

# PRODUCT INFORMATION PACKET



Model No: 193391.60  
Catalog No: 193391.60  
20 HP General Purpose, 3 phase, 1800 RPM, 575 V, 160L Frame, TEFC  
Cast Iron Motors



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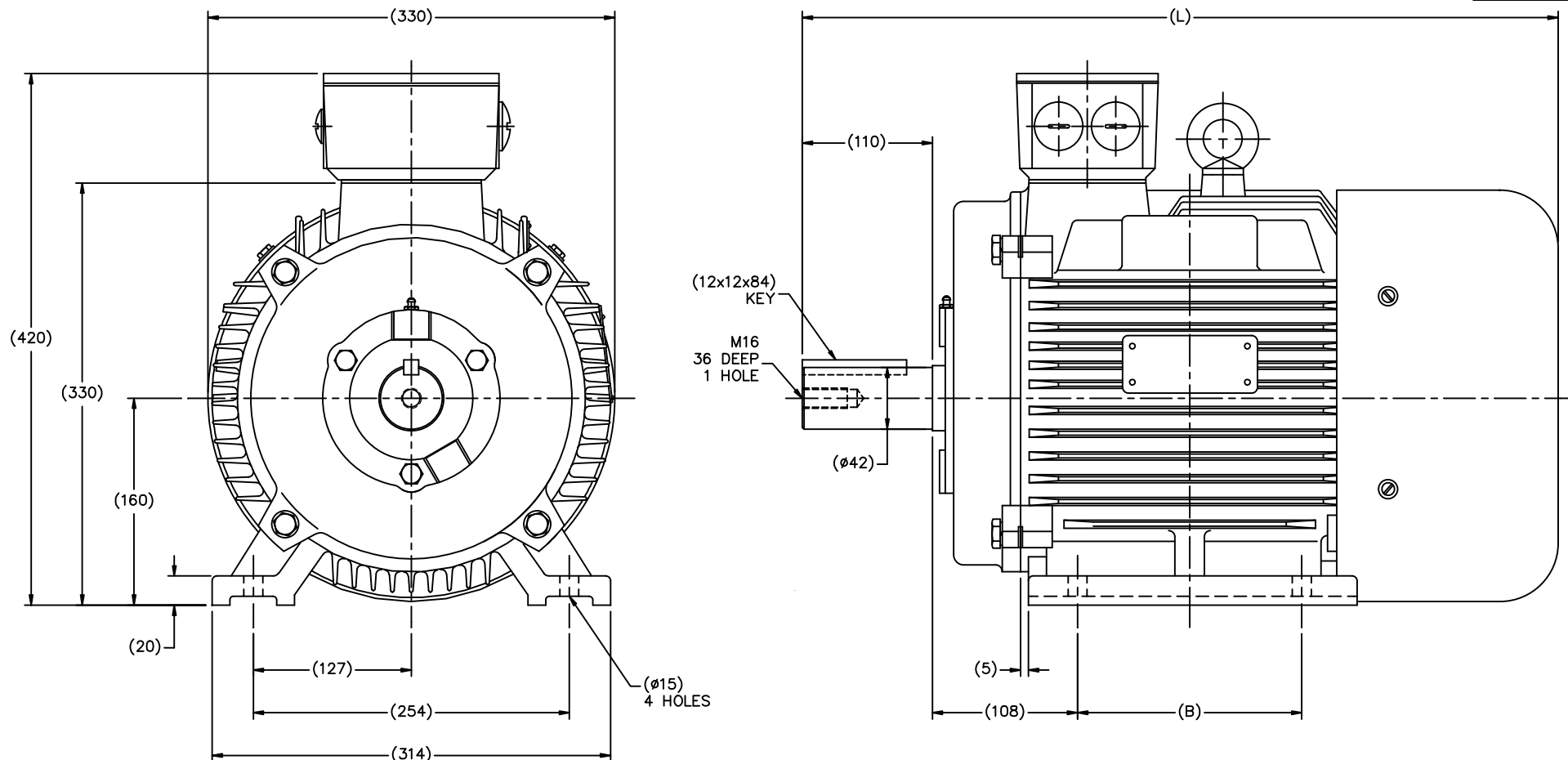
### Nameplate Specifications

Output HP	20 Hp	Output KW	14.9 kW
Frequency	60 Hz	Voltage	575 V
Current	20.0 A	Speed	1770 rpm
Service Factor	1.15	Phase	3
Efficiency	93 %	Power Factor	82
Duty	Continuous	Insulation Class	F
Design Code	B	KVA Code	G
Frame	160L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	Thermostats (N/C)	Ambient Temperature	40 °C
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	4	Rotation	Reversible
Resistance Main	.322 Ohms	Mounting	Rigid Base
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 2:1
Connection Drawing	005190-03	Outline Drawing	B-SS622239


