

## 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:

CANCER AND REPRODUCTIVE HARM -  
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Series: **406-1½, 406-2, 406-2½**  
**G6-1½, G6-2, G6-2½**

Dimensions with Screwed NPT Casing



**Close Coupled End Suction**



**DIMENSIONS IN INCHES**

MODEL		HP	MOTOR FRAME SIZE	DISC NPT (in)	SUCT NPT (in)	A	AB	B	CP	D	DD	E	F	G	H	L	X	Y		
1 Phase	3 Phase																			
<b>1750 &amp; 1450 RPM</b>																				
104G6-1½	3104G6-1½	1	143JM	1½	2	7	8 <sup>15</sup> / <sub>16</sub>	5	15 <sup>7</sup> / <sub>8</sub>	3½	4 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	4	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7¼	2¾		
104G6-2	3104G6-2	1	143JM	2	2½	7	8 <sup>15</sup> / <sub>16</sub>	5	16	3½	4½	2 <sup>3</sup> / <sub>4</sub>	4	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7½	2 <sup>13</sup> / <sub>16</sub>		
154G6-2	3154G6-2	1½	145JM			7	8 <sup>15</sup> / <sub>16</sub>	6	17	3½	4½	2 <sup>3</sup> / <sub>4</sub>	5	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7½	2 <sup>13</sup> / <sub>16</sub>		
104G6-2½	3104G6-2½	1	143JM	2½	3	7	8 <sup>15</sup> / <sub>16</sub>	5	16 <sup>11</sup> / <sub>16</sub>	3½	5	2 <sup>3</sup> / <sub>4</sub>	4	¾	1 <sup>1</sup> / <sub>32</sub>	10¼	8¼	3 <sup>5</sup> / <sub>16</sub>		
154G6-2½	3154G6-2½	1½	145JM			7	8 <sup>15</sup> / <sub>16</sub>	6	17 <sup>11</sup> / <sub>16</sub>	3½	5	2 <sup>3</sup> / <sub>4</sub>	5	¾	1 <sup>1</sup> / <sub>32</sub>	10¼	8¼	3 <sup>5</sup> / <sub>16</sub>		
204G6-2½	-----	2	182JM			8¾	9 <sup>7</sup> / <sub>8</sub>	5¾	8½	4½	5	3¾	4½	½	1 <sup>3</sup> / <sub>32</sub>	11	8¼	3 <sup>5</sup> / <sub>16</sub>		
-----	3204G6-2½	2	145JM			7	8 <sup>15</sup> / <sub>16</sub>	6	17 <sup>11</sup> / <sub>16</sub>	3½	5	2 <sup>3</sup> / <sub>4</sub>	5	¾	1 <sup>1</sup> / <sub>32</sub>	10¼	8¼	3 <sup>5</sup> / <sub>16</sub>		
<b>3500 &amp; 2900 RPM</b>																				
15G6-1½	-----	1½	143JM	1½	2	7	8 <sup>15</sup> / <sub>16</sub>	5	15 <sup>7</sup> / <sub>8</sub>	3½	4 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	4	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7¼	2¾		
-----	315G6-1½	1½	143JM			7	8 <sup>15</sup> / <sub>16</sub>	5	15 <sup>7</sup> / <sub>8</sub>	3½	4 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	4	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7¼	2¾		
20G6-1½	-----	2	145JM			7	8 <sup>15</sup> / <sub>16</sub>	6	16 <sup>7</sup> / <sub>8</sub>	3½	4 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	5	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7¼	2¾		
-----	320G6-1½	2	145JM			7	8 <sup>15</sup> / <sub>16</sub>	6	16 <sup>7</sup> / <sub>8</sub>	3½	4 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	5	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7¼	2¾		
30G6-1½	-----	3	182JM			8¾	9 <sup>7</sup> / <sub>8</sub>	5¾	17 <sup>11</sup> / <sub>16</sub>	4½	4 <sup>1</sup> / <sub>8</sub>	3¾	4½	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>3</sup> / <sub>16</sub>	7¼	2¾		
-----	330G6-1½	3	145JM			7	8 <sup>15</sup> / <sub>16</sub>	6	16 <sup>7</sup> / <sub>8</sub>	3½	4 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	5	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7¼	2¾		
50G6-1½	-----	5	184JM			8¾	9 <sup>7</sup> / <sub>8</sub>	6¾	18 <sup>11</sup> / <sub>16</sub>	4½	4 <sup>1</sup> / <sub>8</sub>	3¾	5½	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>3</sup> / <sub>16</sub>	7¼	2¾		
