

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



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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) | SUCTION NPT (in) | A | AB | B | CP | D | DD | E | F | G | H | L | X | Y | |
|----------------------------|-----------|-----|------------------|---------------|------------------|---------|----------|----------|----------|----------|-------|-----|--------|--------|---------|---------|---------|---------|---------|
| 1 Phase | 3 Phase | | | | | | | | | | | | | | | | | | |
| 1750 & 1450 RPM | | | | | | | | | | | | | | | | | | | |
| 104G6-1½ | 3104G6-1½ | 1 | 143JM | 1½ | 2 | 7 | 8 5/16 | 5 | 15 7/8 | 3 ½ | 4 1/8 | 2 ¼ | 4 | ¾ | 1 1/32 | 9 7/16 | 7 ¼ | 2 ¾ | |
| 104G6-2 | 3104G6-2 | 1 | 143JM | 2 | 2 ½ | 7 | 8 5/16 | 5 | 16 | 3 ½ | 4 ½ | 2 ¼ | 4 | ¾ | 1 1/32 | 9 7/16 | 7 ½ | 2 13/16 | |
| 154G6-2 | 3154G6-2 | 1½ | 145JM | | | 7 | 8 5/16 | 6 | 17 | 3 ½ | 4 ½ | 2 ¼ | 5 | ¾ | 1 1/32 | 9 7/16 | 7 ½ | 2 13/16 | |
| 104G6-2½ | 3104G6-2½ | 1 | 143JM | 2 ½ | 3 | 7 | 8 5/16 | 5 | 16 11/16 | 3 ½ | 5 | 2 ¼ | 4 | ¾ | 1 1/32 | 10 ¼ | 8 ¼ | 3 5/16 | |
| 154G6-2½ | 3154G6-2½ | 1½ | 145JM | | | 7 | 8 5/16 | 6 | 17 11/16 | 3 ½ | 5 | 2 ¼ | 5 | ¾ | 1 1/32 | 10 ¼ | 8 ¼ | 3 5/16 | |
| 204G6-2½ | ----- | 2 | 182JM | | | 8 ¾ | 9 7/8 | 5 ¾ | 8 ½ | 4 ½ | 5 | 3 ¼ | 4 ½ | ½ | 1 3/32 | 11 | 8 ¼ | 3 5/16 | |
| ----- | 3204G6-2½ | 2 | 145JM | 7 | 8 5/16 | 6 | 17 11/16 | 3 ½ | 5 | 2 ¼ | 5 | ¾ | 1 1/32 | 10 ¼ | 8 ¼ | 3 5/16 | | | |
| 3500 & 2900 RPM | | | | | | | | | | | | | | | | | | | |
| 15G6-1½ | ----- | 1½ | 143JM | 1 ½ | 2 | 7 | 8 5/16 | 5 | 15 7/8 | 3 ½ | 4 1/8 | 2 ¼ | 4 | ¾ | 1 1/32 | 9 7/16 | 7 ¼ | 2 ¾ | |
| ----- | 315G6-1½ | 1½ | 143JM | | | 7 | 8 5/16 | 5 | 15 7/8 | 3 ½ | 4 1/8 | 2 ¼ | 4 | ¾ | 1 1/32 | 9 7/16 | 7 ¼ | 2 ¾ | |
| 20G6-1½ | ----- | 2 | 145JM | | | 7 | 8 5/16 | 6 | 16 7/8 | 3 ½ | 4 1/8 | 2 ¼ | 5 | ¾ | 1 1/32 | 9 7/16 | 7 ¼ | 2 ¾ | |
| ----- | 320G6-1½ | 2 | 145JM | | | 7 | 8 5/16 | 6 | 16 7/8 | 3 ½ | 4 1/8 | 2 ¼ | 5 | ¾ | 1 1/32 | 9 7/16 | 7 ¼ | 2 ¾ | |
| 30G6-1½ | ----- | 3 | 182JM | | | 8 ¾ | 9 7/8 | 5 ¾ | 17 11/16 | 4 ½ | 4 1/8 | 3 ¼ | 4 ½ | ½ | 1 3/32 | 10 3/16 | 7 ¼ | 2 ¾ | |
| ----- | 330G6-1½ | 3 | 145JM | | | 7 | 8 5/16 | 6 | 16 7/8 | 3 ½ | 4 1/8 | 2 ¼ | 5 | ¾ | 1 1/32 | 9 7/16 | 7 ¼ | 2 ¾ | |
