SHOP DRAWING REVIEW

THIS DRAWING HAS BEEN REVIEWED FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT ONLY. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS OR OMISSIONS OR OF MEETING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. NO RESPONSIBILITY IS ASSUMED FOR CORRECTNESS OF DIMENSIONS OR DETAILS.

✓ NO COMMENT	Submission No. 7
✓ SEE COMMENTS	Project No. 078107
AMEND & RESUBMIT	By GS
REJECTED	Date May 7/10

DILLON CONSULTING LIMITED

B65-320L

ITT Residential Water Systems

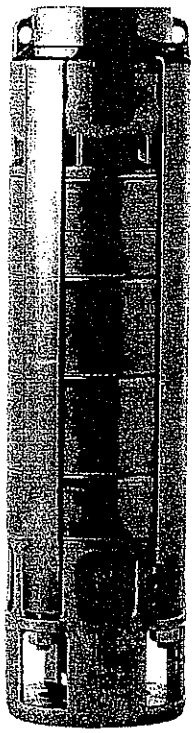
Goulds Pumps

65L, 95L, 120L, 160L, 250L, 320L

6" Stainless Steel Submersible Pumps

60 Hz High Capacity

For 6" and larger wells



GOULDS PUMPS

Goulds Pumps is a brand of ITT Corporation.

www.goulds.com

Engineered for life

FEATURES

- **Powered for Continuous Operation:** All ratings are within the working limits of the motor. Pump can be operated continuously.
- **New Design Features:** Cast 304 SS discharge head and motor adapter.
- **Field Serviceable:** Easy to install and service. All parts easily dismantled if field service is ever necessary.
- **Diverse Application:** Designed for commercial, municipal and agricultural water needs.
- **Stainless Steel Construction:** Durable in most waters. ✓
- **Bearings:** Replaceable, silicon carbide bearings allow excellent abrasives handling and wear resistance.
- **Built-in Check Valve:** Positive sealing, stainless steel check valve assembly incorporated into discharge head. Remove See DRWG 107 Detail 7
- **Impellers:** New stainless steel impeller design provides improved efficiency.
- **Maximum Temperature:** 140°F (60°C) for pump.
- **Four-Fluted Shaft Design:** Four sided stainless steel shaft eliminates impeller keys and provides positive drive.
- **Coupling:** Removeable heavy duty stainless steel, splined coupling for maximum load-carrying capability.
- **Suction Strainer:** Stainless steel strainer restricts gravel and other debris from entering the pump.
- **Cable Guard:** Stainless steel cable guard surrounds and protects motor leads.
- **Fasteners:** All fasteners are stainless steel.
- **NEMA Design Motors:** Stainless steel casing resists corrosion. Water filled design provides a constant supply of lubrication. Hermetically sealed stator assures moisture free windings. Durable Kingsbury type thrust bearing absorbs all thrust. Replaceable motor lead assembly.

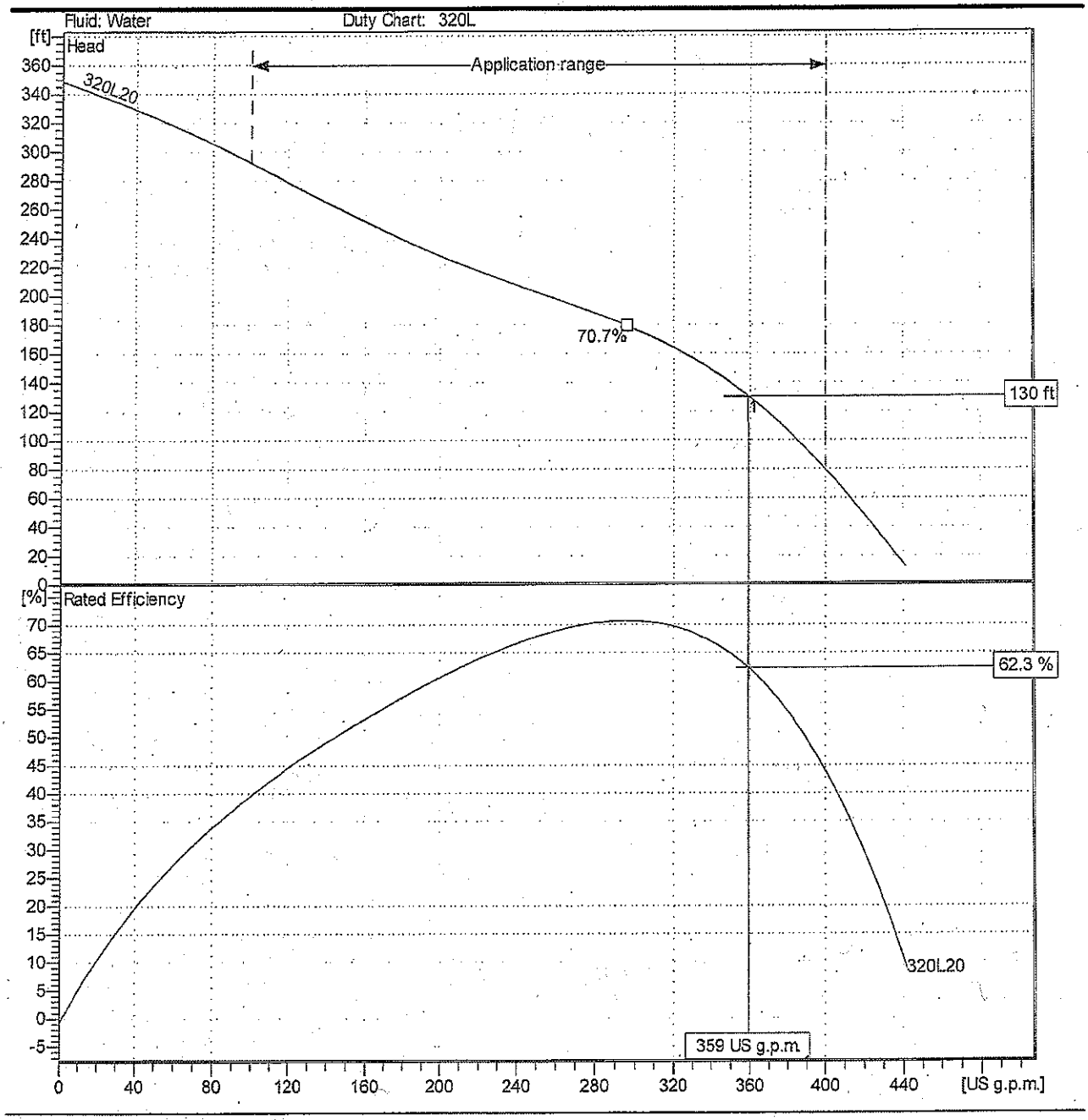
GOULDS PUMPS

Performance Data

L Series Submersible
Submersible Pumps
MODEL : 320L20

Hydraulic Data				Motor Data	L Series 6 Inch Submersible Model
Maximum Flow	Flow at Duty Point	Maximum TDH	TDH at Duty Point	Voltage / Phase / Enclosure	
441 US g.p.m.	359 US g.p.m.	349 ft	130 ft		320L20

