Bonfiglioli
Riduttori

C series

Helical gear units

Bonfiglioli
power, control and green solutions

SUMMARY

Revisions
Refer to page 46 for the catalogue revision index. Visit www.bonfiglioli.com to search for catalogues with up-to-date revisions.

1 GENERAL INFORMATION

1.1 SYMBOLS AND UNITS OF MEASURE

An **[N]** The **admissible thrust load** represents the force which can be applied axially to the gear unit's shaft, along with the rated radial load.

f_S **-** The **service factor** is a coefficient representing the severity of the duty for the operating cycle.

f_{TP} **-** The **adjusting factor** takes into account the influence of the ambient temperature in calculating the computational torque. This factor is relevant for worm gear units.

i **-** The **gear ratio** is expressed as the relationship of the input shaft speed to the output shaft speed.

$$i = \frac{n_1}{n_2}$$

I **-** The **intermittence** is defined as follows:

$$I = \frac{t_f}{t_f + t_r} \cdot 100$$

J_c **[Kgm^2]** **Moment of inertia of the driven load.**

J_m **[Kgm^2]** **Moment of inertia of the motor.**

J_R **[Kgm^2]** **Moment of inertia of the gear unit.**

K **-** The load **acceleration factor** is used to calculate the service factor, and is defined as follows:

$$K = \frac{J_c}{J_m}$$

K_R **-** The **transmission factor** is a computational parameter, proportional to the tension generated by an external transmission keyed to the gear unit shaft.

M_2 **[Nm]** Net **output torque**

Mn_2 **[Nm]** The **rated torque** at the output shaft.
The catalogue value is calculated for a service factor f_S= 1.

Mr_2 **[Nm]** The application's **required torque** .
This should always be less than or equal to the gear unit's rated torque Mn_2.

Mc_2 **[Nm]** **Computational torque**. This is a virtual parameter used to select the gear unit, by means of the equation:

$$M_{c2} = M_{r2} \cdot f_s$$

n **[min^{-1}]** **Shaft speed.**

Pn_1 **[kW]** **Rated power** at the input shaft, calculated for a service factor f_S = 1.

P_R **[kW]** The application's **required power** .

R_C **[N]** The **computational radial load** is generated by an external transmission and, for the input and output shafts respectively, can be calculated from the following equations:

$$R_{c1}[N] = \frac{2000 \cdot M_1[Nm] \cdot K_r}{d\,[mm]} \quad ; \quad R_{c2}[N] = \frac{2000 \cdot M_2[Nm] \cdot K_r}{d\,[mm]}$$

R_N **[N]** The **admissible radial load** should always be more than or equal to the computational radial load. The point value is given in the catalogue for each unit's gear frame size and transmission ratio, and refers to the shaft's centre line.

S **-** The **safety factor** is defined as follows:

$$S = \frac{Mn_2}{M_2} = \frac{Pn_1}{P_1}$$

t_a **[°C]** **Ambient temperature.**

t_f **[min]** The **operating time** is the total duration of the work cycle phases.

t_r **[min]** The **rest time** is the interval of no work between two phases.

Z_r **-** **Number** of starts per hour.

η_d **-** The **dynamic efficiency** is expressed as the ratio between the power measured at the output shaft and that applied to the input shaft:

$$\eta_d = \frac{P_2}{P_1} \cdot 100 \qquad [\%]$$

$[\,]_1$ This value refers to the input shaft.

$[\,]_2$ This value refers to the output shaft.

Danger. May cause slight injury to persons.

1.2 INTRODUCTION TO THE ATEX DIRECTIVES

1.2.1 EXPLOSIVE ATMOSPHERE

Under the provisions of Directive 94/9/EC, an explosive atmosphere is defined as a mixture:

a. of **flammable substances**, in the form of gases, vapours, mists or dusts;
b. with **air**;
c. under **atmospheric conditions**;
d. in which, after ignition, the combustion spreads to the entire unburned mixture (it has to be noted that sometimes, mainly with dust, not always the whole quantity of the combustible material is consumed by the combustion).

An atmosphere which may potentially be transformed into an explosive atmosphere due to operating and/or ambient conditions is defined as a **potentially explosive atmosphere**. The products governed by Directive 94/9/EC are intended for use only in a potentially explosive atmosphere defined in this way.

1.2.2 EUROPEAN HARMONISED ATEX STANDARDS

The European Union has issued two harmonisation guidelines in the area of health and safety. These directives are known as ATEX 95 and ATEX 137.

Directive ATEX 95 (EU/94/9/EC) stipulates the minimum safety requirements for products intended for use in explosion risk areas within the member countries of the European Union. The directive also assigns such equipment to **categories**, which are defined by the directive itself.

Directive ATEX 137 (EU/99/92/EC) defines the minimum health and safety requirements for the workplace, for working conditions and for the handling of products and materials in explosion risk areas. The directive also divides the workplace into **zones** and defines the criteria for the application of product **categories** in said zones.
The following table describes the **zones** into which the user of a plant, in which an explosive atmosphere may occur, is required to divide the equipment application areas.

Zones		**Formation frequency of a potentially explosive atmosphere**	**Type of danger**
Gaseous atmosphere G	**Dusty atmosphere D**		
0	20	Present continuously or for long periods	Permanent
1	21	Likely to occur in normal operation occasionally	Potential
2	22	Not likely to occur in normal operation but if it does occur will persist for short period only	Minimal

BONFIGLIOLI RIDUTTORI gear units selectedin this catalogue are suitable for installation in zones 1, 21, 2 and22, as highlightedin grey in the above table.

As from 1 July 2003 the ATEX directives come into force throughout the entire European Union, and replace existing conflicting national and European laws on explosive atmospheres.
It should be emphasised that, for the first time, the directives also govern mechanical, hydraulic and pneumatic equipment, and not only electrical equipment as has been the case so far.
With regard to the Machinery Directive 2006/42/EC it should be noted that directive 94/9/EC is a set of extremely specific requirements dedicated to the dangers deriving from potentially explosive atmospheres, whereas the Machinery Directive contains only very general explosion safety requirements (Annex I).
Consequently, as regards protection against explosion in potentially explosive atmospheres, Directive 94/9/EC (ATEX 95) takes precedence over the Machinery Directive. The requirements of the Machinery Directive apply to all other risks regarding machinery.

1.2.3 LEVELS OF PROTECTION FOR THE VARIOUS CATEGORIES OF EQUIPMENT

The various categories of equipment must be able to operate in conformity with the Manufacturer's operational specifications, at certain defined levels of protection.

Protection level	Category		Type of protection	Operating conditions
	Group I	Group II		
Very high	M1		Two independent means of protection or safety capable of operating even when two independent faults occur	The equipment remains powered and operational even in the presence of an explosive atmosphere
Very high		**1**	Two independent means of protection or safety capable of operating even when two independent faults occur	The equipment remains powered and operational in zones 0, 1, 2 (G) and/or zones 20, 21, 22 (D)
High	M2		Protection suitable for normal operation and heavy duty conditions	Power to the equipment is shut off in the presence of a potentially explosive atmosphere
High		**2**	Protection suitable for normal operation and frequent faults or equipment in which malfunction is normal.	The equipment remains powered and operational in zones 1, 2 (G) and/or zones 21, 22 (D)
Normal		**3**	Protection suitable for normal operation	The equipment remains powered and operational in zones 2 (G) and/or 22 (D)

1.2.4 DEFINITION OF GROUPS (EN 1127-1)

Group I Applies to equipment intended for use underground in parts of mines and those parts of surface installations of such mines, liable to be endangered by firedamp and/or combustible dust.

Group II Applies to equipment intended for use in other places liable to be endangered by explosive atmospheres.

BONFIGLIOLI RIDUTTORI products may not therefore be installed in mines, classified in **Group I** and in **Group II**, category 1.

To summarise, the classification of equipment into groups, categories and zones is illustrated in the table below, whereby the availability of BONFIGLIOLI RIDUTTORI products is highlighted in grey.

Group	**I** mines, firedamp		**II** other potentially explosive areas (gas, dust)					
Category	M1	M2	1		2		3	
Atmosphere(1)			G	D	G	D	G	D
Zone			0	20	1	21	2	22
Type of protection gear unit					c, k	c, k	c, k	c, k
Type of protection motor					d, e	IP6X + temp.max	n(A)	IP5X o IP6X + temp. max

(1) **G** = gas **D** = dust

This catalogue describes BONFIGLIOLI RIDUTTORI **gear units**, intended for use in potentiallyexplosive atmospheres, with limitation to categories 2 and 3.
The products described herein conform to the minimum safety requirements of European Directive 94/9/EC, which is part of the directives known as ATEX (ATmosphères EXplosibles).

1.2.5 DECLARATION OF CONFORMITY

The Declaration of Conformity, is the document which attests to the conformity of the product to Directive 94/9/EC. The validity of the Declaration is bound to observance of the instructions given in the User, Installation and Service Manual for safe use of the product throughout its service life.
This can be downloaded from www.bonfiglioli.com where the manual is available in PDF format in a number of languages.
The instructions regarding ambient conditions are of particular importance inasmuch as failure to observe them during operation of the product renders the certificate null and void.
In case of doubt regarding the validity of the certificate of conformity, contact the BONFIGLIOLI RIDUTTORI technical department.

1.3 USE, INSTALLATION AND MAINTENANCE

The instructions for safe storage, handling and use of the product are given in the unit's User, Installation and Service Manual.
This can be downloaded from www.bonfiglioli.com where the manual is available in PDF format in a number of languages.
This document must be kept in a suitable place, in the vicinity of the installed gear unit, as a reference for all persons authorised to work with or on the product throughout its service life.

The Manufacturer reserves the right to modify, supplement or improve the Manual, in the interests of the User.

1.4 SELECTING THE TYPE OF EQUIPMENT

1.4.1 SELECTION PROCEDURE:

Determine the application service factor f_S in relation to the type of load (K factor), number of starts per hour Z_r and hours of operation per day.

Now determine the power required at the motor shaft:

$$P_{r1} = \frac{M_{r2} \cdot n_2}{9550 \cdot \eta_d} \quad [kW]$$

The efficiency value « η_d » can be determined as follows (approximately):

	η_d
1	0.98
2	0.96
3	0.93
4	0.90

The selection procedure now depends on the type of gear unit, as follows:

a. gear unit equipped with IEC motor fitting
b. gear unit equipped with solid input shaft.

Proceed as follows:

1.4.2 SELECTING A GEAR UNIT WITH IEC MOTOR FITTING

a. Determine service factor **f_s** as formerly specified.

b. With reference to the rating charts, identify the gear unit which, for the required speed n_2, provides a rated power Pn_1 such that:

$$Pn_1 \geq Pr_1 \times f_s$$

c. Select an electric motor rated:

$$P_1 \geq Pr_1$$

d. Finally, check that the motor/gear unit combination generates a safety factor equal to or greater than the service factor for the application in question, in other words:

$$S = \frac{P_{n1}}{P_1} \geq f_s$$

e. If the selected gear unit is of type C112, C212 or C312 with ratio i > 40 ,operating with a number of ourly starts Z > 30 ,correct the service factor taken from the graph by a factor of 1.2.

Finally, check that the recalculatedservice factor f_s still satisfies the condition S $\geqslant$ f_s.

1.4.3 SPEED REDUCER WITH SOLID INPUT SHAFT

- Calculate the value of the computational torque:

$$Mc_2 = Mr_2 \times f_s \times f_{tp}$$

f_{tp}				
Helical gear units C, A, F, S	Worm gear units VF, W			
$f_{tp} = 1$	Type of load	Ambient temperature [°C]		
		20°	30°	40°
	K1 uniform load	1.00	1.00	1.06
	K2 moderate shock load	1.00	1.02	1.12
	K3 heavy shock load	1.00	1.04	1.17

- for the speed n_2 closest to that required, select the gear unit with a rated torque Mn_2 equal to or greater than the computational torque Mc_2, in other words:

$$M_{n2} \geq M_{c2}$$

1.4.4 POST-SELECTION CHECKS

Once the gear unit or the gear unit with IEC motor fitting has been selected, we recommend checkin the selection as follows:

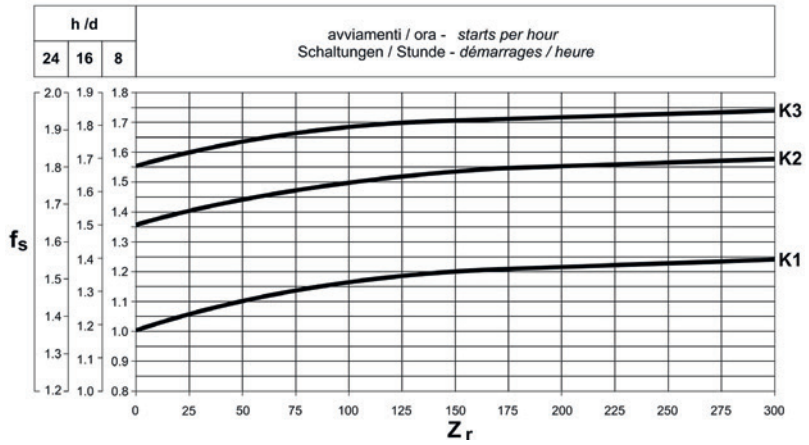
- **Momentary peak torque**
  The momentary peak torque is of the order of 200% of the rated torque Mn_2. Check that the point value of the peak torque satisfies this condition and equip the installation with a torque limiter if necessary.
- **Radial load**
  The catalogue gives the values of the maximum admissible radial load for both the input shaft « Rn_1 » and the output shaft « Rn_2 ». These values refer to a load applied at the shafts' centre lines and must always be greater than the actually applied load. See paragraph: Radial loads.
- **Thrust load**
  Check that the thrust component of the load does not exceed the maximum admissible value as given in the paragraph: Thrust loads.

1.4.5 OPERATING CONDITIONS FOR ATEX-SPECIFIED EQUIPMENT

- Ambient temperature -20°C < to < +40°C.
- The gear unit must be installed in the mounting position specified in the order and given on the nameplate. Any deviation from this requirement must be approved in advance by BONFIGLIOLI RIDUTTORI.
- Do not under any circumstances install the gear unit with its shaft in an inclined orientation, unless previously authorised to do so by the BONFIGLIOLI RIDUTTORI Technical Service Department.
- The speed of the motor mounted to the gear unit must not exceed n = 1500 min^{-1}.
- Should the gearbox be connected to an inverter driven motor the latter must be explicitly suitable for the purpose and used in full compliance with the instructions set forth by the manufacturer. Under no circumstances the setting of the inverter shall allow the motor to exceed the maximum speed permitted (1500 min^{-1}) or overload the gearbox itself.
- All the instructions in the User Manual (www.bonfiglioli.com) regarding installation, use and routine maintenance of the unit must be followed in full.

1.4.6 SERVICE FACTOR - [f_s]

This factor is the numeric value describing reducer service duty. It takes into consideration, with unavoidable approximation, daily operating conditions, load variations and overloads connected with reducer application.
In the graph below, after selecting proper “daily working hours” column, the service factor is given by intersecting the number of starts per hour and one of the K1, K2 or K3 curves.
K_ curves are linked with the service nature (approximately: uniform, medium and heavy) through the acceleration factor of masses K, connected to the ratio between driven masses and motor inertia values.
Regardless of the value given for the service factor, we would like to remind that in some applications, which for example involve lifting of parts, failure of the reducer may expose the operators to the risk of injuries.
If in doubt, please contact our Technical Service Department.



Acceleration factor of masses - [K]

This parameter serves for selecting the right curve for the type of load. The value is given by the following ratio:

$$K = \frac{J_c}{J_m}$$

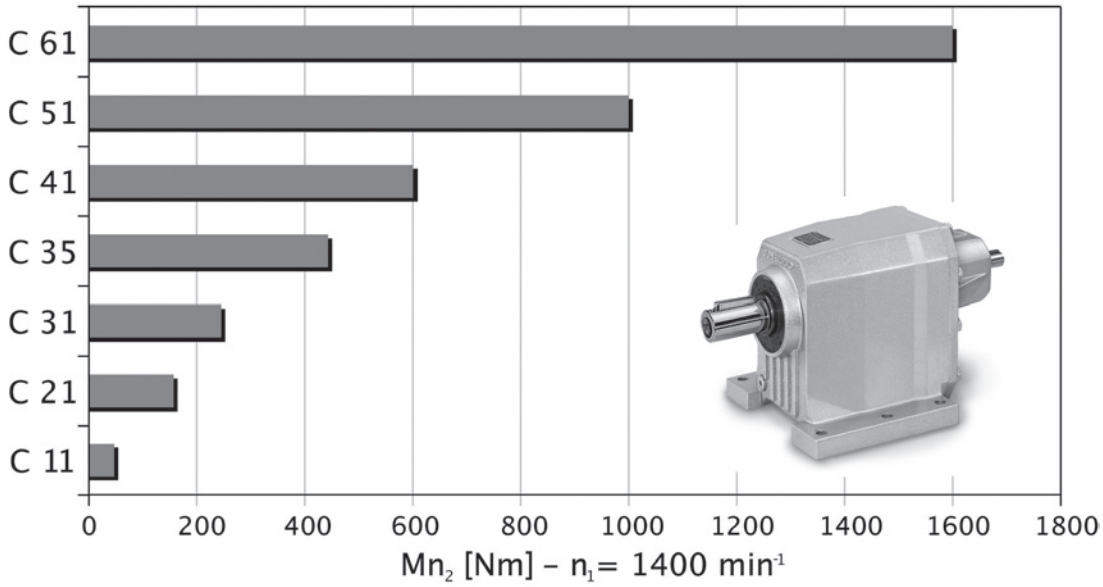
where:

J_c moment of inertia of driven masses referred to motor shaft
J_m moment of inertia of motor

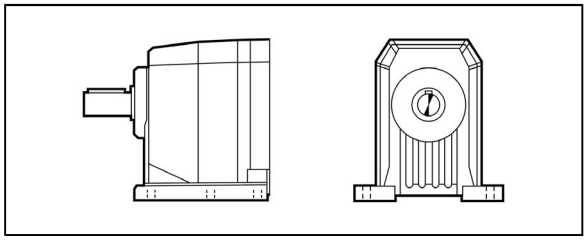
2 C SERIES HELICAL IN-LINE UNITS FOR POTENTIALLY EXPLOSIVE ENVIRONMENTS

2.1 CONSTRUCTION OF ATEX-SPECIFIED EQUIPMENT

- Equipped with service plugs for periodic lubricant level checks.
- Factory-charged with lubricant, depending on the mounting position specified in the order.
- Fluoro elastomer seal rings as standard.
- Double seal rings on the output shaft.
- No plastic component parts.
- Nameplate indication of the product category and type of protection.



