	12391	2873	CH082	132MC4	PH082	254/256TC

HA/H - Performance

15 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
117.0	1.7	7598.0	14.9	13276	2912	CH082	132MC4	PH082	254/256TC
105.0	1.6	8475.0	16.62	13276	2951	CH082	132MC4	PH082	254/256TC
94.0	1.4	9449.0	18.53	13276	2983	CH082	132MC4	PH082	254/256TC
90.0	1.4	9887.0	19.38	14161	2995	CH082	132MC4	PH082	254/256TC
82.0	1.3	10909.0	21.39	14161	3014	CH082	132MC4	PH082	254/256TC
77.0	1.2	11629.0	22.8	14161	3023	CH082	132MC4	PH082	254/256TC
66.0	1.0	13567.0	26.6	14161	3028	CH082	132MC4	PH082	254/256TC
861.0	3.8	1047.0	2.03	3983	866	CH101	132MC4	PH101	254/256TC
705.0	3.8	1279.0	2.48	4868	915	CH101	132MC4	PH101	254/256TC
535.0	3.1	1687.0	3.27	5310	985	CH101	132MC4	PH101	254/256TC
473.0	2.8	1907.0	3.7	5310	1016	CH101	132MC4	PH101	254/256TC
414.0	2.5	2176.0	4.22	5399	1050	CH101	132MC4	PH101	254/256TC
359.0	2.2	2512.0	4.88	5487	1087	CH101	132MC4	PH101	254/256TC
332.0	2.0	2714.0	5.27	5487	1106	CH101	132MC4	PH101	254/256TC
281.0	1.8	3211.0	6.23	5664	1124	CH101	132MC4	PH101	254/256TC
232.0	1.5	3889.0	7.55	5753	1124	CH101	132MC4	PH101	254/256TC
208.0	1.3	4329.0	8.4	5753	1124	CH101	132MC4	PH101	254/256TC
109.0	3.5	8207.0	16.09	28322	4420	CH102	132MC4	PH102	254/256TC
98.0	3.1	9105.0	17.85	28322	4517	CH102	132MC4	PH102	254/256TC
88.0	2.8	10123.0	19.85	28322	4613	CH102	132MC4	PH102	254/256TC
82.0	2.6	10937.0	21.44	28322	4681	CH102	132MC4	PH102	254/256TC
73.0	2.4	12225.0	23.97	29207	4773	CH102	132MC4	PH102	254/256TC
68.0	2.2	13207.0	25.89	29207	4834	CH102	132MC4	PH102	254/256TC
61.0	2.0	14652.0	28.73	29207	4910	CH102	132MC4	PH102	254/256TC
57.0	1.8	15669.0	30.72	28322	4946	CH102	132MC4	PH102	254/256TC
51.0	1.6	17444.0	34.2	28322	4946	CH102	132MC4	PH102	254/256TC
46.0	1.3	19612.0	38.45	24782	4946	CH102	132MC4	PH102	254/256TC
42.0	1.4	21065.0	41.3	29207	4946	CH102	132MC4	PH102	254/256TC
38.0	1.2	23369.0	45.82	29207	4946	CH102	132MC4	PH102	254/256TC
34.0	1.1	26275.0	51.52	29207	4946	CH102	132MC4	PH102	254/256TC
32.0	1.1	27704.0	55.47	30978	4946	CH103	132MC4	PH103	254/256TC
425.0	3.5	2122.0	4.12	7523	1349	CH121	132MC4	PH121	254/256TC
365.0	3.1	2474.0	4.8	7700	1349	CH121	132MC4	PH121	254/256TC
336.0	2.9	2687.0	5.21	7789	1349	CH121	132MC4	PH121	254/256TC
280.0	2.5	3221.0	6.25	7966	1349	CH121	132MC4	PH121	254/256TC
227.0	2.2	3968.0	7.7	8851	1349	CH121	132MC4	PH121	254/256TC
78.0	3.9	11488.0	22.52	44254	6744	CH122	132MC4	PH122	254/256TC
72.0	3.5	12479.0	24.47	44254	6744	CH122	132MC4	PH122	254/256TC
64.0	3.2	14022.0	27.49	44254	6744	CH122	132MC4	PH122	254/256TC
59.0	2.9	15232.0	29.86	44254	6744	CH122	132MC4	PH122	254/256TC
53.0	2.6	16832.0	33	44254	6744	CH122	132MC4	PH122	254/256TC
48.0	2.4	18428.0	36.13	44254	6744	CH122	132MC4	PH122	254/256TC
40.0	2.0	22493.0	44.1	44254	6744	CH122	132MC4	PH122	254/256TC
38.0	1.9	22860.0	45.77	44254	6744	CH123	132MC4	PH123	254/256TC
31.0	1.6	27902.0	55.87	44254	6744	CH123	132MC4	PH123	254/256TC
26.0	1.3	33623.0	67.32	44254	6744	CH123	132MC4	PH123	254/256TC
24.0	1.2	36813.0	73.71	44254	6744	CH123	132MC4	PH123	254/256TC
21.0	1.1	41619.0	83.34	44254	6744	CH123	132MC4	PH123	254/256TC
45.0	3.6	19815.0	38.85	70806	11826	-	-	PH142	254/256TC
41.0	3.2	21960.0	43.05	70806	12128	-	-	PH142	254/256TC
36.0	2.9	24146.0	48.35	70806	12364	-	-	PH143	254/256TC
33.0	2.6	26733.0	53.53	70806	12364	CH143	132MC4	PH143	254/256TC

HA/H - Performance

15 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
30.0	2.4	29574.0	59.22	70806	12364	CH143	132MC4	PH143	254/256TC
28.0	2.3	31459.0	62.99	70806	12364	CH143	132MC4	PH143	254/256TC
25.0	2.0	35635.0	71.35	70806	12364	CH143	132MC4	PH143	254/256TC
22.0	1.8	39491.0	79.07	70806	12364	CH143	132MC4	PH143	254/256TC
20.0	1.6	43166.0	86.43	70806	12364	CH143	132MC4	PH143	254/256TC
18.0	1.5	48047.0	96.21	70806	12364	CH143	132MC4	PH143	254/256TC
17.0	1.4	52194.0	104.51	70806	12364	CH143	132MC4	PH143	254/256TC
15.0	1.2	57893.0	115.92	70806	12364	CH143	132MC4	PH143	254/256TC
14.0	1.1	64158.0	128.47	70806	12364	CH143	132MC4	PH143	254/256TC
13.0	1.0	69696.0	139.55	70806	12364	CH143	132MC4	PH143	254/256TC
1349.0	2.6	669.0	1.3	1770	583	CH081	132MC4	-	-
1225.0	2.6	736.0	1.43	1947	598	CH081	132MC4	-	-
906.0	2.0	995.0	1.93	2036	642	CH081	132MC4	-	-
689.0	1.9	1310.0	2.54	2478	681	CH081	132MC4	-	-
538.0	1.6	1675.0	3.25	2744	714	CH081	132MC4	-	-
470.0	1.4	1918.0	3.72	2744	729	CH081	132MC4	-	-
438.0	1.4	2061.0	4	2832	737	CH081	132MC4	-	-
375.0	1.2	2405.0	4.67	2832	752	CH081	132MC4	-	-
316.0	1.0	2854.0	5.54	2921	765	CH081	132MC4	-	-
326.0	1.6	2741.0	5.38	4425	1824	CH062	132MC4	-	-
295.0	1.6	3027.0	5.93	4868	1857	CH062	132MC4	-	-
237.0	1.3	3770.0	7.39	4868	1922	CH062	132MC4	-	-
206.0	1.2	4335.0	8.5	5310	1956	CH062	132MC4	-	-
186.0	1.1	4787.0	9.39	5310	1977	CH062	132MC4	-	-

20 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
325.0	1.7	3748.0	5.39	6196	2269	-	-	PH082	254/256TC
294.0	1.5	4136.0	5.95	6196	2314	-	-	PH082	254/256TC
237.0	1.4	5143.0	7.39	7081	2407	-	-	PH082	254/256TC
218.0	1.3	5579.0	8.02	7081	2439	-	-	PH082	254/256TC
198.0	1.3	6156.0	8.85	7966	2475	-	-	PH082	254/256TC
159.0	1.3	7655.0	11.01	9736	2542	-	-	PH082	254/256TC
90.0	1.1	13482.0	19.38	14161	2577	-	-	PH082	254/256TC
130.0	1.3	9389.0	13.5	12391	2582	-	-	PH082	254/256TC
94.0	1.0	12884.0	18.53	13276	2584	-	-	PH082	254/256TC
117.0	1.3	10360.0	14.9	13276	2591	-	-	PH082	254/256TC
105.0	1.1	11556.0	16.62	13276	2593	-	-	PH082	254/256TC
1354.0	3.9	908.0	1.29	3540	744	-	-	PH101	254/256TC
861.0	2.8	1428.0	2.03	3983	841	-	-	PH101	254/256TC
705.0	2.8	1744.0	2.48	4868	885	-	-	PH101	254/256TC
535.0	2.3	2300.0	3.27	5310	945	-	-	PH101	254/256TC
473.0	2.0	2600.0	3.7	5310	971	-	-	PH101	254/256TC
414.0	1.8	2967.0	4.22	5399	999	-	-	PH101	254/256TC
359.0	1.6	3426.0	4.88	5487	1028	-	-	PH101	254/256TC
332.0	1.5	3701.0	5.27	5487	1042	-	-	PH101	254/256TC
281.0	1.3	4379.0	6.23	5664	1072	-	-	PH101	254/256TC
232.0	1.1	5303.0	7.55	5753	1102	-	-	PH101	254/256TC

HA/H - Performance

20 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
212.0	3.8	5755.0	8.27	22127	3620	-	-	PH102	254/256TC
175.0	3.6	6950.0	9.99	24782	3776	-	-	PH102	254/256TC
158.0	3.4	7710.0	11.09	26552	3859	-	-	PH102	254/256TC
131.0	3.0	9268.0	13.32	27437	4001	-	-	PH102	254/256TC
109.0	2.5	11191.0	16.09	28322	4133	-	-	PH102	254/256TC
98.0	2.3	12416.0	17.85	28322	4198	-	-	PH102	254/256TC
88.0	2.1	13805.0	19.85	28322	4259	-	-	PH102	254/256TC
82.0	1.9	14914.0	21.44	28322	4298	-	-	PH102	254/256TC
73.0	1.8	16671.0	23.97	29207	4345	-	-	PH102	254/256TC
42.0	1.0	28725.0	41.3	29207	4368	-	-	PH102	254/256TC
68.0	1.6	18010.0	25.89	29207	4372	-	-	PH102	254/256TC
61.0	1.5	19980.0	28.73	29207	4397	-	-	PH102	254/256TC
57.0	1.3	21367.0	30.72	28322	4406	-	-	PH102	254/256TC
51.0	1.2	23787.0	34.2	28322	4409	-	-	PH102	254/256TC
592.0	3.4	2076.0	2.95	7081	1233	-	-	PH121	254/256TC
557.0	3.3	2209.0	3.14	7258	1254	-	-	PH121	254/256TC
489.0	3.0	2515.0	3.58	7523	1297	-	-	PH121	254/256TC
425.0	2.6	2894.0	4.12	7523	1344	-	-	PH121	254/256TC
365.0	2.3	3373.0	4.8	7700	1349	-	-	PH121	254/256TC
336.0	2.1	3664.0	5.21	7789	1349	-	-	PH121	254/256TC
280.0	1.8	4392.0	6.25	7966	1349	-	-	PH121	254/256TC
227.0	1.6	5411.0	7.7	8851	1349	-	-	PH121	254/256TC
103.0	3.6	11769.0	16.92	42484	6648	-	-	PH122	254/256TC
91.0	3.3	13438.0	19.32	44254	6744	-	-	PH122	254/256TC
85.0	3.1	14308.0	20.57	44254	6744	-	-	PH122	254/256TC
78.0	2.8	15665.0	22.52	44254	6744	-	-	PH122	254/256TC
72.0	2.6	17017.0	24.47	44254	6744	-	-	PH122	254/256TC
64.0	2.3	19120.0	27.49	44254	6744	-	-	PH122	254/256TC
59.0	2.1	20771.0	29.86	44254	6744	-	-	PH122	254/256TC
53.0	1.9	22952.0	33	44254	6744	-	-	PH122	254/256TC
48.0	1.8	25130.0	36.13	44254	6744	-	-	PH122	254/256TC
40.0	1.4	30672.0	44.1	44254	6744	-	-	PH122	254/256TC
38.0	1.4	31172.0	45.77	44254	6744	-	-	PH123	254/256TC
31.0	1.2	38048.0	55.87	44254	6744	-	-	PH123	254/256TC
65.0	3.8	18615.0	26.76	70806	10360	-	-	PH142	254/256TC
54.0	3.2	22425.0	32.24	70806	10825	-	-	PH142	254/256TC
45.0	2.6	27021.0	38.85	70806	11279	-	-	PH142	254/256TC
41.0	2.4	29945.0	43.05	70806	11521	-	-	PH142	254/256TC
36.0	2.2	32926.0	48.35	70806	11838	-	-	PH143	254/256TC
33.0	1.9	36454.0	53.53	70806	12065	-	-	PH143	254/256TC
30.0	1.8	40329.0	59.22	70806	12279	-	-	PH143	254/256TC
28.0	1.7	42899.0	62.99	70806	12364	-	-	PH143	254/256TC
25.0	1.5	48593.0	71.35	70806	12364	-	-	PH143	254/256TC
22.0	1.3	53852.0	79.07	70806	12364	-	-	PH143	254/256TC
20.0	1.2	58862.0	86.43	70806	12364	-	-	PH143	254/256TC
18.0	1.1	65519.0	96.21	70806	12364	-	-	PH143	254/256TC

HA/H - Performance

25 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
333.0	3.5	4515.0	5.26	15931	3155	-	-	PH102	284/286TC
275.0	3.2	5452.0	6.36	17701	3298	-	-	PH102	284/286TC
248.0	3.4	6048.0	7.05	20357	3375	-	-	PH102	284/286TC
212.0	3.1	7098.0	8.27	22127	3491	-	-	PH102	284/286TC
175.0	2.9	8571.0	9.99	24782	3620	-	-	PH102	284/286TC
158.0	2.8	9509.0	11.09	26552	3686	-	-	PH102	284/286TC
131.0	2.4	11430.0	13.32	27437	3792	-	-	PH102	284/286TC
109.0	2.1	13803.0	16.09	28322	3881	-	-	PH102	284/286TC
98.0	1.8	15313.0	17.85	28322	3919	-	-	PH102	284/286TC
57.0	1.1	26352.0	30.72	28322	3926	-	-	PH102	284/286TC
61.0	1.2	24642.0	28.73	29207	3948	-	-	PH102	284/286TC
88.0	1.7	17026.0	19.85	28322	3949	-	-	PH102	284/286TC
82.0	1.5	18394.0	21.44	28322	3963	-	-	PH102	284/286TC
68.0	1.3	22212.0	25.89	29207	3967	-	-	PH102	284/286TC
73.0	1.4	20560.0	23.97	29207	3971	-	-	PH102	284/286TC
969.0	4.0	1566.0	1.81	6196	1058	-	-	PH121	284/286TC
875.0	3.8	1733.0	2	6638	1088	-	-	PH121	284/286TC
706.0	3.3	2150.0	2.48	7081	1152	-	-	PH121	284/286TC
592.0	2.8	2561.0	2.95	7081	1205	-	-	PH121	284/286TC
557.0	2.7	2724.0	3.14	7258	1224	-	-	PH121	284/286TC
489.0	2.4	3102.0	3.58	7523	1263	-	-	PH121	284/286TC
425.0	2.1	3569.0	4.12	7523	1305	-	-	PH121	284/286TC
365.0	1.9	4160.0	4.8	7700	1349	-	-	PH121	284/286TC
336.0	1.7	4519.0	5.21	7789	1349	-	-	PH121	284/286TC
280.0	1.5	5417.0	6.25	7966	1349	-	-	PH121	284/286TC
227.0	1.3	6674.0	7.7	8851	1349	-	-	PH121	284/286TC
169.0	4.0	8875.0	10.35	35403	5734	-	-	PH122	284/286TC
138.0	3.6	10862.0	12.66	38943	6021	-	-	PH122	284/286TC
126.0	3.4	11892.0	13.86	40713	6149	-	-	PH122	284/286TC
103.0	2.9	14515.0	16.92	42484	6424	-	-	PH122	284/286TC
91.0	2.7	16574.0	19.32	44254	6599	-	-	PH122	284/286TC
85.0	2.5	17646.0	20.57	44254	6680	-	-	PH122	284/286TC
78.0	2.3	19320.0	22.52	44254	6744	-	-	PH122	284/286TC
72.0	2.1	20988.0	24.47	44254	6744	-	-	PH122	284/286TC
64.0	1.9	23582.0	27.49	44254	6744	-	-	PH122	284/286TC
59.0	1.7	25617.0	29.86	44254	6744	-	-	PH122	284/286TC
53.0	1.6	28308.0	33	44254	6744	-	-	PH122	284/286TC
48.0	1.4	30993.0	36.13	44254	6744	-	-	PH122	284/286TC
40.0	1.2	37829.0	44.1	44254	6744	-	-	PH122	284/286TC
38.0	1.2	38446.0	45.77	44254	6744	-	-	PH123	284/286TC
72.0	3.4	20716.0	24.15	70806	9804	-	-	PH142	284/286TC
65.0	3.1	22958.0	26.76	70806	10030	-	-	PH142	284/286TC
54.0	2.6	27658.0	32.24	70806	10427	-	-	PH142	284/286TC
45.0	2.1	33326.0	38.85	70806	10800	-	-	PH142	284/286TC
41.0	1.9	36932.0	43.05	70806	10990	-	-	PH142	284/286TC
36.0	1.7	40608.0	48.35	70806	11255	-	-	PH143	284/286TC
33.0	1.6	44959.0	53.53	70806	11419	-	-	PH143	284/286TC
30.0	1.4	49739.0	59.22	70806	11564	-	-	PH143	284/286TC
28.0	1.3	52909.0	62.99	70806	11642	-	-	PH143	284/286TC
25.0	1.2	59931.0	71.35	70806	11773	-	-	PH143	284/286TC
22.0	1.1	66417.0	79.07	70806	11849	-	-	PH143	284/286TC

HA/H - Performance

30 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
333.0	3.0	5369.0	5.26	15931	3073	-	-	PH102	284/286TC
275.0	2.7	6483.0	6.36	17701	3199	-	-	PH102	284/286TC
248.0	2.8	7193.0	7.05	20357	3265	-	-	PH102	284/286TC
212.0	2.6	8440.0	8.27	22127	3362	-	-	PH102	284/286TC
175.0	2.4	10193.0	9.99	24782	3464	-	-	PH102	284/286TC
158.0	2.3	11308.0	11.09	26552	3513	-	-	PH102	284/286TC
68.0	1.1	26415.0	25.89	29207	3562	-	-	PH102	284/286TC
131.0	2.0	13592.0	13.32	27437	3584	-	-	PH102	284/286TC
73.0	1.2	24450.0	23.97	29207	3596	-	-	PH102	284/286TC
82.0	1.3	21874.0	21.44	28322	3628	-	-	PH102	284/286TC
109.0	1.7	16414.0	16.09	28322	3630	-	-	PH102	284/286TC
88.0	1.4	20247.0	19.85	28322	3638	-	-	PH102	284/286TC
98.0	1.6	18210.0	17.85	28322	3640	-	-	PH102	284/286TC
969.0	3.3	1862.0	1.81	6196	1041	-	-	PH121	284/286TC
875.0	3.2	2061.0	2	6638	1069	-	-	PH121	284/286TC
706.0	2.8	2556.0	2.48	7081	1129	-	-	PH121	284/286TC
592.0	2.3	3045.0	2.95	7081	1177	-	-	PH121	284/286TC
557.0	2.2	3239.0	3.14	7258	1194	-	-	PH121	284/286TC
489.0	2.0	3689.0	3.58	7523	1229	-	-	PH121	284/286TC
425.0	1.8	4244.0	4.12	7523	1266	-	-	PH121	284/286TC
365.0	1.6	4947.0	4.8	7700	1304	-	-	PH121	284/286TC
336.0	1.4	5374.0	5.21	7789	1324	-	-	PH121	284/286TC
280.0	1.2	6442.0	6.25	7966	1349	-	-	PH121	284/286TC
227.0	1.1	7937.0	7.7	8851	1349	-	-	PH121	284/286TC
206.0	3.9	8647.0	8.48	33633	5337	-	-	PH122	284/286TC
169.0	3.4	10554.0	10.35	35403	5597	-	-	PH122	284/286TC
138.0	3.0	12917.0	12.66	38943	5853	-	-	PH122	284/286TC
126.0	2.9	14142.0	13.86	40713	5965	-	-	PH122	284/286TC
103.0	2.5	17261.0	16.92	42484	6199	-	-	PH122	284/286TC
91.0	2.2	19709.0	19.32	44254	6343	-	-	PH122	284/286TC
85.0	2.1	20985.0	20.57	44254	6407	-	-	PH122	284/286TC
78.0	1.9	22976.0	22.52	44254	6493	-	-	PH122	284/286TC
72.0	1.8	24959.0	24.47	44254	6565	-	-	PH122	284/286TC
64.0	1.6	28043.0	27.49	44254	6653	-	-	PH122	284/286TC
59.0	1.5	30464.0	29.86	44254	6706	-	-	PH122	284/286TC
53.0	1.3	33663.0	33	44254	6744	-	-	PH122	284/286TC
48.0	1.2	36857.0	36.13	44254	6744	-	-	PH122	284/286TC
100.0	3.9	17805.0	17.45	69921	8858	-	-	PH142	284/286TC
87.0	3.5	20446.0	20.04	70806	9139	-	-	PH142	284/286TC
72.0	2.9	24635.0	24.15	70806	9506	-	-	PH142	284/286TC
65.0	2.6	27301.0	26.76	70806	9700	-	-	PH142	284/286TC
54.0	2.2	32891.0	32.24	70806	10030	-	-	PH142	284/286TC
45.0	1.8	39631.0	38.85	70806	10321	-	-	PH142	284/286TC
41.0	1.6	43920.0	43.05	70806	10459	-	-	PH142	284/286TC
36.0	1.5	48291.0	48.35	70806	10671	-	-	PH143	284/286TC
33.0	1.3	53465.0	53.53	70806	10773	-	-	PH143	284/286TC
30.0	1.2	59149.0	59.22	70806	10849	-	-	PH143	284/286TC
28.0	1.1	62919.0	62.99	70806	10882	-	-	PH143	284/286TC

HA/H - Performance

40 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
332.0	3.6	7337.0	5.27	26552	4560	-	-	PH122	324/326TC
303.0	3.5	8033.0	5.78	28322	4662	-	-	PH122	324/326TC
248.0	3.2	9805.0	7.05	31863	4882	-	-	PH122	324/326TC
226.0	3.0	10769.0	7.74	32748	4984	-	-	PH122	324/326TC
206.0	2.9	11791.0	8.48	33633	5080	-	-	PH122	324/326TC
169.0	2.5	14392.0	10.35	35403	5283	-	-	PH122	324/326TC
138.0	2.2	17614.0	12.66	38943	5469	-	-	PH122	324/326TC
126.0	2.1	19285.0	13.86	40713	5544	-	-	PH122	324/326TC
103.0	1.8	23538.0	16.92	42484	5686	-	-	PH122	324/326TC
91.0	1.6	26877.0	19.32	44254	5757	-	-	PH122	324/326TC
85.0	1.5	28616.0	20.57	44254	5782	-	-	PH122	324/326TC
78.0	1.4	31330.0	22.52	44254	5809	-	-	PH122	324/326TC
64.0	1.2	38241.0	27.49	44254	5819	-	-	PH122	324/326TC
134.0	3.6	18183.0	13.07	64610	7891	-	-	PH142	324/326TC
111.0	3.2	21909.0	15.75	69036	8202	-	-	PH142	324/326TC
100.0	2.9	24280.0	17.45	69921	8366	-	-	PH142	324/326TC
87.0	2.5	27880.0	20.04	70806	8574	-	-	PH142	324/326TC
72.0	2.1	33593.0	24.15	70806	8826	-	-	PH142	324/326TC
65.0	1.9	37229.0	26.76	70806	8946	-	-	PH142	324/326TC
54.0	1.6	44851.0	32.24	70806	9121	-	-	PH142	324/326TC
45.0	1.3	54042.0	38.85	70806	9226	-	-	PH142	324/326TC
41.0	1.2	59890.0	43.05	70806	9246	-	-	PH142	324/326TC
36.0	1.1	65852.0	48.35	70806	9336	-	-	PH143	324/326TC

