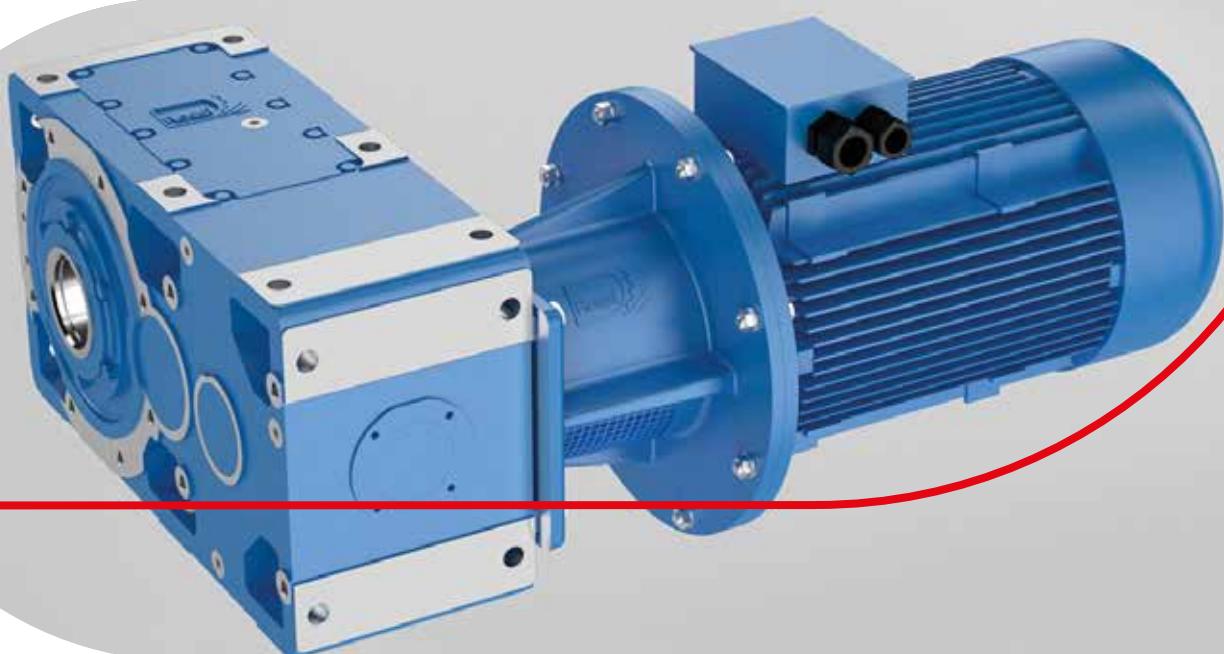


BH Series

Motor Bell Housing

Edition March 2017



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- General specifications

Design features

General

Connection of electrical motors with gear reducers by means of flexible coupling.

Available connection for IEC standard electrical motors, mounting position IM B5, from size 100 to size 355.

Available connection for gear reducers, helical and bevel helical type, from size 125 to size 400.

For NEMA standard electrical motors, please contact us.

Housing

Bell housings designed to reach the best performances of strength and stiffness and provided as standard with two inspection windows and guards to allow easy maintenance.

Nodular cast iron housings suitable for a range of temperature between -20°C and +50°C .

With environment conditions exceed these values, please contact us.

Coupling

Standard solution realized with elastic coupling (steel or cast iron hubs and rubber flexible elements) suitable for maximum input values (power/speed) stated at page 5.

Design temperature: -30°C / +50°C . In case of different values, please contact us.

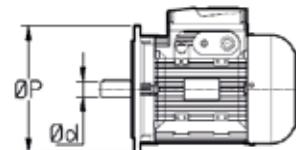
Possible solution with different types of couplings (geared, flexible all-steel , ...) available also in case of ATEX environment.

