

### 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:

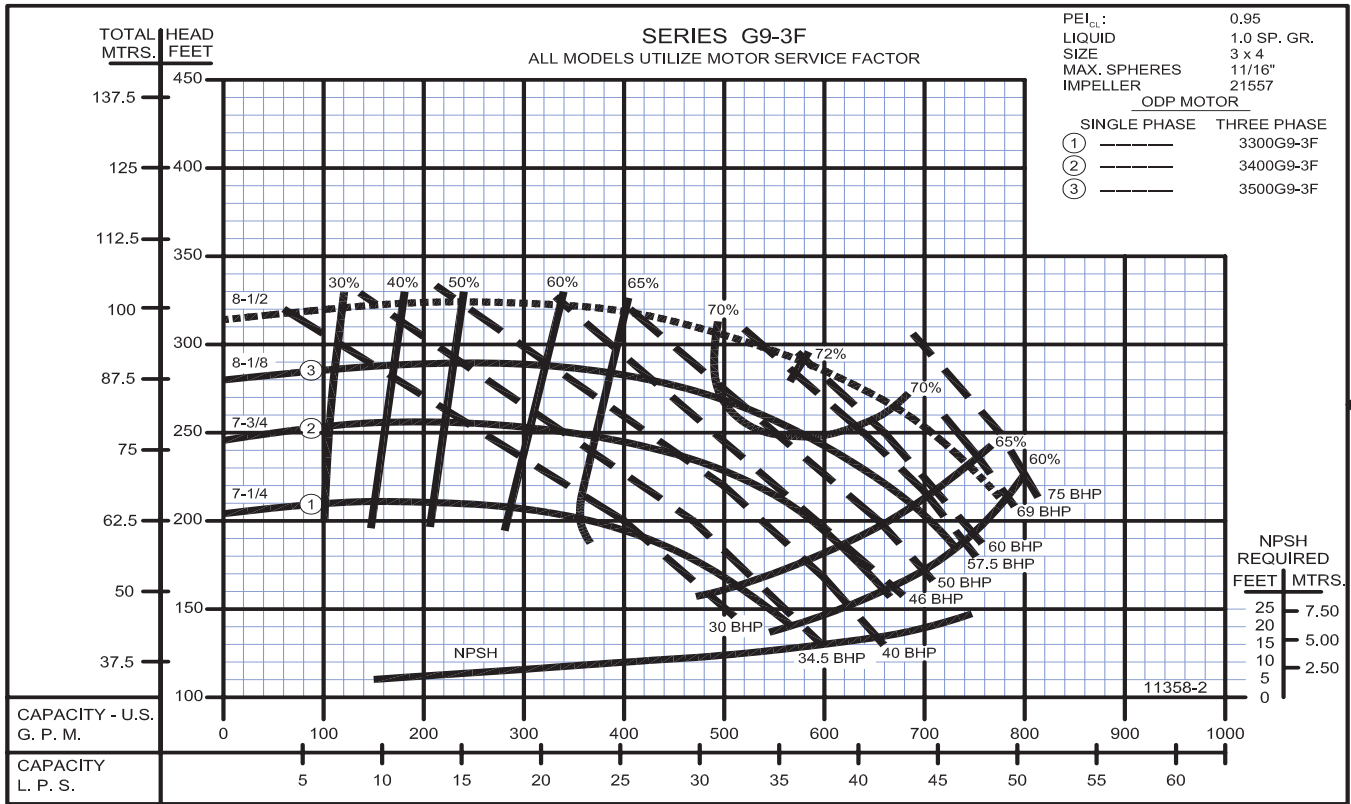
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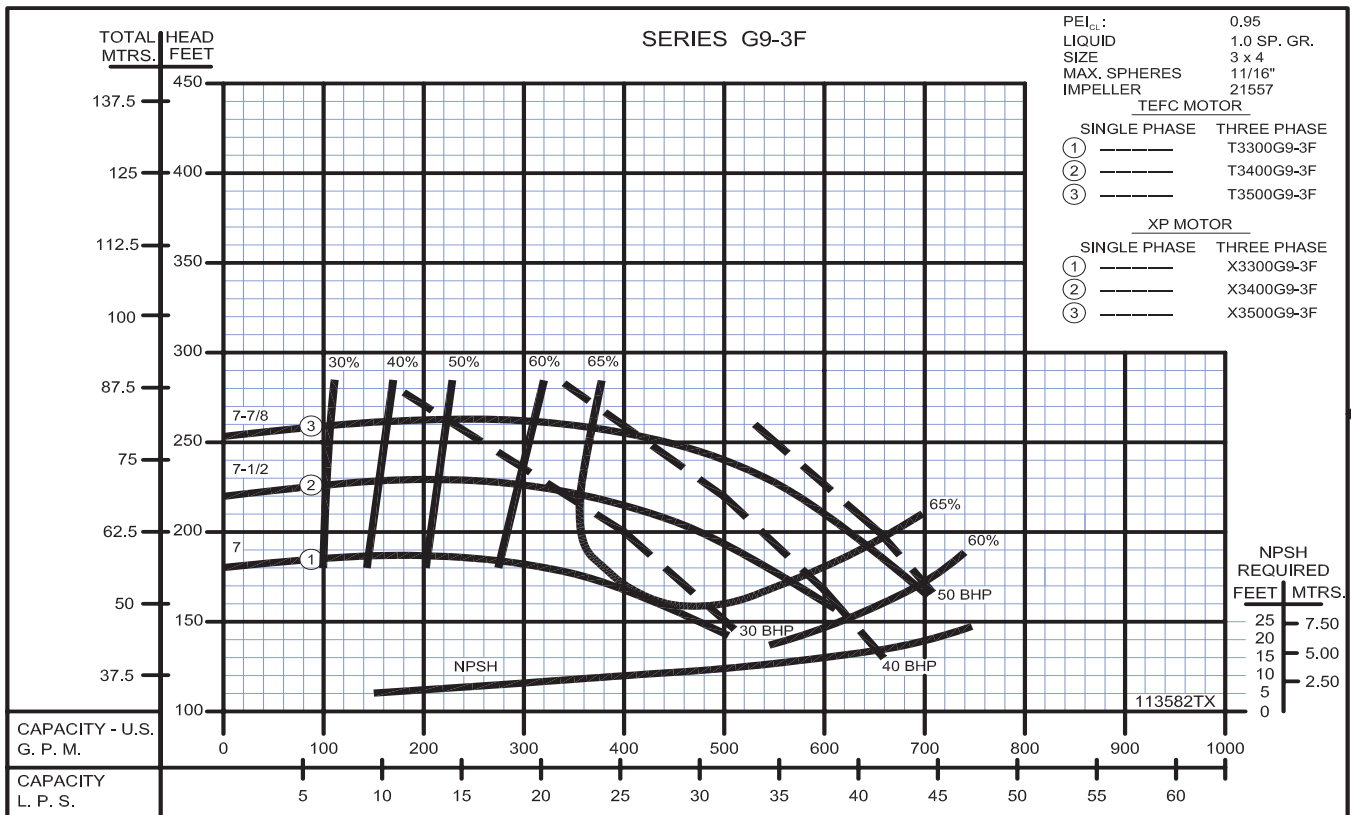
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3500 RPM