50 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
332.0	2.9	9049.0	5.27	26552	4420	-	-	PH122	324/326TC
303.0	2.9	9908.0	5.78	28322	4508	-	-	PH122	324/326TC
248.0	2.6	12093.0	7.05	31863	4695	-	-	PH122	324/326TC
226.0	2.5	13282.0	7.74	32748	4778	-	-	PH122	324/326TC
206.0	2.3	14542.0	8.48	33633	4855	-	-	PH122	324/326TC
169.0	2.0	17750.0	10.35	35403	5008	-	-	PH122	324/326TC
138.0	1.8	21724.0	12.66	38943	5133	-	-	PH122	324/326TC
126.0	1.7	23785.0	13.86	40713	5176	-	-	PH122	324/326TC
78.0	1.1	38641.0	22.52	44254	5211	-	-	PH122	324/326TC
85.0	1.3	35293.0	20.57	44254	5236	-	-	PH122	324/326TC
103.0	1.5	29031.0	16.92	42484	5236	-	-	PH122	324/326TC
91.0	1.3	33148.0	19.32	44254	5243	-	-	PH122	324/326TC
275.0	4.0	10903.0	6.36	43369	6463	-	-	PH142	324/326TC
248.0	3.7	12083.0	7.04	44254	6627	-	-	PH142	324/326TC
223.0	3.5	13455.0	7.84	46909	6799	-	-	PH142	324/326TC
185.0	3.5	16212.0	9.45	57530	7090	-	-	PH142	324/326TC
167.0	3.5	17967.0	10.47	63725	7247	-	-	PH142	324/326TC
134.0	2.9	22425.0	13.07	64610	7569	-	-	PH142	324/326TC
111.0	2.6	27021.0	15.75	69036	7814	-	-	PH142	324/326TC
100.0	2.3	29945.0	17.45	69921	7936	-	-	PH142	324/326TC
87.0	2.1	34386.0	20.04	70806	8080	-	-	PH142	324/326TC
72.0	1.7	41432.0	24.15	70806	8230	-	-	PH142	324/326TC

HA/H - Performance

50 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
45.0	1.1	66651.0	38.85	70806	8267	-	-	PH142	324/326TC
65.0	1.5	45916.0	26.76	70806	8286	-	-	PH142	324/326TC
54.0	1.3	55316.0	32.24	70806	8326	-	-	PH142	324/326TC

60 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
332.0	3.7	11005.0	5.27	40713	6016	-	-	PH142	364/365TC
275.0	3.3	13261.0	6.36	43369	6284	-	-	PH142	364/365TC
248.0	3.0	14696.0	7.04	44254	6429	-	-	PH142	364/365TC
223.0	2.9	16365.0	7.84	46909	6577	-	-	PH142	364/365TC
185.0	2.9	19718.0	9.45	57530	6824	-	-	PH142	364/365TC
167.0	2.9	21852.0	10.47	63725	6952	-	-	PH142	364/365TC
134.0	2.4	27274.0	13.07	64610	7200	-	-	PH142	364/365TC
111.0	2.1	32863.0	15.75	69036	7370	-	-	PH142	364/365TC
54.0	1.1	67276.0	32.24	70806	7417	-	-	PH142	364/365TC
100.0	1.9	36420.0	17.45	69921	7444	-	-	PH142	364/365TC
87.0	1.7	41820.0	20.04	70806	7515	-	-	PH142	364/365TC
65.0	1.3	55844.0	26.76	70806	7531	-	-	PH142	364/365TC
72.0	1.4	50390.0	24.15	70806	7549	-	-	PH142	364/365TC

75 HP

Output speed RPM	Service factor sf	Output torque in-lbs	Exact ratio i	Max. torque in-lbs	OHL	Gearmotor		Gear Reducer	
					Output shaft lbs	Reducer	Motor	Reducer	NEMA C-input
332.0	3.0	13451.0	5.27	40713	5830	-	-	PH142	364/365TC
275.0	2.7	16207.0	6.36	43369	6060	-	-	PH142	364/365TC
248.0	2.5	17961.0	7.04	44254	6181	-	-	PH142	364/365TC
223.0	2.3	20001.0	7.84	46909	6301	-	-	PH142	364/365TC
185.0	2.4	24100.0	9.45	57530	6491	-	-	PH142	364/365TC
167.0	2.4	26708.0	10.47	63725	6583	-	-	PH142	364/365TC
65.0	1.0	68253.0	26.76	70806	6588	-	-	PH142	364/365TC
72.0	1.1	61588.0	24.15	70806	6698	-	-	PH142	364/365TC
134.0	1.9	33335.0	13.07	64610	6740	-	-	PH142	364/365TC
87.0	1.4	51114.0	20.04	70806	6809	-	-	PH142	364/365TC
111.0	1.7	40166.0	15.75	69036	6815	-	-	PH142	364/365TC
100.0	1.6	44513.0	17.45	69921	6829	-	-	PH142	364/365TC

IHA/IH - Performances (Fs=1, 1750 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
841	373	4.70	5.2	609	157	PH032	IH032
929	281	6.23	4.3	668	184	PH032	IH032
1106	225	7.76	4.1	691	190	PH032	IH032
1151	197	8.87	3.8	724	201	PH032	IH032
1239	173	10.14	3.5	746	208	PH032	IH032
1283	149	11.76	3.2	790	219	PH032	IH032
1505	128	13.72	3.2	790	219	PH032	IH032
1505	119	14.66	3.0	819	225	PH032	IH032
1682	104	16.77	2.9	828	227	PH032	IH032
1770	96	18.20	2.8	839	230	PH032	IH032
1770	88	19.90	2.6	878	237	PH032	IH032
1770	77	22.68	2.3	939	247	PH032	IH032
1770	73	23.83	2.1	964	250	PH032	IH032
1770	66	26.39	1.9	1013	256	PH032	IH032
1770	59	29.70	1.7	1069	263	PH032	IH032
1770	53	32.89	1.6	1125	268	PH032	IH032
1770	46	37.92	1.4	1202	274	PH032	IH032
1770	42	41.40	1.2	1236	278	PH032	IH032
1770	37	47.25	1.1	1236	282	PH032	IH032
1770	33	53.59	1.0	1236	286	PH033	IH033
1770	26	66.78	0.8	1236	292	PH033	IH033
1770	23	74.84	0.7	1236	295	PH033	IH033
1770	18	99.27	0.5	1236	300	PH033	IH033
1770	16	108.05	0.5	1236	301	PH033	IH033
1770	14	123.71	0.4	1236	303	PH033	IH033
1770	12	143.33	0.4	1236	305	PH033	IH033
1770	9.8	178.61	0.3	1236	307	PH033	IH033
1770	8.9	197.17	0.3	1236	308	PH033	IH033
1770	7.1	245.70	0.2	1236	309	PH033	IH033
221	1217	1.44	4.4	122	224	PH041	IH041
221	875	2.00	3.2	139	248	PH041	IH041
266	688	2.55	3.0	147	251	PH041	IH041
266	645	2.71	2.8	151	254	PH041	IH041
354	564	3.11	3.3	149	246	PH041	IH041
398	488	3.59	3.2	154	247	PH041	IH041
398	417	4.20	2.7	164	256	PH041	IH041
398	350	5.00	2.3	177	264	PH041	IH041
443	318	5.50	2.3	179	264	PH041	IH041
443	287	6.09	2.1	187	268	PH041	IH041
443	228	7.67	1.7	206	276	PH041	IH041
487	200	8.75	1.6	212	278	PH041	IH041
1416	320	5.46	7.5	789	98	PH042	IH042
1416	243	7.19	5.7	894	151	PH042	IH042
1859	196	8.91	6.0	889	141	PH042	IH042
2124	170	10.31	6.0	895	144	PH042	IH042
2213	148	11.80	5.4	940	159	PH042	IH042
2213	129	13.57	4.7	1006	180	PH042	IH042
2213	110	15.96	4.0	1086	202	PH042	IH042
2213	92	19.00	3.4	1182	221	PH042	IH042
2213	83	21.00	3.0	1239	230	PH042	IH042
2301	76	23.15	2.9	1272	235	PH042	IH042
2301	67	26.04	2.6	1347	245	PH042	IH042
2478	64	27.50	2.6	1338	243	PH042	IH042
2478	57	30.45	2.4	1411	251	PH042	IH042
2478	51	34.10	2.1	1484	258	PH042	IH042

IHA/IH - Performances (Fs=1, 1750 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
2478	46	37.76	1.9	1484	265	PH042	IH042
2478	40	43.75	1.6	1484	272	PH042	IH042
2478	37	47.53	1.5	1484	276	PH042	IH042
2478	32	54.25	1.3	1484	282	PH042	IH042
2655	28	61.83	1.3	1484	284	PH043	IH043
2655	23	76.67	1.0	1484	291	PH043	IH043
2655	20	87.05	0.9	1484	295	PH043	IH043
2655	15	114.55	0.7	1484	301	PH043	IH043
2655	14	125.69	0.6	1484	303	PH043	IH043
2655	12	142.04	0.6	1484	305	PH043	IH043
2655	11	165.38	0.5	1484	307	PH043	IH043
2655	8.5	205.07	0.4	1484	310	PH043	IH043
2655	7.7	227.50	0.3	1484	311	PH043	IH043
2655	6.2	282.10	0.3	1484	313	PH043	IH043
354	1375	1.27	8.0	307	186	PH051	IH051
531	1233	1.42	10.7	300	142	PH051	IH051
531	824	2.13	7.2	351	199	PH051	IH051
620	681	2.57	6.9	369	203	PH051	IH051
708	553	3.17	6.4	390	211	PH051	IH051
797	475	3.69	6.2	405	214	PH051	IH051
797	438	4.00	5.7	418	222	PH051	IH051
841	367	4.77	5.0	444	232	PH051	IH051
885	333	5.25	4.8	457	236	PH051	IH051
885	301	5.82	4.4	476	243	PH051	IH051
885	239	7.33	3.5	522	258	PH051	IH051
885	209	8.38	3.0	550	265	PH051	IH051
2301	306	5.73	11.6	975	58	PH052	IH052
2567	254	6.89	10.8	1017	77	PH052	IH052
3009	205	8.53	10.2	1050	89	PH052	IH052
3275	183	9.56	9.9	1065	96	PH052	IH052
3452	152	11.51	8.7	1138	123	PH052	IH052
3806	123	14.24	7.7	1204	144	PH052	IH052
3983	105	16.59	6.9	1274	161	PH052	IH052
4071	97	18.00	6.5	1311	170	PH052	IH052
4071	88	19.97	5.9	1377	184	PH052	IH052
4160	81	21.67	5.6	1420	192	PH052	IH052
4160	71	24.71	4.9	1516	207	PH052	IH052
4337	67	26.18	4.8	1529	209	PH052	IH052
4337	62	28.44	4.4	1588	217	PH052	IH052
4337	56	31.52	4.0	1669	227	PH052	IH052
4337	53	33.00	3.8	1713	231	PH052	IH052
4337	45	38.98	3.2	1798	243	PH052	IH052
4337	39	45.36	2.8	1798	253	PH052	IH052
4337	36	49.13	2.6	1798	258	PH052	IH052
4337	31	56.11	2.2	1798	265	PH052	IH052
4425	30	58.81	2.2	1798	266	PH053	IH053
4425	24	72.75	1.8	1798	276	PH053	IH053
4425	19	90.51	1.4	1798	283	PH053	IH053
4425	16	108.95	1.2	1798	289	PH053	IH053
4425	13	134.76	1.0	1798	293	PH053	IH053
4425	11	157.29	0.8	1798	296	PH053	IH053
4425	9	194.56	0.7	1798	300	PH053	IH053
4425	8.1	216.38	0.6	1798	301	PH053	IH053
4425	6.5	267.65	0.5	1798	304	PH053	IH053
708	1302	1.34	15.1	453	471	PH061	IH061

IHA/IH - Performances (Fs=1, 1750 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
1062	824	2.13	14.3	493	481	PH061	IH061
1062	681	2.57	11.8	535	514	PH061	IH061
1151	553	3.17	10.4	572	532	PH061	IH061
1328	475	3.69	10.3	585	534	PH061	IH061
1328	438	4.00	9.5	606	544	PH061	IH061
1416	367	4.77	8.5	642	557	PH061	IH061
1505	333	5.25	8.2	657	561	PH061	IH061
1505	301	5.82	7.4	687	572	PH061	IH061
1505	239	7.33	5.9	759	592	PH061	IH061
1505	209	8.38	5.1	804	601	PH061	IH061
4425	326	5.38	23.8	1574	192	PH062	IH062
4868	295	5.93	23.7	1584	193	PH062	IH062
4868	237	7.39	19.0	1758	281	PH062	IH062
5310	206	8.50	18.1	1812	300	PH062	IH062
5310	186	9.39	16.4	1902	332	PH062	IH062
5753	150	11.69	14.2	2036	371	PH062	IH062
6196	138	12.67	14.1	2052	373	PH062	IH062
6196	119	14.75	12.1	2202	411	PH062	IH062
7081	107	16.29	12.6	2183	403	PH062	IH062
7346	99	17.67	12.0	2229	413	PH062	IH062
7523	86	20.28	10.7	2362	437	PH062	IH062
7523	75	23.27	9.3	2524	463	PH062	IH062
7523	68	25.70	8.5	2645	480	PH062	IH062
7081	60	29.33	7.0	2698	508	PH062	IH062
7523	55	32.00	6.8	2698	511	PH062	IH062
7081	47	36.99	5.5	2698	535	PH062	IH062
7523	43	40.33	5.4	2698	538	PH062	IH062
7523	38	46.06	4.7	2698	550	PH062	IH062
7523	35	49.45	4.5	2698	556	PH063	IH063
7523	32	54.61	4.1	2698	564	PH063	IH063
7523	26	68.00	3.3	2698	579	PH063	IH063
7523	20	85.82	2.6	2698	591	PH063	IH063
7523	18	94.76	2.3	2698	596	PH063	IH063
7523	15	118.00	1.9	2698	604	PH063	IH063
7523	13	135.40	1.6	2698	609	PH063	IH063
7523	12	149.51	1.5	2698	611	PH063	IH063
7523	10	170.67	1.3	2698	615	PH063	IH063
7523	9.4	186.18	1.2	2698	617	PH063	IH063
7523	8.1	215.21	1.0	2698	620	PH063	IH063
7523	7.5	234.67	0.9	2698	621	PH063	IH063
7523	6.5	268.00	0.8	2698	624	PH063	IH063
1770	1349	1.30	39.1	470	207	PH081	IH081
1947	1225	1.43	39.0	473	208	PH081	IH081
2036	906	1.93	30.2	535	316	PH081	IH081
2478	689	2.54	27.9	561	343	PH081	IH081
2744	538	3.25	24.2	604	389	PH081	IH081
2744	470	3.72	21.1	645	426	PH081	IH081
2832	438	4.00	20.3	658	436	PH081	IH081
2832	375	4.67	17.4	708	472	PH081	IH081
2921	316	5.54	15.1	758	499	PH081	IH081
3009	288	6.08	14.2	782	511	PH081	IH081
3098	233	7.50	11.8	853	539	PH081	IH081
3098	207	8.44	10.5	899	555	PH081	IH081
6196	325	5.39	33.3	1984	183	PH082	IH082
6196	294	5.95	30.1	2075	230	PH082	IH082

IHA/IH - Performances (Fs=1, 1750 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
7081	237	7.39	27.7	2181	266	PH082	IH082
7081	218	8.02	25.5	2266	298	PH082	IH082
7966	198	8.85	26.0	2264	290	PH082	IH082
9736	159	11.01	25.6	2300	297	PH082	IH082
12391	130	13.50	26.5	2230	283	PH082	IH082
13276	117	14.90	25.8	2258	294	PH082	IH082
13276	105	16.62	23.1	2397	334	PH082	IH082
13276	94	18.53	20.7	2546	369	PH082	IH082
14161	90	19.38	21.1	2502	363	PH082	IH082
14161	82	21.39	19.1	2633	392	PH082	IH082
14161	77	22.80	18.0	2724	410	PH082	IH082
14161	66	26.60	15.4	2954	448	PH082	IH082
14161	63	27.88	14.7	3026	459	PH082	IH082
14161	56	31.15	13.1	3213	481	PH082	IH082
14161	51	34.38	11.9	3367	500	PH082	IH082
14161	45	38.70	10.6	3580	519	PH082	IH082
14161	41	42.75	9.6	3745	534	PH082	IH082
14161	36	48.13	8.5	3984	550	PH082	IH082
14161	31	56.53	7.4	4047	569	PH083	IH083
15931	24	71.48	6.6	4047	581	PH083	IH083
15931	22	78.87	6.0	4047	590	PH083	IH083
15931	20	85.56	5.5	4047	596	PH083	IH083
15931	18	98.09	4.8	4047	607	PH083	IH083
15931	16	112.78	4.2	4047	616	PH083	IH083
15931	14	124.44	3.8	4047	621	PH083	IH083
15931	12	142.15	3.3	4047	628	PH083	IH083
15931	11	154.76	3.0	4047	632	PH083	IH083
15931	11	162.35	2.9	4047	634	PH083	IH083
15931	9.8	179.13	2.6	4047	638	PH083	IH083
15931	9	195.07	2.4	4047	641	PH083	IH083
15931	7.9	222.78	2.1	4047	646	PH083	IH083
3540	1354	1.29	78.4	573	408	PH101	IH101
3983	1241	1.41	80.8	568	393	PH101	IH101
3983	861	2.03	56.1	676	546	PH101	IH101
4868	705	2.48	56.2	683	545	PH101	IH101
5310	535	3.27	46.4	750	605	PH101	IH101
5310	473	3.70	41.1	796	638	PH101	IH101
5399	414	4.22	36.6	842	666	PH101	IH101
5487	359	4.88	32.2	894	693	PH101	IH101
5487	332	5.27	29.8	927	707	PH101	IH101
5664	281	6.23	26.0	989	731	PH101	IH101
5753	232	7.55	21.8	1073	757	PH101	IH101
5753	208	8.40	19.6	1124	770	PH101	IH101
15931	333	5.26	87.5	2054	389	PH102	IH102
17701	275	6.36	80.6	2120	432	PH102	IH102
20357	248	7.05	83.5	1998	414	PH102	IH102
22127	212	8.27	77.3	2040	451	PH102	IH102
24782	175	9.99	71.7	2060	485	PH102	IH102
26552	158	11.09	69.3	2044	500	PH102	IH102
27437	131	13.32	59.6	2255	559	PH102	IH102
28322	109	16.09	50.9	2479	611	PH102	IH102
28322	98	17.85	45.9	2667	642	PH102	IH102
28322	88	19.85	41.3	2864	670	PH102	IH102
28322	82	21.44	38.2	2998	688	PH102	IH102
29207	73	23.97	35.2	3139	706	PH102	IH102

IHA/IH - Performances (Fs=1, 1750 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
29207	68	25.89	32.6	3281	722	PH102	IH102
29207	61	28.73	29.4	3506	742	PH102	IH102
28322	57	30.72	26.7	3735	758	PH102	IH102
28322	51	34.20	24.0	3979	775	PH102	IH102
24782	46	38.45	18.6	4555	807	PH102	IH102
29207	42	41.30	20.5	4343	796	PH102	IH102
29207	38	45.82	18.4	4585	808	PH102	IH102
29207	34	51.52	16.4	4865	820	PH102	IH102
30978	32	55.47	16.5	4851	822	PH103	IH103
30978	25	69.69	13.1	4946	842	PH103	IH103
30978	22	79.82	11.5	4946	852	PH103	IH103
30978	21	84.16	10.9	4946	855	PH103	IH103
30978	19	93.36	9.8	4946	862	PH103	IH103
30978	17	100.07	9.1	4946	866	PH103	IH103
30978	14	120.84	7.6	4946	875	PH103	IH103
30978	13	134.06	6.8	4946	879	PH103	IH103
30978	12	143.42	6.4	4946	882	PH103	IH103
30978	11	160.82	5.7	4946	886	PH103	IH103
30978	9.7	181.07	5.1	4946	890	PH103	IH103
30978	9	194.21	4.7	4946	892	PH103	IH103
30978	8.1	215.45	4.2	4946	895	PH103	IH103
31863	7.2	242.59	3.9	4946	897	PH103	IH103
5753	1422	1.23	133.8	677	195	PH121	IH121
6196	1235	1.42	125.2	700	240	PH121	IH121
6196	969	1.81	98.2	789	379	PH121	IH121
6638	875	2.00	95.0	804	395	PH121	IH121
7081	706	2.48	81.7	866	463	PH121	IH121
7081	592	2.95	68.6	943	531	PH121	IH121
7258	557	3.14	66.1	961	544	PH121	IH121
7523	489	3.58	60.2	1007	574	PH121	IH121
7523	425	4.12	52.3	1076	615	PH121	IH121
7700	365	4.80	45.9	1144	648	PH121	IH121
7789	336	5.21	42.8	1183	664	PH121	IH121
7966	280	6.25	36.5	1276	696	PH121	IH121
8851	227	7.70	32.9	1349	715	PH121	IH121
26552	332	5.27	145.6	2987	175	PH122	IH122
28322	303	5.78	141.8	3002	194	PH122	IH122
31863	248	7.05	130.7	3080	249	PH122	IH122
32748	226	7.74	122.3	3186	292	PH122	IH122
33633	206	8.48	114.8	3298	330	PH122	IH122
35403	169	10.35	99.0	3566	409	PH122	IH122
38943	138	12.66	88.9	3728	459	PH122	IH122
40713	126	13.86	84.9	3796	479	PH122	IH122
42484	103	16.92	72.6	4146	541	PH122	IH122
44254	91	19.32	66.2	4322	573	PH122	IH122
44254	85	20.57	62.2	4505	593	PH122	IH122
44254	78	22.52	56.8	4741	621	PH122	IH122
44254	72	24.47	52.3	4967	643	PH122	IH122
44254	64	27.49	46.6	5311	672	PH122	IH122
44254	59	29.86	42.9	5557	691	PH122	IH122
44254	53	33.00	38.8	5891	711	PH122	IH122
44254	48	36.13	35.4	6210	728	PH122	IH122
44254	40	44.10	29.0	6744	760	PH122	IH122
44254	38	45.77	28.6	6744	765	PH123	IH123
44254	31	55.87	23.4	6744	791	PH123	IH123

IHA/IH - Performances (Fs=1, 1750 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
44254	26	67.32	19.4	6744	810	PH123	IH123
44254	24	73.71	17.7	6744	819	PH123	IH123
44254	21	83.34	15.7	6744	829	PH123	IH123
44254	19	89.97	14.5	6744	834	PH123	IH123
44254	17	100.29	13.0	6744	842	PH123	IH123
44254	16	108.34	12.1	6744	846	PH123	IH123
44254	15	118.62	11.0	6744	852	PH123	IH123
44254	14	128.18	10.2	6744	856	PH123	IH123
44254	12	144.79	9.0	6744	861	PH123	IH123
44254	11	155.22	8.4	6744	864	PH123	IH123
44254	10	172.80	7.6	6744	869	PH123	IH123
44254	9.2	189.19	6.9	6744	872	PH123	IH123
44254	8.4	207.43	6.3	6744	875	PH123	IH123
44254	7.6	230.92	5.7	6744	878	PH123	IH123
44254	6.7	259.64	5.0	6744	-	PH123	-
40713	332	5.27	223.2	3757	1147	PH142	IH142
43369	275	6.36	197.4	3999	1288	PH142	IH142
44254	248	7.04	181.7	4188	1373	PH142	IH142
46909	223	7.84	173.0	4258	1421	PH142	IH142
57530	185	9.45	176.1	3954	1404	PH142	IH142
63725	167	10.47	176.0	3772	1405	PH142	IH142
64610	134	13.07	143.0	4360	1585	PH142	IH142
69036	111	15.75	126.8	4625	1673	PH142	IH142
69921	100	17.45	115.9	4907	1733	PH142	IH142
70806	87	20.04	102.2	5325	1807	PH142	IH142
70806	72	24.15	84.8	6022	1902	PH142	IH142
70806	65	26.76	76.5	6418	1947	PH142	IH142
70806	54	32.24	63.5	7170	2018	PH142	IH142
70806	45	38.85	52.7	7956	2077	PH142	IH142
70806	41	43.05	47.6	8376	2105	PH142	IH142
70806	36	48.35	43.3	8986	2134	PH143	IH143
70806	33	53.53	39.1	9409	2156	PH143	IH143
70806	30	59.22	35.3	9886	2176	PH143	IH143
70806	28	62.99	33.2	10241	2188	PH143	IH143
70806	25	71.35	29.3	10843	2208	PH143	IH143
70806	22	79.07	26.4	11549	2224	PH143	IH143
70806	20	86.43	24.2	12095	2236	PH143	IH143
70806	18	96.21	21.7	12364	2249	PH143	IH143
70806	17	104.51	20.0	12364	2258	PH143	IH143
70806	15	115.92	18.0	12364	2269	PH143	IH143
70806	14	128.47	16.3	12364	2278	PH143	IH143
70806	13	139.55	15.0	12364	2285	PH143	IH143
70806	11	154.33	13.6	12364	2293	PH143	IH143
70806	9.4	185.96	11.2	12364	2305	PH143	IH143
70806	8.5	206.08	10.1	12364	2311	PH143	IH143
168	686	2.55	1.9	128	-	HA31	-
177	594	2.94	1.7	134	-	HA31	-
177	551	3.18	1.6	137	-	HA31	-
177	521	3.36	1.5	140	-	HA31	-
186	453	3.87	1.4	146	-	HA31	-
186	415	4.21	1.3	151	-	HA31	-
195	368	4.75	1.2	157	-	HA31	-
204	343	5.10	1.1	161	-	HA31	-
204	321	5.45	1.1	164	-	HA31	-
204	278	6.30	0.9	172	-	HA31	-

