- CONTROL PANEL TRANSFORMERS
- CHOKES TRANSFORMERS
- AUTO STARTER TRANSFORMERS
- SPECIAL TYPES TRANSFORMERS

TRANSFORMERS

PRODUCT GUIDE

CONTROL PANEL TRANSFORMERS

Control transformer are used for controlling power supply, local lighting and indicting power supply for general electrical apparatus in machine tool and mechanical equipment and in the circuit of AC 50~60Hz.

- Conforms to EN60742, IEC742 CE, IEC61558
- Frequency Range 50/60 Hz
- Terminal Block Connection
- Good Access to Fixing Flanges
- Continuous Duty
- Full varnish impregnation for silent running
- Single phase up to 5kVA

Main technical parameter

Rated capacity	25 ~ 5kVA
Rated frequency	50~60Hz
Primary voltage	220V, 380V (or according to the customer's request)
Secondary voltage	6.3V, 12V, 24V, 36V, 110V, 127V, 220, 380V (or according to the customer's request)

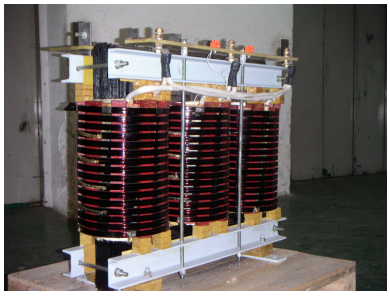
CHOKES TRANSFORMERS

Chokes reactors are used for occasional starting in under loading and heavy load of three-phase AC winding asynchronous motor of power 2.2 ~ 2240kW, 50Hz

SPECIAL TYPES TRANSFORMERS

In addition to our standard ranges of transformers we also manufacture many special transformers and coils. These include spot welding transformers, transformer/rectifier units, voltage transformers, D.C. braking transformers and special coils to customer's requirements.

Our range of manufacture includes transformers for high voltage applications with test levels of up to 100kV. We also manufacture A.C. De-tuning reactors and power factor correction capacitor load banks.



AUTO STARTER TRANSFORMERS

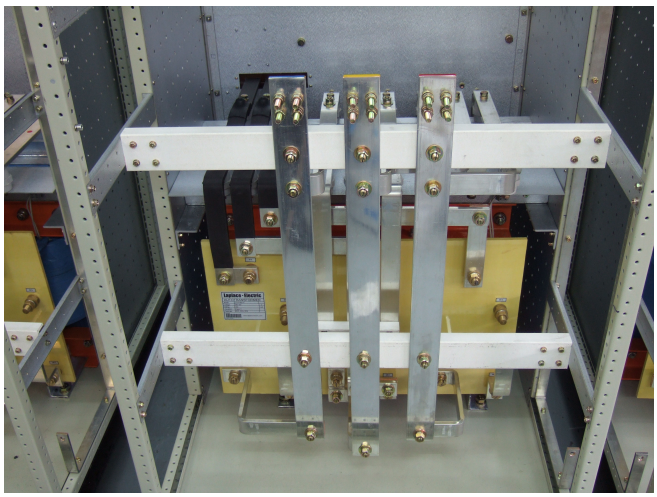
Auto starter transformers is applicable to AC 50Hz three-phase squirrel cage induction motor with rated voltage of 380V, rated output capacity of 450kW and below for reduced-voltage starting under intermittent duty. It makes use of voltage reduction feature of the transformer to reduce motor starting current so as to relief influence of motor starting current on power transmission network

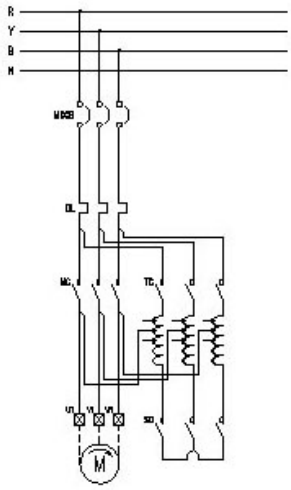
- ☞ Conforms to BS4941, EN 60947-4
- ☞ Frequency Range 50/60 Hz
- ☞ Open type with stud terminals
- ☞ Three phase up to 450kW

Main technical parameter

Rated capacity	15kW ~ 450kW
Rated frequency	50 ~ 60Hz
Primary voltage	380V, 415V (or according to the customer's request)
Tappings	65% & 80% (or according to the customer's request)

AUTO STARTER TRANSFORMERS



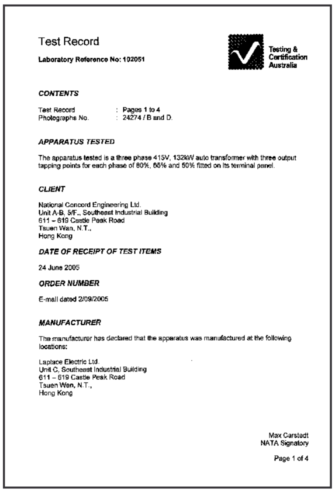


	Rating		Max. Starter		Dimensions		
Part No.	(kW)	(A)	time(s)	Insulation	Width	Height	Depth
LE-ATX15	15	28	60	F / H	250	190	140
LE-ATX22	22	44	60	F / H	280	225	135
LE-ATX30	30	60	60	F / H	280	235	140
LE-ATX45	45	90	60	F / H	285	225	185
LE-ATX55	55	110	60	F / H	320	270	170
LE-ATX75	75	142	60	F / H	340	270	175
LE-ATX90	90	200	80	F / H	370	270	240
LE-ATX110	110	230	80	F / H	370	270	243
LE-ATX160	160	310	80	F / H	400	340	245
LE-ATX200	200	370	80	F / H	400	340	270
LE-ATX225	225	410	80	F / H	420	345	270
LE-ATX260	260	475	80	F / H	450	345	290
LE-ATX300	300	535	80	F / H	450	345	290
LE-ATX350	350	665	80	F / H	470	350	295
LE-ATX400	400	755	80	F / H	470	350	295
LE-ATX450	450	790	80	F / H	485	365	305

