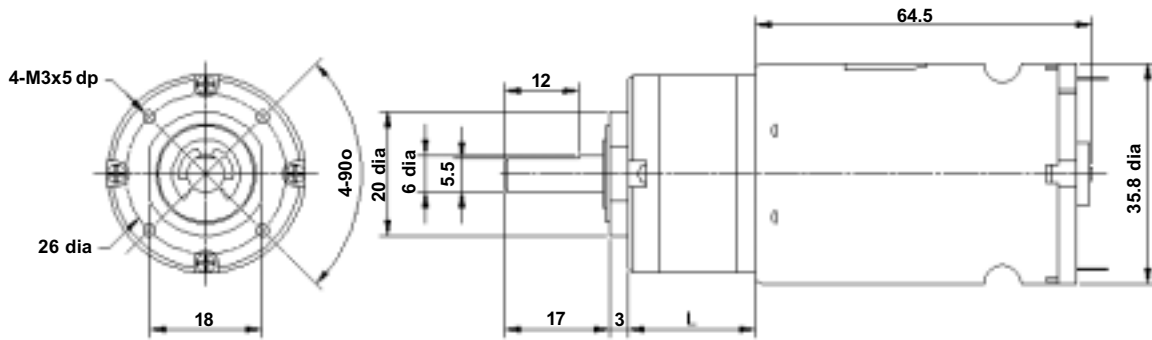


**942D SERIES 32mm (36mm motor) PLANETRY (EPICYCLIC) METAL GEARBOX**

**GEARBOX DIMENSIONS**



GEARBOX REF.	L
942D51 (5:1)	20.8
942D1001 (100:1)	33.6
942D2641 (264:1)	40.0
942D5161 (516:1)	40.0

**FOR ACCESSORIES TO FIT THIS SERIES GEARBOX, REFER TO 919D SERIES PAGE.**

<b>ADVANTAGES OF PLANETARY GEARBOXES.</b>	
<b>EFFICIENCY:</b>	Efficiencies of planetary gearboxes can be above 90% while some other types of transmission can be 50% or less. This allows the use of smaller motors.
<b>SIZE:</b>	Planetary gearboxes can be half the size of conventional boxes.
<b>WEIGHT:</b>	Weight savings can be as high as 60%, allowing smaller, lighter support structures.
<b>MAINTENANCE:</b>	Other than routine oil changes, no maintenance is required, eliminating the need to hold spares.
<b>REVERSIBLE:</b>	Planetary gears can be equally efficient in either direction. This is an advantage for use in running machinery in both clockwise and anti-clockwise directions.
<b>COAXIAL:</b>	The coaxial configuration of input and output shafts allows planetary gears to be installed in line with a motor and a machine.

Subject to minimum order quantities of 100 units, the following ratios are also available with a six week lead-time. The physical dimensions of these other gearboxes may vary from the data as illustrated above. Details of individual gearboxes are available upon request.

- GEARBOX 14:1 WITH 540/1 MOTOR
- GEARBOX 27:1 WITH 540/1 MOTOR.
- GEARBOX 51:1 WITH 540/1 MOTOR
- GEARBOX 139:1 WITH 540/1 MOTOR
- GEARBOX 264:1 WITH 540/1 MOTOR
- GEARBOX 939:1 WITH 540/1 MOTOR
- GEARBOX 19:1 WITH 540/1 MOTOR.
- GEARBOX 35:1 WITH 540/1 MOTOR
- GEARBOX 71:1 WITH 540/1 MOTOR.
- GEARBOX 189:1 WITH 540/1 MOTOR
- GEARBOX 721:1 WITH 540/1 MOTOR

**944D SERIES 22mm PLANETRY (EPICYCLIC) MINIATURE METAL GEARBOX (PRECIOUS METAL BRUSHES)**



**NEW!**

**IMPORTANT NOTICE**  
Due to the wide range of applications for this product it is the users responsibility to establish the products suitability for their individual purpose(s).

**RATIOS NOW AVAILABLE AS EX-STOCK ITEMS.**

944D41	(6v - 12v)	RATIO 4:1
944D621	(6v - 12v)	RATIO 62:1
944D1041	(6v - 12v)	RATIO 104:1
944D2311	(6v - 12v)	RATIO 231:1

Designed for smaller industrial and model applications this robust unit boasts a powerful high quality motor with precious metal brushes & sintered bronze bearings. The gearbox incorporates sleeved bearings, enabling the high torque transfer from the motor to be transmitted through the gearbox.

**MOTOR DATA.**

MODEL	VOLTAGE		NO LOAD		MAX EFFICIENCY						STALL TORQUE	
	OPERATING RANGE	NOMINAL	SPEED	CURRENT	SPEED	CURRENT	TORQUE		OUTPUT	EFF	TORQUE	
			R.P.M.	mA	R.P.M	mA	oz - in	g - cm	W	%	oz - in	g - cm
(944D)	6 - 12.0v	12.0v CONSTANT	8000	70	6650	200	0.25	18	1.25	52	1.4	100

**REDUCTION TABLE. R.P.M.**

SUPPLY VOLTAGE	4.5v	6.0v	9.0v	12.0v
944D41	800	1100	1550	2000
944D621	41	64	97	128
944D1041	24	35	55	76
944D2311	11.5	16.5	25.5	34

