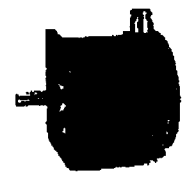




Zebotronics® Stepping-Motors

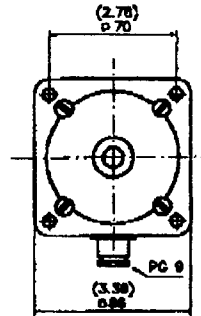
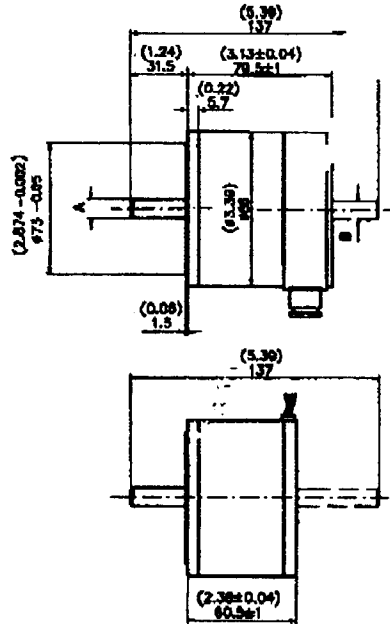


A product of Wild & Grabmaier Feinmechanik u. Elektronik KG

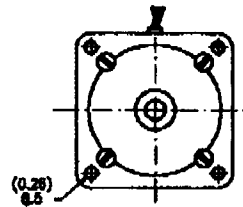
SM 86.1.18

Dimensions (inch) mm

	Version	
	M	J
A (-0.0008) -0,02	(0,394) 10	(0,375) 9,52
B (-0.0008) -0,02	(0,394) 10	(0,375) 9,52



with cast connection box



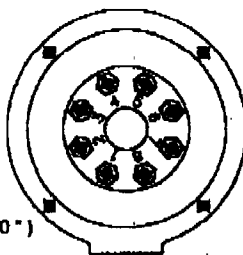
leads design

leads length - 300 (11,80)

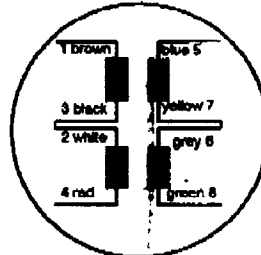
Mounting holes equally spaced on Ø 90 (3,59)

Electric connections

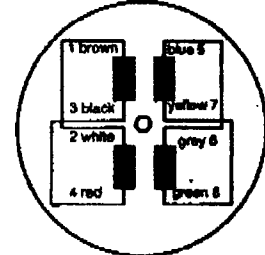
Cast connection
Standard : Bipolar bridged



Cast connection



unipolar



bipolar

Leads design
Standard : 8 leads - 300mm (11,80")

Type

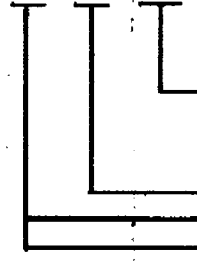
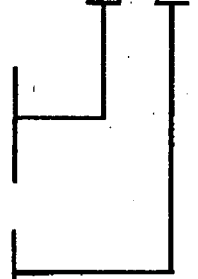
Standards
SM 86.1.18

Options

Example
SM 86.1.18 ML 5 N E50

Protection	Connection	Dimension
IP 55	Cast connection box	metric M
		inch J
IP 41	Leads design	metric ML
		inch JL

Current / Phase	A
	1,6
	3
	5



E 200	Encoder 2 x 200 pulse/rev.
E 50	Integrated motor control

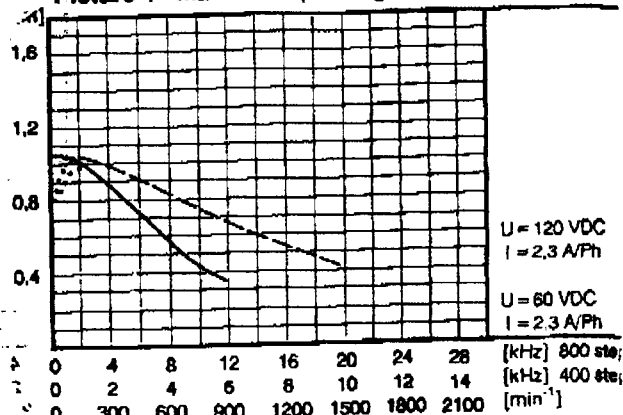
N	keyway according to DIN 9885
W	Second shaft
Z	Custom made version