3500 RPM

**Centrifugals - Close Coupled**



1 - MOTORS		HP	FRAME SIZE
RPM & PHASE	PART NUMBER		
<b>OPEN DRIP PROOF</b>			
1750 RPM Single Phase (ODP)	21396	3	184JM
	21397	5	213JM
	21398	7½	215JM
1750 RPM Three Phase (ODP)	21422	3	182JM
	21423	5	184JM
	21424	7½	213JM
3500 RPM Three Phase (ODP)	21170	25	256JM
	21207	30	284JM
	21208	40	286JM
	21209	50	324JM
	21210	60	326JM
<b>TOTALLY ENCLOSED</b>			
1750 RPM Single Phase (TEFC)	21402	3	184JM
	21403	5	213JM
	21404	7½	215JM
1750 RPM Three Phase (TEFC)	21429	3	182JM
	21430	5	184JM
	21431	7½	213JM
3500 RPM Three Phase (TEFC)	21457	25	284JM
	21215	30	286JM
	21216	40	324JM
	21217	50	326JM
<b>EXPLOSION PROOF</b>			
1750 RPM Three Phase (XP)	21436	3	182JM
	21437	5	184JM
	21438	7½	213JM
3500 RPM Three Phase (XP)	21458	25	284JM
	21218	30	286JM
	21219	40	324JM
	21220	50	326JM