WEIGHT	
944D41	52g
944D621	65g
944D1041	67g
944D2311	70g

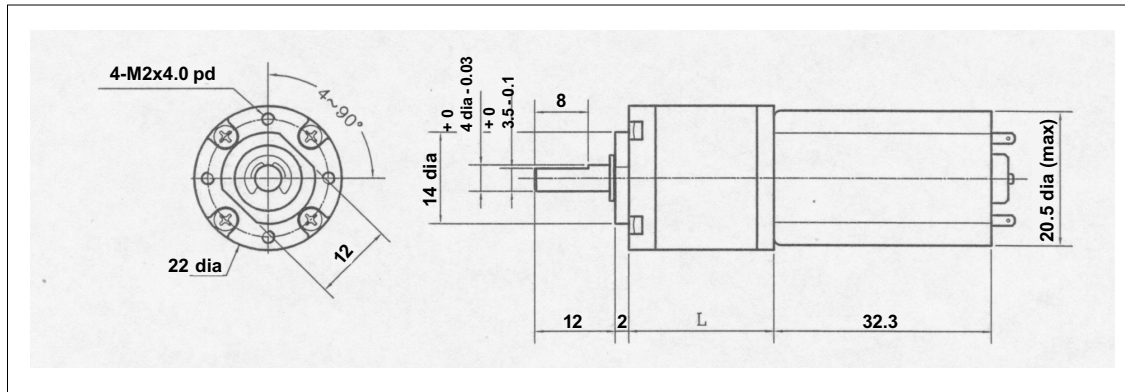
**GEARBOX RATINGS**

RATED TOLERANCE TORQUE (g.cm)		MAX MOMENTARY TOLERANCE TORQUE
4:1	1000	3000
62:1	2000	6000
104:1	2000	6000
231:1	2500	7500

**NOTE:** To establish Torque Rating in nM, divide g.cm by 10,197.0

**944D SERIES 22mm PLANETRY (EPICYCLIC) MINIATURE METAL GEARBOX (PRECIOUS METAL BRUSHES)**

**GEARBOX DIMENSIONS**



GEARBOX REF.	L
944D41 (4:1)	14.4
944D621 (62:1)	21.7
944D1041 (104:1)	21.7
944D2311 (231:1)	25.35

**FOR ACCESSORIES TO FIT THIS SERIES GEARBOX, REFER TO 918D SERIES PAGE.**

<b>ADVANTAGES OF PLANETARY GEARBOXES.</b>	
<b>EFFICIENCY:</b>	Efficiencies of planetary gearboxes can be above 90% while some other types of transmission can be 50% or less. This allows the use of smaller motors.
<b>SIZE:</b>	Planetary gearboxes can be half the size of conventional boxes.
<b>WEIGHT:</b>	Weight savings can be as high as 60%, allowing smaller, lighter support structures.
<b>MAINTENANCE:</b>	Other than routine oil changes, no maintenance is required, eliminating the need to hold spares.
<b>REVERSIBLE:</b>	Planetary gears can be equally efficient in either direction. This is an advantage for use in running machinery in both clockwise and anti-clockwise directions.
<b>COAXIAL:</b>	The coaxial configuration of input and output shafts allows planetary gears to be installed in line with a motor and a machine.

Subject to minimum order quantities of 100 units, the following ratios are also available with a six week lead-time. The physical dimensions of these other gearboxes may vary from the data as illustrated above. Details of individual gearboxes are available upon request.

14:1	16:1	19:1
53:1	72:1	84:1
198:1	270:1	316:1
370:1	455:1	742:1
1014:1	1249:1	1621:1
1996:1		

**944DMS SERIES 22mm PLANETRY (EPICYCLIC) MINIATURE METAL GEARBOX (PRECIOUS METAL BRUSHES)**



**NEW!**

**IMPORTANT NOTICE**  
Due to the wide range of applications for this product it is the users responsibility to establish the products suitability for their individual purpose(s).

**RATIOS NOW AVAILABLE AS EX-STOCK ITEMS.**

944D41MS	(4.5v - 6v)	RATIO 4:1
944D621MS	(4.5v - 6v)	RATIO 62:1
944D1041MS	(4.5v - 6v)	RATIO 104:1
944D2311MS	(4.5v - 6v)	RATIO 231:1

Designed for smaller industrial and model applications this robust unit boasts a powerful high quality motor with precious metal brushes & sintered bronze bearings. The gearbox incorporates sleeved bearings, enabling the high torque transfer from the motor to be transmitted through the gearbox.

