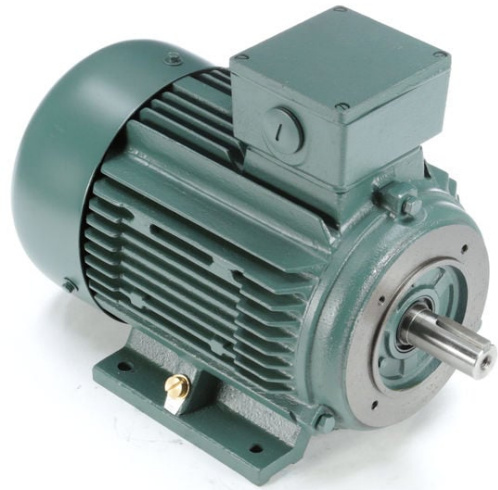
PRODUCT INFORMATION PACKET

Model No: 193376.60
Catalog No: 193376.60
LEESON® PASSPORT 20 HP General Purpose, 3 phase, 3600 RPM, 230/460 V, 160M Frame, TEFC

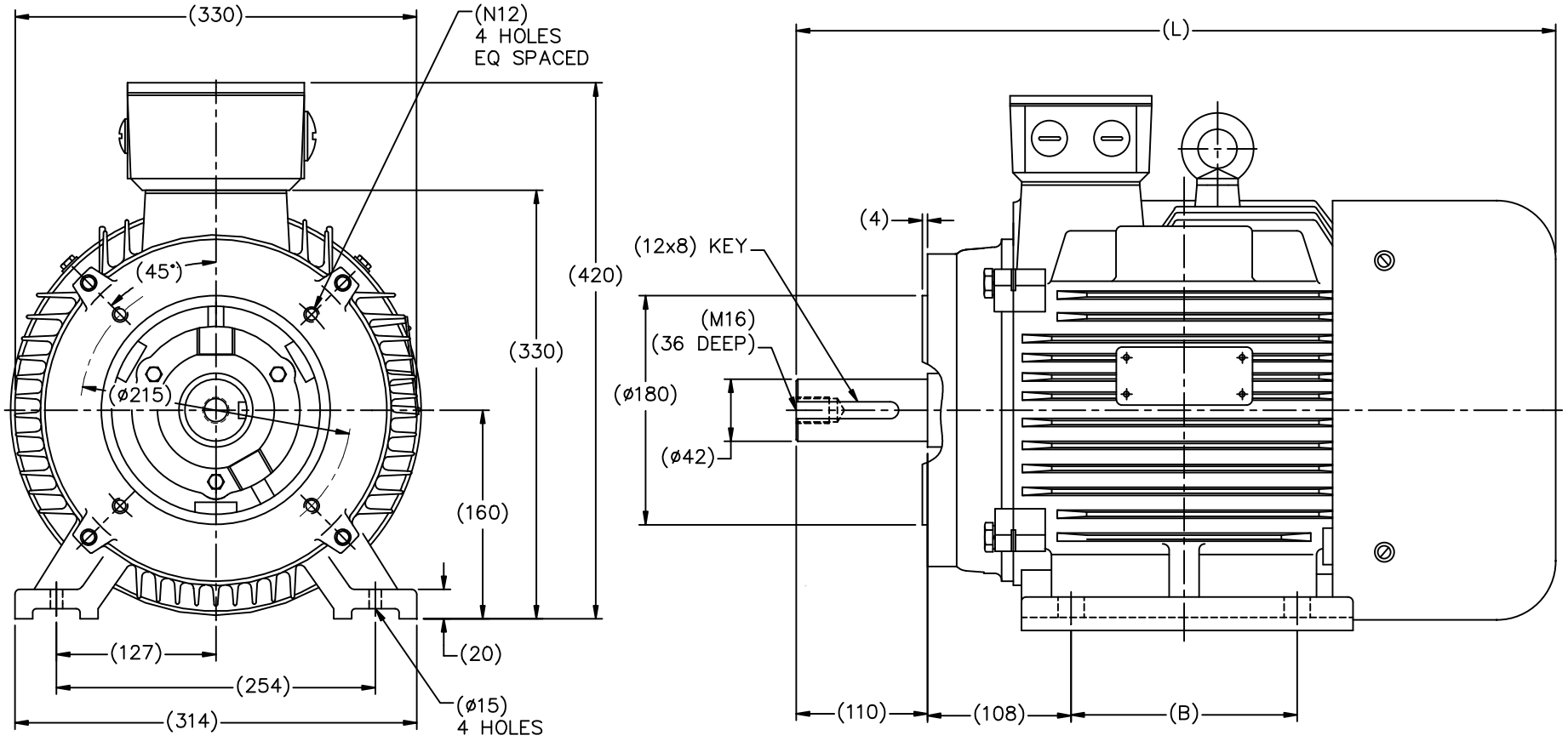


Nameplate Specifications

Phase	3	Output HP	20 & 15 Hp
Output KW	14.9 & 11.2 kW	Voltage	230/460 & 200/400 V
Speed	3545 & 2960 rpm	Service Factor	1.15 & 1.15
Frame	160M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	Thermostat	Efficiency	91 & 91 %
Ambient Temperature	40 °C	Frequency	60 & 50 Hz
Current	47/23.5 & 41/20.5 A	Power Factor	88
Duty	Continuous	Insulation Class	F
Design Code	B	KVA Code	G
Drive End Bearing Size	6309	Opp Drive End Bearing Size	6308
UL	Recognized	CSA	Y
CE	Y	IP Code	55
Number of Speeds	1		

Technical Specifications

Electrical Type	Squirrel Cage Inverter Rated	Starting Method	Wye Start Delta Run Or Inverter
Poles	2	Rotation	Reversible
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	Ball	Opp Drive End Bearing	Ball
Frame Material	Cast Iron	Shaft Type	IEC
Overall Length	23.62 in	Shaft Diameter	1.625 in
