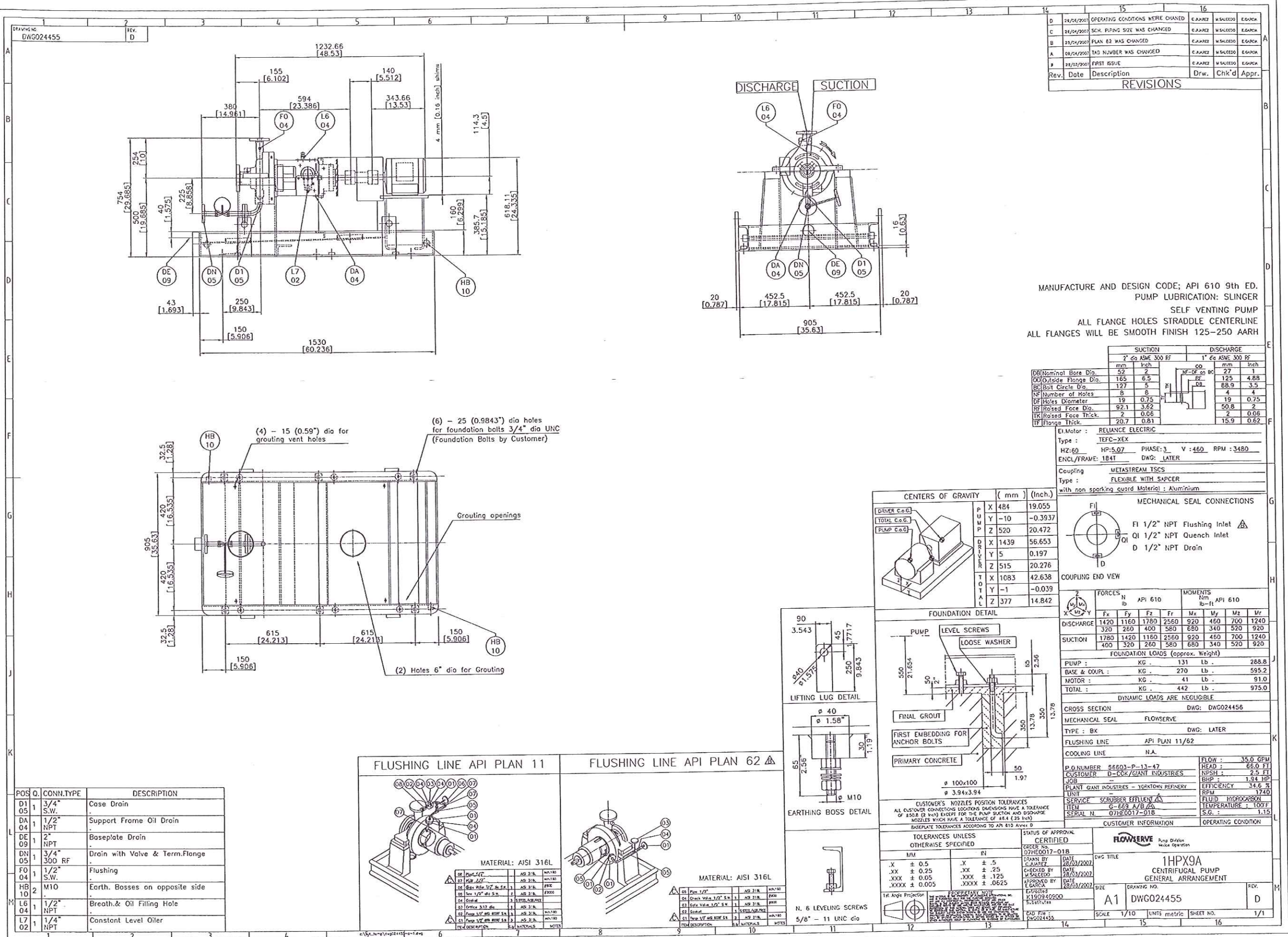




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#105858

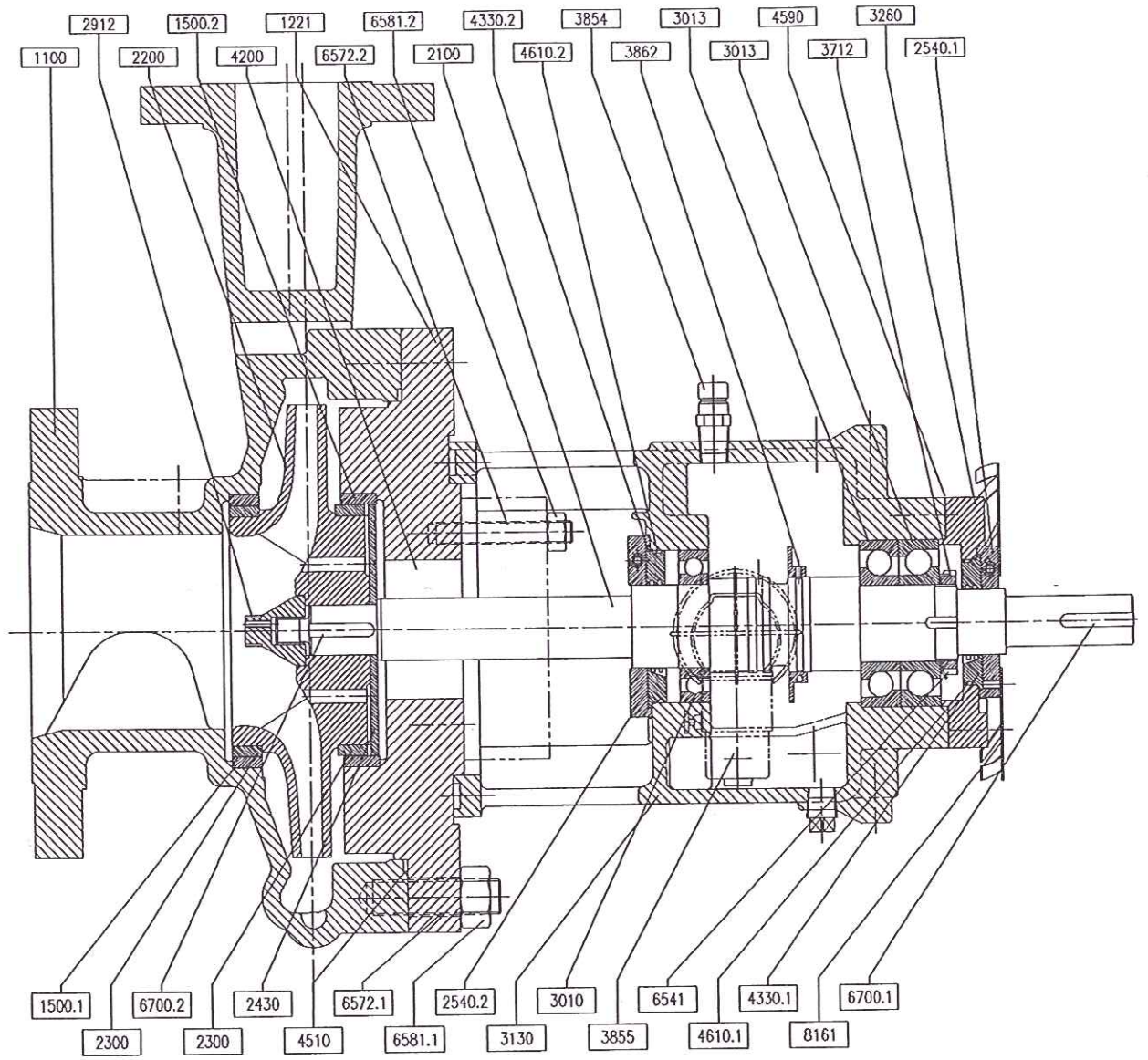
#105859

DRAWING NO. DWG024456
REV. C

Rev.	Date	Description	Drw.	Chk'd	Appr.
C	26/06/2007	OPERATING CONDITIONS WERE CHANGED	C. JUAREZ	M. SALCEDO	E. GARCIA
B	26/04/2007	CUSTOMER COMMENTS WAS ADDED.	C. JUAREZ	M. SALCEDO	E. GARCIA
A	09/04/2007	TAG NUMBER WAS CHANGED	C. JUAREZ	M. SALCEDO	E. GARCIA
#	28/03/2007	FIRST ISSUE	C. JUAREZ	M. SALCEDO	E. GARCIA