Version with cast connection box also available in IP 68

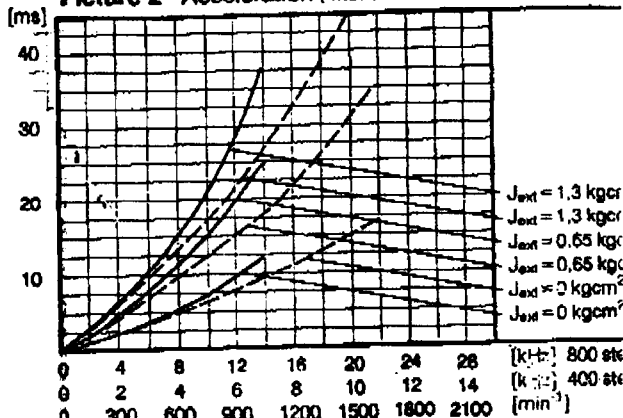
Edition April 91 / Subject to change

SM 86.1.18 M 1,6		
Electrical Data	Phase resistance	2,9 Ohm
	Phase inductance	6 mH
	Phase current A unipolar	1,8 A
	Phase current A bipolar	2,3 A
	Isolation class F	F
Mechanical Data	Step angle	1,8° ± 3%
	Holding torque	1,3 Nm
	Detand torque	0,028 Nm
	Max. 1,8° Start frequency	1 kHz
	Max. 1,8° Operating frequency	10 kHz
	Rotor inertia	0,65 kgcm ²
	Bearing thrust load	180 N
	Bearing overhang load	280 N
	Weight	1,7 kg
Max. operating temperature	110° C	

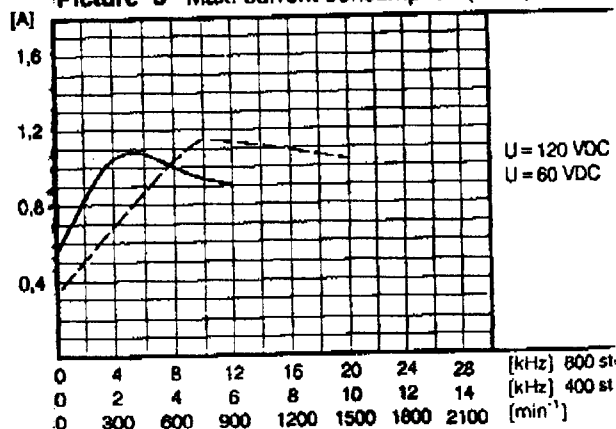
Picture 1 Maximum operating torque



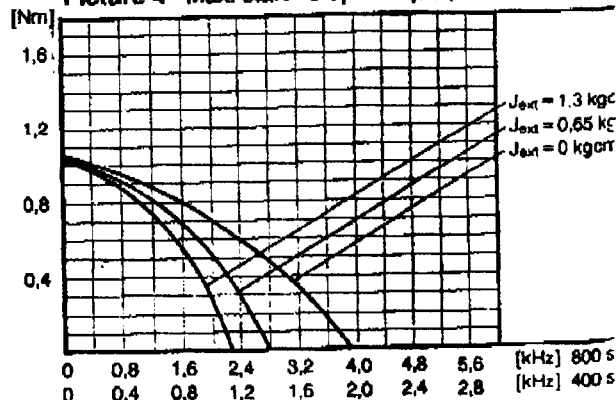
Picture 2 Acceleration (with ext. ratio J_{ext.})



Picture 3 Max. current consumption (from power-supl)



