

### Close Coupled End Suction



#### 1. RADIAL SPLIT CASING DESIGN

Casing is close grain iron of 30,000 p.s.i. minimum tensile strength. Back pull-out design eliminates the need to disturb piping should the pump ever require service - the casing stays in the line. Centerline discharge. Stud mounted casing assures positive alignment and allows rotation of discharge to eight different positions. Openings are provided for test gauges, for venting and for draining the pump.

#### 2. ENCLOSED BRONZE IMPELLER

Enclosed bronze impeller is of latest hydraulic design for maximum efficiency. It is balanced for vibration free operation. Precision fit to shaft and double-locked with key and cap screw.

#### 3. REPLACEABLE CASING WEAR RING

Prevents wear on casing and is easy to replace.

#### 4. MECHANICAL SHAFT SEAL

Mechanical Shaft Seal is self-adjusting for temperatures up to 225°F (107°C) and pressures to 150 psi (1034kpa). Has ceramic seat and carbon seal faces for long trouble-free service. Special seals are available for higher temperatures and fluids other than water. Tapped opening is provided in the seal chamber for flushing seal faces.

#### MAXIMUM OPERATING CONDITIONS

Maximum Pumping Temperature*	225°F (107°C)
Maximum inlet Pressure	100 PSI (690kpa)
Maximum Case Working Pressure	200 PSI (1379kpa)

\* FOR STANDARD BUNA-N SEAL

#### MATERIALS OF CONSTRUCTION

Part	Bronze Fitted	All Bronze	All Iron
Adapter	Cast Iron	Bronze	Cast Iron
Casing	Cast Iron	Bronze	Cast Iron
Casing Wear Ring	Bronze	Bronze	Steel
Shaft	Steel	Steel	Steel
Shaft Sleeve	Bronze	Bronze	#316 Stainless
Impeller	Bronze	Bronze	Cast Iron
Shaft Seal	Carbon-Ceramic SS - Buna-N	Carbon-Ceramic SS - Buna-N	Carbon-Ceramic SS - Buna-N

#### 5. BRONZE SHAFT SLEEVE

Gasketed and keyed hook-type sleeve protects shaft wear and corrosion in seal area.

#### 6. MOTORS

The standard Type JM motors supplied with these pumps offer the advantages of quiet operation, controlled shaft deflection for longer mechanical seal life and bearings sized to provide good service life. All motors are **supplied by** manufacturers providing field service facilities.

#### 7. INTERCHANGEABILITY

The complete liquid end of any size pump is interchangeable between motors on close-coupled pumps and the BURKS power frames of comparable size providing inventory flexibility, plus an option for handling emergency service.

#### 8. FACTORY TESTED

After careful assembly and inspection, EVERY pump is factory tested and will meet Hydraulic Institute standards.

#### FOR TEMPERATURES TO 500°F (260°C).

All models, with the exception of the G7-2-1/2 and all G9 series pumps are available in a Jacketed Seal Cavity design for pumping hot oil, hot water and heat transfer fluids in common use in high temperature heating or cooling applications. This feature greatly extends seal life in high temperature applications. To order, add suffix "MJ" to pump catalog number for temperatures below 400°F (204°C) and add suffix "MJK" to pump catalog number for temperatures over 400°F (204°C). Example: G6-1-1/2MJ. See Section on High Temperature Pumps for more information.

#### SUCTION & DISCHARGE SIZES

* SERIES	SUCTION (in)	DISCHARGE (in)
G6-1-1/2	2	1-1/2
G-2 & 2F	2-1/2	2
G6-2-1/2 & 2-1/2F	3	2-1/2
G7-2 & 2F	2-1/2	2
G7A-2 & 2F	2-1/2	2
G7-2-1/2 & 2-1/2F	3	2-1/2
G9-1-1/2	2	1-1/2
G9-2 & 2F	2-1/2	2
G9-2-1/2 & 2-1/2F	3	2-1/2
G9-3F & G9A-3F	4	3
G9-4F	5	4

