

PRODUCT INFORMATION PACKET

Model No: TCA3552A3131GACD01

Catalog No: TCA3552A3131GACD01

355.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 1500 RPM, 415 V, 355L Frame, TEFC
Cast Iron IE3 Efficiency Motors





Nameplate Specifications

Output HP	475 Hp	Output KW	355.0 kW
Frequency	50 Hz	Voltage	415 V
Current	571.6 A	Speed	1491 rpm
Service Factor	1	Phase	3
Efficiency	96 %	Power Factor	0.9
Duty	S1	Insulation Class	F
Frame	355L	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6322
Opp Drive End Bearing Size	6322	UL	No
CSA	No	CE	Yes
IP Code	55		

Technical Specifications

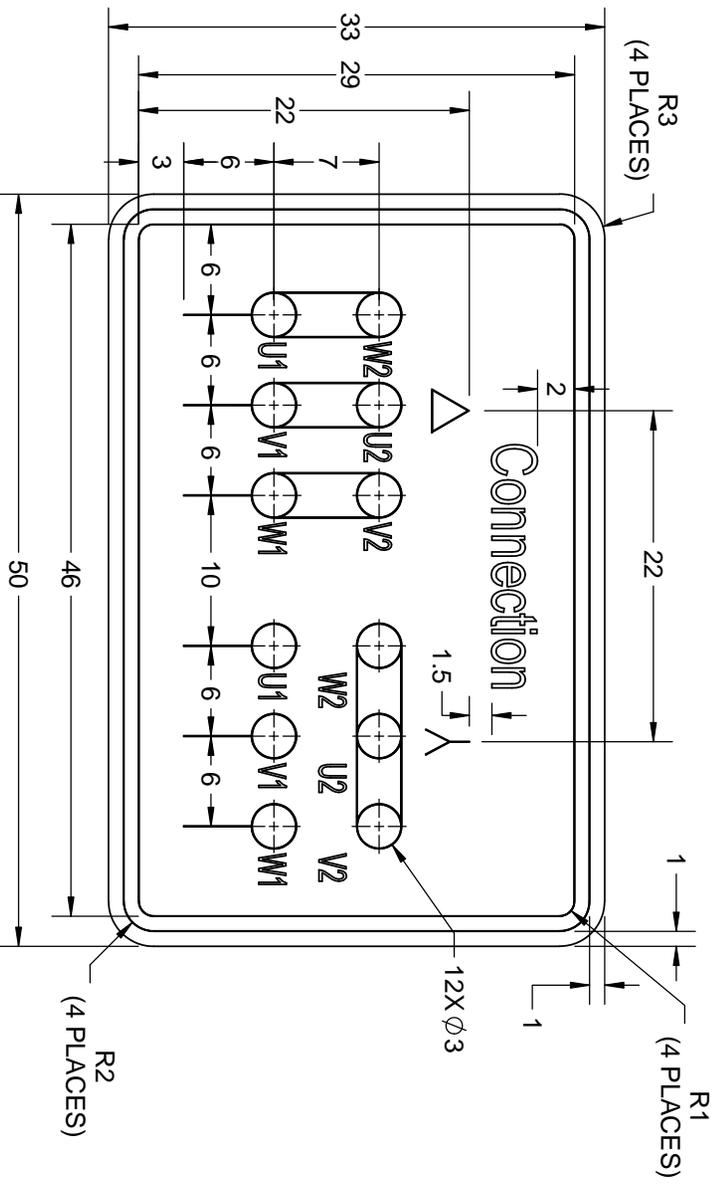
Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	Rotation	Bi-Directional
Mounting	B35	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1542 mm	Frame Length	1010 mm
Shaft Diameter	95 mm	Shaft Extension	170 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0235501830

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DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
ECO-0116390	APPROVED BY SBD	DATE 13/01/2017
ECO DESCRIPTION NEW DRAWING RELEASE		

GEOMETRIC TOLERANCE		
LINEAR DIM	>0-6	±0.1
	>6-30	±0.2
	>30-120	±0.3



- NOTES:
1. PRESSURE-SENSITIVE ADHESIVE COATED PAPER ON THE BACK OF SELF-ADHESIVE.
 2. AT THE END OF YELLOW, WORDS, SYMBOLS, LETTERS ARE BLACK, BORDER IS BLACK.
 3. THE TOLERANCE OF THE LINEAR SIZE OF THE TOLERANCE WITHOUT THE TOLERANCE BY THE TABLE.

8WD.442.2017

DRAWN BY SN		 Regal Beloit America, Inc.	
DATE 16/12/2016			
APPROVED BY SBD		DESCRIPTION CONN DIAGRAM-NAMEPLATE	
DATE 16/12/2016			
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE A	DRAWING NUMBER 8442000085	SHEET 1 OF 1

Model No. TCA3552A3131GACD01

U (V)	Δ / Y Conn	f (Hz)	P		I			T (Nm)	IE Class	% EFF at __ load				PF at __ load			I _a /I _N [pu]	T _b /T _N [pu]	T _v /T _N [pu]
			[kW]	[hp]	[A]	[RPM]	5/4FL			FL	3/4FL	1/2FL	FL	3/4FL	1/2FL				
415	Δ	50	355	475	571.6	1491	2269.02		IE3	-	96	96	96.3	0.9	0.88	0.82	7.3	2.3	2.7

