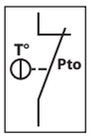
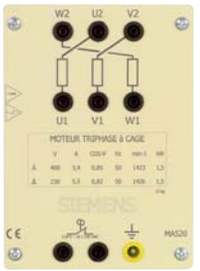
Rotary machines **300W RANGE**

3-PHASE SQUIRREL CAGE INDUCTION MOTOR





This engine works as well with a speed variator as directly connected to a 3-phase supply.

REF	U (V)	I (A)	H	B	L	Weight
MAS12*	230/400V	1.5 / 0.9	90	172	235	8.2kg
MAS42*	400V/690V	0.9 / 0.5	90	172	235	8.2kg

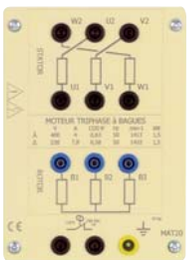
*IE2 see the specifications Page 58

STAR/DELTA STARTER

Manual STAR/DELTA starter into a safety box

ref. CO-ET-8A

3-PHASE ASYNCHRONOUS SLIP RING INDUCTION MOTOR



REF	U (V)	I (A)	H	B	L	Weight
MAT10	230/400V	2.3/1.33	90	172	300	9kg

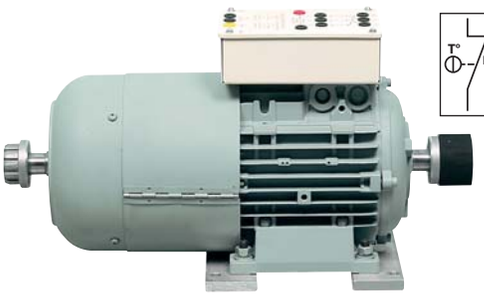
SAFETY STARTER RHEOSTAT

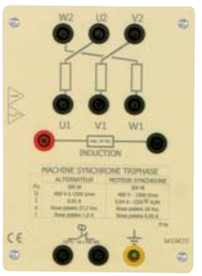
Safety starter rheostat for **low** powerful slip ring machines

ref. RD3

Each machine is equipped with a binary temperature sensor with a contact that can be inserted into a control circuit.

3-PHASE SYNCHRONOUS MACHINE





Works as a synchronous motor and 3-phase alternator.
Equipped with LEBLANC poles for the mains network synchronization

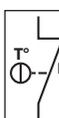
REF	U (V)	H	B	L	Weight
MSM10	230/400V	90	172	420	15kg

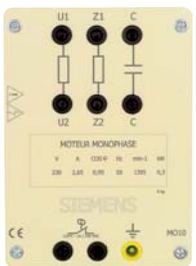
SYNCHRONOSCOPE

Safety laboratory synchronoscope
16A - 400V max.

ref. CHR3

SINGLE PHASE MOTOR WITH 2 CAPACITORS

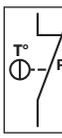




2 capacitors, 1 starting and 1 running

REF	U (V)	I (A)	H	B	L	Weight
MO10	230V	2.6A	90	172	295	9kg

SHUNT / SEPARATED DC MOTOR 220/220V

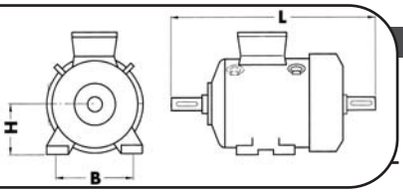


This engine works as well with a **speed variator** as directly connected to a DC supply

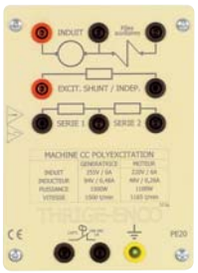
REF	U (V)	I (A)	H	B	L	Weight
CC10	220/220V	2A sous 230V	90	172	390	21kg

Rotary machines

The couplings are compatible across a single power range.
Coupling and fastening screws provided with each reference number.



POLYEXCITATION (COMPOUND) MOTOR



Designed to be high-performance motor (characteristics below), this machine also work as a generator.

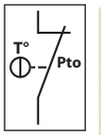
REF	U (V)	I (A)	H	B	L	Weight
PM10	220V	2.2A	90	172	420	26kg

STARTER RHEOSTAT

Safety starter rheostat for **low** powerful DC machines

ref. RDC

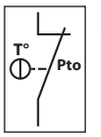
SHUNT / SEPARATED DC GENERATOR

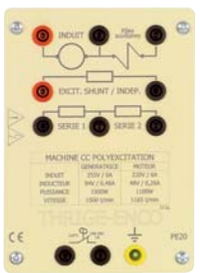


Designed for a didactic use.

REF	U (V)	I (A)	H	B	L	Weight
CG10	220V	1.45A	90	172	420	26kg

POLYEXCITATION (COMPOUND) GENERATOR

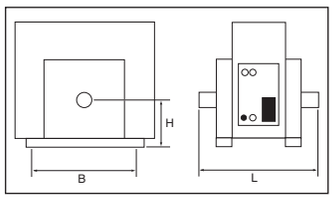




Designed to be high-performance generator (characteristics below), this machine also work as a motor.