\*F Suffix Denotes ANSI 125# Flat Face Flanges



#### WARNING:

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Series: **G9-2F, G9-2½F, G9-3F, G9A-3F, 4G9-4F**

Dimensions with Flanged Casing



**Close Coupled End Suction**



**DIMENSIONS IN INCHES**

MODEL	MOTOR FRAME SIZE	DISC NPT (in)	SUCT NPT (in)	A	AB	B	CP	D	DD	E	F	G	H	L	O	X	Y
G9-2F	143JM	2	2½	7	8 <sup>15</sup> / <sub>16</sub>	5	15 <sup>7</sup> / <sub>8</sub>	3½	5 <sup>15</sup> / <sub>16</sub>	2¾	2	¾	1 <sup>11</sup> / <sub>32</sub>	9 <sup>1</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>16</sub>	8½	2 <sup>1</sup> / <sub>16</sub>
	145JM			7	8 <sup>15</sup> / <sub>16</sub>	6	16 <sup>7</sup> / <sub>8</sub>	3½	5 <sup>15</sup> / <sub>16</sub>	2¾	2½	¾	1 <sup>11</sup> / <sub>32</sub>	9 <sup>1</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>16</sub>	8½	2 <sup>1</sup> / <sub>16</sub>
	182JM			8¾	9 <sup>7</sup> / <sub>8</sub>	5¾	17 <sup>13</sup> / <sub>16</sub>	4½	5 <sup>15</sup> / <sub>16</sub>	3¾	2¼	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>3</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	8½	2 <sup>1</sup> / <sub>16</sub>
	184JM			8¾	9 <sup>7</sup> / <sub>8</sub>	6¾	18 <sup>13</sup> / <sub>16</sub>	4½	5 <sup>15</sup> / <sub>16</sub>	3¾	2¼	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>3</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	8½	2 <sup>1</sup> / <sub>16</sub>
	213JM			10 <sup>9</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>16</sub>	7¼	20 <sup>9</sup> / <sub>16</sub>	5¼	5 <sup>15</sup> / <sub>16</sub>	4¼	2¾	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	11 <sup>1</sup> / <sub>16</sub>	11	8½	2 <sup>1</sup> / <sub>16</sub>
	215JM			10 <sup>9</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>16</sub>	8¾	21 <sup>9</sup> / <sub>16</sub>	5¼	5 <sup>15</sup> / <sub>16</sub>	4¼	3½	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	11 <sup>1</sup> / <sub>16</sub>	11	8½	2 <sup>1</sup> / <sub>16</sub>
	254JM			12 <sup>3</sup> / <sub>8</sub>	11 <sup>9</sup> / <sub>16</sub>	10¼	25½	6¼	5 <sup>15</sup> / <sub>16</sub>	5	4½	7 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	8½	2 <sup>1</sup> / <sub>16</sub>
	256JM			12 <sup>3</sup> / <sub>8</sub>	11 <sup>9</sup> / <sub>16</sub>	12¼	27¼	6¼	5 <sup>15</sup> / <sub>16</sub>	5	5	7 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	8½	2 <sup>1</sup> / <sub>16</sub>
	284JM			13¾	13	11½	27¼	7	5 <sup>15</sup> / <sub>16</sub>	5½	4¾	7 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	14¾	8½	2 <sup>1</sup> / <sub>16</sub>
	286JM			13¾	13	13	28¾	7	5 <sup>15</sup> / <sub>16</sub>	5½	5½	7 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	14¾	8½	2 <sup>1</sup> / <sub>16</sub>
	324JM			14½	16¼	12¼	29 <sup>9</sup> / <sub>16</sub>	8	5 <sup>15</sup> / <sub>16</sub>	6¼	5¼	7 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>32</sub>	13 <sup>11</sup> / <sub>16</sub>	17 <sup>1</sup> / <sub>8</sub>	8½	2 <sup>1</sup> / <sub>16</sub>