-----	350G6-1½	5	182JM			8¾	9 <sup>7</sup> / <sub>8</sub>	5¾	17 <sup>11</sup> / <sub>16</sub>	4½	4 <sup>1</sup> / <sub>8</sub>	3¾	4½	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>3</sup> / <sub>16</sub>	7¼	2¾		
-----	375G6-1½	7½	184JM			8¾	9 <sup>7</sup> / <sub>8</sub>	6¾	18 <sup>11</sup> / <sub>16</sub>	4½	4 <sup>1</sup> / <sub>8</sub>	3¾	5½	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>3</sup> / <sub>16</sub>	7¼	2¾		
-----	375G6-1½	7½	213JM			9½	9 <sup>7</sup> / <sub>8</sub>	8	20¼	5¼	4 <sup>1</sup> / <sub>8</sub>	4¼	5½	½	1 <sup>3</sup> / <sub>32</sub>	11¼	7¼	2¾		
-----	375G6-1½	7½	215JM			9½	9 <sup>7</sup> / <sub>8</sub>	8	20¼	5¼	4 <sup>1</sup> / <sub>8</sub>	4¼	6½	½	1 <sup>3</sup> / <sub>32</sub>	11¼	7¼	2¾		
20G6-2	-----	2	145JM			2	2½	7	8 <sup>15</sup> / <sub>16</sub>	6	17	3½	4½	2 <sup>3</sup> / <sub>4</sub>	5	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7½	2 <sup>13</sup> / <sub>16</sub>
-----	320G6-2	2	145JM					7	8 <sup>15</sup> / <sub>16</sub>	6	17	3½	4½	2 <sup>3</sup> / <sub>4</sub>	5	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7½	2 <sup>13</sup> / <sub>16</sub>
30G6-2	-----	3	182JM					8¾	9 <sup>7</sup> / <sub>8</sub>	5¾	17 <sup>13</sup> / <sub>16</sub>	4½	4½	3¾	4½	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>5</sup> / <sub>16</sub>	7½	2 <sup>13</sup> / <sub>16</sub>
-----	330G6-2	3	145JM					7	8 <sup>15</sup> / <sub>16</sub>	6	17	3½	4½	2 <sup>3</sup> / <sub>4</sub>	5	¾	1 <sup>1</sup> / <sub>32</sub>	9 <sup>7</sup> / <sub>16</sub>	7½	2 <sup>13</sup> / <sub>16</sub>
50G6-2	-----	5	184JM					8¾	9 <sup>7</sup> / <sub>8</sub>	6¾	18 <sup>11</sup> / <sub>16</sub>	4½	4½	3¾	5½	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>5</sup> / <sub>16</sub>	7½	2 <sup>13</sup> / <sub>16</sub>
-----	350G6-2	5	182JM	8¾	9 <sup>7</sup> / <sub>8</sub>			5¾	17 <sup>13</sup> / <sub>16</sub>	4½	4½	3¾	4½	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>5</sup> / <sub>16</sub>	7½	2 <sup>13</sup> / <sub>16</sub>		
-----	375G6-2	7½	184JM	8¾	9 <sup>7</sup> / <sub>8</sub>			6¾	18 <sup>11</sup> / <sub>16</sub>	4½	4½	3¾	5½	½	1 <sup>3</sup> / <sub>32</sub>	10 <sup>5</sup> / <sub>16</sub>	7½	2 <sup>13</sup> / <sub>16</sub>		
-----	3100G6-2	10	213JM	10 <sup>3</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>16</sub>			7¼	20¼	5¼	4½	4¼	5½	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	11 <sup>7</sup> / <sub>16</sub>	7½	2 <sup>13</sup> / <sub>16</sub>		
-----	375G6-2½	7½	184JM	2½	3			8¾	9 <sup>7</sup> / <sub>8</sub>	6¾	19½	4½	5	3¾	5½	½	1 <sup>3</sup> / <sub>32</sub>	11	8¼	3 <sup>5</sup> / <sub>16</sub>
-----	3100G6-2½	10	213JM					10 <sup>3</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>16</sub>	7¼	21 <sup>1</sup> / <sub>16</sub>	5¼	5	4¼	5½	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	12 <sup>7</sup> / <sub>8</sub>	8¼	3 <sup>5</sup> / <sub>16</sub>
-----	3150G6-2½	15	215JM					10 <sup>3</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>16</sub>	8¾	22 <sup>1</sup> / <sub>16</sub>	5¼	5	4¼	7	5 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>32</sub>	12 <sup>7</sup> / <sub>8</sub>	8¼	3 <sup>5</sup> / <sub>16</sub>
-----	3200G6-2½	20	254JM					12	11 <sup>1</sup> / <sub>16</sub>	10¼	25 <sup>1</sup> / <sub>16</sub>	6¼	5	5	8¼	7 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>32</sub>	13 <sup>5</sup> / <sub>8</sub>	8¼	3 <sup>5</sup> / <sub>16</sub>