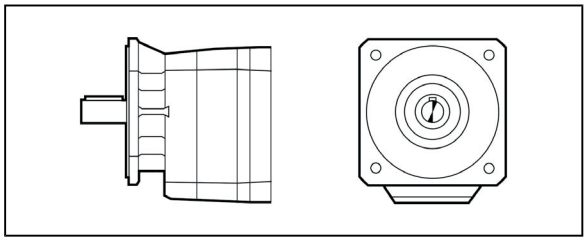
2.2 VERSIONS



P

Foot mounted

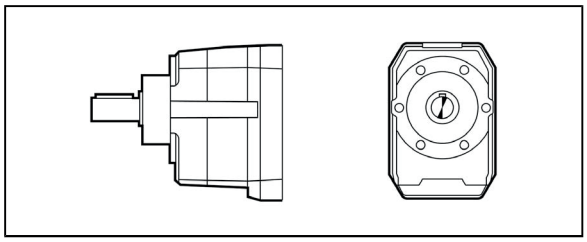
C11...C61



F

Flange mounted

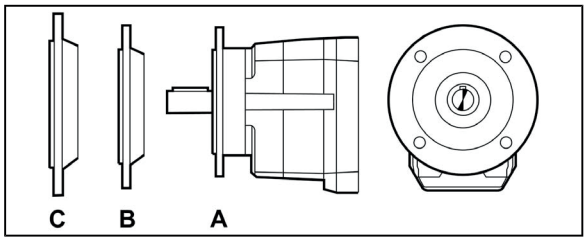
C11...C31



U

UNIBOX- universal housing

C11...C61

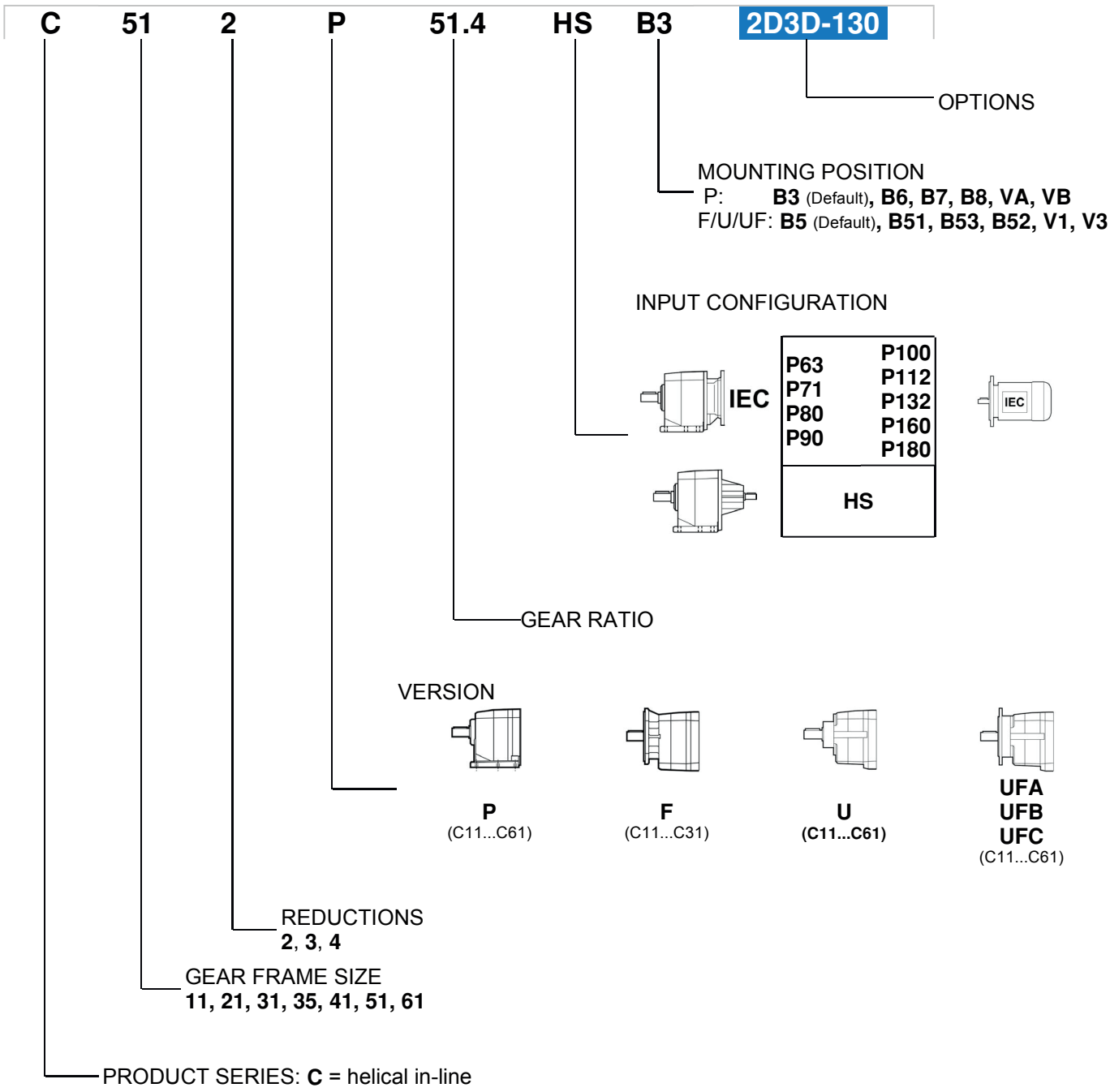


UF

UNIBOX bolt-on flange

C11...C61

2.3 ORDERING NUMBERS



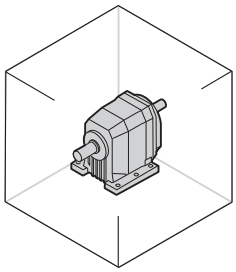
Options
The applicability of the various options is indicated in the technical data tables according to the specific configuration and gear ratio.

2D3D-160	The gear unit can be installed in zones 21 and 22 (categories 2D and 3D). The unit's surface temperature is less than 160°C.
2D3D-130	The gear unit can be installed in zones 21 and 22 (categories 2D and 3D). The unit's surface temperature is less than 130°C.
2G3G-T3	The gear unit can be installed in zones 1 and 2 (categories 2G and 3G). The temperature class is T3 (max. 200 °C).
2G3G-T4	The gear unit can be installed in zones 1 and 2 (categories 2G and 3G). The temperature class is T4 (max. 135 °C).

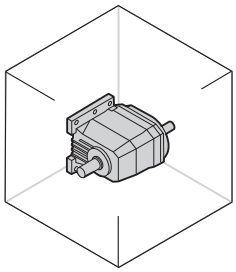
2.4 MOUNTING POSITION

C 11 P ... C 61 P

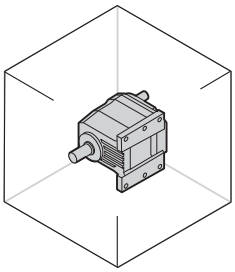
B3



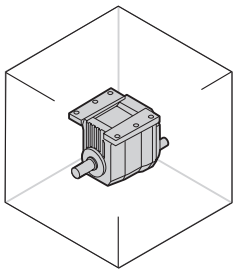
B6



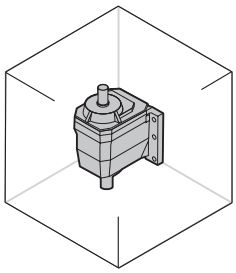
B7



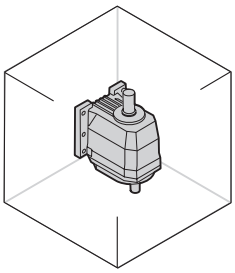
B8



VA

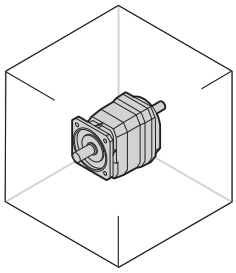


VB

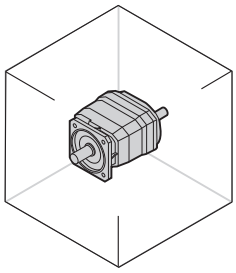


C 11 F ... C 61 F

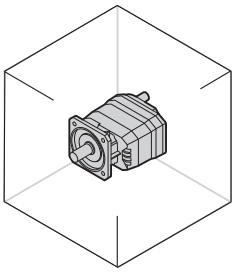
B5



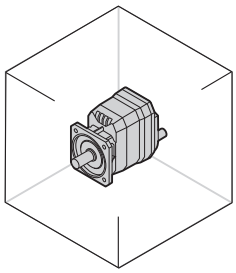
B51



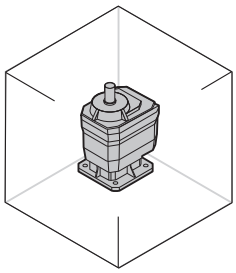
B53



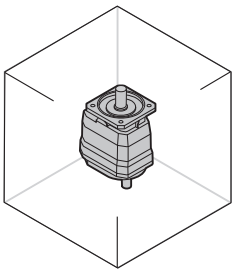
B52

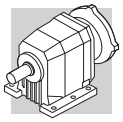


V1



V3





2.5 LUBRICATION

The gear units are factory-charged with long-life synthetic lubricant in the quantity suitable for the mounting position specified in the order.
For transportation purposes these units are equipped with closed filler plugs. A vented plug, which the User must replace before putting the unit into service, is supplied along with each unit.
Type C11, C21and C31 gear units are not equipped with spill-type level plugs. Proceed as described in the User Manual when checking the minimum lubricant level.

[l]

	P						F						U - UF					
	B3	B6	B7	B8	V5	V6	B5	B51	B53	B52	V1	V3	B5	B51	B53	B52	V1	V3
C 11 2	0.50	0.45	0.40	0.60	0.50	0.70	0.45	0.40	0.35	0.55	0.45	0.60	0.45	0.40	0.35	0.55	0.40	0.60
C 21 2	0.70	0.65	0.70	0.80	0.85	1.2	0.65	0.65	0.65	0.75	0.80	1.1	0.65	0.60	0.65	0.75	0.75	0.95
C 21 3	1.0	1.0	1.2	1.2	1.3	1.5	1.0	1.0	1.2	1.2	1.2	1.4	0.95	0.95	1.1	1.1	1.1	1.3
C 31 2	1.0	1.0	1.0	1.2	1.5	1.5	1.0	1.0	1.0	1.2	1.4	1.4	0.95	0.95	0.95	1.2	1.3	1.3
C 31 3	1.0	1.0	1.2	1.2	1.3	1.5	1.0	1.0	1.2	1.2	1.2	1.4	0.95	0.95	1.1	1.1	1.1	1.3
C 35 2	1.6	1.5	1.5	1.3	2.1	2.4	-	-	-	-	-	-	1.6	1.5	1.5	1.3	2.1	2.4
C 35 3	1.5	1.4	1.5	1.3	2.0	2.3	-	-	-	-	-	-	1.5	1.4	1.5	1.3	2.0	2.3
C 35 4	2.3	2.1	2.3	2.1	2.7	3.1	-	-	-	-	-	-	2.3	2.1	2.3	2.1	2.7	3.1
C 41 2	2.2	2.0	2.1	1.9	2.7	3.4	-	-	-	-	-	-	2.2	2.0	2.1	1.9	2.7	3.4
C 41 3	2.1	1.9	2.1	1.9	2.6	3.2	-	-	-	-	-	-	2.1	1.9	2.1	1.9	2.6	3.2
C 41 4	2.8	2.6	2.8	2.6	3.5	3.9	-	-	-	-	-	-	2.8	2.6	2.8	2.6	3.5	3.9
C 51 2	3.1	3.0	3.1	3.0	4.3	5.0	-	-	-	-	-	-	3.1	3.0	3.1	3.0	4.3	5.0
C 51 3	3.0	2.8	3.1	3.0	4.1	4.9	-	-	-	-	-	-	3.0	2.8	3.1	3.0	4.1	4.9
C 51 4	4.3	4.1	4.4	4.2	5.4	6.1	-	-	-	-	-	-	4.3	4.1	4.4	4.2	5.4	6.1
C 61 2	4.2	4.0	4.2	4.1	6.0	6.7	-	-	-	-	-	-	4.2	4.0	4.2	4.1	6.0	6.7
C 61 3	4.2	4.0	4.2	4.1	6.0	6.7	-	-	-	-	-	-	4.2	4.0	4.2	4.1	6.0	6.7
C 61 4	6.1	5.9	6.1	6.0	7.9	8.6	-	-	-	-	-	-	6.1	5.9	6.1	6.0	7.9	8.6

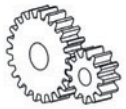
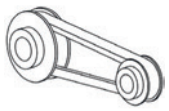
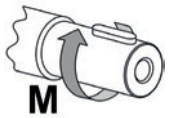
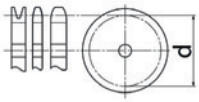
SHELL OMALA S4 WE 320

2.6 ADMISSIBLE OVERHUNG LOADS

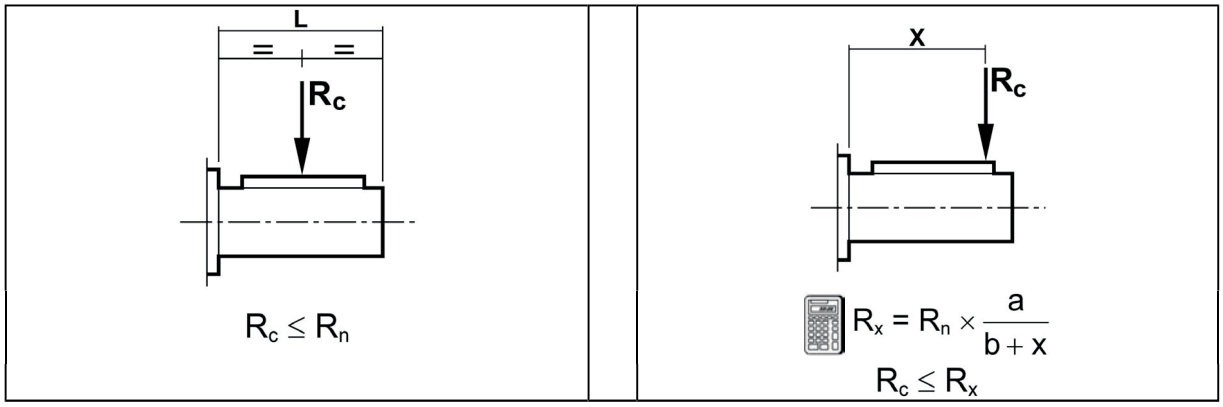
2.6.1 RADIAL LOADS

2.6.1.1 CALCULATING THE RESULTING OVERHUNG LOAD

External transmissions keyed onto input and/or output shaft generate loads that act radially onto same shaft.
Resulting shaft loading must be compatible with both the bearing and the shaft capacity.
Namely shaft loading (R_{c1} for input shaft, R_{c2} for output shaft), must be equal or lower than admissible overhung load capacity for shaft under study (R_{n1} for input shaft, R_{n2} for output shaft). OHL capability listed in the rating chart section.
In the formulas given below, index (1) applies to parameters relating to input shaft, whereas index (2) refers to output shaft.
The load generated by an external transmission can be calculated with close approximation by the following equation:

$R_c = \frac{2000 \times M \times K_r}{d}$	
K_r = 1	
K_r = 1.25	
K_r = 1.5 - 2.0	
M [Nm]	
d [mm]	

2.6.1.2 OVERHUNG LOADING VERIFICATION



2.6.1.3 LOAD LOCATION FACTOR

	Output shaft			Input shaft		
	a	**b**	**c**	**a**	**b**	**c**
C112	46	26	450	-	-	-
C212	53	28	550	40	20	350
C213	53	28	550	-	-	-
C312	60.5	30.5	750	41.5	21.5	350
C313	60.5	30.5	750	-	-	-
C352–C353	69.5	34.5	800	51.5	26.5	450
C354	69.5	34.5	800	-	-	-
C412–C413	69.5	34.5	850	51.5	26.5	450
C414	69.5	34.5	850	40	20	350
C512–C513	76.5	36.5	900	51.5	26.5	450
C514	76.5	36.5	900	41.5	21.5	350
C612–C613	95.5	45.5	1000	57.5	27.5	450
C614	95.5	45.5	1000	51.5	26.5	450

2.6.2 THRUST LOADS An_1, An_2

Permissible thrust loads on input [A_{n1}] and output [A_{n2}] shafts are obtained from the radial loading for the shaft under consideration [R_{n1}] and [R_{n2}] through the following equation:

$$A_{n1} = R_{n1} \cdot 0{,}2$$

$$A_{n2} = R_{n2} \cdot 0{,}2$$

The thrust loads calculated through these formulas apply to thrust forces occurring at the same time as rated radial loads. In the only case that no overhung load acts on the shaft the value of the admissible thrust load [A_n] amounts to 50% of rated OHL [R_n] on same shaft.

Where thrust loads exceed permissible value or largely prevail over radial loads, contact Bonfiglioli Riduttori for an in-depth analysis of the application.

2.7 GEARBOX RATING CHARTS

Selection example

	IEC	i	n_1 = 1400 min^{-1} n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n2} N
②	2D3D-130—2G3G-T4					
①	2D3D-160—2G3G-T3	C512_7.0	7.0	200	415	9.1	5560
		C512_7.8	7.8	179	420	8.3	5770
		C512_8.8	8.8	159	455	8.0	5980
		C512_9.8	9.8	143	450	7.1	6250
		C512_11.8	11.8	119	505	6.6	6590
		C512_13.1	13.1	107	490	5.8	6920
		C512_15.0	15.0	93	550	5.7	7110
		C512_16.6	16.6	84	535	5.0	7470
②		C512_18.9	18.9	74	585	4.8	7720
		C512_21.0	21.0	67	550	4.0	8170
		C512_23.4	23.4	60	625	4.1	8290
		C512_25.9	25.9	54	555	3.3	8890
		C512_29.8	29.8	47	680	3.5	8990
		C512_33.0	33.0	42	565	2.6	9770
		C512_36.4	36.4	38	670	2.8	9810
		C512_40.4	40.4	35	575	2.2	10000
		C512_43.1	43.1	32	650	2.3	10000
		C512_47.8			580	1.9	10000

		i	n_1 = 1400 min^{-1} n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N
②	2D3D-130—2G3G-T4						
①	2D3D-160—2G3G-T3	C512_7.0	7	200	415	9.1	2220	5560
		C512_7.8	7.8	179	420	8.3	2300	5770
		C512_8.8	8.8	159	455	8.0	2240	5980
		C512_9.8	9.8	143	450	7.1	2330	6250
		C512_11.8	11.8	119	505	6.6	2250	6590
		C512_13.1	13.1	107	490	5.8	2360	6920
		C512_15.0	15.0	93	550	5.7	2260	7110
		C512_16.6	16.6	84	535	5.0	2370	7470
②		C512_18.9	18.9	74	585	4.8	2250	7720
		C512_21.0	21.0	67	550	4.0	2390	8170
		C512_23.4	23.4	60	625	4.1	2240	8290
		C512_25.9	25.9	54	555	3.3	2420	8890
		C512_29.8	29.8	47	680	3.5	2220	8990
		C512_33.0	33.0	42	565	2.6	2460	9770
		C512_36.4	36.4	38	670	2.8	2260	9810
		C512_40.4	40.4	35	575	2.2	2460	10000
		C512_43.1	43.1	32	650	2.3	2310	10000
		C512_47.8				1.9	2480	10000

①

The gear unit can be installed

In zones 21 and 22 with surface temperature limit of 160°C

In zones 1 and 2 with temperature class limit T3 (200°C)

②

The gear unit can be installed

In zones 21 and 22 with surface temperature limit of 130°C

In zones 1 and 2 with temperature class limit T4 (135°C)

In zones 21 and 22 with surface temperature limit of 160°C

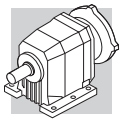
In zones 1 and 2 with temperature class limit T3 (200°C)

C 11

	IEC		i	n_1 = 1400 min^{-1}					i	n_1 = 1400 min^{-1}					
				n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n2} N			n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	**C112_6.9**	6.9	203	31	0.69	1360								33
		C112_7.6	7.6	184	32	0.65	1410								
		C112_9.1	9.1	154	35	0.59	1490								
		C112_10.1	10.1	139	36	0.55	1530								
		C112_12.1	12.1	116	39	0.50	1560								
		C112_13.4	13.4	104	40	0.46	1580								
		C112_15.5	15.5	90	43	0.43	1610								
		C112_17.2	17.2	81	44	0.39	1630								
		C112_18.6	18.6	75	46	0.38	1640								
		C112_20.6	20.6	68	47	0.35	1660								
		C112_22.8	22.8	61	50	0.34	1680								
		C112_25.4	25.4	55	51	0.31	1700								
		C112_29.5	29.5	47	54	0.28	1730								
		C112_32.8	32.8	43	52	0.24	1750								
		C112_33.4	33.4	42	57	0.26	1760								
		C112_37.0	37.0	38	52	0.22	1780								
		C112_42.9	42.9	33	62	0.22	1810								
		C112_47.6	47.6	29.4	53	0.17	1830								
		C112_49.7	49.7	28.2	63	0.20	1840								
		C112_55.2	55.2	25.4	54	0.15	1870								
		C112_59.6	59.6	23.5	65	0.17	1880								
		C112_66.2	66.2	21.1	56	0.13	1910								