	326JM			14½	16¼	13¾	30 <sup>11</sup> / <sub>16</sub>	8	5 <sup>15</sup> / <sub>16</sub>	6¼	6	7 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>32</sub>	13 <sup>11</sup> / <sub>16</sub>	17 <sup>1</sup> / <sub>8</sub>	8½	2 <sup>1</sup> / <sub>16</sub>
G9-2½F	143JM	2½	3	7	8 <sup>15</sup> / <sub>16</sub>	5	16 <sup>1</sup> / <sub>16</sub>	3½	6 <sup>1</sup> / <sub>16</sub>	2¾	2	¾	1 <sup>11</sup> / <sub>32</sub>	9 <sup>5</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>16</sub>	9¼	2 <sup>1</sup> / <sub>16</sub>
	145JM			7	8 <sup>15</sup> / <sub>16</sub>	6	17 <sup>1</sup> / <sub>16</sub>	3½	6 <sup>1</sup> / <sub>16</sub>	2¾	2½	¾	1 <sup>11</sup> / <sub>32</sub>	9 <sup>5</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>16</sub>	9¼	2 <sup>1</sup> / <sub>16</sub>
	182JM			8¾	9 <sup>7</sup> / <sub>8</sub>	5¾	17 <sup>7</sup> / <sub>8</sub>	4½	6 <sup>1</sup> / <sub>16</sub>	3¾	2¼	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>3</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	9¼	2 <sup>1</sup> / <sub>16</sub>
	184JM			8¾	9 <sup>7</sup> / <sub>8</sub>	6¾	18 <sup>7</sup> / <sub>8</sub>	4½	6 <sup>1</sup> / <sub>16</sub>	3¾	2¼	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>3</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	9¼	2 <sup>1</sup> / <sub>16</sub>
	213JM			10 <sup>9</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>16</sub>	7¼	20 <sup>9</sup> / <sub>16</sub>	5¼	6 <sup>1</sup> / <sub>16</sub>	4¼	2¾	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	11½	11	9¼	2 <sup>1</sup> / <sub>16</sub>
	215JM			10 <sup>9</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>16</sub>	8¾	21 <sup>9</sup> / <sub>16</sub>	5¼	6 <sup>1</sup> / <sub>16</sub>	4¼	3½	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	11½	11	9¼	2 <sup>1</sup> / <sub>16</sub>
	254JM			12 <sup>3</sup> / <sub>8</sub>	11 <sup>9</sup> / <sub>16</sub>	10¼	25 <sup>11</sup> / <sub>16</sub>	6¼	6 <sup>1</sup> / <sub>16</sub>	5	4½	7 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	9¼	2 <sup>1</sup> / <sub>16</sub>
	256JM			12 <sup>3</sup> / <sub>8</sub>	11 <sup>9</sup> / <sub>16</sub>	12¼	27 <sup>1</sup> / <sub>16</sub>	6¼	6 <sup>1</sup> / <sub>16</sub>	5	5	7 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	13 <sup>3</sup> / <sub>16</sub>	9¼	2 <sup>1</sup> / <sub>16</sub>
	284JM			13¾	13	11½	27 <sup>1</sup> / <sub>16</sub>	7	6 <sup>1</sup> / <sub>16</sub>	5½	4¾	7 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	14¾	9¼	2 <sup>1</sup> / <sub>16</sub>
	286JM			13¾	13	13	28 <sup>15</sup> / <sub>16</sub>	7	6 <sup>1</sup> / <sub>16</sub>	5½	5½	7 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	14¾	9¼	2 <sup>1</sup> / <sub>16</sub>
	324JM			14½	16¼	12¼	29 <sup>9</sup> / <sub>16</sub>	8	6 <sup>1</sup> / <sub>16</sub>	6¼	5¼	7 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>32</sub>	13 <sup>7</sup> / <sub>16</sub>	17 <sup>1</sup> / <sub>8</sub>	9¼	2 <sup>1</sup> / <sub>16</sub>