Picture 4 Max. start - stop - torque (with ext. ratio J_{ext.})



mea
typic

measured with:
typical values

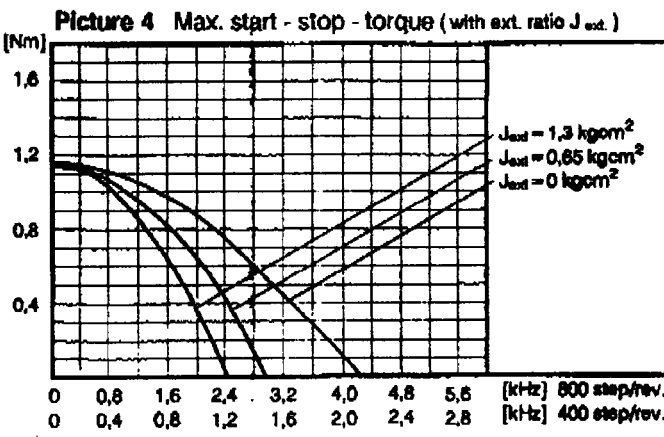
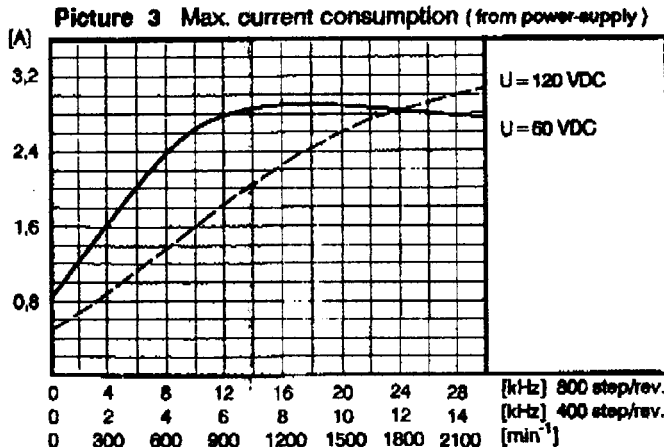
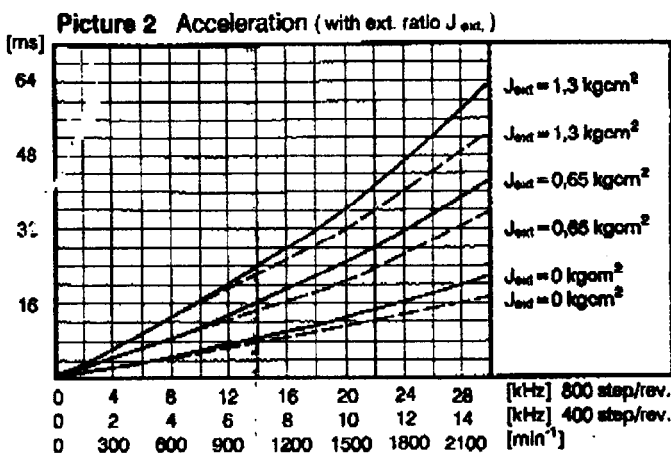
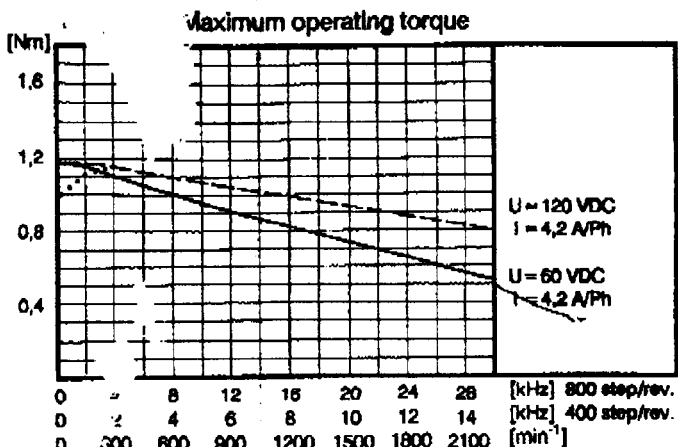
— SE 800.04.60
- - - SE 800.04.120
..... without boost