C 21

IEC		i	n_1 = 1400 min^{-1}						i	n_1 = 1400 min^{-1}					
			n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n2} N				n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	**C212_6.4**	6.4	219	70	1.7	1890	2D3D-130—2G3G-T4	6.4	219	70	1.7	1230	1890	34
		C212_7.1	7.1	197	75	1.6	1950		7.1	197	75	1.6	1280	1950	
		C212_8.7	8.7	161	80	1.4	2080		8.7	161	80	1.4	1260	2080	
		C212_9.6	9.6	146	85	1.4	2150		9.6	146	85	1.4	1280	2150	
		C212_11.2	11.2	125	90	1.2	2240		11.2	125	90	1.2	1220	2240	
		C212_12.4	12.4	113	90	1.1	2350		12.4	113	90	1.1	1290	2350	
		C212_14.3	14.3	98	95	1.0	2450		14.3	98	95	1.0	1100	2450	
		C212_15.8	15.8	89	100	0.98	2530	2D3D-160—2G3G-T3	15.8	89	100	0.98	1280	2530	
		C212_18.0	18.0	78	105	0.90	2630		18.0	78	105	0.90	1010	2630	
		C212_20.0	20.0	70	110	0.85	2730		20.0	70	110	0.85	1250	2730	
		C212_21.9	21.9	64	115	0.81	2780		21.9	64	115	0.81	940	2780	
		C212_24.3	24.3	58	115	0.73	2920		24.3	58	115	0.73	1250	2920	
		C212_26.7	26.7	52	120	0.69	3000		26.7	52	120	0.69	1040	3000	
		C212_29.6	29.6	47	125	0.65	3110		29.6	47	125	0.65	1260	3110	
		C212_33.1	33.1	42	130	0.61	3210		33.1	42	130	0.61	1070	3210	
		C212_36.8	36.8	38	135	0.57	3340		36.8	38	135	0.57	1200	3340	
		C212_39.0	39.0	36	115	0.45	3540		39.0	36	115	0.45	1270	3540	
		C212_43.3	43.3	32	130	0.46	3610		43.3	32	130	0.46	1270	3610	
		C212_49.3	49.3	28.4	100	0.31	3990		49.3	28.4	100	0.31	1310	3990	
		C212_54.7	54.7	25.6	115	0.32	4070		54.7	25.6	115	0.32	1300	4070	
		C212_57.0	57.0	24.6	90	0.24	4290		57.0	24.6	90	0.24	1330	4290	
		C212_63.3	63.3	22.1	105	0.26	4370		63.3	22.1	105	0.26	1320	4370	
		C213_58.8	58.8	23.8	135	0.36	4040								
		C213_65.3	65.3	21.4	145	0.35	4160								
		C213_74.4	74.4	18.8	145	0.31	4380								
		C213_82.6	82.6	16.9	150	0.29	4550								
		C213_90.2	90.2	15.5	155	0.27	4660								
		C213_100.2	100.2	14.0	155	0.24	4880								
		C213_110.0	110.0	12.7	160	0.23	5000								
		C213_122.2	122.2	11.5	160	0.21	5000								
		C213_136.5	136.5	10.3	160	0.19	5000								
		C213_151.7	151.7	9.2	165	0.17	5000								
		C213_160.7	160.7	8.7	165	0.16	5000								
		C213_178.5	178.5	7.8	165	0.15	5000								
		C213_203.2	203.2	6.9	165	0.13	5000								
		C213_225.8	225.8	6.2	160	0.11	5000								
		C213_235.0	235.0	6.0	140	0.09	5000								
		C213_261.0	261.0	5.4	155	0.09	5000								

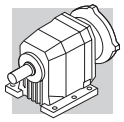


C 31

		IEC	i	n_1 = 1400 min^{-1}						i	n_1 = 1400 min^{-1}					
				n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n2} N				n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	C312_6.5	6.5	215	110	2.6	2740	2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	C312_6.5	6.5	215	110	2.6	1780	2740	36
		C312_7.2	7.2	194	115	2.5	2840			C312_7.2	7.2	194	115	2.5	1780	2840	
		C312_8.4	8.4	167	125	2.3	2960			C312_8.4	8.4	167	125	2.3	1780	2960	
		C312_9.3	9.3	151	130	2.2	3080			C312_9.3	9.3	151	130	2.2	1780	3080	
		C312_11.1	11.1	126	140	1.9	3240			C312_11.1	11.1	126	140	1.9	1780	3240	
		C312_12.3	12.3	114	140	1.8	3390			C312_12.3	12.3	114	140	1.8	1780	3390	
		C312_14.0	14.0	100	150	1.7	3510			C312_14.0	14.0	100	150	1.7	1780	3510	
		C312_15.6	15.6	90	155	1.5	3650			C312_15.6	15.6	90	155	1.5	1780	3650	
		C312_18.1	18.1	77	165	1.4	3810			C312_18.1	18.1	77	165	1.4	1780	3810	
		C312_20.1	20.1	70	170	1.3	3970			C312_20.1	20.1	70	170	1.3	1780	3970	
		C312_22.6	22.6	62	180	1.2	4100			C312_22.6	22.6	62	180	1.2	1780	4100	
		C312_25.1	25.1	56	185	1.1	4260			C312_25.1	25.1	56	185	1.1	1780	4260	
		C312_26.8	26.8	52	190	1.1	4340			C312_26.8	26.8	52	190	1.1	1780	4340	
		C312_29.8	29.8	47	195	1.0	4520			C312_29.8	29.8	47	195	1.0	1780	4520	
		C312_32.5	32.5	43	205	0.97	4610			C312_32.5	32.5	43	205	0.97	1780	4610	
		C312_36.1	36.1	39	195	0.83	4880			C312_36.1	36.1	39	195	0.83	1780	4880	
		C312_40.7	40.7	34	220	0.83	4980			C312_40.7	40.7	34	220	0.83	1780	4980	
		C312_45.3	45.3	31	200	0.68	5320			C312_45.3	45.3	31	200	0.68	1780	5320	
		C312_47.2	47.2	29.7	215	0.70	5310			C312_47.2	47.2	29.7	215	0.70	1780	5310	
		C312_52.4	52.4	26.7	205	0.60	5500			C312_52.4	52.4	26.7	205	0.60	1780	5500	
		C312_60.2	60.2	23.3	140	0.36	5500			C312_60.2	60.2	23.3	140	0.36	1780	5500	
		C312_66.8	66.8	21.0	155	0.36	5500			C312_66.8	66.8	21.0	155	0.36	1780	5500	
		C313_74.3	74.3	18.8	200	0.43	5500										
		C313_82.6	82.6	16.9	220	0.42	5500										
		C313_93.0	93.0	15.1	215	0.37	5500										
		C313_103.3	103.3	13.6	230	0.35	5500										
		C313_110.2	110.2	12.7	225	0.32	5500										
		C313_122.4	122.4	11.4	235	0.30	5500										
		C313_133.6	133.6	10.5	230	0.27	5500										
		C313_148.4	148.4	9.4	240	0.26	5500										
		C313_167.5	167.5	8.4	240	0.23	5500										
		C313_186.0	186.0	7.5	250	0.21	5500										
		C313_194.1	194.1	7.2	250	0.20	5500										
		C313_215.6	215.6	6.5	255	0.19	5500										
		C313_247.3	247.3	5.7	225	0.14	5500										
		C313_274.7	274.7	5.1	255	0.15	5500										

C 35

	IEC	i	n_1 = 1400 min^{-1}						i	n_1 = 1400 min^{-1}					
			n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n2} N				n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	C352_6.1	6.1	230	200	5.1	2570	2D3D-130—2G3G-T4	6.1	230	200	5.1	1750	2570	38
		C352_6.8	6.8	206	205	4.6	2710		6.8	206	205	4.6	1810	2710	
		C352_7.9	7.9	177	220	4.3	2790		7.9	177	220	4.3	1770	2790	
		C352_8.8	8.8	159	225	3.9	3000		8.8	159	225	3.9	1820	3000	
		C352_10.5	10.5	133	245	3.6	3170		10.5	133	245	3.6	1770	3170	
		C352_11.7	11.7	120	230	3.0	3420		11.7	120	230	3.0	1870	3420	
		C352_13.3	13.3	105	260	3.0	3450		13.3	105	260	3.0	1780	3450	
		C352_14.8	14.8	95	235	2.4	3760		14.8	95	235	2.4	1900	3760	
		C352_17.1	17.1	82	275	2.5	3790		17.1	82	275	2.5	1790	3790	
		C352_19.0	19.0	74	240	1.9	4170		19.0	74	240	1.9	1930	4170	
		C353_20.2	20.2	69	215	1.7	4380		20.2	69	215	1.7	2220	4380	
		C353_22.1	22.1	63	240	1.7	4450		22.1	63	240	1.7	2210	4450	
		C353_26.2	26.2	53	245	1.5	4730		26.2	53	245	1.5	2210	4730	
		C353_28.7	28.7	49	270	1.5	4810		28.7	49	270	1.5	2210	4810	
		C353_34.7	34.7	40	280	1.3	5140		34.7	40	280	1.3	2210	5140	
		C353_38.1	38.1	37	305	1.3	5250		38.1	37	305	1.3	2210	5250	
		C353_43.9	43.9	32	310	1.1	5520		43.9	32	310	1.1	2200	5520	
		C353_48.2	48.2	29	335	1.1	5650		48.2	29.0	335	1.1	2200	5650	
		C353_56.5	56.5	24.8	340	0.95	6000		56.5	24.8	340	0.95	2190	6000	
		C353_62.0	62.0	22.6	375	0.96	6100		62.0	22.6	375	0.96	2190	6100	
		C353_70.7	70.7	19.8	375	0.84	6420		70.7	19.8	375	0.84	2180	6420	
		C353_77.6	77.6	18.0	390	0.79	6500		77.6	18.0	390	0.79	2200	6500	
		C353_83.8	83.8	16.7	395	0.75	6500		83.8	16.7	395	0.75	2180	6500	
		C353_91.9	91.9	15.2	400	0.69	6500		91.9	15.2	400	0.69	2200	6500	
		C353_101.6	101.6	13.8	425	0.66	6500		101.6	13.8	425	0.66	2170	6500	
		C353_111.5	111.5	12.6	410	0.58	6500		111.5	12.6	410	0.58	2200	6500	
		C353_127.3	127.3	11.0	440	0.55	6500		127.3	11.0	440	0.55	2160	6500	
		C353_139.8	139.8	10.0	425	0.48	6500		139.8	10.0	425	0.48	2200	6500	
		C353_147.6	147.6	9.5	450	0.48	6500		147.6	9.5	450	0.48	2160	6500	
		C353_162.0	162.0	8.6	435	0.42	6500		162.0	8.6	435	0.42	2200	6500	
		C353_188.0	188.0	7.4	425	0.36	6500		188.0	7.4	425	0.36	2180	6500	
		C353_206.4	206.4	6.8	450	0.34	6500		206.4	6.8	450	0.34	2190	6500	
		C354_232.3	232.3	6.0	450	0.31	6500								
		C354_255.0	255.0	5.5	450	0.29	6500								
		C354_290.6	290.6	4.8	450	0.25	6500								
		C354_318.9	318.9	4.4	450	0.23	6500								
		C354_344.3	344.3	4.1	450	0.21	6500								
		C354_377.9	377.9	3.7	450	0.19	6500								
		C354_417.6	417.6	3.4	450	0.17	6500								
		C354_458.4	458.4	3.1	450	0.16	6500								
		C354_523.5	523.5	2.7	450	0.14	6500								
		C354_574.7	574.7	2.4	450	0.13	6500								
		C354_606.6	606.6	2.3	450	0.12	6500								
		C354_665.9	665.9	2.1	450	0.11	6500								
		C354_773.0	773.0	1.8	450	0.09	6500								
		C354_848.5	848.5	1.6	450	0.09	6500								

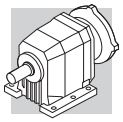


C 41

IEC		i	n_1 = 1400 min^{-1}						i	n_1 = 1400 min^{-1}					
			n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N			n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	**C412_6.4**	6.4	219	200	4.8	3260	2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	**C412_6.4**	6.4	219	200	4.8	2600	3260	40
		C412_7.1	7.1	197	205	4.5	3410			**C412_7.1**	7.1	197	205	4.5	2640	3410	
		C412_8.6	8.6	163	220	3.9	3600			**C412_8.6**	8.6	163	220	3.9	2610	3600	
		C412_9.6	9.6	146	225	3.6	3790			**C412_9.6**	9.6	146	225	3.6	2660	3790	
		C412_11.2	11.2	125	245	3.4	3920			**C412_11.2**	11.2	125	245	3.4	2620	3920	
		C412_12.4	12.4	113	245	3.0	4120			**C412_12.4**	12.4	113	245	3.0	2670	4120	
		C412_14.2	14.2	99	260	2.8	4280			**C412_14.2**	14.2	99	260	2.8	2620	4280	
		C412_15.8	15.8	89	260	2.5	4500			**C412_15.8**	15.8	89	260	2.5	2680	4500	
		C412_17.8	17.8	79	275	2.4	4630			**C412_17.8**	17.8	79	275	2.4	2630	4630	
		C412_19.8	19.8	71	280	2.2	4850			**C412_19.8**	19.8	71	280	2.2	2670	4850	
		C412_22.6	22.6	62	300	2.0	5010			**C412_22.6**	22.6	62	300	2.0	2610	5010	
		C412_25.0	25.0	56	300	1.8	5260			**C412_25.0**	25.0	56	300	1.8	2660	5260	
		C412_28.3	28.3	49	325	1.8	5400			**C412_28.3**	28.3	49	325	1.8	2600	5400	
		C412_31.4	31.4	45	325	1.6	5670			**C412_31.4**	31.4	45	325	1.6	2650	5670	
		C412_33.4	33.4	42	335	1.5	5740			**C412_33.4**	33.4	42	335	1.5	2600	5740	
		C412_37.1	37.1	38	325	1.4	6080			**C412_37.1**	37.1	38	325	1.4	2660	6080	
		C412_44.8	44.8	31	330	1.1	6550			**C412_44.8**	44.8	31	330	1.1	2670	6550	
		C413_28.5	28.5	49	335	1.9	5360			**C413_28.5**	28.5	49	335	1.9	2900	5360	
		C413_31.2	31.2	45	360	1.8	5480			**C413_31.2**	31.2	45	360	1.8	2900	5480	
		C413_36.8	36.8	38	370	1.6	5810			**C413_36.8**	36.8	38	370	1.6	2900	5810	
		C413_40.3	40.3	35	410	1.6	5880			**C413_40.3**	40.3	35	410	1.6	2900	5880	
		C413_47.0	47.0	29.8	415	1.4	6240			**C413_47.0**	47.0	29.8	415	1.4	2890	6240	
		C413_51.5	51.5	27.2	430	1.3	6450			**C413_51.5**	51.5	27.2	430	1.3	2910	6450	
		C413_58.7	58.7	23.9	450	1.2	6700			**C413_58.7**	58.7	23.9	450	1.2	2890	6700	
		C413_64.3	64.3	21.8	445	1.1	7000			**C413_64.3**	64.3	21.8	445	1.1	2910	7000	
		C413_74.4	74.4	18.8	490	1.0	7000			**C413_74.4**	74.4	18.8	490	1.0	2880	7000	
		C413_81.5	81.5	17.2	460	0.89	7000			**C413_81.5**	81.5	17.2	460	0.89	2920	7000	
		C413_93.3	93.3	15.0	545	0.92	7000			**C413_93.3**	93.3	15.0	545	0.92	2860	7000	
		C413_102.3	102.3	13.7	475	0.73	7000			**C413_102.3**	102.3	13.7	475	0.73	2920	7000	
		C413_110.1	110.1	12.7	570	0.82	7000			**C413_110.1**	110.1	12.7	570	0.82	2860	7000	
		C413_120.6	120.6	11.6	490	0.64	7000			**C413_120.6**	120.6	11.6	490	0.64	2920	7000	
		C413_132.9	132.9	10.5	590	0.70	7000			**C413_132.9**	132.9	10.5	590	0.70	2860	7000	
		C413_145.6	145.6	9.6	505	0.55	7000			**C413_145.6**	145.6	9.6	505	0.55	2920	7000	
		C413_164.1	164.1	8.5	600	0.58	7000			**C413_164.1**	164.1	8.5	600	0.58	2860	7000	
		C413_179.9	179.9	7.8	520	0.46	7000			**C413_179.9**	179.9	7.8	520	0.46	2920	7000	
		C413_190.8	190.8	7.3	600	0.50	7000			**C413_190.8**	190.8	7.3	600	0.50	2860	7000	
		C413_209.1	209.1	6.7	530	0.40	7000			**C413_209.1**	209.1	6.7	530	0.40	2920	7000	
		C414_239.9	239.9	5.8	600	0.41	7000			**C414_239.9**	239.9	5.8	600	0.41	1050	7000	
		C414_263.0	263.0	5.3	550	0.34	7000			**C414_263.0**	263.0	5.3	550	0.34	1090	7000	
		C414_304.2	304.2	4.6	600	0.32	7000			**C414_304.2**	304.2	4.6	600	0.32	1110	7000	
		C414_333.4	333.4	4.2	570	0.28	7000			**C414_333.4**	333.4	4.2	570	0.28	1140	7000	
		C414_381.8	381.8	3.7	600	0.25	7000			**C414_381.8**	381.8	3.7	600	0.25	1150	7000	
		C414_418.5	418.5	3.3	590	0.23	7000			**C414_418.5**	418.5	3.3	590	0.23	1170	7000	
		C414_450.2	450.2	3.1	600	0.22	7000			**C414_450.2**	450.2	3.1	600	0.22	1180	7000	
		C414_493.5	493.5	2.8	600	0.20	7000			**C414_493.5**	493.5	2.8	600	0.20	1190	7000	
		C414_543.5	543.5	2.6	600	0.18	7000			**C414_543.5**	543.5	2.6	600	0.18	1210	7000	
		C414_595.8	595.8	2.3	600	0.16	7000			**C414_595.8**	595.8	2.3	600	0.16	1700	7000	
		C414_671.3	671.3	2.1	600	0.14	7000			**C414_671.3**	671.3	2.1	600	0.14	1230	7000	
		C414_735.9	735.9	1.9	600	0.13	7000			**C414_735.9**	735.9	1.9	600	0.13	1240	7000	
		C414_780.4	780.4	1.8	600	0.12	7000			**C414_780.4**	780.4	1.8	600	0.12	1240	7000	
		C414_855.5	855.5	1.6	600	0.11	7000			**C414_855.5**	855.5	1.6	600	0.11	1250	7000	