**MOTOR DATA.**

MODEL	VOLTAGE		NO LOAD		MAX EFFICIENCY						STALL TORQUE	
	OPERATING RANGE	NOMINAL	SPEED	CURRENT	SPEED	CURRENT	TORQUE		OUTPUT	EFF	STALL TORQUE	
			R.P.M.	mA	R.P.M	mA	oz - in	g - cm	W	%	oz - in	g - cm
280/5 VAR	4.5 - 6.0v	6.0v CONSTANT	9280	0.108	7664	0.51		25.4	1.99	64.85		145.7

**REDUCTION TABLE. R.P.M.**

SUPPLY VOLTAGE	4.5v	6.0v
944D41MS	1740	2320
944D621MS	112	150
944D1041MS	67	89
944D2311MS	29	38.5

WEIGHT	
944D41MS	71g
944D621MS	79g
944D1041MS	79g
944D2311MS	83g

**GEARBOX RATINGS**

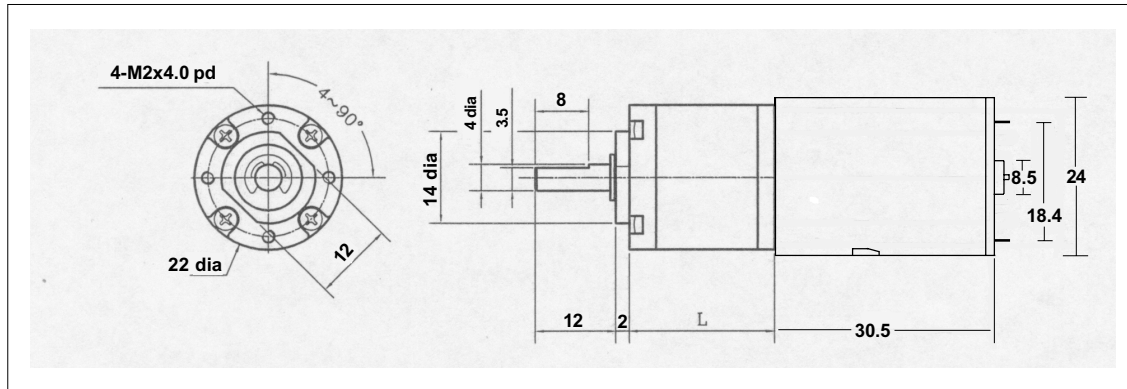
RATED TOLERANCE TORQUE (g.cm)	MAX MOMENTARY TOLERANCE TORQUE
4:1	1000
62:1	2000
104:1	2000
231:1	2500

**NOTE:** To establish Torque Rating in nM, divide g.cm by 10,197.0



**944DMS SERIES 22mm PLANETRY (EPICYCLIC) MINIATURE METAL GEARBOX (PRECIOUS METAL BRUSHES)**

**GEARBOX DIMENSIONS**



GEARBOX REF.	L
944D41 (4:1)	14.4
944D621 (62:1)	21.7
944D1041 (104:1)	21.7
944D2311 (231:1)	25.35

**FOR ACCESSORIES TO FIT THIS SERIES GEARBOX, REFER TO 918D SERIES PAGE.**

<b>ADVANTAGES OF PLANETARY GEARBOXES.</b>	
<b>EFFICIENCY:</b>	Efficiencies of planetary gearboxes can be above 90% while some other types of transmission can be 50% or less. This allows the use of smaller motors.
<b>SIZE:</b>	Planetary gearboxes can be half the size of conventional boxes.
<b>WEIGHT:</b>	Weight savings can be as high as 60%, allowing smaller, lighter support structures.
<b>MAINTENANCE:</b>	Other than routine oil changes, no maintenance is required, eliminating the need to hold spares.
<b>REVERSIBLE:</b>	Planetary gears can be equally efficient in either direction. This is an advantage for use in running machinery in both clockwise and anti-clockwise directions.
<b>COAXIAL:</b>	The coaxial configuration of input and output shafts allows planetary gears to be installed in line with a motor and a machine.

Subject to minimum order quantities of 100 units, the following ratios are also available with a six week lead-time. The physical dimensions of these other gearboxes may vary from the data as illustrated above. Details of individual gearboxes are available upon request.

14:1	16:1	19:1
53:1	72:1	84:1
198:1	270:1	316:1
370:1	455:1	742:1
1014:1	1249:1	1621:1
1996:1		

**950D SERIES 35mm SINGLE RATIO METAL GEARBOX**

**(RE 385 MOTOR)**



**NEW!**

**RATIOS NOW AVAILABLE AS EX-STOCK ITEMS.**

**IMPORTANT NOTICE**  
Due to the wide range of applications for this product it is the users responsibility to establish the products suitability for their individual purpose(s).

950D2.51	(4.5v - 15v)	WITH RE 385 MOTOR. RATIO 2.5:1
950D61	(4.5v - 15v)	WITH RE 385 MOTOR. RATIO 6:1
950D111	(4.5v - 15v)	WITH RE 385 MOTOR. RATIO 11:1
950D501	(4.5v - 15v)	WITH RE 385 MOTOR. RATIO 50:1
950D1001	(4.5v - 15v)	WITH RE 385 MOTOR. RATIO 100:1
950D1481	(4.5v - 15v)	WITH RE 385 MOTOR. RATIO 148:1
950D5001	(4.5v - 15v)	WITH RE 385 MOTOR. RATIO 500:1
950D8101	(4.5v - 15v)	WITH RE 385 MOTOR. RATIO 810:1
950D30001	(4.5v - 15v)	WITH RE 385 MOTOR. RATIO 3000:1

Designed for heavy-duty industrial and model applications this robust unit boasts a powerful high quality, five pole motor with sintered bronze bearings. The metal gearbox incorporates sleeved bearings, enabling the high torque transfer from the motor to be transmitted through the gearbox. The unit is mounted on a 1mm thick plated steel bracket.