- Designation

Designation code

BH 100 C

COUPLING
C standard, elastic type
Cx not standard
- without coupling
IEC FRAME
100 ... 355 frame size
Ød x ØP not standard frame size (e.g. BH 48x400 ..)
BELL HOUSING



- Assembly instructions

Housing

Clean and degrease carefully all mating surfaces.

Screws class 8.8 (10.9 where indicated) must be used to fit bell housing to the gearbox.

⚠ 10.9 screws must be tight at 8.8 tightening torque values. Torque wrench must be used.

Do not use lubricants altering the friction coefficient for screws, may overload them.

Always verify the tightening torque after the first hours of running.

Motor connection bolts always included.

Coupling

Standard coupling supplied by Rossi:

Assembly of "Half-coupling" motor side:

- Remove the rubber elements.

- Connect the hub to the motor shaft according to the assembly instructions supplied.

It is recommended to carry out the assembly described above heating up the hub (max 80 °C).

- Re-assemble the rubber elements.

To ensure coupling operating activity without any problems, it is recommended the use electrical motors with mating tolerances under accuracy rating according to IEC 60072-1.

For "not standard" couplings supplied by Rossi please refer to assembly instructions.

For "not standard" couplings not supplied by Rossi please refer to the specific supplier documentation; assembly feasibility has to be verified.

- Verifications

Maximum bending moment

In case of motors supplied by the customer, verify that the static bending moment M_b generated by motor and bell housing weights is lower than the value allowed M_{bmax} , stated in the following pages:

$$M_b < M_{bmax}$$

where:

$$M_b = [G \cdot (X + E) + G_1 \cdot (E/2)] / 10^6 \text{ [kN m]}$$

G [N] motor weight; numerically nearly equal to motor mass, expressed in kg, multiplied by 10

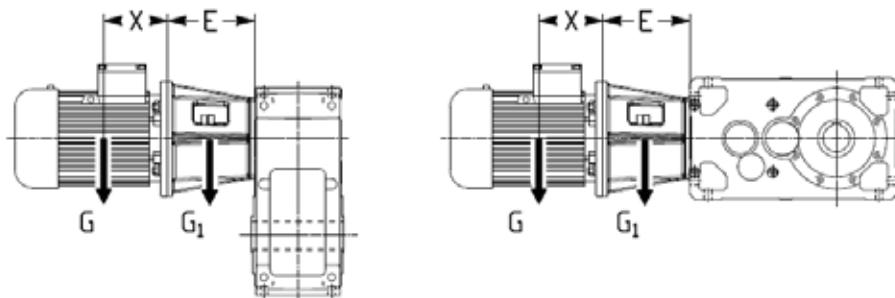
G_1 [N] bell housing weight; expressed in kg, multiplied by 10; supplied in the following pages

X [mm] distance from motor center of gravity from flange surface

E [mm] supplied in the following pages, according to gear reducer and motor size

Very long and thin motors, though with bending moments within the prescribed limits, may generate anomalous vibrations during the operation. In these cases it is necessary to foresee a proper additional motor support (see motor specific documentation).

Loads higher than permissible loads may be present in dynamical applications where the gearmotor is subjected to translations, rotations or oscillations (e.g.: shaft mounting arrangements): consult us for the study of every specific case.

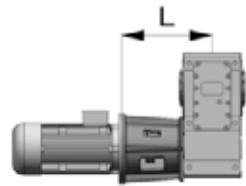


Maximum input power

In case of motors not supplied by Rossi (standard couplings supplied by Rossi), verify that the installed input power P_1 is lower than the maximum allowed values stated in the table below:

IEC	Maximum input power (kW) at n_1				
	1000 min ⁻¹	1200 min ⁻¹	1500 min ⁻¹	1800 min ⁻¹	3000 min ⁻¹
100 / 112	6,4	7,7	9,6	11,5	19,2
132	14,0	16,8	21,0	25,2	42,0
160 / 180	14,0	16,8	21,0	25,2	42,0
200	20,6	24,7	30,8	37,0	61,7
225	44,0	52,8	66,0	79,2	131,9
250/280	82,9	99,5	124,4	149,3	248,8
315	167,5	201,0	251,3	301,6	502,6
355	293,2	351,8	439,8	527,7	879,6

