

SURVIVOR® Survivor 4" Submersible Pumps

Lancaster Pump offers a broad selection of SURVIVOR 4" submersible well pumps. Horsepower from $\frac{1}{2}$ to 5 HP, with the most popular size range $\frac{1}{2}$ to $\frac{1}{2}$ HP, available in Corrosion Resistant Thermoplastic or Super Strength Stainless Steel. Capacity ratings are 5, 7, 10, 15 and 22 gallons per minute with heads as high as 990 feet.

INSIDE A PUMP STAGE

- Diffuser with stainless steel seal/wear surfaces for upper impeller hub
- Impeller eye surrounding lower hub
- · Stage plate with stainless steel seal/wear surface for impeller eye

ASSEMBLED PUMP STAGE

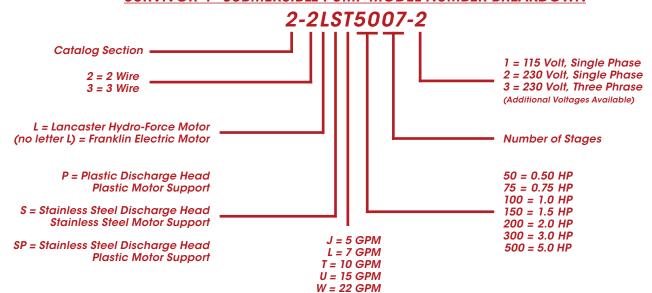
 Laminated phenolic thrust washer on top of every stage provides down-thrust protection and axial sealing for the impeller inside the next stage above

BREAKDOWN

- Glass-filled Noryl® Discharge Head with field replaceable fluted Internal Check Valve. Molded jug handles - no need for safety cable adapter, ½ HP thru 1½ HP models. Available in Stainless Steel up to 5 HP.
- Fluted Polyurethane Bearing at top end of shaft. Excellent abrasion and wear resistance.
- Stainless Steel Cable Guard for maximum cable protection. Attached with stainless steel screws.
- Balanced Teflon® impregnated Impellers made of glass-filled thermoplastic, provide for lower friction for longer pump life.
- Stainless steel Hex Shaft with slotted end for test turning.
- Fully enclosed, glass-filled thermoplastic Diffusers and Stage Plates with stainless steel wear surfaces. Each stage is complete with an individual composite thrust washer for extra protection.
- Heavy wall, high quality Stainless Steel Pump Casing sized inside for perfect stage alignment.
- Glass-filled Noryl® Motor Support $\frac{1}{2}$ HP thru 1 $\frac{1}{2}$ Hp models. Available in Stainless Steel up to 5 HP.
- Stainless Steel screen, cannot snap off during installation.



SURVIVOR 4" SUBMERSIBLE PUMP MODEL NUMBER BREAKDOWN





LANCASTER HYDRO-FORCE™

4" ENCAPSULATED SUBMERSIBLE MOTORS

SINGLE PHASE TWO-WIRE & THREE-WIRE, ½-1 HP, 230 V

EQUIPPED WITH LIGHTNING ARRESTORS

TECHNICAL FEATURES

TWO-WIRE DESIGN

 Split-phase induction run (IR) design with built-in electronic starter connected in series to a high resistance auxiliary start winding – no capacitor required – electronic starter controls disengagement of start winding as a function of starting time and starting voltage.

THREE-WIRE DESIGN

- · Capacitor-start induction run (CSIR) design control box required
- Control box quick-disconnect design disconnects control box components from the electrical system when the lid is removed – will retrofit F.E. Q-D control boxes of same HP and voltage.
- Control box components include a 230V voltage relay for easy installation, two ground terminals, cable terminals up to AWG 8, and a start capacitor for higher starting torque.
- Control box painted steel enclosure with multiple knockouts is rated NEMA 3R for indoor or outdoor installation.

TWO-WIRE AND THREE-WIRE DESIGNS

- Stator filled with special epoxy resin and hermetically sealed for a better insulation of the winding and a greater heat exchange.
- Rotor and thrust bearings lubricated by water mixed with Propylene Glycol.
- Built-in check valve for restoring of cooling liquid (well water) as needed.
- · Built-in lightning arrestors providing surge protection.
- Built-in automatic reset overload providing thermal (overheat) protection caused by high amperage and/or inadequate motor cooling.
- AISI 304 Stainless Steel motor frame shell, top and bottom end bracket covers.
- · AISI 303 Stainless Steel splined shaft end.
- · Cationic epoxy electrocoated G20 cast iron top and bottom end brackets.
- · Shaft sealing system using labyrinth seal, sand slinger and lip seal.
- · Pressure equalizing diaphragm.
- 4" NEMA flange
- M8 threaded mounting studs.
- Removable plug-in lead cable.
- Degree of protection: IP68.
- · Insulation: Class B.
- · Time Rating: Continuous Duty.
- · UL recognized component.