Shaft Extension	4.33 in	Assembly/Box Mounting	F3
Inverter Load	CONSTANT 10:1		
Outline Drawing	B-SS622271	Connection Drawing	004172.01



Cat. No	MODEL	B	L
193373.60	DF160MC1-2R	210	600
193376.60	DF160MC2-2R	210	600
193374.60	DF160MC-4R	210	600
193378.60	DF160LC-2R	254	645
193377.60	DF160LC-4R	254	645
193372.60	DF160MC-6R	210	600

(MAY NOT BE DRAWN TO SCALE) (DIMENSIONS ARE IN MILLIMETERS)

NO.	REVISION	BY & DATE	CHK
			ANG

TOLERANCES UNLESS SPECIFIED

DEC.	METRIC
.X	±2.5
.XX	±.76
.XXX	±.127
.XXXX	±.0127
ANG	±7'30"

REGAL-BELOIT CORPORATION

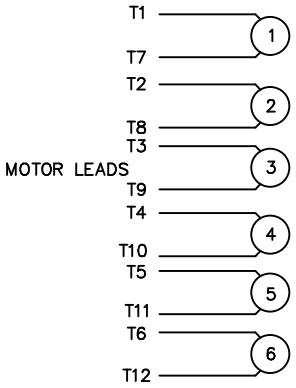
DRAWN HLB 12-09-2010
CHK DJK 12-17-2010
APPD SB 12-18-2010
SCALE 1=18
REF
FMF HEBEI
PREV

TITLE OUTLINE
DF160MC,LC-2,4,6R
MAT'L.
FINISH
CAD FILE SS622271
RFP 12-21-2010
DIST

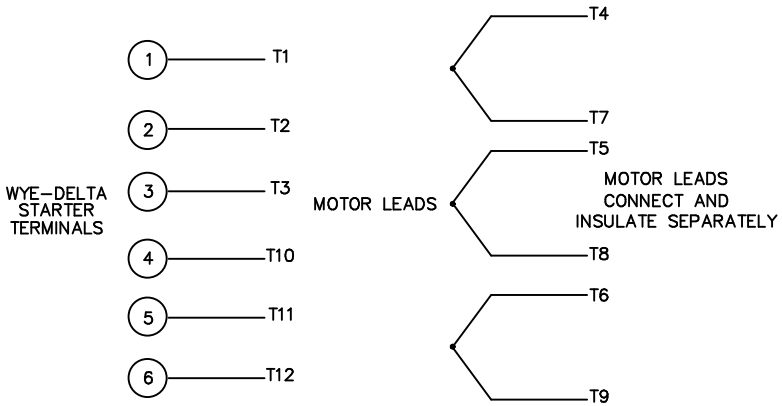
SIZE B
DRAWING NO. SS622271
PAGE OF
REV.

WYE – DELTA STARTING USEABLE ON 2,4 AND 6 POLE MOTORS.

LOW VOLTAGE CONNECTION

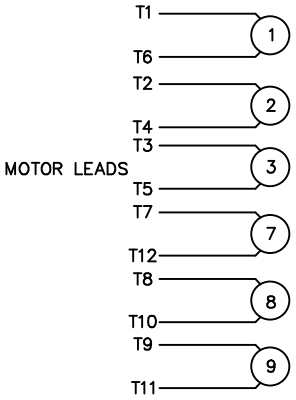


HIGH VOLTAGE CONNECTION



REFER TO THE WYE–DELTA STARTER CONNECTION INSTRUCTIONS FOR PROPER CONNECTION OF POWER LINES TO STARTER.