| 50G6-1½ | ----- | 5 | 184JM | | | 8 ¾ | 9 7/8 | 6 ¾ | 18 11/16 | 4 ½ | 4 1/8 | 3 ¼ | 5 ½ | ½ | 1 3/32 | 10 3/16 | 7 ¼ | 2 ¾ | |
| ----- | 350G6-1½ | 5 | 182JM | | | 8 ¾ | 9 7/8 | 5 ¾ | 17 11/16 | 4 ½ | 4 1/8 | 3 ¼ | 4 ½ | ½ | 1 3/32 | 10 3/16 | 7 ¼ | 2 ¾ | |
| ----- | 375G6-1½ | 7 ½ | 184JM | | 8 ¾ | 9 7/8 | 6 ¾ | 18 11/16 | 4 ½ | 4 1/8 | 3 ¼ | 5 ½ | ½ | 1 3/32 | 10 3/16 | 7 ¼ | 2 ¾ | | |
| ----- | 375G6-1½ | 7 ½ | 213JM | | 9 ½ | 9 7/8 | 8 | 20 ¼ | 5 ¼ | 4 1/8 | 4 ¼ | 5 ½ | ½ | 1 3/32 | 11 ¼ | 7 ¼ | 2 ¾ | | |
| ----- | 375G6-1½ | 7 ½ | 215JM | | 9 ½ | 9 7/8 | 8 | 20 ¼ | 5 ¼ | 4 1/8 | 4 ¼ | 6 ½ | ½ | 1 3/32 | 11 ¼ | 7 ¼ | 2 ¾ | | |
| 20G6-2 | ----- | 2 | 145JM | | 2 | 2 ½ | 7 | 8 5/16 | 6 | 17 | 3 ½ | 4 ½ | 2 ¼ | 5 | ¾ | 1 1/32 | 9 7/16 | 7 ½ | 2 13/16 |
| ----- | 320G6-2 | 2 | 145JM | | | | 7 | 8 5/16 | 6 | 17 | 3 ½ | 4 ½ | 2 ¼ | 5 | ¾ | 1 1/32 | 9 7/16 | 7 ½ | 2 13/16 |
| 30G6-2 | ----- | 3 | 182JM | | | | 8 ¾ | 9 7/8 | 5 ¾ | 17 13/16 | 4 ½ | 4 ½ | 3 ¼ | 4 ½ | ½ | 1 3/32 | 10 5/16 | 7 ½ | 2 13/16 |
| ----- | 330G6-2 | 3 | 145JM | | | | 7 | 8 5/16 | 6 | 17 | 3 ½ | 4 ½ | 2 ¼ | 5 | ¾ | 1 1/32 | 9 7/16 | 7 ½ | 2 13/16 |
| 50G6-2 | ----- | 5 | 184JM | | | 8 ¾ | 9 7/8 | 6 ¾ | 18 11/16 | 4 ½ | 4 ½ | 3 ¼ | 5 ½ | ½ | 1 3/32 | 10 5/16 | 7 ½ | 2 13/16 | |
| ----- | 350G6-2 | 5 | 182JM | 8 ¾ | | 9 7/8 | 5 ¾ | 17 13/16 | 4 ½ | 4 ½ | 3 ¼ | 4 ½ | ½ | 1 3/32 | 10 5/16 | 7 ½ | 2 13/16 | | |
| ----- | 375G6-2 | 7 ½ | 184JM | 8 ¾ | | 9 7/8 | 6 ¾ | 18 11/16 | 4 ½ | 4 ½ | 3 ¼ | 5 ½ | ½ | 1 3/32 | 10 5/16 | 7 ½ | 2 13/16 | | |
| ----- | 3100G6-2 | 10 | 213JM | 10 3/8 | | 11 1/16 | 7 ¼ | 20 ¼ | 5 ¼ | 4 ½ | 4 ¼ | 5 ½ | 5/8 | 1 3/32 | 11 7/16 | 7 ½ | 2 13/16 | | |
| ----- | 375G6-2½ | 7 ½ | 184JM | 2 ½ | 3 | 8 ¾ | 9 7/8 | 6 ¾ | 19 ½ | 4 ½ | 5 | 3 ¼ | 5 ½ | ½ | 1 3/32 | 11 | 8 ¼ | 3 5/16 | |
| ----- | 3100G6-2½ | 10 | 213JM | | | 10 3/8 | 11 1/16 | 7 ¼ | 21 1/16 | 5 ¼ | 5 | 4 ¼ | 5 ½ | 5/8 | 1 3/32 | 12 7/8 | 8 ¼ | 3 5/16 | |
| ----- | 3150G6-2½ | 15 | 215JM | | | 10 3/8 | 11 1/16 | 8 ¾ | 22 7/16 | 5 ¼ | 5 | 4 ¼ | 7 | 5/8 | 1 3/32 | 12 7/8 | 8 ¼ | 3 5/16 | |
| ----- | 3200G6-2½ | 20 | 254JM | | | 12 | 11 9/16 | 10 ¼ | 25 5/16 | 6 ¼ | 5 | 5 | 8 ¼ | 7/8 | 1 7/32 | 13 5/8 | 8 ¼ | 3 5/16 | |