C 51

IEC		i	n_1 = 1400 min^{-1}						i	n_1 = 1400 min^{-1}						
			n_2	M_{n2}	P_{n1}	R_{n2}				n_2	M_{n2}	P_{n1}	R_{n1}	R_{n2}	
			min^{-1}	Nm	kW	N				min^{-1}	Nm	kW	N	N	
2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	**C512_7.0**	7.0	200	415	9.1	5560	2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	**C512_7.0**	7	200	415	9.1	2220	5560	42
		C512_7.8	7.8	179	420	8.3	5770			**C512_7.8**	7.8	179	420	8.3	2300	5770	
		C512_8.8	8.8	159	455	8.0	5980			**C512_8.8**	8.8	159	455	8.0	2240	5980	
		C512_9.8	9.8	143	450	7.1	6250			**C512_9.8**	9.8	143	450	7.1	2330	6250	
		C512_11.8	11.8	119	505	6.6	6590			**C512_11.8**	11.8	119	505	6.6	2250	6590	
		C512_13.1	13.1	107	490	5.8	6920			**C512_13.1**	13.1	107	490	5.8	2360	6920	
		C512_15.0	15.0	93	550	5.7	7110			**C512_15.0**	15.0	93	550	5.7	2260	7110	
		C512_16.6	16.6	84	535	5.0	7470			**C512_16.6**	16.6	84	535	5.0	2370	7470	
		C512_18.9	18.9	74	585	4.8	7720			**C512_18.9**	18.9	74	585	4.8	2250	7720	
		C512_21.0	21.0	67	550	4.0	8170			**C512_21.0**	21.0	67	550	4.0	2390	8170	
		C512_23.4	23.4	60	625	4.1	8290			**C512_23.4**	23.4	60	625	4.1	2240	8290	
		C512_25.9	25.9	54	555	3.3	8890			**C512_25.9**	25.9	54	555	3.3	2420	8890	
		C512_29.8	29.8	47	680	3.5	8990			**C512_29.8**	29.8	47	680	3.5	2220	8990	
		C512_33.0	33.0	42	565	2.6	9770			**C512_33.0**	33.0	42	565	2.6	2460	9770	
		C512_36.4	36.4	38	670	2.8	9810			**C512_36.4**	36.4	38	670	2.8	2260	9810	
		C512_40.4	40.4	35	575	2.2	10000			**C512_40.4**	40.4	35	575	2.2	2460	10000	
		C512_43.1	43.1	32	650	2.3	10000			**C512_43.1**	43.1	32	650	2.3	2310	10000	
		C512_47.8	47.8	29.3	580	1.9	10000			**C512_47.8**	47.8	29.3	580	1.9	2480	10000	
		C512_51.4	51.4	27.2	595	1.8	10000			**C512_51.4**	51.4	27.2	595	1.8	2390	10000	
		C512_57.0	57.0	24.6	595	1.6	10000			**C512_57.0**	57.0	24.6	595	1.6	2470	10000	
		C513_21.8	21.8	64	625	4.5	8010			**C513_21.8**	21.8	64	625	4.5	2690	8010	
		C513_23.9	23.9	59	640	4.2	8300			**C513_23.9**	23.9	59	640	4.2	2720	8300	
		C513_27.4	27.4	51	675	3.9	8650			**C513_27.4**	27.4	51	675	3.9	2710	8650	
		C513_30.1	30.1	47	685	3.6	8990			**C513_30.1**	30.1	47	685	3.6	2740	8990	
		C513_37.0	37.0	38	740	3.2	9570			**C513_37.0**	37.0	38	740	3.2	2720	9570	
		C513_40.5	40.5	35	750	2.9	9950			**C513_40.5**	40.5	35	750	2.9	2750	9950	
		C513_46.7	46.7	30	800	2.7	10000			**C513_46.7**	46.7	30	800	2.7	2730	10000	
		C513_51.2	51.2	27.3	805	2.5	10000			**C513_51.2**	51.2	27.3	805	2.5	2760	10000	
		C513_59.0	59.0	23.7	850	2.3	10000			**C513_59.0**	59.0	23.7	850	2.3	2730	10000	
		C513_64.6	64.6	21.7	845	2.1	10000			**C513_64.6**	64.6	21.7	845	2.1	2770	10000	
		C513_72.9	72.9	19.2	910	2.0	10000			**C513_72.9**	72.9	19.2	910	2.0	2720	10000	
		C513_79.9	79.9	17.5	875	1.7	10000			**C513_79.9**	79.9	17.5	875	1.7	2770	10000	
		C513_93.0	93.0	15.1	990	1.7	10000			**C513_93.0**	93.0	15.1	990	1.7	2710	10000	
		C513_101.8	101.8	13.8	905	1.4	10000			**C513_101.8**	101.8	13.8	905	1.4	2780	10000	
		C513_113.6	113.6	12.3	1000	1.4	10000			**C513_113.6**	113.6	12.3	1000	1.4	2720	10000	
		C513_124.4	124.4	11.3	935	1.2	10000			**C513_124.4**	124.4	11.3	935	1.2	2780	10000	
		C513_134.6	134.6	10.4	1000	1.2	10000			**C513_134.6**	134.6	10.4	1000	1.2	2730	10000	
		C513_147.4	147.4	9.5	960	1.0	10000			**C513_147.4**	147.4	9.5	960	1.0	2780	10000	
		C513_160.5	160.5	8.7	1000	0.99	10000			**C513_160.5**	160.5	8.7	1000	0.99	2740	10000	
		C513_175.8	175.8	8.0	985	0.89	10000			**C513_175.8**	175.8	8.0	985	0.89	2780	10000	
		C513_197.9	197.9	7.1	1000	0.80	10000			**C513_197.9**	197.9	7.1	1000	0.80	2740	10000	
		C513_216.7	216.7	6.5	1000	0.73	10000			**C513_216.7**	216.7	6.5	1000	0.73	2780	10000	
		C514_240.9	240.9	5.8	1000	0.67	10000			**C514_240.9**	240.9	5.8	1000	0.67	1600	10000	
		C514_263.8	263.8	5.3	1000	0.61	10000			**C514_263.8**	263.8	5.3	1000	0.61	1660	10000	
		C514_297.8	297.8	4.7	1000	0.54	10000			**C514_297.8**	297.8	4.7	1000	0.54	1680	10000	
		C514_326.1	326.1	4.3	1000	0.50	10000			**C514_326.1**	326.1	4.3	1000	0.50	1700	10000	
		C514_379.6	379.6	3.7	1000	0.43	10000			**C514_379.6**	379.6	3.7	1000	0.43	1700	10000	
		C514_415.7	415.7	3.4	1000	0.39	10000			**C514_415.7**	415.7	3.4	1000	0.39	1700	10000	
		C514_463.9	463.9	3.0	1000	0.35	10000			**C514_463.9**	463.9	3.0	1000	0.35	1700	10000	
		C514_508.0	508.0	2.8	1000	0.32	10000			**C514_508.0**	508.0	2.8	1000	0.32	1700	10000	
		C514_549.7	549.7	2.5	1000	0.30	10000			**C514_549.7**	549.7	2.5	1000	0.30	1700	10000	
		C514_602.0	602.0	2.3	1000	0.27	10000			**C514_602.0**	602.0	2.3	1000	0.27	1700	10000	
		C514_655.4	655.4	2.1	1000	0.25	10000			**C514_655.4**	655.4	2.1	1000	0.25	1700	10000	
		C514_717.7	717.7	2.0	1000	0.23	10000			**C514_717.7**	717.7	2.0	1000	0.23	1700	10000	
		C514_808.0	808.0	1.7	1000	0.20	10000			**C514_808.0**	808.0	1.7	1000	0.20	1700	10000	
		C514_884.9	884.9	1.6	1000	0.18	10000			**C514_884.9**	884.9	1.6	1000	0.18	1700	10000	



C 61

	IEC	i	n_1 = 1400 min^{-1} n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n2} N			i	n_1 = 1400 min^{-1} n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	**C612_6.7**	6.7	209	995	23.0	5950	2D3D-130—2G3G-T4	2D3D-160—2G3G-T3	**C612_6.7**	6.7	209	995	23.0	2700	5950	44
		C612_7.5	7.5	187	825	17.0	6880			**C612_7.5**	7.5	187	825	17.0	2850	6880	
		C612_8.8	8.8	159	1015	17.8	6750			**C612_8.8**	8.8	159	1015	17.8	2900	6750	
		C612_9.8	9.8	143	840	13.2	7730			**C612_9.8**	9.8	143	840	13.2	2980	7730	
		C612_10.9	10.9	128	1025	14.5	7450			**C612_10.9**	10.9	128	1025	14.5	2940	7450	
		C612_12.1	12.1	116	850	10.8	8450			**C612_12.1**	12.1	116	850	10.8	2940	8450	
		C612_14.3	14.3	98	1045	11.3	8420			**C612_14.3**	14.3	98	1045	11.3	3590	8420	
		C612_15.9	15.9	88	865	8.4	9480			**C612_15.9**	15.9	88	865	8.4	3590	9480	
		C612_17.7	17.7	79	1060	9.2	9220			**C612_17.7**	17.7	79	1060	9.2	3700	9220	
		C612_19.6	19.6	71	875	6.9	10300			**C612_19.6**	19.6	71	875	6.9	3700	10300	
		C612_22.4	22.4	63	1075	7.4	10200			**C612_22.4**	22.4	63	1075	7.4	3810	10200	
		C612_24.8	24.8	56	890	5.5	11400			**C612_24.8**	24.8	56	890	5.5	3810	11400	
		C612_27.4	27.4	51	1085	6.1	11200			**C612_27.4**	27.4	51	1085	6.1	3880	11200	
		C612_30.4	30.4	46	900	4.6	12300			**C612_30.4**	30.4	46	900	4.6	3880	12300	
		C612_34.2	34.2	41	1035	4.7	12400			**C612_34.2**	34.2	41	1035	4.7	4050	12400	
		C612_38.0	38.0	37	910	3.7	13500			**C612_38.0**	38.0	37	910	3.7	4090	13500	
		C613_26.8	26.8	52	995	5.9	11300			**C613_26.8**	26.8	52	995	5.9	3510	11300	
		C613_29.4	29.4	48	1020	5.5	11800			**C613_29.4**	29.4	48	1020	5.5	3540	11800	
		C613_33.0	33.0	42	1060	5.1	12200			**C613_33.0**	33.0	42	1060	5.1	3520	12200	
		C613_36.1	36.1	39	1085	4.8	12600			**C613_36.1**	36.1	39	1085	4.8	3560	12600	
		C613_43.4	43.4	32	1155	4.2	13400			**C613_43.4**	43.4	32	1155	4.2	3530	13400	
		C613_47.6	47.6	29.4	1180	3.9	13900			**C613_47.6**	47.6	29.4	1180	3.9	3560	13900	
		C613_53.5	53.5	26.2	1235	3.7	14300			**C613_53.5**	53.5	26.2	1235	3.7	3520	14300	
		C613_58.6	58.6	23.9	1265	3.4	14900			**C613_58.6**	58.6	23.9	1265	3.4	3560	14900	
		C613_67.7	67.7	20.7	1340	3.1	15500			**C613_67.7**	67.7	20.7	1340	3.1	3510	15500	
		C613_74.2	74.2	18.9	1370	2.9	16000			**C613_74.2**	74.2	18.9	1370	2.9	3550	16000	
		C613_83.0	83.0	16.9	1410	2.7	16000			**C613_83.0**	83.0	16.9	1410	2.7	3500	16000	
		C613_91.0	91.0	15.4	1440	2.5	16000			**C613_91.0**	91.0	15.4	1440	2.5	3540	16000	
		C613_103.6	103.6	13.5	1500	2.3	16000			**C613_103.6**	103.6	13.5	1500	2.3	3490	16000	
		C613_113.6	113.6	12.3	1515	2.1	16000			**C613_113.6**	113.6	12.3	1515	2.1	3540	16000	
		C613_128.1	128.1	10.9	1600	2.0	16000			**C613_128.1**	128.1	10.9	1600	2.0	3470	16000	
		C613_140.5	140.5	10.0	1565	1.8	16000			**C613_140.5**	140.5	10.0	1565	1.8	3540	16000	
		C613_150.0	150.0	9.3	1600	1.7	16000			**C613_150.0**	150.0	9.3	1600	1.7	3480	16000	
		C613_164.5	164.5	8.5	1600	1.5	16000			**C613_164.5**	164.5	8.5	1600	1.5	3540	16000	
		C613_178.6	178.6	7.8	1600	1.4	16000			**C613_178.6**	178.6	7.8	1600	1.4	3490	16000	
		C613_195.8	195.8	7.2	1600	1.3	16000			**C613_195.8**	195.8	7.2	1600	1.3	3540	16000	
		C614_217.4	217.4	6.4	1600	1.2	16000			**C614_217.4**	217.4	6.4	1600	1.2	2470	16000	
		C614_238.3	238.3	5.9	1600	1.1	16000			**C614_238.3**	238.3	5.9	1600	1.1	2520	16000	
		C614_275.3	275.3	5.1	1600	0.94	16000			**C614_275.3**	275.3	5.1	1600	0.94	2580	16000	
		C614_301.7	301.7	4.6	1600	0.86	16000			**C614_301.7**	301.7	4.6	1600	0.86	2620	16000	
		C614_337.7	337.7	4.1	1600	0.77	16000			**C614_337.7**	337.7	4.1	1600	0.77	2660	16000	
		C614_370.1	370.1	3.8	1600	0.70	16000			**C614_370.1**	370.1	3.8	1600	0.70	2690	16000	
		C614_421.5	421.5	3.3	1600	0.62	16000			**C614_421.5**	421.5	3.3	1600	0.62	2730	16000	
		C614_462.0	462.0	3.0	1600	0.56	16000			**C614_462.0**	462.0	3.0	1600	0.56	2750	16000	
		C614_521.1	521.1	2.7	1600	0.50	16000			**C614_521.1**	521.1	2.7	1600	0.50	2780	16000	
		C614_571.2	571.2	2.5	1600	0.45	16000			**C614_571.2**	571.2	2.5	1600	0.45	2800	16000	
		C614_610.1	610.1	2.3	1600	0.43	16000			**C614_610.1**	610.1	2.3	1600	0.43	2810	16000	
		C614_668.8	668.8	2.1	1600	0.39	16000			**C614_668.8**	668.8	2.1	1600	0.39	2830	16000	
		C614_726.3	726.3	1.9	1600	0.36	16000			**C614_726.3**	726.3	1.9	1600	0.36	2840	16000	
		C614_796.1	796.1	1.8	1600	0.33	16000			**C614_796.1**	796.1	1.8	1600	0.33	2860	16000	

2.8 MOTOR AVAILABILITY

Please be aware that motor-gearbox availability resulting from chart below are purely based on geometrical compatibility.

When selecting a gearbox with IEC motor adapter, refer to procedure specified at chapter 1.4.

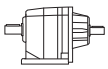
		IEC (IM B5) - n_1 = 1400 min^{-1}								
	P_{n1} (*)	0.25 kW	0.55 kW	1.1 kW	1.85 kW	3 kW	4 kW	9.2 kW	15 kW	22 kW
		P63	P71	P80	P90	P100	P112	P132	P160	P180
C 11 2		6.9_66.2	6.9_66.2	6.9_47.6	6.9_47.6	6.9_47.6	6.9_47.6			
C 21 2		8.7_63.3	8.7_63.3	6.4_54.7	6.4_54.7	6.4_54.7	6.4_54.7			
C 21 3		58.8_261.0	58.8_261.0	58.8_261.0	58.8_261.0	58.8_261.0	58.8_261.0			
C 31 2		11.1_66.8	11.1_66.8	6.5_66.8	6.5_66.8	6.5_66.8	6.5_66.8	6.5_25.1		
C 31 3		74.3_274.7	74.3_274.7	74.3_274.7	74.3_274.7	74.3_274.7	74.3_274.7			
C 35 2		10.5_19.0	10.5_19.0	6.1_19.0	6.1_19.0	6.1_19.0	6.1_19.0	6.1_19.0		
C 35 3		34.7_206.4	34.7_206.4	20.2_206.4	20.2_206.4	20.2_206.4	20.2_206.4	20.2_77.6		
C 35 4		232.3_848.5	232.3_848.5	232.3_848.5	232.3_848.5	232.3_848.5	232.3_848.5			
C 41 2	i =	14.2_44.8	14.2_44.8	6.4_44.8	6.4_44.8	6.4_44.8	6.4_44.8	6.4_31.4		
C 41 3		47.0_209.1	47.0_209.1	28.5_209.1	28.5_209.1	28.5_209.1	28.5_209.1	28.5_102.3		
C 41 4		239.9_855.5	239.9_855.5	239.9_855.5	239.9_855.5	239.9_855.5	239.9_855.5			
C 51 2		18.9_57.0	18.9_57.0	7.0_57.0	7.0_57.0	7.0_57.0	7.0_57.0	7.0_40.4	7.0_40.4	7.0_40.4
C 51 3		59.0_216.7	59.0_216.7	21.8_216.7	21.8_216.7	21.8_216.7	21.8_216.7	21.8_124.4	21.8_124.4	21.8_124.4
C 51 4		240.9_884.9	240.9_884.9	240.9_884.9	240.9_884.9	240.9_884.9	240.9_884.9	240.9_508.0		
C 61 2		22.4_38.0	22.4_38.0	8.8_38.0	8.8_38.0	8.8_38.0	8.8_38.0	6.7_38.0	6.7_38.0	6.7_38.0
C 61 3		67.7_195.8	67.7_195.8	26.8_195.8	26.8_195.8	26.8_195.8	26.8_195.8	26.8_140.5	26.8_140.5	26.8_140.5
C 61 4		217.4_796.1	217.4_796.1	217.4_796.1	217.4_796.1	217.4_796.1	217.4_796.1			

*(*) P_{n1} = maximum installable power on the input P_*

2.9 MOMENT OF INERTIA

The following charts indicate moment of inertia values Jr [kgm^2] referred to the gear unit high speed shaft. A key to the symbols used follows:

Values under this symbol refer to gearboxes with IEC motor adaptor (IEC size...).



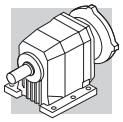
This symbol refers to gearbox values.

C 11

	i	J (•10-4) [kgm^2]					
		IEC					
		63	71	80	90	100	112
C 11 2_6.9	6.9	1.8	1.8	3.2	3.1	4.4	4.4
C 11 2_7.6	7.6	1.8	1.8	3.2	3.1	4.4	4.4
C 11 2_9.1	9.1	1.7	1.7	3.1	3.0	4.3	4.3
C 11 2_10.1	10.1	1.7	1.7	3.1	3.0	4.3	4.3
C 11 2_12.1	12.1	1.6	1.6	3.0	3.0	4.2	4.2
C 11 2_13.4	13.4	1.6	1.6	3.0	2.9	4.2	4.2
C 11 2_15.5	15.5	1.6	1.6	2.9	2.9	4.2	4.2
C 11 2_17.2	17.2	1.6	1.6	2.9	2.9	4.2	4.2
C 11 2_18.6	18.6	1.5	1.5	2.9	2.9	4.2	4.2
C 11 2_20.6	20.6	1.5	1.5	2.9	2.9	4.2	4.2
C 11 2_22.8	22.8	1.5	1.5	2.9	2.8	4.1	4.1
C 11 2_25.4	25.4	1.5	1.5	2.9	2.8	4.1	4.1
C 11 2_29.5	29.5	1.5	1.5	2.9	2.8	4.1	4.1
C 11 2_32.8	32.8	1.5	1.5	2.9	2.8	4.1	4.1
C 11 2_33.4	33.4	1.5	1.5	2.9	2.8	4.1	4.1
C 11 2_37.0	37.0	1.5	1.5	2.9	2.8	4.1	4.1
C 11 2_42.9	42.9	1.5	1.5	1.9	1.8	4.1	4.1
C 11 2_47.6	47.6	1.5	1.5	2.9	2.8	4.1	4.1
C 11 2_49.7	49.7	1.5	1.5	—	—	—	—
C 11 2_55.2	55.2	1.5	1.5	—	—	—	—
C 11 2_59.6	59.6	1.5	1.5	—	—	—	—
C 11 2_66.2	66.2	1.5	1.5	—	—	—	—