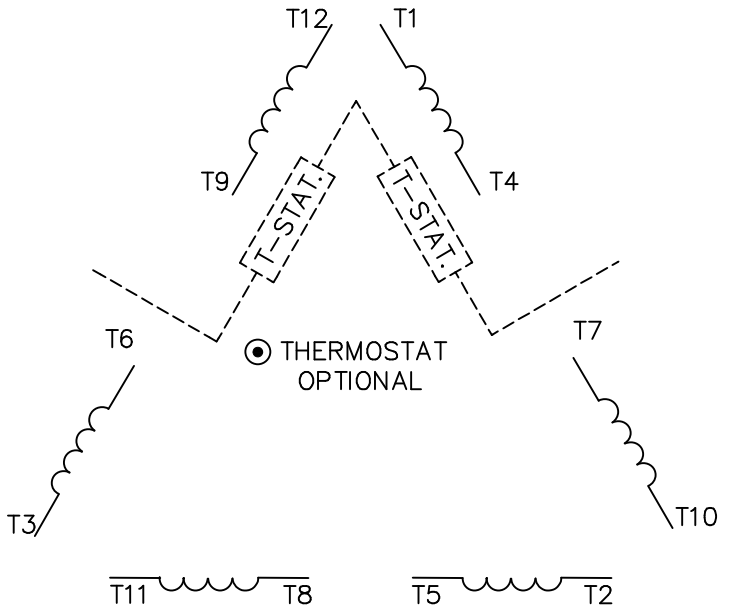
PART WINDING START USABLE ON 4 & 6 POLE MOTORS
LOW VOLTAGE CONNECTION ONLY



REFER TO THE PART WINDING STARTER INSTRUCTIONS FOR PROPER CONNECTION OF POWER LINES TO STARTER.

REFER TO THE CUTLER – HAMMER OR EQUIV. FOR PROPER SELECTION OF OVERLOAD HEATER COILS.

LINE LEADS



ROTATION CAN BE REVERSED BY INTERCHANGING ANY TWO LINE LEADS

⦿ RED LEADS OR P1, P2, FOR N/C THERMOSTAT

ACROSS THE LINE START & RUN

	LINE 1	LINE 2	LINE 3	JOIN & INSULATE SEPARATELY
HIGH VOLT	T1,T12	T2,T10	T3,T11	(T4,T7) (T5,T8) (T6,T9)
LOW VOLT	T1,T6 T7,T12	T2,T4 T8,T10	T3,T5 T9,T11	

NO.	REVISION	BY & DATE	CHK
03	REV'D LOW VOLTAGE CONN. LEADS PER ELEC.	BJB 06/07/00	
02	ADDED T–STAT. NOTES PER ELECTRICAL	KMM 06/02/98	
01	REDRAWN TO CAD	DBT 06/02/97	

TOLERANCES UNLESS SPECIFIED

DEC.	INCHES
.X	±.1
.XX	±.01
.XXX	±.005
.XXXX	±.0005
ANG	±1/2°

LEESON ELECTRIC MOTORS GEARMOTORS AND DRIVES

TITLE DELTA – WYE CONNECTION DIAGRAM

MAT'L.

FINISH

CAD FILE 00417201

RFP

DIST

DRAWN	WLW 09/08/77
CHK	RPB 09/12/77
APPD	JCW 09/12/77
SCALE	1=1
REF	
FMF	
PREV	

SIZE A | DRAWING NO. 004172–01 | REV. 03

6/28/2007 3:22:15 PM -

LEESON®

CERTIFICATION DATA SHEET

1051 CHEYENNE AVE.
GRAFTON, WI 53024
PH. 262-377-8810

CATALOG #: 193376.60

CONN. DIAGRAM: 004172.01

OUTLINE: B-SS622271

MOUNTING: F3

WINDING #: T12902029 3

TYPICAL MOTOR PERFORMANCE DATA

HP	kW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
20&15	14.9&11.2	3600	3545&2960	160M	TEFC	G	B

PH	Hz	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB°C
3	60/50	230/460&200/400	47/23.5&41/20.5	Y START D RUN OR INV	CONTINUOUS	F5	1.15/1.15	40

FULL LOAD EFF:	91&91	3/4 LOAD EFF:	91	1/2 LOAD EFF:	90.2	GTD. EFF	ELEC. TYPE
FULL LOAD PF:	88&87	3/4 LOAD PF:	86.5	1/2 LOAD PF:	82	89.5	SQ CAGE INV RATED

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
29.6 LB-FT	280 / 140	62.5 LB-FT 210 %	75.5 LB-FT 255 %	60

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS / HOUR	APPROX. MOTOR WGT
- dBA	- dBA	1.41 LB-FT^2	- LB-FT^2	20 SEC.	2	- LBS.