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

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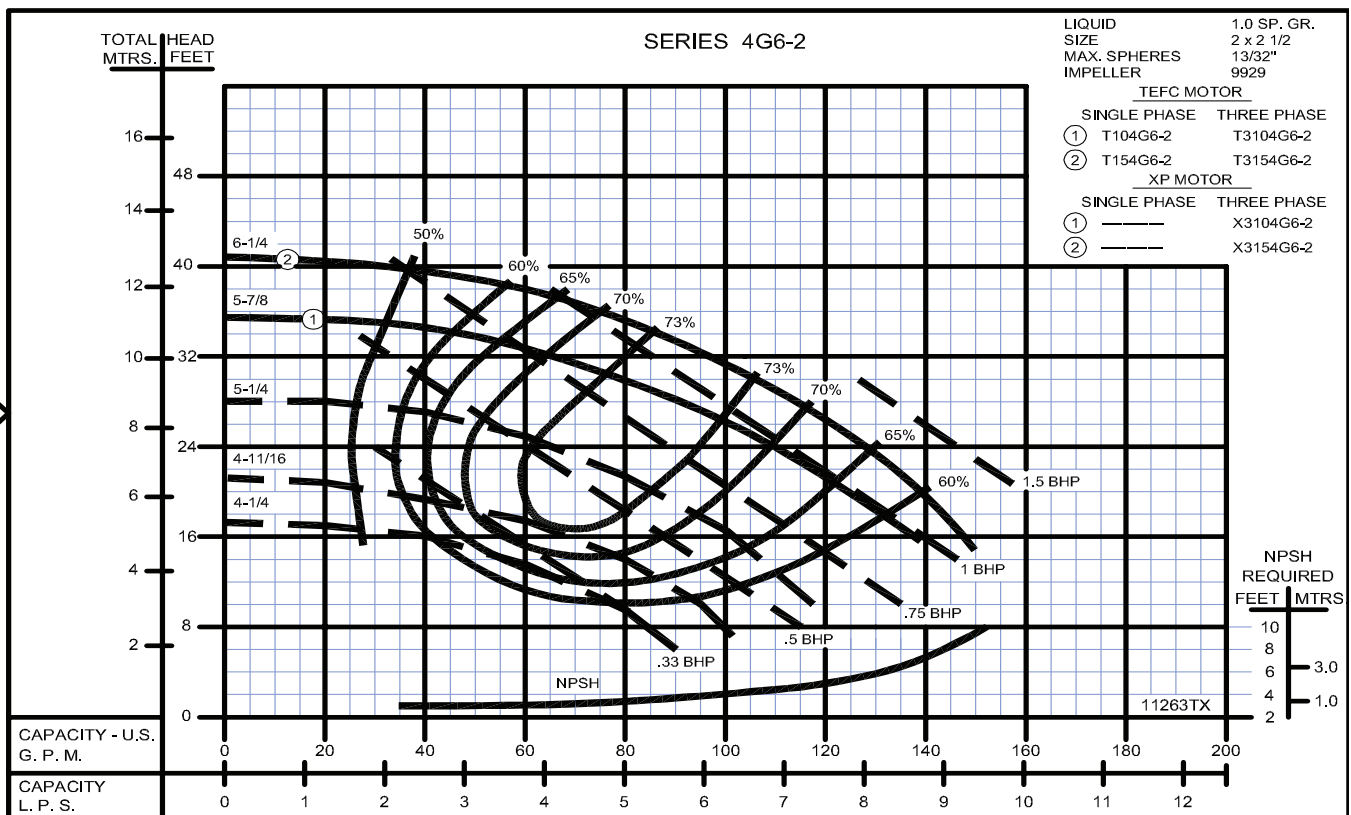