C 21

	i	J (•10-4) [kgm2]						
		IEC						
		63	71	80	90	100	112	
C 21 2_6.4	6.4	—	—	3.6	3.6	4.9	4.9	2.7
C 21 2_7.1	7.1	—	—	3.6	3.6	4.8	4.8	2.6
C 21 2_8.7	8.7	2.0	2.0	3.4	3.3	4.6	4.6	2.4
C 21 2_9.6	9.6	2.0	2.0	3.3	3.3	4.6	4.6	2.4
C 21 2_11.2	11.2	1.8	1.8	3.2	3.1	4.4	4.4	2.2
C 21 2_12.4	12.4	1.8	1.8	3.2	3.1	4.4	4.4	2.2
C 21 2_14.3	14.3	1.7	1.7	3.1	3.0	4.3	4.3	2.1
C 21 2_15.8	15.8	1.7	1.7	3.1	3.0	4.3	4.3	2.1
C 21 2_18.0	18.0	1.6	1.6	3.0	2.9	4.2	4.2	2.0
C 21 2_20.0	20.0	1.6	1.6	3.0	2.9	4.2	4.2	2.0
C 21 2_21.9	21.9	1.6	1.6	3.0	2.9	4.2	4.2	2.0
C 21 2_24.3	24.3	1.6	1.6	3.0	2.9	4.2	4.2	2.0
C 21 2_26.7	26.7	1.6	1.5	2.9	2.9	4.2	4.2	2.0
C 21 2_29.6	29.6	1.6	1.5	2.9	2.9	4.2	4.2	2.0
C 21 2_33.1	33.1	1.5	1.5	2.9	2.8	4.1	4.1	1.9
C 21 2_36.8	36.8	1.5	1.5	2.9	2.8	4.1	4.1	1.9
C 21 2_39.0	39.0	1.5	1.5	2.9	2.8	4.1	4.1	1.9
C 21 2_43.3	43.3	1.5	1.5	2.9	2.8	4.1	4.1	1.9
C 21 2_49.3	49.3	1.5	1.5	2.9	2.8	4.1	4.1	1.9
C 21 2_54.7	54.7	1.5	1.5	2.9	2.8	4.1	4.1	1.9
C 21 2_57.0	57.0	1.5	1.5	—	—	—	—	1.9
C 21 2_63.3	63.3	1.5	1.5	—	—	—	—	1.9
C 21 3_74.4	74.4	1.5	1.5	2.9	2.8	4.1	4.1	0.93
C 21 3_82.6	82.6	1.5	1.5	2.9	2.8	4.1	4.1	0.93
C 21 3_90.2	90.2	1.5	1.5	2.9	2.8	4.1	4.1	0.93
C 21 3_100.2	100.2	1.5	1.5	2.9	2.8	4.1	4.1	0.93
C 21 3_110.0	110.0	1.5	1.5	2.9	2.8	4.1	4.1	0.93
C 21 3_122.2	122.2	1.5	1.5	2.9	2.8	4.1	4.1	0.93
C 21 3_136.5	136.5	1.5	1.5	2.9	2.8	4.1	4.1	0.92
C 21 3_151.7	151.7	1.5	1.5	2.9	2.8	4.1	4.1	0.92
C 21 3_160.7	160.7	1.5	1.5	2.9	2.8	4.1	4.1	0.92
C 21 3_178.5	178.5	1.5	1.5	2.9	2.8	4.1	4.1	0.92
C 21 3_203.2	203.2	1.5	1.5	2.9	2.8	4.1	4.1	0.92
C 21 3_225.8	225.8	1.5	1.5	2.9	2.8	4.1	4.1	0.92
C 21 3_235.0	235.0	1.5	1.5	2.9	2.8	4.1	4.1	0.92
C 21 3_261.0	261.0	1.5	1.5	2.9	2.8	4.1	4.1	0.92

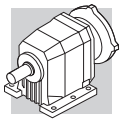


C 31

	i	J (•10-4) [kgm2]							
		IEC							
		63	71	80	90	100	112	132	
C 31 2_6.5	6.5	—	—	4.4	4.4	5.7	5.7	18	3.8
C 31 2_7.2	7.2	—	—	4.4	4.3	5.6	5.6	18	3.7
C 31 2_8.4	8.4	—	—	3.9	3.9	5.2	5.2	18	3.3
C 31 2_9.3	9.3	—	—	3.9	3.8	5.1	5.1	18	3.3
C 31 2_11.1	11.1	2.1	2.1	3.5	3.4	4.7	4.7	17	2.8
C 31 2_12.3	12.3	2.1	2.1	3.5	3.4	4.7	4.7	17	2.8
C 31 2_14.0	14.0	1.9	1.9	3.3	3.3	4.5	4.5	17	2.7
C 31 2_15.6	15.6	1.9	1.9	3.3	3.3	4.5	4.5	17	2.7
C 31 2_18.1	18.1	1.8	1.8	3.2	3.1	4.4	4.4	17	2.6
C 31 2_20.1	20.1	1.8	1.8	3.2	3.1	4.4	4.4	17	2.6
C 31 2_22.6	22.6	1.7	1.7	3.1	3.0	4.3	4.3	17	2.5
C 31 2_25.1	25.1	1.7	1.7	3.1	3.0	4.3	4.3	17	2.5
C 31 2_26.8	26.8	1.7	1.7	3.0	3.0	4.3	4.3	—	2.4
C 31 2_29.8	29.8	1.7	1.7	3.0	3.0	4.3	4.3	—	2.4
C 31 2_32.5	32.5	1.6	1.6	3.0	2.9	4.2	4.2	—	2.4
C 31 2_36.1	36.1	1.6	1.6	3.0	2.9	4.2	4.2	—	2.4
C 31 2_40.7	40.7	1.6	1.6	3.0	2.9	4.2	4.2	—	2.3
C 31 2_45.3	45.3	1.6	1.6	3.0	2.9	4.2	4.2	—	2.3
C 31 2_47.2	47.2	1.6	1.5	2.9	2.9	4.2	4.2	—	2.3
C 31 2_52.4	52.4	1.6	1.5	2.9	2.9	4.2	4.2	—	2.3
C 31 2_60.2	60.2	1.5	1.5	2.9	2.8	4.1	4.1	—	2.3
C 31 2_66.8	66.8	1.5	1.5	2.9	2.8	4.1	4.1	—	2.3
C 31 3_74.3	74.3	1.5	1.5	2.9	2.8	4.1	4.1	—	0.96
C 31 3_82.6	82.6	1.5	1.5	2.9	2.8	4.1	4.1	—	0.96
C 31 3_93.0	93.0	1.5	1.5	2.9	2.8	4.1	4.1	—	0.95
C 31 3_103.3	103.3	1.5	1.5	2.9	2.8	4.1	4.1	—	0.95
C 31 3_110.2	110.2	1.5	1.5	2.9	2.8	4.1	4.1	—	0.95
C 31 3_122.4	122.4	1.5	1.5	2.9	2.8	4.1	4.1	—	0.95
C 31 3_133.6	133.6	1.5	1.5	2.9	2.8	4.1	4.1	—	0.95
C 31 3_148.4	148.4	1.5	1.5	2.9	2.8	4.1	4.1	—	0.95
C 31 3_167.5	167.5	1.5	1.5	2.9	2.8	4.1	4.1	—	0.94
C 31 3_186.0	186.0	1.5	1.5	2.9	2.8	4.1	4.1	—	0.94
C 31 3_194.1	194.1	1.5	1.5	2.9	2.8	4.1	4.1	—	0.94
C 31 3_215.6	215.6	1.5	1.5	2.9	2.8	4.1	4.1	—	0.94
C 31 3_247.3	247.3	1.5	1.5	2.9	2.8	4.1	4.1	—	0.94
C 31 3_274.7	274.7	1.5	1.5	2.9	2.8	4.1	4.1	—	0.94

C 35

	i	J (•10-4) [kgm2]							
		IEC							
		63	71	80	90	100	112	132	
C 35 2_6.1	6.1	—	—	5.2	5.1	6.4	6.4	19	13
C 35 2_6.8	6.8	—	—	5.1	5.0	6.3	6.3	19	13
C 35 2_7.9	7.9	—	—	4.5	4.4	5.7	5.7	18	12
C 35 2_8.8	8.8	—	—	4.4	4.3	5.6	5.6	18	12
C 35 2_10.5	10.5	2.6	2.6	4.0	3.9	5.2	5.2	18	12
C 35 2_11.7	11.7	2.5	2.5	3.9	3.8	5.1	5.1	18	12
C 35 2_13.3	13.3	2.2	2.2	3.6	3.5	4.8	4.8	18	11
C 35 2_14.8	14.8	2.1	2.1	3.5	3.4	4.7	4.7	17	11
C 35 2_17.1	17.1	2.0	2.0	3.4	3.3	4.6	4.6	17	11
C 35 2_19.0	19.0	2.0	2.0	3.4	3.3	4.6	4.6	17	11
C 35 3_20.2	20.2	—	—	4.6	4.5	5.8	5.8	19	12
C 35 3_22.1	22.1	—	—	4.6	4.5	5.8	5.8	19	12
C 35 3_26.2	26.2	—	—	4.1	4.0	5.3	5.3	18	12
C 35 3_28.7	28.7	—	—	4.1	4.0	5.3	5.3	18	12
C 35 3_34.7	34.7	2.3	2.3	3.7	3.6	4.9	4.9	18	11
C 35 3_38.1	38.1	2.3	2.3	3.7	3.6	4.9	4.9	18	11
C 35 3_43.9	43.9	2.0	2.0	3.4	3.3	4.6	4.6	17	11
C 35 3_48.2	48.2	2.0	2.0	3.4	3.3	4.6	4.6	17	11
C 35 3_56.5	56.5	1.9	1.9	3.3	3.2	4.5	4.5	17	11
C 35 3_62.0	62.0	1.9	1.9	3.3	3.2	4.5	4.5	17	11
C 35 3_70.7	70.7	1.8	1.8	3.2	3.1	4.4	4.4	17	11
C 35 3_77.6	77.6	1.8	1.8	3.2	3.1	4.4	4.4	17	11
C 35 3_83.8	83.8	1.7	1.7	3.1	3.0	4.3	4.3	—	11
C 35 3_91.9	91.9	1.7	1.7	3.1	3.0	4.3	4.3	—	11
C 35 3_101.6	101.6	1.7	1.7	3.1	3.0	4.3	4.3	—	11
C 35 3_111.5	111.5	1.7	1.7	3.1	3.0	4.3	4.3	—	11
C 35 3_127.3	127.3	1.6	1.6	3.0	2.9	4.2	4.2	—	11
C 35 3_139.8	139.8	1.6	1.6	3.0	2.9	4.2	4.2	—	11
C 35 3_147.6	147.6	1.6	1.6	3.0	2.9	4.2	4.2	—	11
C 35 3_162.0	162.0	1.6	1.6	3.0	2.9	4.2	4.2	—	11
C 35 3_188.0	188.0	1.6	1.6	3.0	2.9	4.2	4.2	—	11
C 35 3_206.4	206.4	1.6	1.6	3.0	2.9	4.2	4.2	—	11
C 35 4_232.3	232.3	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_255.0	255.0	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_290.6	290.6	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_318.9	318.9	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_344.3	344.3	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_377.9	377.9	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_417.6	417.6	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_458.4	458.4	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_523.5	523.5	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_574.7	574.7	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_606.6	606.6	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_665.9	665.9	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_773.0	773.0	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90
C 35 4_848.5	848.5	1.6	1.6	3.0	2.9	4.2	4.2	—	0.90

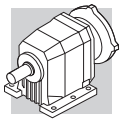


C 41

	i	J (•10-4) [kgm2]							
		IEC							
		63	71	80	90	100	112	132	
C 41 2_6.4	6.4	—	—	7.2	7.1	8.4	8.4	23	15
C 41 2_7.1	7.1	—	—	7.0	6.9	8.2	8.2	23	15
C 41 2_8.6	8.6	—	—	5.8	5.7	7.0	7.0	22	13
C 41 2_9.6	9.6	—	—	5.7	5.6	6.9	6.9	22	13
C 41 2_11.2	11.2	—	—	4.7	4.6	5.9	5.9	21	12
C 41 2_12.4	12.4	—	—	4.7	4.6	5.9	5.9	21	12
C 41 2_14.2	14.2	2.9	2.9	4.3	4.2	5.5	5.5	20	12
C 41 2_15.8	15.8	2.8	2.8	4.2	4.1	5.4	5.4	20	12
C 41 2_17.8	17.8	2.5	2.5	3.9	3.8	5.1	5.1	20	12
C 41 2_19.8	19.8	2.5	2.5	3.9	3.8	5.1	5.1	20	12
C 41 2_22.6	22.6	2.1	2.1	3.5	3.4	4.7	4.7	20	11
C 41 2_25.0	25.0	2.1	2.1	3.5	3.4	4.7	4.7	20	11
C 41 2_28.3	28.3	1.9	1.9	3.3	3.2	4.5	4.5	19	11
C 41 2_31.4	31.4	1.9	1.9	3.3	3.2	4.5	4.5	19	11
C 41 2_33.4	33.4	1.8	1.8	3.2	3.1	4.4	4.4	—	11
C 41 2_37.1	37.1	1.8	1.8	3.2	3.1	4.4	4.4	—	11
C 41 2_44.8	44.8	1.8	1.8	3.2	3.1	4.4	4.4	—	11
C 41 3_28.5	28.5	—	—	5.4	5.3	6.6	6.6	21	13
C 41 3_31.2	31.2	—	—	5.4	5.3	6.6	6.6	21	13
C 41 3_36.8	36.8	—	—	4.5	4.4	5.7	5.7	21	12
C 41 3_40.3	40.3	—	—	4.5	4.4	5.7	5.7	21	12
C 41 3_47.0	47.0	2.7	2.7	4.1	4.0	5.3	5.3	20	12
C 41 3_51.5	51.5	2.7	2.7	4.1	4.0	5.3	5.3	20	12
C 41 3_58.7	58.7	2.4	2.4	3.8	3.7	5.0	5.0	20	11
C 41 3_64.3	64.3	2.4	2.4	3.8	3.7	5.0	5.0	20	11
C 41 3_74.4	74.4	2.1	2.1	3.5	3.4	4.7	4.7	20	11
C 41 3_81.5	81.5	2.1	2.1	3.5	3.4	4.7	4.7	20	11
C 41 3_93.9	93.9	1.9	1.9	3.3	3.2	4.5	4.5	19	11
C 41 3_102.3	102.3	1.9	1.9	3.3	3.2	4.5	4.5	19	11
C 41 3_110.1	110.1	1.8	1.8	3.2	3.1	4.4	4.4	—	11
C 41 3_120.6	120.6	1.8	1.8	3.2	3.1	4.4	4.4	—	11
C 41 3_132.9	132.9	1.8	1.8	3.2	3.1	4.4	4.4	—	11
C 41 3_145.6	145.6	1.8	1.8	3.2	3.1	4.4	4.4	—	11
C 41 3_164.1	164.1	1.7	1.7	3.1	3.0	4.3	4.3	—	11
C 41 3_179.9	179.9	1.7	1.7	3.1	3.0	4.3	4.3	—	11
C 41 3_190.8	190.8	1.6	1.6	3.0	2.9	4.2	4.2	—	11
C 41 3_209.1	209.1	1.6	1.6	3.0	2.9	4.2	4.2	—	11
C 41 4_239.9	239.9	1.7	1.7	3.1	3.0	4.3	4.3	—	2.1
C 41 4_263.0	263.0	1.7	1.7	3.1	3.0	4.3	4.3	—	2.1
C 41 4_304.2	304.2	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_333.4	333.4	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_382.0	382.0	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_419.0	419.0	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_450.2	450.2	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_493.5	493.5	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_543.5	543.5	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_595.8	595.8	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_671.3	671.3	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_735.9	735.9	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_780.4	780.4	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0
C 41 4_855.5	855.5	1.6	1.6	3.0	2.9	4.2	4.2	—	2.0

C 51

	i	J (•10-4) [kgm2]									
		IEC									
		63	71	80	90	100	112	132	160	180	
C 51 2_7.0	7.0	—	—	11	11	12	12	27	73	70	19
C 51 2_7.8	7.8	—	—	11	11	12	12	27	73	70	18
C 51 2_8.8	8.8	—	—	8.9	8.8	10	10	25	71	68	17
C 51 2_9.8	9.8	—	—	8.7	8.6	9.9	9.9	25	71	68	16
C 51 2_11.8	11.8	—	—	7.0	6.9	8.2	8.2	23	69	66	15
C 51 2_13.1	13.1	—	—	6.9	6.8	8.1	8.1	23	69	66	15
C 51 2_15.0	15.0	—	—	5.6	5.5	6.8	6.8	22	68	65	13
C 51 2_16.6	16.6	—	—	5.5	5.4	6.7	6.7	22	68	65	13
C 51 2_18.9	18.9	3.5	3.5	4.9	4.8	6.1	6.1	21	67	64	13
C 51 2_21.0	21.0	3.4	3.4	4.8	4.7	6.0	6.0	21	67	64	12
C 51 2_23.4	23.4	3.0	3.0	4.4	4.3	5.6	5.6	20	66	63	12
C 51 2_25.9	25.9	2.9	2.9	4.3	4.2	5.5	5.5	20	66	63	12
C 51 2_29.8	29.8	2.4	2.4	3.8	3.7	5.0	5.0	20	66	63	11
C 51 2_33.0	33.0	2.4	2.4	3.8	3.7	5.0	5.0	20	66	63	11
C 51 2_36.4	36.4	2.2	2.2	3.6	3.5	4.8	4.8	20	66	63	11
C 51 2_40.4	40.4	2.2	2.2	3.6	3.5	4.8	4.8	20	66	63	11
C 51 2_43.1	43.1	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 51 2_47.8	47.8	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 51 2_51.4	51.4	1.9	1.9	3.3	3.2	4.5	4.5	—	—	—	11
C 51 2_57.0	57.0	1.9	1.9	3.3	3.2	4.5	4.5	—	—	—	11
C 51 3_21.8	21.8	—	—	9.7	9.6	11	11	26	72	69	17
C 51 3_23.9	23.9	—	—	9.7	9.6	11	11	26	72	69	17
C 51 3_27.4	27.4	—	—	8.1	8.0	9.3	9.3	24	70	67	16
C 51 3_30.1	30.1	—	—	8.1	8.0	9.3	9.3	24	70	67	16
C 51 3_37.0	37.0	—	—	6.5	6.4	7.7	7.7	23	69	66	14
C 51 3_40.5	40.5	—	—	6.5	6.4	7.7	7.7	23	69	66	14
C 51 3_46.7	46.7	—	—	5.3	5.2	6.5	6.5	21	67	64	13
C 51 3_51.2	51.2	—	—	5.3	5.2	6.5	6.5	21	67	64	13
C 51 3_59.0	59.0	3.3	3.3	4.7	4.6	5.9	5.9	21	67	64	12
C 51 3_64.6	64.6	3.3	3.3	4.7	4.6	5.9	5.9	21	67	64	12
C 51 3_72.9	72.9	2.8	2.8	4.2	4.1	5.4	5.4	20	66	63	12
C 51 3_79.9	79.9	2.8	2.8	4.2	4.1	5.4	5.4	20	66	63	12
C 51 3_93.0	93.0	2.3	2.3	3.7	3.6	4.9	4.9	20	66	63	11
C 51 3_101.8	101.8	2.3	2.3	3.7	3.6	4.9	4.9	20	66	63	11
C 51 3_113.6	113.6	2.1	2.1	3.5	3.4	4.7	4.7	20	66	63	11
C 51 3_124.4	124.4	2.1	2.1	3.5	3.4	4.7	4.7	20	66	63	11
C 51 3_134.6	134.6	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 51 3_147.4	147.4	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 51 3_160.5	160.5	1.9	1.9	3.3	3.2	4.5	4.5	—	—	—	11
C 51 3_175.8	175.8	1.9	1.9	3.3	3.2	4.5	4.5	—	—	—	11
C 51 3_197.9	197.9	1.8	1.8	3.2	3.1	4.4	4.4	—	—	—	11
C 51 3_216.7	216.7	1.8	1.8	3.2	3.1	4.4	4.4	—	—	—	11
C 51 4_240.9	240.9	1.8	1.8	3.2	3.1	4.4	4.4	17	—	—	1.2
C 51 4_263.8	263.8	1.8	1.8	3.2	3.1	4.4	4.4	17	—	—	1.2
C 51 4_297.8	297.8	1.8	1.8	3.2	3.1	4.4	4.4	17	—	—	1.2
C 51 4_326.1	326.1	1.8	1.8	3.2	3.1	4.4	4.4	17	—	—	1.2
C 51 4_380.0	380.0	1.7	1.7	3.1	3.0	4.3	4.3	17	—	—	1.1
C 51 4_416.0	416.0	1.7	1.7	3.1	3.0	4.3	4.3	17	—	—	1.1
C 51 4_463.9	463.9	1.7	1.7	3.1	3.0	4.3	4.3	17	—	—	1.1
C 51 4_508.0	508.0	1.7	1.7	3.1	3.0	4.3	4.3	17	—	—	1.1
C 51 4_549.7	549.7	1.7	1.7	3.1	3.0	4.3	4.3	—	—	—	1.1
C 51 4_602.0	602.0	1.7	1.7	3.1	3.0	4.3	4.3	—	—	—	1.1
C 51 4_655.4	655.4	1.7	1.7	3.1	3.0	4.3	4.3	—	—	—	1.1
C 51 4_717.7	717.7	1.7	1.7	3.1	3.0	4.3	4.3	—	—	—	1.1
C 51 4_808.0	808.0	1.7	1.7	3.1	3.0	4.3	4.3	—	—	—	1.1
C 51 4_884.9	884.9	1.7	1.7	3.1	3.0	4.3	4.3	—	—	—	1.1