IHA/IH - Performances (Fs=1, 1750 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
195	222	7.88	0.7	186	-	HA31	-
124	162	10.83	0.3	206	-	HA31	-
221	1208	1.45	4.4	107	74	HA41	IHA41
221	594	2.94	2.2	135	74	HA41	IHA41
266	368	4.75	1.6	159	74	HA41	IHA41
266	321	5.45	1.4	166	74	HA41	IHA41
221	222	7.88	0.8	188	74	HA41	IHA41
177	162	10.83	0.5	209	74	HA41	IHA41
354	1208	1.45	7.0	294	74	HA51	IHA51
354	594	2.94	3.4	373	74	HA51	IHA51
443	368	4.75	2.7	437	74	HA51	IHA51
443	321	5.45	2.3	458	74	HA51	IHA51
354	222	7.88	1.3	518	74	HA51	IHA51
221	162	10.83	0.6	575	74	HA51	IHA51
797	1313	1.33	17.1	428	124	HA61	IHA61
797	700	2.50	9.1	528	124	HA61	IHA61
974	399	4.38	6.4	637	124	HA61	IHA61
797	226	7.75	2.9	770	124	HA61	IHA61
620	164	10.67	1.7	857	124	HA61	IHA61
708	325	5.38	3.8	229	74	HA32	IHA32
708	269	6.52	3.1	244	92	HA32	IHA32
664	216	8.11	2.4	262	84	HA32	IHA32
797	160	10.94	2.1	290	99	HA32	IHA32
708	132	13.25	1.5	309	82	HA32	IHA32
708	106	16.49	1.2	332	89	HA32	IHA32
797	86	20.26	1.1	356	102	HA32	IHA32
752	71	24.55	0.9	380	87	HA32	IHA32
708	57	30.55	0.7	409	84	HA32	IHA32
797	49	35.44	0.7	430	108	HA32	IHA32
797	40	44.10	0.5	450	89	HA32	IHA32
708	36	48.75	0.4	450	89	HA32	IHA32
841	29	60.67	0.4	450	106	HA32	IHA32
885	34	51.32	0.5	450	106	HA33	IHA33
885	29	59.65	0.4	450	106	HA33	IHA33
885	24	72.27	0.4	450	106	HA33	IHA33
885	19	89.94	0.3	450	106	HA33	IHA33
885	16	110.51	0.2	450	106	HA33	IHA33
885	13	133.88	0.2	450	106	HA33	IHA33
885	11	166.61	0.2	450	106	HA33	IHA33
885	9.1	193.30	0.1	450	106	HA33	IHA33
885	7.3	240.55	0.1	450	106	HA33	IHA33
885	6.3	279.07	0.1	450	106	HA33	IHA33
885	5	347.29	0.1	450	106	HA33	IHA33
1239	325	5.38	6.7	482	74	HA42	IHA42
1239	269	6.52	5.5	513	92	HA42	IHA42
1151	216	8.11	4.1	552	83	HA42	IHA42
1328	160	10.94	3.5	610	95	HA42	IHA42
1239	132	13.25	2.7	651	86	HA42	IHA42
1239	106	16.49	2.2	700	89	HA42	IHA42
1328	86	20.26	1.9	751	97	HA42	IHA42
1372	71	24.55	1.6	800	95	HA42	IHA42
1239	57	30.55	1.2	861	81	HA42	IHA42
1328	49	35.44	1.1	905	103	HA42	IHA42
1239	40	44.10	0.8	967	83	HA42	IHA42
1018	36	48.75	0.6	967	93	HA42	IHA42

IHA/IH - Performances (Fs=1, 1750 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
1151	29	60.67	0.5	967	96	HA42	IHA42
1328	34	51.32	0.8	967	96	HA43	IHA43
1328	29	59.65	0.7	967	96	HA43	IHA43
1328	24	72.27	0.5	967	92	HA43	IHA43
1328	19	89.94	0.4	967	89	HA43	IHA43
1328	16	110.51	0.4	967	91	HA43	IHA43
1328	13	133.88	0.3	967	92	HA43	IHA43
1328	11	166.61	0.2	967	89	HA43	IHA43
1328	9.1	193.30	0.2	967	96	HA43	IHA43
1328	7.3	240.55	0.2	967	89	HA43	IHA43
1328	6.3	279.07	0.1	967	96	HA43	IHA43
1328	5	347.29	0.1	967	89	HA43	IHA43
2124	340	5.14	11.9	593	124	HA52	IHA52
2124	281	6.22	9.9	632	153	HA52	IHA52
2124	226	7.73	7.9	680	149	HA52	IHA52
2655	181	9.64	8.0	732	186	HA52	IHA52
2478	150	11.67	6.1	779	143	HA52	IHA52
2478	121	14.50	4.9	837	149	HA52	IHA52
2655	103	16.91	4.5	883	170	HA52	IHA52
2567	86	20.46	3.6	938	148	HA52	IHA52
2478	69	25.43	2.8	1010	144	HA52	IHA52
2655	59	29.89	2.6	1064	169	HA52	IHA52
2655	48	36.17	2.1	1139	153	HA52	IHA52
2478	39	44.95	1.6	1221	139	HA52	IHA52
2655	35	49.78	1.5	1266	179	HA52	IHA52
2567	28	61.87	1.2	1349	144	HA52	IHA52
2655	35	49.80	1.6	1266	74	HA53	IHA53
2655	29	60.25	1.3	1348	92	HA53	IHA53
2655	23	74.88	1.0	1349	90	HA53	IHA53
2655	20	88.02	0.9	1349	95	HA53	IHA53
2655	16	111.61	0.7	1349	88	HA53	IHA53
2655	13	138.71	0.6	1349	90	HA53	IHA53
2655	11	163.05	0.5	1349	95	HA53	IHA53
2655	8.7	200.27	0.4	1349	91	HA53	IHA53
2655	7.4	235.41	0.3	1349	95	HA53	IHA53
2655	6.1	284.81	0.3	1349	92	HA53	IHA53
2655	4.9	353.98	0.2	1349	90	HA53	IHA53
3363	340	5.14	18.9	876	124	HA62	IHA62
3363	281	6.22	15.6	933	153	HA62	IHA62
3363	226	7.73	12.6	1003	149	HA62	IHA62
4071	181	9.64	12.2	1081	180	HA62	IHA62
3894	150	11.67	9.7	1150	147	HA62	IHA62
3717	121	14.50	7.4	1236	142	HA62	IHA62
4425	103	16.91	7.6	1304	189	HA62	IHA62
4071	86	20.46	5.8	1385	141	HA62	IHA62
3806	69	25.43	4.3	1490	139	HA62	IHA62
3983	59	29.89	3.9	1570	165	HA62	IHA62
4160	48	36.17	3.3	1682	160	HA62	IHA62
3894	39	44.95	2.5	1798	140	HA62	IHA62
3275	35	49.78	1.9	1798	141	HA62	IHA62
3894	28	61.87	1.8	1798	177	HA62	IHA62
4248	35	49.80	2.5	1798	74	HA63	IHA63
4248	29	60.25	2.1	1798	92	HA63	IHA63
4248	23	74.88	1.7	1798	90	HA63	IHA63
4248	20	88.02	1.4	1798	95	HA63	IHA63

IHA/IH - Performances (Fs=1, 1750 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
4248	16	111.61	1.1	1798	88	HA63	IHA63
4248	13	138.71	0.9	1798	90	HA63	IHA63
4248	11	163.05	0.8	1798	95	HA63	IHA63
4248	8.7	200.27	0.6	1798	91	HA63	IHA63
4248	7.4	235.41	0.5	1798	95	HA63	IHA63
4248	6.1	284.81	0.4	1798	92	HA63	IHA63
4248	4.9	353.98	0.4	1798	90	HA63	IHA63

IHA/IH - Performances (Fs=1, 1140 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
841	243	4.70	3.4	737	157	PH032	IH032
929	183	6.23	2.8	808	184	PH032	IH032
1106	147	7.76	2.7	841	190	PH032	IH032
1151	129	8.87	2.4	880	201	PH032	IH032
1239	112	10.14	2.3	914	208	PH032	IH032
1283	97	11.76	2.1	963	219	PH032	IH032
1505	83	13.72	2.1	974	219	PH032	IH032
1505	78	14.66	1.9	1003	225	PH032	IH032
1682	68	16.77	1.9	1021	227	PH032	IH032
1770	63	18.20	1.8	1036	230	PH032	IH032
1770	57	19.90	1.7	1087	237	PH032	IH032
1770	50	22.68	1.5	1156	247	PH032	IH032
1770	48	23.83	1.4	1179	250	PH032	IH032
1770	43	26.39	1.3	1236	256	PH032	IH032
1770	38	29.70	1.1	1236	263	PH032	IH032
1770	35	32.89	1.0	1236	268	PH032	IH032
1770	30	37.92	0.9	1236	274	PH032	IH032
1770	28	41.40	0.8	1236	278	PH032	IH032
1770	24	47.25	0.7	1236	282	PH032	IH032
1770	21	53.59	0.6	1236	286	PH033	IH033
1770	17	66.78	0.5	1236	292	PH033	IH033
1770	15	74.84	0.5	1236	295	PH033	IH033
1770	11	99.27	0.3	1236	300	PH033	IH033
1770	11	108.05	0.3	1236	301	PH033	IH033
1770	9.2	123.71	0.3	1236	303	PH033	IH033
1770	8	143.33	0.2	1236	305	PH033	IH033
1770	6.4	178.61	0.2	1236	307	PH033	IH033
1770	5.8	197.17	0.2	1236	308	PH033	IH033
1770	4.6	245.70	0.1	1236	309	PH033	IH033
221	793	1.44	2.9	144	224	PH041	IH041
221	570	2.00	2.1	164	248	PH041	IH041
266	448	2.55	1.9	175	251	PH041	IH041
266	420	2.71	1.8	179	254	PH041	IH041
354	367	3.11	2.1	179	246	PH041	IH041
398	318	3.59	2.1	184	247	PH041	IH041
398	271	4.20	1.8	197	256	PH041	IH041
398	228	5.00	1.5	211	264	PH041	IH041
443	207	5.50	1.5	215	264	PH041	IH041
443	187	6.09	1.4	224	268	PH041	IH041
443	149	7.67	1.1	225	276	PH041	IH041
487	130	8.75	1.0	225	278	PH041	IH041
1416	209	5.46	4.9	955	98	PH042	IH042
1416	159	7.19	3.7	1075	151	PH042	IH042
1859	128	8.91	3.9	1085	141	PH042	IH042
2124	111	10.31	3.9	1101	144	PH042	IH042
2213	97	11.80	3.5	1153	159	PH042	IH042
2213	84	13.57	3.1	1232	180	PH042	IH042
2213	71	15.96	2.6	1330	202	PH042	IH042
2213	60	19.00	2.2	1434	221	PH042	IH042
2213	54	21.00	2.0	1484	230	PH042	IH042
2301	49	23.15	1.9	1484	235	PH042	IH042
2301	44	26.04	1.7	1484	245	PH042	IH042
2478	41	27.50	1.7	1484	243	PH042	IH042
2478	37	30.45	1.5	1484	251	PH042	IH042
2478	33	34.10	1.4	1484	258	PH042	IH042

IHA/IH - Performances (Fs=1, 1140 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
2478	30	37.76	1.2	1484	265	PH042	IH042
2478	26	43.75	1.1	1484	272	PH042	IH042
2478	24	47.53	1.0	1484	276	PH042	IH042
2478	21	54.25	0.9	1484	282	PH042	IH042
2655	18	61.83	0.8	1484	284	PH043	IH043
2655	15	76.67	0.7	1484	291	PH043	IH043
2655	13	87.05	0.6	1484	295	PH043	IH043
2655	10	114.55	0.4	1484	301	PH043	IH043
2655	9.1	125.69	0.4	1484	303	PH043	IH043
2655	8	142.04	0.4	1484	305	PH043	IH043
2655	6.9	165.38	0.3	1484	307	PH043	IH043
2655	5.6	205.07	0.2	1484	310	PH043	IH043
2655	5	227.50	0.2	1484	311	PH043	IH043
2655	4	282.10	0.2	1484	313	PH043	IH043
354	896	1.27	5.2	360	186	PH051	IH051
531	803	1.42	7.0	355	142	PH051	IH051
531	536	2.13	4.7	415	199	PH051	IH051
620	443	2.57	4.5	436	203	PH051	IH051
708	360	3.17	4.2	462	211	PH051	IH051
797	309	3.69	4.0	481	214	PH051	IH051
797	285	4.00	3.7	496	222	PH051	IH051
841	239	4.77	3.3	527	232	PH051	IH051
885	217	5.25	3.1	542	236	PH051	IH051
885	196	5.82	2.8	562	243	PH051	IH051
885	155	7.33	2.3	562	258	PH051	IH051
885	136	8.38	2.0	562	265	PH051	IH051
2301	199	5.73	7.6	1185	58	PH052	IH052
2567	165	6.89	7.0	1242	77	PH052	IH052
3009	134	8.53	6.6	1287	89	PH052	IH052
3275	119	9.56	6.5	1315	96	PH052	IH052
3452	99	11.51	5.6	1403	123	PH052	IH052
3806	80	14.24	5.0	1489	144	PH052	IH052
3983	69	16.59	4.5	1567	161	PH052	IH052
4071	63	18.00	4.3	1621	170	PH052	IH052
4071	57	19.97	3.8	1700	184	PH052	IH052
4160	53	21.67	3.6	1743	192	PH052	IH052
4160	46	24.71	3.2	1798	207	PH052	IH052
4337	44	26.18	3.1	1798	209	PH052	IH052
4337	40	28.44	2.9	1798	217	PH052	IH052
4337	36	31.52	2.6	1798	227	PH052	IH052
4337	35	33.00	2.5	1798	231	PH052	IH052
4337	29	38.98	2.1	1798	243	PH052	IH052
4337	25	45.36	1.8	1798	253	PH052	IH052
4337	23	49.13	1.7	1798	258	PH052	IH052
4337	20	56.11	1.5	1798	265	PH052	IH052
4425	19	58.81	1.4	1798	266	PH053	IH053
4425	16	72.75	1.2	1798	276	PH053	IH053
4425	13	90.51	0.9	1798	283	PH053	IH053
4425	10	108.95	0.8	1798	289	PH053	IH053
4425	8.5	134.76	0.6	1798	293	PH053	IH053
4425	7.2	157.29	0.5	1798	296	PH053	IH053
4425	5.9	194.56	0.4	1798	300	PH053	IH053
4425	5.3	216.38	0.4	1798	301	PH053	IH053
4425	4.3	267.65	0.3	1798	304	PH053	IH053
708	848	1.34	9.8	538	471	PH061	IH061

IHA/IH - Performances (Fs=1, 1140 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
1062	536	2.13	9.3	593	481	PH061	IH061
1062	443	2.57	7.7	641	514	PH061	IH061
1151	360	3.17	6.8	686	532	PH061	IH061
1328	309	3.69	6.7	704	534	PH061	IH061
1328	285	4.00	6.2	729	544	PH061	IH061
1416	239	4.77	5.5	772	557	PH061	IH061
1505	217	5.25	5.3	791	561	PH061	IH061
1505	196	5.82	4.8	826	572	PH061	IH061
1505	155	7.33	3.8	832	592	PH061	IH061
1505	136	8.38	3.3	832	601	PH061	IH061
4425	212	5.38	15.5	1918	192	PH062	IH062
4868	192	5.93	15.5	1939	193	PH062	IH062
4868	154	7.39	12.4	2142	281	PH062	IH062
5310	134	8.50	11.8	2212	300	PH062	IH062
5310	121	9.39	10.7	2316	332	PH062	IH062
5753	98	11.69	9.3	2476	371	PH062	IH062
6196	90	12.67	9.2	2506	373	PH062	IH062
6196	77	14.75	7.9	2689	411	PH062	IH062
7081	70	16.29	8.2	2674	403	PH062	IH062
7346	65	17.67	7.8	2698	413	PH062	IH062
7523	56	20.28	7.0	2698	437	PH062	IH062
7523	49	23.27	6.1	2698	463	PH062	IH062
7523	44	25.70	5.5	2698	480	PH062	IH062
7081	39	29.33	4.5	2698	508	PH062	IH062
7523	36	32.00	4.4	2698	511	PH062	IH062
7081	31	36.99	3.6	2698	535	PH062	IH062
7523	28	40.33	3.5	2698	538	PH062	IH062
7523	25	46.06	3.1	2698	550	PH062	IH062
7523	23	49.45	2.9	2698	556	PH063	IH063
7523	21	54.61	2.7	2698	564	PH063	IH063
7523	17	68.00	2.1	2698	579	PH063	IH063
7523	13	85.82	1.7	2698	591	PH063	IH063
7523	12	94.76	1.5	2698	596	PH063	IH063
7523	9.7	118.00	1.2	2698	604	PH063	IH063
7523	8.4	135.40	1.1	2698	609	PH063	IH063
7523	7.6	149.51	1.0	2698	611	PH063	IH063
7523	6.7	170.67	0.8	2698	615	PH063	IH063
7523	6.1	186.18	0.8	2698	617	PH063	IH063
7523	5.3	215.21	0.7	2698	620	PH063	IH063
7523	4.9	234.67	0.6	2698	621	PH063	IH063
7523	4.3	268.00	0.5	2698	624	PH063	IH063
1770	879	1.30	25.4	570	207	PH081	IH081
1947	798	1.43	25.4	577	208	PH081	IH081
2036	590	1.93	19.7	650	316	PH081	IH081
2478	449	2.54	18.2	686	343	PH081	IH081
2744	351	3.25	15.7	739	389	PH081	IH081
2744	306	3.72	13.7	787	426	PH081	IH081
2832	285	4.00	13.2	804	436	PH081	IH081
2832	244	4.67	11.3	862	472	PH081	IH081
2921	206	5.54	9.8	899	499	PH081	IH081
3009	187	6.08	9.2	899	511	PH081	IH081
3098	152	7.50	7.7	899	539	PH081	IH081
3098	135	8.44	6.8	899	555	PH081	IH081
6196	212	5.39	21.7	2397	183	PH082	IH082
6196	192	5.95	19.6	2502	230	PH082	IH082

IHA/IH - Performances (Fs=1, 1140 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
7081	154	7.39	18.0	2645	266	PH082	IH082
7081	142	8.02	16.6	2740	298	PH082	IH082
7966	129	8.85	17.0	2753	290	PH082	IH082
9736	104	11.01	16.7	2821	297	PH082	IH082
12391	84	13.50	17.3	2805	283	PH082	IH082
13276	77	14.90	16.8	2827	294	PH082	IH082
13276	69	16.62	15.1	2989	334	PH082	IH082
13276	62	18.53	13.5	3154	369	PH082	IH082
14161	59	19.38	13.8	3129	363	PH082	IH082
14161	53	21.39	12.5	3303	392	PH082	IH082
14161	50	22.80	11.7	3400	410	PH082	IH082
14161	43	26.60	10.0	3660	448	PH082	IH082
14161	41	27.88	9.6	3745	459	PH082	IH082
14161	37	31.15	8.6	3933	481	PH082	IH082
14161	33	34.38	7.8	4047	500	PH082	IH082
14161	29	38.70	6.9	4047	519	PH082	IH082
14161	27	42.75	6.2	4047	534	PH082	IH082
14161	24	48.13	5.5	4047	550	PH082	IH082
14161	20	56.53	4.8	4047	569	PH083	IH083
15931	16	71.48	4.3	4047	581	PH083	IH083
15931	14	78.87	3.9	4047	590	PH083	IH083
15931	13	85.56	3.6	4047	596	PH083	IH083
15931	12	98.09	3.1	4047	607	PH083	IH083
15931	10	112.78	2.7	4047	616	PH083	IH083
15931	9.2	124.44	2.5	4047	621	PH083	IH083
15931	8	142.15	2.2	4047	628	PH083	IH083
15931	7.4	154.76	2.0	4047	632	PH083	IH083
15931	7	162.35	1.9	4047	634	PH083	IH083
15931	6.4	179.13	1.7	4047	638	PH083	IH083
15931	5.8	195.07	1.6	4047	641	PH083	IH083
15931	5.1	222.78	1.4	4047	646	PH083	IH083
3540	882	1.29	51.1	697	408	PH101	IH101
3983	808	1.41	52.7	696	393	PH101	IH101
3983	561	2.03	36.5	819	546	PH101	IH101
4868	459	2.48	36.6	836	545	PH101	IH101
5310	348	3.27	30.3	919	605	PH101	IH101
5310	308	3.70	26.8	971	638	PH101	IH101
5399	270	4.22	23.8	1024	666	PH101	IH101
5487	234	4.88	21.0	1086	693	PH101	IH101
5487	216	5.27	19.4	1124	707	PH101	IH101
5664	183	6.23	17.0	1124	731	PH101	IH101
5753	151	7.55	14.2	1124	757	PH101	IH101
5753	136	8.40	12.8	1124	770	PH101	IH101
15931	217	5.26	57.0	2605	389	PH102	IH102
17701	179	6.36	52.5	2709	432	PH102	IH102
20357	162	7.05	54.4	2602	414	PH102	IH102
22127	138	8.27	50.4	2682	451	PH102	IH102
24782	114	9.99	46.7	2743	485	PH102	IH102
26552	103	11.09	45.1	2749	500	PH102	IH102
27437	86	13.32	38.8	2993	559	PH102	IH102
28322	71	16.09	33.2	3279	611	PH102	IH102
28322	64	17.85	29.9	3491	642	PH102	IH102
28322	57	19.85	26.9	3735	670	PH102	IH102
28322	53	21.44	24.9	3894	688	PH102	IH102
29207	48	23.97	23.0	4031	706	PH102	IH102