REF	U (V)	I (A)	H	B	L	Weight
PE10	220V	1.45A	90	172	420	26kg

POWDER BRAKE

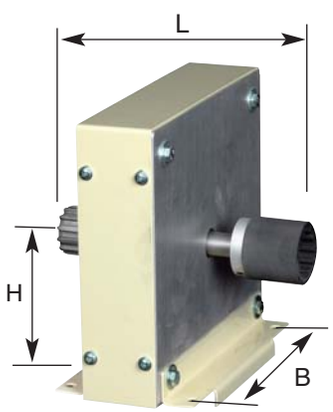


POWDER BRAKE PRINCIPLE

The DC current injected into the brake coil creates a field which causes the magnetic powder placed in the air gap to agglomerate. The braking torque is proportional to the field current alone; in particular it is independent of the speed of rotation. Waste heat is eliminated by natural ventilation. A circuit breaker cuts the field current in the event of the brake overheating.
This brake is always mounted in balance so that it can be equipped with a static sensor with a strain gauge. Additionally, it is delivered on guide rails (Ref ST10) with housings, couplings and screws.

Ref.	FP1
Voltage/Current max for blocking	2V / 0.1A
Max torque	35Nm
H / B / L in mm	90x172x240
Weight	12kg
Ventilation	Natural

INERTIA WHEEL FOR 300W MACHINES



This inertia wheel allows to simulate rotary machines with a high moment of inertia.
Supplied with 1 coupling + 1 cover + screws.

Ref.	VOL1
Inertia	0,025kgm²
Weight	10kg
H	90mm
B	172mm
L	111mm

Fault finding in motor

SEE PAGE 180

Rotary machines **300W RANGE**

DISPLAYS PAGES 86 AND 87

TORQUE SENSORS FOR 300W MACHINES

STANDARD VERSION

This family of brush sensors operates as 4-resistor measurement bridge changing value linearly according to the torque.
JA: Sensor designed for mounting only on particle brakes.
CR: Rotary sensor for installing between 2 machines, for measuring the torque by torsion, even when greatly variable.
Maximum recommended speed of rotation 1500 rpm to prevent early wear.
Connecting cable and protection casing supplied.
Compatibility with other systems explained in the instructions.

Ref	Sensor design	Sensor range	L	Use with an important inertia	Movement
JA1	Static	4Nm	/	yes	Buckling
CR1	Rotary	20Nm	140	yes	Torsion

BRUSHLESS VERSION

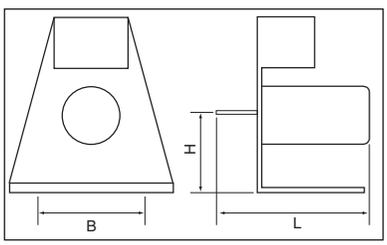
Rotary sensor for installing between 2 machines, for measuring the torque by torsion, even when greatly variable.
Contactless technology, using optical measurement, enables rotation speeds of 3000 rpm and all maintenance free.
It should be powered between 12 and 28 V DC to obtain a 'high level' measurement in voltage from 0 to 10 V full scale.
The sign depends on the direction of rotation. Connecting cable and protection casing supplied.

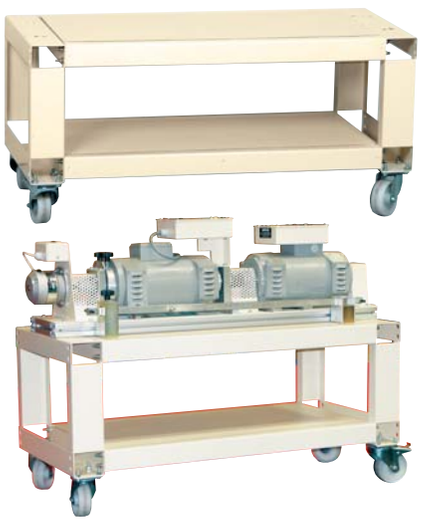
Ref	Sensor design	Range	Use with an important inertia	Output voltage
CR1-V2	Rotary	50Nm	yes	± 5V for 20Nm

DC TACHOGENERATOR FOR 300W MACHINES

This tachogenerator delivers a continuous voltage proportional to the rotating speed.
Supplied complete with couplings, housings and screws bolts

Ref.	Voltage at 1000 rpm	Connector	H	B	L
DYTA1	20V	Safety terminals	90mm	172mm	170mm





MOTOR STAND ON WHEELS

Designed to transport a complete set of machines. 4 wheels, 2 of them with a brake.