*** SUPPLEMENTAL INFORMATION ***

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
FT-FLANGE-215	STANDARD	B3	HORIZONTAL	PREMIUM SEVERE DUTY	NONE	FALSE	NONE	BLUE (ENAMEL)

BEARINGS		GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
DE	ODE						
BALL	BALL	POLYREX EM	STANDARD IEC	NONE	NONE	AISI 1045 (C-240)	CAST IRON
6309	6308						

THERMO-PROTECTORS				THERMISTORS	CONTROL	SPACE HEATERS
THERMOSTATS	PROTECTORS	WDG RTDs	BRG RTDs			
TSTATS (N/C)	NOT	NONE	NONE	NONE	FALSE	NONE VOLTS

***NOTE**

INVERTER TORQUE: CONSTANT 10:1
INV. HP SPEED RANGE: NONE

ENCODER: NONE
NONE NONE
NONE NONE PPR

BRAKE: NONE NONE
NONE P/N NONE
NONE NONE
NONE FT-LB NONE V NONE Hz

7/19/2018

Data Sheet

Date: 1/17/2018

193376.60

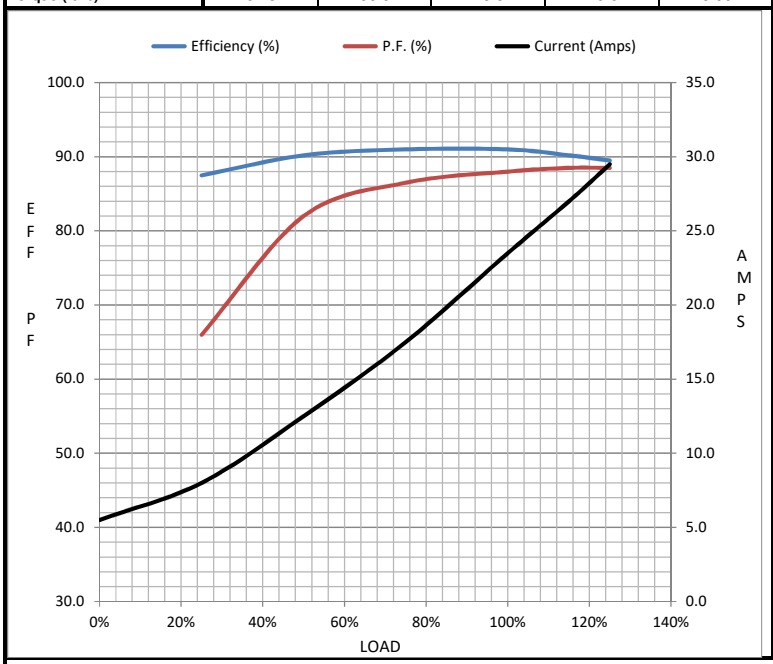
Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	5.5	8.0	12.5	17.5	23.5	27.0	29.5	140	
Torque (ft-lb)	0.00	7.4	14.8	22.2	29.6	34.2	37.2	62.5	
RPM	3600	3588	3575	3560	3545	3,535	3525	0	
Efficiency (%)		87.5	90.2	91.0	91.0	90.2	89.5		
P.F. (%)	11.0	66.0	82.0	86.5	88.0	88.5	88.5	45.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	1800	3400	3545	3600
Current (Amps)	140	125	80.0	23.5	5.5
Torque (ft-lb)	62.5	50.0	75.5	29.6	0.00