REVISIONS

A
B
C
D
E
F
G
H

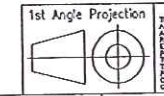


DIAMETRAL CLEARANCE	mm	Inch
FRONT WEAR RING	0.40	0.016
BACK WEAR RING	0.40	0.016
BUSH	0.40	0.016

REFN	DESCRIPTION	MATERIAL (ASTM)	REF. ZONE	QTY	SPARE PART	REFN	DESCRIPTION	MATERIAL (ASTM)	REF. ZONE	QTY	SPARE PART
3862	LUBRICATING DISK THROWER	A 276 - 316L		1							
3855	CONSTANT LEVEL OILER	TRCO		1							
3854	OIL FILTER PLUG	ALUMINIUM		1							
3712	BEARING NUT	KM 11		1							
3260	BEARING COVER	A 576 - 1020		1		8161	FAN	ALUMINIUM		1	
3130	BEARING BRACKET	A 216 - WCB		1		6700.2	KEY	A 576 - 1050		1	
3013	THRUST BALL BEARING	7311 BECBM		2		6700.1	KEY	A 576 - 1050		1	
3010	ANTI-FRICTION BEARING	6212		1		6581.2	HEXAGON NUT	A 194 8M		4	
2912	IMPELLER NUT	A 276 - 316L		1		6581.1	HEXAGON NUT	A 194 2H		8	
2540.2	DEFLECTOR	B221 - 6351		1		6572.2	STUD	A 193 88W		4	
2540.1	DEFLECTOR	B221 - 6351		1		6572.1	STUD	A 193 87		8	
2430	THROTTLING SLEEVE	A 276 - 410		1		6541	LOCKWASHER	MB 11		1	
2300	IMPELLER WEAR RING	A 426 CPCA15		2		4610.2	O RING	NBR		1	
2200	IMPELLER	A 487 - CA6NM/B		1		4610.1	O RING	NBR		1	
2100	SHAFT	A 434 - 4140		1		4590	GASKET	Compr.Synthetic Fibre		1	
1500.2	CASING WEAR RING	A 426 CPCA15		1		4510	GASKET	S.STEEL/SPIRAL WOUND		1	
1500.1	CASING WEAR RING	A 426 CPCA15		1		4330.2	LABYRINTH RING	B584 C93800		1	
1221	CASING COVER	A 516 Gr. 70		1		4330.1	LABYRINTH RING	B584 C93800		1	
1100	CASING	A 216 - WCB		1		4200	MECHANICAL SEAL	See Dwg. LATER		1	
REFN	DESCRIPTION	MATERIAL (ASTM)	REF. ZONE	QTY	SPARE PART	REFN	DESCRIPTION	MATERIAL (ASTM)	REF. ZONE	QTY	SPARE PART

P.O. NUMBER	56603-P-13-47	FLOW :	35.0 GPM
CUSTOMER	D-COK/GIANT INDUSTRIES	HEAD :	66.0 FT
JOB	-	NPSH :	2.5 FT
PLANT	GIANT INDUSTRIES - YORKTOWN REFINERY	BHP :	1.94 HP
UNIT	-	EFFICIENCY	34.6 %
SERVICE	SCRUBBER EFFLUENT A	RPM	1740
ITEM	G-669 A/B/A	FLUID	HYDROCARBON
SERIAL N.	07HE0017-018	TEMPERATURE :	100°F
		S.G. :	1.15
CUSTOMER INFORMATION		OPERATING CONDITION	

API Material Class :S6



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STATUS OF APPROVAL	
CERTIFIED	
ORDER No.	07HE0017-018
DRAWN BY	C. JUAREZ
CHECKED BY	M. SALCEDO
APPROVED BY	E. GARCIA
DATE	28/03/2007
DATE	28/03/2007
DATE	28/03/2007
Extracted	A1HPXG9U00
Substitutes	
CAD File :	A07HE0017-018A0

DWG TITLE	
1HPX9A CENTRIFUGAL PUMP CROSS SECTION	
SIZE	A2
DRAWING NO.	DWG024456
SCALE	N.T.S.
UNITS	metric
SHEET NO.	1/1
REV.	C