**MOTOR DATA. (RE-385)**

MODEL	VOLTAGE		NO LOAD		AT MAXIMUM EFFICIENCY						STALL TORQUE	
	OPERATING RANGE	NOMINAL	SPEED	CURRENT	SPEED	CURRENT	TORQUE		OUTPUT	EFF	TORQUE	
			R.P.M.	A	R.P.M.	A	oz - in	g - cm	W	%	oz - in	g - cm
RE - 385	6.0 - 15.0	12v CONSTANT	11000	0.155	9281	0.837		65.3	6.21	61.85		417.6

**REDUCTION TABLE. R.P.M.**

SUPPLY VOLTAGE	4.5v	6.0v	9.0v	12.0v	15.0v
950D2.51	1890	2520	3375	5040	6300
950D61	787	1050	1575	2100	2625
950D111	429	572	858	1145	1430
950D501	94	126	189	252	315
950D1001	41	55	83	110	138
950D1481	32	42	64	85	106
950D5001	8	11	17	22	28
950D8101	5	7	11	15	18
950D30001	1.5	2	3	4	5

WEIGHT	
950D2.51	146g
950D61	144g
950D111	146g
950D501	156g
950D1481	162g
950D8101	164g
950D30001	168g

RATED TOLERANCE TORQUE (g.cm)		MAX MOMENTARY TOLERANCE TORQUE
2.5:1	2000	6000
6:1	3000	9000
11:1	3000	9000
50:1	3000	9000
100:1	6000	18000
148:1	6000	18000
500:1	6000	18000
810:1	6000	18000
3000:1	6000	18000

**GEARBOX RATINGS**

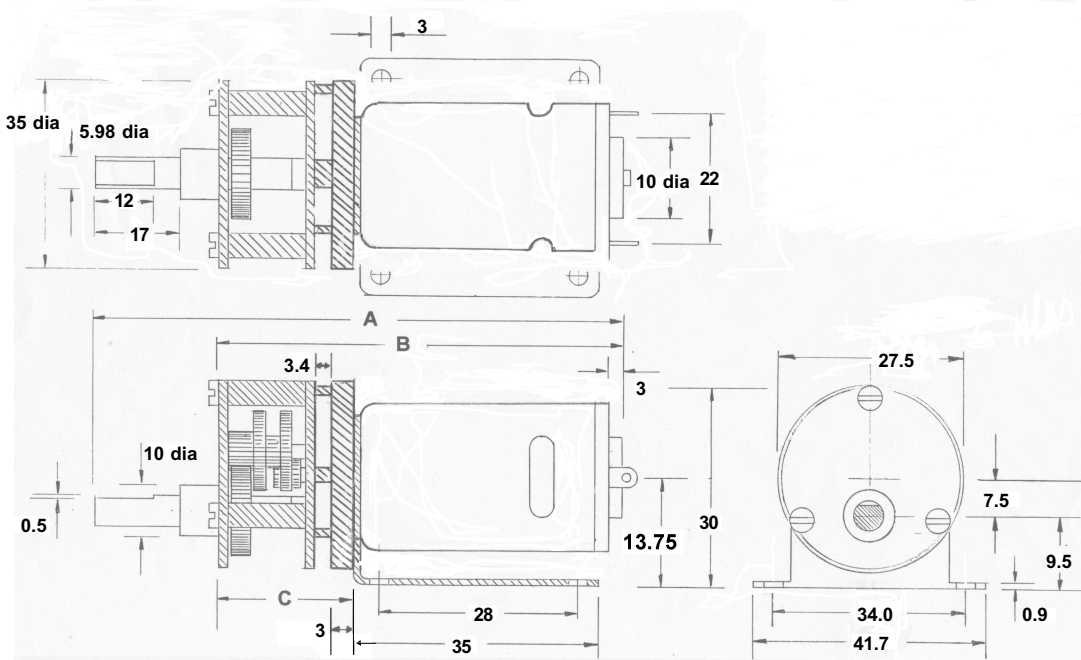
24 volt versions are available for this range of motor-gearboxes. Performance data is similar to 12 volt versions. This version also has an extended 10mm rear shaft to accommodate motor encoders. When ordering please use 12v version part number suffixed with 24V. I.E. 950D111 will be 950D11124V

NOTE: To establish Torque Rating in nM, divide g.cm by 10,197.0

**950D SERIES 35mm SINGLE RATIO METAL GEARBOX**

**(RE 385 MOTOR)**

**GEARBOX DIMENSIONS**



GEARBOX REF.	A	B	C
950D2.5:1	85	60	19
950D6:1 (6:1)	85	60	19
950D11:1 (11:1)	85	60	19
950D50:1 (50:1)	90	65	24
950D100:1 (100:1)	90	65	24
950D148:1 (148:1)	92	67	26
950D500:1 (500:1)	95	70	29
950D810:1 (810:1)	95	70	29
950D3000:1	102	74	31

