

# *RP Series*

*Inline Helical Gear Units - Solid Foot*



**RENOLD**

*Superior Gear Technology*

[www.renold.com](http://www.renold.com)

## RP Inline Geared Motors - Selection Data

Hardened and profile ground helical gears - double and triple reduction.

Standard IEC and NEMA motors can be fitted with B5 or B14 flanges.



Heavy duty output shaft mounted on high tolerance heavy duty bearings for a long life.

Close grain cast iron gearcase giving robust case strength, quiet and vibration free running

### Applications:

- Packaging machinery
- Food processing machinery
- Screw conveyors
- Textile machinery
- Water treatment
- Conveyor drives

## RP Inline Geared Motors - Selection Data

### 402C $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (Nm)	f.s.	B5				B14				
					B	C	D	E	Q	R	T	U	
					63	71	80	90	71	80	90	<sup>100</sup> / <sub>112</sub>	
252	5.55	3	109	1.1	B					C	C		
191	7.33	3	144	1.0	B					C	C		
156	8.96	3	176	0.9	B					C	C		
139	10.04	2.2	145	1.0	B					C	C		
120	11.64	2.2	168	1.0	B					C	C		
106	13.26	2.2	191	0.9	B					C	C		
91	15.37	1.5	151	1.3	B					C	C		
86	16.20	1.5	159	1.1	B					C	C		
75	18.78	1.5	184	0.9	B					C	C		
65	21.54	1.1	155	1.3	B					C	C		
63	22.26	1.1	160	1.0	B					C	C		
53	26.31	0.75	129	1.3	B					C	C		
47.6	29.40	0.75	144	1.4	B					C	C		
39	35.91	0.75	176	1.0	B					C	C		
36.5	38.37	0.55	138	1.3	B					C	C		
29.9	46.87	0.55	169	1.0	B					C	C		
27.6	50.67	0.37	123	1.2	B					C	C		
22.6	61.89	0.37	150	1.1	B					C	C		

### 602C $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (Nm)	f.s.	B5				B14				
					C	D	E	F	R	T	U	V	
					71	80	90	<sup>100</sup> / <sub>112</sub>	80	90	<sup>100</sup> / <sub>112</sub>	132	
388	3.61	7.5	177	0.9	B								
331	4.23	7.5	208	1.0	B								
279	5.01	7.5	246	1.0	B								
231	6.07	7.5	298	0.9	B								
206	6.81	5.5	245	1.4	B								
176	7.96	5.5	287	1.3	B								
148	9.45	5.5	340	1.2	B								
122	11.43	5.5	412	1.0	B								
99	14.21	4	372	1.2	B								
84	16.62	4	435	1.2	B								
70	20.10	4	527	0.9	B								
56	24.98	3	491	0.9	B								
47.6	29.41	2.2	424	1.0	B								
39.3	35.58	1.85	431	1.2	B								
34.6	40.50	1.1	292	1.1	B								
31.7	44.23	1.5	434	1.0	B								
28.6	49.0	1.1	353	1.0	B								
23	60.9	1.1	439	1.0	B								

### 403C $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (Nm)	f.s.	B5				B14				
					B	C	D	E	Q	R	T	U	
					63	71	80	90	71	80	90	<sup>100</sup> / <sub>112</sub>	
19.7	70.95	0.37	167	1.2	B					C	C		
18.7	74.77	0.37	176	1.0	B					C	C		
16.2	86.66	0.37	203	0.9	B					C	C		
14.5	96.85	0.25	154	1.3	B					C	C		
11.8	118.3	0.25	188	0.9	B					C	C		
10.3	135.7	0.18	155	1.3	B					C	C		
8.4	165.7	0.18	189	0.9	B					C	C		

