

of delivering

#### **END SUCTION GENERAL SERVICE PUMPS SERIES F - FRAME MOUNTED SERIES C - CLOSE COUPLED**

of delivering

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Pump shall be Sterling Fluid Systems, (USA) Inc. Series C end suction, radially split case centrifugal type capable

US GPM at a total head of

Sample Specifications for End Suction General Purpose, Series C-Close Coupled and Series F-Base Mounted pumps.

The following pump specifications include cast iron bronze fitted materials and all iron materials of construction. All iron construction materials are printed in italics. Select appropriate specification wording for desired construction materials.

\_Feet with an efficiency of not less than with an efficiency of not less than \_\_\_\_\_

# **Base Mounted - F Series** Pump shall be Sterling Fluid Systems, (USA) Inc. Series

F end suction, radially split case centrifugal type capable

\_US GPM at a total head of

% at the specified condition. Pumped liquid	specified condition. Pumped liquid will be at a temperature of° F with a specific gravity of
specific gravity of	1 with a specific gravity of
	Pump casing shall be cast iron with smooth water passages and fitted with a (bronze)(steel) replaceable wearing ring. Maximum casing working pressure shall be PSI
The impeller supplied for the specified conditions shall be one piece (bronze) ( <i>iron</i> ) casting of a diameter not greater than 90% of the casing cut water diameter.	The impeller supplied for the specified conditions shall be one piece (bronze) ( <i>iron</i> ) casting of a diameter not greater than 90% of the casing cut water diameter.
Pump shaft shall be carbon steel of a size and design to limit shaft deflection at the stuffing box to no more than	Sealing of the pump liquid cavity shall be accomplished with:
.002 inches.  Sealing of the pump liquid cavity shall be accomplished with:	<b>Packed Pumps, Bronze Fitted</b> A minimum of five rows of braided, graphited Acrylic or TFE braided packing and bronze shaft sleeve.
<b>Packed Pumps, Bronze Fitted</b> A minimum of five rows of braided, graphited Acrylic or TFE braided packing and bronze shaft sleeve.	Packed Pumps, All Iron A minimum of five rows of braided, graphited Acrylic or TFE packing and 416 stainless steel shaft sleeve.
Packed Pumps, All Iron A minimum of five rows of braided, graphited Acrylic or TFE packing and 416 stainless steel shaft sleeve.  Mechanical Seal Pumps, Bronze Fitted A face type	Mechanical Seal Pumps, Bronze Fitted A face type mechanical seal with Ni-Resist stationary seat, carbon washer, Viton rubber flexible members, 18-8 stainless steel metal parts and 18-8 stainless steel spring. Seal shall
mechanical seal with Ni-Resist stationary seat, carbon washer, Viton rubber flexible members, 18-8 stainless steel metal parts and 18-8 stainless steel spring. Seal shall	be mounted over a bronze shaft sleeve.  Mechanical Seal Pumps, All Iron A face type mechanical seal with Ni- Resist stationary seat, carbon
be mounted over a bronze shaft sleeve.  Mechanical Seal Pumps, All Iron A face type  mechanical seal with Ni Posist stationary seat earbon	washer, Viton rubber flexible members and 18-8 stainless steel spring and metal parts. Seal shall be mounted over a 416 stainless steel shaft sleeve.
mechanical seal with Ni- Resist stationary seat, carbon washer, Viton rubber flexible members and 18-8 stainless steel spring and metal parts. Seal shall be mounted over a 416 stainless steel shaft sleeve.	Pump shall be close coupled to a HI-NEMA frame (ODP) (TEFC) (Explosion Proof) electric motor rated Hp., Volts,
Pump shall be flexibly coupled to a NEMA frame (ODP) (TEFC) (Explosion Proof) electric motor ratedHp,RPM,Volts,PhaseHz. Motor and pump bearings shall be grease lubricated and sized for a minimum of 20,000 hours L10 life which is equivalent to 100,000 hours average bearing life. Motor and pump shall be aligned and mounted on a (steel base) (steel base with	minimum of 20,000 hours L10 life which is equivalent to 100,000 hours average bearing life. Motor shaft shall be carbon steel and of a size and design to limit shaft deflection at the stuffing box to no more than .002 inches. Motor bearings shall be grease lubricated and sized for a minimum of 20,000 hours B10 life which is equivalent to
drip pan or drip rim). A coupling guard shall be provided.	100,000 hours average bearing life.  Subject to change without notice.

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#### END SUCTION GENERAL SERVICE PUMPS SERIES C - CLOSE COUPLED



# **Typical Building Trades Specification**

The pump shall be close coupled, end suction type, radially split case type. Pump shall be equal to a Sterling
Fluid Systems, (USA) Inc. Series C model.
Pump to be designed forUS GPM at a total head offeet with an efficiency of not less
than% et the specified condition. Pumped liquid will be at a maximum temperature of $^{\circ}$ F.
The pump casing shall be cast iron with smooth water passage and fitted with a bronze replaceable ring. The
maximum casing working pressure shall be PSIG. Suction and discharge connections shall be (125 Lb.
Class ANSI) (Equivalent to 125 Lb. ANSI flanged) (NPT) type. The impeller shall be bronze of a diameter
of not greater than 90% of the casing cut-water diameter.
The sealing of the pump liquid cavity shall be with a face type mechanical seal with Ni-Resist stationary
seat, carbon washer, Viton rubber flexible members, 18-8 stainless steel metal parts and 18-8 stainless steel
spring. Seal to be rated for 250° F. and shall be mounted over a bronze shaft sleeve.
Motor shall be of close coupled design NEMA frame (open drip-proof) (totally enclosed fan-cooled)
(explosion proof) rated atHP,RPM,Volts,Phase,
Hertz.
The motor shaft shall be carbon steel and of a size and design to limit shaft deflection at the stuffing box to
no more than .002 inches. Motor bearing shall be grease lubricated and sized for a minimum of 20,000 hour
L10 life which is equivalent to 100,000 hours average bearing life.