IEC - Motor bell housing for IEC standard motors sizes 100 ... 355 (helical gear reducers)



2I

IEC - B5	Gearbox size and executions											Code
	140	160	180	200	225	250	280	320	321	360	400	
	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP1A	
100/112	269	324	324	-	-	-	-	-	-	-	-	BH100C
132	269	324	324	401	401	-	-	-	-	-	-	BH132C
160	300	355	355	401	401	483	483	-	-	-	-	BH160C
180	300	355	355	401	401	483	483	-	-	-	-	BH180C
200	300	355	355	432	432	483	483	558	558	558	-	BH200C
225	-	385	385	432	432	483	483	558	558	558	-	BH225C
250	-	385	385	432	432	533	533	589	589	589	684	BH250C
280	-	385	385	432	432	533	533	589	589	589	684	BH280C
315	-	-	-	-	-	533	533	589	589	589	756	BH315C
355	-	-	-	-	-	-	-	-	-	-	756	BH355C

3I

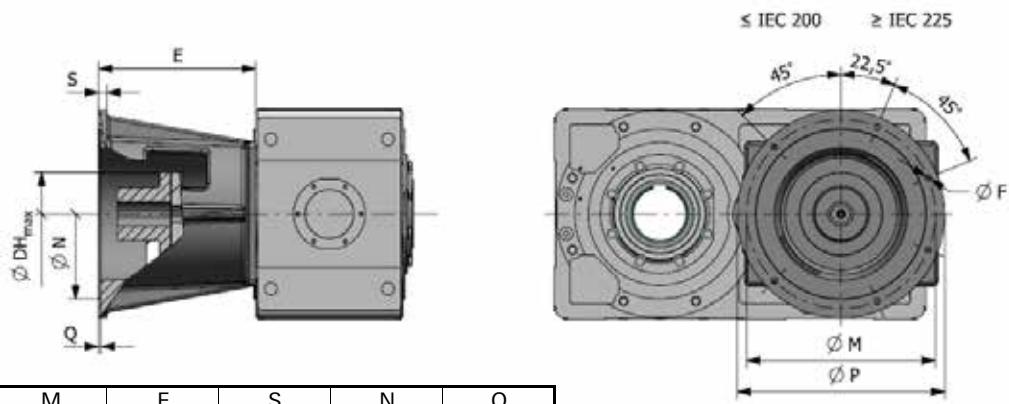
IEC - B5	Gearbox size and executions											Code
	140	160	180	200	225	250	280	320	321	360	400	
	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP1A	
100/112	269	324	324	-	-	-	-	-	-	-	-	BH100C
132	269	324	324	401	401	-	-	-	-	-	-	BH132C
160	300	355	355	401	401	483	483	-	-	-	-	BH160C
180	300	355	355	401	401	483	483	-	-	-	-	BH180C
200	300	355	355	432	432	483	483	558	558	558	-	BH200C
225	-	385	385	432	432	483	483	558	558	558	-	BH225C
250	-	385	385	432	432	533	533	589	589	589	638	BH250C
280	-	385	385	432	432	533	533	589	589	589	638	BH280C
315	-	-	-	-	-	533	533	589	589	589	710	BH315C
355	-	-	-	-	-	-	-	-	-	-	710	BH355C

4I

IEC - B5	Gearbox size and executions											Code
	140	160	180	200	225	250	280	320	321	360	400	
	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP1A	
225											638	BH225C
250											638	BH250C
280											638	BH280C

L (dimension in mm shown in the table) - For bell housing only, ordering code e.g. BH100