IHA/IH - Performances (Fs=1, 1140 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
29207	44	25.89	21.3	4233	722	PH102	IH102
29207	40	28.73	19.2	4460	742	PH102	IH102
28322	37	30.72	17.4	4737	758	PH102	IH102
28322	33	34.20	15.6	4946	775	PH102	IH102
24782	30	38.45	12.1	4946	807	PH102	IH102
29207	28	41.30	13.3	4946	796	PH102	IH102
29207	25	45.82	12.0	4946	808	PH102	IH102
29207	22	51.52	10.7	4946	820	PH102	IH102
30978	21	55.47	10.7	4946	822	PH103	IH103
30978	16	69.69	8.6	4946	842	PH103	IH103
30978	14	79.82	7.5	4946	852	PH103	IH103
30978	14	84.16	7.1	4946	855	PH103	IH103
30978	12	93.36	6.4	4946	862	PH103	IH103
30978	11	100.07	6.0	4946	866	PH103	IH103
30978	9.4	120.84	4.9	4946	875	PH103	IH103
30978	8.5	134.06	4.4	4946	879	PH103	IH103
30978	7.9	143.42	4.2	4946	882	PH103	IH103
30978	7.1	160.82	3.7	4946	886	PH103	IH103
30978	6.3	181.07	3.3	4946	890	PH103	IH103
30978	5.9	194.21	3.1	4946	892	PH103	IH103
30978	5.3	215.45	2.8	4946	895	PH103	IH103
31863	4.7	242.59	2.5	4946	897	PH103	IH103
5753	926	1.23	87.2	833	195	PH121	IH121
6196	805	1.42	81.5	863	240	PH121	IH121
6196	631	1.81	63.9	966	379	PH121	IH121
6638	570	2.00	61.9	986	395	PH121	IH121
7081	460	2.48	53.2	1062	463	PH121	IH121
7081	386	2.95	44.7	1151	531	PH121	IH121
7258	363	3.14	43.1	1173	544	PH121	IH121
7523	319	3.58	39.2	1227	574	PH121	IH121
7523	277	4.12	34.1	1308	615	PH121	IH121
7700	238	4.80	29.9	1349	648	PH121	IH121
7789	219	5.21	27.9	1349	664	PH121	IH121
7966	182	6.25	23.8	1349	696	PH121	IH121
8851	148	7.70	21.4	1349	715	PH121	IH121
26552	216	5.27	94.8	3782	175	PH122	IH122
28322	197	5.78	92.4	3823	194	PH122	IH122
31863	162	7.05	85.2	3947	249	PH122	IH122
32748	147	7.74	79.7	4090	292	PH122	IH122
33633	134	8.48	74.8	4230	330	PH122	IH122
35403	110	10.35	64.5	4560	409	PH122	IH122
38943	90	12.66	57.9	4786	459	PH122	IH122
40713	82	13.86	55.3	4893	479	PH122	IH122
42484	67	16.92	47.3	5321	541	PH122	IH122
44254	59	19.32	43.2	5557	573	PH122	IH122
44254	55	20.57	40.5	5774	593	PH122	IH122
44254	51	22.52	37.0	6013	621	PH122	IH122
44254	47	24.47	34.1	6279	643	PH122	IH122
44254	41	27.49	30.3	6740	672	PH122	IH122
44254	38	29.86	27.9	6744	691	PH122	IH122
44254	35	33.00	25.3	6744	711	PH122	IH122
44254	32	36.13	23.1	6744	728	PH122	IH122
44254	26	44.10	18.9	6744	760	PH122	IH122
44254	25	45.77	18.6	6744	765	PH123	IH123
44254	20	55.87	15.2	6744	791	PH123	IH123

IHA/IH - Performances (Fs=1, 1140 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
44254	17	67.32	12.6	6744	810	PH123	IH123
44254	15	73.71	11.6	6744	819	PH123	IH123
44254	14	83.34	10.2	6744	829	PH123	IH123
44254	13	89.97	9.5	6744	834	PH123	IH123
44254	11	100.29	8.5	6744	842	PH123	IH123
44254	11	108.34	7.9	6744	846	PH123	IH123
44254	9.6	118.62	7.2	6744	852	PH123	IH123
44254	8.9	128.18	6.6	6744	856	PH123	IH123
44254	7.9	144.79	5.9	6744	861	PH123	IH123
44254	7.3	155.22	5.5	6744	864	PH123	IH123
44254	6.6	172.80	4.9	6744	869	PH123	IH123
44254	6	189.19	4.5	6744	872	PH123	IH123
44254	5.5	207.43	4.1	6744	875	PH123	IH123
44254	4.9	230.92	3.7	6744	878	PH123	IH123
44254	4.4	259.64	3.3	6744	-	PH123	-
40713	216	5.27	145.4	4812	1147	PH142	IH142
43369	179	6.36	128.6	5122	1288	PH142	IH142
44254	162	7.04	118.4	5339	1373	PH142	IH142
46909	145	7.84	112.7	5465	1421	PH142	IH142
57530	121	9.45	114.7	5219	1404	PH142	IH142
63725	109	10.47	114.6	5088	1405	PH142	IH142
64610	87	13.07	93.1	5796	1585	PH142	IH142
69036	72	15.75	82.6	6157	1673	PH142	IH142
69921	65	17.45	75.5	6485	1733	PH142	IH142
70806	57	20.04	66.6	6946	1807	PH142	IH142
70806	47	24.15	55.2	7764	1902	PH142	IH142
70806	43	26.76	49.8	8160	1947	PH142	IH142
70806	35	32.24	41.4	9122	2018	PH142	IH142
70806	29	38.85	34.3	10060	2077	PH142	IH142
70806	26	43.05	31.0	10632	2105	PH142	IH142
70806	24	48.35	28.2	11065	2134	PH143	IH143
70806	21	53.53	25.5	11814	2156	PH143	IH143
70806	19	59.22	23.0	12364	2176	PH143	IH143
70806	18	62.99	21.6	12364	2188	PH143	IH143
70806	16	71.35	19.1	12364	2208	PH143	IH143
70806	14	79.07	17.2	12364	2224	PH143	IH143
70806	13	86.43	15.8	12364	2236	PH143	IH143
70806	12	96.21	14.2	12364	2249	PH143	IH143
70806	11	104.51	13.0	12364	2258	PH143	IH143
70806	9.8	115.92	11.8	12364	2269	PH143	IH143
70806	8.9	128.47	10.6	12364	2278	PH143	IH143
70806	8.2	139.55	9.8	12364	2285	PH143	IH143
70806	7.4	154.33	8.8	12364	2293	PH143	IH143
70806	6.1	185.96	7.3	12364	2305	PH143	IH143
70806	5.5	206.08	6.6	12364	2311	PH143	IH143
168	447	2.55	1.2	147	-	HA31	-
177	387	2.94	1.1	154	-	HA31	-
177	359	3.18	1.0	158	-	HA31	-
177	340	3.36	1.0	161	-	HA31	-
186	295	3.87	0.9	169	-	HA31	-
186	271	4.21	0.8	174	-	HA31	-
195	240	4.75	0.8	181	-	HA31	-
204	224	5.10	0.7	185	-	HA31	-
204	209	5.45	0.7	190	-	HA31	-
204	181	6.30	0.6	199	-	HA31	-

IHA/IH - Performances (Fs=1, 1140 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
195	145	7.88	0.5	214	-	HA31	-
124	105	10.83	0.2	238	-	HA31	-
221	787	1.45	2.8	123	74	HA41	IHA41
221	387	2.94	1.4	156	74	HA41	IHA41
266	240	4.75	1.0	183	74	HA41	IHA41
266	209	5.45	0.9	192	74	HA41	IHA41
221	145	7.88	0.5	216	74	HA41	IHA41
177	105	10.83	0.3	241	74	HA41	IHA41
354	787	1.45	4.6	339	74	HA51	IHA51
354	387	2.94	2.2	430	74	HA51	IHA51
443	240	4.75	1.7	504	74	HA51	IHA51
443	209	5.45	1.5	528	74	HA51	IHA51
354	145	7.88	0.8	597	74	HA51	IHA51
221	105	10.83	0.4	664	74	HA51	IHA51
797	855	1.33	11.1	494	124	HA61	IHA61
797	456	2.50	5.9	609	124	HA61	IHA61
974	260	4.38	4.1	735	124	HA61	IHA61
797	147	7.75	1.9	889	124	HA61	IHA61
620	107	10.67	1.1	988	124	HA61	IHA61
708	212	5.38	2.5	264	74	HA32	IHA32
708	175	6.52	2.0	281	92	HA32	IHA32
664	141	8.11	1.5	302	84	HA32	IHA32
797	104	10.94	1.4	335	99	HA32	IHA32
708	86	13.25	1.0	356	82	HA32	IHA32
708	69	16.49	0.8	384	89	HA32	IHA32
797	56	20.26	0.7	411	102	HA32	IHA32
752	46	24.55	0.6	439	87	HA32	IHA32
708	37	30.55	0.4	450	84	HA32	IHA32
797	32	35.44	0.4	450	108	HA32	IHA32
797	26	44.10	0.3	450	89	HA32	IHA32
708	23	48.75	0.3	450	89	HA32	IHA32
841	19	60.67	0.3	450	106	HA32	IHA32
885	22	51.32	0.3	450	106	HA33	IHA33
885	19	59.65	0.3	450	106	HA33	IHA33
885	16	72.27	0.2	450	106	HA33	IHA33
885	13	89.94	0.2	450	106	HA33	IHA33
885	10	110.51	0.2	450	106	HA33	IHA33
885	8.5	133.88	0.1	450	106	HA33	IHA33
885	6.8	166.61	0.1	450	106	HA33	IHA33
885	5.9	193.30	0.1	450	106	HA33	IHA33
885	4.7	240.55	0.1	450	106	HA33	IHA33
885	4.1	279.07	0.1	450	106	HA33	IHA33
885	3.3	347.29	0.0	450	106	HA33	IHA33
1239	212	5.38	4.3	556	74	HA42	IHA42
1239	175	6.52	3.6	592	92	HA42	IHA42
1151	141	8.11	2.7	636	83	HA42	IHA42
1328	104	10.94	2.3	704	95	HA42	IHA42
1239	86	13.25	1.8	751	86	HA42	IHA42
1239	69	16.49	1.4	808	89	HA42	IHA42
1328	56	20.26	1.2	866	97	HA42	IHA42
1372	46	24.55	1.1	925	95	HA42	IHA42
1239	37	30.55	0.8	967	81	HA42	IHA42
1328	32	35.44	0.7	967	103	HA42	IHA42
1239	26	44.10	0.5	967	83	HA42	IHA42
1018	23	48.75	0.4	967	93	HA42	IHA42

IHA/IH - Performances (Fs=1, 1140 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
1151	19	60.67	0.4	967	96	HA42	IHA42
1328	22	51.32	0.5	967	96	HA43	IHA43
1328	19	59.65	0.4	967	96	HA43	IHA43
1328	16	72.27	0.4	967	92	HA43	IHA43
1328	13	89.94	0.3	967	89	HA43	IHA43
1328	10	110.51	0.2	967	91	HA43	IHA43
1328	8.5	133.88	0.2	967	92	HA43	IHA43
1328	6.8	166.61	0.2	967	89	HA43	IHA43
1328	5.9	193.30	0.1	967	96	HA43	IHA43
1328	4.7	240.55	0.1	967	89	HA43	IHA43
1328	4.1	279.07	0.1	967	96	HA43	IHA43
1328	3.3	347.29	0.1	967	89	HA43	IHA43
2124	222	5.14	7.8	684	124	HA52	IHA52
2124	183	6.22	6.4	729	153	HA52	IHA52
2124	147	7.73	5.2	785	149	HA52	IHA52
2655	118	9.64	5.2	844	186	HA52	IHA52
2478	98	11.67	4.0	898	143	HA52	IHA52
2478	79	14.50	3.2	965	149	HA52	IHA52
2655	67	16.91	3.0	1020	170	HA52	IHA52
2567	56	20.46	2.4	1082	148	HA52	IHA52
2478	45	25.43	1.8	1164	144	HA52	IHA52
2655	38	29.89	1.7	1232	169	HA52	IHA52
2655	32	36.17	1.4	1304	153	HA52	IHA52
2478	25	44.95	1.0	1349	139	HA52	IHA52
2655	23	49.78	1.0	1349	179	HA52	IHA52
2567	18	61.87	0.8	1349	144	HA52	IHA52
2655	23	49.80	1.0	1349	74	HA53	IHA53
2655	19	60.25	0.8	1349	92	HA53	IHA53
2655	15	74.88	0.7	1349	90	HA53	IHA53
2655	13	88.02	0.6	1349	95	HA53	IHA53
2655	10	111.61	0.5	1349	88	HA53	IHA53
2655	8.2	138.71	0.4	1349	90	HA53	IHA53
2655	7	163.05	0.3	1349	95	HA53	IHA53
2655	5.7	200.27	0.3	1349	91	HA53	IHA53
2655	4.8	235.41	0.2	1349	95	HA53	IHA53
2655	4	284.81	0.2	1349	92	HA53	IHA53
2655	3.2	353.98	0.1	1349	90	HA53	IHA53
3363	222	5.14	12.3	1009	124	HA62	IHA62
3363	183	6.22	10.2	1077	153	HA62	IHA62
3363	147	7.73	8.2	1158	149	HA62	IHA62
4071	118	9.64	8.0	1246	180	HA62	IHA62
3894	98	11.67	6.3	1326	147	HA62	IHA62
3717	79	14.50	4.8	1424	142	HA62	IHA62
4425	67	16.91	4.9	1505	189	HA62	IHA62
4071	56	20.46	3.7	1598	141	HA62	IHA62
3806	45	25.43	2.8	1718	139	HA62	IHA62
3983	38	29.89	2.5	1798	165	HA62	IHA62
4160	32	36.17	2.2	1798	160	HA62	IHA62
3894	25	44.95	1.6	1798	140	HA62	IHA62
3275	23	49.78	1.2	1798	141	HA62	IHA62
3894	18	61.87	1.2	1798	177	HA62	IHA62
4248	23	49.80	1.6	1798	74	HA63	IHA63
4248	19	60.25	1.4	1798	92	HA63	IHA63
4248	15	74.88	1.1	1798	90	HA63	IHA63
4248	13	88.02	0.9	1798	95	HA63	IHA63

IHA/IH - Performances (Fs=1, 1140 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
4248	10	111.61	0.7	1798	88	HA63	IHA63
4248	8.2	138.71	0.6	1798	90	HA63	IHA63
4248	7	163.05	0.5	1798	95	HA63	IHA63
4248	5.7	200.27	0.4	1798	91	HA63	IHA63
4248	4.8	235.41	0.3	1798	95	HA63	IHA63
4248	4	284.81	0.3	1798	92	HA63	IHA63
4248	3.2	353.98	0.2	1798	90	HA63	IHA63

IHA/IH - Performances (Fs=1, 875 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
841	186	4.70	2.6	826	157	PH032	IH032
929	140	6.23	2.2	907	184	PH032	IH032
1106	113	7.76	2.1	945	190	PH032	IH032
1151	99	8.87	1.9	989	201	PH032	IH032
1239	86	10.14	1.8	1028	208	PH032	IH032
1283	74	11.76	1.6	1086	219	PH032	IH032
1505	64	13.72	1.6	1098	219	PH032	IH032
1505	60	14.66	1.5	1131	225	PH032	IH032
1682	52	16.77	1.5	1159	227	PH032	IH032
1770	48	18.20	1.4	1179	230	PH032	IH032
1770	44	19.90	1.3	1227	237	PH032	IH032
1770	39	22.68	1.1	1236	247	PH032	IH032
1770	37	23.83	1.1	1236	250	PH032	IH032
1770	33	26.39	1.0	1236	256	PH032	IH032
1770	29	29.70	0.9	1236	263	PH032	IH032
1770	27	32.89	0.8	1236	268	PH032	IH032
1770	23	37.92	0.7	1236	274	PH032	IH032
1770	21	41.40	0.6	1236	278	PH032	IH032
1770	19	47.25	0.5	1236	282	PH032	IH032
1770	16	53.59	0.5	1236	286	PH033	IH033
1770	13	66.78	0.4	1236	292	PH033	IH033
1770	12	74.84	0.3	1236	295	PH033	IH033
1770	8.8	99.27	0.3	1236	300	PH033	IH033
1770	8.1	108.05	0.2	1236	301	PH033	IH033
1770	7.1	123.71	0.2	1236	303	PH033	IH033
1770	6.1	143.33	0.2	1236	305	PH033	IH033
1770	4.9	178.61	0.1	1236	307	PH033	IH033
1770	4.4	197.17	0.1	1236	308	PH033	IH033
1770	3.6	245.70	0.1	1236	309	PH033	IH033
221	609	1.44	2.2	160	224	PH041	IH041
221	438	2.00	1.6	182	248	PH041	IH041
266	344	2.55	1.5	194	251	PH041	IH041
266	322	2.71	1.4	199	254	PH041	IH041
354	282	3.11	1.6	199	246	PH041	IH041
398	244	3.59	1.6	206	247	PH041	IH041
398	208	4.20	1.4	219	256	PH041	IH041
398	175	5.00	1.1	225	264	PH041	IH041
443	159	5.50	1.2	225	264	PH041	IH041
443	144	6.09	1.0	225	268	PH041	IH041
443	114	7.67	0.8	225	276	PH041	IH041
487	100	8.75	0.8	225	278	PH041	IH041
1416	160	5.46	3.7	1072	98	PH042	IH042
1416	122	7.19	2.8	1202	151	PH042	IH042
1859	98	8.91	3.0	1222	141	PH042	IH042
2124	85	10.31	3.0	1245	144	PH042	IH042
2213	74	11.80	2.7	1306	159	PH042	IH042
2213	64	13.57	2.4	1394	180	PH042	IH042
2213	55	15.96	2.0	1484	202	PH042	IH042
2213	46	19.00	1.7	1484	221	PH042	IH042
2213	42	21.00	1.5	1484	230	PH042	IH042
2301	38	23.15	1.4	1484	235	PH042	IH042
2301	34	26.04	1.3	1484	245	PH042	IH042
2478	32	27.50	1.3	1484	243	PH042	IH042
2478	29	30.45	1.2	1484	251	PH042	IH042
2478	26	34.10	1.1	1484	258	PH042	IH042

IHA/IH - Performances (Fs=1, 875 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
2478	23	37.76	0.9	1484	265	PH042	IH042
2478	20	43.75	0.8	1484	272	PH042	IH042
2478	18	47.53	0.8	1484	276	PH042	IH042
2478	16	54.25	0.7	1484	282	PH042	IH042
2655	14	61.83	0.6	1484	284	PH043	IH043
2655	11	76.67	0.5	1484	291	PH043	IH043
2655	10	87.05	0.5	1484	295	PH043	IH043
2655	7.6	114.55	0.3	1484	301	PH043	IH043
2655	7	125.69	0.3	1484	303	PH043	IH043
2655	6.2	142.04	0.3	1484	305	PH043	IH043
2655	5.3	165.38	0.2	1484	307	PH043	IH043
2655	4.3	205.07	0.2	1484	310	PH043	IH043
2655	3.8	227.50	0.2	1484	311	PH043	IH043
2655	3.1	282.10	0.1	1484	313	PH043	IH043
354	688	1.27	4.0	396	186	PH051	IH051
531	616	1.42	5.4	393	142	PH051	IH051
531	412	2.13	3.6	458	199	PH051	IH051
620	340	2.57	3.4	482	203	PH051	IH051
708	276	3.17	3.2	512	211	PH051	IH051
797	237	3.69	3.1	533	214	PH051	IH051
797	219	4.00	2.9	550	222	PH051	IH051
841	183	4.77	2.5	562	232	PH051	IH051
885	167	5.25	2.4	562	236	PH051	IH051
885	150	5.82	2.2	562	243	PH051	IH051
885	119	7.33	1.7	562	258	PH051	IH051
885	104	8.38	1.5	562	265	PH051	IH051
2301	153	5.73	5.8	1330	58	PH052	IH052
2567	127	6.89	5.4	1395	77	PH052	IH052
3009	103	8.53	5.1	1452	89	PH052	IH052
3275	92	9.56	5.0	1482	96	PH052	IH052
3452	76	11.51	4.3	1586	123	PH052	IH052
3806	61	14.24	3.9	1691	144	PH052	IH052
3983	53	16.59	3.5	1773	161	PH052	IH052
4071	49	18.00	3.3	1798	170	PH052	IH052
4071	44	19.97	2.9	1798	184	PH052	IH052
4160	40	21.67	2.8	1798	192	PH052	IH052
4160	35	24.71	2.4	1798	207	PH052	IH052
4337	33	26.18	2.4	1798	209	PH052	IH052
4337	31	28.44	2.2	1798	217	PH052	IH052
4337	28	31.52	2.0	1798	227	PH052	IH052
4337	27	33.00	1.9	1798	231	PH052	IH052
4337	22	38.98	1.6	1798	243	PH052	IH052
4337	19	45.36	1.4	1798	253	PH052	IH052
4337	18	49.13	1.3	1798	258	PH052	IH052
4337	16	56.11	1.1	1798	265	PH052	IH052
4425	15	58.81	1.1	1798	266	PH053	IH053
4425	12	72.75	0.9	1798	276	PH053	IH053
4425	9.7	90.51	0.7	1798	283	PH053	IH053
4425	8	108.95	0.6	1798	289	PH053	IH053
4425	6.5	134.76	0.5	1798	293	PH053	IH053
4425	5.6	157.29	0.4	1798	296	PH053	IH053
4425	4.5	194.56	0.3	1798	300	PH053	IH053
4425	4	216.38	0.3	1798	301	PH053	IH053
4425	3.3	267.65	0.2	1798	304	PH053	IH053
708	651	1.34	7.5	597	471	PH061	IH061

IHA/IH - Performances (Fs=1, 875 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
1062	412	2.13	7.2	661	481	PH061	IH061
1062	340	2.57	5.9	715	514	PH061	IH061
1151	276	3.17	5.2	764	532	PH061	IH061
1328	237	3.69	5.2	787	534	PH061	IH061
1328	219	4.00	4.8	813	544	PH061	IH061
1416	183	4.77	4.2	832	557	PH061	IH061
1505	167	5.25	4.1	832	561	PH061	IH061
1505	150	5.82	3.7	832	572	PH061	IH061
1505	119	7.33	2.9	832	592	PH061	IH061
1505	104	8.38	2.6	832	601	PH061	IH061
4425	163	5.38	11.9	2153	192	PH062	IH062
4868	147	5.93	11.9	2186	193	PH062	IH062
4868	118	7.39	9.5	2407	281	PH062	IH062
5310	103	8.50	9.0	2487	300	PH062	IH062
5310	93	9.39	8.2	2600	332	PH062	IH062
5753	75	11.69	7.1	2698	371	PH062	IH062
6196	69	12.67	7.1	2698	373	PH062	IH062
6196	59	14.75	6.1	2698	411	PH062	IH062
7081	54	16.29	6.3	2698	403	PH062	IH062
7346	50	17.67	6.0	2698	413	PH062	IH062
7523	43	20.28	5.4	2698	437	PH062	IH062
7523	38	23.27	4.7	2698	463	PH062	IH062
7523	34	25.70	4.2	2698	480	PH062	IH062
7081	30	29.33	3.5	2698	508	PH062	IH062
7523	27	32.00	3.4	2698	511	PH062	IH062
7081	24	36.99	2.8	2698	535	PH062	IH062
7523	22	40.33	2.7	2698	538	PH062	IH062
7523	19	46.06	2.4	2698	550	PH062	IH062
7523	18	49.45	2.2	2698	556	PH063	IH063
7523	16	54.61	2.0	2698	564	PH063	IH063
7523	13	68.00	1.6	2698	579	PH063	IH063
7523	10	85.82	1.3	2698	591	PH063	IH063
7523	9.2	94.76	1.2	2698	596	PH063	IH063
7523	7.4	118.00	0.9	2698	604	PH063	IH063
7523	6.5	135.40	0.8	2698	609	PH063	IH063
7523	5.9	149.51	0.7	2698	611	PH063	IH063
7523	5.1	170.67	0.7	2698	615	PH063	IH063
7523	4.7	186.18	0.6	2698	617	PH063	IH063
7523	4.1	215.21	0.5	2698	620	PH063	IH063
7523	3.7	234.67	0.5	2698	621	PH063	IH063
7523	3.3	268.00	0.4	2698	624	PH063	IH063
1770	674	1.30	19.5	640	207	PH081	IH081
1947	613	1.43	19.5	648	208	PH081	IH081
2036	453	1.93	15.1	729	316	PH081	IH081
2478	344	2.54	14.0	774	343	PH081	IH081
2744	269	3.25	12.1	834	389	PH081	IH081
2744	235	3.72	10.5	886	426	PH081	IH081
2832	219	4.00	10.1	899	436	PH081	IH081
2832	188	4.67	8.7	899	472	PH081	IH081
2921	158	5.54	7.5	899	499	PH081	IH081
3009	144	6.08	7.1	899	511	PH081	IH081
3098	117	7.50	5.9	899	539	PH081	IH081
3098	104	8.44	5.3	899	555	PH081	IH081
6196	162	5.39	16.6	2690	183	PH082	IH082
6196	147	5.95	15.1	2802	230	PH082	IH082