# END SUCTION GENERAL SERVICE PUMPS SERIES F - FRAME MOUNTED

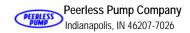
SECTION 2320 Page 0.3 June 4, 2004

# **Typical Building Trades Specification**

Pump snail be end suction type, flexible coupled, radially split case centrifugal type. Pump snail be equal to
a Sterling Fluid Systems, (USA) Inc. Series F model.
Pump to be designed forUS GPM at a total head ofFeet. with an efficiency of not less
than% at the specified condition. Pumped liquid will be at a maximum temperature of $^{\circ}$ F.
The pump casing shall be cast iron with smooth water passage and fitted with a bronze replaceable ring. The
maximum casing working pressure shall bePSI. Suction and discharge connections shall be
(125 Lb. Class ANSI)(Equivalent to 125 Lb. ANSI flanged) (NPT)type.
The impeller shall be bronze of a diameter not greater than 90% of the casing cut-water diameter.
The pump shaft shall be carbon steel of a size and design to limit shaft deflection at the stuffing box to no
more than .002 inches. Pump bearings shall be grease lubricated and sized for a minimum of 20,000 hours.
L10 life which is equivalent to 100,000 hours average bearing life. Motor and pump shall be aligned and
mounted on a (steel base) (steel base with drip pan or drip rim). A coupling guard shall be famished.
Sealing of the pump liquid cavity shall be with a face type mechanical seal with Ni-Resist stationary seat
carbon washer, Viton rubber flexible members, 18-8 stainless steel metal parts and 18-8 stainless steel
spring. Seal to be rated for 250° F. Seal shall be mounted over a bronze shaft sleeve.
Pump shall be flexibly coupled to a NEMA frame (Open Drip-proof) (Totally Enclosed Fan-Cooled)
(Explosion Proof) electric motor rated HP,RPM,Volts,Phase
Hertz.

SECTION 2320 Page 0.4 June 4, 2004

#### **END SUCTION GENERAL SERVICE PUMPS SERIES F - FRAME MOUNTED** SERIES PE, C - CLOSE COUPLED



PUMP STANDARDS F and C Units: Clockwise rotation when viewing pump discharge connection mounted in top vertical position. Cast Iron Bronze Fitted or All Iron (not all sizes) Construction. JP Style stuffing box with 3/8 in. square graphited packing, or, JM Style stuffing box with mechanical seal. F Units: Grease lubricated bearings minimum L10 bearing life exceeds 2 years at maximum load. Base mounted: Flexible coupling with elastomer type insert or sleeve, standard coupling guard, steel non-drip rim base with optional drip pan or drip rim. ①

	•		٠.				0 0
Pump	Max.	Min.	Max.	No. of	Imp.	Pump	Pump
Size	Imp.	Imp	Sphere	Imp	Eye	Suction	Discharge
	Dia.	Dia.	Size	Vanes	Area	Size	Size
					Sq. In.	2	3
610A	6.0	4.0	.38	3	3.20	2.0 NPT	1.0 NPT
615A	6.0	4.0	.38	5	3.50	2.0 NPT	1.5 NPT
615J	6.0	4.0	.38	3	5.20	2.0 NPT	1.5 NPT
620A	6.0	4.0	.38	5	3.10	2.5 NPT	2.0 NPT
740	7.0	5.5	.65	6	12.9	5.0 FLG	4.0 FLG
810A	8.0	6.0	.31	6	3.10	2.0 NPT	1.0 NPT
810G	8.0	6.0	.21	6	3.10	2.0 NPT	1.0 NPT
815A	8.0	6.0	.31	6	3.10	2.0 NPT	1.5 NPT
815G	8.0	6.0	.21	6	3.10	2.0 NPT	1.5 NPT
820A	8.0	6.0	.25	8	4.90	2.5 NPT	2.0 NPT
825A	8.0	6.0	.50	6	6.50	3.0 FLG	2.5 FLG
830A	8.0	6.0	.62	6	9.10	4.0 FLG	3.0 FLG
840	8.0	6.0	.87	5	14.00	5.0 FLG	4.0 FLG
1020A	10.0	7.0	.25	6	3.90	2.5 FLG	2.0 FLG
1025A	10.0	7.0	.50	6	7.10	3.0 FLG	2.5 FLG
1030A	10.0	7.0	.62	6	9.60	4.0 FLG	3.0 FLG
1040A	10.0	7.0	.94	6	12.60	5.0 FLG	4.0 FLG
1050A	10.0	7.0	1.13	6	20.75	6.0 FLG	5.0 FLG
1125	10.5	8.0	.38	5	6.80	3.0 FLG	2.5 FLG
1140	10.5	8.0	.40	5	12.01	5.0 FLG	4.0 FLG
1215	12.0	9.0	.38	6	3.10	2.0 NPT	1.5 NPT
1220	12.0	9.0	.38	8	4.90	2.5 FLG	2.0 FLG
1230	12.0	9.0	.62	8	10.40	4.0 FLG	3.0 FLG
1240	12.0	9.0	.81	6	15.10	5.0 FLG	4.0 FLG
1250	12.0	9.0	1.00	6	18.10	6.0 FLG	5.0 FLG
1260A	12.0	9.0	1.12	8	50.00	8.0 FLG	6.0 FLG
1260G	12.0	9.0	.80	7	30.20	8.0 FLG	6.0 FLG
1425	14.0	10.0	.40	6	11.30	4.0 FLG	2.5 FLG
1430	14.0	10.0	.54	6	11.30	4.0 FLG	3.0 FLG
1430G	14.0	10.0	.40	6	11.30	4.0 FLG	3.0 FLG
1440	14.0	10.0	.72	6	16.90	5.0 FLG	4.0 FLG
1660	16.0	11.5	.75	8	32.00	8.0 FLG	6.0 FLG