105858
105859

REL S.O. S7398952

FRAME L184T

HP 5

TYPE P

PHASE/HERTZ 3/60

RPM 1750

VOLTS 460

AMPS 6.6

DUTY CONT

AMB °C/INSUL 40/F

S.F. 1.15

NEMA DESIGN B

CODE LETTER J

ENCLOSURE YEFC-841

E/S 535580

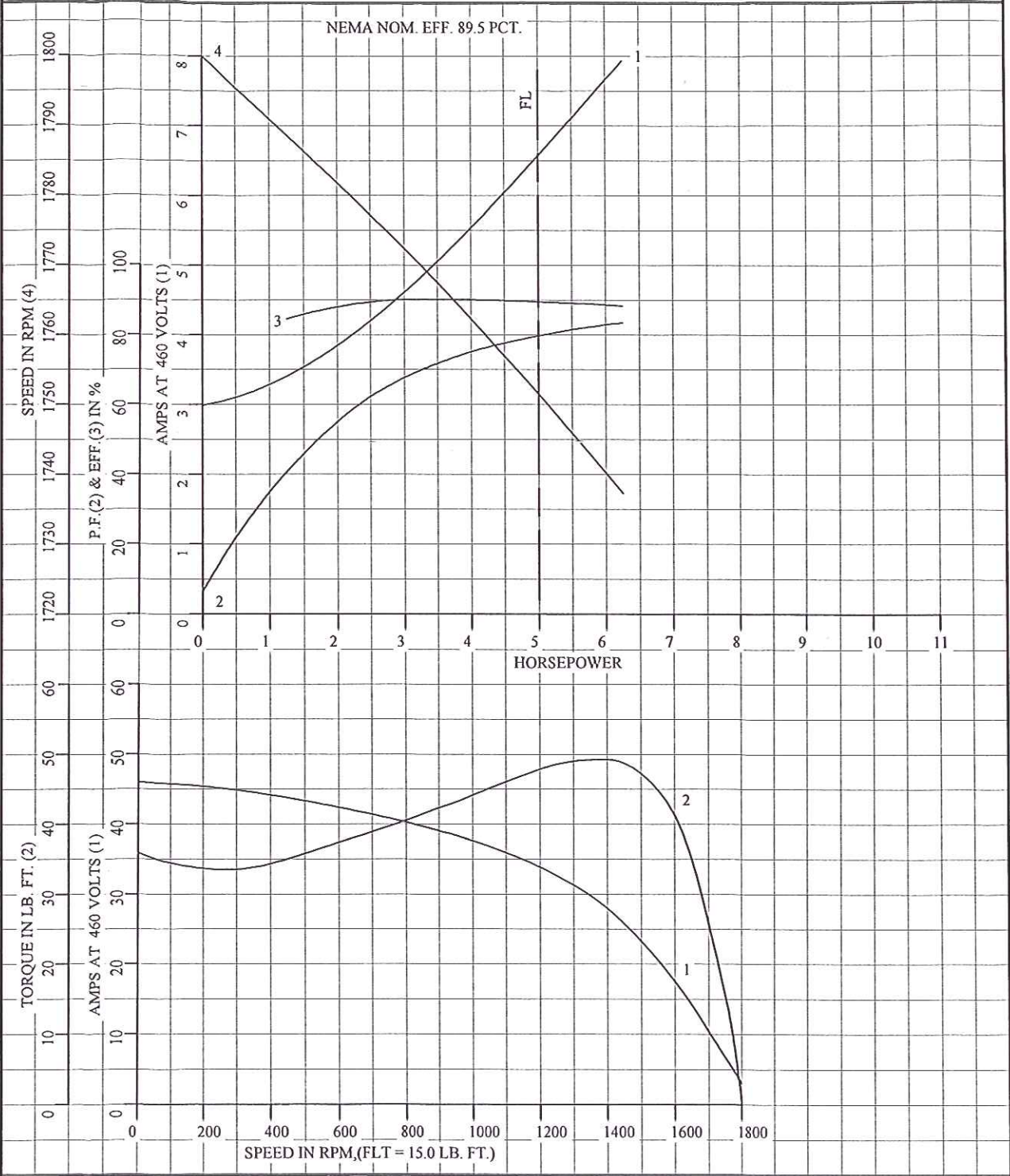
ROTOR 418424052FE

TEST S.O. TYPICAL DATA

TEST DATE ---

STATOR RES. @ 25 °C 2.58

OHMS (BETWEEN LINES)



#105858
#105859

AMPERES SHOWN FOR 460 VOLT CONNECTION, IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE.