## Centrifugals - Close Coupled

SYMBOL NUMBER	PART NUMBER	QTY	DESCRIPTION
+15	<b>PUMPS with 182-215JM Motors</b>		
	09933	1	Flat Gasket +
	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
	<b>PUMPS with 254-326JM Motors</b>		
	21090	1	Flat Gasket +
	22140	1	O-Ring Gasket - Buna N (Std)
	22141	1	O-Ring Gasket - Viton
22143	1	O-Ring Gasket - EPT**	
22142	1	O-Ring Gasket - Teflon	
+16	<b>PUMPS with 182-215JM Motors</b>		
	09911	1	Flat Gasket +
	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
	<b>PUMPS with 254-326JM Motors</b>		
	21092	1	Flat Gasket +
	22089	1	O-Ring Gasket - Buna N (Std)
	22090	1	O-Ring Gasket - Viton
22096	1	O-Ring Gasket - EPT**	
22091	1	O-Ring Gasket - Teflon	
17	<b>PUMPS with 182-215JM Motors</b>		
	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
	<b>PUMPS with 254-326JM Motors</b>		
	22086	1	O-Ring Gasket - Buna N (Std)
	22087	1	O-Ring Gasket - Viton
	22095	1	O-Ring Gasket - EPT**
	22088	1	O-Ring Gasket - Teflon
+18	20425	1	Flat Gasket +
	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

"CONTINUED ON NEXT PAGE"

- (\*) Casing Assy. Includes Symbols 5, 7 & 11.
- (\*\*) For hot water or Caustic service.
- (+) Series G9-2-1/2 & G9-3 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.
- (\*) Adapter Assy. includes symbol 22.

SYMBOL NUMBER	PART NUMBER	QTY	DESCRIPTION
2	21346	1	Adapter - 182-184JM Motors
	20431	1	Adapter Assy - 213-215JM Motors
	21354-1	1	Adapter Assy - 254-256 JM Motors
	21174-1	1	Adapter Assy - G9-2-1/2 w/284-326JM Motors
	21349	1	Adapter Assy - G9-3F, G9A-3F w/284-326JM Motors
	21354	1	Adapter Assy - G9A-3 w/254-256 JM Motors
	20059	12	Lockwasher - SS
*4	22157	1	Casing Assy - G9-2-1/2
	22274	1	Casing Assy - G9-2-1/2F (Flanged)
	22275	1	Casing Assy - G9-3F (Flanged)
5	20680	1	Wear Ring, Casing, Bronze - G9-2-1/2
	21315	1	Wear Ring, Casing, Bronze - G9-3F, G9A3-3F
6	01928	4	Cap Screw - Use with 21346 & 20431 Adapter
	1-68-6	4	Cap Screw - Use with 21354-1 Adapter
	Q15-4-E26	4	Cap Screw - Use with 21174-1 & 21349 Adapter
7	20424	12	Stud
	15-6-6	12	Nut
9	<b>1750 RPM</b>		
	21203-1-7.25	1	Impeller - 304G9-2-1/2 & 3304G9-2-1/2
	21203-1-8.25	1	Impeller - 504G9-2-1/2 & 3504G9-2-1/2
	21203-1-9.00	1	Impeller - 754G9-2-1/2 & 3754G9-2-1/2
	21557-1-7.75	1	Impeller - 504G9-3F & 3504G9-3F
	21557-1-8.50	1	Impeller - 754G9-3F & 3754G9-3F
	21557-1-9.25	1	Impeller - 31004G9-3F
	<b>3500 RPM</b>		
	21203-7.38	1	Impeller - 3250G9-2-1/2
	21203-7.88	1	Impeller - 3300G9-2-1/2
21203-8.63	1	Impeller - 3400G9-2-1/2	
21203-9.00	1	Impeller - 3500G9-2-1/2 & 3600G9-2-1/2	
21557-7.25	1	Impeller - 3300G9-3F	
21557-7.75	1	Impeller - 3400G9-3F	
21557-8.13	1	Impeller - 3500G9-3F	
23272-6.50	1	Impeller - 3200G9A-3F	
23272-6.94	1	Impeller - 3250G9A-3F	
23272-7.31	1	Impeller - 3300G9A-3F	
23272-7.81	1	Impeller - 3400G9A-3F	
23272-8.31	1	Impeller - 3500G9A-3F	
23272-8.75	1	Impeller - 3600G9A-3F	
10	23014	1	Key - 143-215JM Motors
	22107	1	Key - 254-326JM Motors
11	01691-A	6	Pipe Plug 1/8" - Bronze
	04236	1	Pipe Plug 1/4" - Bronze
13	1-529-1	1	Cap Screw SS - 182-215JM Motors
	1-68-1	1	Cap Screw SS - 254-326JM Motors
14	22105-C	1	Washer - Bronze - 182-215JM Motors
	22106	1	Washer - Bronze - 254-326JM Motors