PUMPS & SYSTEMS

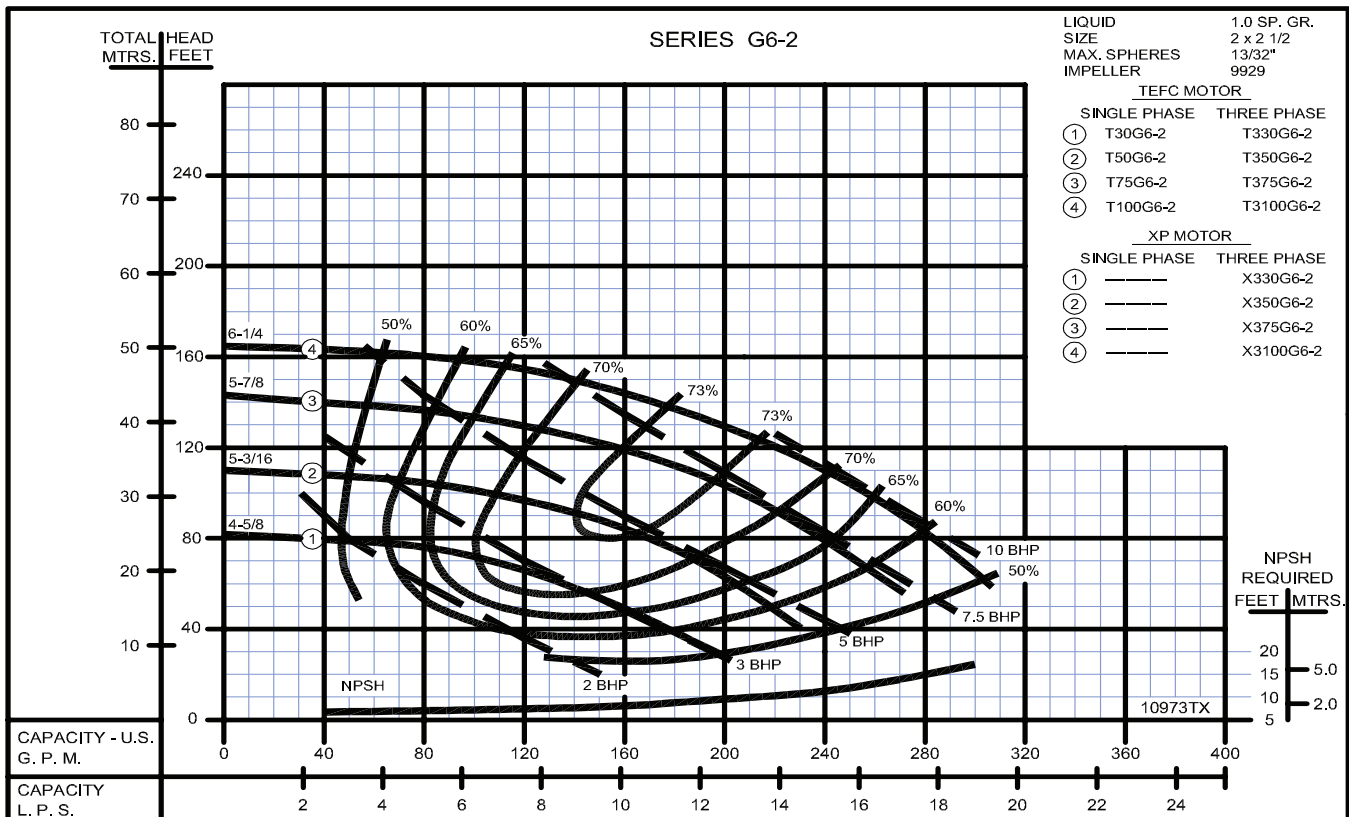
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Close Coupled End Suction