Submittal Prepared for: _____ Job: _____
Engineer: _____ Contractor: _____
Submittal Prepared by: _____ Company: _____
Submittal Date: 06/05/2010 Approved by: _____ Date: _____



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GOULDS PUMPS

Submittal Data

L Series Submersible
Submersible Pumps
MODEL : 320L20

Hydraulic Data				Motor Data	L Series 6 Inch Submersible
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Submittal Prepared for: _____ Job: _____
Engineer: _____ Contractor: _____
Submittal Prepared by: _____ Company: _____
Submittal Date: 06/05/2010 Approved by: _____ Date: _____

Engineering Data

Pump Code: 320L20
Pump Size: 6 Inch
Pump Max Horsepower: 0.00 hp
Pump Shut Off Head: 349 ft
Motor Speed:
Max. Temperature:
Liquid: Water
Motor Code:
System Input Power:
Motor Rated Horsepower:
Max. Frequency:
Electrical Enclosures:
Motor Standard:
Suction Flange Standard:
Suction Flange Rating:
Suction Size:
Discharge Flange Standard:
Discharge Flange Rating:
Discharge:
Approximate Net Weight: On demand lb
Impeller Size: "
Impeller Construction: Closed
Impeller Type: Radial impeller
Impeller Material:
AISI 304 Stainless Steel
Sense of Rotation: Clockwise from the drive end
Shaft Seal:

Standard Equipment / Capability:

Powered for Continuous Operation: All ratings are within the working limits of the motor. Pump can be operated continuously.
New Design Features: Cast 304 SS discharge head and motor adapter.
Field Serviceable: Easy to install and service. All parts easily dismantled if field service is ever necessary.
Diverse Application: Designed for commercial, municipal, and agricultural water needs.
Stainless Steel Construction: Durable in most waters.
Bearings: Replaceable, silicon carbide bearings allow excellent abrasives handling and wear resistance.
Built-in Check Valve: Positive sealing, stainless steel check valve, assembly incorporated into discharge head.
Impellers: New stainless steel impeller design provides improved efficiency.
Four-Fluted Shaft Design: Four sided stainless steel shaft eliminates impeller keys and provides positive drive.
Coupling: Removeable heavy duty stainless steel, splined coupling for maximum load-carrying capability.
Suction Strainer: Stainless steel strainer restricts gravel and other debris from entering the pump.
Cable Guard: Stainless steel cable guard surrounds and protects motor leads.
Fasteners: All fasteners are stainless steel.
NEMA Design Motors: Stainless steel casing resists corrosion.
Water filled design provides a constant supply of lubrication.
Hermetically sealed stator assures moisture free windings.
Durable Kingsbury type thrust bearing absorbs all thrust. Replaceable motor lead assembly.

WATER END (PUMP) DATA

Model	Order No.	No. Stages	Min. HP Required	Required Motor Dia.	Dimensions & Weights					
					Length		Diameter		Weight	
					In.	mm	In.	mm	Lbs.	kg.
65L	65L03	3	3	4	18.6	472	5.59	142	26	12
	65L05	5	5		22.2	564		142	31	14
	65L07	7	7.5	6	25.8	656	5.67	144	35	16
	65L10	10	10		31.3	794		144	44	20
	65L15	16	15		42.1	1070		144	60	27
	65L20	21	20		53.0	1346		144	75	34
	65L25	27	25		63.9	1622		144	90	41
	65L30 *	32	30		98.7	2508	6.97*	177	220	100
	65L40 *	41	40		115.0	2922		177	253	115
95L	95L05	3	5	4	18.6	472	5.59	142	26	12
	95L07	5	7.5	6	22.2	564	5.67	144	31	14
	95L10	7	10		25.8	656		144	35	16
	95L15	10	15		31.3	794		144	44	20
	95L20	14	20		38.5	978		144	53	24
	95L25	17	25		43.9	1116		144	62	28
	95L30	21	30		53.0	1346		144	75	34
	95L40 *	28	40		67.3	1710	6.97*	177	156	71
120L	120L05	2	5	4	16.8	426	5.59	142	22	10
	120L07	3	7.5	6	19.5	495	5.67	144	26	12
	120L10	5	10		24.9	633		144	33	15
	120L15	7	15		30.4	771		144	40	18
	120L20	10	20		38.5	978		144	51	23
	120L25	12	25		43.9	1116		144	57	26
	120L30	15	30		52.1	1323		144	68	31
	120L40	20	40		65.7	1668		144	86	39
	120L50 *	24	50		80.9	2055	6.97*	177	179	81
160L	160L05	2	5	4	17.2	436	5.59	142	22	10
	160L07	3	7.5	6	19.9	505	5.67	144	26	12
	160L10	4	10		22.6	574		144	31	14
	160L15	6	15		28.0	712		144	37	17
	160L20	8	20		33.5	850		144	44	20
	160L25	9	25		36.2	919		144	46	21
	160L30	11	30		41.6	1057		144	53	24
	160L40	15	40		52.5	1333		144	68	31
	160L50	18	50		60.6	1540		144	77	35
250L	250L07	2	7.5	6	20.8	528	5.67	144	26	12
	250L10	3	10		25.3	643		144	33	15
	250L15	5	15		34.4	873		144	44	20
	250L20	7	20		43.4	1103		144	55	25
	250L25	8	25		48.0	1218		144	60	27
	250L30	9	30		52.5	1333		144	66	30
	250L40	13	40		70.6	1793		144	88	40
	250L50	16	50		84.2	2138		144	104	47
320L	320L07	2	7.5	6	21.8	553	5.67	144	27	12
	320L15	4	15		30.8	783		144	38	17
	320L20	5	20		35.4	898		144	45	20
	320L25	6	25		39.9	1013		144	50	22
	320L30	8	30		49.0	1243		144	61	27
	320L40	11	40		62.5	1588		144	78	35
	320L50	13	50		71.6	1818		144	89	40

* Note pump diameter – high pressure models have an exterior casing and larger diameters, verify they will fit your well.

SPECIFICATIONS

Model	Horsepower Range	Discharge Connection	Recommended GPM Operating Range	GPM at Best Efficiency	Minimum* Well Size	Rotation at Disch. End
65L	3 - 40	3" NPT	20 - 90	65	6" / 8" *	CCW
95L	5 - 40		25 - 130	90	6" / 8" *	
120L	5 - 50		40 - 170	120	6" / 8" *	
160L	5 - 50		50 - 240	160	6"	
250L	7.5 - 50		70 - 300	250	6"	
320L	7.5 - 50	4" NPT	100 - 400	320	6"	

* Minimum well size refers only to dimensional fit in a well, the specifier or installer must determine the minimum required well diameter that will insure an adequate supply of water to the pump and also properly cool the motor. See Water End Data Chart for specific diameter by model number.