IHA/IH - Performances (Fs=1, 875 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
7081	118	7.39	13.8	2967	266	PH082	IH082
7081	109	8.02	12.8	3068	298	PH082	IH082
7966	99	8.85	13.0	3092	290	PH082	IH082
9736	79	11.01	12.8	3201	297	PH082	IH082
12391	65	13.50	13.3	3183	283	PH082	IH082
13276	59	14.90	12.9	3232	294	PH082	IH082
13276	53	16.62	11.6	3406	334	PH082	IH082
13276	47	18.53	10.4	3608	369	PH082	IH082
14161	45	19.38	10.6	3580	363	PH082	IH082
14161	41	21.39	9.6	3745	392	PH082	IH082
14161	38	22.80	9.0	3883	410	PH082	IH082
14161	33	26.60	7.7	4047	448	PH082	IH082
14161	31	27.88	7.3	4047	459	PH082	IH082
14161	28	31.15	6.6	4047	481	PH082	IH082
14161	25	34.38	6.0	4047	500	PH082	IH082
14161	23	38.70	5.3	4047	519	PH082	IH082
14161	20	42.75	4.8	4047	534	PH082	IH082
14161	18	48.13	4.3	4047	550	PH082	IH082
14161	15	56.53	3.7	4047	569	PH083	IH083
15931	12	71.48	3.3	4047	581	PH083	IH083
15931	11	78.87	3.0	4047	590	PH083	IH083
15931	10	85.56	2.8	4047	596	PH083	IH083
15931	8.9	98.09	2.4	4047	607	PH083	IH083
15931	7.8	112.78	2.1	4047	616	PH083	IH083
15931	7	124.44	1.9	4047	621	PH083	IH083
15931	6.2	142.15	1.7	4047	628	PH083	IH083
15931	5.7	154.76	1.5	4047	632	PH083	IH083
15931	5.4	162.35	1.4	4047	634	PH083	IH083
15931	4.9	179.13	1.3	4047	638	PH083	IH083
15931	4.5	195.07	1.2	4047	641	PH083	IH083
15931	3.9	222.78	1.1	4047	646	PH083	IH083
3540	677	1.29	39.2	782	408	PH101	IH101
3983	620	1.41	40.4	784	393	PH101	IH101
3983	431	2.03	28.0	918	546	PH101	IH101
4868	353	2.48	28.1	941	545	PH101	IH101
5310	267	3.27	23.2	1035	605	PH101	IH101
5310	236	3.70	20.5	1093	638	PH101	IH101
5399	207	4.22	18.3	1124	666	PH101	IH101
5487	179	4.88	16.1	1124	693	PH101	IH101
5487	166	5.27	14.9	1124	707	PH101	IH101
5664	140	6.23	13.0	1124	731	PH101	IH101
5753	116	7.55	10.9	1124	757	PH101	IH101
5753	104	8.40	9.8	1124	770	PH101	IH101
15931	166	5.26	43.8	2991	389	PH102	IH102
17701	138	6.36	40.3	3108	432	PH102	IH102
20357	124	7.05	41.7	3027	414	PH102	IH102
22127	106	8.27	38.7	3125	451	PH102	IH102
24782	88	9.99	35.9	3205	485	PH102	IH102
26552	79	11.09	34.6	3240	500	PH102	IH102
27437	66	13.32	29.8	3512	559	PH102	IH102
28322	54	16.09	25.5	3853	611	PH102	IH102
28322	49	17.85	22.9	4070	642	PH102	IH102
28322	44	19.85	20.6	4318	670	PH102	IH102
28322	41	21.44	19.1	4486	688	PH102	IH102
29207	37	23.97	17.6	4651	706	PH102	IH102

IHA/IH - Performances (Fs=1, 875 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
29207	34	25.89	16.3	4865	722	PH102	IH102
29207	30	28.73	14.7	4946	742	PH102	IH102
28322	28	30.72	13.3	4946	758	PH102	IH102
28322	26	34.20	12.0	4946	775	PH102	IH102
24782	23	38.45	9.3	4946	807	PH102	IH102
29207	21	41.30	10.2	4946	796	PH102	IH102
29207	19	45.82	9.2	4946	808	PH102	IH102
29207	17	51.52	8.2	4946	820	PH102	IH102
30978	16	55.47	8.2	4946	822	PH103	IH103
30978	13	69.69	6.6	4946	842	PH103	IH103
30978	11	79.82	5.7	4946	852	PH103	IH103
30978	10	84.16	5.4	4946	855	PH103	IH103
30978	9.4	93.36	4.9	4946	862	PH103	IH103
30978	8.7	100.07	4.6	4946	866	PH103	IH103
30978	7.2	120.84	3.8	4946	875	PH103	IH103
30978	6.5	134.06	3.4	4946	879	PH103	IH103
30978	6.1	143.42	3.2	4946	882	PH103	IH103
30978	5.4	160.82	2.8	4946	886	PH103	IH103
30978	4.8	181.07	2.5	4946	890	PH103	IH103
30978	4.5	194.21	2.4	4946	892	PH103	IH103
30978	4.1	215.45	2.1	4946	895	PH103	IH103
31863	3.6	242.59	1.9	4946	897	PH103	IH103
5753	711	1.23	66.9	940	195	PH121	IH121
6196	618	1.42	62.6	975	240	PH121	IH121
6196	484	1.81	49.1	1089	379	PH121	IH121
6638	438	2.00	47.5	1112	395	PH121	IH121
7081	353	2.48	40.9	1198	463	PH121	IH121
7081	296	2.95	34.3	1295	531	PH121	IH121
7258	278	3.14	33.0	1321	544	PH121	IH121
7523	244	3.58	30.1	1349	574	PH121	IH121
7523	213	4.12	26.1	1349	615	PH121	IH121
7700	182	4.80	23.0	1349	648	PH121	IH121
7789	168	5.21	21.4	1349	664	PH121	IH121
7966	140	6.25	18.2	1349	696	PH121	IH121
8851	114	7.70	16.5	1349	715	PH121	IH121
26552	166	5.27	72.8	4328	175	PH122	IH122
28322	152	5.78	70.9	4377	194	PH122	IH122
31863	124	7.05	65.4	4558	249	PH122	IH122
32748	113	7.74	61.2	4711	292	PH122	IH122
33633	103	8.48	57.4	4870	330	PH122	IH122
35403	85	10.35	49.5	5229	409	PH122	IH122
38943	69	12.66	44.5	5525	459	PH122	IH122
40713	63	13.86	42.5	5648	479	PH122	IH122
42484	52	16.92	36.3	6096	541	PH122	IH122
44254	45	19.32	33.1	6424	573	PH122	IH122
44254	43	20.57	31.1	6577	593	PH122	IH122
44254	39	22.52	28.4	6744	621	PH122	IH122
44254	36	24.47	26.2	6744	643	PH122	IH122
44254	32	27.49	23.3	6744	672	PH122	IH122
44254	29	29.86	21.4	6744	691	PH122	IH122
44254	27	33.00	19.4	6744	711	PH122	IH122
44254	24	36.13	17.7	6744	728	PH122	IH122
44254	20	44.10	14.5	6744	760	PH122	IH122
44254	19	45.77	14.3	6744	765	PH123	IH123
44254	16	55.87	11.7	6744	791	PH123	IH123

IHA/IH - Performances (Fs=1, 875 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
44254	13	67.32	9.7	6744	810	PH123	IH123
44254	12	73.71	8.9	6744	819	PH123	IH123
44254	10	83.34	7.8	6744	829	PH123	IH123
44254	9.7	89.97	7.3	6744	834	PH123	IH123
44254	8.7	100.29	6.5	6744	842	PH123	IH123
44254	8.1	108.34	6.0	6744	846	PH123	IH123
44254	7.4	118.62	5.5	6744	852	PH123	IH123
44254	6.8	128.18	5.1	6744	856	PH123	IH123
44254	6	144.79	4.5	6744	861	PH123	IH123
44254	5.6	155.22	4.2	6744	864	PH123	IH123
44254	5.1	172.80	3.8	6744	869	PH123	IH123
44254	4.6	189.19	3.5	6744	872	PH123	IH123
44254	4.2	207.43	3.2	6744	875	PH123	IH123
44254	3.8	230.92	2.8	6744	878	PH123	IH123
44254	3.4	259.64	2.5	6744	-	PH123	-
40713	166	5.27	111.6	5538	1147	PH142	IH142
43369	138	6.36	98.7	5884	1288	PH142	IH142
44254	124	7.04	90.9	6150	1373	PH142	IH142
46909	112	7.84	86.5	6277	1421	PH142	IH142
57530	93	9.45	88.0	6099	1404	PH142	IH142
63725	84	10.47	88.0	5989	1405	PH142	IH142
64610	67	13.07	71.5	6770	1585	PH142	IH142
69036	56	15.75	63.4	7153	1673	PH142	IH142
69921	50	17.45	57.9	7563	1733	PH142	IH142
70806	44	20.04	51.1	8056	1807	PH142	IH142
70806	36	24.15	42.4	8986	1902	PH142	IH142
70806	33	26.76	38.3	9409	1947	PH142	IH142
70806	27	32.24	31.8	10432	2018	PH142	IH142
70806	23	38.85	26.4	11300	2077	PH142	IH142
70806	20	43.05	23.8	12095	2105	PH142	IH142
70806	18	48.35	21.6	12364	2134	PH143	IH143
70806	16	53.53	19.5	12364	2156	PH143	IH143
70806	15	59.22	17.7	12364	2176	PH143	IH143
70806	14	62.99	16.6	12364	2188	PH143	IH143
70806	12	71.35	14.7	12364	2208	PH143	IH143
70806	11	79.07	13.2	12364	2224	PH143	IH143
70806	10	86.43	12.1	12364	2236	PH143	IH143
70806	9.1	96.21	10.9	12364	2249	PH143	IH143
70806	8.4	104.51	10.0	12364	2258	PH143	IH143
70806	7.5	115.92	9.0	12364	2269	PH143	IH143
70806	6.8	128.47	8.1	12364	2278	PH143	IH143
70806	6.3	139.55	7.5	12364	2285	PH143	IH143
70806	5.7	154.33	6.8	12364	2293	PH143	IH143
70806	4.7	185.96	5.6	12364	2305	PH143	IH143
70806	4.2	206.08	5.1	12364	2311	PH143	IH143
168	343	2.55	0.9	161	-	HA31	-
177	297	2.94	0.9	169	-	HA31	-
177	275	3.18	0.8	173	-	HA31	-
177	261	3.36	0.8	176	-	HA31	-
186	226	3.87	0.7	185	-	HA31	-
186	208	4.21	0.6	190	-	HA31	-
195	184	4.75	0.6	198	-	HA31	-
204	172	5.10	0.6	202	-	HA31	-
204	160	5.45	0.5	207	-	HA31	-
204	139	6.30	0.5	217	-	HA31	-

IHA/IH - Performances (Fs=1, 875 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
195	111	7.88	0.4	234	-	HA31	-
124	81	10.83	0.2	247	-	HA31	-
221	604	1.45	2.2	135	74	HA41	IHA41
221	297	2.94	1.1	170	74	HA41	IHA41
266	184	4.75	0.8	200	74	HA41	IHA41
266	160	5.45	0.7	209	74	HA41	IHA41
221	111	7.88	0.4	237	74	HA41	IHA41
177	81	10.83	0.2	247	74	HA41	IHA41
354	604	1.45	3.5	371	74	HA51	IHA51
354	297	2.94	1.7	470	74	HA51	IHA51
443	184	4.75	1.3	551	74	HA51	IHA51
443	160	5.45	1.2	577	74	HA51	IHA51
354	111	7.88	0.6	652	74	HA51	IHA51
221	81	10.83	0.3	674	74	HA51	IHA51
797	656	1.33	8.6	540	124	HA61	IHA61
797	350	2.50	4.6	666	124	HA61	IHA61
974	200	4.38	3.2	802	124	HA61	IHA61
797	113	7.75	1.5	970	124	HA61	IHA61
620	82	10.67	0.8	1012	124	HA61	IHA61
708	163	5.38	1.9	288	74	HA32	IHA32
708	134	6.52	1.6	308	92	HA32	IHA32
664	108	8.11	1.2	330	84	HA32	IHA32
797	80	10.94	1.1	365	99	HA32	IHA32
708	66	13.25	0.8	389	82	HA32	IHA32
708	53	16.49	0.6	419	89	HA32	IHA32
797	43	20.26	0.6	449	102	HA32	IHA32
752	36	24.55	0.4	450	87	HA32	IHA32
708	29	30.55	0.3	450	84	HA32	IHA32
797	25	35.44	0.3	450	108	HA32	IHA32
797	20	44.10	0.3	450	89	HA32	IHA32
708	18	48.75	0.2	450	89	HA32	IHA32
841	14	60.67	0.2	450	106	HA32	IHA32
885	17	51.32	0.3	450	106	HA33	IHA33
885	15	59.65	0.2	450	106	HA33	IHA33
885	12	72.27	0.2	450	106	HA33	IHA33
885	9.7	89.94	0.1	450	106	HA33	IHA33
885	7.9	110.51	0.1	450	106	HA33	IHA33
885	6.5	133.88	0.1	450	106	HA33	IHA33
885	5.3	166.61	0.1	450	106	HA33	IHA33
885	4.5	193.30	0.1	450	106	HA33	IHA33
885	3.6	240.55	0.1	450	106	HA33	IHA33
885	3.1	279.07	0.0	450	106	HA33	IHA33
885	2.5	347.29	0.0	450	106	HA33	IHA33
1239	163	5.38	3.3	606	74	HA42	IHA42
1239	134	6.52	2.7	647	92	HA42	IHA42
1151	108	8.11	2.1	696	83	HA42	IHA42
1328	80	10.94	1.8	769	95	HA42	IHA42
1239	66	13.25	1.4	820	86	HA42	IHA42
1239	53	16.49	1.1	882	89	HA42	IHA42
1328	43	20.26	0.9	946	97	HA42	IHA42
1372	36	24.55	0.8	967	95	HA42	IHA42
1239	29	30.55	0.6	967	81	HA42	IHA42
1328	25	35.44	0.5	967	103	HA42	IHA42
1239	20	44.10	0.4	967	83	HA42	IHA42
1018	18	48.75	0.3	967	93	HA42	IHA42

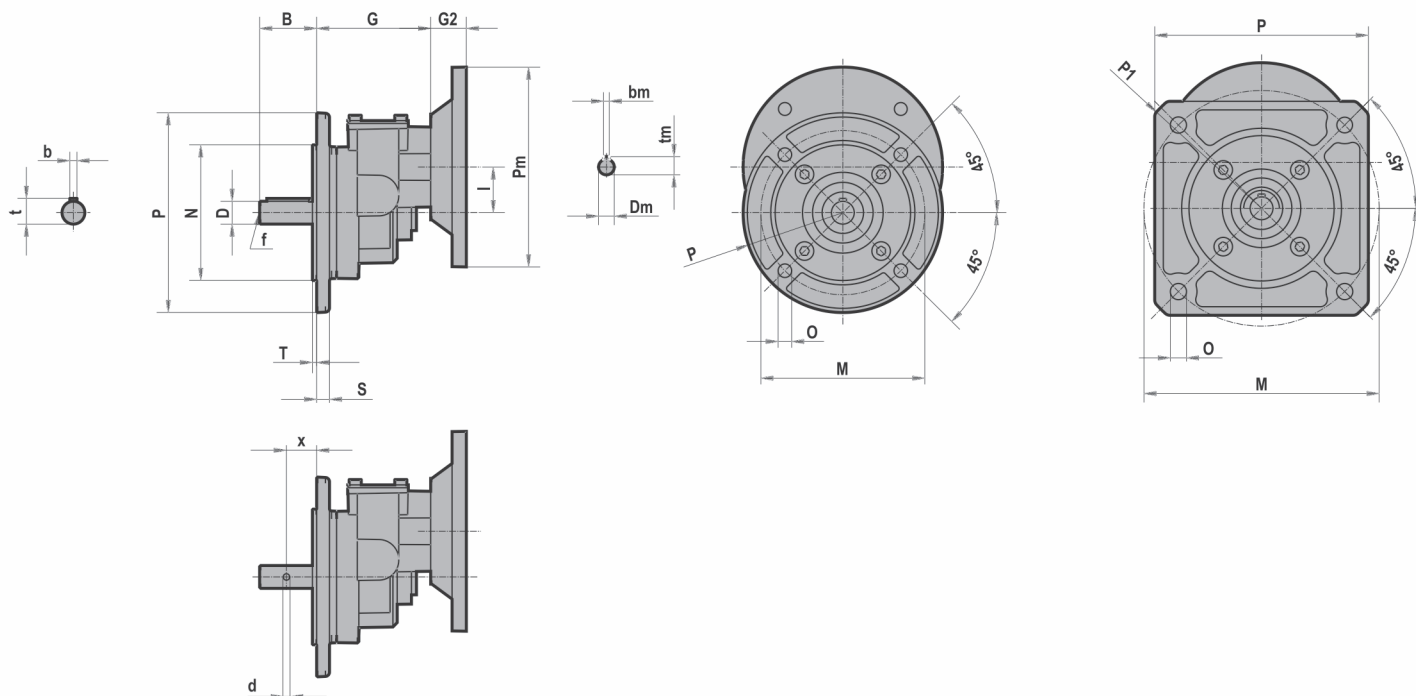
IHA/IH - Performances (Fs=1, 875 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
1151	14	60.67	0.3	967	96	HA42	IHA42
1328	17	51.32	0.4	967	96	HA43	IHA43
1328	15	59.65	0.3	967	96	HA43	IHA43
1328	12	72.27	0.3	967	92	HA43	IHA43
1328	9.7	89.94	0.2	967	89	HA43	IHA43
1328	7.9	110.51	0.2	967	91	HA43	IHA43
1328	6.5	133.88	0.1	967	92	HA43	IHA43
1328	5.3	166.61	0.1	967	89	HA43	IHA43
1328	4.5	193.30	0.1	967	96	HA43	IHA43
1328	3.6	240.55	0.1	967	89	HA43	IHA43
1328	3.1	279.07	0.1	967	96	HA43	IHA43
1328	2.5	347.29	0.1	967	89	HA43	IHA43
2124	170	5.14	6.0	748	124	HA52	IHA52
2124	141	6.22	4.9	796	153	HA52	IHA52
2124	113	7.73	4.0	857	149	HA52	IHA52
2655	91	9.64	4.0	921	186	HA52	IHA52
2478	75	11.67	3.1	982	143	HA52	IHA52
2478	60	14.50	2.5	1058	149	HA52	IHA52
2655	52	16.91	2.3	1109	170	HA52	IHA52
2567	43	20.46	1.8	1182	148	HA52	IHA52
2478	34	25.43	1.4	1278	144	HA52	IHA52
2655	29	29.89	1.3	1348	169	HA52	IHA52
2655	24	36.17	1.1	1349	153	HA52	IHA52
2478	19	44.95	0.8	1349	139	HA52	IHA52
2655	18	49.78	0.8	1349	179	HA52	IHA52
2567	14	61.87	0.6	1349	144	HA52	IHA52
2655	18	49.80	0.8	1349	74	HA53	IHA53
2655	15	60.25	0.7	1349	92	HA53	IHA53
2655	12	74.88	0.5	1349	90	HA53	IHA53
2655	9.9	88.02	0.4	1349	95	HA53	IHA53
2655	7.8	111.61	0.4	1349	88	HA53	IHA53
2655	6.3	138.71	0.3	1349	90	HA53	IHA53
2655	5.4	163.05	0.2	1349	95	HA53	IHA53
2655	4.4	200.27	0.2	1349	91	HA53	IHA53
2655	3.7	235.41	0.2	1349	95	HA53	IHA53
2655	3.1	284.81	0.1	1349	92	HA53	IHA53
2655	2.5	353.98	0.1	1349	90	HA53	IHA53
3363	170	5.14	9.5	1103	124	HA62	IHA62
3363	141	6.22	7.8	1174	153	HA62	IHA62
3363	113	7.73	6.3	1264	149	HA62	IHA62
4071	91	9.64	6.1	1359	180	HA62	IHA62
3894	75	11.67	4.8	1449	147	HA62	IHA62
3717	60	14.50	3.7	1561	142	HA62	IHA62
4425	52	16.91	3.8	1638	189	HA62	IHA62
4071	43	20.46	2.9	1745	141	HA62	IHA62
3806	34	25.43	2.2	1798	139	HA62	IHA62
3983	29	29.89	1.9	1798	165	HA62	IHA62
4160	24	36.17	1.7	1798	160	HA62	IHA62
3894	19	44.95	1.3	1798	140	HA62	IHA62
3275	18	49.78	1.0	1798	141	HA62	IHA62
3894	14	61.87	0.9	1798	177	HA62	IHA62
4248	18	49.80	1.3	1798	74	HA63	IHA63
4248	15	60.25	1.0	1798	92	HA63	IHA63
4248	12	74.88	0.8	1798	90	HA63	IHA63
4248	9.9	88.02	0.7	1798	95	HA63	IHA63

IHA/IH - Performances (Fs=1, 875 RPM)

Maximum Torque in-lbs	Output Speed RPM	Exact Ratio i	Maximum Power HP	OHL		Gear Reducer	
				Output Shaft lbs	Input Shaft lbs	Motorized Input	Shaft Input
4248	7.8	111.61	0.6	1798	88	HA63	IHA63
4248	6.3	138.71	0.5	1798	90	HA63	IHA63
4248	5.4	163.05	0.4	1798	95	HA63	IHA63
4248	4.4	200.27	0.3	1798	91	HA63	IHA63
4248	3.7	235.41	0.3	1798	95	HA63	IHA63
4248	3.1	284.81	0.2	1798	92	HA63	IHA63
4248	2.5	353.98	0.2	1798	90	HA63	IHA63

HA31 - Dimensions



	D	B	b	t	x	d	f	G	I
A31	0.43 +0.0003/-0.0001	0.91	0.16	0.49	-	-	-	3.15	1.26
	0.55 +0.0003/-0.0001	1.18	0.20	0.63	-	-	M6		
	0.63 +0.0003/-0.0001	1.57	0.20	0.71	-	-	M6		
	0.75 +0.0004/-0.0002	1.57	0.24	0.85	-	-	M6		
	0.63 +0.0003/-0.0001	1.97	-	-	1.14	0.28	-		
	0.75 0/-0.0079	2.36	-	-	1.46	0.26	-		
	0.78 +/-0.002	3.94	-	-	1.97	0.24	M8		
0.79 +0.0004/-0.0002	2.95	-	-	1.77	0.24	-			

	P	P1	M	N -0.0014/-0.0027	O	S	T
A31	4.57	5.91	5.00	-	M8	-	-
	5.43	6.30	5.00	-	M8	-	-
	5.51	-	4.53	3.74	0.37	0.35	0.12
	5.91	7.87	6.50	-	0.43	-	-

B5

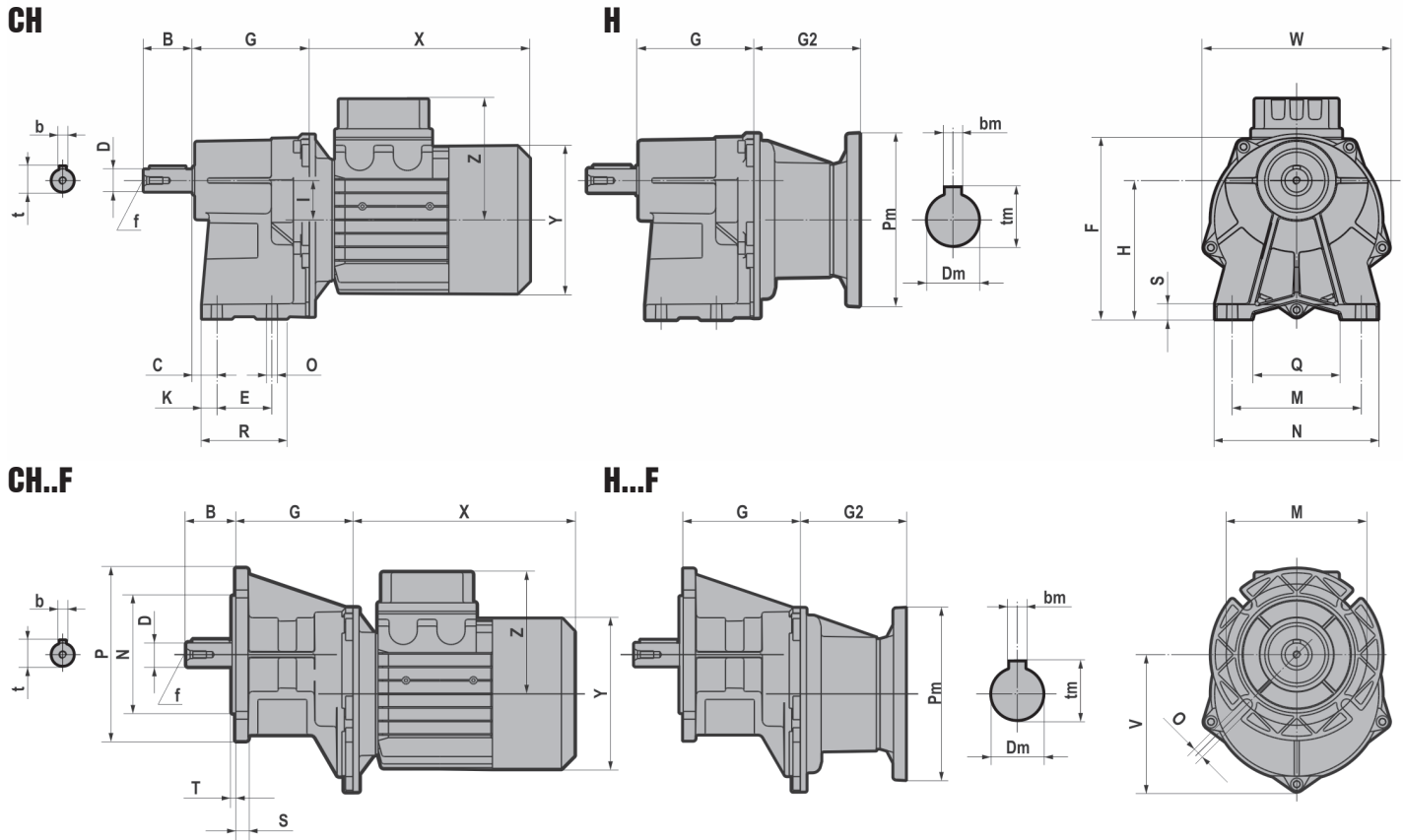
	G2
063	0.98
071	1.26
080	1.65

- For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 102.

