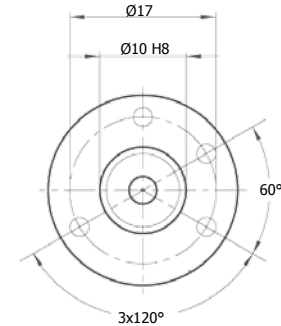
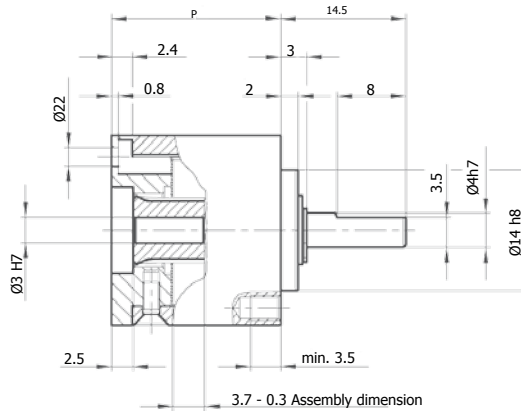
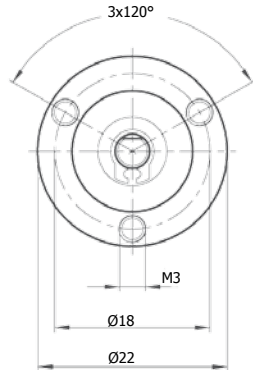


# GI22

## METRIC - STANDARD PRODUCT



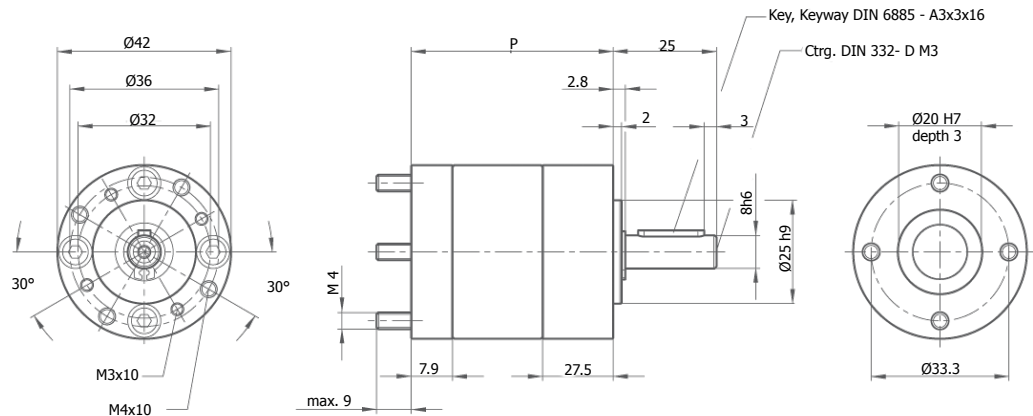
### RATIOS

1-Stage	2-Stage	3-Stage	4-Stage	5-Stage		
4:1	14:1	51:1	189:1	531:1	1911:1	3481:1
5:1	16:1	59:1	218:1	556:1	1969:1	3587:1
	18:1	68:1	252:1	596:1	2059:1	3750:1
	19:1	71:1	264:1	626:1	2114:1	4025:1
	22:1	79:1	292:1	642:1	2210:1	4224:1
	25:1	93:1	305:1	672:1	2277:1	4336:1
	27:1	95:1	337:1	721:1	2319:1	4534:1
	29:1	100:1	344:1	724:1	2381:1	4885:1
	35:1	115:1	353:1	777:1	2489:1	5243:1
		124:1	369:1	837:1	2556:1	5649:1
		130:1	397:1	875:1	2672:1	5905:1
		139:1	408:1	939:1	2682:1	6339:1
		150:1	426:1	1012:1	2753:1	6829:1
		169:1	459:1	1140:1	2879:1	7693:1
		181:1	480:1	1223:1	3089:1	8258:1
		195:1	493:1	1318:1	3101:1	8897:1
		236:1	516:1	1594:1	3329:1	10757:1

Actual ratios are rounded to the nearest integer

PARAMETER	1-STAGE	2-STAGE	3-STAGE	4-STAGE
Perm. Output Torque Nm	0.6	0.7	0.8	1.0
Gearbox Efficiency, approx.	0.90	0.80	0.70	0.60
Max. Backlash in °Deg	1.5	2.0	2.5	3.0
Recommended initial speed rpm	6,000	6,000	6,000	6,000
Operating temperature °C	-15to +65	-15 to +65	-15 to +65	-15 to +65
Output side with sintered metal bearing	yes	yes	yes	yes
Max. load, radial (10mm from flange) N	80	80	80	80
Max. load, axial N	30	30	30	30
Gearbox length k mm	19.7±0.3	26.4±0.3	33.1±0.3	39.8±0.3
Ø x Total length mm	22.0 x 34.2	22.0 x 40.9	22.0 x 47.6	22.0 x 54.3
Weight oz	1.69	2.15	2.61	3.07