PRESSURE/TEMPERATURE LIMITATIONS						
Pump Series or Type	Temperature <sup>0</sup> F	Maximum Working Pressure Psi				
C & FM,	0 - 150	175 (250 🕏)				
C & FP and	151 - 200	165 (230 ⑦)				
PE203 through PE838 ©	201 - 250	155 (215 🕏)				
PE33B, 50B, 75C, 100C, 150C	0 - 160	75				

<sup>©</sup> Maximum suction pressure is 100 psi.

#### Model Designation.

Prefix Letter (& number)

**F** = Series F frame mounted pump

0, 1, 2, 3, 4 = F Series frame size

C = Series C close coupled pump

Middle numbers

First or first set of two = Basic pump size

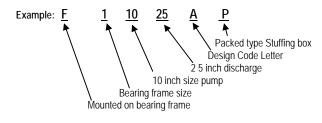
by maximum impeller diameter

Second set of two = Discharge size In inches Suffix Letters:

A = Design code letter

P = Packed type stuffing box

M = Mechanical seal type stuffing box



#### SERIES C - CLOSE COUPLED PLIMP DATA

	SERIES C. CLOSE COOF LED FOWER DATA										
Basic	Motor	Style M - Mechanical Seal					Style P - Pacl	king ④			
Pump	Frame						-	Stuffi	ng Box	Packing Ring	Lantern Ring
		Motor Shaft Extension	Shaft Dia. Impeller	Shaft Sleeve Dia Seal	Motor Shaft Extension	Shaft Dia. Impeller	Shaft Sleeve Dia. Packing	Bore	Depth	Quantity	Quantity
PE	56J	56J	7/16-20UNF	.625 (Shaft Dia no sleeve)	-	-	-	-	-	-	-
PE ®	143-215	JM	.875	1.25	-	-	-	-	-	-	-
6	143-184	JM	.875	1.25	JP	.875	1.25	2.03	2.62	6	Standard
Through	213-215	JM	.875	1.25	JP	1.250	1.75	2.50	2.62	6	without
14	254-326	JM	1.250	1.50	JP	1.250	1.75	2.50	2.62	6	Lantern
14	364	JP	1.625	2.25	JP	1.625	2.25	3.00	3.00	6	ring ④

#### SERIES F - FRAME MOUNTED PUMP DATA

Bearing	Shaf	t Dia. through	Style M - Mechanical	Style P - Packing ④			Bearing Reference Number New Departure			
Frame			Seal	Shaft	Shaft Stuffing Box Packing Ring Lantern Ring			Inboard	Outboard	
	Impeller	Coupling	Shaft Sleeve Dia.	Sleeve Dia.	Bore	Depth	Quantity	Quantity		
F1	0.875	1.125	1.25	1.25	2.03	2.62	6	=	ND3206	ND43207
F2	1.250	1.250	1.50	1.75	2.50	2.62	6	-	ND1209	ND43308
F3M	1.250	1.875	1.50	-	-	-	-	Standard	ND1212	ND43311
F3P	1.625	1.875	-	2.25	3.00	3.00	6	without ring	ND1212	ND43311
F4	1.625	1.875	2.25	2.25	3.00	3.00	6	4	U1212TM	ND45311

- 1 Refer to page 1 Section 2320 for maximum shaft speed for Series F pumps. 2 Suction Flange is equivalent to 125 Lb. ANSI connection and rating
- 3 Discharge Flange Is 125 Lb. ANSI dimensions and ratings, 250 Lb ANSI available only on 1125 and 1140 models.
- To result on lift applications optional lantern ring and stuffing box wafer seal piping are required with a quantity of 5 packing rings.
- © PE203-583 Is same as 615A pump with 610A impellers, PE753, 783 same as 615A pump, PE833-838 same as 810A pump.

② 1125 and 1140 with 250 Lb ANSI Discharge Flange only.