IEC - Motor bell housing main dimensions (helical gear reducers)



IEC - B5	P	M	F	S	N	Q
100/112	250	215	13	14	180	5
132	300	265	13	14	230	5
160	350	300	17	16	250	6
180	350	300	17	16	250	6
200	400	350	17	18	300	6
225	450	400	17	18	350	6
250	550	500	17	22	450	6
280	550	500	17	22	450	6
315	660	600	21	25	550	7
355	800	740	21	25	680	7

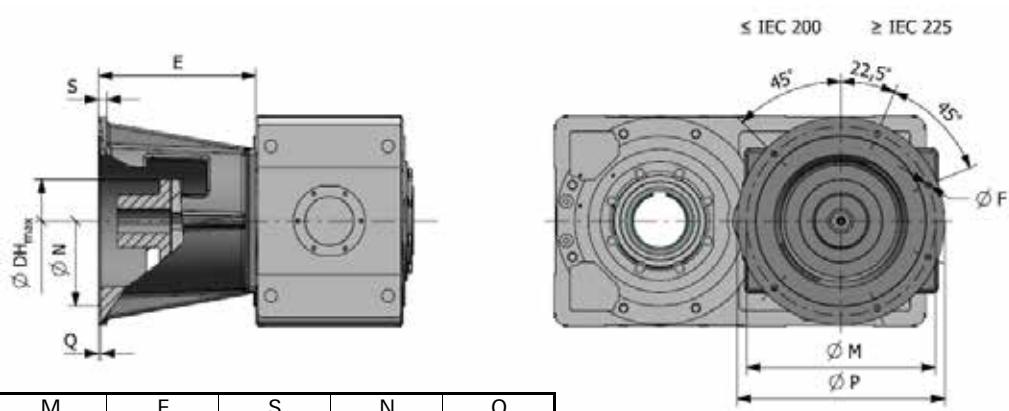
dimensions in (mm)

21

Code	E (mm) F _{max} (mm) M _{bmax} (kNm)	Gearbox size and executions									
		140	160	180	200	225	250	280	320	321	400
		UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP1A
BH100C	E	165	196	196	-	-	-	-	-	-	-
	DH _{max}	130	130	130	-	-	-	-	-	-	-
	M _{bmax}	1,6*	4,5*	4,5*	-	-	-	-	-	-	-
	mass (kg)	17	21	21	-	-	-	-	-	-	-
BH132C	E	165	196	196	243	243	-	-	-	-	-
	DH _{max}	130	130	130	130	130	-	-	-	-	-
	M _{bmax}	1,6*	4,5*	4,5*	4,5	4,5	-	-	-	-	-
	mass (kg)	18	23	23	36	36	-	-	-	-	-
BH160C	E	197	227	227	243	243	288	288	-	-	-
	DH _{max}	150	150	150	130	130	180	180	-	-	-
	M _{bmax}	1,6*	4,5*	4,5*	4,5	4,5	16*	16*	-	-	-
	mass (kg)	25	29	29	38	38	54	54	-	-	-
BH180C	E	197	227	227	243	243	288	288	-	-	-
	DH _{max}	150	150	150	130	130	180	180	-	-	-
	M _{bmax}	1,6*	4,5*	4,5*	4,5	4,5	16*	16*	-	-	-
	mass (kg)	25	29	29	38	38	54	54	-	-	-
BH200C	E	197	227	227	274	274	288	288	317	317	317
	DH _{max}	150	150	150	220	220	180	180	180	180	180
	M _{bmax}	1,6*	4,5*	4,5*	4,5	4,5	16*	16*	15	15	15
	mass (kg)	28	31	31	51	51	56	56	79	79	79
BH225C	E	-	257	257	274	274	288	288	317	317	317
	DH _{max}	-	220	220	220	220	180	180	180	180	180
	M _{bmax}	-	4,5*	4,5*	4,5	4,5	16*	16*	15	15	15
	mass (kg)	-	45	45	54	54	59	59	82	82	82
BH250C	E	-	257	257	274	274	338	338	348	348	362
	DH _{max}	-	220	220	220	220	290	290	290	290	220
	M _{bmax}	-	4,5*	4,5*	4,5	4,5	16*	16*	15	15	30
	mass (kg)	-	52	52	62	62	97	97	129	129	127
BH280C	E	-	257	257	274	274	338	338	348	348	362
	DH _{max}	-	220	220	220	220	290	290	290	290	220
	M _{bmax}	-	4,5*	4,5*	4,5	4,5	16*	16*	15	15	30
	mass (kg)	-	52	52	62	62	97	97	129	129	127
BH315C	E	-	-	-	-	-	338	338	348	348	434
	DH _{max}	-	-	-	-	-	290	290	290	290	330
	M _{bmax}	-	-	-	-	-	16*	16*	15	15	30
	mass (kg)	-	-	-	-	-	106	106	140	140	209
BH355C	E	-	-	-	-	-	-	-	-	-	434
	DH _{max}	-	-	-	-	-	-	-	-	-	330
	M _{bmax}	-	-	-	-	-	-	-	-	-	30
	mass (kg)	-	-	-	-	-	-	-	-	-	232