"L" SERIES MATERIALS OF CONSTRUCTION

Ref. No.	Part Name	Material	Material Code
1	Discharge Head	Stainless steel	ASTM CF-8 (AISI 304 cast)
2	Check Valve Support	Stainless steel	ASTM CF-8 (AISI 304 cast)
3	Check Valve	Stainless steel	AISI 304 SS
4	Elastomers	EPDM	
5	Bolts and Screws	Stainless steel	AISI 304 SS
6	Shaft Sleeve and Bushing	Tungsten carbide	
7	Thrust Bearing	PTFE+Graphite	
8	Impeller	Stainless steel	AISI 304 SS
9	Diffuser	Stainless steel	AISI 304 SS
10	Spacer	Stainless steel	AISI 431 SS
11	Tie Rod	Stainless steel	AISI 304 SS
12	Cable Guard	Stainless steel	AISI 304 SS
13	Wear Rings	Technopolymer PPO	
14	Strainer	Stainless steel	AISI 304 SS
15	Shaft	Stainless steel	AISI 431 SS
16	Shaft Coupling	Stainless steel	AISI 431 SS
17	Motor Adapter	Stainless steel	ASTM CF-8 (AISI 304 cast)

ORDER NUMBER CODE

65 L 03

- 65 / 95 / 120 / 160 / 250 / 320 — Pump Size/ Gallons per minute at Best Efficiency Point
- L — Pump Series
- 03 / 05 / 07 / 10 / 15 / 20 / 25 / 30 / 40 / 50 — Horsepower Code = HP (03 = 3, 05 = 5, 07 = 7.5, 10 = 10, 15 = 15, 20 = 20, 25 = 25, 30 = 30, 40 = 40, 50 = 50)

SYSTEM COMPONENTS

- **Pump/Water End:**
  - 6" Pump with 3" NPT discharge.
  - 4" Motor Adapter on 3 and 5 HP models.
  - 6" Motor Adapter on 7.5 HP and larger models.
- **Motor:**
  - 4" motor required for 3 HP and 5 HP pumps.
  - 6" motor required for 7.5 HP and larger pumps.
- **Control Box:** Required for all single phase motors.
- **Magnetic Starter:** A magnetic starter with Class 10 overloads is required for all three phase units.

WATER ENDS AND MOTORS MUST BE ORDERED SEPARATELY AND ARE PACKAGED SEPARATELY.

Goulds Pumps is ISO 9001 Registered.

Table 24 Three-Phase Motor Specifications (60 Hz)

TYPE	MOTOR MODEL PREFIX	RATING					FULL LOAD		MAXIMUM (S.F. LOAD)		LINE TO LINE RESISTANCE	EFFICIENCY %		LOCKED ROTOR AMPS	KVA CODE
		HP	KW	VOLTS	HZ	S.F.	AMPS	WATTS	AMPS	WATTS	OHMS	S.F.	F.L.		
6"	236650	5	3.7	200	60	1.15	17.5	4700	20.0	5400	.77-.93	79	79	99	H
	236600	5	3.7	230	60	1.15	15	4700	17.6	5400	1.0-1.2	79	79	86	H
	236660	5	3.7	380	60	1.15	9.1	4700	10.7	5400	2.6-3.2	79	79	52	H
	236610	5	3.7	460	60	1.15	7.5	4700	8.8	5400	3.9-4.8	79	79	43	H
	236620	5	3.7	575	60	1.15	6	4700	7.1	5400	6.3-7.7	79	79	34	H
	236651	7.5	5.5	200	60	1.15	25.1	7000	28.3	8000	.43-.53	80	80	150	H
	236601	7.5	5.5	230	60	1.15	21.8	7000	24.6	8000	.64-.78	80	80	130	H
	236661	7.5	5.5	380	60	1.15	13.4	7000	15	8000	1.6-2	80	80	79	H
	236611	7.5	5.5	460	60	1.15	10.9	7000	12.3	8000	2.4-2.9	80	80	65	H
	236621	7.5	5.5	575	60	1.15	8.7	7000	9.8	8000	3.7-4.6	80	80	52	H
	236652	10	7.5	200	60	1.15	32.7	9400	37	10800	.37-.45	79	79	198	H
	236602	10	7.5	230	60	1.15	28.4	9400	32.2	10800	.47-.57	79	79	172	H
	236662	10	7.5	380	60	1.15	17.6	9400	19.6	10800	1.2-1.5	79	79	104	H
	236612	10	7.5	460	60	1.15	14.2	9400	16.1	10800	1.9-2.4	79	79	86	H
	236622	10	7.5	575	60	1.15	11.4	9400	12.9	10800	3.0-3.7	79	79	69	H
	236653	15	11	200	60	1.15	47.8	13700	54.4	15800	.24-.29	81	81	306	H
	236603	15	11	230	60	1.15	41.6	13700	47.4	15800	.28-.35	81	81	266	H
	236663	15	11	380	60	1.15	25.8	13700	28.9	15800	.77-.95	81	81	163	H
	236613	15	11	460	60	1.15	20.8	13700	23.7	15800	1.1-1.4	81	81	133	H
	236623	15	11	575	60	1.15	16.6	13700	19	15800	1.8-2.3	81	81	106	H
	236654	20	15	200	60	1.15	61.9	18100	69.7	20900	.16-.20	82	82	416	J
	236604	20	15	230	60	1.15	53.8	18100	60.6	20900	.22-.26	82	82	362	J
	236664	20	15	380	60	1.15	33	18100	37.3	20900	.55-.68	82	82	219	J
	236614	20	15	460	60	1.15	26.9	18100	30.3	20900	.81-1.0	82	82	181	J
	236624	20	15	575	60	1.15	21.5	18100	24.2	20900	1.3-1.6	82	82	145	J
	236655	25	18.5	200	60	1.15	77	22500	86.3	25700	.12-.15	83	83	552	J
	236605	25	18.5	230	60	1.15	67	22500	75	25700	.15-.19	83	83	480	J
	236665	25	18.5	380	60	1.15	41	22500	46	25700	.46-.56	83	83	291	J
	236615	25	18.5	460	60	1.15	33.5	22500	37.5	25700	.63-.77	83	83	240	J
	236625	25	18.5	575	60	1.15	26.9	22500	30	25700	1.0-1.3	83	83	192	J
	236656	30	22	200	60	1.15	90.9	26900	104	31100	.09-.11	83	83	653	J
	236606	30	22	230	60	1.15	79	26900	90.4	31100	.14-.17	83	83	568	J
	236666	30	22	380	60	1.15	48.8	26900	55.4	31100	.35-.43	83	83	317	J
	236616	30	22	460	60	1.15	39.5	26900	45.2	31100	.52-.64	83	83	284	J
	236626	30	22	575	60	1.15	31.6	26900	36.2	31100	.78-.95	83	83	227	J
	236667	40	30	380	60	1.15	66.5	35600	74.6	42400	.26-.33	83	83	481	J
	236617	40	30	460	60	1.15	54.9	35600	61.6	42400	.34-.42	83	83	397	J
	236627	40	30	575	60	1.15	42.8	35600	49.6	42400	.52-.64	83	83	318	H
	236668	50	37	380	60	1.15	83.5	45100	95	52200	.21-.25	82	83	501	H
	236618	50	37	460	60	1.15	67.7	45100	77	52200	.25-.32	82	83	414	H
	236628	50	37	575	60	1.15	54.2	45100	61.6	52200	.40-.49	82	83	331	H
	236669	60	45	380	60	1.15	98.7	53500	111	61700	.15-.18	84	84	627	H
	236619	60	45	460	60	1.15	80.5	53500	91	61700	.22-.27	84	84	518	H
	236629	60	45	575	60	1.15	64.4	53500	72.8	61700	.35-.39	84	84	414	H