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

SECTION 2  
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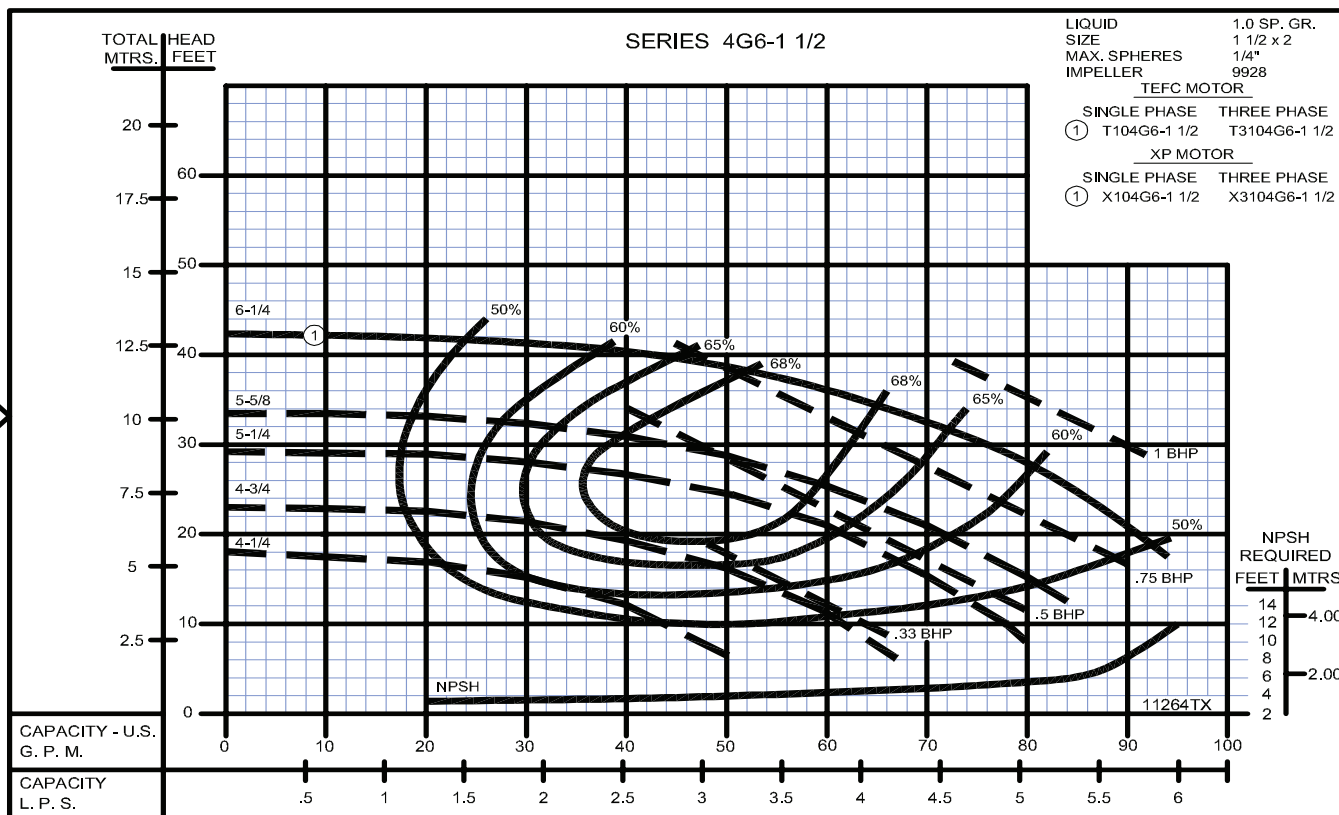
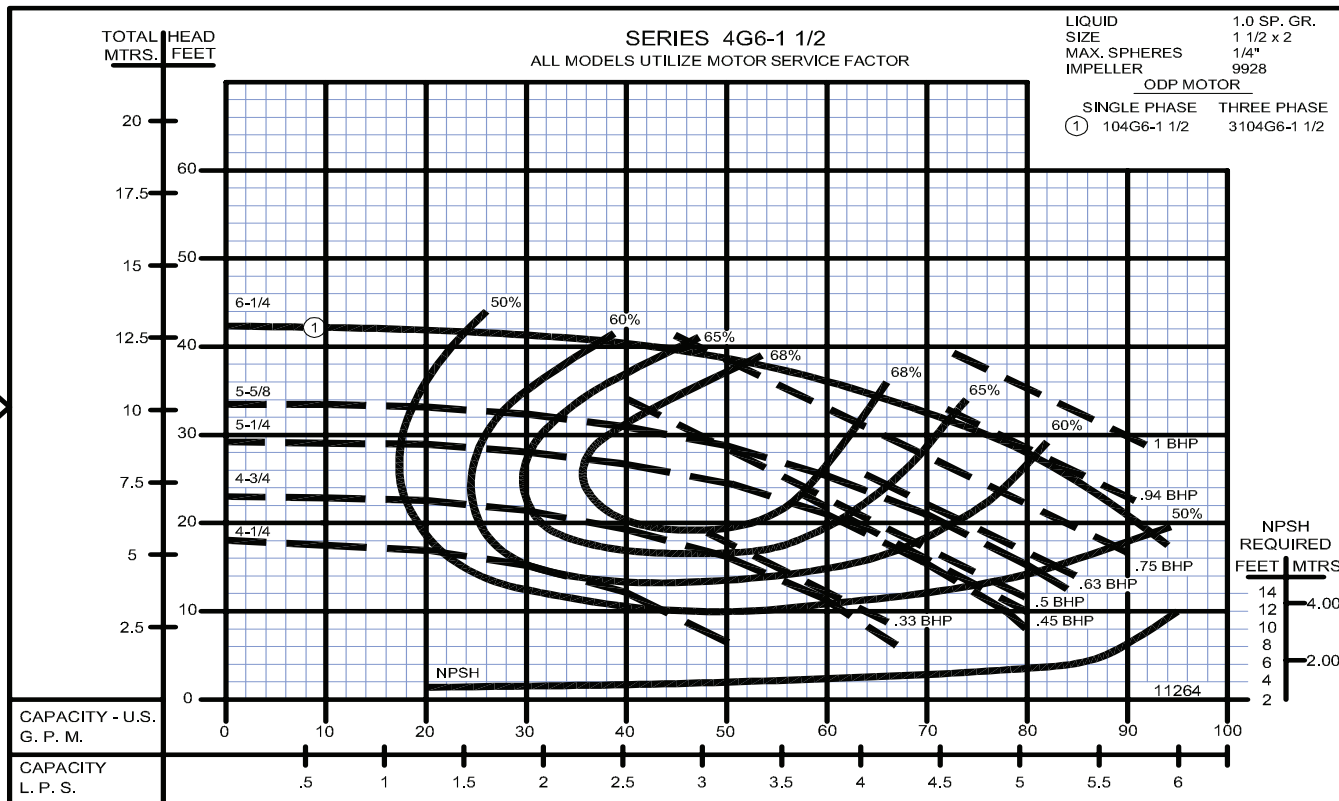
**PUMPS & SYSTEMS**