### 603C $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (Nm)	f.s.	B5				B14				
					B	C	D	E	Q	R	T	U	
					63	71	80	90	71	80	90	<sup>100</sup> / <sub>112</sub>	
21.1	66.22	1.1	462	1.1	B					C	C		
19.7	71.01	1.1	496	0.9	B					C	C		
18.3	76.69	1.1	535	0.9	B					C	C		
17.0	82.30	0.75	392	1.1	B					C	C		
16.7	83.59	0.75	398	1.1	B					C	C		
15.1	92.78	0.75	441	1.1	B					C	C		
13.4	104.7	0.75	498	1.0	B					C	C		
11.9	117.2	0.55	409	1.2	B					C	C		
11.1	126.6	0.55	442	1.1	B					C	C		
10.3	135.8	0.37	319	1.4	B					C	C		
9.6	145.7	0.37	342	1.3	B					C	C		
8.9	157.4	0.37	369	1.2	B					C	C		
8.5	164.2	0.37	385	1.3	B					C	C		
7.6	185.3	0.37	435	1.0	B					C	C		
6.9	204.2	0.37	479	0.9	B					C	C		
6.2	224.2	0.37	526	1.0	B					C	C		
5.0	278.6	0.25	442	1.0	B					C	C		


## Notes

$P_{1M}^{(KW)}$  = input power ( $n_1=1400\text{min}^{-1}$ )

$n_2^{(\text{min}^{-1})}$  = output speed ( $n_1=1400\text{min}^{-1}$ )

$M_{2M}^{(Nm)}$  = transmitted output torque

 = available motor flange  |

**B** = connection through reduction bush 

**C** = motor flange/terminal box position 

## RP Inline Geared Motors - Gear Units

**025**  $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (DaNm)	f.s.	B5				B14				
					D 80	E 90	F 100/112	G 132	Q 71	R 80	T 90	U 100/112	
642	2.26	9.2	13.2	1.4			B						
522	2.78	9.2	16.3	1.4			B						
430	3.37	9.2	19.7	1.0			B						
420	3.43	9.2	20	1.1			B						
349	4.15	9.2	24.8	1.0			B						
283	5.14	9.2	31	1.1			B						
240	6.04	9.2	35.3	1.4			B						
199	7.29	9.2	42.7	1.4			B						
161	9.01	9.2	52.7	1.0			B						
133	10.88	9.2	63.7	1.0			B						
108	13.43	7.5	63.3	0.9			B						
87	16.62	5.5	58.5	0.9									
73	19.81	4	51.8	1.0									
71	20.51	4	53.7	1.1									
61	23.92	4	62.6	1.0									
49	29.52	3	56.2	1.0									

**026**  $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (DaNm)	f.s.	B5				B14				
					F 100/112	G 132	H 160	I 180	R 80	T 90	U 100/112	V 132	
360	4.03	18.5	47.5	1.1									
321	4.52	18.5	53.3	1.0									
248	5.84	18.5	68.9	1.1									
222	6.54	18.5	77.1	1.0									
202	7.19	18.5	84.8	1.1									
180	8.05	18.5	95	1.0									
170	8.51	18.5	100.4	1.0									
152	9.53	15	90	1.1									
143	10.13	11	71.3	1.0									
116	12.48	11	88	1.0									
98	14.78	11	104	1.0									
84	17.30	9.2	101.2	0.9									
71	20.48	9.2	119.8	0.9									
61	23.75	7.5	111.9	0.8									
52	28.13	5.5	99	1.0									

**027**  $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (DaNm)	f.s.	B5				B14				
					F 100/112	G 132	H 160	I 180	Q 71	R 80	T 90	U 100/112	
430	3.37	22	47.8	1.7									
345	4.2	22	59.5	1.3									
288	5.03	22	71.3	1.1									
229	6.32	22	89.6	1.7									
184	7.88	22	111.7	1.3									
154	9.43	22	133.7	1.1									
126	11.52	22	162	1.0									
113	12.86	18.5	151.7	1.1									
101	14.4	15	135.7	1.1									
82	17.6	15	165.8	1.0									
77	18.75	15	176.6	1.0									
63	22.92	15	200	0.9									
57	25.57	11	180	1.0									

**253**  $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (DaNm)	f.s.	B5				B14				
					C 71	D 80	E 90	F 100/112	Q 71	R 80	T 90	U 100/112	
41	34.98	3	63.1	1.0		B							
34	43.18	2.2	58.4	1.0		B							
28	50.35	2.2	70	0.9		B							
23	62.15	1.5	56.1	1.0		B							
19	75.06	1.5	67.7	0.8	B	B							
15	90.63	1.1	62.2	1.0	B	B							
13	108.0	0.75	55	1.0	B	B							
12	111.9	0.75	52.5	1.1	B	B							
11	130.5	0.75	61.2	1.0	B	B							
9	161.0	0.75	75	0.9	B	B							