Model numbers above are for three-lead motors. Six-lead motors with different model numbers have the same running performance, but when wye connected for starting have locked rotor amps 33% of the values shown. Six-lead individual phase resistance = table X 1.5.

6" ENCAPSULATED SUBMERSIBLE MOTORS

Single-Phase 5-15 hp & Three-Phase 5-40 hp 200-575 volts 60 & 50 Hz

Application Data:

These motors are built for dependable operation in 6-inch diameter or larger water wells. Temperature and time ratings are continuous in 86 °F (30 °C) water at 1/2 ft./sec. flow past the motor. Rotation: single-phase, CCW facing shaft end; three-phase, electrically reversible.

Basic Features:

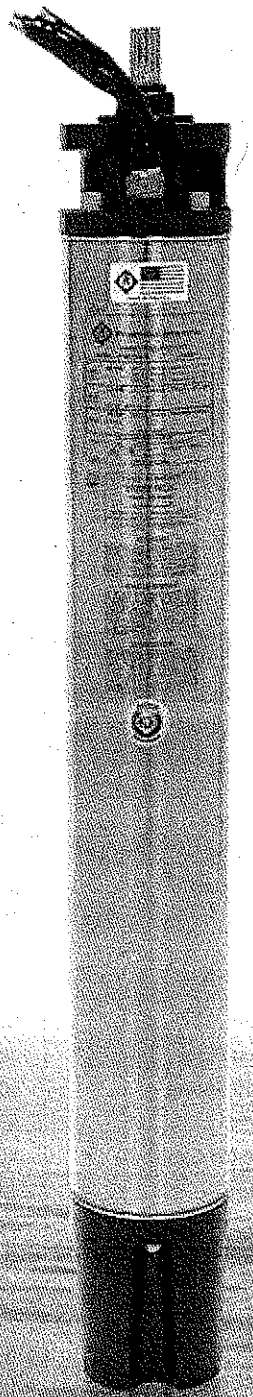
- Full 3450 RPM design point
- Maximum temperature winding wire NEMA class 200
- Anti-track self-healing resin system
- Hermetically-sealed windings
- Removable Water-Bloc™ lead
- Double flange design
- Stainless steel shell
- Kingsbury-type water lubricated thrust bearing
- Pressure equalizing diapragm
- Sand slinger
- 3-lead & 6-lead (Wye Delta) configurations for 3-phase
- Copper bar rotor

Special Features:

- **316 Stainless Steel:** Special construction option for acid, low pH, and seawater applications. All 316 SS motors include a Subtrol-Plus heat sensor.
- **Sand Fighter™** models available for sandy wells. All Sand Fighter models include Subtrol-Plus heat sensor.

SUBMONITOR® OVERLOAD OPTION FOR THREE-PHASE MOTORS
A field proven and contractor friendly premium motor protection system. It protects the motor against overload, underload, overheating and rapid cycling. It also extends the motor warranty to a full three years.* The motor must be manufactured with a Subtrol-Plus® heat sensor.

*Contact factory for warranty details.



System Solutions

Franklin Electric

Availability

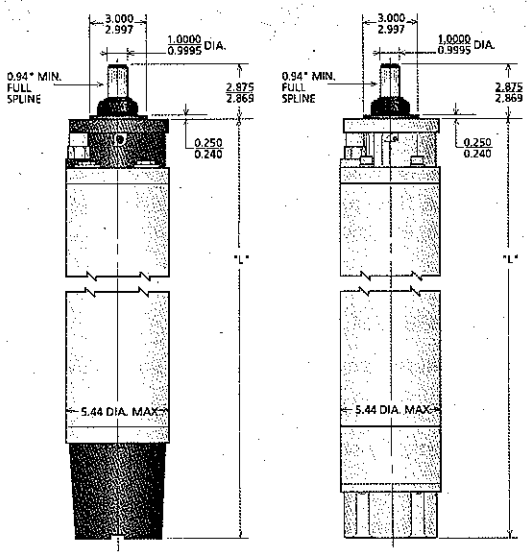
Single-Phase Capacitor start, Capacitor run (control box required)

HP	KW	Water Well "L" Dim		316 SS "L" Dim		Shipping Weight	
		IN	CM	IN	CM	LBS	KG
5	3.7	25.4	64.6	25.0	63.6	112	51
7.5	5.5	28.0	71.1	27.6	70.1	125	57
10	7.5	30.6	77.7	30.2	76.6	143	65
15	11.0	33.1	84.2	32.7	83.1	156	71

Three-Phase

HP	KW	Water Well "L" Dim		316 SS "L" Dim		Shipping Weight	
		IN	CM	IN	CM	LBS	KG
5	3.7	22.9	58.1	22.5	57.1	103	47
7.5	5.5	24.2	61.4	23.8	60.4	110	50
10	7.5	25.4	64.6	25.0	63.6	118	54
15	11.0	28.0	71.1	27.6	70.1	131	60
20	15.0	30.6	77.6	30.2	76.6	147	67
25	18.5	33.1	84.2	32.7	83.1	158	72
30	22.0	35.7	90.7	35.3	89.6	176	80
40	30.0	40.8	103.7	40.4	102.6	206	94

Note: 60 Hz - 3,450 RPM 50 Hz - 2,875 RPM



WATER WELL **316 SS**

Construction Materials

Component	Standard Water Well	316 SS
Castings	Gray Iron	316 SS
Stator Shell	310 SS	316 SS
Stator Ends	Low Carbon Steel	316 SS
Shaft Extension	303 SS, Except 17-4 SS on 40 hp	17-4 SS
Fasteners	300 & 400 Series SS	316 SS
Seal Cover	304 SS & Sintered Bronze	316 SS
Seal	Carbon/Ceramic Face	Sand Fighter™ Seal System
Diaphragm	Nitrile Rubber	Nitrile Rubber
Diaphragm Plate	304 SS	316 SS
Diaphragm Spring	302 SS	17-7 SS
Slinger	Nitrile Rubber	Nitrile Rubber
Lead Wire (or Cable)	XLPE	XLPE
Lead Potting	Epoxy	Epoxy
Filter	Delrin & Polyester	316 SS Plug
Insulation	Class F	Class F

Note: Specifications subject to change without notice. Contact Franklin Electric if current material types are required for bid specifications.