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60 Hz Performance

**Close Coupled End Suction**



**Close Coupled End Suction**



**Centrifugals - Close Coupled**



1 - MOTORS		FRAME SIZE
RPM & PHASE	PART NUMBER	HP
<b>OPEN DRIP PROOF</b>		
1750 RPM Single Phase (ODP)	21393	1
	21394	1½
1750 RPM Three Phase (ODP)	21419	1
	21420	1½
3500 RPM Single Phase (ODP)	09899	1½
	09900	2
	09901	3
3500 RPM Three Phase (ODP)	09902	5
	09903	1½
	09904	2
3500 RPM Three Phase (ODP)	09905	3
	09906	5
	09907	7½
09999	10	213JM
<b>TOTALLY ENCLOSED</b>		
1750 RPM Single Phase (TEFC)	21399	1
	21400	1½
1750 RPM Three Phase (TEFC)	21401	2
	21426	1
1750 RPM Three Phase (TEFC)	21427	1½
	21428	2
3500 RPM Single Phase (TEFC)	21880	2
	21881	3
	22283	5
3500 RPM Three Phase (TEFC)	09948	2
	09947	3
	09950	5
3500 RPM Three Phase (TEFC)	09951	7½
	20000	10
	<b>EXPLOSION PROOF</b>	
1750 RPM Three Phase (XP)	21433	1
	21434	1½
	21435	2
	21436	3
	21437	5
3500 RPM Three Phase (XP)	21438	7½
	09952	2
	09953	3
	09954	5
	09955	7½
20001	10	215JM