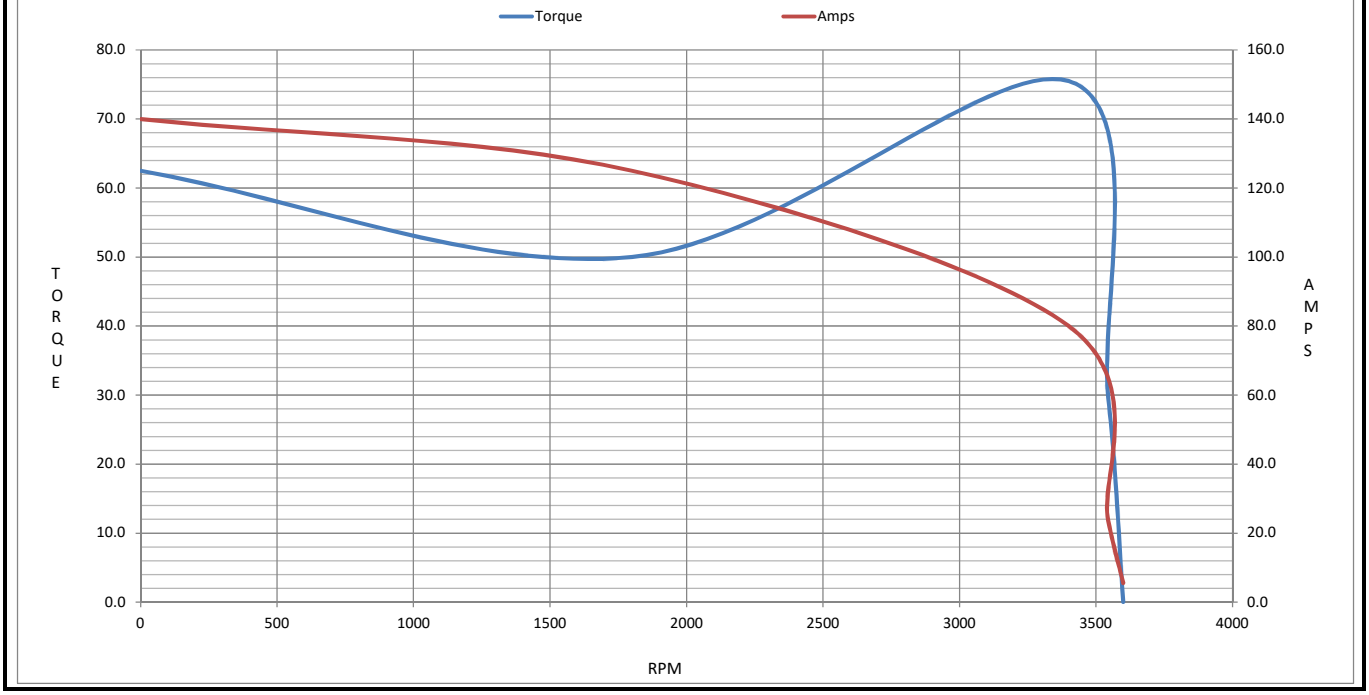
Information Block

HP	20.0	
Sync. RPM	3600	
Frame	256	
Enclosure	TEFC	
Construction	TFC	
Voltage	230/460#200/400	V
Frequency	60	Hz
Design	B	
LR Code letter	G	
Service Factor	1.15	
Temp Rise @ FL	60	° C
Duty	CONT	
Ambient	40	° C
Elevation	1,000	feet
Rotor/Shaft wk²	1.41	Lb-Ft²
Ref Wdg	T12902029 NONE	
Sound Pressure @ 1M	999	dBA
VFD Rating	CONSTANT 10:1	
Outline Dwg	B-SS622271	
Conn. Diag	004172.01	
Additional Specifications:		
0		
0		

EQUIV CKT (OHMS / PHASE)

R1	R2	X1	X2	Xm
0.0000	0.0000	0.0000	0.0000	0.0000

Speed -Torque Curve



EC Declaration of Conformity

The undersigned representing
the manufacturer:

Regal Beloit America
100 East Randolph St.
Wausau, WI 54401

and the authorized representative
established within the Community:

Marathon Electric UK
6F Thistleton Road Ind. Estate
Market Overton
Oakham, Rutland LE15 7PP UK

are committed to providing customers with products that comply with applicable regulations and international protocols to which they are subject, including the requirements of the European Parliament Directive on the Harmonization of the laws relating to electrical equipment designed for use within certain voltage limits (2014/35/EU).

Regal Beloit America declares that the following product(s), to which this declaration relates, are in conformity with the relevant sections of the EC standards listed below.

This statement supersedes any statements previously issued pertaining to the product(s) listed below and is subject to change without notice.

Model No : 193376.60

(Model No. may contain prefix and/or suffix characters)

Catalog No : 193376.60

Rework No : N/A

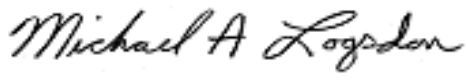
Directives :

Low Voltage Directive 2014/35/EU

Harmonized Standards Used :

EN 60034-1: 2010 (IEC 60034-1: 2010)
EN 60034-5: 2001/A1:2007 (IEC 60034-5: 2000/A1:2006)

Authorized Representative:



Michael A. Logsdon
Vice President, Technology

Authorized Representative in the Community:

Julian Clark
Marketing Engineer

Created on 09/01/2022

CE 22