Rockwell Automation

DR. BY W. L. SMITH
CK. BY J. J. HARRISON
APP. BY W. L. SMITH
DATE 10/31/05

A-C MOTOR PERFORMANCE CURVES
E02665-D-N005/
S7398952
ISSUE DATE 04/30/07

D-COK
PO # 56603-P-13-47
Tag G-669 A/B

REL. S.O.	FRAME	HP	TYPE	PHASE/ HERTZ	RPM	VOLTS
S7398952	L184T	5	P	3/60	1750	460
AMPS	DUTY	AMB °C/ INSUL.	S.F.	NEMA DESIGN	CODE LETTER	ENCL.
6.6	CONT	40/F	1.15	B	J	YEFC-841
E/S	ROTOR	TEST S.O.	TEST DATE	STATOR RES.@25 °C OHMS (BETWEEN LINES)		
535580	418424052FE	---	---	2.58		
PERFORMANCE						
LOAD	HP	AMPERES	RPM	% POWER FACTOR	% EFFICIENCY	
NO LOAD	0	3.0	1800	6.52	0	
1/4	1.25	3.4	1789	40.8	84.6	
2/4	2.50	4.2	1777	62.3	89.4	
3/4	3.75	5.3	1765	73.6	90.1	
4/4	5.00	6.6	1752	79.7	89.5	
5/4	6.25	7.9	1737	83.5	88.3	
SPEED TORQUE						
	RPM	TORQUE % FULL LOAD	TORQUE LB.-FT.	AMPERES		
LOCKED ROTOR	0	239	35.9	46.0		
PULL UP	275	223	33.5	45.0		
BREAKDOWN	1396	329	49.3	28.1		
FULL LOAD	1752	100	15.0	6.6		
AMPERES SHOWN FOR 460. VOLT CONNECTION. IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE						
REMARKS: TYPICAL DATA NEMA NOM. EFF. 89.5 PCT.						
Rockwell Automation		DR. BY W. L. SMITH CK. BY J.J.HARRISON APP. BY W. L. SMITH DATE 10/31/05		A-C MOTOR E02665-D-N005/ PERFORMANCE S7398952 DATA ISSUE DATE 04/30/07		