**FOR ACCESSORIES TO FIT THIS SERIES GEARBOX, REFER TO 919D SERIES PAGE.**

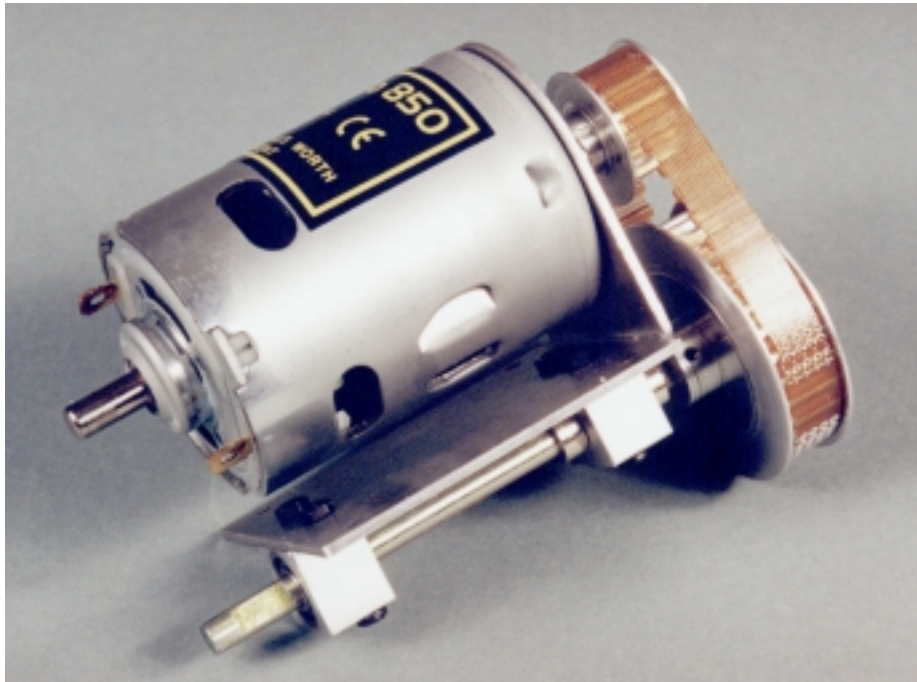
Subject to minimum order quantities of 250 units, the following ratios are also available with a six week lead-time. The physical dimensions of these other gearboxes may vary from the data as illustrated above. Details of individual gearboxes are available upon request.

GEARBOX 18:1 WITH 385 MOTOR.  
 GEARBOX 70:1 WITH 385 MOTOR.  
 GEARBOX 100:1 WITH 385 MOTOR  
 GEARBOX 200:1 WITH 385 MOTOR  
 GEARBOX 350:1 WITH 385 MOTOR  
 GEARBOX 500:1 WITH 385 MOTOR  
 GEARBOX 900:1 WITH 385 MOTOR  
 GEARBOX 3000:1 WITH 385 MOTOR

GEARBOX 30:1 WITH 385 MOTOR.  
 GEARBOX 75:1 WITH 385 MOTOR.  
 GEARBOX 120:1 WITH 385 MOTOR  
 GEARBOX 250:1 WITH 385 MOTOR  
 GEARBOX 400:1 WITH 385 MOTOR  
 GEARBOX 600:1 WITH 385 MOTOR  
 GEARBOX 1000:1 WITH 385 MOTOR

GEARBOX 60:1 WITH 385 MOTOR  
 GEARBOX 90:1 WITH 385 MOTOR.  
 GEARBOX 180:1 WITH 385 MOTOR  
 GEARBOX 300:1 WITH 385 MOTOR  
 GEARBOX 450:1 WITH 385 MOTOR  
 GEARBOX 700:1 WITH 385 MOTOR  
 GEARBOX 1500:1 WITH 385 MOTOR

**960D & 965D SERIES BELT DRIVE REDUCTION UNITS**



- Part No. 960D2.11 (RE 800 Motor)
- Part No. 965D2.11 (RE 850 Motor)
- Part No. 966D2.11 (Without motor)

This unit has been developed to meet a requirement for heavy duty high torque applications combined with relatively low power consumption.

The unit is powered by MFA/Como Drills 800 or MFA/Como Drills 850 series 12v d.c. 3 pole motors, with heavy duty carbon brush gear and double ended 6mm drive shaft. The motor is mounted on a rugged 1.5mm steel right angle bracket. The 2.1:1 reduction is achieved via two precision aluminium timing pulleys utilising a high quality toothed timing belt. The final drive is delivered through two block mounted precision ballraces with a 6mm keyed steel output shaft.

The RE800 motor version will deliver around 1229 g.cm torque (0.12 Nm) running at maximum efficiency. The RE850 motor version will deliver around 1380 g.cm torque (0.14 Nm) running at maximum efficiency.

**MOTOR DATA. (RE 800)**

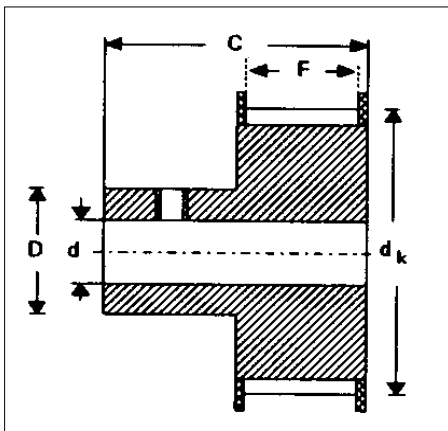
MODEL	VOLTAGE		NO LOAD		AT MAXIMUM EFFICIENCY						STALL TORQUE	
	OPERATING RANGE	NOMINAL	SPEED	CURRENT	SPEED	CURRENT	TORQUE		OUTPUT	EFF	STALL TORQUE	
			R.P.M.	A	R.P.M.	A	oz - in	mN-m	W	%	oz - in	mN-m
RE - 800	12.0v	12.0v CONSTANT	5167	1.058	4289	5.28		82.08	36.84	58.2		482.8