Consult Factory for 5-Stage Specifications


**RATIOS**

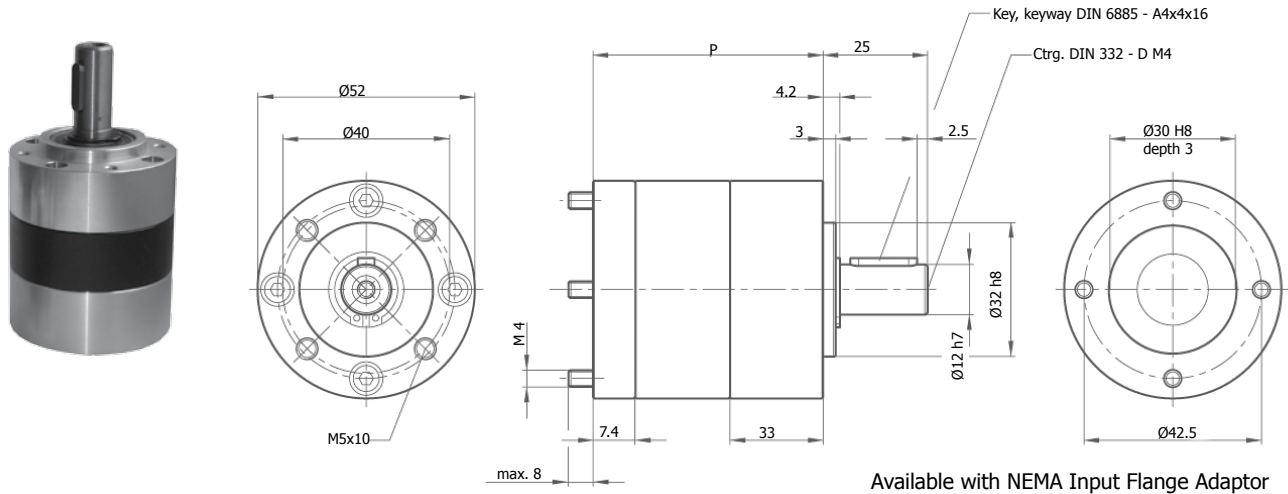
1-Stage	2-Stage	3-Stage	4-Stage	5-Stage		
4:1	14:1	51:1	189:1	531:1	1911:1	3481:1
5:1	16:1	59:1	218:1	556:1	1969:1	3587:1
	18:1	68:1	252:1	596:1	2059:1	3750:1
	19:1	71:1	264:1	626:1	2114:1	4025:1
	22:1	79:1	292:1	642:1	2210:1	4224:1
	25:1	93:1	305:1	672:1	2277:1	4336:1
	27:1	95:1	337:1	721:1	2319:1	4534:1
	29:1	100:1	344:1	724:1	2381:1	4885:1
	35:1	115:1	353:1	777:1	2489:1	5243:1
		124:1	369:1	837:1	2556:1	5649:1
		130:1	397:1	875:1	2672:1	5905:1
		139:1	408:1	939:1	2682:1	6339:1
		150:1	426:1	1012:1	2753:1	6829:1
		169:1	459:1	1140:1	2879:1	7693:1
		181:1	480:1	1223:1	3089:1	8258:1
		195:1	493:1	1318:1	3101:1	8897:1
		236:1	516:1	1594:1	3329:1	10757:1

Actual ratios are rounded to the nearest integer

PARAMETER	1-STAGE	2-STAGE	3-STAGE	4-STAGE
Perm. Output Torque (Appl. factor $C_B = 1.0$ ) Nm	3.0	7.5	15.0	15.0
Gearbox Efficiency, approx.	0.80	0.75	0.70	0.65
Max. Backlash in °Deg	0.90	0.95	1.00	1.05
Recommended initial speed rpm	3,000	3,000	3,000	3,000
Operating temperature °C	-15 to +65	-15 to +65	-15 to +65	-15 to +65
Output side with ball bearings (2RS)	yes	yes	yes	yes
Max. load, radial N	160	230	300	360
Max. load, axial N	50	80	110	140
Gearbox length p mm	49.1±0.5	62.2±0.5	75.3±0.5	88.4±0.5
Gearbox length q mm	72.6±0.5	85.7±0.5	98.8±0.5	111.9±0.5
Ø x Total length ( p + length from bearing flange) mm	42.0 x 74.1	42.0 x 87.2	42.0 x 75	42.0 x 113.
Weight oz	14.11	17.64	21.16	24.69

