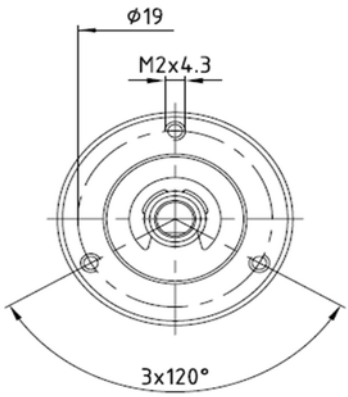
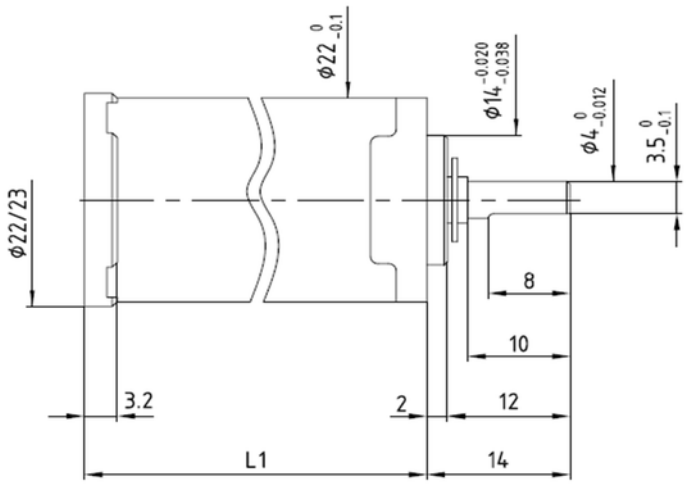
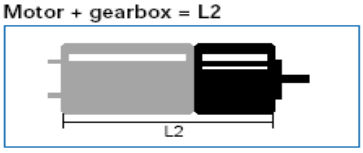


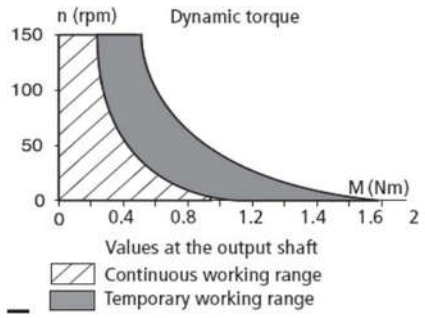


Ratio ****		5.75	16.2	19.4	27.6	33.1	65.5	93.2	111	132	159	190	376	641	1090
1	Number of gear stages	1	2	2	2	2	3	3	3	3	3	3	4	4	4
2	Direction of rotation	=	=	=	=	=	=	=	=	=	=	=	=	=	=
3	Efficiency	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5
4	L1 (mm)	25	32.5	32.5	32.5	32.5	40	40	40	40	40	40	40	40	40
5	Weight g (oz)	20 (0.705)	25 (0.881)	25 (0.881)	25 (0.881)	25 (0.881)	30 (1.058)	30 (1.058)	30 (1.058)	30 (1.058)	30 (1.058)	30 (1.058)	33 (1.164)	33 (1.164)	33 (1.164)
6	Available with Motor - L2 = Length with motor (mm)														
	22S78……1	51	58.5	58.5	58.5	58.5	66	66	66	66	66	66	66	66	66
	22N28….286	57	64.5	64.5	64.5	64.5	72	72	72	72	72	72	72	72	72
	22N48……308	58.9	66.4	66.4	66.4	66.4	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9
	22V28….202	59.4	66.9	66.9	66.9	66.9	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4
	22V48.225	61.2	68.7	68.7	68.7	68.7	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2
	23GST82……..2	60.1	67.6	67.6	67.6	67.6	75.1	75.1	75.1	75.1	75.1	75.1	75.1	75.1	75.1
	23V58…..4	73.8	81.3	81.3	81.3	81.3	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8
	23V48…..11	72.6	80.1	80.1	80.1	80.1	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6
	26N58….5	68.3	75.8	75.8	75.8	75.8	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3
	26N48……9	67.1	74.6	74.6	74.6	74.6	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1
	28L28…..164	68.5	76	76	76	76	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5
	28L18…..317	68.5	76	76	76	76	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5
	28LT12…..164	66.2	73.7	73.7	73.7	73.7	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2
	P310……..9	42.4	49.9	49.9	49.9	49.9	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4

Characteristics			R22 • 0 • ….	R22 2R • 0 • ….
7	Shaft Bearings		Sleeve	Ball Bearing
8	Maximum Static Torque	Nm (oz-in)	2 (283)	2 (283)
9	Maximum Radial Force			
	@ 8mm from mounting face	N (lb)	10 (2.2)	15.(3.3)
10	Maximum Axial force	N (lb)	10 (2.2)	10 (2.2)
11	Maximum press fit force	N (lb)	300 (67.4)	300 (67.4)
12	Average Backlash @ no-load		1.5°	1.5°
13	Average Backlash @ 3 Nm		3°	3°
	Shaft play:			
14	-radial	µm	≤ 25	≤ 10
15	-axial	µm	50-150	50-150
16	Maximum Recommended Input speed	rpm	5000	5,000
17	Operating Temperature Range:	°C (°F)	-30 to +65 (-22 to +150)	

Motor + gearbox = L2





(C) 2013. Portescap. Specifications subject to change without notice.