

# PUMP PANELS

## Fusible and circuit breaker type combination across the line type PF and PB



Enclosed Type 3R Metal

**Note:** Circuit breakers are molded case design. Check with factory for service entrance fusible type for possible extra cost (add suffix "SE" to catalog numbers). See next page for pump panels with intergrated breakers.

Pump panels type PF and PB combination controller includes:

- A. 600 Volt circuit breakers or load make, load breaker disconnects.
- B. Door handle safety interlocks
- C. Magnetic starters with more precise and consistent overload protection and differential single phasing protection.
- D. Space and drilling for fused control circuit transformer and other accessories.
- E. Start button and hand-off auto switch supplied as standard.
- F. Extra wide voltage range coils standard on factory assembled units. Range is 75% to 110% name plate voltage.

Size	Volts	Design Rating Max HP	Fuse Clips (Amps)	Fusible Type PF-XLS-Catalog #	Nema-1 or Nema-3R List Price*	Nema 4X -4X List Price ▲	Circuit Breaker Type PB-XLS-Catalog #	Nema-1 or Nema-3R List Price	Nema 4X -4X List Price ▲
0 +	200-230	5	30	PF-XLS-17-***-3-	\$625	\$690	PB-XLS-17-***	\$670	\$825
0 +	200-230	5	60	PF-XLS-17-***-6-	635	700			
0 +	460	10	30	PF-XLS-17-***-3-	625	690	PB-XLS-17-***	670	825
0 +	460	10	60	PF-XLS-17-***-6-	635	700			
1 +	200	7.5	30	PF-XLS-27-***-3-	670	800	PB-XLS-27-***	750	950
1 +	230	10	60	PF-XLS-27-***-6-	670	800			
1 +	460	15	30	PF-XLS-27-***-3-	670	800	PB-XLS-27-***	750	950
1 3/4	200-300	10	60	PF-XLS-37-***-6-	790	900	PB-XLS-37-***	930	1070
1 3/4	460	25	60	PF-XLS-37-***-6-	790	900	PB-XLS-37-***	930	1070
2 +	200	15	60	PF-XLS-47-***-6-	850	1190	PB-XLS-47-***	1055	1570
2 +	230	20	100	PF-XLS-47-***-10-	850	1190	PB-XLS-47-***	1055	1570
2 +	460	40	60	PF-XLS-47-***-6-	850	1190	PB-XLS-47-***	1055	1570
2 1/2	200	20	100	PF-XLS-57-***-10-	1270	1690	PB-XLS-57-***	1510	1970
2 1/2	230	25	100	PF-XLS-57-***-10-	1270	1690	PB-XLS-57-***	1510	1970
2 1/2	460	50	100	PF-XLS-57-***-10-	1270	1690	PB-XLS-57-***	1510	1970
3	200	25	100	PF-XLS-77-***-10-	1540	1900	PB-XLS-77-***	1610	2230
3	230	30	100	PF-XLS-77-***-10-	1540	1900	PB-XLS-77-***	1610	2230
3	230	30	200	PF-XLS-77-***-20-	1630	1900	PB-XLS-77-***	1610	2230
3	460	60	100	PF-XLS-77-***-10-	1640	1900	PB-XLS-77-***	1610	2230
3 1/2	230	40	200	PF-XLS-87-***-20-	2340	2850	PB-XLS-87-***	2200	3190
3 1/2	460	75	200	PF-XLS-87-***-20-	2340	2850	PB-XLS-87-***	2200	3190
4	230	50	200	PF-XLS-107-***-20-	2700	3420	PB-XLS-107-***	2600	3880
4	460	100	200	PF-XLS-107-***-20-	2700	3420	PB-XLS-107-***	2600	3880
4 1/2	200	60	400	PF-XLS-177-***-40-	4910	5780	PB-XLS-177-***	4100	6600
4 1/2	230	75	400	PF-XLS-177-***-40-	4910	5780	PB-XLS-177-***	4100	6600
4 1/2	460	150	400	PF-XLS-177-***-40-	4910	5780	PB-XLS-177-***	4100	6600
5	200	75	400	PF-XLS-247-***-40-	5700	7150	PB-XLS-247-***	5200	7050
5	230	100	400	PF-XLS-247-***-40-	5700	7150	PB-XLS-247-***	5200	7050
5	460	200	400	PF-XLS-247-***-40-	5700	7150	PB-XLS-247-***	5200	7050
5 1/2	200	100	400	PF-XLS-220K-***-40-	9520	11,410	PB-XLS-220K-***	9000	12,910
5 1/2	230	150	600	PF-XLS-220K-***-60-	11,710	11,810	PB-XLS-220K-***	9000	12,910
5 1/2	460	300	600	PF-XLS-220K-***-60-	11,710	11,810	PB-XLS-220K-***	9000	12,910
6	200	150	600	PF-XLS-280K-***-60-	Consult Factory		PB-XLS-280K-***	11000	14,300
6	230	200	600	PF-XLS-280K-***-60-	Consult Factory		PB-XLS-280K-***	11000	14,300
6	460	400	600	PF-XLS-280K-***-60-	Consult Factory		PB-XLS-280K-***	11000	14,300