OPERATING LIMITS

- · Water temperature: max. 95°F (35°C)
- · Maximum starts per hour: 30
- Minimum flow-rate speed for motor cooling in water up to 95°F: 0.26 ft/s (0.08 m/s)
- · Voltage tolerance: ±10%
- Mounting position: vertical/horizontal
- Water characteristics: pH from 5.8 to 8.6
- NEMA service factors (S.F.) for 60 Hz pump motors
- Axial Thrust Load: 300 Lb (1500 N)

FRANKLIN

Lancaster Pump is also teamed up with Franklin Electric's stainless water filled motors, meaning high quality and dependable service.

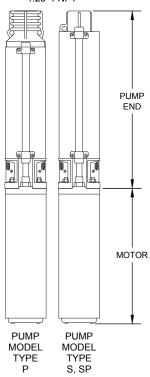




SURVIVOR® W-SERIES 22 GPM

PUMP DIAMETER INCLUDING CABLE GUARD 3.81"

> PUMP END DISCHARGE 1.25" FNPT



W SERIES - 22 GPM

60 Hz, 3450 rpm

Pump Model		D		Sin	gle-Phase I	Motors - 2-v	vire	Sin	gle-Phase	Three-Phase Motors				
	HP	Pump	End	LP Hydr	o-Force	FE Super	Stainless	LP Hydr	o-Force	FE Super	Stainless	FE Super Stainless		
		Length (inches)	Weight (LBS)	Length (inches)	Weight (LBS)	Length (inches)	Weight (LBS)	Length (inches)	Weight (LBS)	Length (inches)	Weight (LBS)	Length (inches)	Weight (LBS)	
PW7505 SW7505 SPW7505	3/4	12.47	4.0 6.9 5.5	11.69	22.0	10.66	21	10.50	20.2	10.66	21	10.66	21	
PW10007 SW10007 SPW10007	1	14.53	4.7 7.6 6.1	12.44 24.1		11.75	24	12.12	23.9	11.75	24	11.75	24	
PW15009 SW15009 SPW15009	1-1/2	16.69	5.7 8.5 7.1	n/a	n/a	15.12	31	n/a	n/a	13.62	28	11.75	24	
SW20011	2	18.72	9.5	n/a	n/a	n/a	n/a	n/a	n/a	15.12	33	13.62	28	
SW30015	3	23.83	11.7	n/a	n/a	n/a	n/a	n/a	n/a	19.06	41	16.06	35	
SW50025	5	34.25	16.4	n/a	n/a	n/a	n/a	n/a	n/a	29.20	71	23.20	56	

General notes for estimating only.

All Single-Phase motors are 230 Volt (FE Super Stainless 1/2 HP available 115 Volt OR 230 Volt).

Single-Phase 3-wire motors require properly matched control box.

Three-Phase motors available: 200 OR 230 OR 460 Volt.

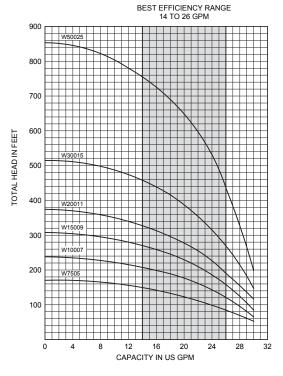
Three-Phase motors require a magnetic starter with three leg Class 10 overload protection.