Franklin Electric
400 East Spring Street, Bluffton, Indiana 46714 • Tel: 260.824.2900 Fax: 260.824.2909 • www.franklin-electric.com

B65-320L

ITT

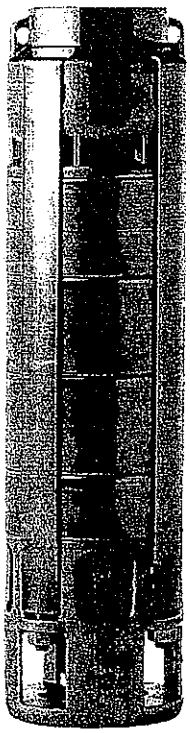
Residential Water Systems

Goulds Pumps

65L, 95L, 120L, 160L, 250L, 320L
6" Stainless Steel Submersible Pumps

60 Hz High Capacity

For 6" and larger wells



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- **Built-in Check Valve:** Positive sealing, stainless steel check valve assembly incorporated into discharge head.
- **Impellers:** New stainless steel impeller design provides improved efficiency.
- **Maximum Temperature:** 140°F (60°C) for pump.
- **Four-Fluted Shaft Design:** Four sided stainless steel shaft eliminates impeller keys and provides positive drive.
- **Coupling:** Removeable heavy duty stainless steel, splined coupling for maximum load-carrying capability.
- **Suction Strainer:** Stainless steel strainer restricts gravel and other debris from entering the pump.
- **Cable Guard:** Stainless steel cable guard surrounds and protects motor leads.
- **Fasteners:** All fasteners are stainless steel.
- **NEMA Design Motors:** Stainless steel casing resists corrosion. Water filled design provides a constant supply of lubrication. Hermetically sealed stator assures moisture free windings. Durable Kingsbury type thrust bearing absorbs all thrust. Replaceable motor lead assembly.

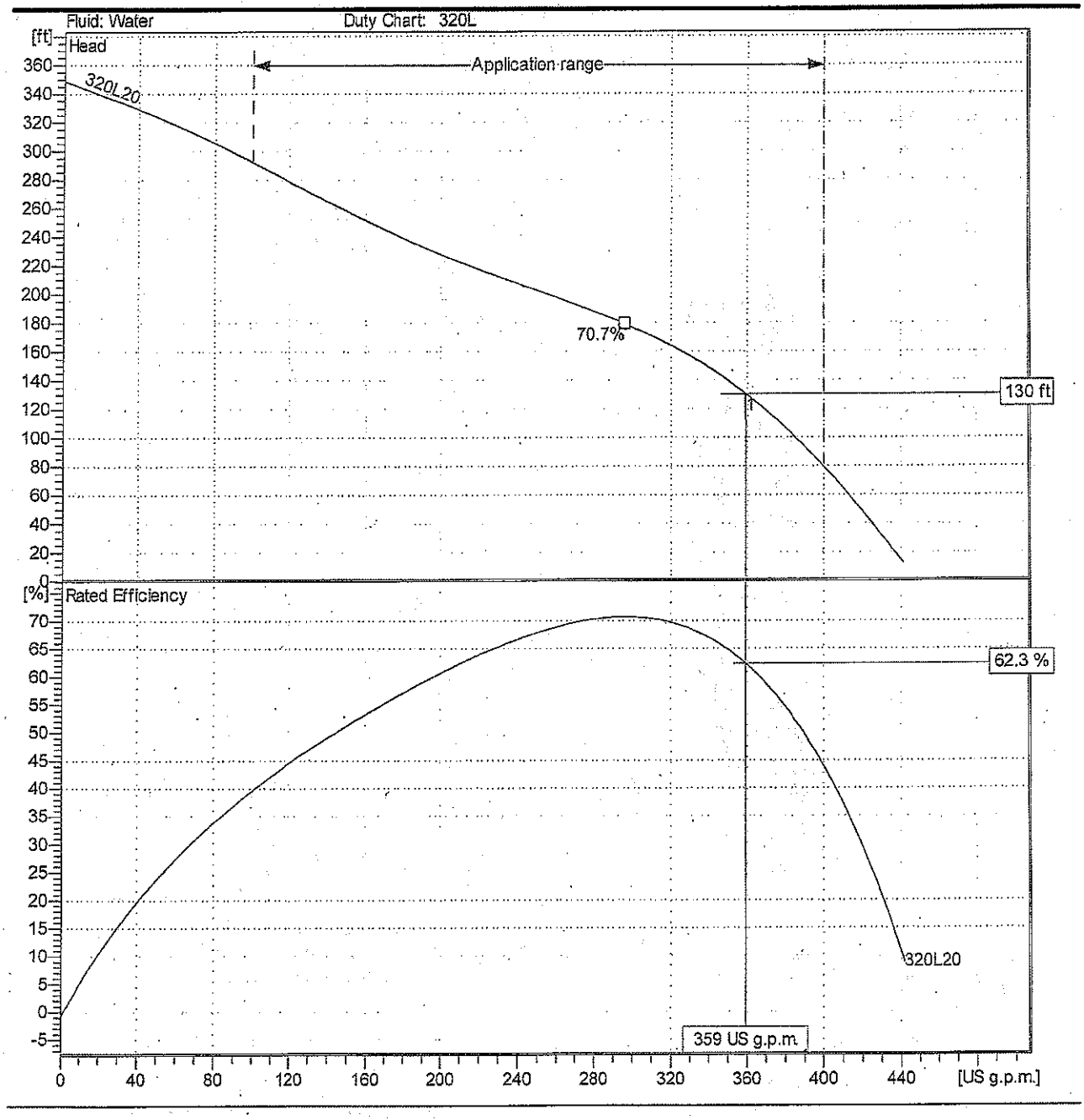
GOULDS PUMPS

Performance Data

L Series Submersible
Submersible Pumps
MODEL : 320L20

Hydraulic Data				Motor Data	L Series 6 Inch Submersible
Maximum Flow	Flow at Duty Point	Maximum TDH	TDH at Duty Point	Voltage / Phase / Enclosure	Model
441 US g.p.m.	359 US g.p.m.	349 ft	130 ft		320L20

Submittal Prepared for: _____ Job: _____
Engineer: _____ Contractor: _____
Submittal Prepared by: _____ Company: _____
Submittal Date: 06/05/2010 Approved by: _____ Date: _____