### \* COIL VOLTAGE SUFFIX

AC	60Hz	50Hz
-A	120V	110V
-C	208/230V	220V
-D		380V
-E	480V	440V
-G	24V	22V

### \*\* OVERLOAD RELAY SUFFIX

Suffix	O.L., Relay Setting Range (Amps)	
	Suffix	O.L., Relay Setting Range (Amps)
-A	0.12-0.18	-N 11-17
-B	0.18-0.28	-O 15-23
-C	0.28-0.4	-P 22-32
-D	0.4-0.6	-Q 32-50
-E	0.56-0.8	-RN 50-63
-F	0.8-1.2	-SN 63-80
-G	1.2-1.8	-TN 80-110
-H	1.8-2.8	-TT 110-135
-I	2.8-4	-UN 135-160
-K	4-6	-UU 150-180
-L	5.6-8	-VT 175-280
-M	8-12	-WT 250-400
		-X 315-500

### ▲ TYPE 4X ENCLOSED STARTERS

Type LS starters are UL/CSA listed and are enclosed in type 4X UL listed enclosures. Type 4X enclosures are designed for outdoor/hose down/dust tight applications and are non-metal corrosion resistant.

**ORDER EXAMPLE:** 15 HP480V: PB-XLS-27-E-O-3R \$670 List

Circuit Breaker Frame Sizes	
Starter Size	Breaker Frame
1, 1.3/4, 2, 2.1/2	100A
3, 3.1/2, 4	150A
4.1/2	250A
5, 5.1/2 (at 200V)	400A
5.1/2	600A

### Note:

-1 for NEMA 1  
-3R for NEMA 3R

\*\* To determine overload size, see back inside cover for approximate currents.

For modification and field kit accessories see page 60.