Consult Factory for 5-Stage Specifications

**GI52**  
**METRIC - STANDARD PRODUCT**



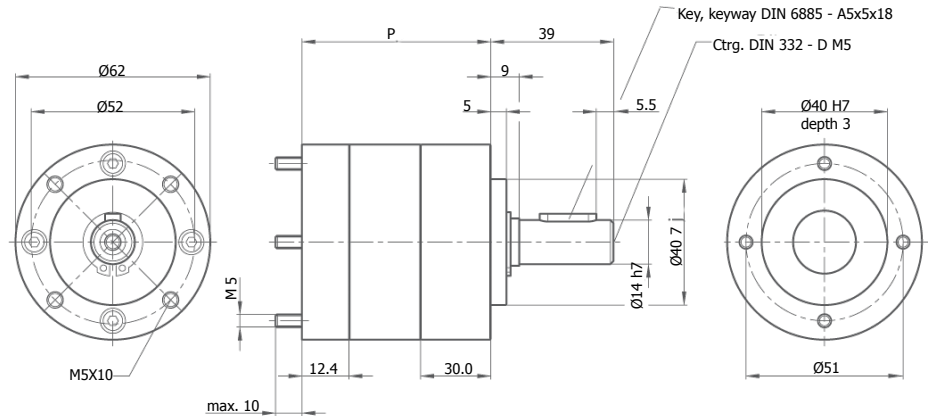
**RATIOS**

1-Stage	2-Stage	3-Stage	4-Stage	5-Stage
4:1	14:1	51:1	189:1	531:1
5:1	16:1	59:1	218:1	556:1
	18:1	68:1	252:1	596:1
	19:1	71:1	264:1	626:1
	22:1	79:1	292:1	642:1
	25:1	93:1	305:1	672:1
	27:1	95:1	337:1	721:1
	29:1	100:1	344:1	724:1
	35:1	115:1	353:1	777:1
		124:1	369:1	837:1
		130:1	397:1	875:1
		139:1	408:1	939:1
		150:1	426:1	1012:1
		169:1	459:1	1140:1
		181:1	480:1	1223:1
		195:1	493:1	1318:1
		236:1	516:1	1594:1

Actual ratios are rounded to the nearest integer

PARAMETER	1-STAGE	2-STAGE	3-STAGE	4-STAGE
Perm. Output Torque Nm	4.0	12.0	25.0	25.0
Gearbox Efficiency, approx.	0.80	0.75	0.70	0.65
Max. Backlash in °Deg	0.70	0.75	0.80	0.85
Recommended initial speed rpm	3,000	3,000	3,000	3,000
Operating temperature °C	-15 to +65	-15 to +65	-15 to +65	-15 to +65
Output side with ball bearings (2RS)	yes	yes	yes	yes
Max. load, radial N	200	320	450	500
Max. load, axial N	60	100	150	200
Gearbox length p mm	55.3±0.5	69.5±0.5	83.7±0.5	97.9±0.5
Gearbox length k (motor size 56 & 63) mm	82.0±0.5	96.2±0.5	110.4±0.5	124.6±0.5
Gearbox length q mm	76.6±0.6	90.8±0.6	105.0±0.5	119.2±0.5
Ø x Total length ( p + length from bearing flange) mm	52.0 x 80.3	52.0 x 94.5	52.0 x 108.7	52.0 x 122.9
Weight lbs	1.54	1.98	2.43	2.87