SURVIVOR® W-SERIES 22 GPM



W SERIES - 22 GPM PERFORMANCE CURVES



W SERIES - 22 GPM DO NOT operate pump at flow rates indicated by the symbol — . PERFORMANCE CHART Shaded areas indicate most efficient performance. Friction losses in discharge pipe and fittings are not included in these charts.																																
Pump Model HP	PSI		Depth to Water in Feet																													
		. 0.	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	400	440	480	520	560	600	640	680	720	760	800	84
W7505 3/4		0	-	_	29.0	26.6	24.2	21.0	16.6	9.7																						
		20	28.2	25.9	23.2	19.9	14.7	6.0																								
	3/4	30	25.5	22.7	19.3	13.7																									\Box	
	3/4	40	22.2	18.6	12.8																											
		50	17.9	11.7																												
		60	10.3																												\Box	
Shu	t-off PSI		65	56	48	39	30	22	13	4																						
·		0	_	-	_	29.0		25.9				15.7	10.5																			
		20	29.9	28.6	27.1	25.4	23.6	21.2	18.5	14.1	8.9																					
W10007	1	30	28.4	26.8	25.1	23.2	20.8	18.0	13.4	8.1																						
W10007	1 1	40	26.5	24.9	22.9	20.4	17.4	12.6	5.9																							П
	Ī	50	24.6	22.5	20.0	16.7	11.8	4.1																								П
	Ī	60	22.1	19.6	16.0	10.9																										П
Shu	t-off PSI		94	86	77	68	60	51	42	34	25	16	8																			Т
W15009 1-1/2		0	_	-	_	_	29.2	28.3	27.0	25.7	24.4	22.7	20.8	18.7	15.8	11.9	6.0															П
	i	20	_	29.9	28.9	28.0	26.6	25.3	24.0	22.2	20.2	18.0	14.6	10.6																		Т
		30	29.8	28.8	27.8	26.4	25.1	23.7	21.9	19.9	17.5	14.0	9.9																			Т
	1-1/2	40	28.6	27.6	26.2	24.9	23.4	21.6	19.6	17.0	13.4	9.0																				Т
		50	27.3	26.0	24.7	23.1		19.2	16.5	12.8	8.1																					т
		60	25.8	24.5	22.8	21.0	18.9	16.0	12.2	6.7																						\vdash
Shu	t-off PSI		124	116	107	98	90	81	72	64	55	46	38	29	20	12	3															\vdash
		0	_	-	_	-	-	29.8	28.8	27.7	26.6	25.5	24.5		21.6	19.7	17.6	15.1	11.9	8.1												\vdash
		20	_	-	_	29.5	28.5		26.2	25.2	24.1	22.7	21.0	19.1	16.9	14.2	10.9	6.3														-
		30	_	-	29.3			26.1	25.0		22.5	20.7	18.8		13.7	10.3	4.9															-
W20011	2	40	_	29.2	28.2	27.0			23.7	22.2	20.4	18.4	16.2	13.2	9.7	1.6																\vdash
	İ	50	29.0	28.0	26.9	25.7		23.5	22.0		18.1	15.8	12.7	9.1	017																	+
	1	60	27.8	26.7	25.6	24.5		21.7	19.9		15.3	12.2	8.4																			+
Shur	t-off PSI		153	145	136	127	119	110	101	93	84	75	67	58	49	41	32	23	15	6												+
Ullu	J U.	0	_	-	_	-	1-	-	_	29.6	29.0	28.4	27.8	27.1	26.3	25.5	24.7	23.8	22.7	21.6	19.1	15.6	10.9									\vdash
		20	-	1-		-	30.0	29.4	28.8	28.3	27.6	26.8	26.1		_	23.5	22.3	21.2	20.1	18.7	14.8	_	70.0									+
		30	-	 		29.9	_	28.7	28.2	27.5	26.7	26.0			23.3	22.2	21.1	19.9		16.7	12.2	_										+
W30015	3	40	-	-	29.8	_	_	28.1		_	25.9	25.0		23.1	_	_	19.7	18.2	16.4	14.0	8.9	10.0										+
		50	_	29.7	29.2	28.6	_		26.5	_	24.9			_	20.7	19.5	18.0	16.1		11.5										\vdash		+
		60	29.7	29.1	28.5	_	-			24.8		22.8	21.6	_	19.2	17.7	15.8	13.4	11.1	7.7												+
Shu	t-off PSI	00	214	205	197	188	179	171	162	153	145	136	127	119	110	101	93	84	75	67	49	32	15									+
Snut-or	-311 F31	0	214	203	197	-	1/9	171	-	-	143	30.0		_	29.0	28.7	28.4	28.1		27.4	26.7	25.9		24.2	23.0	21.6	20.4	18.6	16.1	13.4	10.5	15
		20		H	Ξ		⊨		Ξ	29.9	29.6	29.3	_	28.6	28.3	28.0	27.7	27.3		26.6	25.8		24.1		21.4				13.0		3.6	
		30		=	Ξ		⊨		29.8	29.5	29.0	28.9		28.3	28.0	27.6		26.9	_	26.1		24.5			20.7		_		11.3	7.1	5.0	+
W50025	5	40		=	Ξ		⊨		29.5	29.2	28.9	28.5		27.9	27.6	27.0	26.8	26.4			24.8		22.5				15.3	12.6		7.1		+
		50		_			29.7			_		28.2		_	_		26.4		25.6			23.1	21.7				13.7	10.8				+
		60	\equiv	_	30.0	20.7	29.7	29.4		_	_		27.4	_	26.7		26.4		25.1		23.7		21.7			14.8		8.5	0.5			+
01	4 -ff DC:	60	700	750	_	_	-			_	_			_	_	-					_	_					-		E 7	40	0.7	5
Shu	t-off PSI		360	352	343	334	326	317	308	300	291	282	274	700	256	Z48	239	230	ZZZ	215	196	179	161	144	127	109	92	75	57	40	23	1 5