SM 86.1.18 M 3

Electrical Data	Phase resistance	0,72 Ohm
	Phase inductance	1,6 mH
	Phase current A unipolar	3 A
	Phase current A bipolar	4,2 A
	Isolation class F	F
Mechanical Data	Step angle	1,8° ± 3 %
	Holding torque	1,3 Nm
	Detent torque	0,026 Nm
	Max. 1,8° Start frequency	1 kHz
	Max. 1,8° Operating frequency	14 kHz
	Rotor inertia	0,65 kgcm ²
	Bearing thrust load	180 N
	Bearing overhang load	280 N
	Weight	1,7 kg
	Max. operating temperature	110° C

measured with:
typical values

— SE 800.04.60
- - - SE 800.04.120
..... without boost



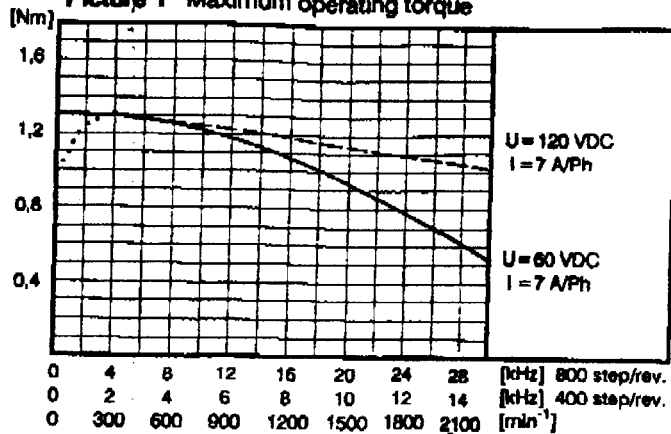
SM 86.1.18 M 5

Electrical Data	
Phase resistance	0,28 Ohm
Phase inductance	0,7 mH
Phase current A unipolar	5 A
Phase current A bipolar	7 A
Isolation class F	F
Mechanical Data	
Step angle	1,8° ±3 %
Holding torque	1,3 Nm
Detand torque	0,026 Nm
Max. 1,8° Start frequency	1,15 kHz
Max. 1,8° Operating frequency	20 kHz
Rotor inertia	0,65 kgcm ²
Bearing thrust load	180 N
Bearing <i>max. overhang</i> load	280 N
Weight	1,7 kg
Max. operating temperature	110° C

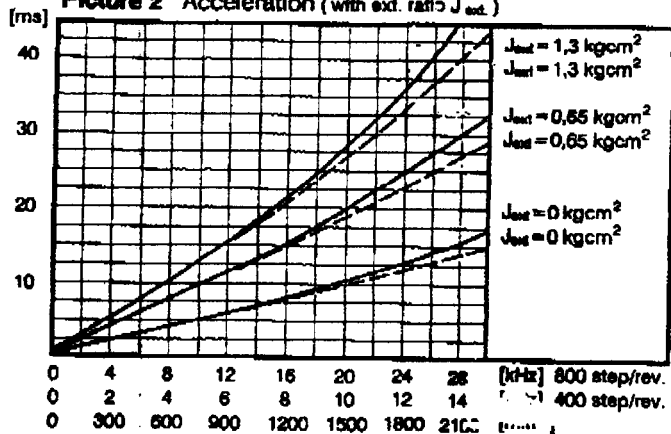
measured with:
typical values

———— SE 800.06.60
- - - - - SE 800.06.120
..... without boost

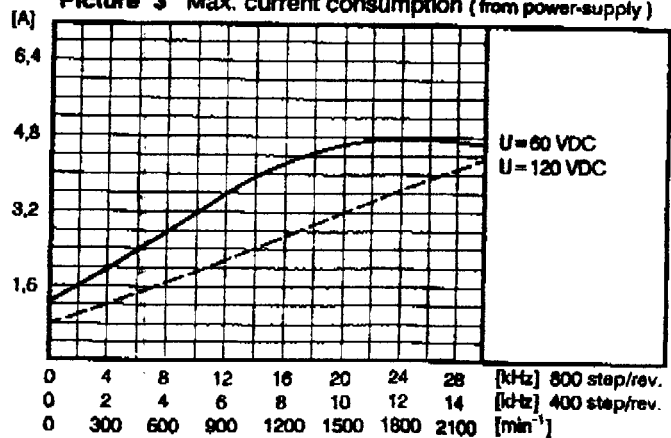
Picture 1 Maximum operating torque



Picture 2 Acceleration (with ext. ratio J_{ext.})



Picture 3 Max. current consumption (from power-supply)



Picture 4 Max. start - stop - torque (with ext. ratio J_{ext.})