**263**  $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (DaNm)	f.s.	B5				B14				
					C 71	D 80	E 90	F 100/112	Q 71	R 80	U 100/112	V 132	
37	40	4	102	0.9		B							
29	49.2	3	88.8	1.1		B							
25	58.2	3	105	1.0		B							
21	67.5	2.2	91.4	1.0		B							
18	79.9	2.2	107	1.0		B							
15	95.8	1.5	84.5	1.0		B							
12	117.9	1.5	106.5	1.0	B	B							
11	131.5	1.1	90	1.0	B	B							
10	139.6	1.1	96	1.1	B	B							
9	161.9	0.75	76	1.1	B	B							

**273**  $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (DaNm)	f.s.	B5				B14				
					C 71	D 80	E 90	F 100/112	R 80	T 90	U 100/112	V 132	
47	30.56	4	79	2.0			B						
39	37.23	4	96	2.0			B						
35	41.14	4	105	1.4			B						
29	50.28	4	129	1.4			B						
22	65.47	4	162.5	1.1			B						
20	73.05	4	180.8	1.0			B						
18	82.8	4	200	0.9	B	B							
14	101.2	3	182.7	1.0	B	B							
13	112.9	2.2	152.9	1.0	B	B							
11	131.7	2.2	178.4	1.0	B	B							
10	147	1.8	169.6	1.1	B	B							

**27A**  $n_1=1400 \text{ min}^{-1}$

$n_2$ ( $\text{Min}^{-1}$ )	i	$P_{1M}$ (KW)	$M_{2M}$ (DaNm)	f.s.	B5				B14				
					F 100/112	G 132	H 160	I 180	Q 71	R 80	T 90	U 100/112	
47	30.56	9.2	169.6	1.0									
39	37.23	9.2	200	0.9									
35	41.14	7.5	200	0.9									
29	50.28	5.5	167.9	1.0									

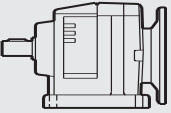
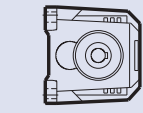
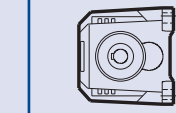
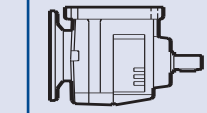
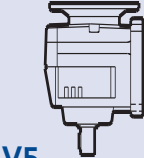
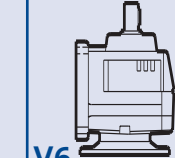
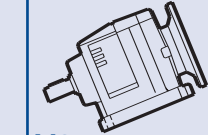
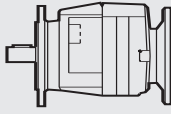
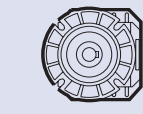
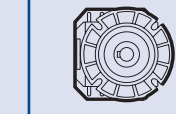
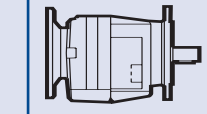
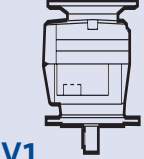
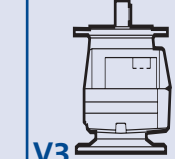
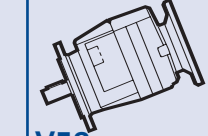
## Mounting Dimensions

### 402 - 603C

All the units are supplied with synthetic oil for life of the product, therefore no maintenance is necessary.

The gearboxes are factory filled for standard positions B3/B5.

On all other mounting positions please specify with your order.

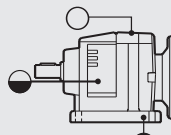
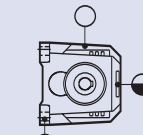
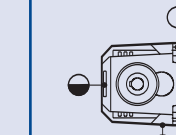
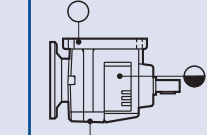
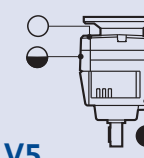
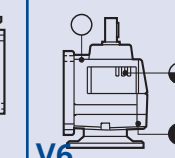
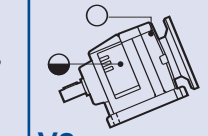
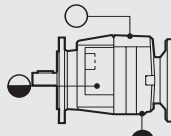
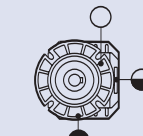
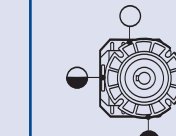
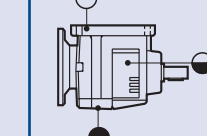
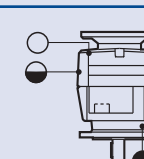
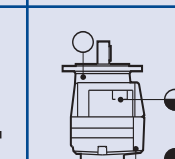
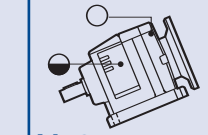
Standard	On Request					
 B3	 B6	 B7	 B8	 V5	 V6	 V8
 B5	 B56	 B57	 B58	 V1	 V3	 V58