Ref.	Usefull Length	Width	Height	Weight
CTB	1300mm	470mm	500mm	30kg
CTC	1610mm	470mm	500mm	39kg
CTH	1610mm	470mm	845mm	45kg

GUIDE RAILS WITH COVERS AND FASTENINGS

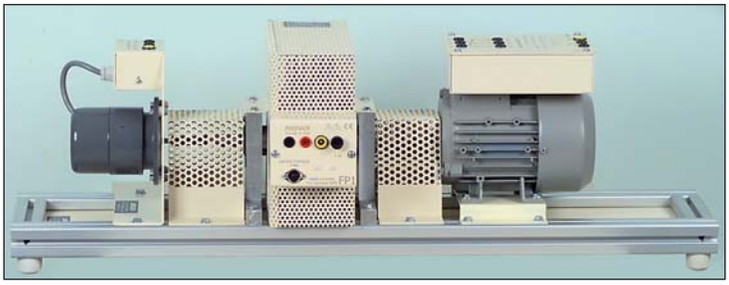
These rails will be used for aligning and fixing the machines constituting of the made up groups according to your own configuration. With each pair of guide rails are included 2 end of shaft protective covers and 1 intermediate housing.
FP1 powder brake is always fitted with its own rails ST10.

Ref.	Overall length	Pitch of rails	Weight
ST10	1100mm	172mm	7kg
STL	1450mm	172mm	8kg

Complete 1500rpm rotating units **300W RANGE**

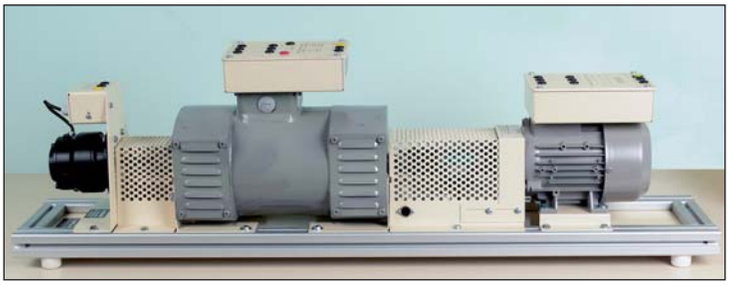
Consisting of machines whose features are shown in the previous pages, these are the most commonly used units in the field of education.
300W units: supplied complete with couplings, housings and guide rails (ST10).
Each machine is equipped with a binary temperature sensor with a contact that can be inserted into a control circuit.

COMPLETE AC 1500RPM ROTATING UNIT AC 3-PHASE SQUIRREL CAGE MOTOR + BRAKE



REF.		GM56-300	GM57-300
MAS12	3-phase squirrel cage motor	▪	▪
FP1	Powder brake	▪	▪
JA1	Static sensor	▪	
CR1	Rotary sensor		▪
DYTA1	DC tachogenerator	▪	▪
ST10	Guide rails	▪	▪

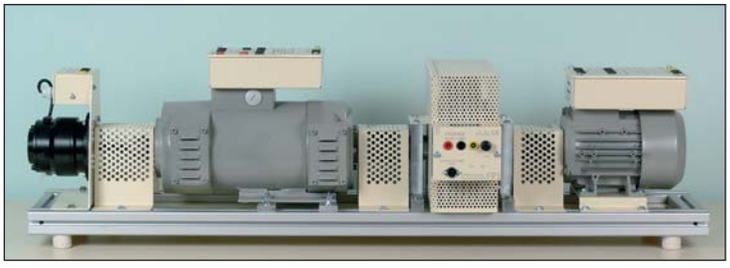
COMPLETE AC 1500RPM ROTATING UNIT AC 3-PHASE SQUIRREL CAGE MOTOR + ALTERNATOR



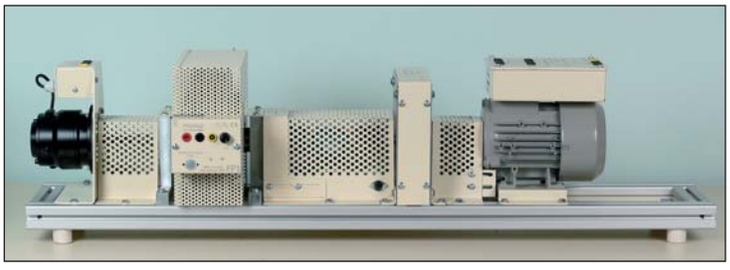
REF.		GM70-300
MAS12	3-phase squirrel cage motor	▪
MSM10	3-phase synchronous machine	▪
CR1	Rotary sensor	▪
DYTA1	DC tachogenerator	▪
ST10	Guide rails	▪

ALL UNITS, WHETHER STANDARD OR COMPOSITE, ARE SUPPLIED ALREADY ASSEMBLED, TESTED AND READY FOR OPERATION.

EXAMPLES OF COMPLETE UNITS MADE TO MEASURE



MAS12	3-phase squirrel cage motor
FP1	Powder brake
CR1	Rotary sensor
CG10	Shunt separated generator
DYTA1	DC tachogenerator
ST10	Guide rails



MAS12	3-phase squirrel cage motor
VOL1	Inertia wheel
JA1	Static sensor
FP1	Powder brake
DYTA1	DC tachogenerator
ST10	Guide rails