Type Test Certificate

Laplace's Auto-transformer was type tested in Testing & Certification Australia (TCA) which is ASTA accredited Laboratory

Test
1. Insulation Test
2. Voltage Ratio Test
3. Functional Test



Test Record

Laboratory Reference No: 102051

Testing & Certification Australia

CONTENTS

Test Record : Pages 1 to 4
Photographs No. : 24274 / B and D.

APPARATUS TESTED

The apparatus tested is a three phase 415V, 132kW auto transformer with three output tapping points for each phase of 80%, 65% and 50% fitted on its terminal panel.

CLIENT

National Concord Engineering Ltd.
Unit A-B, 5/F., Southeast Industrial Building
611 – 619 Castle Peak Road
Tsuen Wan, N.T.,
Hong Kong

DATE OF RECEIPT OF TEST ITEMS

24 June 2005

ORDER NUMBER

E-mail dated 2/09/2005

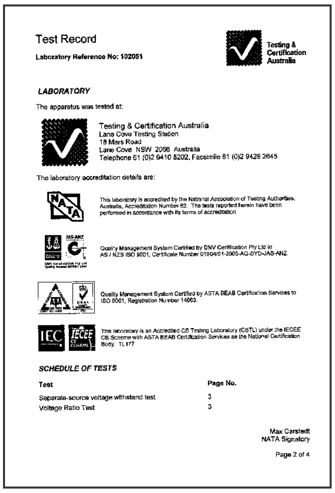
MANUFACTURER

The manufacturer has declared that the apparatus was manufactured at the following locations:

Laplace Electric Ltd.
Unit C, Southeast Industrial Building
611 – 619 Castle Peak Road
Tsuen Wan, N.T.,
Hong Kong

Max Carstedt
NATA Signatory

Page 1 of 4



Test Record

Laboratory Reference No: 102051

Testing & Certification Australia

LABORATORY

The apparatus was tested at:

Testing & Certification Australia
Lane Cove Testing Station
18 Mars Road
Lane Cove NSW 2066 Australia
Telephone 61 (0)2 9410 5202, Facsimile 61 (0)2 9428 2645

The laboratory accreditation details are:

This laboratory is accredited by the National Association of Testing Authorities, Australia, Accreditation Number 62. The tests reported herein have been performed in accordance with its terms of accreditation

Quality Management System Certified by DNV Certification Pty Ltd to AS / NZS ISO 9001, Certificate Number 01904/01-2005-AQ-SYD-JAS-ANZ.

Quality Management System Certified by ASTA BEAB Certification Services to ISO 9001, Registration Number 14063.

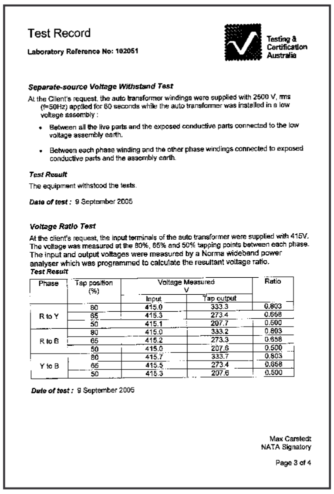
This laboratory is an Accredited CB Testing Laboratory (CBTL) under the IECEE CB Scheme with ASTA BEAB Certification Services as the National Certification Body. TL177

SCHEDULE OF TESTS

Test	Page No.
Separate-source voltage withstand test	3
Voltage Ratio Test	3

Max Carstedt
NATA Signatory

Page 2 of 4



Test Record

Laboratory Reference No: 102051

Testing & Certification Australia

Separate-source Voltage Withstand Test

At the Client's request, the auto transformer windings were supplied with 2500 V, rms (f=50Hz) applied for 60 seconds while the auto transformer was installed in a low voltage assembly :

- Between all the live parts and the exposed conductive parts connected to the low voltage assembly earth.
- Between each phase winding and the other phase windings connected to exposed conductive parts and the assembly earth.

Test Result

The equipment withstood the tests.

Date of test : 9 September 2005

Voltage Ratio Test

At the client's request, the input terminals of the auto transformer were supplied with 415V. The voltage was measured at the 80%, 65% and 50% tapping points between each phase. The input and output voltages were measured by a Norma wideband power analyser which was programmed to calculate the resultant voltage ratio.

Test Result

Phase	Tap position (%)	Voltage Measured V		Ratio
		Input	Tap output	
R to Y	80	415.0	333.3	0.803
	65	415.3	273.4	0.658
	50	415.1	207.7	0.500
R to B	80	415.0	333.2	0.803
	65	415.2	273.3	0.658
	50	415.0	207.6	0.500
Y to B	80	415.7	333.7	0.803
	65	415.5	273.4	0.658
	50	415.3	207.6	0.500

Date of test : 9 September 2005

Max Carstedt
NATA Signatory

Page 3 of 4

ASTA Accredited

Testing & Certification Australia