#### Oil Quality (lt.)

402C	0.50	0.50	0.50	0.50	0.65	0.85	0.65
403C	0.55	0.55	0.55	0.55	0.70	0.90	0.70
602C	1.00	1.50	1.50	1.50	2.00	2.00	2.00
603C	1.30	1.50	1.50	1.50	2.10	2.00	2.10

### 025 - 273

The unit sizes 025 - 273 are supplied without oil, before use ensure unit is filled with oil to the correct oil level plug for the mounting position.

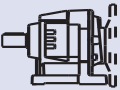
Standard	On Request					
 B3	 B6	 B7	 B8	 V5	 V6	 V8
 B5	 B56	 B57	 B58	 V1	 V3	 V58

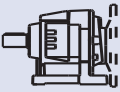
## Dimensions

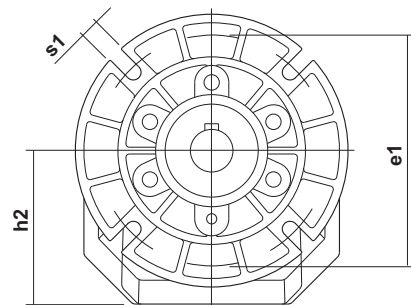
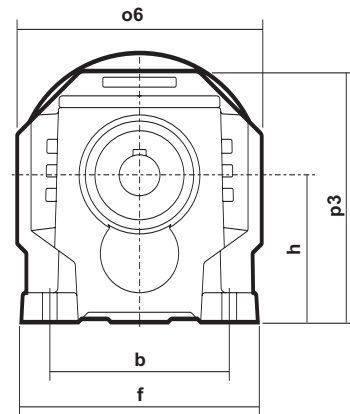
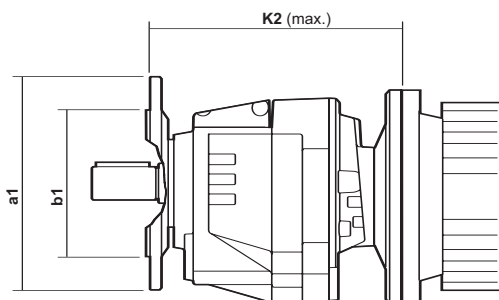
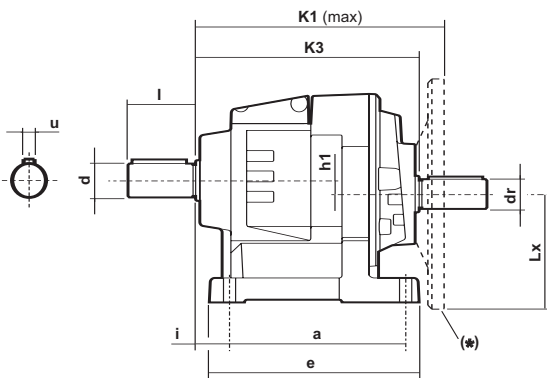
Size	a1	b1	e1	s1	d	dr	l	u	o6	h1	K1 Max	K2 Max	K3	h2	p3	i	h	a	b	e	f
<b>402C</b>	200	130	165	11	ø25	ø19	50	8	150	10	182.5	195	173.5	90	154	25	90	130	110	155	145
<b>403C</b>											202	214.5	195.5								
<b>602C</b>	250	180	215	14	ø35	ø24	70	10	190	13	251.5	272	237	115	194	30	115	165	135	200	190
<b>603C</b>											254.5	275	245.5								
<b>025</b>	250	180	/	M10	ø40	ø28	75	12	225	/	287	287	277	161	260	35	160	175	170	215	225
<b>253</b>											320	320	304								
<b>026</b>	300	230	/	M10	ø50	ø38	90	14	275	/	356	356	334	175	300	40	175	215	215	260	275
<b>263</b>											352	352	338								
<b>027</b>	350	250	/	M12	ø60	ø42	105	18	330	/	398	398	375	224	375	40	225	245	250	300	330
<b>27A</b>											428	428	426								
<b>273</b>											401	401	387								