# END SUCTION GENERAL SERVICE PUMPS Series C and F

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## IMPELLER CLEARANCE AND CUTWATER DIAMETERS IN INCHES

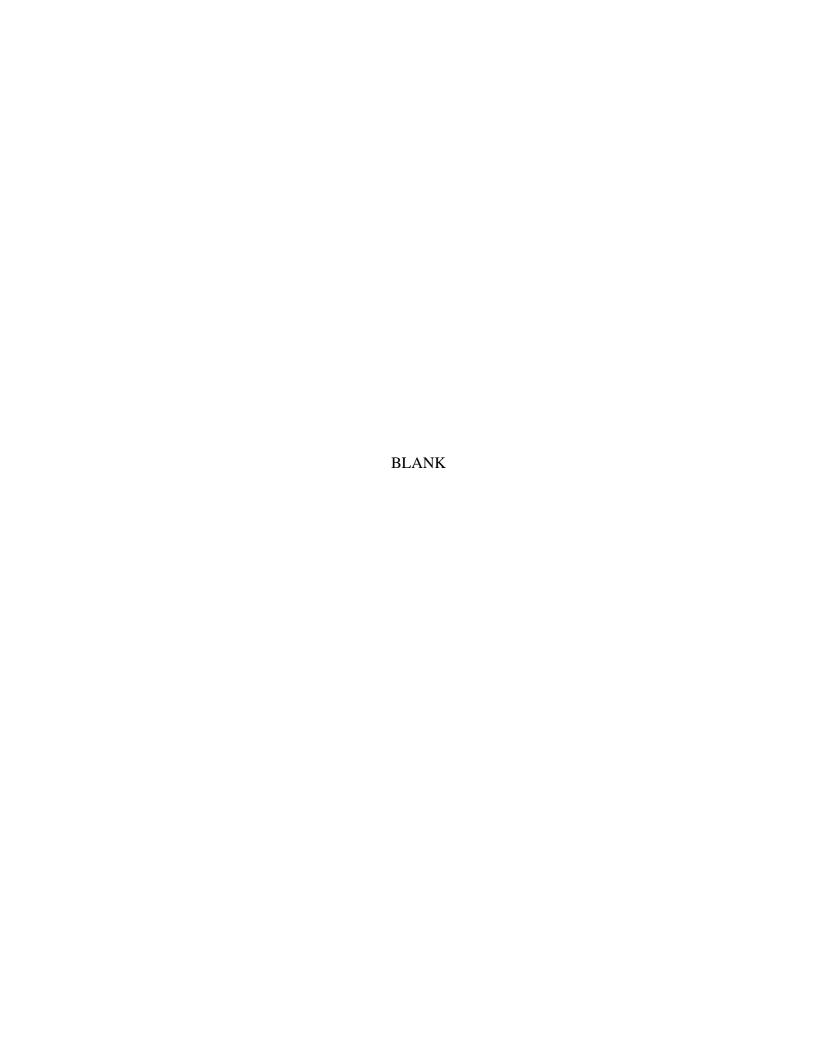
C & F PUMP MODEL	100%	90%	85%	75%
610A	6.56	5.90	5.57	4.92
615A	6.52	5.87	5.54	4.89
615J	6.52	5.87	5.54	4.89
620A	6.60	5.94	5.61	4.95
740	7.50	6.75	6.38	5.62
810A	8.28	7.45	7.04	6.21
810G	8.28	7.45	7.04	6.21
815A	8.28	7.45	7.04	6.21
815G	8.28	7.45	7.04	6.21
820A	8.62	7.76	7.32	6.47
825A	8.88	7.99	7.55	6.66
830A	8.88	7.99	7.55	6.66
840	8.75	7.87	7.44	6.56
1020A	11.05	9.94	9.39	8.29
1025A	11.00	9.90	9.35	8.25
1030A	10.84	9.75	9.21	8.13
1040A	11.15	10.03	9.48	8.36
1050A	10.66	9.59	9.06	7.99
1125	10.84	9.75	9.21	8.13
1140	11.12	10.00	9.45	8.34
1215A	12.81	11.52	10.89	9.61
1220A	13.08	11.77	11.18	9.81
1230A	13.00	11.70	11.05	9.75
1240A	12.84	11.56	10.91	9.63
1250A	13.22	11.90	11.24	9.92
1260A	12.68	11.41	0.78	9.51
1260G	13.00	11.70	11.05	9.75
1425	14.64	13.18	12.44	10.98
1430	14.94	13.45	12.70	11.21
1430G	14.94	13.45	12.70	11.21
1440	15.22	13.70	12.94	11.42
1660	16.36	14.72	13.91	12.27

### **NOTE:**

The 100% column represents the equivalent casing cast tongue diameter. The 90 - 85 - 75% columns represent the impeller diameter to casing tongue diameter clearance ratio.