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GOULDS PUMPS

Submittal Data

L Series Submersible

Submersible Pumps

MODEL : 320L20

Hydraulic Data				Motor Data	L Series 6 Inch Submersible
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Submittal Prepared for: _____ Job: _____

Engineer: _____ Contractor: _____

Submittal Prepared by: _____ Company: _____

Submittal Date: 06/05/2010 Approved by: _____ Date: _____

Engineering Data

Pump Code: 320L20
Pump Size: 6 Inch
Pump Max Horsepower: 0.00 hp
Pump Shut Off Head: 349 ft
Motor Speed:
Max. Temperature:
Liquid: Water
Motor Code:
System Input Power:
Motor Rated Horsepower:
Max. Frequency:
Electrical Enclosures:
Motor Standard:
Suction Flange Standard:
Suction Flange Rating:
Suction Size:
Discharge Flange Standard:
Discharge Flange Rating:
Discharge:
Approximate Net Weight: On demand lb
Impeller Size: "
Impeller Construction: Closed
Impeller Type: Radial impeller
Impeller Material:
AISI 304 Stainless Steel
Sense of Rotation: Clockwise from the drive end
Shaft Seal:

Standard Equipment / Capability:

Powered for Continuous Operation: All ratings are within the working limits of the motor. Pump can be operated continuously.
New Design Features: Cast 304 SS discharge head and motor adapter.
Field Serviceable: Easy to install and service. All parts easily dismantled if field service is ever necessary.
Diverse Application: Designed for commercial, municipal, and agricultural water needs.
Stainless Steel Construction: Durable in most waters.
Bearings: Replaceable, silicon carbide bearings allow excellent abrasives handling and wear resistance.
Built-in Check Valve: Positive sealing, stainless steel check valve assembly incorporated into discharge head.
Impellers: New stainless steel impeller design provides improved efficiency.
Four-Fluted Shaft Design: Four sided stainless steel shaft eliminates impeller keys and provides positive drive.
Coupling: Removeable heavy duty stainless steel, splined coupling for maximum load-carrying capability.
Suction Strainer: Stainless steel strainer restricts gravel and other debris from entering the pump.
Cable Guard: Stainless steel cable guard surrounds and protects motor leads.
Fasteners: All fasteners are stainless steel.
NEMA Design Motors: Stainless steel casing resists corrosion.
Water filled design provides a constant supply of lubrication.
Hermetically sealed stator assures moisture free windings.
Durable Kingsbury type thrust bearing absorbs all thrust. Replaceable motor lead assembly.

WATER END (PUMP) DATA

Model	Order No.	No. Stages	Min. HP Required	Required Motor Dia.	Dimensions & Weights					
					Length		Diameter		Weight	
					In.	mm	In.	mm	Lbs.	kg.
65L	65L03	3	3	4	18.6	472	5.59	142	26	12
	65L05	5	5		22.2	564		142	31	14
	65L07	7	7.5	6	25.8	656	5.67	144	35	16
	65L10	10	10		31.3	794		144	44	20
	65L15	16	15		42.1	1070		144	60	27
	65L20	21	20		53.0	1346		144	75	34
	65L25	27	25		63.9	1622		144	90	41
	65L30 *	32	30		98.7	2508	6.97*	177	220	100
	65L40 *	41	40		115.0	2922		177	253	115
95L	95L05	3	5	4	18.6	472	5.59	142	26	12
	95L07	5	7.5	6	22.2	564	5.67	144	31	14
	95L10	7	10		25.8	656		144	35	16
	95L15	10	15		31.3	794		144	44	20
	95L20	14	20		38.5	978		144	53	24
	95L25	17	25		43.9	1116		144	62	28
	95L30	21	30		53.0	1346		144	75	34
	95L40 *	28	40		67.3	1710	6.97*	177	156	71
120L	120L05	2	5	4	16.8	426	5.59	142	22	10
	120L07	3	7.5	6	19.5	495	5.67	144	26	12
	120L10	5	10		24.9	633		144	33	15
	120L15	7	15		30.4	771		144	40	18
	120L20	10	20		38.5	978		144	51	23
	120L25	12	25		43.9	1116		144	57	26
	120L30	15	30		52.1	1323		144	68	31
	120L40	20	40		65.7	1668		144	86	39
	120L50 *	24	50		80.9	2055	6.97*	177	179	81
160L	160L05	2	5	4	17.2	436	5.59	142	22	10
	160L07	3	7.5	6	19.9	505	5.67	144	26	12
	160L10	4	10		22.6	574		144	31	14
	160L15	6	15		28.0	712		144	37	17
	160L20	8	20		33.5	850		144	44	20
	160L25	9	25		36.2	919		144	46	21
	160L30	11	30		41.6	1057		144	53	24
	160L40	15	40		52.5	1333		144	68	31
	160L50	18	50		60.6	1540		144	77	35
250L	250L07	2	7.5	6	20.8	528	5.67	144	26	12
	250L10	3	10		25.3	643		144	33	15
	250L15	5	15		34.4	873		144	44	20
	250L20	7	20		43.4	1103		144	55	25
	250L25	8	25		48.0	1218		144	60	27
	250L30	9	30		52.5	1333		144	66	30
	250L40	13	40		70.6	1793		144	88	40
	250L50	16	50		84.2	2138		144	104	47
320L	320L07	2	7.5	6	21.8	553	5.67	144	27	12
	320L15	4	15		30.8	783		144	38	17
	320L20	5	20		35.4	898		144	45	20
	320L25	6	25		39.9	1013		144	50	22
	320L30	8	30		49.0	1243		144	61	27
	320L40	11	40		62.5	1588		144	78	35
	320L50	13	50		71.6	1818		144	89	40

* Note pump diameter – high pressure models have an exterior casing and larger diameters, verify they will fit your well.

SPECIFICATIONS

Model	Horsepower Range	Discharge Connection	Recommended GPM Operating Range	GPM at Best Efficiency	Minimum* Well Size	Rotation at Disch. End
65L	3 - 40	3" NPT	20 - 90	65	6" / 8" *	CCW
95L	5 - 40		25 - 130	90	6" / 8" *	
120L	5 - 50		40 - 170	120	6" / 8" *	
160L	5 - 50		50 - 240	160	6"	
250L	7.5 - 50		70 - 300	250	6"	
320L	7.5 - 50	4" NPT	100 - 400	320	6"	

* Minimum well size refers only to dimensional fit in a well, the specifier or installer must determine the minimum required well diameter that will insure an adequate supply of water to the pump and also properly cool the motor. See Water End Data Chart for specific diameter by model number.