	326JM			14½	16¼	13¾	30 <sup>7</sup> / <sub>8</sub>	8	6 <sup>1</sup> / <sub>16</sub>	6¼	6	7 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>32</sub>	13 <sup>7</sup> / <sub>16</sub>	17 <sup>1</sup> / <sub>8</sub>	9¼	2 <sup>1</sup> / <sub>16</sub>
G9-3F G9A-3F	182JM	3	4	8¾	9 <sup>7</sup> / <sub>8</sub>	5¾	18 <sup>1</sup> / <sub>16</sub>	4½	6¼	3¾	2¼	½	1 <sup>3</sup> / <sub>32</sub>	11	9 <sup>1</sup> / <sub>16</sub>	9	2 <sup>1</sup> / <sub>16</sub>
	184JM			8¾	9 <sup>7</sup> / <sub>8</sub>	6¾	19 <sup>1</sup> / <sub>16</sub>	4½	6¼	3¾	2¾	½	1 <sup>3</sup> / <sub>32</sub>	11	9 <sup>1</sup> / <sub>16</sub>	9	2 <sup>1</sup> / <sub>16</sub>
	213JM			10 <sup>9</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>16</sub>	7¼	20¾	5¼	6¼	4¼	2¾	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	11 <sup>7</sup> / <sub>8</sub>	11	9	2 <sup>1</sup> / <sub>16</sub>
	215JM			10 <sup>9</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>16</sub>	8¾	22¼	5¼	6¼	4¼	3½	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	11 <sup>7</sup> / <sub>8</sub>	11	9	2 <sup>1</sup> / <sub>16</sub>
	284JM			13¾	13	11½	27 <sup>7</sup> / <sub>8</sub>	7	6¼	5½	4¾	7 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	14¾	9	2 <sup>1</sup> / <sub>16</sub>
	286JM			13¾	13	13	29 <sup>9</sup> / <sub>16</sub>	7	6¼	5½	5½	7 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	14¾	9	2 <sup>1</sup> / <sub>16</sub>
	324JM			14½	16¼	12¼	29 <sup>13</sup> / <sub>16</sub>	8	6¼	6¼	5¼	7 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>32</sub>	14 <sup>5</sup> / <sub>16</sub>	17 <sup>1</sup> / <sub>8</sub>	9	2 <sup>1</sup> / <sub>16</sub>
	326JM			14½	16¼	13¾	31 <sup>1</sup> / <sub>16</sub>	8	6¼	6¼	6	7 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>32</sub>	14 <sup>5</sup> / <sub>16</sub>	17 <sup>1</sup> / <sub>8</sub>	9	2 <sup>1</sup> / <sub>16</sub>
4G9-4F	182JM	4	5	8¾	9 <sup>11</sup> / <sub>16</sub>	5¾	19½	4½	7 <sup>7</sup> / <sub>16</sub>	3¾	2¼	½	1 <sup>3</sup> / <sub>32</sub>	11¾	9 <sup>1</sup> / <sub>16</sub>	10 <sup>5</sup> / <sub>8</sub>	3¼
	184JM			8¾	9 <sup>11</sup> / <sub>16</sub>	6¾	21½	4½	7 <sup>7</sup> / <sub>16</sub>	3¾	2¾	½	1 <sup>3</sup> / <sub>32</sub>	11¾	9 <sup>1</sup> / <sub>16</sub>	10 <sup>5</sup> / <sub>8</sub>	3¼
	213JM			10 <sup>9</sup> / <sub>16</sub>	10 <sup>7</sup> / <sub>8</sub>	7¾	21 <sup>15</sup> / <sub>16</sub>	5¼	7 <sup>7</sup> / <sub>16</sub>	4¼	2¾	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	12 <sup>3</sup> / <sub>8</sub>	11	10 <sup>5</sup> / <sub>8</sub>	3¼
	215JM			10 <sup>9</sup> / <sub>16</sub>	10 <sup>7</sup> / <sub>8</sub>	8¾	23 <sup>1</sup> / <sub>16</sub>	5¼	7 <sup>7</sup> / <sub>16</sub>	4¼	3½	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	12 <sup>3</sup> / <sub>8</sub>	11	10 <sup>5</sup> / <sub>8</sub>	3¼