**REFERENCE NO. 4850347** 

Subject to change without notice



# END SUCTION GENERAL SERVICE PUMPS SERIES F - FRAME MOUNTED

SECTION 2320 Page 1 June 4, 2004

## **Maximum Shaft Speed for Series F Pumps**

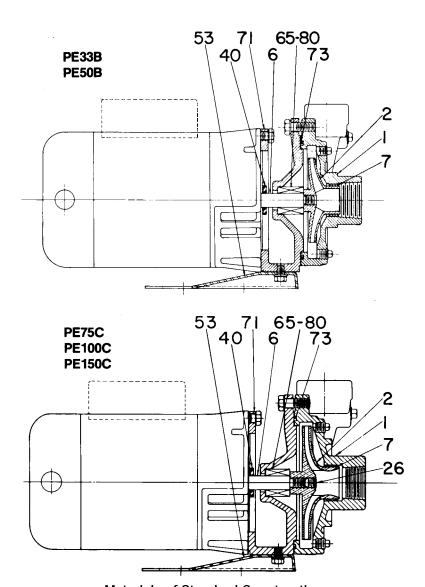
Pump Series	Electric Motor	V- Belt Drive 5" Dia.	Jack shaft and
Type & Style	Direct Coupled	Pulley on Pump Shaft	Pulley, or Direct
Type & Style	Nominal rpm	Max. Pump Rpm	Coupled Engine
	Nominaripin		Max. Pump Rpm
		(1)	
			①
F1610AM, P	3500	4400	4900
F1615AM, P	3500	4100	4500
F1615JM, P	3500	4100	4500
F1620AM, P	3500	3280	3500
F1740M, P	1750	1730	1750
F2740M, P	3500	3050	3500
F1810AM	3500	-	=
F2810AM, P	3500	3250	3500
F1810GM, P	3500	3100	3500
F1815AM	3500	3050	3500
F2815AP	3500	3150	3500
F1815GM, P	3500	3000	3500
F1820AP	1750	-	1750
F1820AM	3500	-	=
F2820AM, P	3500	2950	3500
F1825AM, P	1750	-	1750
F2825AM, P	3500	3180	3500
F1830AM, P	1750	-	1750
F2830AM, P	3500	3040	3500
F1840AM, P	1750	1730	1750
F11020AM, P	1750	2105	2300
F24020AM D	3500 ①	3100	2500
F21020AM, P	1750	3100	3500 1900
F11025AM, P F21025AM, P	1750	1670 2750	2900
F11030AM, P	1750	1500	1750
FTTU3UAIVI, P	1750		
F21030AM, P	1750	2700 ②	2900 ②
F21030AM, P	1750	2540 ③	2600 ③
F21040AM, P	1750	1685	2000
F21050AM, P	1750	1600	1750
F21125M, P	3500	2700	2900
F31140M, P	3500	2700	2900
F21215AM, P	1750	2300	3100
F21220AM, P	1750	2040	3000
F21230AM, P	1750	1660	2065
F21240AM, P	1750	1440	1765
F21250AM, P	1750	1220	1750
F41260AM, P	1750	1800	1900
F31260GM, P	1750	1800	1900
F31425M, P	1750	2000	2400
F41425P	1750	2500	2500
F31430M, P	1750	2000	2300
F41430P	1750	2500	2500
F31430GM, P	1750	2000	2300
F41430GP	1750	2500	2500
F31440M, P	1750	1800	2200
F41440P	1750	2400	2400
F31660P	1750	2700	1800
F41660P	1750	1600	1800
141000F	1730	1000	1000

① Do not use for building trades applications ② 9.4" maximum impeller diameter ③ 10.0" maximum impeller diameter

### **LIMITATIONS FOR USE:**

- 1. The casing maximum working pressure must not be exceeded due to RPM or suction pressure (refer to page 0.4 of Section 2320 for maximum pressures).
- 2. The above data are based upon liquids with 1.0 specific gravity and adequate NPSHA.
- 3. Speeds shown are based upon full diameter impellers (except where shown) and bearing frames indicated
- 4. Calculated L10 bearing life is equal to or greater than 17,500 hours (2 years).

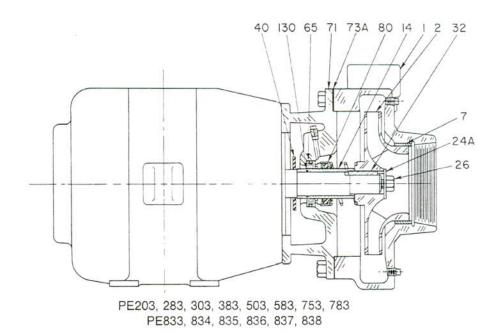
#### END SUCTION GENERAL SERVICE PUMPS SERIES PE - CLOSE COUPLED



# **Materials of Standard Construction**

Item No.	Part Description		Material Description	
1	Casing		Cast Iron	
2	Impeller		Bronze	
6	Shaft		11-13% Cr. Stainless. Steel	
7	Casing Ring		Bronze	
26	Impeller Lock Screw		18-8 Stainless Steel	
40	Deflector		Rubber	
53	Base		Steel	
65	Mechanical Seal Seat		Ceramic	
71	Adapter		Cast Iron	
73	Casing "O" Ring		Rubber	
	Mechanical	Flexible	Rubber	
80	Seal Metal		Brass	
	Rotary Washer		Carbon	
	Parts	Spring	18-8 Stainless. Steel	