"L" SERIES MATERIALS OF CONSTRUCTION

Ref. No.	Part Name	Material	Material Code
1	Discharge Head	Stainless steel	ASTM CF-8 (AISI 304 cast)
2	Check Valve Support	Stainless steel	ASTM CF-8 (AISI 304 cast)
3	Check Valve	Stainless steel	AISI 304 SS
4	Elastomers	EPDM	
5	Bolts and Screws	Stainless steel	AISI 304 SS
6	Shaft Sleeve and Bushing	Tungsten carbide	
7	Thrust Bearing	PTFE+Graphite	
8	Impeller	Stainless steel	AISI 304 SS
9	Diffuser	Stainless steel	AISI 304 SS
10	Spacer	Stainless steel	AISI 431 SS
11	Tie Rod	Stainless steel	AISI 304 SS
12	Cable Guard	Stainless steel	AISI 304 SS
13	Wear Rings	Technopolymer PPO	
14	Strainer	Stainless steel	AISI 304 SS
15	Shaft	Stainless steel	AISI 431 SS
16	Shaft Coupling	Stainless steel	AISI 431 SS
17	Motor Adapter	Stainless steel	ASTM CF-8 (AISI 304 cast)

ORDER NUMBER CODE

65 L 03

Pump Size/ Gallons per minute at Best Efficiency Point
- 95
- 120
- 160
- 250
- 320

Pump Series

Horsepower Code = HP
- 03 = 3
- 05 = 5
- 07 = 7.5
- 10 = 10
- 15 = 15
- 20 = 20
- 25 = 25
- 30 = 30
- 40 = 40
- 50 = 50

SYSTEM COMPONENTS

- **Pump/Water End:**
  - 6" Pump with 3" NPT discharge.
  - 4" Motor Adapter on 3 and 5 HP models.
  - 6" Motor Adapter on 7.5 HP and larger models.
- **Motor:**
  - 4" motor required for 3 HP and 5 HP pumps.
  - 6" motor required for 7.5 HP and larger pumps.
- **Control Box:** Required for all single phase motors.
- **Magnetic Starter:** A magnetic starter with Class 10 overloads is required for all three phase units.

WATER ENDS AND MOTORS MUST BE ORDERED SEPARATELY AND ARE PACKAGED SEPARATELY.

Goulds Pumps is ISO 9001 Registered.

Table 24 Three-Phase Motor Specifications (60 Hz)

TYPE	MOTOR MODEL PREFIX	RATING					FULL LOAD		MAXIMUM (S.F. LOAD)		LINE TO LINE RESISTANCE OHMS	EFFICIENCY %		LOCKED ROTOR AMPS	KVA CODE
		HP	KW	VOLTS	HZ	S.F.	AMPS	WATTS	AMPS	WATTS		S.F.	F.L.		
6"	236650	5	3.7	200	60	1.15	17.5	4700	20.0	5400	.77-.93	79	79	99	H
	236600	5	3.7	230	60	1.15	15	4700	17.6	5400	1.0-1.2	79	79	86	H
	236660	5	3.7	380	60	1.15	9.1	4700	10.7	5400	2.6-3.2	79	79	52	H
	236610	5	3.7	460	60	1.15	7.5	4700	8.8	5400	3.9-4.8	79	79	43	H
	236620	5	3.7	575	60	1.15	6	4700	7.1	5400	6.3-7.7	79	79	34	H
	236651	7.5	5.5	200	60	1.15	25.1	7000	28.3	8000	.43-.53	80	80	150	H
	236601	7.5	5.5	230	60	1.15	21.8	7000	24.6	8000	.64-.78	80	80	130	H
	236661	7.5	5.5	380	60	1.15	13.4	7000	15	8000	1.6-2	80	80	79	H
	236611	7.5	5.5	460	60	1.15	10.9	7000	12.3	8000	2.4-2.9	80	80	65	H
	236621	7.5	5.5	575	60	1.15	8.7	7000	9.8	8000	3.7-4.6	80	80	52	H
	236652	10	7.5	200	60	1.15	32.7	9400	37	10800	.37-.45	79	79	198	H
	236602	10	7.5	230	60	1.15	28.4	9400	32.2	10800	.47-.57	79	79	172	H
	236662	10	7.5	380	60	1.15	17.6	9400	19.6	10800	1.2-1.5	79	79	104	H
	236612	10	7.5	460	60	1.15	14.2	9400	16.1	10800	1.9-2.4	79	79	86	H
	236622	10	7.5	575	60	1.15	11.4	9400	12.9	10800	3.0-3.7	79	79	69	H
	236653	15	11	200	60	1.15	47.8	13700	54.4	15800	.24-.29	81	81	306	H
	236603	15	11	230	60	1.15	41.6	13700	47.4	15800	.28-.35	81	81	266	H
	236663	15	11	380	60	1.15	25.8	13700	28.9	15800	.77-.95	81	81	161	H
	236613	15	11	460	60	1.15	20.8	13700	23.7	15800	1.1-1.4	81	81	133	H
	236623	15	11	575	60	1.15	16.6	13700	19	15800	1.8-2.3	81	81	106	H
	236654	20	15	200	60	1.15	61.9	18100	69.7	20900	.16-.20	82	82	416	J
	236604	20	15	230	60	1.15	53.8	18100	60.6	20900	.22-.26	82	82	362	J
	236664	20	15	380	60	1.15	33	18100	37.3	20900	.55-.68	82	82	219	J
	236614	20	15	460	60	1.15	26.9	18100	30.3	20900	.81-1.0	82	82	181	J
	236624	20	15	575	60	1.15	21.5	18100	24.2	20900	1.3-1.6	82	82	145	J
	236655	25	18.5	200	60	1.15	77.1	22500	86.3	25700	.12-.15	83	83	552	J
	236605	25	18.5	230	60	1.15	67	22500	75	25700	.15-.19	83	83	480	J
	236665	25	18.5	380	60	1.15	41	22500	46	25700	.46-.56	83	83	291	J
	236615	25	18.5	460	60	1.15	33.5	22500	37.5	25700	.63-.77	83	83	240	J
	236625	25	18.5	575	60	1.15	26.8	22500	30	25700	.10-1.3	83	83	192	J
	236656	30	22	200	60	1.15	90.9	26900	104	31100	.09-.11	83	83	653	J
	236606	30	22	230	60	1.15	79	26900	90.4	31100	.14-.17	83	83	568	J
	236666	30	22	380	60	1.15	48.8	26900	55.4	31100	.35-.43	83	83	317	J
	236616	30	22	460	60	1.15	39.5	26900	45.2	31100	.52-.64	83	83	284	J
	236626	30	22	575	60	1.15	31.6	26900	36.2	31100	.78-.95	83	83	227	J
	236667	40	30	380	60	1.15	66.5	35600	74.6	42400	.26-.33	85	83	481	J
	236617	40	30	460	60	1.15	54.9	35600	61.6	42400	.34-.42	83	83	397	J
	236627	40	30	575	60	1.15	42.8	35600	49.6	42400	.52-.64	83	83	318	H
	236668	50	37	380	60	1.15	83.5	45100	95	52200	.21-.25	82	83	501	H
	236618	50	37	460	60	1.15	67.7	45100	77	52200	.25-.32	82	83	414	H
	236628	50	37	575	60	1.15	54.2	45100	61.6	52200	.40-.49	82	83	331	H
	236669	60	45	380	60	1.15	98.7	53500	111	61700	.15-.18	84	84	627	H
	236619	60	45	460	60	1.15	80.5	53500	91	61700	.22-.27	84	84	518	H
	236629	60	45	575	60	1.15	64.4	53500	72.8	61700	.35-.39	84	84	414	H