~ lb	
063	4.18
071	4.4
080	4.84

lb w/o oil

HA/CHA..1 - Dimensions



H... - CH...

	B	C	D*	E	F	G	H	I	K	M	N	O	Q	R	S	W	b	t	f
A41	1.57	0.79	0.75	1.77	5.94	3.76	4.45	1.26	0.49	4.13	5.12	0.35	2.95	2.76	0.47	5.98	0.188	0.83	1/4-20
A51	1.97	0.24	1	2.76	6.65	4.09	5.12	1.26	0.59	5.91	7.09	0.43	4.53	3.94	0.47	5.98	0.25	1.11	3/8-16
A61	2.36	0.30	1.25	2.76	8.64	5.08	6.50	1.87	0.79	6.50	7.87	0.43	4.72	4.33	0.59	8.58	0.25	1.36	1/2-13

* Tolerance 0/-0,0005

H...F - CH...F

	M	N	O	P	S	T	V
A41F	4.53	3.74 -0.0014/-0.0035	0.35	5.51	0.39	0.12	4.39
A51F	5.12	4.33 -0.0014/-0.0035	0.35	6.30	0.39	0.14	4.39
A61F	6.5	5.12 -0.0017/-0.0042	0.43	7.87	0.59	0.14	6.36

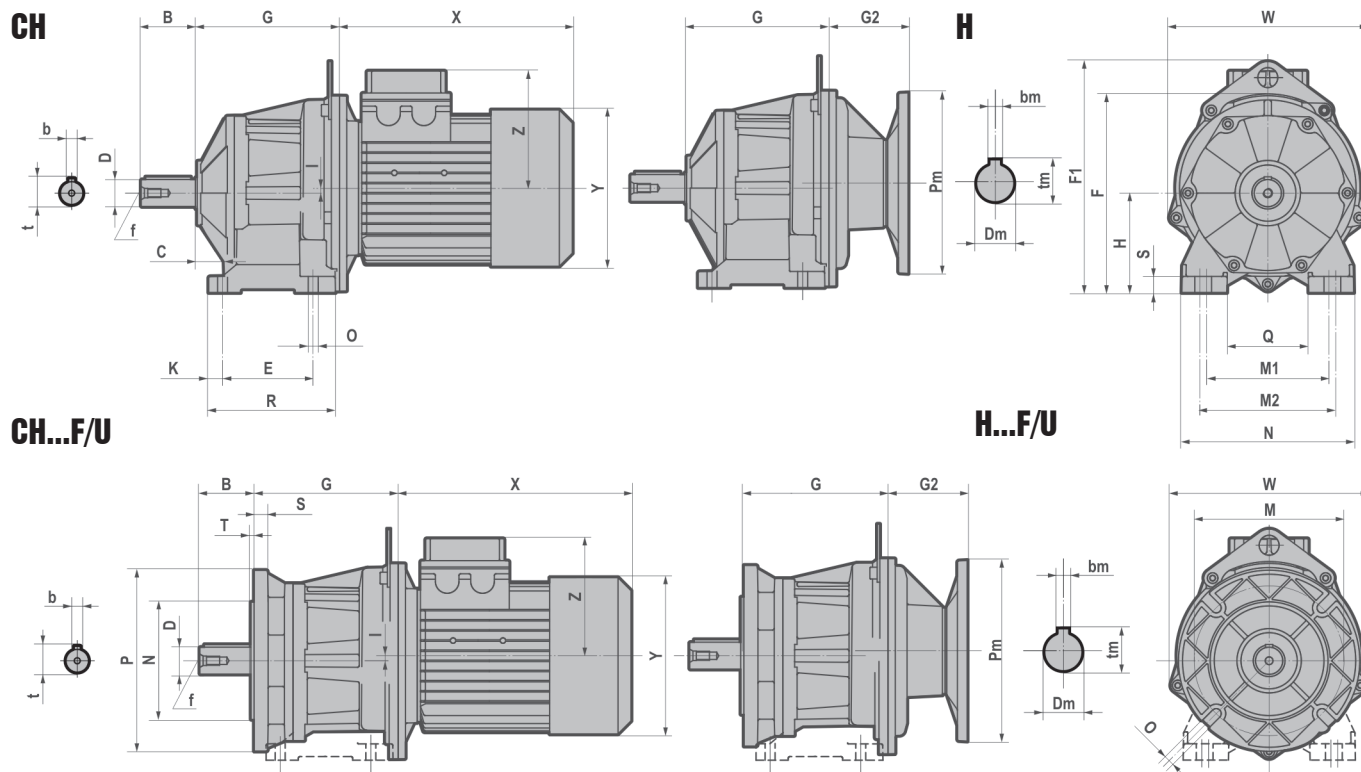
H... - H...F

	G2		~ lb		
	A41-A51	A61	A41	A51	A61
56C	3.78	3.98	6.8	9.2	14.52
140TC	3.78	3.98	7.7	9.9	14.96
180TC	/	3.98	-	-	15.4

- For the dimensions concerning the motor connection area (Pm, Dm, bm, tm, X, Y, Z) please refer to the table shown at page 91, 102.

- lb w/o oil

HA/CHA..2 - Dimensions



H... - CH...

	D*	B	b	t	f	C	E	F	F1	G	H	I	K	M1	M2	N	O	Q	R	S	W
A32	0.75	1.57	0.1875	0.83	1/4-20	0.71	3.15	6.10	/	4.63	2.95	0.39	0.51	4.33	4.72	5.71	0.35	2.95	4.37	0.59	5.98
A42	1	1.97	0.25	1.11	3/8-16	0.98	3.35	6.30	/	4.90	3.15	0.39	0.51	4.33	4.72	5.71	0.35	2.95	4.37	0.59	5.98
A52	1.25	2.36	0.25	1.36	1/2-13	1.18	3.94	8.56	10.06	6.26	4.33	0.22	0.61	5.31	5.91	7.48	0.43	3.54	5.51	0.71	8.58
A62	1.625	3.15	0.375	1.79	5/8-11	1.38	4.33	9.35	10.85	6.61	4.72	0.61	0.79	6.69	7.28	9.06	0.55	4.72	5.91	0.79	8.58

* Tolerance 0/-0,0005

H...F/U - CH...F/U

	P	M	N	O	G	I	S	T	W
A32F	5.51	4.53	3.74 -0.0014/-0.0035	0.35	4.63	0.39	0.39	0.12	5.98
	4.72	3.94	3.15 -0.0012/-0.0030	0.35					
A42F	6.30	5.12	4.33 -0.0014/-0.0035	0.35	4.90	0.39	0.39	0.14	5.98
	5.51	4.53	3.74 -0.0014/-0.0035	0.35					
A52F	7.87	6.50	5.12 -0.0017/-0.0042	0.43	6.26	0.22	0.59	0.14	8.58
	6.30	5.12	4.33 -0.0014/-0.0035	0.43					
A62F	9.84	8.46	7.09 -0.0017/-0.0042	0.55	6.61	0.61	0.59	0.16	8.58
	7.87	6.50	5.12 -0.0017/-0.0042	0.55					

	G2	
	A32-A42	A52-A62
56C	3.78	3.98
140TC	3.78	3.98
180TC	/	3.98

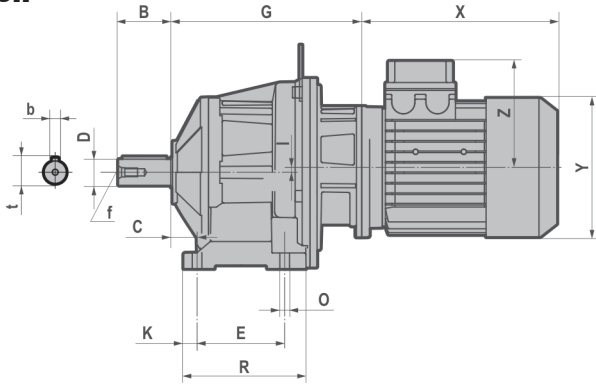
	~ lb			
	A32	A42	A52	A62
56C	9.5	11.7	20.9	24.9
140TC	10.1	12.1	22.0	26.0
180TC	-	-	28.6	32.56

lb w/o oil

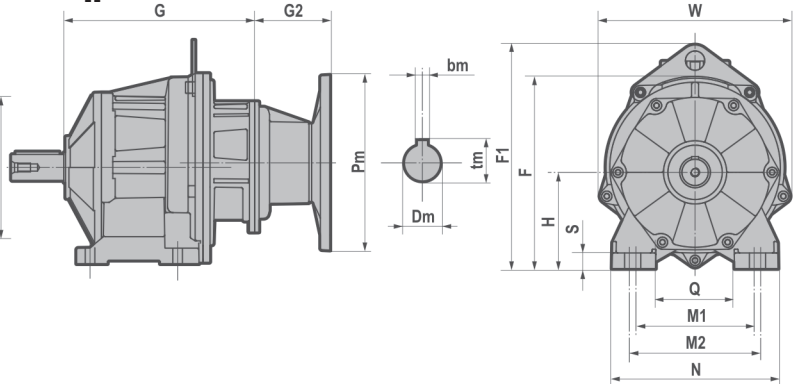
- For the dimensions concerning the motor connection area (Pm, Dm, bm, tm, X, Y, Z) please refer to the table shown at page 91, 102.

HA/CHA..3 - Dimensions

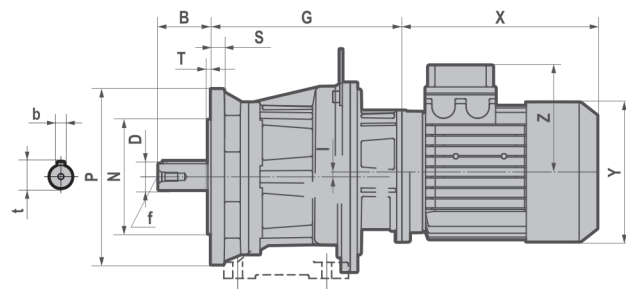
CH



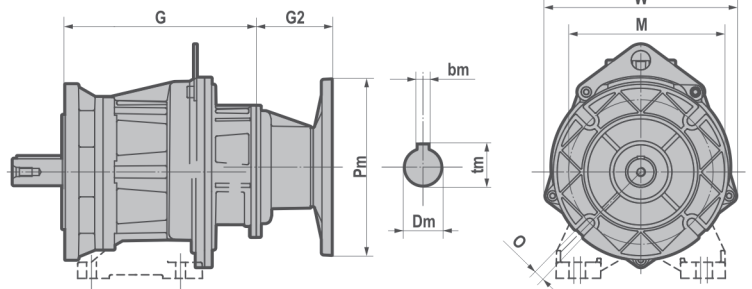
H



CH...F/U



H...F/U



H... - CH...

	D*	B	b	t	f	C	E	F	F1	G	H	I	K	M1	M2	N	O	Q	R	S	W
A33	0.75	1.57	0.1875	0.83	1/4-20	0.71	3.15	6.10	/	6.71	2.95	0.39	0.51	4.33	4.72	5.71	0.35	2.95	4.37	0.59	5.98
A43	1	1.97	0.25	1.11	3/8-16	0.98	3.35	6.30	/	6.99	3.15	0.39	0.51	4.33	4.72	5.71	0.35	2.95	4.37	0.59	5.98
A53	1.25	2.36	0.25	1.36	1/2-13	1.18	3.94	8.56	10.06	8.58	4.33	0.22	0.61	5.31	5.91	7.48	0.43	3.54	5.51	0.71	8.58
A63	1.625	3.15	0.375	1.79	5/8-11	1.38	4.33	9.35	10.85	8.94	4.72	0.61	0.79	6.69	7.28	9.06	0.55	4.72	5.91	0.79	8.58

* Tolerance 0/-0,0005

H...F/U - CH...F/U

	P	M	N	O	G	I	S	T	W
A33F	5.51	4.53	3.74 -0.0014/-0.0035	0.35	6.71	0.39	0.39	0.12	5.98
	4.72	3.94	3.15 -0.0012/-0.0030	0.35					
A43F	6.30	5.12	4.33 -0.0014/-0.0035	0.35	6.99	0.39	0.39	0.14	5.98
	5.51	4.53	3.74 -0.0014/-0.0035	0.35					
A53F	7.87	6.50	5.12 -0.0017/-0.0042	0.43	8.58	0.22	0.59	0.14	8.58
	6.30	5.12	4.33 -0.0014/-0.0035	0.43					
A63F	9.84	8.46	7.09 -0.0017/-0.0042	0.55	8.94	0.61	0.59	0.16	8.58
	7.87	6.50	5.12 -0.0017/-0.0042	0.55					

	G2	
	A3-A43	A53-A63
56C	3.78	3.78
140TC	/	3.78

	~ lb			
	A33	A43	A53	A63
56C	10.6	13.2	22.0	27.7
140TC	-	-	22.4	29.0

lb w/o oil

- For the dimensions concerning the motor connection area (Pm, Dm, bm, tm, X, Y, Z) please refer to the table shown at page 91, 102.

CHA..1/2/3 - Dimensions

CHA... - CHA...F

TS-TH - Motor

CH	T	063	071	080	090S	090L	100	112
A41-A51 A32-A42 A33-A43-A53-A63	X	180	205	223	232	257	/	/
	Y	121	139	158	173	173	/	/
	Z	104	112	122	130	130	/	/
A52-A61-A62	X	/	/	218	232	257	290	302
	Y	/	/	158	173	173	191	211
	Z	/	/	122	130	130	139	154

TBS-TBH - Brake motor

CH	TB	063	071	080	090S	090L	100	112
A41-A51 A32-A42 A33-A43-A53-A63	X	238	271	294	309	334	/	/
	Y	121	139	158	173	173	/	/
	Z	119	129	137	157	157	/	/
A52-A61-A62	X	/	/	290	309	334	372	400
	Y	/	/	158	173	173	191	211
	Z	/	/	137	157	157	230	230

- Dimensions in mm

Weight - (kg)

TS - Motor

CH	063	071	080	090S	090L	100	112
A32	6.9	8.7	12.7	/	/	/	/
A33	7.6	9.5	13.5	/	/	/	/
A41	5.9	7.8	11.8	/	/	/	/
A42	7.8	9.7	13.7	15.6	18.1	/	/
A43	8.4	10.3	14.3	16.2	18.7	/	/
A51	6.2	8.1	12.1	14.0	16.5	/	/
A52	/	/	17.2	19.1	21.6	26.2	36.5
A53	12.0	13.9	17.9	19.8	22.3	/	/
A61	/	/	14.3	16.2	18.7	23.3	33.6
A62	/	/	19.2	21.1	23.6	28.2	38.5
A63	14.6	16.5	20.5	22.4	24.9	/	/

TBS - Brake motor

CH	063	071	080	090S	090L	100	112
A32	8.2	10.6	15.8	/	/	/	/
A33	8.9	11.4	16.6	/	/	/	/
A41	7.2	9.7	14.9	/	/	/	/
A42	9.1	11.6	16.8	20.5	23.0	/	/
A43	9.7	12.2	17.4	21.1	23.6	/	/
A51	7.5	10.0	15.2	18.9	21.4	/	/
A52	/	/	20.3	24.3	26.5	31.1	44.8
A53	13.3	15.8	21.0	24.7	27.2	/	/
A61	/	/	17.4	21.1	23.6	28.2	41.9
A62	/	/	22.3	26.0	28.5	33.1	46.8
A63	15.9	18.4	23.6	27.3	29.8	/	/

- Kg w/o oil

CHA..1/2/3 - Dimensions

Weight - (kg)

TH - Motor

CH	080	090S	090L	100	112
A32	14.4	/	/	/	/
A33	15.2	/	/	/	/
A41	13.5	/	/	/	/
A42	15.4	17.9	20.0	/	/
A43	16.0	18.5	20.6	/	/
A51	13.8	16.3	18.4	/	/
A52	18.9	21.5	23.6	28.5	39.6
A53	19.6	22.1	24.3	/	/
A61	16.0	18.6	20.7	25.6	36.7
A62	20.9	23.4	25.6	30.5	41.6
A63	22.1	24.7	26.8	/	/

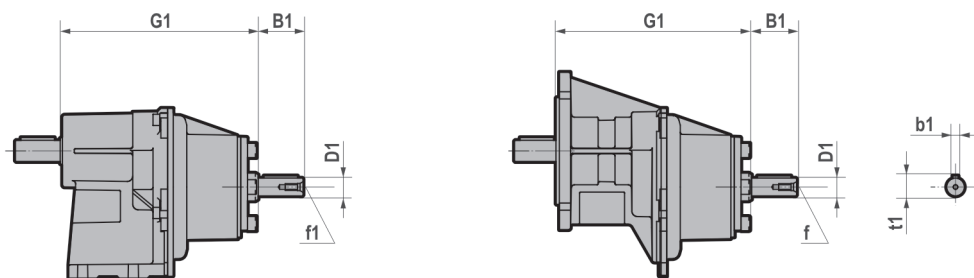
TBH - Motor

CH	080	090S	090L	100	112
A32	17.5	/	/	/	/
A33	18.3	/	/	/	/
A41	16.6	/	/	/	/
A42	18.5	22.8	25.0	/	/
A43	19.1	23.4	25.6	/	/
A51	16.9	21.2	23.4	/	/
A52	22.0	26.6	28.5	34.8	47.9
A53	22.7	27.0	29.2	/	/
A61	19.1	23.4	25.6	31.9	45.0
A62	24.0	28.3	30.5	36.8	49.9
A63	25.3	29.6	31.8	/	/

- Kg w/o oil

IHA..1/2/3 - Dimensions

A41 - A51 - A61

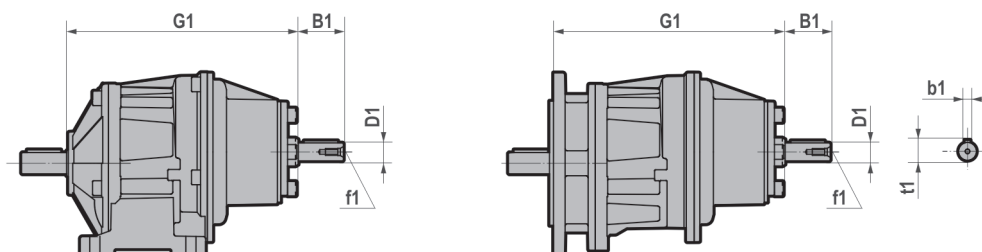


IH...

IH...F

	G1	D1 0/-0.0005	B1	b1	f1	t1	~lb
A41	6.93	0.75	1.57	0.1875	1/4-20	0.83	7.26
A51	7.26	0.75	1.57	0.1875	1/4-20	0.83	9.24
A61	8.23	0.875	1.97	0.1875	1/4-20	0.96	14.3

A32 - A42 - A52 - A62

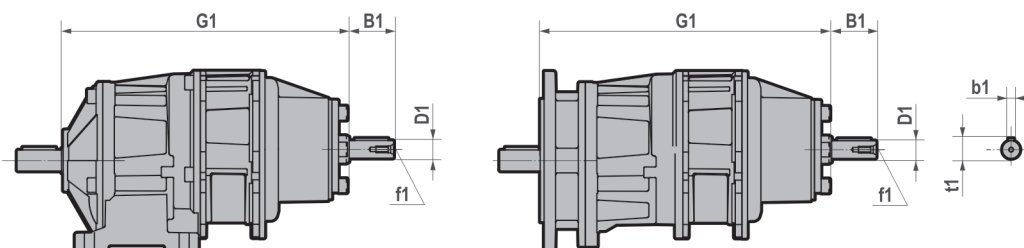


IH...

IH...F

	G1	D1 0/-0.0005	B1	b1	f1	t1	~lb
A32	7.80	0.75	1.57	0.1875	1/4-20	0.83	9.46
A42	8.07	0.75	1.57	0.1875	1/4-20	0.83	11.44
A52	9.41	0.875	1.97	0.1875	1/4-20	0.96	20.68
A62	9.76	0.875	1.97	0.1875	1/4-20	0.96	24.64

A33 - A43 - A53 - A63



IH...