# END SUCTION PUMPS Type PE — Close Coupled — Mechanical Seal —



### Standard Materials of Construction

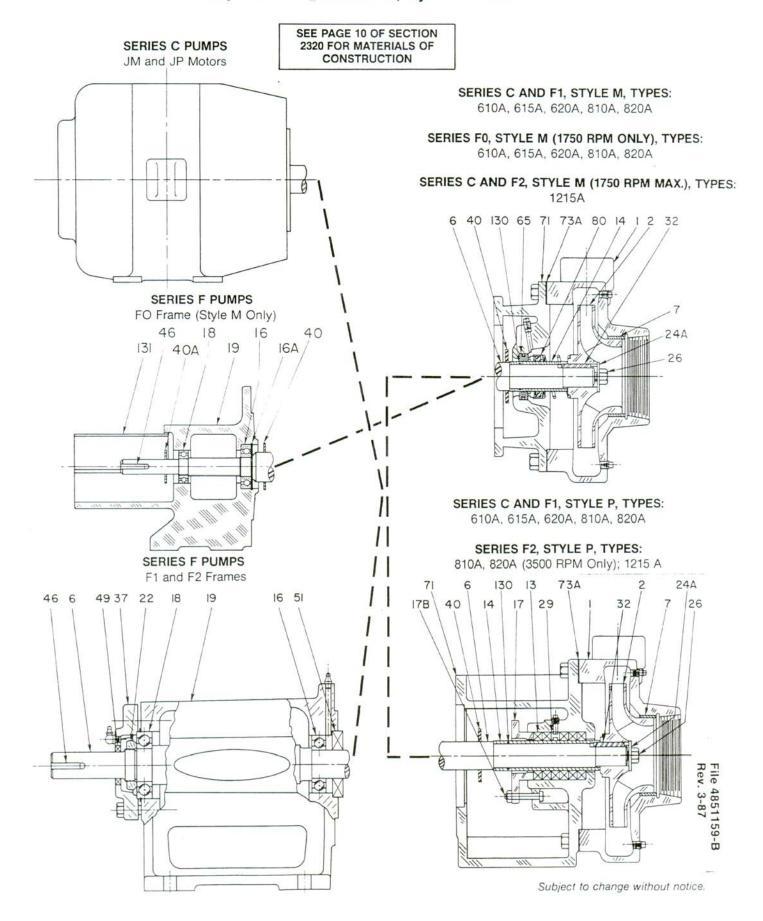
Item No.	Part Description	Material Description		
1	Casing		Cast Iron	
2	Impeller, PE203 Th	rough PE783	Bronze	
2	Impeller, PE833 Th	rough PE838	Bronze	
7	Casing Ring		Bronze	
14	Shaft Sleeve		Bronze	
24A	Impeller Washer		18-8 Stainless Steel	
26	Impeller Lock Scre	w	18-8 Stainless Steel	
32	Impeller Key		Steel	
40	Deflector		Rubber	
65	Mechanical Seal S	Seat	Ni-Resist	
71	Adapter		Cast Iron	
65	Mechanical Seal Se	eat	Ni-Resist	
73A	Casing Casket		Vegetable Fiber	
80		Flexible	Buna Rubber	
	Mechanical	Metal	18-8 Stainless Steel	
	Seal Rotary Parts	Spring	18-8 Stainless Steel	
	Paris	Bellows	Buna Rubber	
130	Shaft Sleeve "O" F	Shaft Sleeve "O" Ring		

SECTION 2320 Page 4 September 9, 1988

### **END SUCTION PUMPS**



Series C — Close Coupled, Series F — Frame Mounted Style M — Mechanical Seal, Style P — Packed



# END SUCTION PUMPS

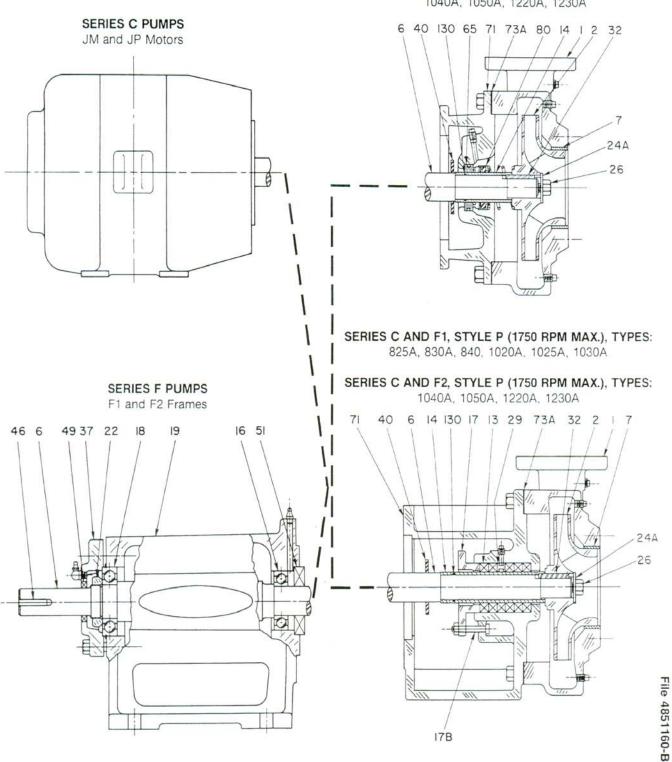
# Series C — Close Coupled, Series F — Frame Mounted Style M — Mechanical Seal, Style P — Packed