## Centrifugals - Close Coupled

SYMBOL NUMBER	PART NUMBER	QTY	DESCRIPTION
16	09917	1	Mechanical Seal - Buna-N (Std)
	09926	1	Mechanical Seal - Viton
	21271	1	Mechanical Seal - EPT**
17	22063-C	1	Shaft Sleeve - Bronze
	09918	1	Slinger Washer
19	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
20	04236	1	Pipe Plug, 1/4" - Bronze
<b>DIFFERING PARTS FOR ALL BRONZE CONSTRUCTION</b>			
2	09912-B	1	Adapter - 143-184JM Motors
	09920-B	1	Adapter - 213-215JM Motors
3	03289	4	Cap Screw - for 09912-B Adapter
	01638-B	4	Cap Screw - for 09920-B Adapter
5	05536	8	Nut
	01609-B	8	Washer
8	22150-A	1	Casing Assy - G6-1-1/2
	22151-A	1	Casing Assy - G6-2
10	22269-A	1	Casing Assy - G6-2F (Flanged)
	03289	1	Screw, Impeller Lock - Bronze
<b>DIFFERING PARTS FOR ALL IRON CONSTRUCTION</b>			
*8	22150-B	1	Casing Assy - G6-1-1/2
	22151-B	1	Casing Assy - G6-2
	22269-B	1	Casing Assy - G6-2F (Flanged)
9	00158	6	Pipe Plug
	22105-A	1	Washer - Steel
13	09915-A	1	Wear Ring - G6-1-1/2
	09923-A	1	Wear Ring - G6-2
14	09928-A	1	Impeller - G6-1-1/2
	09929-A	1	Impeller - G6-2
Use same size suffixes as bronze.			
17	22063-A	1	Shaft Sleeve - SS
	04236-A	1	Pipe Plug, 1/4" - SS

(\*) Casing Assy. Includes Symbols 4, 9 & 13.  
 (\*\*) For hot water or Caustic service.  
 (+) G6-1 1/2 and G6-2 Series pumps have been manufactured with either a flat or O-ring type gasket. Determine which type is required before ordering. When in doubt, order flat gasket.

SYMBOL NUMBER	PART NUMBER	QTY	DESCRIPTION
2	09912	1	Adapter - 143-184JM Motors
	09920	1	Adapter - 213-215JM Motors
	01928	4	Cap Screw - for 09912 Adapter
	1-67-6	4	Cap Screw - for 09920 Adapter
4	03075	8	Stud
	15-23-6	8	Nut
	01609-A	8	Washer
	23014	1	Key
*8	22150	1	Casing Assy - G6-1-1/2
	22151	1	Casing Assy - G6-2
	22269	1	Casing Assy - G6-2F (Flanged)
9	01691-A	6	Pipe Plug, 1/8" - Bronze
	1-529-1	1	Screw, Impeller Lock - SS
	22105-C	1	Washer - Bronze
12	09933	1	Flat Gasket +
	22083	2	O-Ring Gasket - Buna N (Std)
	22084	2	O-Ring Gasket - Viton
	22094	2	O-Ring Gasket - EPT**
	22085	2	O-Ring Gasket - Teflon
12A	09911	1	Flat Gasket+
	For O-Ring Gasket, see symbol 12		
13	09915	1	Wear Ring, Bronze - G6-1-1/2
	09923-E	1	Wear Ring, Bronze - G6-2
14	<b>1750 RPM</b>		
	09928-6.25	1	Impeller - 104G6-1-1/2 & 3104G6-1-1/2
	09929-6.19	1	Impeller - 104G6-2 & 3104G6-2
	09929-6.25	1	Impeller - 154G6-2 & 3154G6-2
	<b>3450 RPM</b>		
14	09928-4.38	1	Impeller - 15G6-1-1/2 & 315G6-1-1/2
	09928-4.63	1	Impeller - 20G6-1-1/2 & 320G6-1-1/2
	09928-5.06	1	Impeller - 30G6-1-1/2 & 330G6-1-1/2
	09928-5.88	1	Impeller - 50G6-1-1/2 & 350G6-1-1/2
	09928-6.25	1	Impeller - 375G6-1-1/2
	09929-4.13	1	Impeller - 20G6-2 & 320G6-2
	09929-4.75	1	Impeller - 30G6-2 & 330G6-2
	09929-5.38	1	Impeller - 50G6-2 & 350G6-2
	09929-6.06	1	Impeller - 375G6-2
	09929-6.25	1	Impeller - 3100G6-2
15	09916	1	Flat Gasket +
	22099	1	O-Ring Gasket - Buna N (Std)
	23000	1	O-Ring Gasket - Viton
	23001	1	O-Ring Gasket - EPT**
	23002	1	O-Ring Gasket - Teflon

**WARNING:**  
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