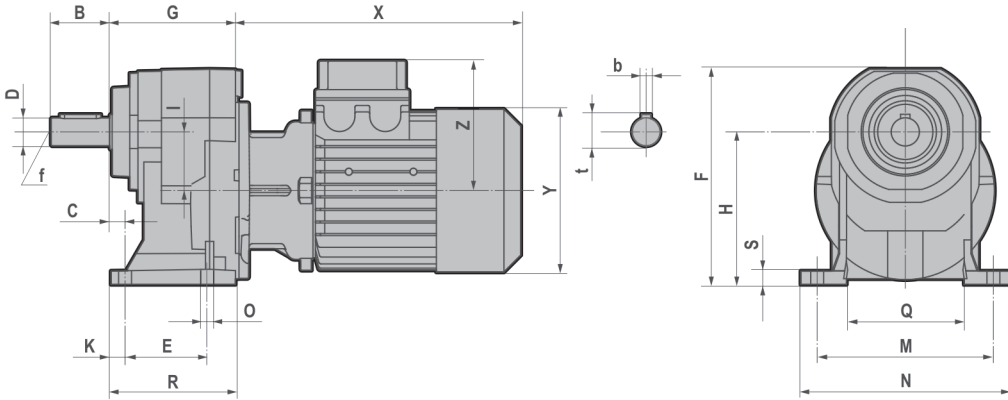
IH...F

	G1	D1 0/-0.0005	B1	b1	f1	t1	~lb
A33	9.88	0.75	1.57	0.1875	1/4-20	0.83	11
A43	10.16	0.75	1.57	0.1875	1/4-20	0.83	12.76
A53	11.77	0.75	1.57	0.1875	1/4-20	0.83	21.78
A63	12.13	0.75	1.57	0.1875	1/4-20	0.83	28.38

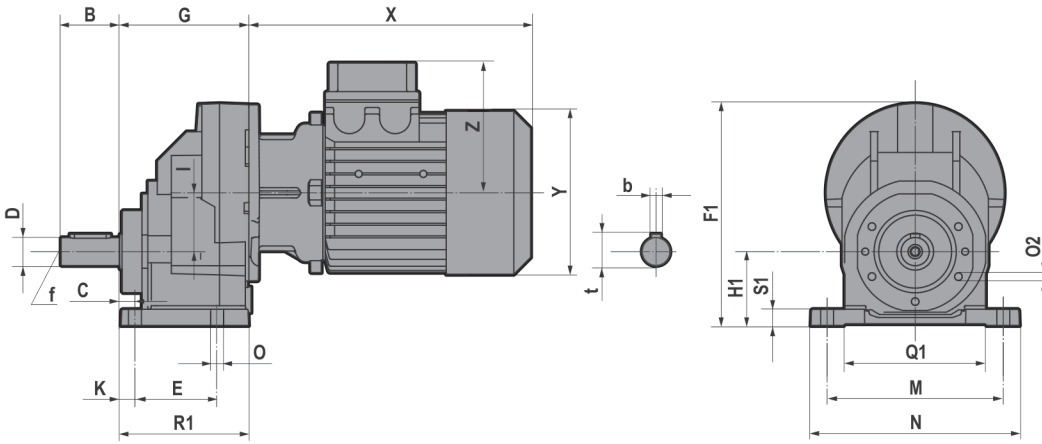
lb w/o oil

H/CH.1 - Dimensions

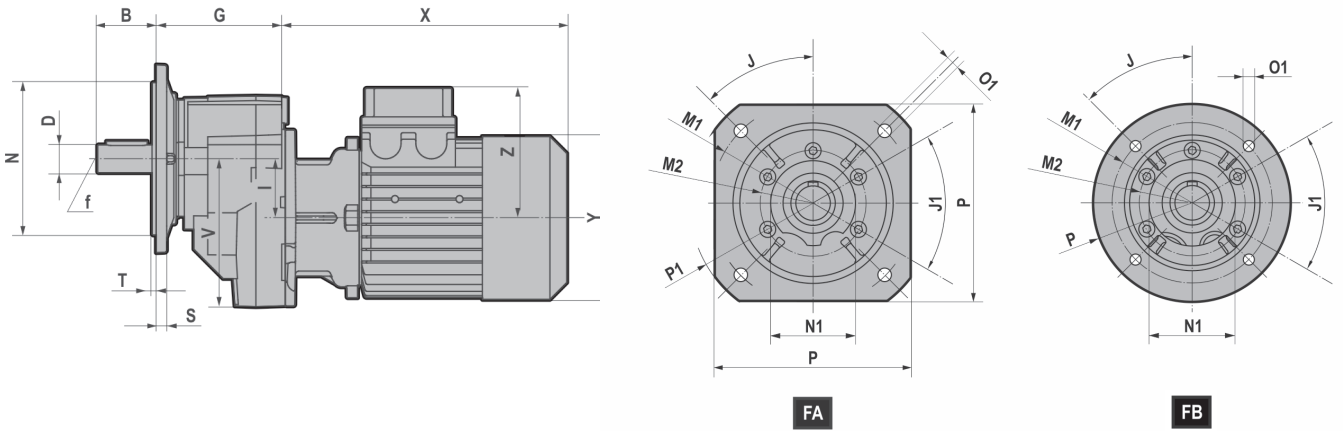
CH...



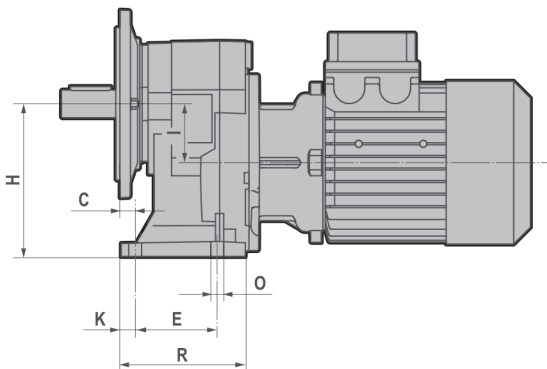
CH...M



CH...F



CH...U



FB
FC
FD

H/CH..1 - Dimensions

H... - CH...

	B	C	D	E	F	F1	G	H	H1	I	K	M	N
041	1.57	0.51	0.75 0/-0.0005	1.77	6.63	6.61	3.94	4.72	1.97	1.65	0.47	4.13	5.12
051	1.97	0.51	1 0/-0.0005	2.76	7.22	7.44	4.33	5.12	2.48	1.97	0.47	5.91	7.01
061	2.36	0.63	1.25 0/-0.0005	2.76	9.09	8.50	4.92	6.50	3.15	2.36	0.55	6.50	7.68
081	3.15	0.98	1.5 0/-0.0005	3.35	10.91	11.18	5.31	7.68	3.94	3.15	0.91	7.28	9.06
101	4.33	0.75	1.875 0/-0.0005	5.12	13.98	14.84	7.09	9.92	4.92	3.94	0.67	9.45	11.61
121	4.33	0.98	2.125 0/-0.0005	5.91	16.61	16.79	8.27	11.81	6.30	4.53	0.87	11.02	13.39

	N1	O	O2	Q	Q1	R	R1	S	S1	~V	b	t	f
041	4.92	0.35	M8x17 (n°5)	2.91	2.17	3.41	3.86	0.37	0.31	4.65	0.1875	0.83	1/4-20
051	7.01	0.43	M8x17 (n°5)	3.94	4.78	4.17	4.29	0.45	0.55	4.96	0.25	1.11	1/4-20
061	7.68	0.43	M8x17 (n°5)	4.33	5.33	4.72	4.84	0.59	0.63	5.35	0.25	1.36	1/4-20
081	9.13	0.55	M10x20 (n°7)	4.84	5.94	5.12	5.31	0.59	0.79	7.24	0.3750	1.66	1/2-13
101	11.61	0.71	M10x20 (n°6)	6.38	7.30	6.81	7.01	0.63	0.87	9.90	0.50	2.09	5/8-11
121	13.39	0.71	M12x25 (n°7)	7.20	8.82	7.95	8.15	0.75	0.98	10.49	0.50	2.35	5/8-11

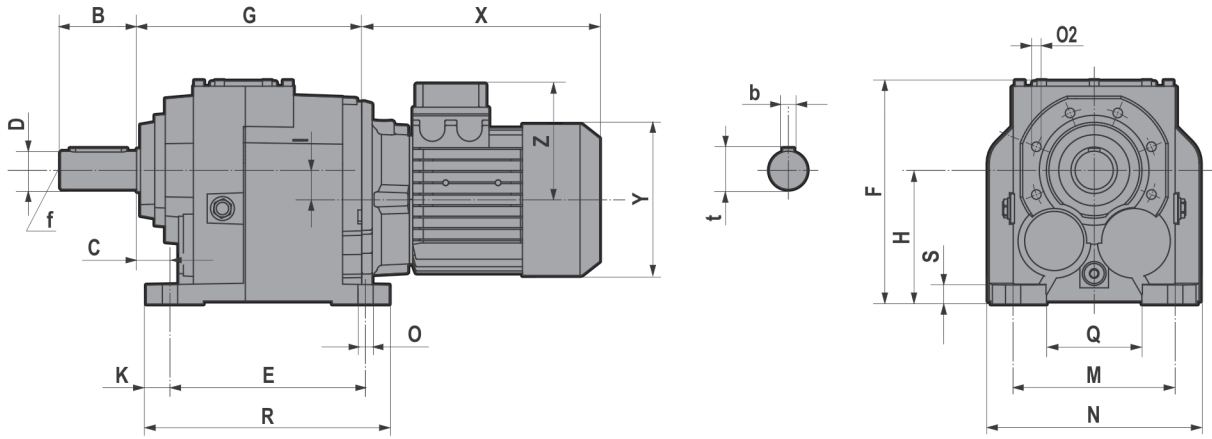
H...F/U - CH...F/U

		J	J1	M1	M2	N	N1	O1	P	P1	S	T
041 051	FA	45	45	6.50	3.35	5.12	2.76	0.43	6.30	7.87	0.35	0.14
	FB	45	45	5.12	3.35	4.33	2.76	0.35	6.30	/	0.35	0.14
	FC	45	45	4.53	3.35	3.74	2.76	0.35	5.51	/	0.35	0.12
	FD	45	45	3.94	3.35	3.15	2.76	M8	4.72	/	0.35	0.12
061	FA	45	45	8.46	4.13	7.09	3.54	0.55	7.87	9.84	0.47	0.16
	FB	45	45	6.50	4.13	5.12	3.54	0.43	7.87	/	0.47	0.14
	FC	/	/	/	/	/	/	/	/	/	/	/
081 101	FA	45	45	10.43	5.12	9.06	4.33	0.55	9.84	11.81	0.59	0.16
	FB	45	45	8.46	5.12	7.09	4.33	0.55	9.84	/	0.59	0.16
	FC	45	45	6.50	5.12	5.12	4.33	0.43	7.87	/	0.59	0.14
121	FA	45	45	11.81	6.50	9.84	5.12	0.71	11.81	13.78	0.63	0.20
	FB	45	45	10.43	6.50	9.06	5.12	0.55	11.81	/	0.63	0.16
	FC	45	45	8.46	6.50	7.09	5.12	0.55	9.84	/	0.63	0.16

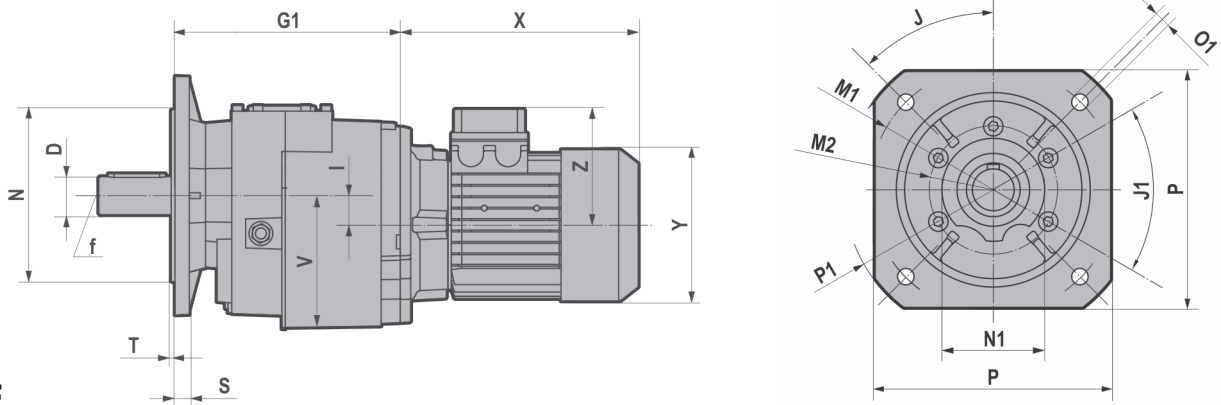
- For the dimensions concerning the motor connection area (X, Y, Z) please refer to the table shown at page 99.

H/CH..2/3 - Dimensions

CH...

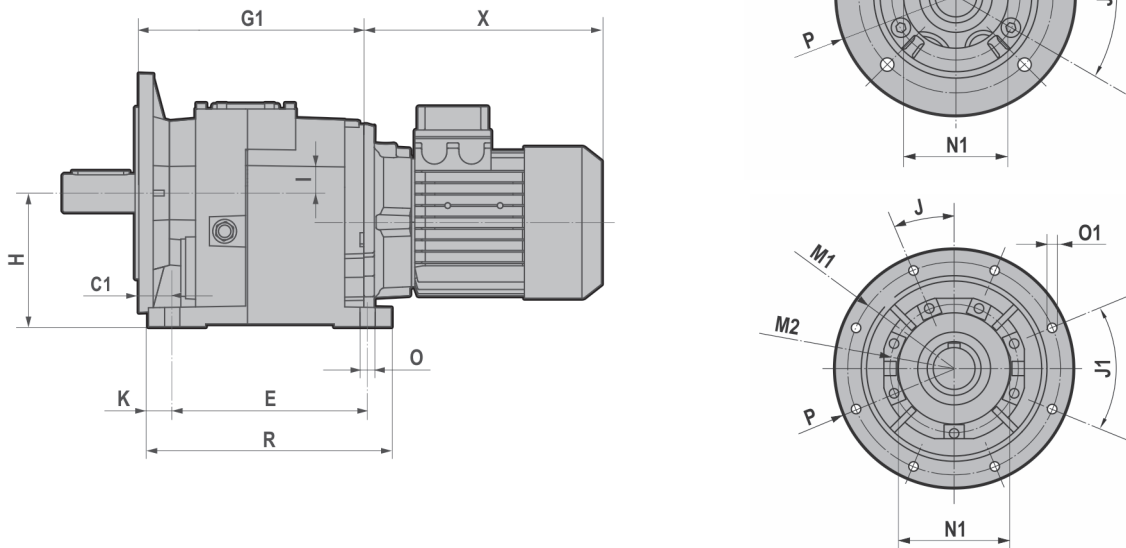


CH...F



FA

CH...U



FB

FC

FD

FB

(H140)

H/CH..2/3 - Dimensions

H... - CH...

	B	C	C1	D	E	F	G	G1	H	I	K
030	1.97	0.98	1.34	1 0/-0.0005	5.12	2.36	6.30	0.59	3.62	0.31	1.10
040	2.36	1.18	1.18	1.25 0/-0.0005	6.50	3.35	7.68	0.59	4.53	0.31	1.30
050	2.76	1.18	1.18	1.375 0/-0.0005	6.50	3.15	7.91	0.71	4.57	0.39	1.50
060	3.15	1.38	1.38	1.625 0/-0.001	8.07	3.94	10.04	0.79	5.51	0.47	1.69
080	3.94	1.75	1.75	2.125 0/-0.001	10.24	5.51	12.40	0.98	7.09	0.55	2.11
100	4.72	1.57	1.57	2.375 0/-0.001	12.20	6.26	14.37	1.18	8.94	0.71	2.52
125	5.51	1.77	1.77	2.875 0/-0.001	14.57	7.30	17.32	1.38	9.96	0.79	2.93
140	6.69	1.97	1.97	3.625 0/-0.001	16.14	9.06	19.29	1.38	12.60	0.98	3.74

	M	N	O	O2	Q	R	S	~V	b	t	f
030	4.33	5.51	0.43	M8x17 (n°5)	2.36	6.30	0.59	3.62	0.25	1.11	3/8-16
040	5.31	6.69	0.55	M8x17 (n°5)	3.35	7.68	0.59	4.53	0.25	1.36	1/2-13
050	5.31	7.28	0.55	M8x17 (n°5)	3.15	7.91	0.71	4.57	0.3125	1.51	1/2-13
060	6.69	8.66	0.63	M10x20 (n°6)	3.94	10.04	0.79	5.51	0.375	1.79	5/8-11
080	8.46	11.02	0.71	M12x25 (n°7)	5.51	12.40	0.98	7.09	0.5	2.35	3/4-10
100	9.84	12.99	0.87	M14x28 (n°7)	6.26	14.37	1.18	8.94	0.625	2.65	3/4-10
125	11.42	15.98	1.02	M14x30 (n°7)	7.30	17.32	1.38	9.96	0.75	3.20	3/4-10
140	13.39	17.72	1.02	M16x32 (n°7)	9.06	19.29	1.38	12.60	0.875	4.01	1-8

H...F/U - CH...F/U

		J	J1	M1	M2	N 18	N1	O1	P	P1	S	T
030 040	FA	45	45	6.50	3.35	5.12	2.76	0.43	6.30	7.87	0.35	0.14
	FB	45	45	5.12	3.35	4.33	2.76	0.35	6.30	/	0.35	0.14
	FC	45	45	4.53	3.35	3.74	2.76	0.35	5.51	/	0.35	0.12
	FD	45	45	3.94	3.35	3.15	2.76	M8	4.72	/	0.35	0.12
050	FA	45	45	8.46	4.13	7.09	3.54	0.55	7.87	9.84	0.47	0.16
	FB	45	45	6.50	4.13	5.12	3.54	0.43	7.87	/	0.47	0.14
	FC	/	/	/	/	/	/	/	/	/	/	/
060	FA	45	45	10.43	5.12	9.06	4.33	0.55	9.84	11.81	0.59	0.16
	FB	45	45	8.46	5.12	7.09	4.33	0.55	9.84	/	0.59	0.16
	FC	45	45	6.50	5.12	5.12	4.33	0.43	7.87	/	0.59	0.14
080	FA	45	45	11.81	6.50	9.84	5.12	0.71	11.81	13.78	0.63	0.20
	FB	45	45	10.43	6.50	9.06	5.12	0.55	11.81	/	0.63	0.16
	FC	45	45	8.46	6.50	7.09	5.12	0.55	9.84	/	0.63	0.16
100	FA	45	45	13.78	7.28	11.81	5.91	0.71	13.78	15.75	0.71	0.20
	FB	45	45	11.81	7.28	9.84	5.91	0.71	13.78	/	0.71	0.20
	FC	45	45	10.43	7.28	9.06	5.91	0.55	11.81	/	0.71	0.16
125	FA	/	/	/	/	/	/	/	/	/	/	/
	FB	45	45	13.78	7.87	11.81	6.69	0.71	15.75	/	0.71	0.20
	FC	/	/	/	/	/	/	/	/	/	/	/
140	FA	/	/	/	/	/	/	/	/	/	/	/
	FB	23	45	15.75	9.65	13.78	8.27	0.71	17.72	/	0.98	0.20
	FC	45	45	13.78	9.65	11.81	8.27	0.71	15.75	/	0.98	0.20

- For the dimensions concerning the motor connection area (X, Y, Z) please refer to the table shown at page 99.

H/PH..1/2/3 - Dimensions

H/PH..1

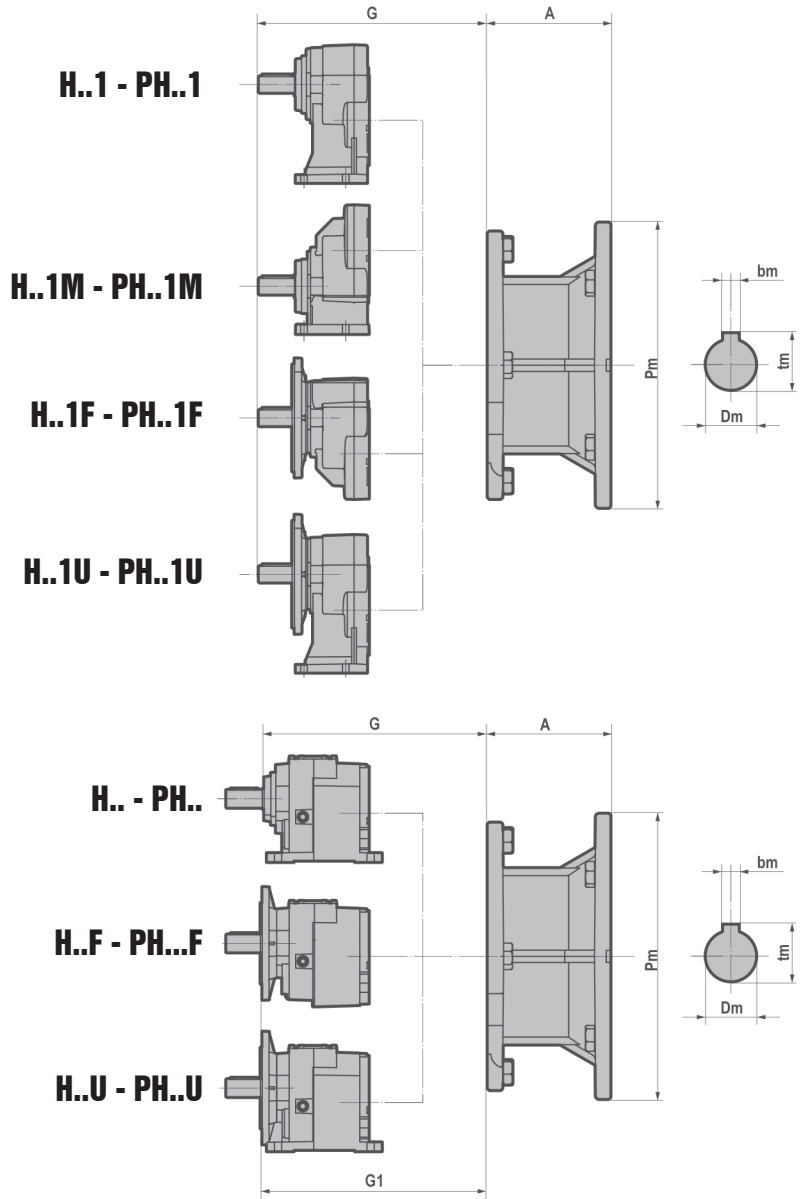
	041	051	061	081	101	121
G	3.94	4.33	4.92	5.31	7.09	8.27

H PH	A		
	041 051 061	081	101 121
56C	3.74	2.95	/
140TC	3.74	2.95	/
180TC	4.33	3.54	3.17
210TC	/	6.02	5.65
250TC	/	/	5.65
280TC	/	/	6.89

H/PH..2/3

	030	040	050	060	080	100	125	140
G	5.55	5.98	7.36	9.29	10.73	12.44	14.82	16.93
G1	5.91	5.98	7.36	9.29	10.73	12.44	14.82	16.93

H PH	A			
	030 040 050	060 080	100 125	140
56C	3.74	2.95	/	/
140TC	3.74	2.95	2.58	/
180TC	4.33	3.54	3.17	2.20
210TC	/	6.02	5.65	4.69
250TC	/	6.02	5.65	4.69
280TC	/	/	6.89	5.93
320TC	/	/	7.03	6.28
360TC	/	/	/	6.28



Weight - (lb)

H PH	~ lb													
	030	040	041	050	051	060	061	080	081	100	101	121	125	140
56C	18.4	24.0	9.6	35.3	13.8	63.1	18.2	111.8	40.3	/	/	/	/	/
140TC	19.3	24.9	10.5	36.2	14.7	64.0	19.1	111.6	40.1	181.4	/	/	/	/
180TC	20.6	26.2	11.8	37.5	16.0	68.6	20.4	116.8	45.3	186.6	63.9	/	250.6	414.6
210TC	/	/	/	/	/	73.3	/	121.4	49.7	191.6	78.8	90.5	265.5	428.6
250TC	/	/	/	/	/	/	/	125.8	55.4	197.8	84.9	90.2	271.7	433.6
280TC	/	/	/	/	/	/	/	/	/	211.0	/	103.4	284.9	451.0
320TC	/	/	/	/	/	/	/	/	/	/	/	/	317.9	482.2
360TC	/	/	/	/	/	/	/	/	/	/	/	/	/	486.2

Weight without motor

lb w/o oil

- For the dimensions concerning the motor connection area (Pm, Dm, bm, tm) please refer to the table shown at page 102.