SECTION 2320 Page 5 August 19, 1983

SEE PAGE 10 OF SECTION 2320 FOR MATERIALS OF CONSTRUCTION

SERIES C AND F1, STYLE M (1750 RPM MAX.), TYPES: 825A, 830A, 840, 1020A, 1025A, 1030A

SERIES C AND F2, STYLE M (1750 RPM MAX.), TYPES: 1040A, 1050A, 1220A, 1230A



# END SUCTION PUMPS Series C — Close Coupled, Series F — Frame Mounted Style M — Mechanical Seal, Style P — Packed

SEE PAGE 10 OF SECTION 2320 FOR MATERIALS OF CONSTRUCTION

SERIES C AND F2, STYLE M (3500 RPM ONLY), TYPES: 825A, 830A

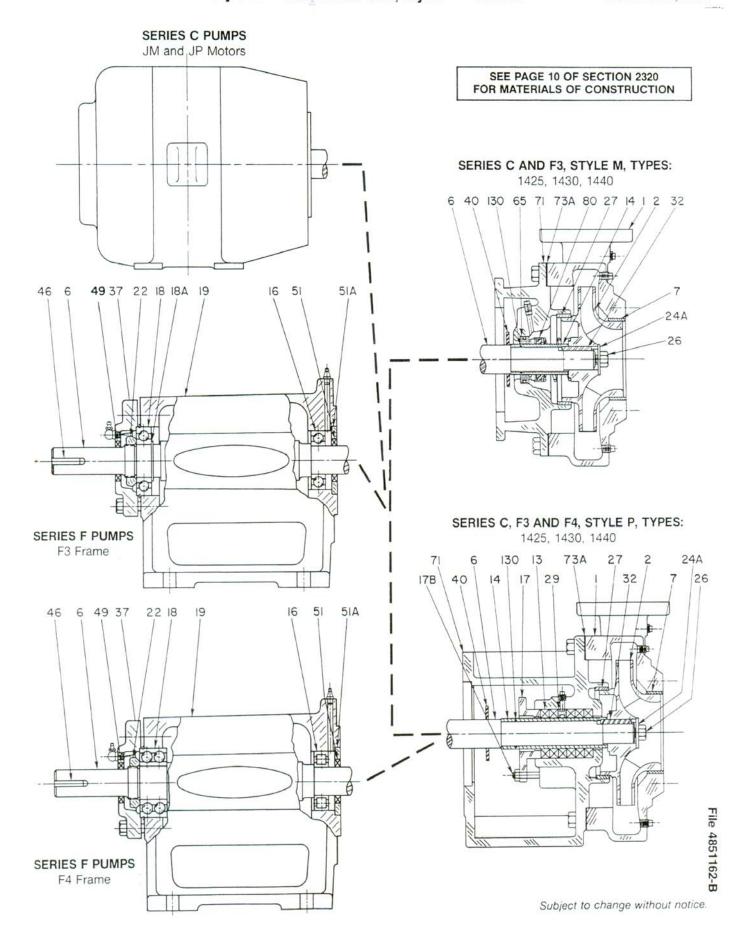
Subject to change without notice.

# SERIES C AND F2, STYLE M (1750 RPM MAX.), TYPES: 1240A, 1250A SERIES C PUMPS 6 40 I30 65 7I 73A 80 27 I4 I 2 32 JM and JP Motors 26 SERIES C AND F2, STYLE P (3500 RPM ONLY) TYPES: 825A, 830A SERIES C AND F2, STYLE P (1750 RPM MAX.), TYPES: 1240A, 1250A SERIES F PUMPS 130 13 73A 27 24A F2 Frame 17B 17 29 26 14 32 49 37 22 18 16 51 46 6 File 4851161-B

## **END SUCTION PUMPS**

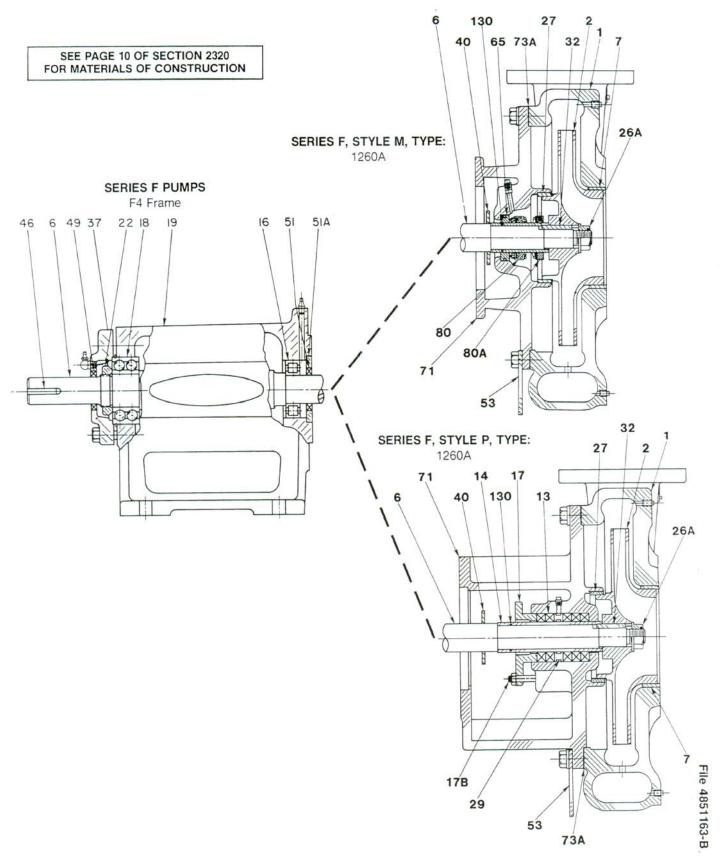
# Series C — Close Coupled, Series F — Frame Mounted Style M — Mechanical Seal, Style P — Packed