#105858

#105859

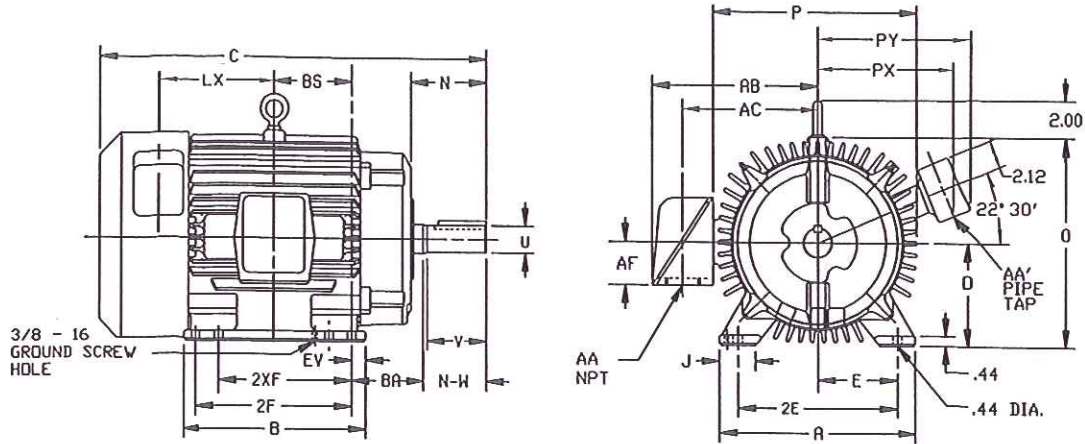
DUTY MASTER ALTERNATING CURRENT MOTORS

SQUIRREL-CAGE INDUCTION
CAST IRON CONSTRUCTION

ENCLOSURE: TOTALLY ENCLOSED
MOUNTING: FOOT

COOLING: FAN COOLED
ACCESSORIES: AUXILIARY
CONDUIT
BOX

FRAMES 180T THRU 210T
841XL



DIMENSIONS ARE IN INCHES; SEE SHEET 2 FOR DIMENSIONS IN MILLIMETERS

FRAME	A	D(2)	E	J	D	P	CAST IRON TERMINAL BOX				
							AA	AB	AC	AF	BA
182T-184T	9.00	4.50	3.75	1.75	9.88	9.50	1	8.44	6.69	2.12	2.75
213T-215T	10.50	5.25	4.25	2.00	11.25	11.00	1-1/4	9.81	7.81	2.50	3.50
(1)											

FRAME SIZE	C	BS	B	EV	2F	(4) 2XF	N	SHAFT AND KEY					WEIGHT LBS. (5)
								N-W(6)	UK(3)	V	SQ.	LGTH	
182T	15.62	2.75	7.00	.75	---	4.50	3.00	2.75	1.1250	2.50	0.250	1.75	86
184T	15.62	2.75	7.00	.75	5.50	---	3.00	2.75	1.1250	2.50	0.250	1.75	91
L182T	17.12	3.50	8.50	.75	---	4.50	3.00	2.75	1.1250	2.50	0.250	1.75	116
L184T	17.12	3.50	8.50	.75	5.50	---	3.00	2.75	1.1250	2.50	0.250	1.75	121
213T	19.31	3.50	8.50	.75	---	5.50	3.62	3.38	1.3750	3.12	0.312	2.38	135
215T	19.31	3.50	8.50	.75	7.00	---	3.62	3.38	1.3750	3.12	0.312	2.38	145
L213T	20.19	3.94	9.12	.62	---	5.50	3.62	3.38	1.3750	3.12	0.312	2.38	175
L215T	20.19	3.94	9.12	.62	7.00	---	3.62	3.38	1.3750	3.12	0.312	2.38	185
(1)													

FRAME SIZE	CAST IRON AUX. TERM. BOX (7)			
	LX	PX	PY	AA
180T	4.00	7.06	8.69	3/4
L180T	4.75			
210T	5.12	7.72	9.34	3/4
L210T	5.56			
(1)				

(1) SPECIAL DIMENSIONS APPLYING TO THIS ORDER ON THIS LINE.

(2) 'D' MAY VARY +.00, -.03

(3) 'U' VARIES +.0000, -.0005

(4) ALL FRAMES HAVE MOUNTING HOLES FOR DUAL MOUNTING. FRAME SIZES WITHOUT THE 'L' DESIGNATION ARE SUITABLE FOR CONVERSION TO F-2 MOUNTING. FRAME SIZES WITH THE 'L' DESIGNATION ARE NOT SUITABLE FOR CONVERSION TO F-2 MOUNTING.

(5) MOTOR WEIGHTS MAY VARY BY 15% DEPENDING UPON RATING.

(6) 'N-W' VARIES +.00, -.25.

(7) AUXILIARY TERMINAL BOX SUPPLIED ONLY WHEN SPECIFIED

CONDUIT BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING IS SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

MAXIMUM PERMISSIBLE SHAFT RUNOUT WHEN MEASURED AT END OF STD. SHAFT EXTENSION IS .001 T.I.R.

D-COK
PO # 56603-P-1347
Tag G-669 A/B

FRAME-_____ TYPE-_____ CERTIFIED FOR-_____
ORDER-_____ ITEM-_____ HP-_____ RPM-_____ PH-_____ HZ _____ VOLTS _____
RELANCE SALES ORDER-_____ APPROVED BY-_____ DATE _____

RELIANCE
ELECTRIC
CLEVELAND, OHIO 44117 U.S.A.

DR. BY G. ARTHUR
CK. BY R. BRYANT
APP. BY J.H. PONTIZER
DATE 01-26-99

DIMENSION SHEET 615470-844
SHEET 1 OF 2
ISSUE DATE: JANUARY 16, 2001

#105858
#105859