CH..1/2/3 - Dimensions

CH... - CH...F

TS-TH - Motor

CH	T	063	071	080	090S	090L	100	112	132S	132M
030-040-041 050-051-061	X	215	241	268	296	321	333	351	/	/
	Y	121	139	158	173	173	191	211	/	/
	Z	104	112	122	130	130	139	154	/	/
060-080-081	X	/	221	248	276	301	335	356	396	443
	Y	/	139	158	173	173	191	211	249	249
	Z	/	112	122	130	130	139	154	194	194
100-101 121-125	X	/	/	/	267	292	326	347	386	434
	Y	/	/	/	173	173	191	211	249	249
	Z	/	/	/	130	130	139	154	194	194

TBS-TBH - Brake motor

CH	TB	063	071	080	090S	090L	100	112	132S	132M
030-040-041 050-051-061	X	273	306.5	341	373	398	415	448	/	/
	Y	121	139	158	173	173	191	211	/	/
	Z	119	129	137	157	157	168	183	/	/
060-080-081	X	/	286.5	321	353	378	417	453	505	547
	Y	/	139	158	173	173	191	211	249	249
	Z	/	129	137	157	157	168	183	230	230
100-101 121-125	X	/	/	/	343	368	407	443	495	537
	Y	/	/	/	173	173	191	211	249	249
	Z	/	/	/	157	157	168	183	230	230

- Dimensions in mm

Weight - (kg)

TS - Motor

CH	063	071	080	090S	090L	100	112	132S	132M
030	11.9	12.8	17.5	21.4	23.4	28.9	40.4	/	/
040	14.4	15.3	20.0	23.9	25.9	31.4	42.9	/	/
041	/	8.8	13.5	17.4	19.4	/	/	/	/
050	19.5	20.4	25.1	29.0	31.0	36.5	48.0	/	/
051	/	10.7	15.4	19.3	21.3	26.8	38.3	/	/
060	/	30.6	35.7	38.1	39.6	44.7	56.1	70.1	81.7
061	/	/	17.4	21.3	23.3	28.8	40.3	/	/
080	/	/	55.7	58.1	59.6	64.7	76.1	90.1	101.7
081	/	/	25.8	28.2	29.7	34.8	46.2	60.2	71.8
100	/	/	/	86.6	87.6	93.6	103.6	118.6	127.6
101	/	/	/	/	/	46.5	56.5	71.5	80.5
121	/	/	/	/	/	/	/	72.8	81.8
125	/	/	/	/	/	123.3	133.3	148.3	157.3

TBS - Brake motor

CH	063	071	080	090S	090L	100	112	132S	132M
030	13.4	15.0	21.0	26.9	28.9	34.4	50.1	/	/
040	15.9	17.5	23.5	29.4	31.4	36.9	52.6	/	/
041	/	11.0	17.0	22.9	24.9	/	/	/	/
050	21.0	22.6	28.6	34.5	36.5	42.0	57.7	/	/
051	/	12.9	18.9	24.8	26.8	32.3	48.0	/	/
060	/	32.8	39.2	43.6	45.1	50.2	65.8	80.4	96.4
061	/	/	20.9	26.8	28.8	34.3	50.0	/	/
080	/	/	59.2	63.6	65.1	70.2	85.8	100.4	116.4
081	/	/	29.3	33.7	35.2	40.3	55.9	70.5	86.5
100	/	/	/	92.2	93.2	99.2	113.4	129.0	142.4
101	/	/	/	/	/	51.9	66.2	81.9	95.2
121	/	/	/	/	/	/	/	83.1	96.5
125	/	/	/	/	/	128.8	143.0	158.6	172.0

Kg w/o oil

CH..1/2/3 - Dimensions

Weight - (kg)

TH - Motor

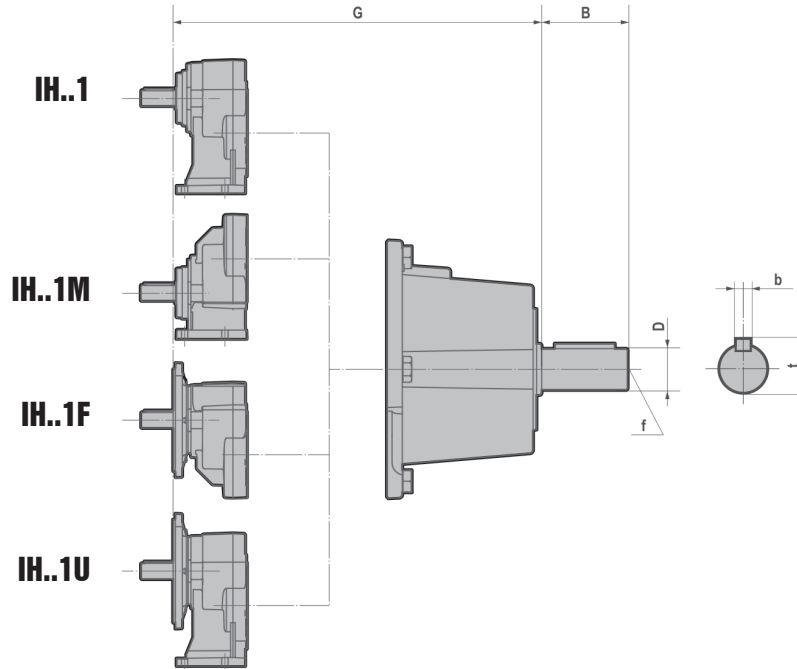
CH	080	090S	090L	100	112	132S	132M
030	19.18	23.73	25.34	31.18	43.46	/	/
040	21.72	26.27	27.89	33.73	46.00	/	/
041	15.15	19.69	21.31	/	/	/	/
050	26.84	31.39	33.01	38.85	51.13	/	/
051	17.07	21.61	23.23	29.07	41.35	/	/
060	39.50	42.54	43.66	49.10	61.28	77.49	90.63
061	19.07	23.61	25.23	31.07	43.35	/	/
080	61.40	64.44	65.56	71.00	83.18	99.39	112.53
081	28.80	31.84	32.96	38.40	50.58	66.79	79.93
100	/	96.14	96.76	103.10	113.88	131.09	141.63
101	/	/	/	51.90	62.68	79.89	90.43
121	/	/	/	/	/	82.29	92.83
125	/	/	/	136.80	147.58	164.79	175.33

TBH - Brake motor

CH	080	090S	090L	100	112	132S	132M
030	22.68	29.18	30.88	38.08	53.18	/	/
040	25.23	31.73	33.43	40.63	55.73	/	/
041	18.65	25.15	26.85	/	/	/	/
050	30.35	36.85	38.55	45.75	60.85	/	/
051	20.57	27.07	28.77	35.97	51.07	/	/
060	43.00	48.00	49.20	56.00	71.00	87.80	105.00
061	22.57	29.07	30.77	37.97	53.07	/	/
080	64.90	69.90	71.10	77.90	92.90	109.70	126.90
081	32.30	37.30	38.50	45.30	60.30	77.10	94.30
100	/	101.70	102.40	110.10	123.70	141.50	156.10
101	/	/	/	58.70	72.40	90.30	104.80
121	/	/	/	/	/	92.60	107.20
125	/	/	/	143.70	157.30	175.10	189.70

- Kg w/o oil

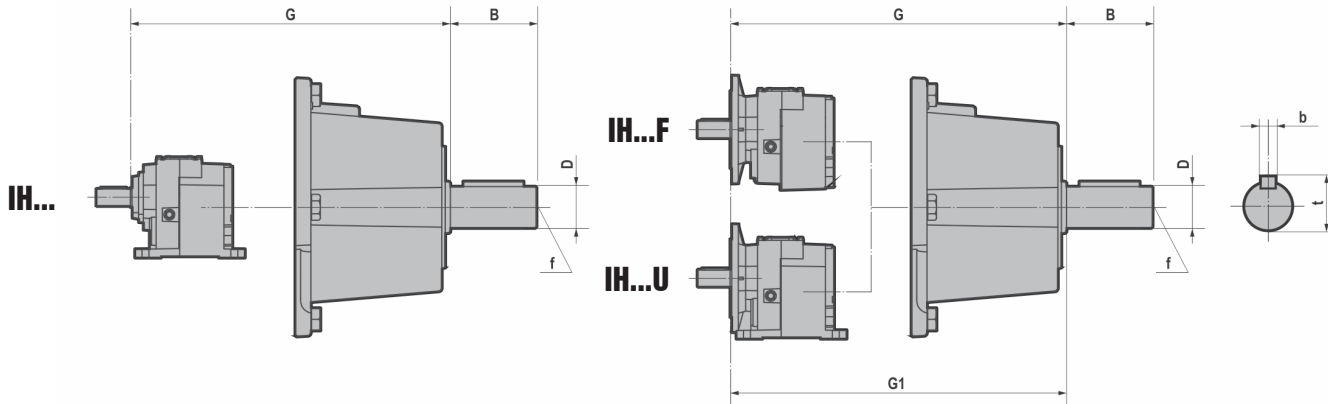
IH..1/2/3 - Dimensions



IH..1

IH	G	B	D	b	t	f
041	7.48	1.57	0.625 0/-0.0005	0.1875	0.70	1/4-20
051	7.87	1.97	0.875 0/-0.0005	0.1875	0.96	1/4-20
061	8.46	1.97	0.875 0/-0.0005	0.1875	0.96	1/4-20
081	9.75	2.76	1.375 0/-0.0005	0.3125	1.51	1/2-13
101	12.07	3.15	1.625 0/-0.001	0.3750	1.79	5/8-11
121	13.25	3.15	1.625 0/-0.001	0.3750	1.79	5/8-11

IH	~lb
041	16.4
051	20.6
061	25.0
081	53.9
101	95.5
121	100.8



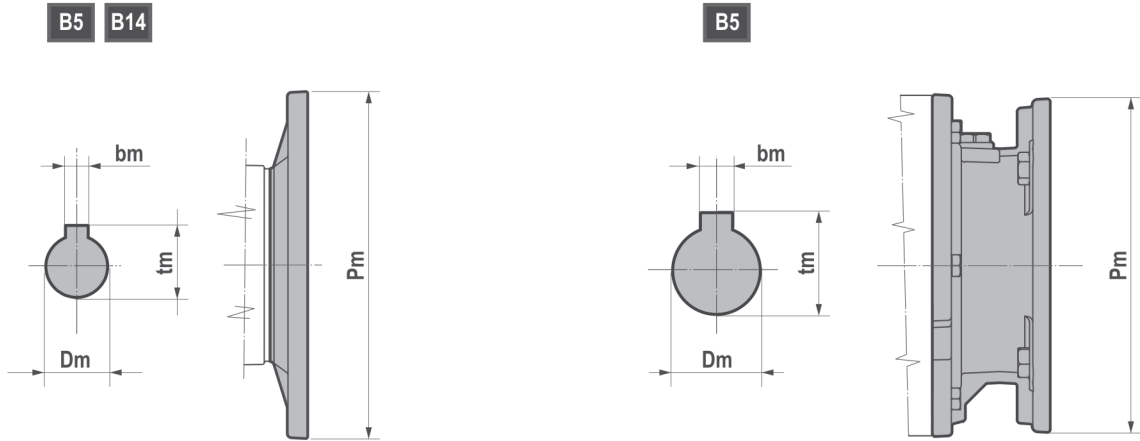
IH..2/3

IH	G	G1	B	D	b	t	f
030	9.09	9.45	1.97	0.625 0/-0.0005	0.1875	0.7	1/4-20
040	9.53	9.53	1.97	0.625 0/-0.0005	0.1875	0.7	1/4-20
050	10.91	10.91	1.97	0.625 0/-0.0005	0.1875	0.7	1/4-20
060	13.74	13.74	2.76	1.375 0/-0.0005	0.3125	1.51	1/2-13
080	15.18	15.18	2.76	1.375 0/-0.0005	0.3125	1.51	1/2-13
100	17.42	17.42	3.15	1.625 0/-0.001	0.375	1.79	5/8-11
125	19.80	19.80	3.15	1.625 0/-0.001	0.375	1.79	5/8-11
140	22.44	22.44	3.15	1.625 0/-0.001	0.375	1.79	5/8-11

IH	~lb
030	25.3
040	30.9
050	42.1
060	77.4
080	125.6
100	208.3
125	282.3
140	466.8

lb w/o oil

PAM - Dimensions

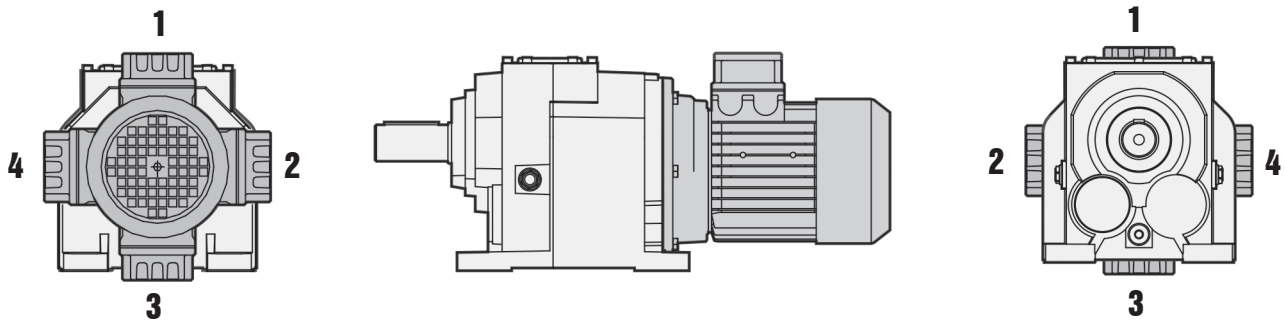


B5	IEC											
	056	063	071	080	090	100	112	132	160	180	200	225
Pm	120	140	160	200	200	250	250	300	350	350	400	450
Dm	9	11	14	19	24	28	28	38	42	48	55	60
bm	3	4	5	6	8	8	8	10	12	14	16	18
tm	10.4	12.8	16.3	21.8	27.3	31.3	31.3	41.3	45.3	51.8	59.3	64.4

B14	IEC						
	056	063	071	080	090	100	112
Pm	80	90	105	120	140	160	160
Dm	9	11	14	19	24	28	28
bm	3	4	5	6	8	8	8
tm	10.4	12.8	16.3	21.8	27.3	31.3	31.3

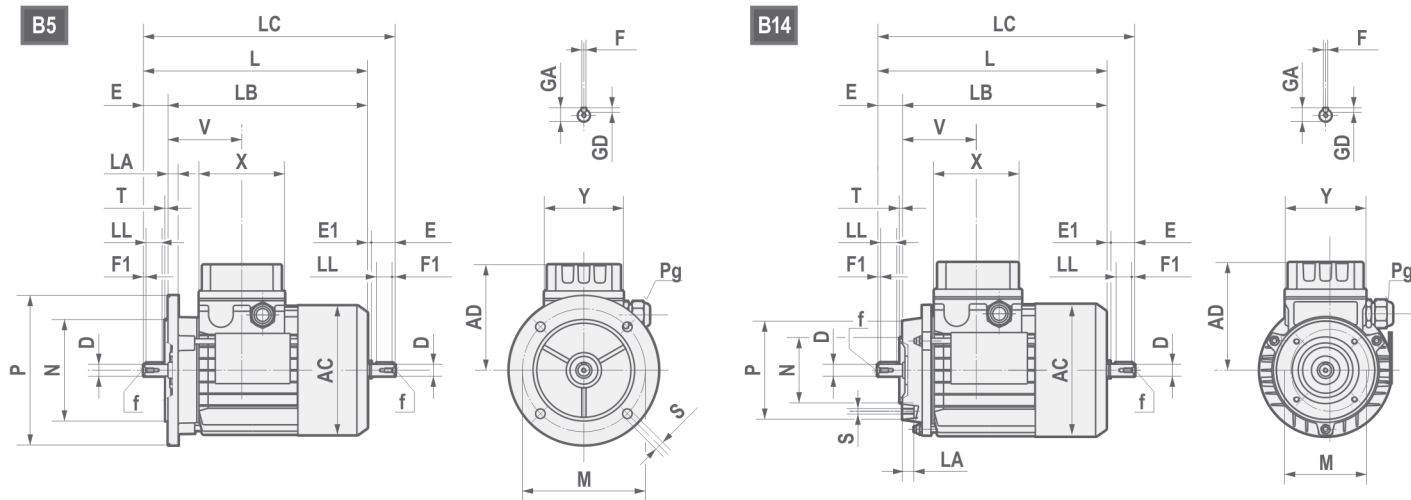
NEMA	Pm	Dm	tm	bm
56C	6.69	0.625	0.71	0.1875
140TC	6.69	0.875	0.97	0.1875
180TC	9.06	1.125	1.24	0.2500
210TC	9.06	1.375	1.52	0.3125
250TC	9.06	1.625	1.80	0.3750
280TC	11.02	1.875	2.10	0.5000
320TC	13.39	2.125	2.35	0.5000
360TC	13.39	2.375	2.65	0.6250

Position of terminal box



- Unless otherwise specified, the gear reducer is supplied with terminal box in position 1.

Electric motors



	AC	AD	L	LB	LC	X	Y	V	D	E	E1	f	F1	GA	F	GD	LL	Pg		
																		ø min	ø max	
63	121	103.5	211	188	235.5	80	74	69	11 j6	23	1.5	M4x10	2.5	12.5	4	4	15	M16x1.5	5	10
71	139	112	238.5	208.5	271	80	74	74.5	14 j6	30	2.5	M5x12.5	3	16	5	5	20	M20x1.5	6	12
80	158	121.5	272.5	232.5	314	80	74	78	19 j6	40	1.5	M6x16	5	21.5	6	6	30	M20x1.5	6	12
90S	173	129.5	298	248	349.5	98	98	89.5	24 j6	50	1.5	M8x19	5	27	8	7	35	M25x1.5	13	18
90L	173	129.5	323	273	374.5	98	98	89.5	24 j6	50	1.5	M8x19	5	27	8	7	35	M25x1.5	13	18
100	191	138.5	368	308	431.5	98	98	97.5	28 j6	60	3.5	M10x22	7.5	31	8	7	45	M25x1.5	13	18
112	210.5	153.5	382.5	322.5	447	98	98	100	28 j6	60	3.5	M10x22	7.5	31	8	7	45	M25x1.5	13	18
132S	248.5	195	452	372	536.5	118	118	115.5	38 k6	80	4	M12x28	10	41	10	8	60	M32x1.5	18	25
132L	248.5	195	490	410	574.5	118	118	115.5	38 k6	80	4	M12x28	10	41	10	8	60	M32x1.5	18	25
160S	248.5	195	520	410		118	118	115.5	42 k6	100		M16x36	10	45	12	8	90	M32x1.5	18	25

B5	M	N	P	LA	S	T
63	115	95	140	10	9	3
71	130	110	160	10	9.5	3.5
80	165	130	200	12	11	3.5
90	165	130	200	12	11	3.5
100	215	180	250	15	14	4
112	215	180	250	14.5	14	4
132	265	230	300	20	14	3.5
160	300	250	350	13	18.5	3.5

B14	M	N	P	LA	S	T
63	75	60	90	10	M5	2.5
71	85	70	105	10.5	M6	2.5
80	100	80	120	10.5	M6	3
90	115	95	140	11.5	M8	3
100	130	110	160	15	M8	3.5
112	130	110	160	11.5	M8	3.5
132	165	130	200	20.5	M10	3.5

- Dimensions in mm

Electric motors

Nominal power (kW)

	63A		63B		63C		71A		71B		71C		80A		80B		80C		80D		90S		90L			
	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH		
2(*)	0.18		0.25		0.37		0.37		0.55		0.75		0.75	0.75	1.1	1.1	1.5						1.5	1.5	2.2	2.2
4(*)	0.12		0.18		0.22		0.25		0.37		0.55		0.55		0.75	0.75	0.92			1.1			1.1	1.1	1.5	1.5
6(*)	0.09		0.12		0.15		0.18		0.25		0.37		0.37		0.55		0.75						0.75		1.1	0.75
8(*)					0.07		0.09		0.12		0.18		0.18		0.25		0.37						0.37		0.55	

	90LB		100LA		100LB		112MA		112MB		132SA		132SB		132MA		132MB		132MC		160SA			
	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH		
2(*)			3	3	4		4	4	5.5		5.5	5.5	7.5	7.5	9.2	9.2	11						11	
4(*)	1.85		2.2	2.2	3	3	4	4	4.8		5.5	5.5			7.5	7.5	9.2			11			11	
6(*)			1.5	1.1	1.85	1.5	2.2	2.2	3		3	3			4	4	5.5	5.5						
8(*)			0.75		1.1		1.5				2.2				3									

(*) Poles

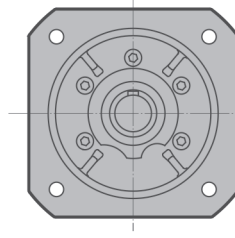
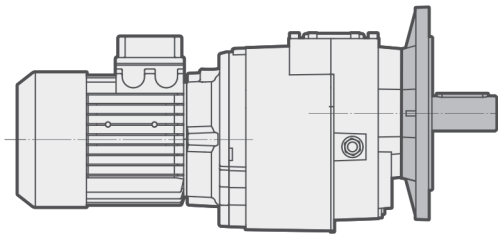
Nominal power (HP)

	63A		63B		63C		71A		71B		71C		80A		80B		80C		80D		90S		90L			
	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH		
2(*)	0.24		0.34		0.5		0.5		0.75		1		1	1	1.5	1.5	2						2	2	3	3
4(*)	0.16		0.24		0.3		0.34		0.5		0.75		0.75		1	1	1.25			1.5			1.5	1.5	2	2
6(*)	0.12		0.16		0.2		0.24		0.34		0.5		0.5		0.75		1						1		1.5	1
8(*)					0.1		0.12		0.16		0.24		0.24		0.34		0.5						0.5		0.7	

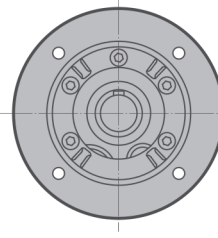
	90LB		100LA		100LB		112MA		112MB		132SA		132SB		132MA		132MB		132MC		160SA			
	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH	TS	TH		
2(*)			4	4	5.4		5.4	5.4	7.5		7.5	7.5	10	10	12.5	12.5	15						15	
4(*)	2.5		3	3	4	4	5.4	5.4	6.5		7.5	7.5			10	10	12.5			15			15	
6(*)			2	1.5	2.5	2	3	3	4		4	4			5.4	5.4	7.5	7.5						
8(*)			1		1.5		2				3				4									

(*) Poles

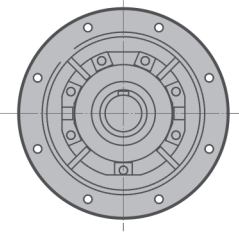
Output flange



FA



FB FC FD

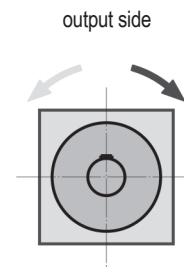
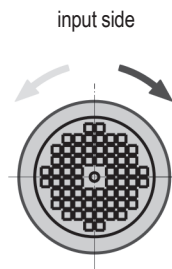


FB (H140)

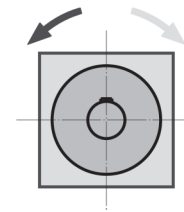
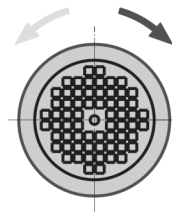
- For the dimensions, please refer to pages 94-97.

Backstop device

- 1/3 stages



- 2 stages

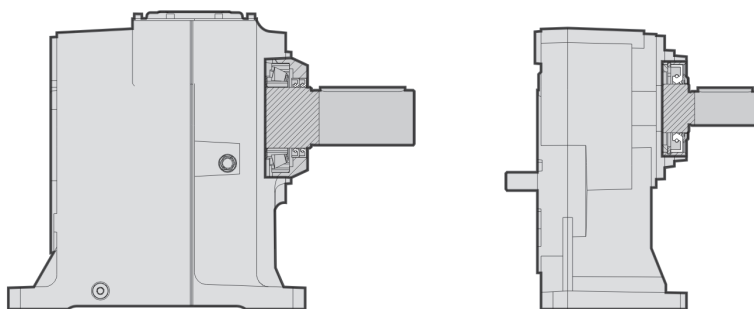


Backstop device

The gear reducer can be supplied with backstop device on input shaft. Backstop device allows output shaft rotation in only one sense of direction; according to the size, it is available in the input flange or in the motor with the same dimensions. It is required to specify on the order the sense of direction, clockwise or counterclockwise, input side.

	063	071	080	090	100-112	132	160	180	200	225
	140x11	160x14	200x19	200x24	250x28	300x38	350x42	350x48	400x55	450x60
032		B5	B5	B5	B5					
033	B5	B5	B5	B5						
041		B5	B5	B5						
042		B5	B5	B5	B5					
043	B5	B5	B5	B5						
051		B5	B5	B5	B5					
052		B5	B5	B5	B5					
053	B5	B5	B5	B5						
061			B5	B5	B5					
062			B5	B5	B5	B5				
063		B5	B5	B5	B5					
081			B5	B5	B5	B5				
082			B5	B5	B5	B5	B5			
083			B5	B5	B5	B5				
101					B5	B5	B5	B5		
102					B5	B5	B5	B5		
103				B5	B5	B5	B5			
121						B5	B5	B5	B5	
122						B5	B5	B5	B5	
123					B5	B5	B5	B5	B5	
142							B5	B5	B5	B5
143						B5	B5	B5	B5	

Reinforced oil seals



	Double oil seal	VRM ring
H041		X
H051		X
H061		X
H081		X
H101		X
H121		X
H032/3		X
H042/3		X
H052/3		X
H062/3	X	
H082/3	X	
H102/3	X	
H122/3	X	
H142/3	X	

The reinforced seal can be done depending on the gearbox size by means of two oil seals or through the standard oil seal + VRM ring.

The difference of the two solutions is explained on the above drawings. The helical gear reducers from size 060 to size 140 (except for single stage) in V1/V5 mounting position, are already equipped with 2 oil seals as standard.

As an option, the gear reducer can be supplied with VITON seals.

	VITON
HA32/3	X
HA42/3	X
HA52/3	X
HA62/3	X
H041	X
H051	X
H061	X
H081	X
H101	X
H121	X
H032/3	X
H042/3	X
H052/3	X
H062/3	X
H082/3	X
H102/3	X
H122/3	X
H142/3	X

SALES CONDITIONS

All supplies effected by Motovario Group are governed exclusively by the general terms of sale that you can find on our website:

<http://www.motovario.com/eng/corporate/sales-conditions>