* with fixing bolts class 10.9 tightened at 8.8 torque values

IEC - Motor bell housing main dimensions (helical gear reducers)



IEC - B5	P	M	F	S	N	Q
100/112	250	215	13	14	180	5
132	300	265	13	14	230	5
160	350	300	17	16	250	6
180	350	300	17	16	250	6
200	400	350	17	18	300	6
225	450	400	17	18	350	6
250	550	500	17	22	450	6
280	550	500	17	22	450	6
315	660	600	21	25	550	7
355	800	740	21	25	680	7

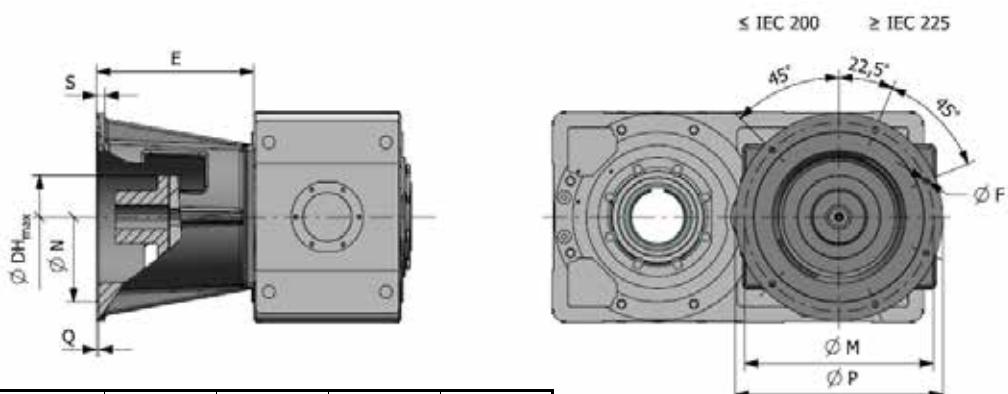
dimensions in (mm)

