Gearboxes

- Suitable for use with the dc servo, ac synchronous and four phase stepper motors, 147-878, 147-879.
- Based on the international ovoid standard
- Internal components provide high efficiency and reliable operation in applications demanding long life.

Body: H = 63, W = 50, D = 16.5,
Shaft = 10 4 dia

When used with synchronous and stepper motors, 147-878, 147-879, the motors must be ordered without mounting ears fitted. Supplied with full instructions.

The motor pinion may be fitted to the motor using Loctite Grade 601 (Order Code 146-317), see **Page 7.**

Ratio	dc Servo Speed RPM	Sync Motor Speed	Stepper Motor Step Angle	Order Code
25:3	360	30 RPM	0.9°	147-880
25:2	250	20 RPM	0.6°	147-881
25:1	120	10 RPM	0.3°	147-882
50:1	60	5 RPM	0.15°	147-883
125:1	25	2 RPM	0.06°	147-884
250:1	12	1 RPM	0.03°	147-885
1,250:1	2.5	12 revs/hr.	0.36'	147-886
15,000:1	0.2	1 rev/hr.	0.03'	147-887

FM13

Ratio	Order Code	Price Each 1+	10+	25+	50+
25:3	**147-880**				
25:2	**.147-881**				
25:1	**.147-882**				
50:1	**.147-883**				
125:1	**.147-884**				
250:1	**.147-885**				
1,250:1	**147-886**				
15,000:1	**.147-887**				

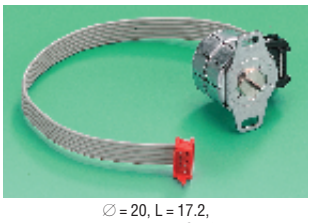
Stepper Motors

A range of 7.5° and 1.8° bi-directional stepper motors suitable for any application that requires accurate positioning and accurate repeatability of that position. Applications include: Gaming machines, vending machines, peristaltic pumps, printers, photo-copiers, plotters, welding machines, N.C machines, computer peripherals etc.

FM18

Miniature, Four Phase Unipolar, 18°

Burgess



∅ = 20, L = 17.2,
Fixing centres = 25, Shaft = 6.2

- Compact body size, 20mm diameter, 17.2mm long with screw lugs at 25mm centres
- Bi-directional operation
- Robust permanent magnet tin can construction
- 1.5mm diameter hardened ground and polished steel shaft
- Long life self-lubricating sintered bronze bearings
- Complete with 150mm Ribbon cable terminated with an AMP 6 way Micro MaTch connector

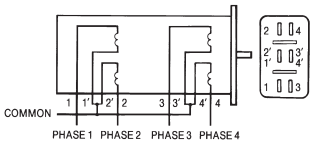
Step Angle	18°	Detent Torque	0.14cNm
Resistance per Phase	170Ω	Power consumption per phase	0.74W
Holding Torque	0.7cNm	Rated Voltage	12 Volts

mot193

Order Code	Price Each 1+	5+	10+	25+
318-5000				

Four Phase Unipolar, 7.5°

AIRPAX



Body: L = 25, Dia. = 51, Shaft = 8.2 3.0 dia. Fix. Cent. = 60.2 3.5 dia (if mounting ears fitted)

- Designed for operation within the pull-in area giving optimum torque and speed
- Bifilar wound coils
- Connections arranged to permit only one RC Network to improve current rise time when used with the SAA1027 driver IC
- Available with or without mounting ears
- Gearboxes available **Page 1046**

Step angle	7°30'	Resistance per Phase	65Ω
Maximum working torque	20mNm	Power consumption	3.8W
Holding torque	28mNm	Current per coil	175mA
Maximum pull-in rate	240 steps/s		

Shaft Dia.	Mftrs. List No.	Order Code
3.0	9904-112-31004	147-878 or 147-879

FM12

	Order Code	Price Each 1+	5+	25+	100+	500+
With mounting ears	**147-878**					
Without mounting ears	**147-879**					

Ferrite stepper motors (Geared) 7.5°

Crouzet

New

MOT212

ZPHASE Ratio	Order Code	Price Each 1+	3+	10+
10	**309-0322**			
12.5	**309-0401**			
20	**309-0334**			
25	**309-0383**			
4 Phase				
10	**309-0346**			
12.5	**309-0413**			
20	**309-0358**			
25	**309-0395**			

Permanent magnet stepper motor
48 Step/Revolutionr (7.5°) – Ø 65mm

Crouzet

- Very long life
- Optimization of the speed/torque characteristics
- Application: positioning

New

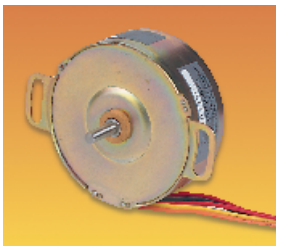
Characteristics

		2	4
Number of phases			
Power consumption	W	12.5	12.5
Electronic control used	Bipolar	●	-
	Unipolar	-	●
Resistance per phase	Ω	26.7	7.4
Inductance per phase	mH	93	11
Intensity per phase	A	0.48	0.9
Holding torque	mN.m	300	240
Voltage at the motor's terminals	V	12.7	6.7
Step angle	°	7.5	7.5

MOT213

	Order Code	Price Each 1+	3+	10+
2 Phase Bi-Polar	**309-0360**			
4 Phase VNI-Polar	**309-0371**			

Permanent Magnet 7.5° Step Angle



- 4 phase permanent magnet construction
- Ideal for low speed applications
- Long life sintered bronze bearings
- 6 leads – can be bipolar or unipolar driven

L = 25.4, Dia = 57
Shaft = 13.5 4.0 dia,
Fix Cent = 66.7 4.3 slots

Rated voltage	12V	Detent torque	15mNm
Rated current	0.33A/phase	Holding Torque	85mNm
Resistance per phase	36Ω	Step Angle	7.5° ± 30' (at rotor shaft)
Inductance per phase	30mH	Temperature range	-20°c to +70°c (ambient)

FOR SUITABLE STEPPER MOTOR CONTROLLERS SEE **PAGE 1047**

FM19

Order Code	Price Each 1+	10+	25+	50+
575-653				

1046 Electronic, Electrical and Mechanical Prices are in Singapore Dollars and exclusive of GST