B5	63	71	80	90	100/112	132	160	180
Lx	70	80	100	100	125	150	175	175

B14	71	80	90	100/112	132
Lx	52.5	60	70	80	100

	2 steps					
		<b>402C</b>	<b>602C</b>	<b>025</b>	<b>026</b>	<b>027</b>
Weight (Kg.)	9.5	21.3	36	61	105	106

	3 steps				
		<b>403C</b>	<b>603C</b>	<b>253</b>	<b>263</b>
Weight (Kg.)	10	21.1	37	52	100

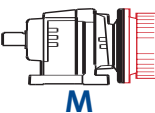
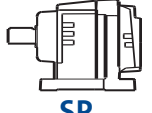
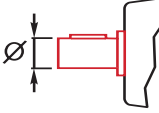
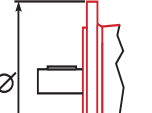

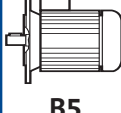
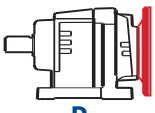
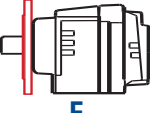
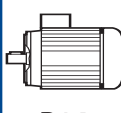
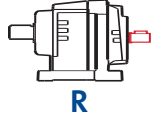
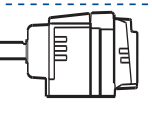
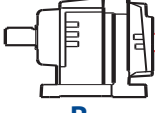


(★) With some of the B5 motor flanges the ø may be lower than the feet. Please check "Lx-h" dimensions.

## Lubrication and Ordering Procedure

ISOVG	Mineral oil				Synthetic oil		
	680	460	320	220	460	220 320	150
Ambient T°.	5° - 50°	5° - 45°	0° - 40°	0° - 35°	-15° - 100°	-25° - 80°	-30° - 70°
AGIP	Blasia 680	Blasia 460	Blasia 320	Blasia 220		Telium VSF 320	Telium VSF 150
BP	Energol GRXP 680	Energol GRXP 460	Energol GRXP 320	Energol GRXP 220	Energol SGXP 460	Energol SGXP 220	Energol SGXP 150
ESSO	Spartan EP 680	Spartan EP 460	Spartan EP 320	Spartan EP 220			
SHELL	Omala OIL 680	Omala OIL 460	Omala OIL 320	Omala OIL 220	Tivela OIL SD	Tivela OIL WB	

### 2-3 stages - how to order

P Type	402.. Size	-F Cast iron	5.5 Ratio	C Output shaft	2 Output flange	D Motor size	B5 Motor size	B3
 M	<b>2 Stages</b> 402C 602C	 SP	See Technical data table	 * standard 402C 403C	 N Without Flange	 B5	 B5	Mounting position
 P	025 026 027 27A	 F		* V → Ø25 B → Ø16 C → Ø19 D → Ø20 E → Ø24	402C 403C * 1 → Ø120 2 → Ø140 3 → Ø160 4 → Ø200	* B → 63 (ø 140) C → 71 (ø 160) D → 80 (ø 200) E → 90 (ø 200) F → 100-112 (ø 250) G → 132 (ø 300) H → 160 (ø 350) I → 180 (ø 350)	 B14	
 R	<b>3 Stages</b> 403C 603C	 -N Only for 602/3C		602C 603C * I → Ø35 H → Ø30 L → Ø38 M → Ø40	602C 603C * 3 → Ø160 4 → Ø200 5 → Ø250	B14 * Q → 71 (ø105) R → 80 (ø120) T → 90 (ø140) U → 100-112 (ø160) V → 132 (ø200)		
 B	253 263 273			025 253 * C → Ø40 R → Ø45 1 → Ø38	025 253 * C → Ø250 026 263 * C → Ø300 027A 273 * C → Ø350			
	27A 273 * C → Ø60							

\* The diameters marked in red are Standard

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