3I

Code	E (mm) F _{max} (mm) M _{bmax} (kNm)	Gearbox size and executions										
		140	160	180	200	225	250	280	320	321	360	400
BH100C	E	165	196	196	-	-	-	-	-	-	-	-
	DH _{max}	130	130	130	-	-	-	-	-	-	-	-
	M _{bmax}	1,6*	4,5*	4,5*	-	-	-	-	-	-	-	-
	mass (kg)	17	21	21	-	-	-	-	-	-	-	-
BH132C	E	165	196	196	243	243	-	-	-	-	-	-
	DH _{max}	130	130	130	130	130	-	-	-	-	-	-
	M _{bmax}	1,6*	4,5*	4,5*	4,5	4,5	-	-	-	-	-	-
	mass (kg)	18	23	23	36	36	-	-	-	-	-	-
BH160C	E	197	227	227	243	243	288	288	-	-	-	-
	DH _{max}	150	150	150	130	130	180	180	-	-	-	-
	M _{bmax}	1,6*	4,5*	4,5*	4,5	4,5	16*	16*	-	-	-	-
	mass (kg)	25	29	29	38	38	54	54	-	-	-	-
BH180C	E	197	227	227	243	243	288	288	-	-	-	-
	DH _{max}	150	150	150	130	130	180	180	-	-	-	-
	M _{bmax}	1,6*	4,5*	4,5*	4,5	4,5	16*	16*	-	-	-	-
	mass (kg)	25	29	29	38	38	54	54	-	-	-	-
BH200C	E	197	227	227	274	274	288	288	317	317	317	-
	DH _{max}	150	150	150	220	220	180	180	180	180	180	-
	M _{bmax}	1,6*	4,5*	4,5*	4,5	4,5	16*	16*	15	15	15	-
	mass (kg)	28	31	31	51	51	56	56	79	79	79	-
BH225C	E	-	257	257	274	274	288	288	317	317	317	-
	DH _{max}	-	220	220	220	220	180	180	180	180	180	-
	M _{bmax}	-	4,5*	4,5*	4,5	4,5	16*	16*	15	15	15	-
	mass (kg)	-	45	45	54	54	59	59	82	82	82	-
BH250C	E	-	257	257	274	274	338	338	348	348	348	316
	DH _{max}	-	220	220	220	220	290	290	290	290	290	220
	M _{bmax}	-	4,5*	4,5*	4,5	4,5	16*	16*	15	15	15	30
	mass (kg)	-	52	52	62	62	97	97	129	129	129	98
BH280C	E	-	257	257	274	274	338	338	348	348	348	316
	DH _{max}	-	220	220	220	220	290	290	290	290	290	220
	M _{bmax}	-	4,5*	4,5*	4,5	4,5	16*	16*	15	15	15	30
	mass (kg)	-	52	52	62	62	97	97	129	129	129	98
BH315C	E	-	-	-	-	-	338	338	348	348	348	388
	DH _{max}	-	-	-	-	-	290	290	290	290	290	330
	M _{bmax}	-	-	-	-	-	16*	16*	15	15	15	30
	mass (kg)	-	-	-	-	-	106	106	140	140	140	190
BH355C	E	-	-	-	-	-	-	-	-	-	-	388
	DH _{max}	-	-	-	-	-	-	-	-	-	-	330
	M _{bmax}	-	-	-	-	-	-	-	-	-	-	30
	mass (kg)	-	-	-	-	-	-	-	-	-	-	213

* with fixing bolts class 10.9 tightened at 8.8 torque values

IEC - Motor bell housing main dimensions (helical gear reducers)



IEC - B5	P	M	F	S	N	Q
100/112	250	215	13	14	180	5
132	300	265	13	14	230	5
160	350	300	17	16	250	6
180	350	300	17	16	250	6
200	400	350	17	18	300	6
225	450	400	17	18	350	6
250	550	500	17	22	450	6
280	550	500	17	22	450	6
315	660	600	21	25	550	7
355	800	740	21	25	680	7