Consult Factory for 5-Stage Specifications

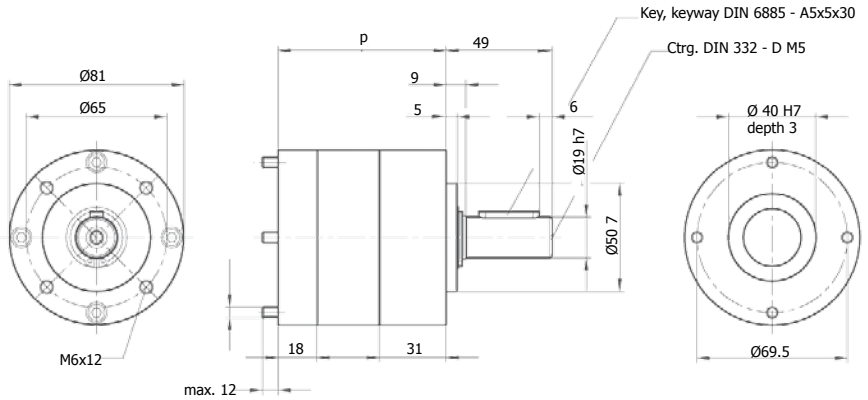

**RATIOS**

1-Stage	2-Stage	3-Stage	4-Stage	5-Stage		
4:1	14:1	51:1	189:1	531:1	1911:1	3481:1
5:1	16:1	59:1	218:1	556:1	1969:1	3587:1
	18:1	68:1	252:1	596:1	2059:1	3750:1
	19:1	71:1	264:1	626:1	2114:1	4025:1
	22:1	79:1	292:1	642:1	2210:1	4224:1
	25:1	93:1	305:1	672:1	2277:1	4336:1
	27:1	95:1	337:1	721:1	2319:1	4534:1
	29:1	100:1	344:1	724:1	2381:1	4885:1
	35:1	115:1	353:1	777:1	2489:1	5243:1
		124:1	369:1	837:1	2556:1	5649:1
		130:1	397:1	875:1	2672:1	5905:1
		139:1	408:1	939:1	2682:1	6339:1
		150:1	426:1	1012:1	2753:1	6829:1
		169:1	459:1	1140:1	2879:1	7693:1
		181:1	480:1	1223:1	3089:1	8258:1
		195:1	493:1	1318:1	3101:1	8897:1
		236:1	516:1	1594:1	3329:1	10757:1

Actual ratios are rounded to the nearest integer

PARAMETER	1-STAGE	2-STAGE	3-STAGE	4-STAGE
Perm. Output Torque Nm	8	25	50	50
Gearbox Efficiency, approx.	0.80	0.75	0.70	0.65
Max. Backlash in °Deg	0.65	0.70	0.75	0.80
Recommended initial speed rpm	3,000	3,000	3,000	3,000
Operating temperature °C	-15 to +65	-15 to +65	-15 to +65	-15 to +65
Output side with ball bearings (2RS)	yes	yes	yes	yes
Max. load, radial N	240	360	520	640
Max. load, axial N	70	100	150	200
Gearbox length p mm	58.2±0.5	75.1±0.5	92.0±0.5	108.9±0.5
Gearbox length k (motor size 56 & 63) mm	82.3±0.6	99.2±0.6	116.1±0.6	133.0±0.6
Ø x Total length ( p + length from bearing flange) mm	62.0 x 97.2	62.0 x 114.1	62.0 x 131.0	62.0 x 147.9
Weight lbs	1.76	2.65	3.53	4.41

Consult Factory for 5-Stage Specifications



**RATIOS**

1-Stage	2-Stage	3-Stage	4-Stage
4:1	14:1	51:1	189:1
5:1	16:1	59:1	218:1
	18:1	68:1	252:1
	19:1	71:1	264:1
	22:1	79:1	292:1
	25:1	93:1	305:1
	27:1	95:1	337:1
	29:1	100:1	344:1
	35:1	115:1	353:1
		124:1	369:1
		130:1	397:1
		139:1	408:1
		150:1	426:1
		169:1	459:1
		181:1	480:1
		195:1	493:1
		236:1	516:1
			531:1
			556:1
			596:1
			626:1
			642:1
			672:1
			721:1
			724:1
			777:1
			837:1
			875:1
			939:1
			1012:1
			1140:1
			1223:1
			1318:1
			1594:1

Actual ratios are rounded to the nearest integer

PARAMETER	1-STAGE	2-STAGE	3-STAGE	4-STAGE
Perm. Output Torque Nm	20	60	120	120
Gearbox Efficiency, approx.	0.80	0.75	0.70	0.65
Max. Backlash in °Deg	0.85	0.55	0.60	0.65
Operating temperature °C	-15 to +65	-15 to +65	-15 to +65	-15 to +65
Output side with ball bearings (2RS)	yes	yes	yes	yes
Max. load, radial N	400	600	1,000	1,300
Max. load, axial N	80	120	200	280
Gearbox length p mm	77.9±0.5	99.6±0.5	121.3±0.5	143.0±0.5
Gearbox length k (motor size 56 & 63) mm	104.1±0.6	134.1±0.6	155.8±0.6	177.5±0.6
Gearbox length q mm	112.4±0.5	134.1±0.5	155.8±0.5	177.5±0.5
Ø x Total length ( p + length from bearing flange) mm	81.0 x 126.9	81.0 x 148.6	81.0 x 170.3	81.0 x 192.0
Weight lbs	3.97	5.51	7.05	8.60

Consult Factory for 5-Stage Specifications