Close Coupled End Suction



Centrifugals - Close Coupled



| 1 - MOTORS | | HP | FRAME SIZE |
|------------------------------------|-------|-------|------------|
| 1750 RPM Single Phase (ODP) | 21393 | 1 | 143JM |
| | 21394 | 1 1/2 | 145JM |
| 1750 RPM Three Phase (ODP) | 21419 | 1 | 143JM |
| | 21420 | 1 1/2 | 145JM |
| 3500 RPM Single Phase (ODP) | 09899 | 1 1/2 | 143JM |
| | 09900 | 2 | 145JM |
| | 09901 | 3 | 182JM |
| 3500 RPM Three Phase (ODP) | 09902 | 5 | 184JM |
| | 09903 | 1 1/2 | 143JM |
| | 09904 | 2 | 145JM |
| 3500 RPM Three Phase (ODP) | 09905 | 3 | 145JM |
| | 09906 | 5 | 182JM |
| | 09907 | 7 1/2 | 184JM |
| 09999 | 10 | 213JM | |
| TOTALLY ENCLOSED | | | |
| 1750 RPM Single Phase (TEFC) | 21399 | 1 | 143JM |
| | 21400 | 1 1/2 | 145JM |
| | 21401 | 2 | 182JM |
| 1750 RPM Three Phase (TEFC) | 21426 | 1 | 143JM |
| | 21427 | 1 1/2 | 145JM |
| 3500 RPM Single Phase (TEFC) | 21428 | 2 | 145JM |
| | 21880 | 2 | 145JM |
| | 21881 | 3 | 182JM |
| 3500 RPM Three Phase (TEFC) | 22283 | 5 | 213JM |
| | 09948 | 2 | 145JM |
| | 09947 | 3 | 182JM |
| 3500 RPM Three Phase (TEFC) | 09950 | 5 | 184JM |
| | 09951 | 7 1/2 | 213JM |
| | 20000 | 10 | 215JM |
| EXPLOSION PROOF | | | |
| 1750 RPM Three Phase (XP) | 21433 | 1 | 143JM |
| | 21434 | 1 1/2 | 145JM |
| | 21435 | 2 | 145JM |
| | 21436 | 3 | 182JM |
| | 21437 | 5 | 184JM |
| 3500 RPM Three Phase (XP) | 21438 | 7 1/2 | 213JM |
| | 09952 | 2 | 145JM |
| | 09953 | 3 | 182JM |
| | 09954 | 5 | 184JM |
| | 09955 | 7 1/2 | 213JM |
| 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 |
| DIFFERING PARTS FOR ALL BRONZE CONSTRUCTION | | | |
| 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 |
| DIFFERING PARTS FOR ALL IRON CONSTRUCTION | | | |
| *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.
 (+) G6-1½ 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 |
| 6 | 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 | 1750 RPM | | |
| | 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 |
| | 3450 RPM | | |
| 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 |

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