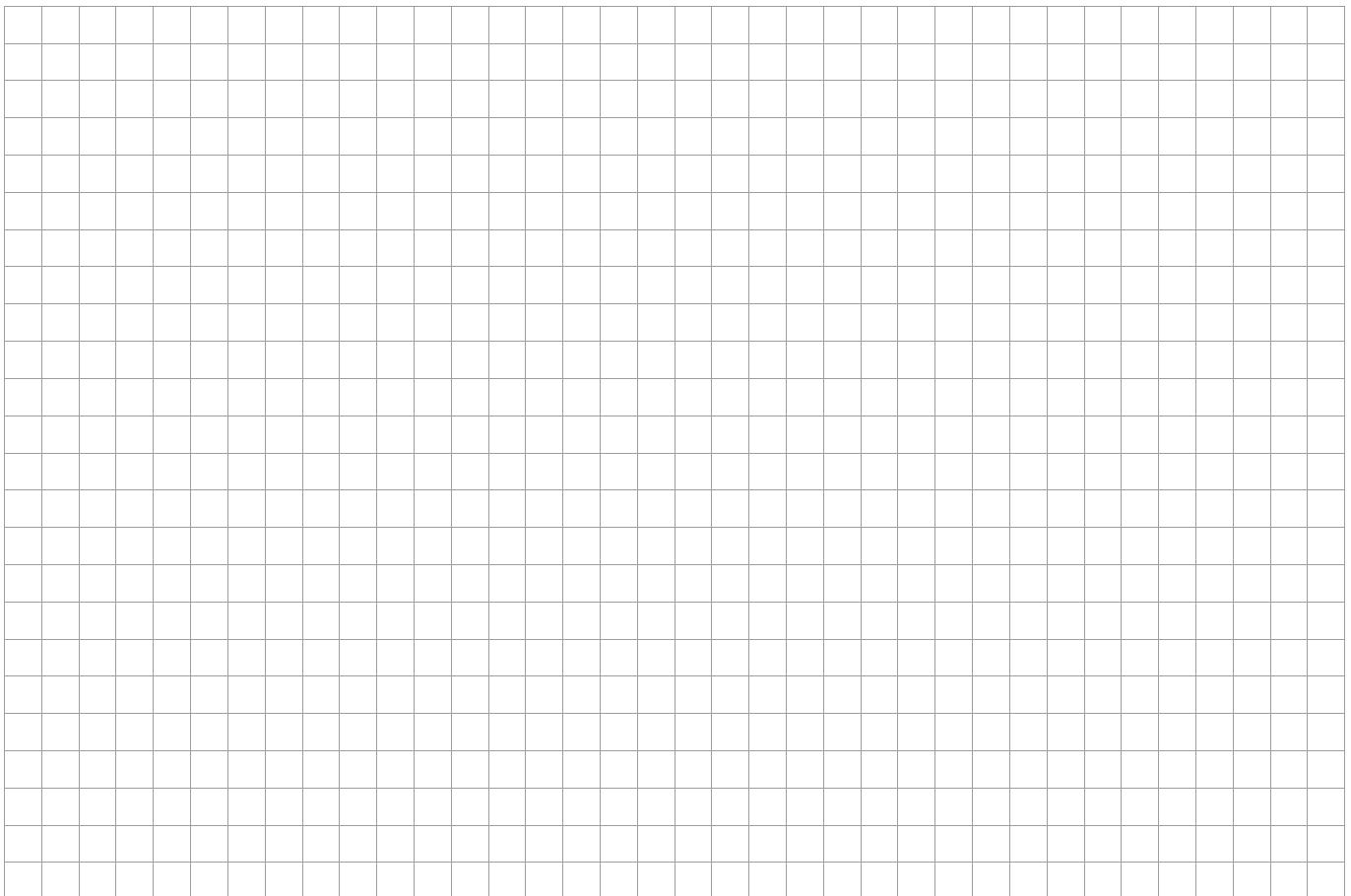
dimensions in (mm)