**MOTOR DATA. (RE 850)**

MODEL	VOLTAGE		NO LOAD		AT MAXIMUM EFFICIENCY						STALL TORQUE	
	OPERATING RANGE	NOMINAL	SPEED	CURRENT	SPEED	CURRENT	TORQUE		OUTPUT	EFF	STALL TORQUE	
			R.P.M.	A	R.P.M.	A	oz - in	mN-m	W	%	oz - in	mN-m
RE - 850	12.0v	12.0v CONSTANT	9778	1.90	8311	10.82		92.13	157	61.74		614



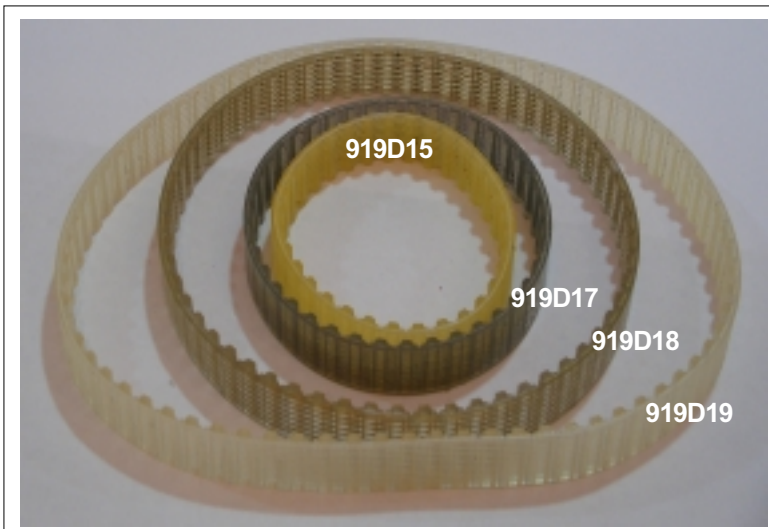
**Part No's. 919D7 - 919D14. TIMING PULLEYS.**



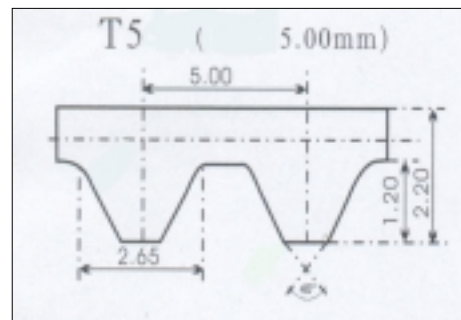
Part No.	No. of teeth	d mm	dk mm	F mm	C mm	D mm
919D7/10	10	3	15.05	12	21	10
919D7/12	12	3	18.25	12	21	12
919D7	14	4	21.45	12	21	12
919D8	16	4	24.60	12	21	15
919D9	20	4	31.00	12	21	15
919D10	25	4	39.00	12	21	15
919D11	30	4	46.95	12	21	15
919D12	35	4	54.85	12	21	15
919D13	40	4	62.85	12	21	15
919D14	44	4	69.20	12	21	15

Please note. Dimension 'd' is an industry standard 4mm pilot hole. You will need to enlarge this to the size you require.

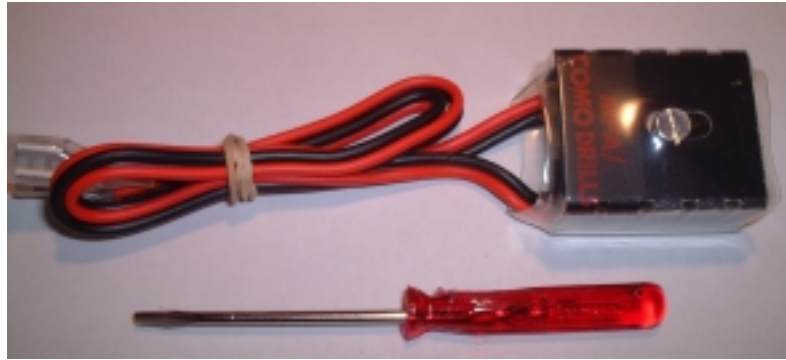
**Part No's. 919D15 - 919D23. TIMING BELTS.**



Part No.	Type	Length (Circumference)	Width
919D15	T5x165	165mm	9.8
919D16	T5x185	185mm	9.8
919D17	T5x200	200mm	9.8
919D18	T5x305	305mm	9.8
919D19	T5x390	390mm	9.8
919D20	T5x455	455mm	9.8
919D21	T5x545	545mm	9.8
919D22	T5x630	630mm	9.8
919D23	T5x840	840mm	9.8



**SPEED REGULATORS**



**PART NO. 919D2**

- \* *ALLOWS INFINITELY VARIABLE R.P.M. TO BE SET ON MFA/COMO DRILLS 919D SERIES GEARBOXES AND MOTORS.*
- \* *OPERATES FROM INPUTS OF 6 - 15 VOLT*
- \* *OUTPUT 0 - INPUT VOLTAGE*
- \* *PULSE WIDTH MODULATION PROVIDES PROPORTIONAL OUTPUT CONTROL.*
- \* *SMALL - COMPACT - ROBUST CONSTRUCTION FOR VERSATILITY AND RELIABLE SERVICE.*

**SPECIFICATION:-**

Min Input	6 volts	Input & output cables 21cm
Max Input	15volts	Insulated spade connectors fitted on input cables
Min Output	0 volts	Dims. 34 x 27 x 18 mm
Max Output	15 volts	Weight 30 gms approx.
Loading	3 amps continuous 5 amps peak only.	