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DF160M1-2R	193315.60	600	210
DF160M2-2R	193318.60	600	210
DF160M-4R	193316.60	600	210
DF160L-2R	193321.60	645	254
DF160L-4R	193319.60	645	254
DF160M-6R	193314.60	600	210
FRAME	PART #	L	B

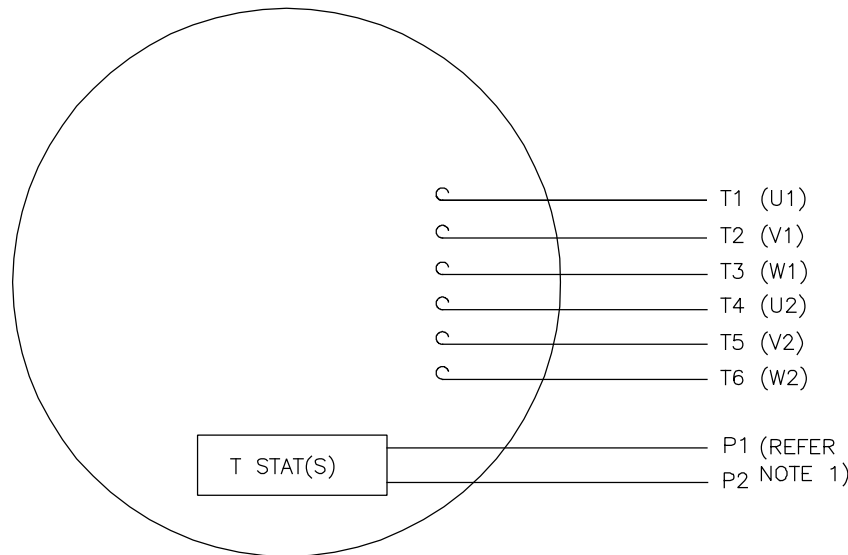
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(DIMENSIONS ARE IN MILLIMETERS)

			TOLERANCES UNLESS SPECIFIED		 <b>REGAL-BELOIT CORPORATION</b>	DRAWN MSG 11-17-2010	
			DEC.	METRIC		CHK	MJS 11-18-2010
			.X	±2.5	<b>TITLE OUTLINE - IEC PREMIUM DF160-R (II)</b>	APPD	SB 11-18-2010
			.XX	±.76		SCALE	5=16
			.XXX	±.127		REF	
			.XXXX	±.0127	MAT'L	FMF	HEBEI
NO.	REVISION	BY & DATE	CHK	ANG	FINISH	PREV	
			RFP	11-18-2010	CAD FILE ss622239	SIZE	DRAWING NO. PAGE OF REV.
			DIST			B	SS622239

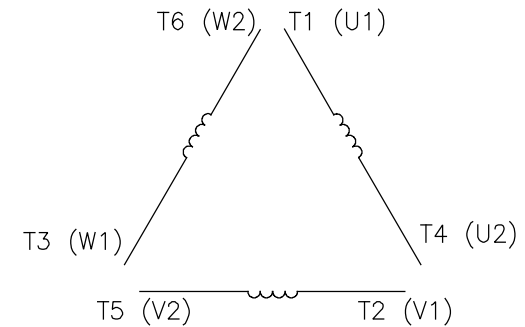
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VIEW FROM OUTSIDE OF MOTOR AT SWITCH END

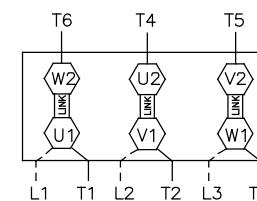
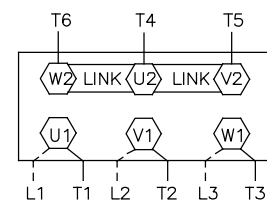


NOTE: 1. USE RED LEADS FOR LEESON CHANNEL  
 2. USE 081380 DECAL FOR LB MODELS  
 USE 080088 DECAL FOR MT2 MODELS

## LINE LEADS



## WYE-DELTA CONNECTION, SINGLE VOLTAGE

DELTA RUN  
( $\Delta$  - CONNECTION)WYE START  
(Y - CONNECTION)

NOTE: USE TERMINAL BLOCK WHEN SPECIFIED

	L1	L2	L3	JOIN
START (WYE)	T1 U1	T2 V1	T3 U2	(T4,T5,T6) (U2,V2,W2)
RUN (DELTA)	(T1,T6) (U1,W2)	(T2,T4) (V1,U2)	(T3,T5) (W1,V2)	

DRAWING REVISION A	REVISION BY MVG	DATE 02/15/2018
ECO ECO-0139864	APPROVED BY SR	DATE 02/15/2018
ECO DESCRIPTION UPDATED PER ECO-0139864		

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TOLERANCES UNLESS OTHERWISE SPECIFIED			
DEC.	INCH	mm	ANGLE
.X	±0.1	[±2.5]	±0.5°
.XX	±0.02	[±0.51]	
.XXX	±0.005	[±0.127]	
.XXXX	±0.0005	[±0.0127]	
REMOVE BURRS & BREAK SHARP EDGES .003/.015 [0.076/.381]			
CORNER FILLETS .02 [51]			
MACHINED SURFACES $\sqrt{125}$ mm $\sqrt{3.2}$			
mm SHOWN IN [BRACKETS]			

DRAWN BY:  
SLDATE:  
08/20/15APPROVED BY:  
CDDATE:  
08/20/15REFERENCE  
005190-01THIRD ANGLE  
PROJECTION

Regal Beloit America, Inc.