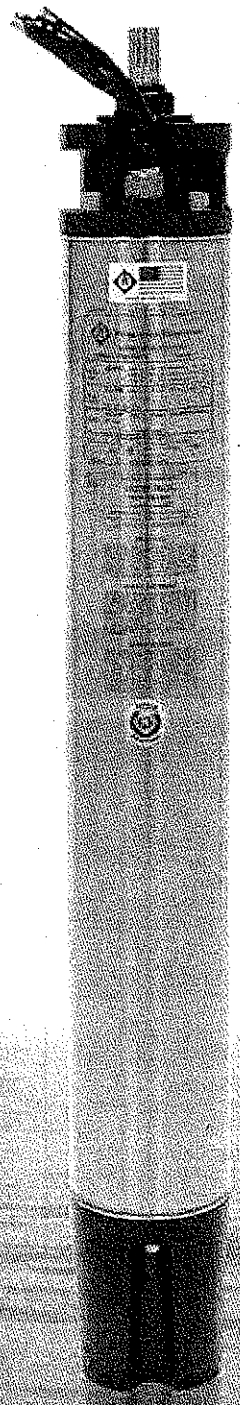
Model numbers above are for three-lead motors. Six-lead motors with different model numbers have the same running performance, but when wye connected for starting have locked rotor amps 33% of the values shown. Six-lead individual phase resistance = table X 1.5.

6" ENCAPSULATED SUBMERSIBLE MOTORS

Single-Phase 5-15 hp & Three-Phase 5-40 hp 200-575 volts 60 & 50 Hz

Application Data:

These motors are built for dependable operation in 6-inch diameter or larger water wells. Temperature and time ratings are continuous in 86 °F (30 °C) water at 1/2 ft./sec. flow past the motor. Rotation: single-phase, CCW facing shaft end; three-phase, electrically reversible.



Basic Features:

- Full 3450 RPM design point
- Maximum temperature winding wire NEMA class 200
- Anti-track self-healing resin system
- Hermetically-sealed windings
- Removable Water-Bloc™ lead
- Double flange design
- Stainless steel shell
- Kingsbury-type water lubricated thrust bearing
- Pressure equalizing diapragm
- Sand slinger
- 3-lead & 6-lead (Wye Delta) configurations for 3-phase
- Copper bar rotor

Special Features:

- **316 Stainless Steel:** Special construction option for acid, low pH, and seawater applications. All 316 SS motors include a Subtrol-Plus heat sensor.
- **Sand Fighter™** models available for sandy wells. All Sand Fighter models include Subtrol-Plus heat sensor.

SUBMONITOR® OVERLOAD OPTION FOR THREE-PHASE MOTORS
A field proven and contractor friendly premium motor protection system. It protects the motor against overload, underload, overheating and rapid cycling. It also extends the motor warranty to a full three years.* The motor must be manufactured with a Subtrol-Plus® heat sensor.

*Contact factory for warranty details.

System Solutions

Franklin Electric

Availability

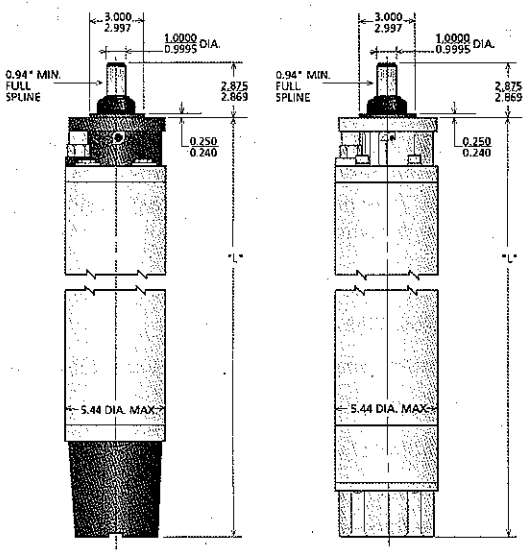
Single-Phase Capacitor start, Capacitor run (control box required)

HP	KW	Water Well "L" Dim		316 SS "L" Dim		Shipping Weight	
		IN	CM	IN	CM	LBS	KG
5	3.7	25.4	64.6	25.0	63.6	112	51
7.5	5.5	28.0	71.1	27.6	70.1	125	57
10	7.5	30.6	77.7	30.2	76.6	143	65
15	11.0	33.1	84.2	32.7	83.1	156	71

Three-Phase

HP	KW	Water Well "L" Dim		316 SS "L" Dim		Shipping Weight	
		IN	CM	IN	CM	LBS	KG
5	3.7	22.9	58.1	22.5	57.1	103	47
7.5	5.5	24.2	61.4	23.8	60.4	110	50
10	7.5	25.4	64.6	25.0	63.6	118	54
15	11.0	28.0	71.1	27.6	70.1	131	60
20	15.0	30.6	77.6	30.2	76.6	147	67
25	18.5	33.1	84.2	32.7	83.1	158	72
30	22.0	35.7	90.7	35.3	89.6	176	80
40	30.0	40.8	103.7	40.4	102.6	206	94

Note: 60 Hz - 3,450 RPM 50 Hz - 2,875 RPM



WATER WELL **316 SS**

Construction Materials

Component	Standard Water Well	316 SS
Castings	Gray Iron	316 SS
Stator Shell	310 SS	316 SS
Stator Ends	Low Carbon Steel	316 SS
Shaft Extension	303 SS, Except 17-4 SS on 40 hp	17-4 SS
Fasteners	300 & 400 Series SS	316 SS
Seal Cover	304 SS & Sintered Bronze	316 SS
Seal	Carbon/Ceramic Face	Sand Fighter™ Seal System
Diaphragm	Nitrile Rubber	Nitrile Rubber
Diaphragm Plate	304 SS	316 SS
Diaphragm Spring	302 SS	17-7 SS
Slinger	Nitrile Rubber	Nitrile Rubber
Lead Wire (or Cable)	XLPE	XLPE
Lead Potting	Epoxy	Epoxy
Filter	Delrin & Polyester	316 SS Plug
Insulation	Class F	Class F

Note: Specifications subject to change without notice. Contact Franklin Electric if current material types are required for bid specifications.

Franklin Electric
400 East Spring Street, Bluffton, Indiana 46714 • Tel: 260.824.2900 Fax: 260.824.2909 • www.franklin-electric.com