(Input power supply must not be digital)  
 Supply and output cables are trimmed to 21 cm to meet current EMC regulations.  
 Edge to edge frequency, min 1136 Hz, max 1250 Hz, average 1200 Hz. Mark to space varies motor speed.

**ALSO AVAILABLE FOR COMO DRILLS 917D, 920D, 927D( 12v ), 918D, (918D - 12v), 940D, 941D & 950D SERIES GEARBOXES AND MOTORS.**

- PART NO. 917D9 (3 volt, 1.5 amp output)**
- PART NO. 917D10 (1.5volt, 1.5 amp output)**
- PART NO. 917D11 (4.5volt, 1.5 amp output)**

Allows the above 1.5 - 4.5 volt gearboxes/motors to be powered from the more convenient range of 6 - 15 volt DC supplies (transformer/rectifier or battery) instead of a 1.5 - 4.5 volt battery.

**Panel Mounted Variable Speed Regulator**

**Part No. 919D2P**

**Features**

- \* *Panel Mounted with external control knob.*
- \* *Allows infinitely variable R.P.M. to be set on MFA/Como Drills. 919D, 927D, 918D (12v), 940D, 941D & 950D series gearboxes and motors.*
- \* *Operates from inputs of 6-15 volt. (Input power supply must not be digital)*
- \* *Output 0 - input voltage.*
- \* *Pulse width modulated provides torque maintenance and proportional output control.*
- \* *Small - compact - robust construction for versatility and reliable service.*

**Specification:**

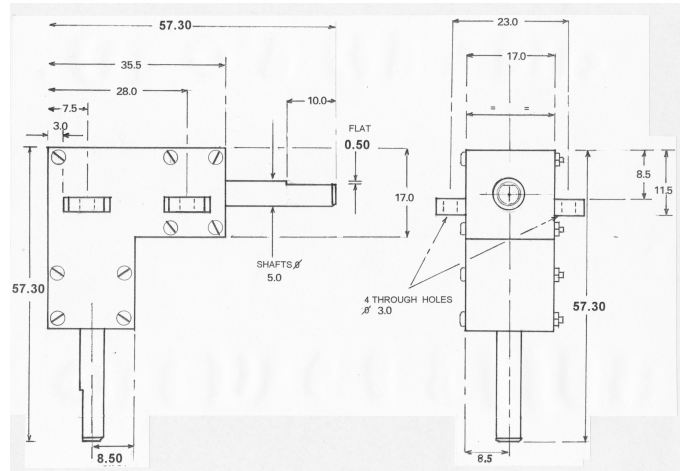
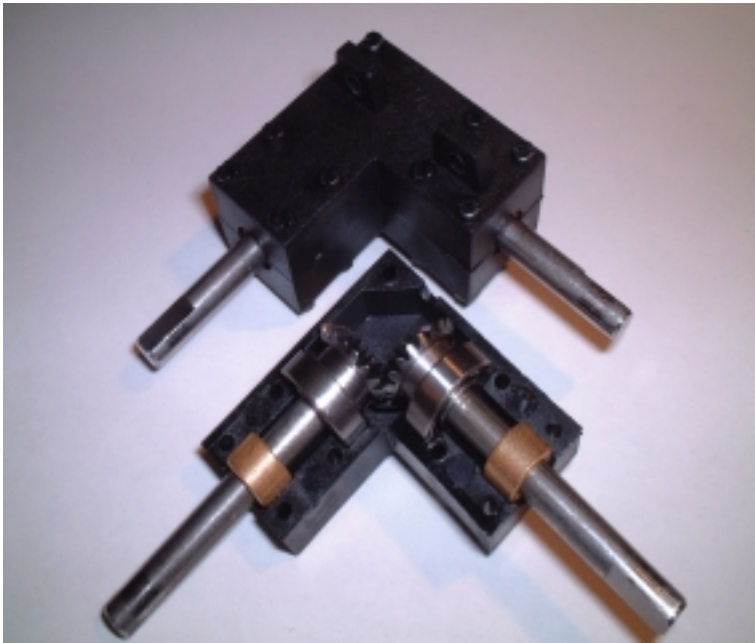
Min Input	6 volts	Dims 62mm x 41mm x 25mm (approx)
Max Input	15 volts	Weight 32 gms approx
Min Output	0 volts	
Max Output	3 amps	
Loading	3 amps continuous 5 amps peak only	



Supply and output cables must be trimmed to 21cm to meet current EMC regulations.  
 Edge to edge frequency, min 1136 Hz, max 1250 Hz, average 1200 Hz. Mark to space varies motor speed.



**BEVEL GEARBOX. PART NO. 919D24**



**BEVEL GEARBOX**

This unit has steel gears and shafts running in ballraces and scintered bronze bearings, 1 ball race and S B bearing per shaft. The former act also as thrust races protecting the bevel gears from external pressures of varying loads. The housing mouldings are 30% glass filled nylon for strength and have four pre-drilled mounting holes. Key flats are provided on both shafts.