DESCRIPTION

EXT WIRING DIA SINGLE VOLTAGE  
STAR START- DELTA RUN

MATERIAL

REFER NOTE 2

SIZE DWG NO

005190-03

A

PROCESS/FINISH

SHEET  
1



## CERTIFICATION DATA SHEET

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

CATALOG #: 193391.60

CONN. DIAGRAM: 005190-03

OUTLINE: B-SS622239

MOUNTING: F3

WINDING #: T12904020 4

## TYPICAL MOTOR PERFORMANCE DATA

HP	kW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
20	14.9	1800	1770	160L	TEFC	G	B

PH	Hz	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB°C
3	60	575	20	Y START D RUN OR INV	CONTINUOUS	F5	1.15	40

FULL LOAD EFF:	93	3/4 LOAD EFF:	93	1/2 LOAD EFF:	92.4	GTD. EFF	ELEC. TYPE
FULL LOAD PF:	82	3/4 LOAD PF:	77	1/2 LOAD PF:	68	91.7	SQ CAGE INV RATED

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
59.5 LB-FT	116	115 LB-FT 192 %	195 LB-FT 328 %	75

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS / HOUR	APPROX. MOTOR WGT
75 dBA	85 dBA	2.97 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
STANDARD	STANDARD	RIGID	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						
6309	6308	POLYREX EM	STANDARD IEC	NONE	NONE	AISI 1045 (C-240)	CAST IRON

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

\*  
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\*

INVERTER TORQUE: CONSTANT 2:1

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

## Data Sheet

Date: 1/23/2018

193391.60



Data @ 575 V

## Motor Load Data

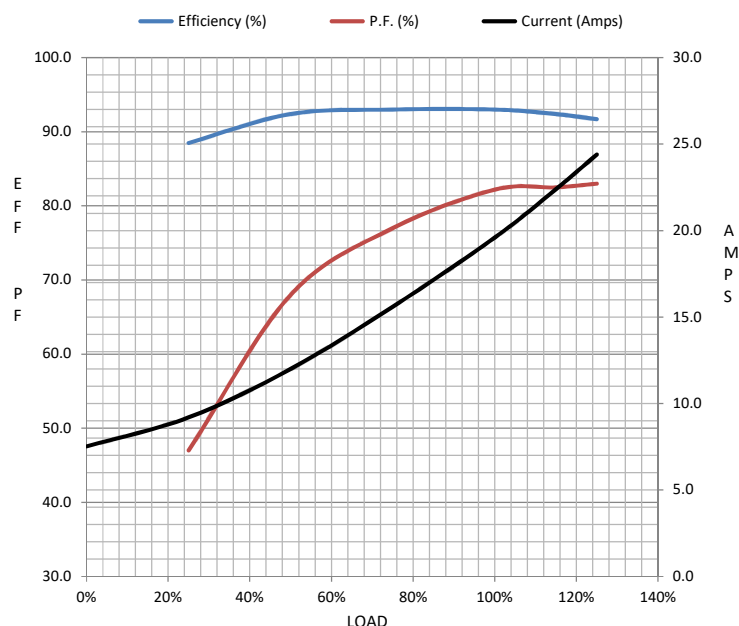
Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	7.5	9.2	12.0	15.6	19.6	22.4	24.4	116	
Torque (ft-lb)	0.00	15.0	30.0	45.0	59.5	70.0	75.0	115	
RPM	1800	1795	1782	1778	1775	1,768	1765	0	
Efficiency (%)		88.5	92.4	93.0	93.0	92.4	91.7		
P.F. (%)	5.5	47.0	68.0	77.0	82.2	82.5	83.0	37.0	

## Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	900	1650	1775	1800
Current (Amps)	116	108	78.4	19.6	7.5
Torque (ft-lb)	115	95.0	195	59.5	0.00

## Information Block

HP	20.0			
Sync. RPM	1800			
Frame	256			
Enclosure	TEFC			
Construction	TFC			
Voltage	575 V			
Frequency	60 Hz			
Design	B			
LR Code letter	G			
Service Factor	1.15			
Temp Rise @ FL	43 °C			
Duty	CONT			
Ambient	40 °C			
Elevation	1,000 feet			
Rotor/Shaft wk²	2.97 Lb-Ft²			
Ref Wdg	T12904020 NONE			
Sound Pressure @ 1M	75 dBA			
VFD Rating	CONSTANT 2:1			
Outline Dwg	B-SS622239			
Conn. Diag	00519001			
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

