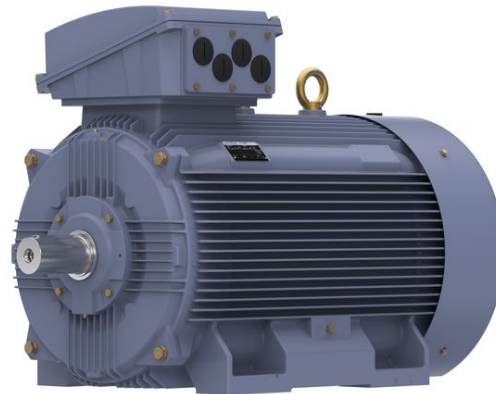


# PRODUCT INFORMATION PACKET

Model No: TCA3152A3111GACD01

Catalog No: TCA3152A3111GACD01

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





### Nameplate Specifications

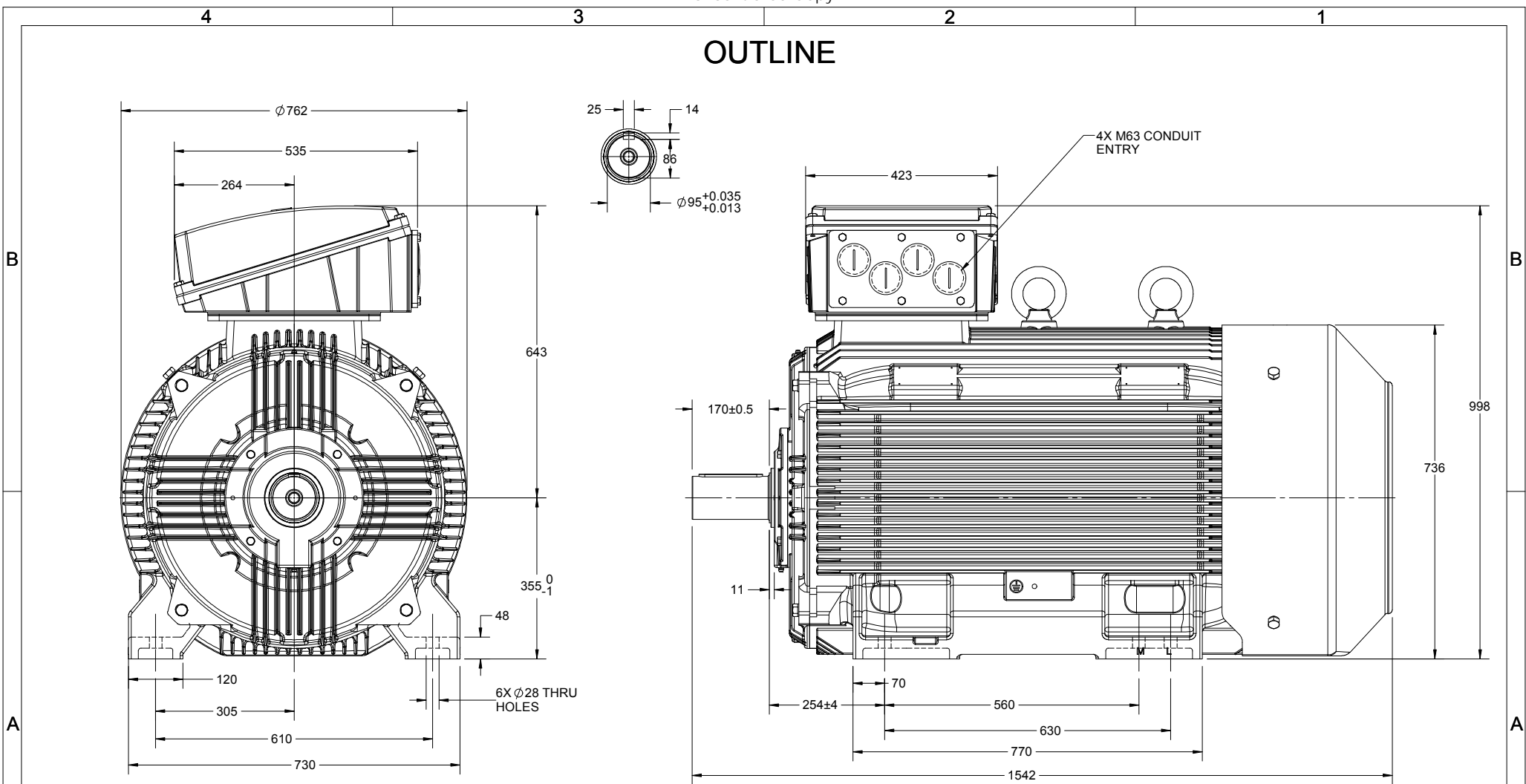
Output HP	<b>425 Hp</b>	Output KW	<b>315.0 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>415 V</b>
Current	<b>507.2 A</b>	Speed	<b>1490 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>96 %</b>	Power Factor	<b>0.9</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>355L</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Ambient Temperature	<b>50 °C</b>	Drive End Bearing Size	<b>6322</b>
Opp Drive End Bearing Size	<b>6322</b>	UL	<b>No</b>
CSA	<b>No</b>	CE	<b>Yes</b>
IP Code	<b>55</b>		

### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>4</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B3</b>	Motor Orientation	<b>Horizontal</b>
Drive End Bearing	<b>C3</b>	Opp Drive End Bearing	<b>C3</b>
Frame Material	<b>Cast Iron</b>	Shaft Type	<b>Keyed</b>
Overall Length	<b>1542 mm</b>	Frame Length	<b>1010 mm</b>
Shaft Diameter	<b>95 mm</b>	Shaft Extension	<b>170 mm</b>
Assembly/Box Mounting	<b>Top</b>		
Outline Drawing	<b>0235501829</b>	Connection Drawing	<b>8442000085</b>

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# OUTLINE



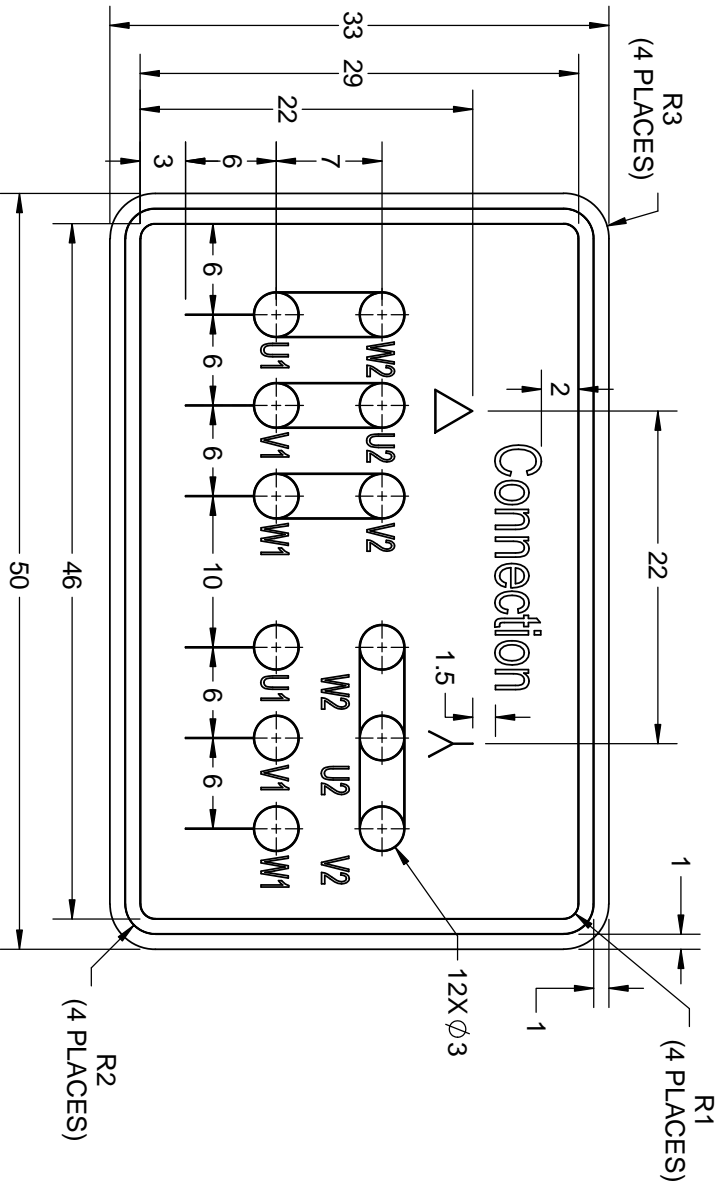
DRAWING REVISION C	REVISION BY NIV	DATE 08/05/2019
ECO ECO-0165600	APPROVED BY SR	DATE 08/05/2019
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY JOY		DESCRIPTION <b>OUTLINE</b> 355FR-B3 MTG. MOTOR TYPE: TCA/QCA	
DATE 18/07/2014			
APPROVED BY SBD			
DATE 18/07/2014			
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0235501829	SHEET 1 OF 1

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

Model No. TCA3152A3111GACD01

U (V)	Δ / Y Conn	f (Hz)	P		I			T (Nm)	IE Class	% EFF at __ load			PF at __ load			I <sub>L</sub> /I <sub>N</sub> [pu]	T <sub>L</sub> /T <sub>N</sub> [pu]	T <sub>Δ</sub> /T <sub>N</sub> [pu]	
			[kW]	[hp]	[A]	[RPM]	5/4FL			FL	3/4FL	1/2FL	FL	3/4FL	1/2FL				
415	Δ	50	315	425	507.2	1490	2031.21		IE3	-	96	96	96.1	0.9	0.88	0.84	6.7	2.0	2.5