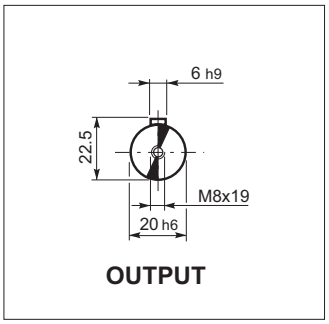


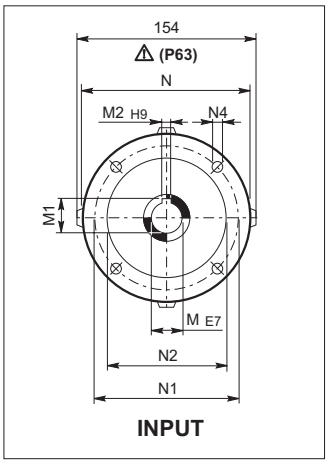
C 61

	i	J (•10-4) [kgm2]									
		IEC									
		63	71	80	90	100	112	132	160	180	
C 61 2_6.7	6.7	—	—	—	—	—	—	33	78	76	36
C 61 2_7.5	7.5	—	—	—	—	—	—	32	78	76	35
C 61 2_8.8	8.8	—	—	16	16	17	17	32	78	76	35
C 61 2_9.8	9.8	—	—	15	15	16	16	31	78	76	34
C 61 2_10.9	10.9	—	—	13	12	14	14	29	78	76	31
C 61 2_12.1	12.1	—	—	12	12	13	13	28	78	76	31
C 61 2_14.3	14.3	—	—	8.7	8.6	9.9	9.9	25	78	76	28
C 61 2_15.9	15.9	—	—	8.5	8.4	9.7	9.7	25	78	76	27
C 61 2_17.7	17.7	—	—	7.3	7.2	8.5	8.5	23	78	76	26
C 61 2_19.6	19.6	—	—	7.2	7.1	8.4	8.4	23	78	76	26
C 61 2_22.4	22.4	4.7	4.7	6.1	6.0	7.3	7.3	22	78	76	25
C 61 2_24.8	24.8	4.6	4.6	6.0	5.9	7.2	7.2	22	78	76	25
C 61 2_27.4	27.4	3.6	3.6	5.0	4.9	6.2	6.2	21	78	76	24
C 61 2_30.4	30.4	3.7	3.7	5.1	5.0	6.3	6.3	21	78	76	24
C 61 2_34.2	34.2	3.0	3.0	4.4	4.3	5.6	5.6	20	78	76	23
C 61 2_38.0	38.0	3.0	3.0	4.4	4.3	5.6	5.6	20	78	76	23
C 61 3_26.8	26.8	—	—	13	13	14	14	29	78	76	32
C 61 3_29.4	29.4	—	—	13	13	14	14	29	78	76	32
C 61 3_33.0	33.0	—	—	11	11	12	12	27	78	76	30
C 61 3_36.1	36.1	—	—	11	11	12	12	27	78	76	30
C 61 3_43.4	43.4	—	—	7.9	7.8	9.1	9.1	24	78	76	27
C 61 3_47.6	47.6	—	—	7.9	7.8	9.1	9.1	24	78	76	27
C 61 3_53.5	53.5	—	—	6.8	6.7	8.0	8.0	23	78	76	26
C 61 3_58.6	58.6	—	—	6.7	6.6	7.9	7.9	23	78	76	26
C 61 3_67.7	67.7	4.3	4.3	5.7	5.6	6.9	6.9	22	78	76	25
C 61 3_74.2	74.2	4.3	4.3	5.7	5.6	6.9	6.9	22	78	76	25
C 61 3_83.0	83.0	3.4	3.4	4.8	4.7	6.0	6.0	21	78	76	24
C 61 3_91.0	91.0	3.4	3.4	4.8	4.7	6.0	6.0	21	78	76	24
C 61 3_103.6	103.6	2.8	2.8	4.2	4.1	5.4	5.4	20	78	76	23
C 61 3_113.6	113.6	2.8	2.8	4.2	4.1	5.4	5.4	20	78	76	23
C 61 3_128.1	128.1	2.5	2.5	3.9	3.8	5.1	5.1	20	78	76	23
C 61 3_140.5	140.5	2.5	2.5	3.9	3.8	5.1	5.1	20	78	76	23
C 61 3_150.0	150.0	2.2	2.2	3.6	3.5	4.8	4.8	—	—	—	23
C 61 3_164.5	164.5	2.2	2.2	3.6	3.5	4.8	4.8	—	—	—	23
C 61 3_178.6	178.6	2.1	2.1	3.5	3.4	4.7	4.7	—	—	—	22
C 61 3_195.8	195.8	2.1	2.1	3.5	3.4	4.7	4.7	—	—	—	22
C 61 4_217.4	217.4	2.2	2.2	3.6	3.5	4.8	4.8	—	—	—	11
C 61 4_238.3	238.3	2.2	2.2	3.6	3.5	4.8	4.8	—	—	—	11
C 61 4_275.3	275.3	2.3	2.3	3.7	3.6	4.9	4.9	—	—	—	11
C 61 4_301.7	301.7	2.3	2.3	3.7	3.6	4.9	4.9	—	—	—	11
C 61 4_337.7	337.7	2.1	2.1	3.5	3.4	4.7	4.7	—	—	—	11
C 61 4_370.1	370.1	2.1	2.1	3.5	3.4	4.7	4.7	—	—	—	11
C 61 4_421.5	421.5	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 61 4_462.0	462.0	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 61 4_521.1	521.1	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 61 4_571.2	571.2	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 61 4_610.1	610.1	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 61 4_668.8	668.8	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 61 4_726.3	726.3	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11
C 61 4_796.1	796.1	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	11

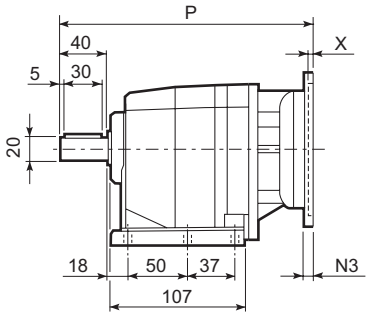
2.10 DIMENSIONS

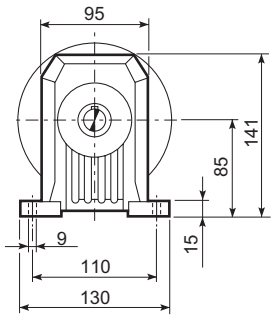
C 11...P(IEC)



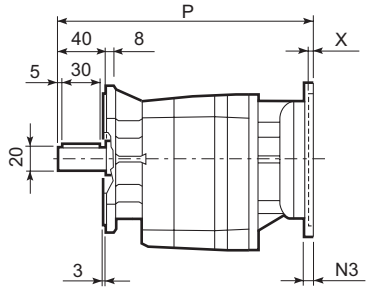


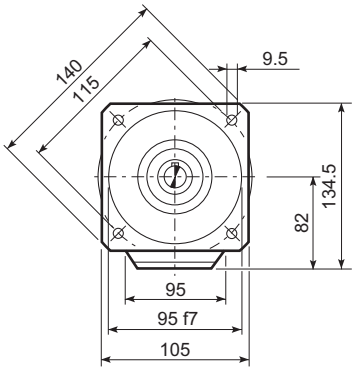
P



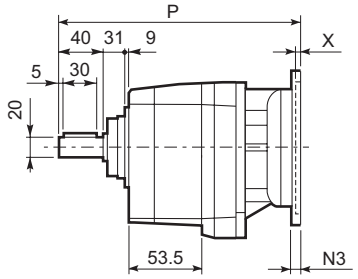


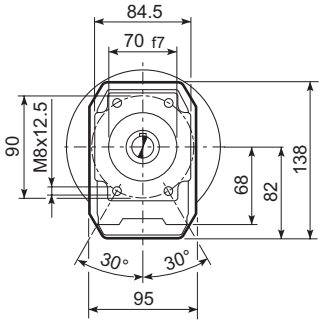
F



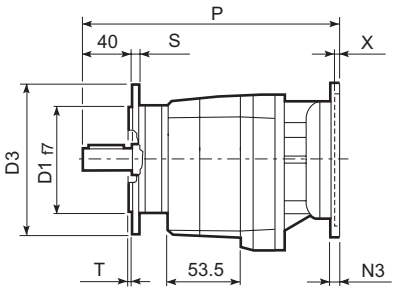


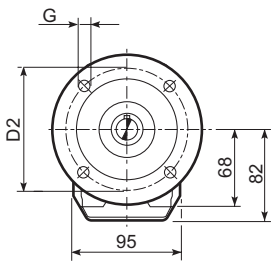
U





UF



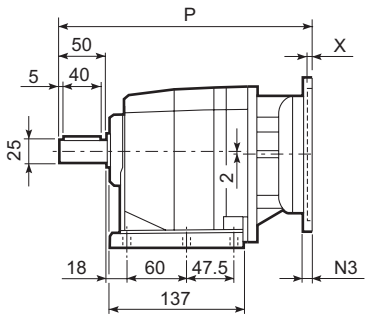


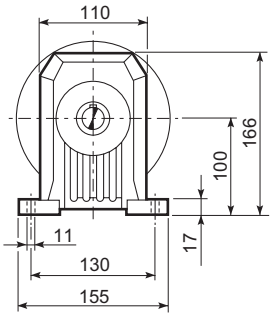
C 11 2_U						
	D1	D2	D3	G	T	S
FA	80	100	120	7	3	8
FB	95	115	140	9	3	10
FC	110	130	160	9	3	10

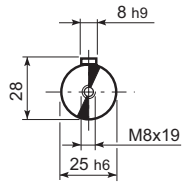
C 11												
		M	M1	M2	N	N1	N2	N3	N4	X	P	Kg
C 11 2	P63	11	12.8	4	140	115	95	—	M8x19	4	244.5	6
C 11 2	P71	14	16.3	5	160	130	110	—	M8x16	4.5	244.5	6
C 11 2	P80	19	21.8	6	200	165	130	—	M10x12	4	264	7
C 11 2	P90	24	27.3	8	200	165	130	—	M10x12	4	264	7
C 11 2	P100	28	31.3	8	250	215	180	—	M12x16	4.5	274	11
C 11 2	P112	28	31.3	8	250	215	180	—	M12x16	4.5	274	11

C 21...P(IEC)

P

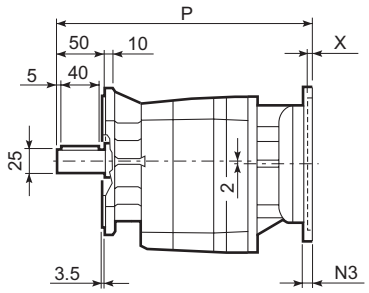


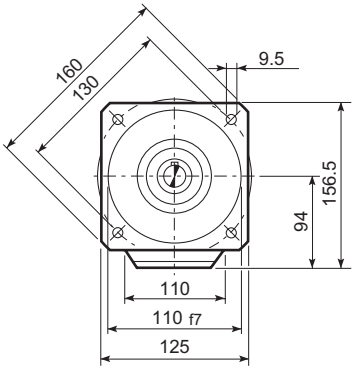


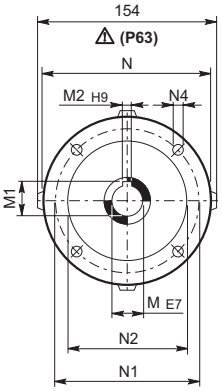


OUTPUT

F

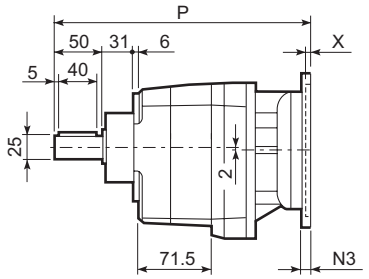


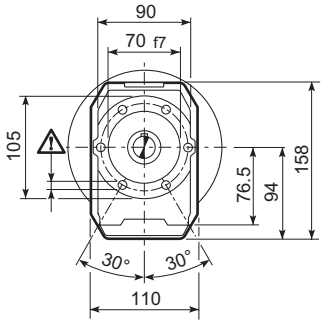


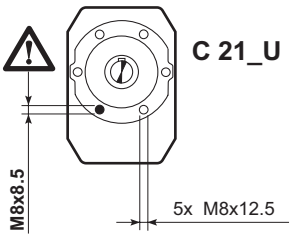


INPUT

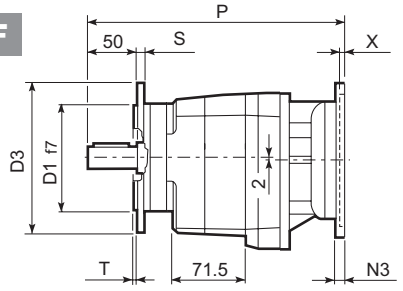
U

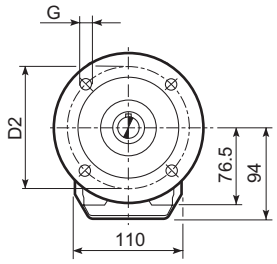






UF

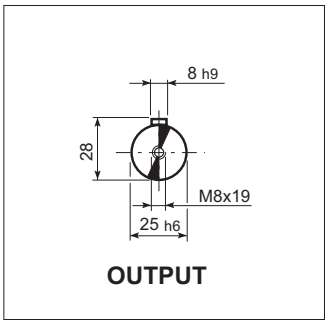


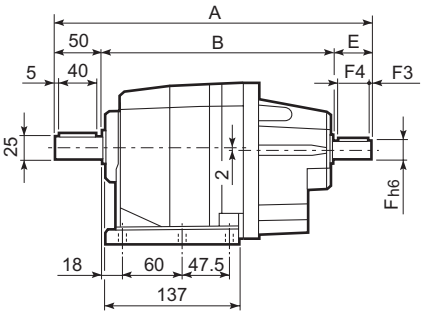


C 21_U						
	D1	D2	D3	G	T	S
FA	95	115	140	9	3	10
FB	110	130	160	9	3	10
FC	130	165	200	11	3.5	11

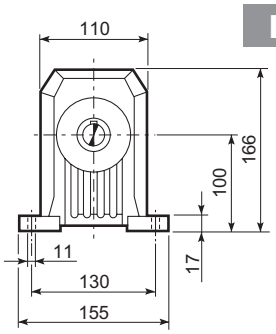
C 21												
		M	M1	M2	N	N1	N2	N3	N4	X	P	Kg
C 21 2	P63	11	12.8	4	140	115	95	—	M8x19	4	273	7
C 21 2	P71	14	16.3	5	160	130	110	—	M8x16	4.5	273	7
C 21 2	P80	19	21.8	6	200	165	130	—	M10x12	4	292.5	8
C 21 2	P90	24	27.3	8	200	165	130	—	M10x12	4	292.5	8
C 21 2	P100	28	31.3	8	250	215	180	—	M12X16	4.5	302.5	12
C 21 2	P112	28	31.3	8	250	215	180	—	M12X16	4.5	302.5	12
C 21 3	P63	11	12.8	4	140	115	95	—	M8x19	4	328.5	8
C 21 3	P71	14	16.3	5	160	130	110	—	M8x16	4.5	328.5	8
C 21 3	P80	19	21.8	6	200	165	130	—	M10x12	4	348	9
C 21 3	P90	24	27.3	8	200	165	130	—	M10x12	4	348	9
C 21 3	P100	28	31.3	8	250	215	180	—	M12x16	4.5	358	13
C 21 3	P112	28	31.3	8	250	215	180	—	M12x16	4.5	358	13

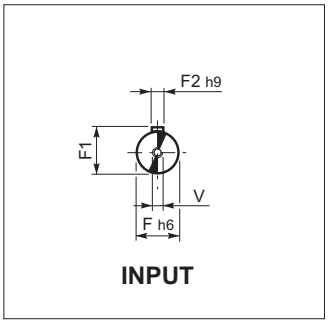
C 21...HS

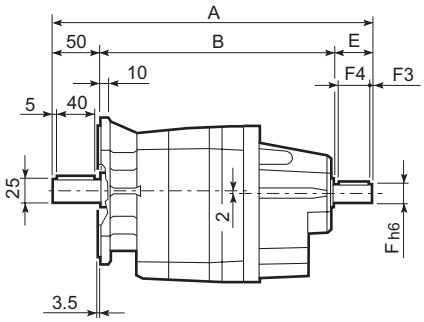




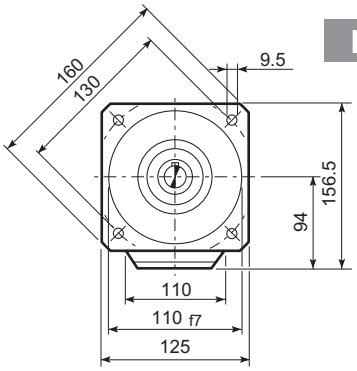
P

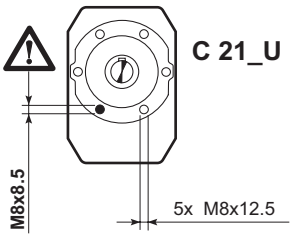


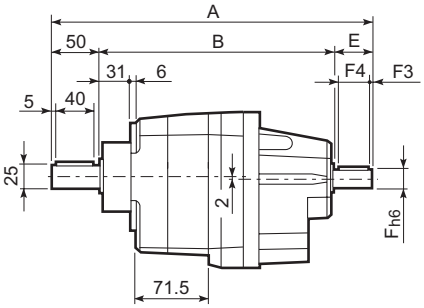




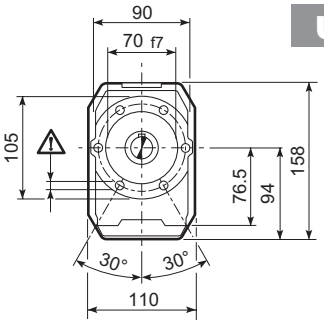
F

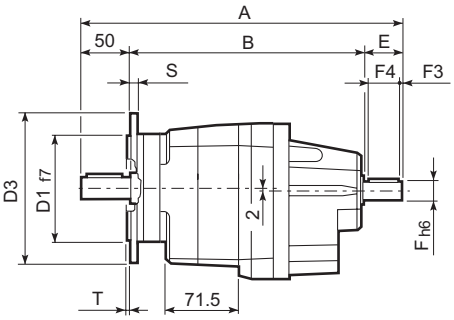




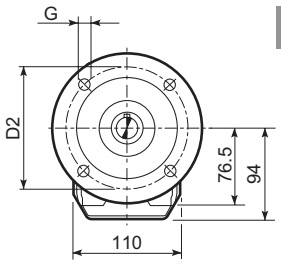


U





UF

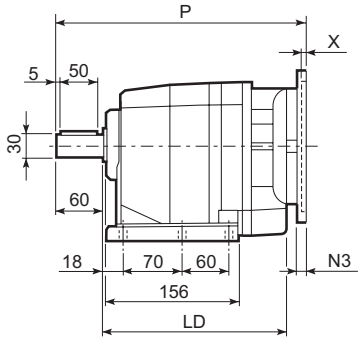


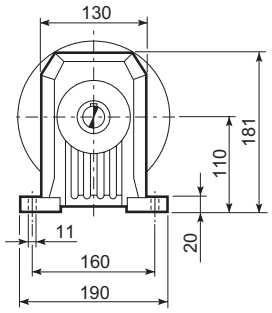
C 21_U						
	D1	D2	D3	G	T	S
FA	95	115	140	9	3	10
FB	110	130	160	9	3	10
FC	130	165	200	11	3.5	11

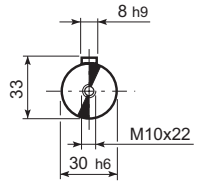
C 21											
		A	B	E	F	F1	F2	F3	F4	V	kg
C 21 2	HS	323	233	40	19	21.5	6	2.5	35	M6x16	7.2

C 31...P(IEC)