DIMENSIONS SHOWN ABOVE ARE APPROXIMATE MAXIMUM DIMENSIONS FOR STANDARD PUMPS EQUIPPED WITH ODP MOTORS.

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PUMPS & SYSTEMS

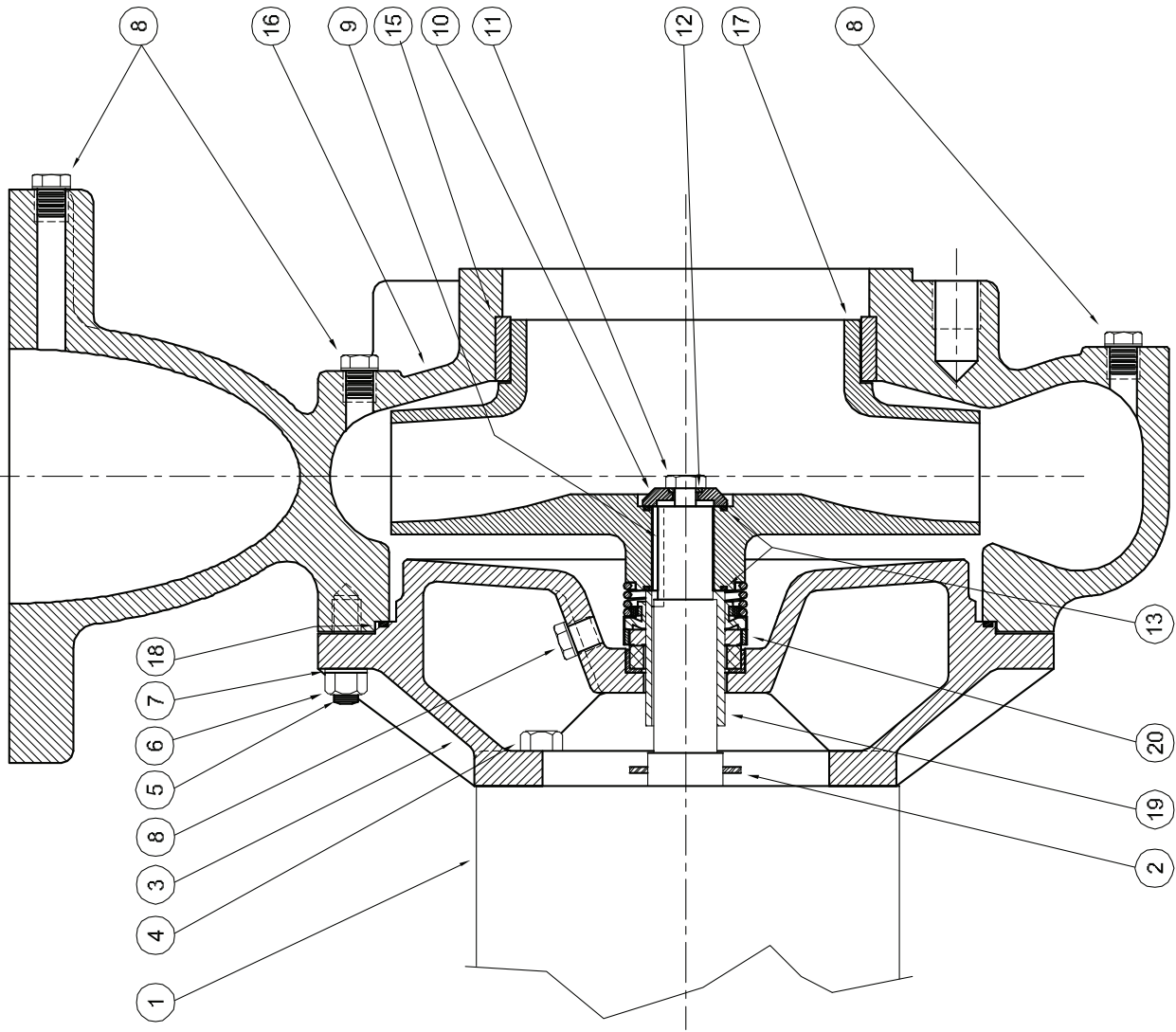
A Crane Co. Company

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**Close Coupled End Suction**