41

Code	E (mm) F _{max} (mm) M _{bmax} (kNm)	Gearbox size and executions									
		140	160	180	200	225	250	280	320	321	360
		UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP2A	UP1A
BH100C	E	-	-	-	-	-	-	-	-	-	-
	DH _{max}	-	-	-	-	-	-	-	-	-	-
	M _{bmax}	-	-	-	-	-	-	-	-	-	-
	mass (kg)	-	-	-	-	-	-	-	-	-	-
BH132C	E	-	-	-	-	-	-	-	-	-	-
	DH _{max}	-	-	-	-	-	-	-	-	-	-
	M _{bmax}	-	-	-	-	-	-	-	-	-	-
	mass (kg)	-	-	-	-	-	-	-	-	-	-
BH160C	E	-	-	-	-	-	-	-	-	-	-
	DH _{max}	-	-	-	-	-	-	-	-	-	-
	M _{bmax}	-	-	-	-	-	-	-	-	-	-
	mass (kg)	-	-	-	-	-	-	-	-	-	-
BH180C	E	-	-	-	-	-	-	-	-	-	-
	DH _{max}	-	-	-	-	-	-	-	-	-	-
	M _{bmax}	-	-	-	-	-	-	-	-	-	-
	mass (kg)	-	-	-	-	-	-	-	-	-	-
BH200C	E	-	-	-	-	-	-	-	-	-	-
	DH _{max}	-	-	-	-	-	-	-	-	-	-
	M _{bmax}	-	-	-	-	-	-	-	-	-	-
	mass (kg)	-	-	-	-	-	-	-	-	-	-
BH225C	E	-	-	-	-	-	-	-	-	-	316
	DH _{max}	-	-	-	-	-	-	-	-	-	220
	M _{bmax}	-	-	-	-	-	-	-	-	-	30
	mass (kg)	-	-	-	-	-	-	-	-	-	90
BH250C	E	-	-	-	-	-	-	-	-	-	316
	DH _{max}	-	-	-	-	-	-	-	-	-	220
	M _{bmax}	-	-	-	-	-	-	-	-	-	30
	mass (kg)	-	-	-	-	-	-	-	-	-	98
BH280C	E	-	-	-	-	-	-	-	-	-	316
	DH _{max}	-	-	-	-	-	-	-	-	-	220
	M _{bmax}	-	-	-	-	-	-	-	-	-	30
	mass (kg)	-	-	-	-	-	-	-	-	-	98
BH315C	E	-	-	-	-	-	-	-	-	-	-
	DH _{max}	-	-	-	-	-	-	-	-	-	-
	M _{bmax}	-	-	-	-	-	-	-	-	-	-
	mass (kg)	-	-	-	-	-	-	-	-	-	-
BH355C	E	-	-	-	-	-	-	-	-	-	-
	DH _{max}	-	-	-	-	-	-	-	-	-	-
	M _{bmax}	-	-	-	-	-	-	-	-	-	-
	mass (kg)	-	-	-	-	-	-	-	-	-	-

* with fixing bolts class 10.9 tightened at 8.8 torque values

Notes:



Every decision we make at Rossi impacts the world we live in. But new technologies and renewed commitment to sustainable practices have provided us with the opportunity to make environmentally friendly printing decisions. Our catalogs are printed on Forest Stewardship Council® (FSC®) certified paper ⁽¹⁾. This is our tangible commitment in terms of environment sustainability.

⁽¹⁾ The certification means that finished wood-based products in the marketplace have been handled by companies that have also been certified and that the paper has been handled in an environmentally-friendly manner.

Australia Rossi Gearmotors Australia Pty. Ltd. e-mail: info.australia@rossi-group.com www.rossi-group.com/australia	France Rossi Motoréducteurs SARL e-mail: info.france@rossi-group.com www.rossi-group.com/france	Spain, Portugal Rossi Motorreductores S.L. e-mail: info.spain@rossi-group.com www.rossi-group.com/spain	United States, Mexico Rossi North America e-mail: info.northamerica@rossi-group.com www.rossi-group.com/northamerica
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Rossi S.p.A.

Via Emilia Ovest 915/A
41123 Modena - Italy
Phone +39 059 33 02 88
fax +39 059 82 77 74
e-mail: info@rossi-group.com
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