P

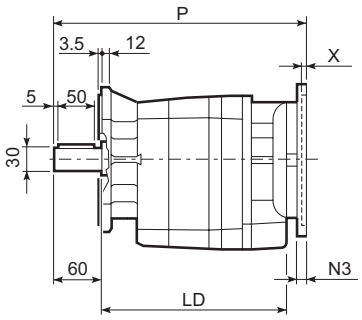


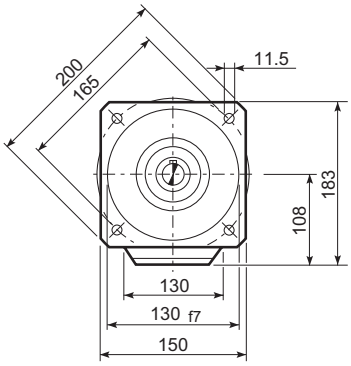


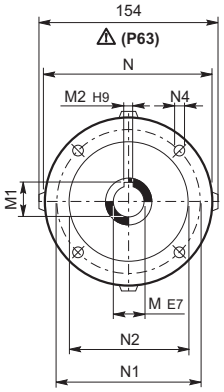


OUTPUT

F

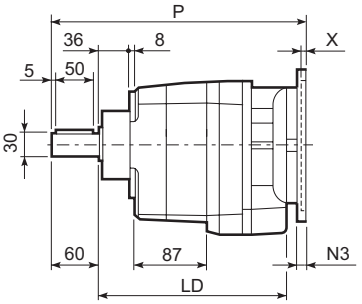


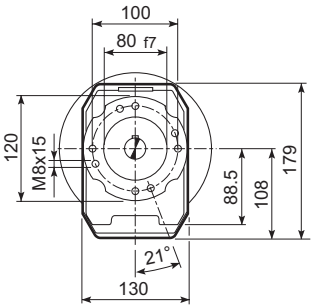




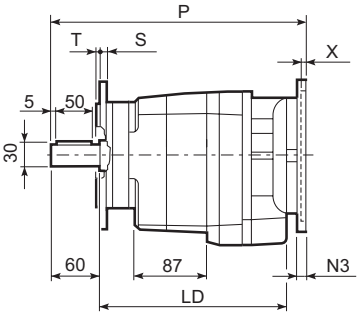
INPUT

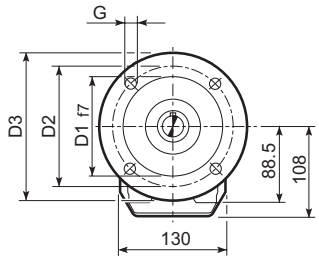
U





UF



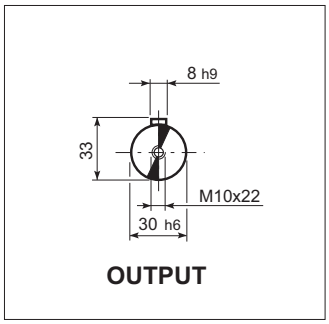


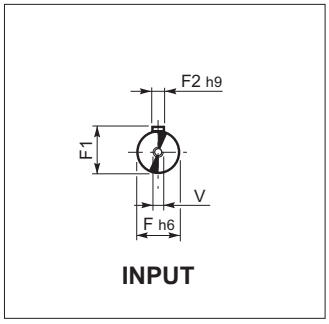
C 31_U						
	D1	D2	D3	G	T	S
FA	110	130	160	9	3	10
FB	130	165	200	11	3.5	11
FC	180	215	250	14	4	13

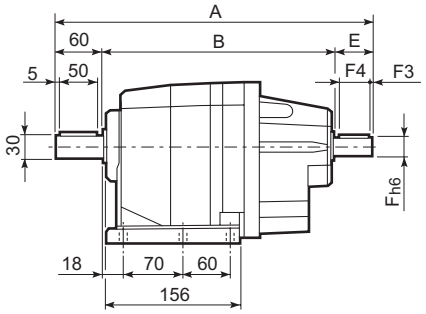
C 31

		LD	M	M1	M2	N	N1	N2	N3	N4	X	P	Kg
C 31 2	P63	217.5	11	12.8	4	140	115	95	—	M8x19	4	307.5	9
C 31 2	P71	217.5	14	16.3	5	160	130	110	—	M8x16	4.5	307.5	9
C 31 2	P80	227.5	19	21.8	6	200	165	130	—	M10x12	4	327	10
C 31 2	P90	227.5	24	27.3	8	200	165	130	—	M10x12	4	327	10
C 31 2	P100	227.5	28	31.3	8	250	215	180	—	M12x16	4.5	337	14
C 31 2	P112	227.5	28	31.3	8	250	215	180	—	M12x16	4.5	337	14
C 31 2	P132	—	38	41.3	10	300	265	230	16	14	5	373	17
C 31 3	P63	—	11	12.8	4	140	115	95	—	M8x19	4	365	10
C 31 3	P71	—	14	16.3	5	160	130	110	—	M8x16	4.5	365	10
C 31 3	P80	—	19	21.8	6	200	165	130	—	M10x12	4	384.5	11
C 31 3	P90	—	24	27.3	8	200	165	130	—	M10x12	4	384.5	11
C 31 3	P100	—	28	31.3	8	250	215	180	—	M12x16	4.5	394.5	15
C 31 3	P112	—	28	31.3	8	250	215	180	—	M12x16	4.5	394.5	15

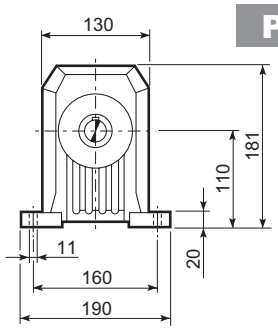
C 31...HS

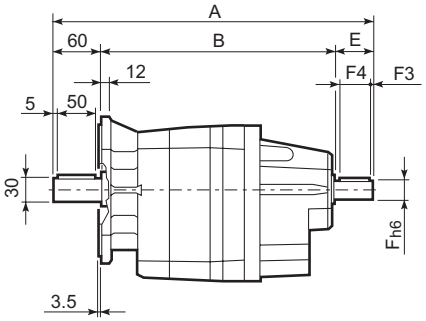




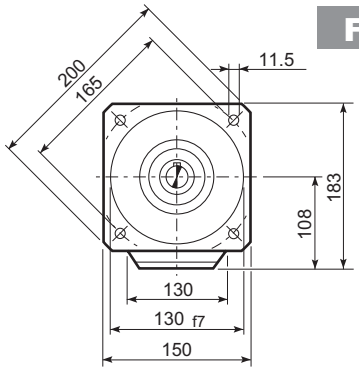


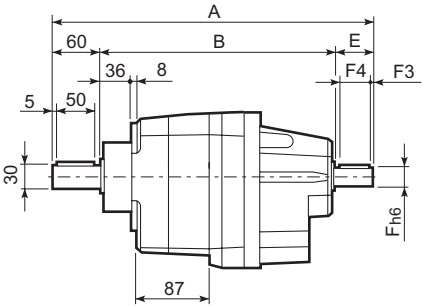
P



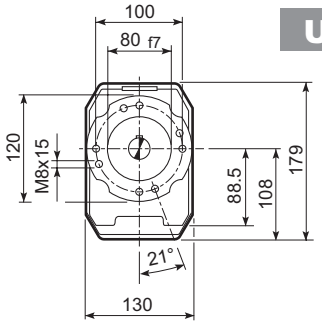


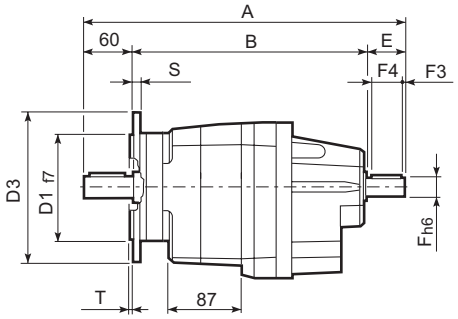
F



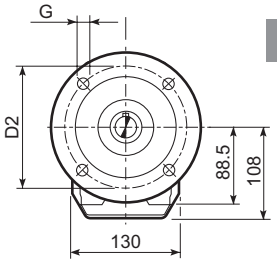


U





UF

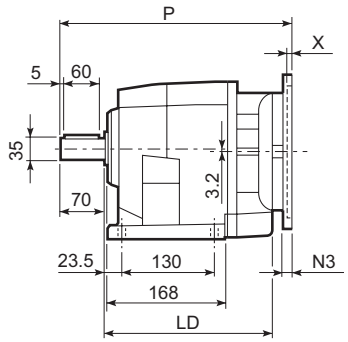


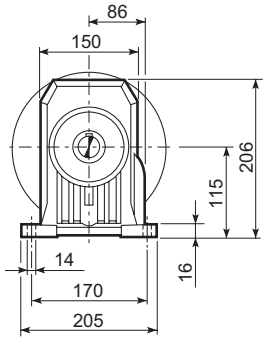
C 31_U						
	D1	D2	D3	G	T	S
FA	110	130	160	9	3	10
FB	130	165	200	11	3.5	11
FC	180	215	250	14	4	13

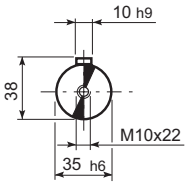
C 31											
		A	B	E	F	F1	F2	F3	F4	V	kg
C 31 2	HS	357.5	257.5	40	19	21.5	6	2.5	35	M6x16	11.1

C 35...P(IEC)

P

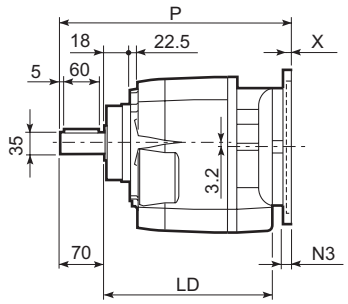


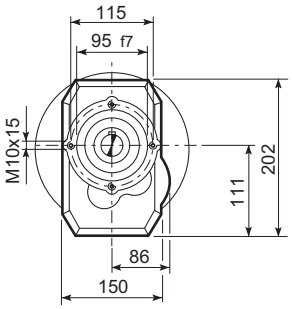


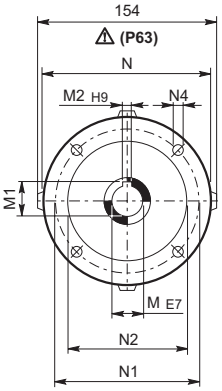


OUTPUT

U

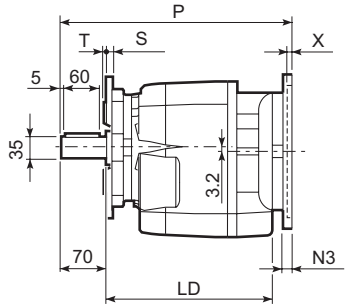


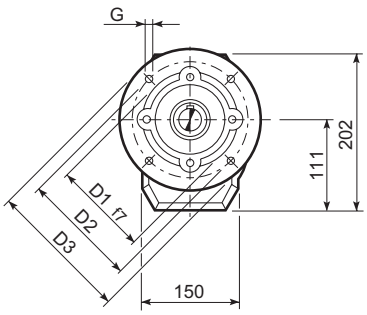




INPUT

UF

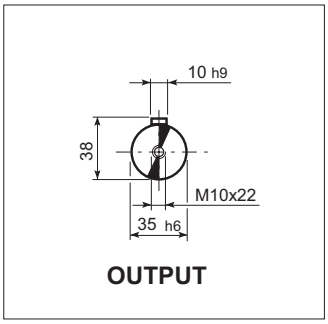


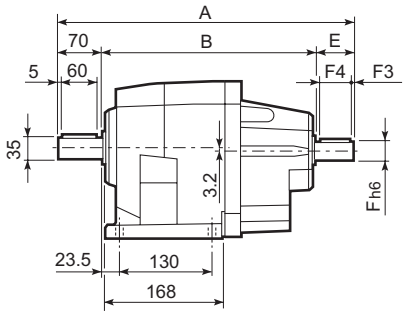


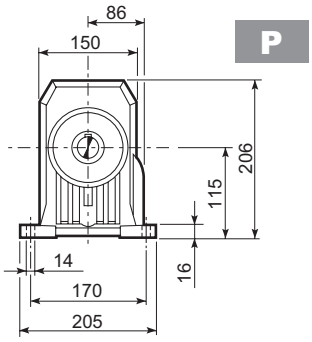
C 35_U						
	D1	D2	D3	G	T	S
FA	130	165	200	11	3.5	11
FB	180	215	250	14	4	14

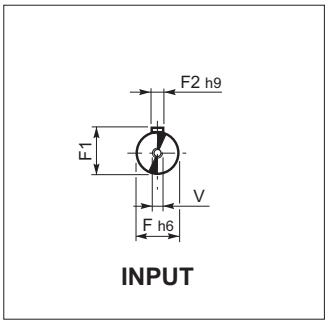
C 35													
		LD	M	M1	M2	N	N1	N2	N3	N4	X	P	kg
C 35 2/3	P63	226	11	12.8	4	140	115	95	—	M8x19	4	326	17
C 35 2/3	P71	226	14	16.3	5	160	130	110	—	M8x16	4.5	326	17
C 35 2/3	P80	236	19	21.8	6	200	165	130	—	M10x12	4	345.5	18
C 35 2/3	P90	236	24	27.3	8	200	165	130	—	M10x12	4	345.5	18
C 35 2/3	P100	236	28	31.3	8	250	215	180	—	M12x16	4.5	355.5	22
C 35 2/3	P112	236	28	31.3	8	250	215	180	—	M12x16	4.5	355.5	22
C 35 2/3	P132	—	38	41.3	10	300	265	230	16	14	5	392.5	25
C 35 4	P63	—	11	12.8	4	140	115	95	—	M8x19	4	383.5	20
C 35 4	P71	—	14	16.3	5	160	130	110	—	M8x16	4.5	383.5	20
C 35 4	P80	—	19	21.8	6	200	165	130	—	M10x12	4	403	21
C 35 4	P90	—	24	27.3	8	200	165	130	—	M10x12	4	403	21
C 35 4	P100	—	28	31.3	8	250	215	180	—	M12x16	4.5	413	25
C 35 4	P112	—	28	31.3	8	250	215	180	—	M12x16	4.5	413	25

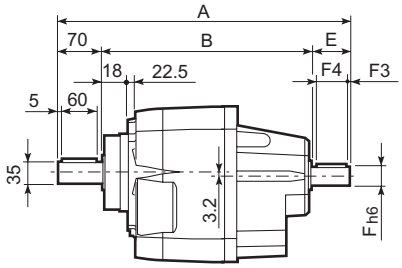
C 35...HS

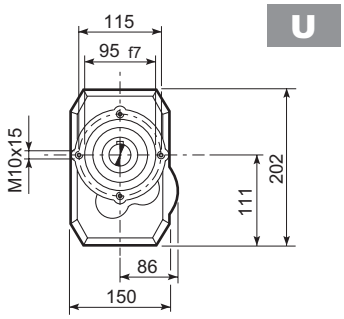




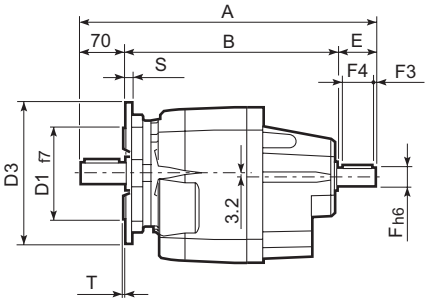


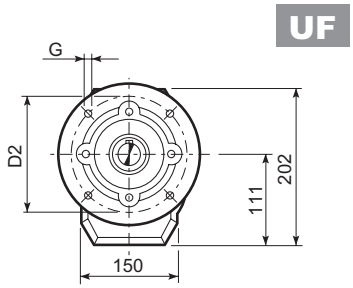






C 35_U						
	D1	D2	D3	G	T	S
FA	130	165	200	11	3.5	11
FB	180	215	250	14	4	14

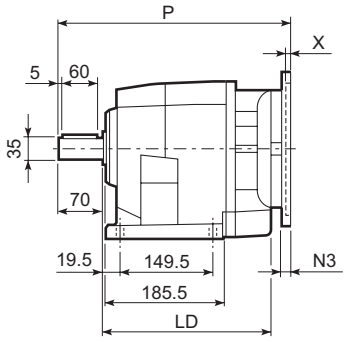


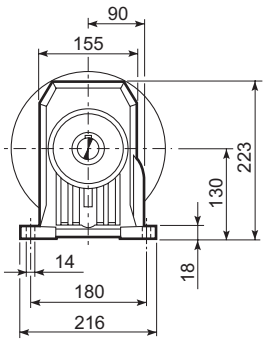


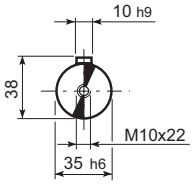
C 35										
		A	B	E	F	F1	F2	F3	F4	V	kg
C 35 2	HS	415.5	295.5	50	24	27	8	2.5	45	M8x19	25.5
C 35 3		415.5	295.5	50	24	27	8	2.5	45	M8x19	25.5

C 41...P(IEC)

P

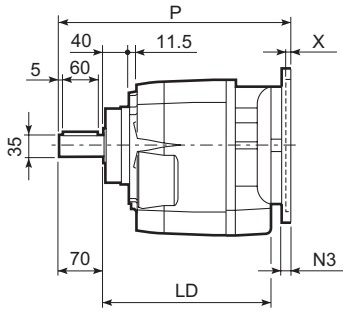


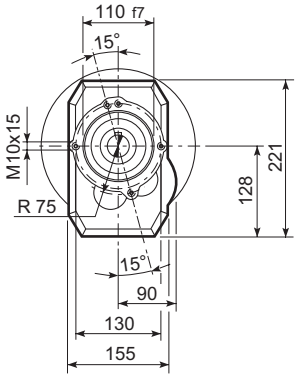


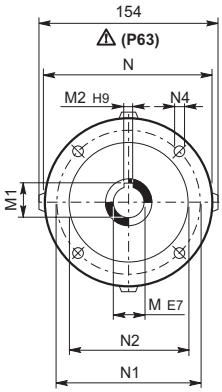


OUTPUT

U

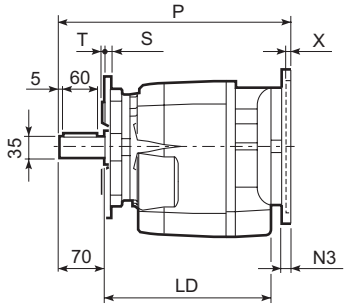


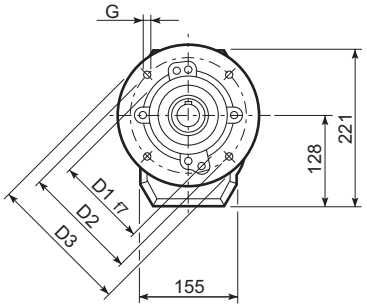




INPUT

UF

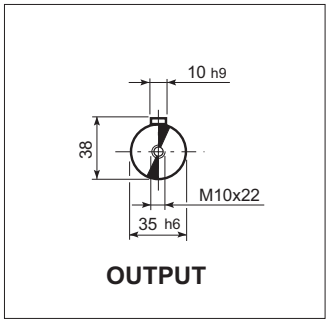


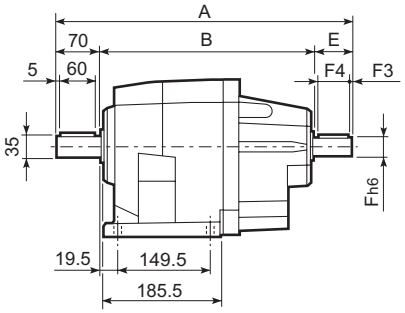


C 41_U						
	D1	D2	D3	G	T	S
FA	130	165	200	11	3.5	11
FB	180	215	250	14	4	13

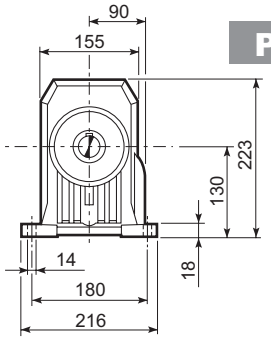
C 41													
		LD	M	M1	M2	N	N1	N2	N3	N4	X	P	Kg
C 41 2/3	P63	235.5	11	12.8	4	140	115	95	—	M8x19	4	336.5	27
C 41 2/3	P71	235.5	14	16.3	5	160	130	110	—	M8x16	4.5	336.5	28
C 41 2/3	P80	251.5	19	21.8	6	200	165	130	—	M10x12	4	356	29
C 41 2/3	P90	251.5	24	27.3	8	200	165	130	—	M10x12	4	356	29
C 41 2/3	P100	—	28	31.3	8	250	215	180	—	M12x16	4.5	366	33
C 41 2/3	P112	—	28	31.3	8	250	215	180	—	M12x16	4.5	366	33
C 41 2/3	P132	—	38	41.3	10	300	265	230	16	14	5	402.5	35
C 41 4	P63	—	11	12.8	4	140	115	95	—	M8x19	4	395	30
C 41 4	P71	—	14	16.3	5	160	130	110	—	M8x16	4.5	395	31
C 41 4	P80	—	19	21.8	6	200	165	130	—	M10x12	4	414.5	32
C 41 4	P90	—	24	27.3	8	200	165	130	—	M10x12	4	414.5	32
C 41 4	P100	—	28	31.3	8	250	215	180	—	M12x16	4.5	424.5	36
C 41 4	P112	—	28	31.3	8	250	215	180	—	M12x16	4.5	424.5	36