SECTION 2320 Page 7 December 9, 1983



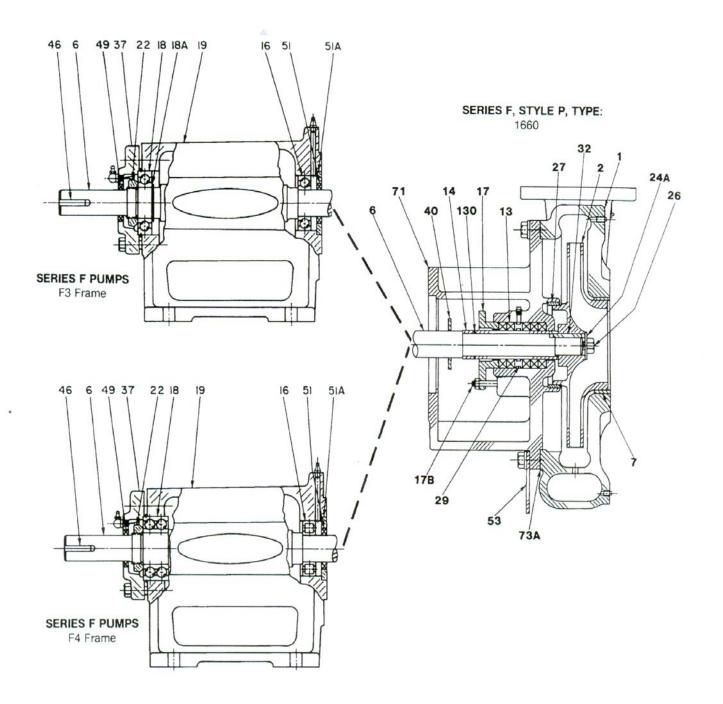
# END SUCTION PUMPS Series F — Frame Mounted Style M — Mechanical Seal, Style P — Packed





## END SUCTION GENERAL SERVICE PUMPS SERIES F - FRAME MOUNTED Style P Packed

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# END SUCTION GENERAL SERVICE PUMPS SERIES F - FRAME MOUNTED SERIES C - CLOSE COUPLED Style M Mechanical Seal - Style P Packed



## **Standard Materials Of Construction**

Item	Description	Standard Materials C	Bronze Fitted	All Iron
No.	Description	/I I	טוטוובכ ו ונוכע	All lion
110.	Cooling		Coct Iron	Cast Iran
2	Casing Impeller		Cast Iron Bronze	Cast Iron Cast Iron
6	Shaft			416 Stainless Steel
0	Sildit		Steel (Optional 416 Stainless Steel)	4 to Stairliess Steel
7	Casing Ring		Bronze	Steel
13	Packing Ring	143-184JP	Graphited Braided Acrylic	Graphited Braided Acrylic
13	213-364JP		Graphited Braided TFE	Graphited Braided TFE
14	Shaft Sleeve	213-30431	Bronze (Optional 416	416 Stainless Steel
17	Shart Siceve		Stainless Steel)	410 Starriess Steer
16	Inboard Bearing		Steel Assembly	Steel Assembly
16A	Bearing Retaining Ring		Plated Steel	Plated Steel
17	Packing Gland		Cast Iron	Cast Iron
17B	Gland Bolt or Stud		Steel	Steel
17C	Gland Bolt Nut		Plated Steel	Plated Steel
17D	Gland Bolt Washer		Plated Steel	Plated Steel
18	Outboard Bearing		Steel Assembly	Steel Assembly
18A	Bearing Retaining Ring		Steel	Steel
19	Bearing Frame		Cast Iron	Cast Iron
22	Bearing Lock Nut		Steel	Steel
24A	Impeller Washer		18-8 Stainless Steel	18-8 Stainless Steel
26	Impeller Lock Screw		Nylon/18-8 Stainless Steel	Nylon/18-8 Stainless Steel
26A	Impeller Lock Nut		Nylon/Plated Steel	Nylon/Plated Steel
27	Adapter Ring		Bronze	Steel
29	Lantern Ring(optional)	143-184JP, F1	TFE Polymer	TFE Polymer
		213-365JP F2, F3, F4	Bronze	Cast Iron
32	Impeller Key		Steel	Steel
37	Outboard Bearing Cover		Cast Iron	Cast Iron
40	Inboard Deflector		Rubber	Rubber
40A	Outboard Deflector		Rubber	Rubber
46	Coupling Key		Steel	Steel
49	Outboard Bearing Grease Retainer		Rubber/Steel Assembly	Rubber/Steel Assembly
51	Inboard. Bearing Grease Retainer		Rubber/Steel Assembly	Rubber/Steel Assembly
51A	Grease Retainer Bushing		Steel	Steel
53	Casing Support	†	Steel	Steel
63	Lantern Ring Bushing	213-365JP F2, F3, F4	Bronze	Cast Iron
65	Mechanical Seal Seat		Ni-Resist	Ni-Resist
65A	Mechanical Seal Seat "O" Ring		Viton®	Viton®
71	Adapter		Cast Iron	Cast Iron
73A	Casing Gasket	1	Vegetable Fiber	Vegetable Fiber
	Mechanical	Flexible	Viton®	Viton®
80	Seal	Metal	18-8 Stainless Steel	18-8 Stainless Steel
	Rotary	Spring	18-8 Stainless Steel	18-8 Stainless Steel
	Parts	Washer	Carbon	Carbon
80A	Mechanical Seal Collar	364-JP, F3, F4	18-8 Stainless Steel	18-8 Stainless Steel
130	Shaft Sleeve "O" Ring		Viton®	Viton®

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