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	355L	Motor weight - approx.	2060 kg
Duty	S1	Gross weight - approx.	2105 kg
Voltage variation *	± 10%	Motor inertia	11.3302 kgm ²
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.8 mm/s
Design	N	Noise level (1meter distance from motor)	82 dB(A)
Service factor	1.0	No. of starts hot/cold/Equally spread	2/3/4
Insulation class	F	Starting method	DOL
Ambient temperature	-20 to +50 °C	Type of coupling	Direct
Temperature rise (by resistance)	70 [Class B] K	LR withstand time (hot/cold)	15/30 s
Altitude above sea level	1000 meter	Direction of rotation	Bi-directional
Hazardous area classification	NA	Standard rotation	Clockwise form DE
Zone classification	NA	Paint shade	RAL 5014
Gas group	NA	Accessories	
Temperature class	NA	Accessory - 1	-
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball bearing	Accessory - 3	-
DE / NDE bearing	6322 C3 / 6322 C3	Terminal box position	TOP
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 300mm ² /4 x M63 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	NA

I_a/I_N - Locked Rotor Current / Rated Current

T_b/T_N - Breakdown Torque / Rated Torque

T_v/T_N - Locked Rotor Torque / Rated Torque

NOTE

All performance values at rated voltage and frequency.

All performance parameters are subjected to standard tolerance as per IEC 60034-1

* Voltage, Frequency and combine variation are as per IEC60034-1

Technical data are subject to change. There may be discrepancies between calculated and name plate values.

Efficiency Standards	Europe	China	India	Aus/Nz	Brazil	Global IEC
	-	-	IS 12615 : 2018	-	-	-

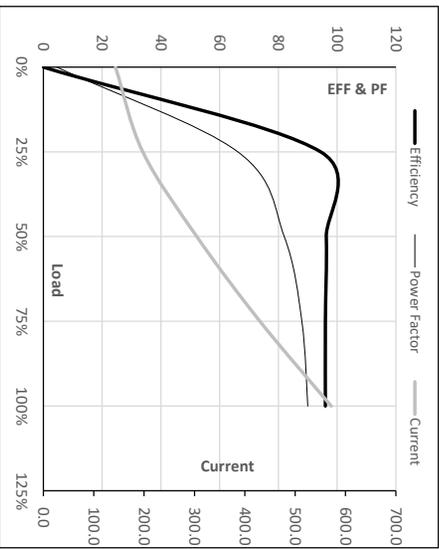
Model No. TCA3552A3131GACD01

Enclosure	U	Δ/Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
	(V)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[kgm]	[Nm]	Class	[°C]		[m]	[kg·m ²]	[kg]
TFC	415	Δ	50	355	475	571.6	1491	231.38	2269.02	IE3	S0	S1	1000	1.1.3302	2060

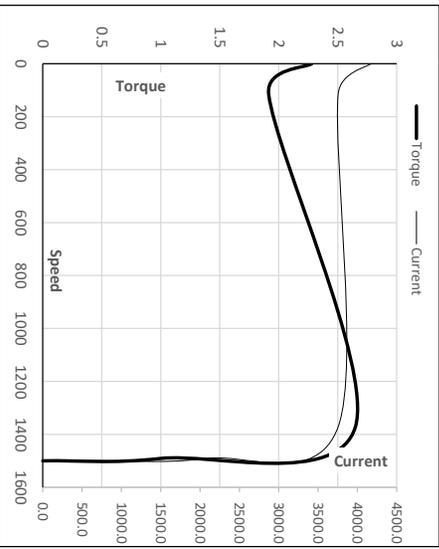
Motor Load Data

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	143.1	197.4	304.7	430.0	571.6
Torque	Nm	0.0	564.6	1130.8	1698.9	2269.0
Speed	r/min	1500	1498	1496	1493	1491
Efficiency	%	0.0	94.4	96.3	96.0	96.0
Power Factor	%	4.6	66.2	82.0	88.0	90.0

Performance vs Load Chart



Starting Characteristics Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	115	1372	1491	1500
Current	A	4172.9	3755.6	2070.3	571.6	143.1
Torque	pu	2.3	1.9	2.7	1	0

NOTE Refer data sheet for applicable standard and tolerances on performance parameters

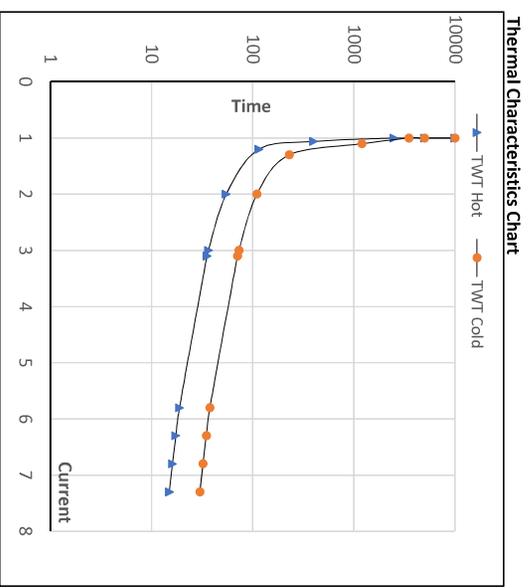
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Enclosure	U	Δ /Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	415	Conn	[Hz]	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]	S1	[m]	[kg·m ²]	[kg]
TEFC		Δ	50	355	475	571.6	1491	231.21	2269.02	IE3	50	S1	1000	11.3302	2060

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s	10000	55	37	30	25	20	15
TWT Cold	s	10000	110	73	65	50	40	30
Current	pu	1	2	3	4	5	5.5	7.3



NOTE Refer data sheet for applicable standard and tolerances on performance parameters

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