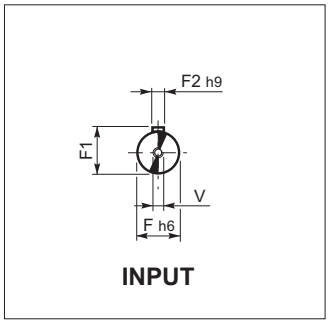
C 41...HS

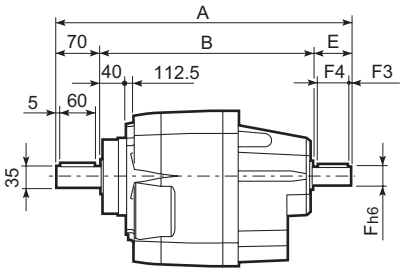




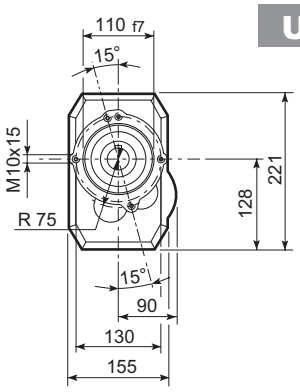
P



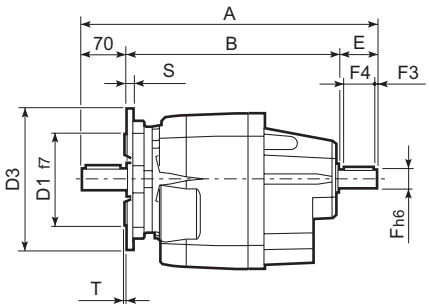




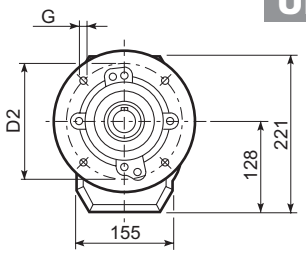
U



C 41_U						
	D1	D2	D3	G	T	S
FA	130	165	200	11	3.5	11
FB	180	215	250	14	4	13



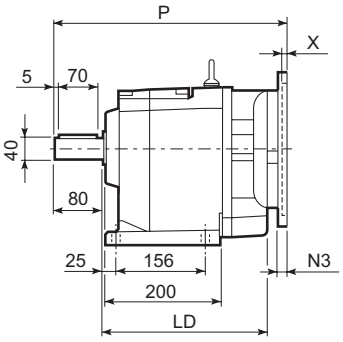
UF

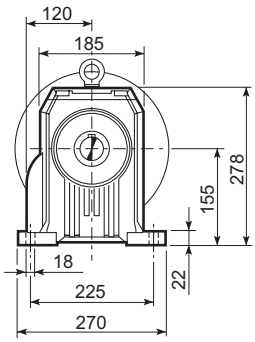


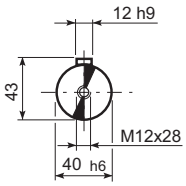
C 41										
		A	B	E	F	F1	F2	F3	F4	V	Kg
C 41 2	HS	425.5	305.5	50	24	27	8	2.5	45	M8x19	30
C 41 3		425.5	305.5	50	24	27	8	2.5	45	M8x19	30
C 41 4		448	338	40	19	21.5	6	2.5	35	M6x16	33

C 51...P(IEC)

P

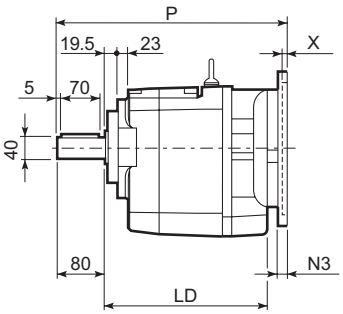


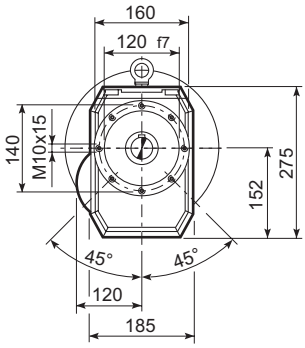


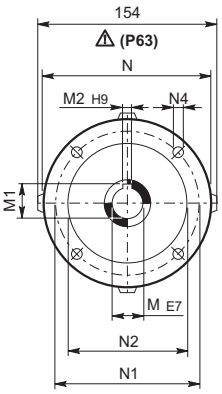


OUTPUT

U

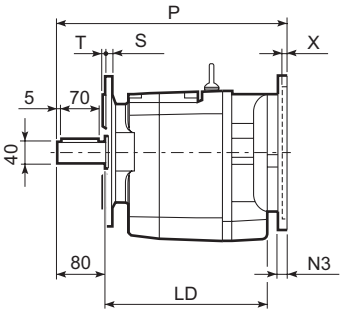


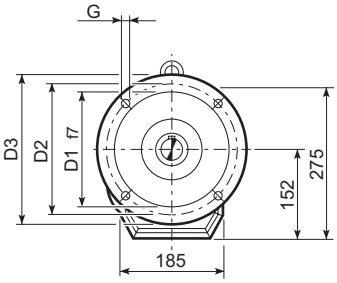




INPUT

UF

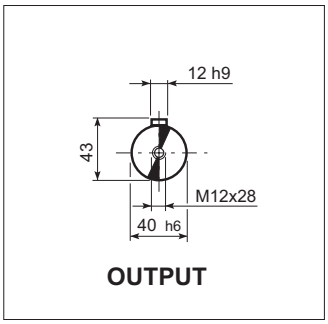


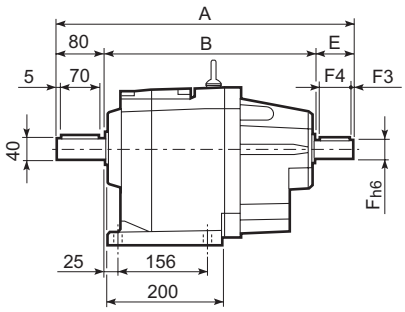


C 51_U						
	D1	D2	D3	G	T	S
FA	180	215	250	14	4	13
FB	230	265	300	14	4	16

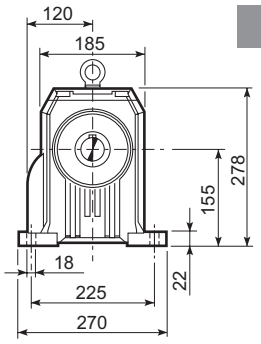
C 51													
		LD	M	M1	M2	N	N1	N2	N3	N4	X	P	Kg
C 51 2/3	P63	252.5	11	12.8	4	140	115	95	—	M8x19	4	362.5	45
C 51 2/3	P71	252.5	14	16.3	5	160	130	110	—	M8x16	4.5	362.5	45
C 51 2/3	P80	267.5	19	21.8	6	200	165	130	—	M10x12	4	382	47
C 51 2/3	P90	267.5	24	27.3	8	200	165	130	—	M10x12	4	382	47
C 51 2/3	P100	252.5	28	31.3	8	250	215	180	—	M12x16	4.5	392	51
C 51 2/3	P112	252.5	28	31.3	8	250	215	180	—	M12x16	4.5	392	51
C 51 2/3	P132	252.5	38	41.3	10	300	265	230	16	14	5	428.5	54
C 51 2/3	P160	—	42	45.3	12	350	300	250	23	18	5.5	479	58
C 51 2/3	P180	—	48	51.8	14	350	300	250	23	18	5.5	479	58
C 51 4	P63	—	11	12.8	4	140	115	95	—	M8x19	4	434	47
C 51 4	P71	—	14	16.3	5	160	130	110	—	M8x16	4.5	434	47
C 51 4	P80	—	19	21.8	6	200	165	130	—	M10x12	4	453.5	49
C 51 4	P90	—	24	27.3	8	200	165	130	—	M10x12	4	463.5	49
C 51 4	P100	—	28	31.3	8	250	215	180	—	M12x16	4.5	463.5	53
C 51 4	P112	—	28	31.3	8	250	215	180	—	M12x16	4.5	463.5	53
C 51 4	P132	—	38	41.3	10	300	265	230	16	14	5	500	62

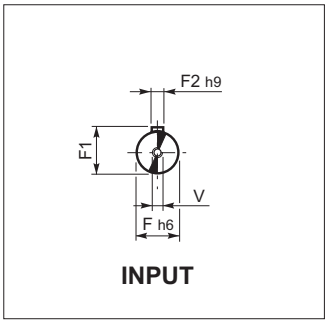
C 51...HS

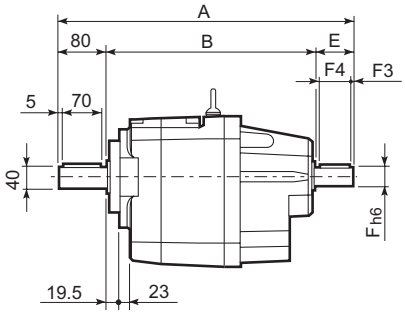




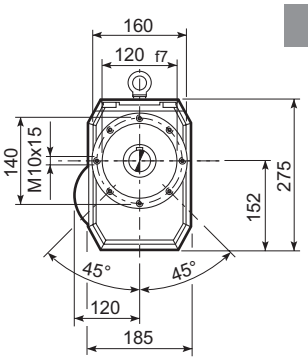
P



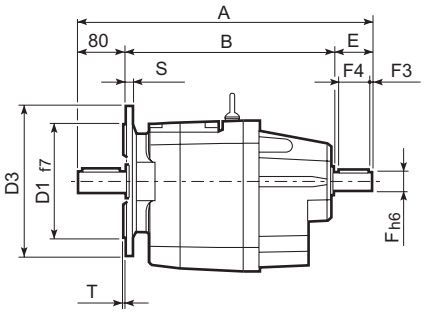




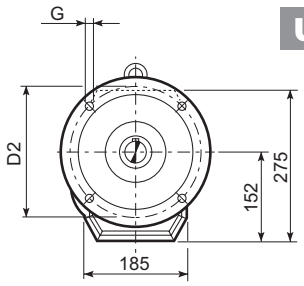
U



C 51_U						
	D1	D2	D3	G	T	S
FA	180	215	250	14	4	13
FB	230	265	300	14	4	16



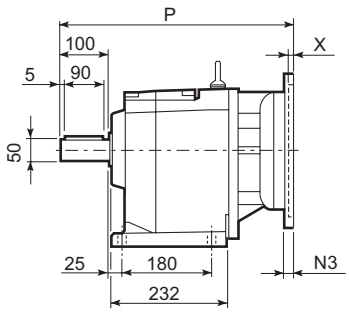
UF

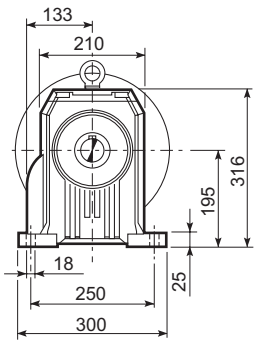


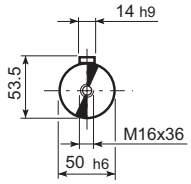
C 51										
		A	B	E	F	F1	F2	F3	F4	V	kg
C 51 2	HS	451.5	322	50	24	24	8	2.5	45	M8x19	45
C 51 3		451.5	322	50	24	24	8	2.5	45	M8x19	45
C 51 4		484	364	40	19	21.5	6	2.5	35	M6x16	48

C 61...P(IEC)

P

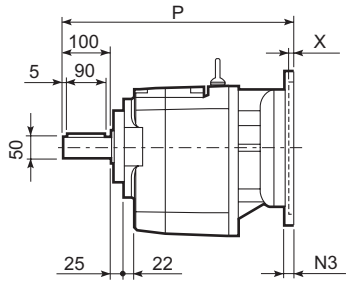


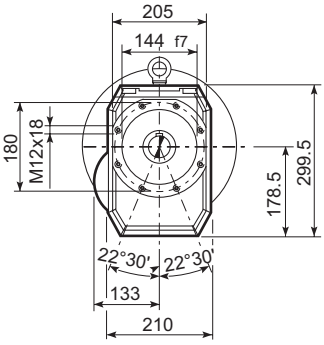


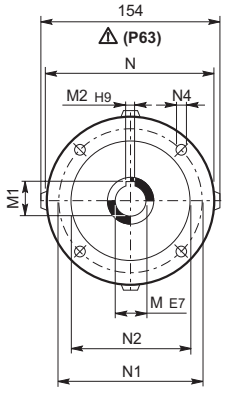


OUTPUT

U

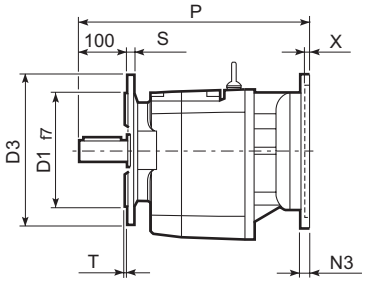


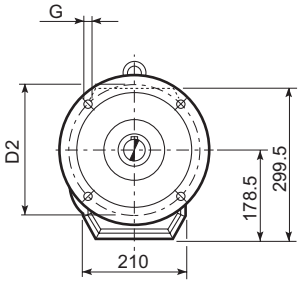




INPUT

UF

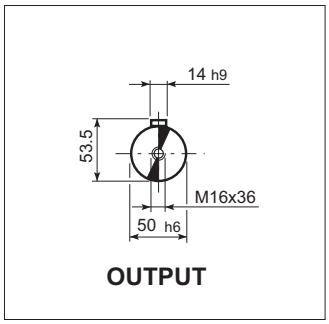


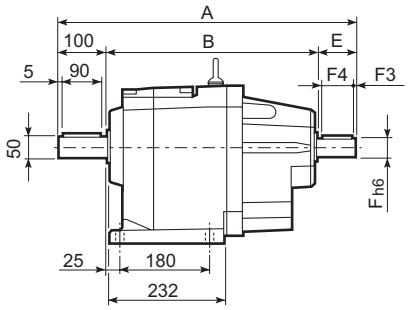


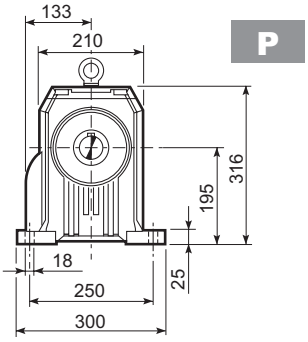
C 61_U						
	D1	D2	D3	G	T	S
FA	230	265	300	14	4	16
FB	250	300	350	18	5	18

C 61												
		M	M1	M2	N	N1	N2	N3	N4	X	P	Kg
C 61 2/3	P63	11	12.8	4	140	115	95	—	M8x19	4	415.5	55
C 61 2/3	P71	14	16.3	5	160	130	110	—	M8x16	4.5	415.5	57
C 61 2/3	P80	19	21.8	6	200	165	130	—	M10x12	4	435	61
C 61 2/3	P90	24	27.3	8	200	165	130	—	M10x12	4	435	61
C 61 2/3	P100	28	31.3	8	250	215	180	—	M12x16	4.5	444	65
C 61 2/3	P112	28	31.3	8	250	215	180	—	M12x16	4.5	444	65
C 61 2/3	P132	38	41.3	10	300	265	230	16	14	5	481.5	68
C 61 2/3	P160	42	45.3	12	350	300	250	23	18	5.5	532	73
C 61 2/3	P180	48	51.8	14	350	300	250	23	18	5.5	532	73
C 61 4	P63	11	12.8	4	140	115	95	—	M8x19	4	486	61
C 61 4	P71	14	16.3	5	160	130	110	—	M8x16	4.5	489	63
C 61 4	P80	19	21.8	6	200	165	130	—	M10x12	4	505.5	67
C 61 4	P90	24	27.3	8	200	165	130	—	M10x12	4	505.5	67
C 61 4	P100	28	31.3	8	250	215	180	—	M12x16	4.5	515.5	71
C 61 4	P112	28	31.3	8	250	215	180	—	M12x16	4.5	515.5	71

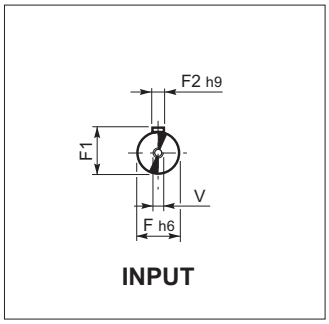
C 61...HS

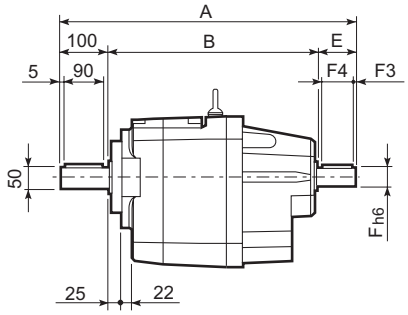


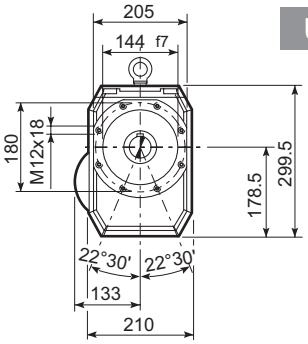




P

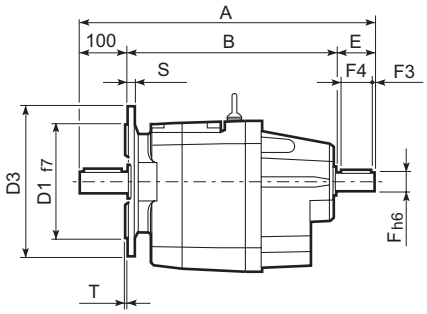


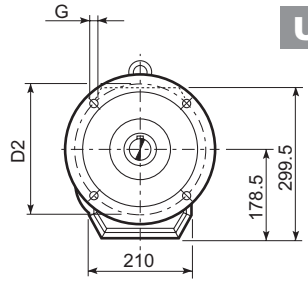




U

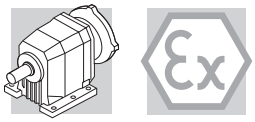
C 61_U						
	D1	D2	D3	G	T	S
FA	230	265	300	14	4	16
FB	250	300	350	18	5	18





UF

C 61										
		A	B	E	F	F1	F2	F3	F4	V	kg
C 61 2	HS	532	372	60	28	31	8	5	50	M10x22	66
C 61 3		532	372	60	28	31	8	5	50	M10x22	66
C 61 4		575	425	50	24	27	8	2.5	45	M8x19	72



INDEX OF REVISIONS (R)

R4	
	Description
...	Informations about ATEX gearmotors and ATEX electric motors removed because no longer available.
25	“Motor availability” section updated.
33 ··· 45	“Dimensions” section updated.

120601

Bonfiglioli

power, control and green solutions

Bonfiglioli has been designing and developing innovative and reliable power transmission and control solutions for industry, mobile machinery and renewable energy applications since 1956.

Bonfiglioli Riduttori S.p.A.
Via Giovanni XXIII, 7/A
40012 Lippo di Calderara di Reno
Bologna, Italy

tel: +39 051 647 3111
fax: +39 051 647 3126
bonfiglioli@bonfiglioli.com
www.bonfiglioli.com