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**Centrifugals - Close Coupled**

SYMBOL NUMBER	PART NUMBER	QTY	DESCRIPTION
<b>DIFFERING PARTS FOR ALL IRON CONSTRUCTION</b>			
2	20431-B	1	Adapter Assy - 213-215JM Motors
	21354-B-1		Adapter Assy - 254-256JM Motors
	21174-B-1		Adapter Assy - G9-2-1/2 w/284-326JM Motors
	21349-B		Adapter Assy - G9-3F, G9A-3F w/284-326JM Motors
*4	22157-B	1	Casing Assy - G9-2-1/2
	22274-B	1	Casing Assy - G9-2-1/2F (Flanged)
	22275-B	1	Casing Assy - G9-3F (Flanged)
	20680-A	1	Wear Ring - Steel - G9-2-1/2
5	21315-A	1	Wear Ring - Steel - G9-3F
	<b>1750 RPM</b>		
9	21203-A-1	1	Impeller - Iron
	21557-A-1	1	Impeller - Iron
	Size suffixes same as standard bronze impellers		
	<b>3500 RPM</b>		
11	23272-A	1	Impeller - Iron
	21203-A	1	Impeller - Iron
12	21557-A	1	Impeller - Iron
	Size suffixes same as standard bronze impellers		
14	00158	6	Pipe Plug 1/8" Steel
	04236-A	1	Pipe Plug 1/4" SS
20	22105-A	1	Washer - Steel - 182-215JM Motors
	22106-A	1	Washer - Steel - 254-326JM Motors
22	22063-A	1	Shaft Sleeve, SS - 182-215JM Motors
	22066-A	1	Shaft Sleeve, SS - 254-326JM Motors
22	09915-A	1	Wear Ring, Steel - for 20431-B Adapter Assy
	20680-A	1	Wear Ring, Steel - for 21354-B & 21174-B-1 Adapter
	21315-A	1	Wear Ring, Steel - for 21349-B Adapter

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- (\*) Adapter Assy. includes symbol 22.

SYMBOL NUMBER	PART NUMBER	QTY	DESCRIPTION
<b>PUMPS with 182-215JM Motors</b>			
19	09917	1	Mechanical Seal - Buna-N (Std)
	09926	1	Mechanical Seal - Viton
	21271	1	Mechanical Seal - EPT**
<b>PUMPS with 254-326JM Motors</b>			
20	21136	1	Mechanical Seal - Buna-N (Std)
	21189	1	Mechanical Seal - Viton
	21721	1	Mechanical Seal - EPT**
21	22063	1	Shaft Sleeve - Bronze - 182-215JM Motors
	22066	1	Shaft Sleeve - Bronze - 254-326JM Motors
22	09918	1	Slinger Washer - 182-215JM Motors
	21093	1	Slinger Washer - 254-326JM Motors
22	09915	1	Wear Ring, Bronze - for 20431 Adapter Assy
	20680	1	Wear Ring, Bronze - for 21354-1 & 21174-1 Adapter
	21315	1	Wear Ring, Bronze - for 21349 Adapter
<b>DIFFERING PARTS FOR ALL BRONZE CONSTRUCTION</b>			
2	21346-A	1	Adapter - 182-184JM Motors
	20431-A	1	Adapter Assy - 213-215JM Motors
	21354-A-1	1	Adapter Assy - 254-256JM Motors
	21174-A-1	1	Adapter Assy - G9-2-1/2 w/284-326JM Motors
	21349-A	1	Adapter Assy - G9-3F, G9A-3F w/284-326JM Motors
*4	22157-A	1	Casing Assy - G9-2-1/2
	22274-A	1	Casing Assy - G9-2-1/2F
	22275-A	1	Casing Assy - G9-3F, G9A-3F (Flanged)
	03160-A	12	Nut
13	03289	1	Cap Screw Bronze - 182-215JM Motors
	01638-B	1	Cap Screw Bronze - 254-326JM Motors

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