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	355L	Motor weight - approx.	1914 kg
Duty	S1	Gross weight - approx.	1959 kg
Voltage variation *	± 10%	Motor inertia	10.1755 kgm <sup>2</sup>
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 <sup>2</sup> /4 x M63 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	NA

I<sub>L</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>L</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>Δ</sub>/T<sub>N</sub> - 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	-	-	-

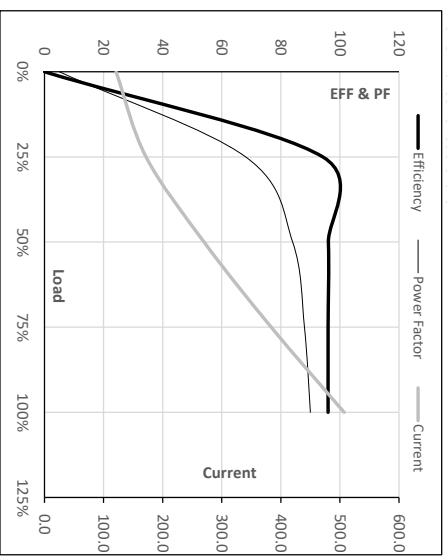
Model No. TCA3152A3111GACD01

Enclosure	U [V]	$\Delta$ /Y	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb Temp [°C]	Duty	Elevation [m]	Inertia [kg·m <sup>2</sup> ]	Weight [kg]
TFC	415	$\Delta$	50	315	425	507.2	1490	207.13	2031.21	IE3	S0	S1	1000	10.1755	1914

**Motor Load Data**

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A 121.1	171.9	270.0	383.8	507.2	
Torque	Nm 0.0	505.2	1012.0	1520.6	2031.2	
Speed	r/min 1500	1498	1495	1493	1490	
Efficiency	% 0.0	94.2	96.1	96.0	96.0	
Power Factor	% 5.0	68.1	84.0	88.0	90.0	

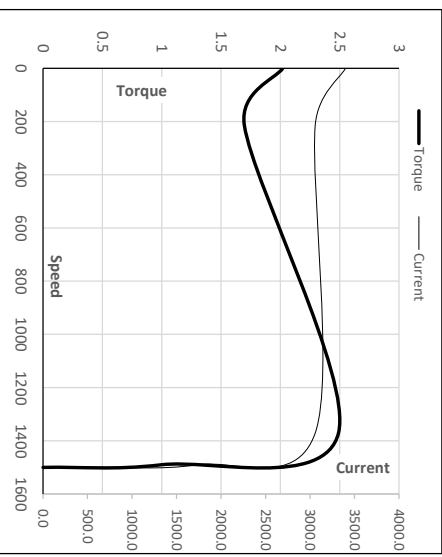
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point	LR	P-Up	BD	Rated	NL
Speed	r/min 0	214	1371	1490	1500
Current	A 3398.4	3058.6	1734.5	507.2	121.1
Torque	pu 2.0	1.7	2.5	1	0

**Starting Characteristics Chart**



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

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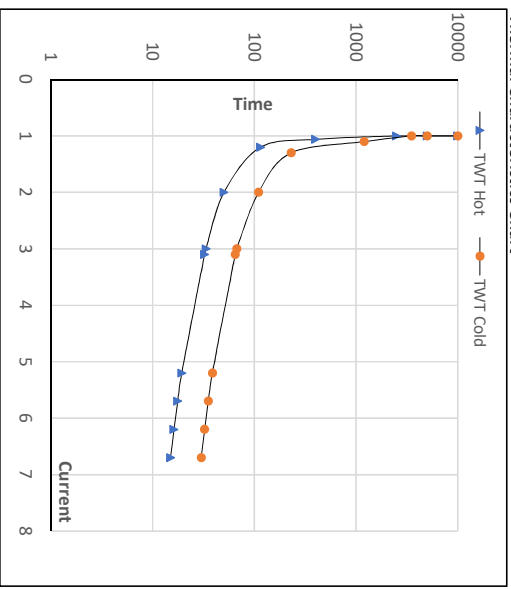
Model No. TCA3152A3111GACD01

Enclosure	U	Δ / Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	415	Δ	50	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]	S1	[m]	[kg·m <sup>2</sup> ]	[kg]
TEFC				315	425	507.2	1490	206.98	2031.21	IE3	50	S1	1000	10.1755	1914

**Motor Speed Torque Data**

Load	FL	I <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>	I <sub>4</sub>	I <sub>5</sub>	LR	
TWT Hot	s	10000	50	34	30	22	18	15
TWT Cold	s	10000	110	67	60	40	37	30
Current	pu	1	2	3	4	5	5.5	6.7

**Thermal Characteristics Chart**



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

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