**Centrifugals - Close Coupled**



1 - MOTORS			
RPM & PHASE	PART NUMBER	HP	FRAME SIZE
<b>OPEN DRIP PROOF</b>			
1750 RPM Single Phase (ODP)	21397	5	213JM
	21398	7½	215JM
1750 RPM Three Phase (ODP)	21423	5	184JM
	21424	7½	213JM
	21425	10	215JM
<b>TOTALLY ENCLOSED</b>			
1750 RPM Single Phase (TEFC)	21403	5	213JM
	21404	7½	215JM
1750 RPM Three Phase (TEFC)	21430	5	184JM
	21431	7½	213JM
	21432	10	215JM
<b>EXPLOSION PROOF</b>			
1750 RPM Three Phase (XP)	21437	5	184JM
	21438	7½	213JM
	21439	10	215JM

## Centrifugals - Close Coupled

SYMBOL NUMBER	PART NUMBER	QTY	DESCRIPTION
18	23007	1	O-Ring Gasket - Buna-N (Std)
	23008	1	O-Ring Gasket - Viton
	23009	1	O-Ring Gasket - EPT**
	23010	1	O-Ring Gasket - Teflon
19	22063-C	1	Shaft Sleeve, Bronze
20	09917	1	Mechanical Seal - Buna-N (Std)
	09926	1	Mechanical Seal - Viton
	21271	1	Mechanical Seal - EPT**
<b>DIFFERING PARTS FOR BRONZE CONSTRUCTION</b>			
3	21346-A	1	Adapter, Bronze - 182-184JM Motors
4	20431-A-1	1	Adapter, Bronze - 213-215JM Motors
	01638-B	4	Cap Screw
11	03289	1	Cap Screw, Bronze - 3/8-16 x 1" Lg
* 16	23383-A	1	Casing Assy, Bronze w/Bronze Wear Ring
<b>DIFFERING PARTS FOR ALL IRON CONSTRUCTION</b>			
8	04236-A	1	Plug, SS - 1/4-18 NPT
10	22105-A	1	Washer, Steel
15	23382-A	1	Wear Ring, Steel
* 16	23383-B	1	Casing Assy, Iron w/Steel Wear Ring
17	23384-A	1	Impeller, Iron
19	22063-A	1	Shaft Sleeve, SS

(\*) Casing Assy. 23383, -A, -B are complete casing assemblies consisting of symbols 5, 8, 15 & 16.  
 (\*\*) For hot water or Caustic service.

SYMBOL NUMBER	PART NUMBER	QTY	DESCRIPTION
2	09918	1	Slinger Washer
3	21346	1	Adapter, Iron - 182-184JM Motors
	20431-1	1	Adapter, Iron - 213-215JM Motors
4	1-68-6	4	Cap Screw - 1/2-13 x 1 1/4" Lg
5	20424	12	Stud, 1/2-13 x 2" Lg
6	15-6-6	12	Nut, 1/2-13
7	20059	12	Lockwasher - SS
8	04236	6	Pipe Plug, 1/4" Bronze
	23014	1	Key - 3/16 Sq x 1 1/2" Lg
10	22105-C	1	Washer - Bronze
	1-529-1	1	Cap Screw, SS - 3/8-16 x 1" Lg
12	22080	1	O-Ring Gasket - Buna-N (Std)
	2-31005-012	1	O-Ring Gasket - Viton
	22093	1	O-Ring Gasket - EPT**
	22082	1	O-Ring Gasket - Teflon
13	22083	1	O-Ring Gasket - Buna-N (Std)
	22084	1	O-Ring Gasket - Viton
	22094	1	O-Ring Gasket - EPT**
	22085	1	O-Ring Gasket - Teflon
15	23382	1	Wear Ring, Casing, Bronze
	23383	1	Casing Assy, Iron w/Bronze Wear Ring
17	23384-7.13	1	Impeller, 504G9-4F & 3504G9-4F
	23384-8.00	1	Impeller, 754G9-4F & 3754G9-4F
	23384-8.63	1	Impeller, 1004G9-4F & 31004G9-4F

**WARNING:**  
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