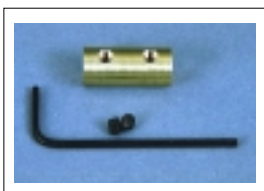
- \* 1:1 gear ratio \*
- \* Lubricated for life \*
- \* Designed for rugged service life \*

**Specification**

Weight: 42g  
 Backlash: 1 deg approx  
 Max input speed: 5000 r.p.m.

**Material**

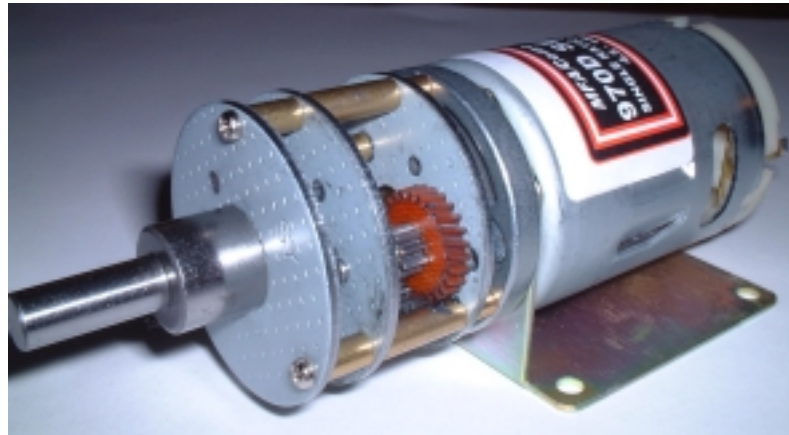
Case: 30% glass filled nylon  
 Gear: Mild steel: BS970:part 3:1991:230M07



**IN-LINE COUPLINGS:**  
 5 - 5mm Pt No. 919D1/5  
 5 - 6mm Pt No. 919D1/3

**970D SERIES 35mm SINGLE RATIO METAL GEARBOX  
(CENTRAL OUTPUT SHAFT)**

**(RE 540/1 MOTOR)**



**Metal Gearbox cover included with this series**

**IMPORTANT NOTICE**  
Due to the wide range of applications for this product it is the users responsibility to establish the products suitability for their individual purpose(s).

**RATIOS NOW AVAILABLE AS EX-STOCK ITEMS.**

970D61	(4.5v - 15v)	WITH RE 540/1 MOTOR.	RATIO 6:1
970D161	(4.5v - 15v)	WITH RE 540/1 MOTOR.	RATIO 16:1
970D471	(4.5v - 15v)	WITH RE 540/1 MOTOR.	RATIO 47:1
970D1561	(4.5v - 15v)	WITH RE 540/1 MOTOR.	RATIO 156:1
970D7501	(4.5v - 15v)	WITH RE 540/1 MOTOR.	RATIO 750:1
970D28121	(4.5v - 15v)	WITH RE 540/1 MOTOR.	RATIO 2812:1

Designed for heavy-duty industrial and model applications this robust unit boasts a powerful high quality, three pole motor with sintered bronze bearings. The metal gearbox incorporates sleeved bearings, enabling the high torque transfer from the motor to be transmitted through the gearbox. The unit is mounted on a 1mm thick plated steel bracket.

**MOTOR DATA. (RE-540/1)**

MODEL	VOLTAGE		NO LOAD		AT MAXIMUM EFFICIENCY						STALL TORQUE	
	OPERATING RANGE	NOMINAL	SPEED	CURRENT	SPEED	CURRENT	TORQUE		OUTPUT	EFF		
			R.P.M.	A	R.P.M.	A	oz - in	g - cm	W	%	oz - in	g - cm
RE - 540/1	4.5 - 15.0	6.0v CONSTANT	7500	0.45	6180	2.1	1.64	118.2	7.49	59.4	9.31	670
		12.0v CONSTANT	15800	0.52	13360	2.85	2.14	154.4	21.2	61.9	13.9	1000

**REDUCTION TABLE. R.P.M.**

SUPPLY VOLTAGE	4.5v	6.0v	9.0v	12.0v	15.0v	Direction of rotation
970D61	800	1050	1700	2150	2900	ACW
970D161	228	500	700	900	1250	CW
970D471	106	144	216	350	450	ACW
970D1561	32	44	68	94	124	CW
970D7501	7	9	14	19	23	CW
970D28121	2	3	4	5	7	ACW

WEIGHT	
970D61	247g
970D161	252g
970D471	257g
970D1561	261g
970D7501	270g
970D28121	271g

**GEARBOX RATINGS**

RATED TOLERANCE TORQUE (g.cm)		MAX MOMENTARY TOLERANCE TORQUE
6:1	1000	3000
16:1	2000	6000
47:1	3000	9000
156:1	6000	18000
750:1	6000	18000
2812:1	6000	18000

NOTE: To establish Torque Rating in nM, divide g.cm by 10,197.0

24 volt versions are available for this range of motor-gearboxes. Performance data is similar to 12 volt versions. This version also has an extended 10mm rear shaft to accommodate motor encoders. When ordering please use 12v version part number suffixed with 24V. I.E. 919D111 will be 919D11124V