## Duplex Pump Panels - Combination

### "Fusible Disconnect" Type † with Automatic Alternator

Size	Volts	Design Rating Max. H.P.	Fuse Clips	Catalog Number PDF-XLS-	1 General Purpose List	1 Omit ■ Disconnect (Deduct)	3 Nema 3R Metal List	4X Nema 4X List	4X Omit ■ Disconnect (Deduct)
0 + 0 +	200-230 460	5/7.5 10	30 30	-17-□-★★-3 -17-□-★★-3	\$1529 1529	(\$540)	\$1825 1825	\$1932 1932	(\$776)
1 + 1 +	230 460	10 15	30 30	-27-□-★★-3 -27-□-★★-3	1595 1595	(\$545)	1895 1895	2005 2005	(\$776)
1 <sup>3/4</sup> 1 <sup>3/4</sup>	230 460	10 25	60 60	-37-□-★★-6 -37-□-★★-6	1740 1740	(\$545)	2040 2040	2152 2152	(\$781)
2 + 2 + 2 +	200 230 460	15 20 40	60 60 60	-47-□-★★-6 -47-□-★★-6 -47-□-★★-6	2100 2100 2100	(\$740)	2490 2490 2490	2640 2640 2640	(\$950)
2 <sup>1/2</sup> 2 <sup>1/2</sup> 2 <sup>1/2</sup>	200 230 460	20 25 50	100 100 100	-57-□-★★-10 -57-□-★★-10 -57-□-★★-10	2670 2670 2670	(\$1030)	3180 3180 3180	3410 3410 3410	(\$1380)
3 3 3	200 230 460	25 30 60	100 100 100	-77-□-★★-10 -77-□-★★-10 -77-□-★★-10	3570 3570 3570		3870 3870 3870	4100 4100 4100	(\$1840)
3 1/2 3 1/2	230 460	40 75	200 200	-87-□-★★-20 -87-□-★★-20	4500 4500		4900 4900	5300 5300	(\$1840)
4 4	230 460	50 100	200 200	-107-□-★★-20 -107-□-★★-20	7110 7110		7510 7510	7910 7910	(\$3020)

† Includes Electric Alternator. For omission of alternator add suffix "-LA" and deduct \$80 list.

## Duplex Pump Panels - Combination

### Circuit Breaker Type † with Automatic Alternator

Size	Volts	Design Rating Max. H.P.	Fuse Clips	Catalog Number PDB-XLS-	1 General Purpose List	1 Omit ■ Breaker (Deduct)	3 Nema 3R Metal List	4X Nema 4X List	4X Omit ■ Breaker (Deduct)
0 + 0 +	200-230 460	5 10	30 30	-17-□-★★ -17-□-★★	\$1529 1529	(\$540)	\$1825 1825	\$1932 1932	(\$776)
1 + 1 +	230 460	10 15	30 30	-27-□-★★ -27-□-★★	1595 1595	(\$545)	1895 1895	2005 2005	(\$776)
1 <sup>3/4</sup> 1 <sup>3/4</sup>	230 460	10 25	60 60	-37-□-★★ -37-□-★★	1740 1740	(\$545)	2040 2040	2152 2152	(\$781)
2 + 2 + 2 +	200 230 460	15 20 40	60 60 60	-47-□-★★ -47-□-★★ -47-□-★★	2110 2110 2110	(\$740)	2490 2490 2490	2640 2640 2640	(\$950)
2 <sup>1/2</sup> 2 <sup>1/2</sup> 2 <sup>1/2</sup>	200 230 460	20 25 50	100 100 100	-57-□-★★ -57-□-★★ -57-□-★★	2670 2670 2670	(\$1030)	3180 3180 3180	3410 3410 3410	(\$1380)
3 3 3	200 230 460	25 30 60	100 100 100	-77-□-★★ -77-□-★★ -77-□-★★	Consult Factory		3870 3870 3870	4100 4100 4100	(\$1840)
3 1/2 3 1/2	230 460	40 75	200 200	-87-□-★★ -87-□-★★	Consult Factory		4900 4900	5300 5300	(\$1840)
4 4	230 460	50 100	200 200	-107-□-★★ -107-□-★★	Consult Factory		7510 7510	7910 7910	(\$3020)

\*\* Coil and Overload Suffix Table, page 96.

Factory Modifications: Use Page 60.

★ Select Coil from COIL VOLTAGE SUFFIX TABLE and insert in catalog number.

□ SELECT ENCLOSURE TYPE and insert in catalog number.

★★ Select Overload from OVERLOAD RELAY SUFFIX TABLE and insert in catalog number (page 44).

Type 4X enclosures are designed for outdoor/hose down/dust tight applications and are non-metal corrosion resistant.

# MULTI SPEED STARTERS



## TWO SPEED STARTERS

### TWO SPEED - TWO WINDING

### CONSTANT HORSEPOWER

List prices include 6 heaters

HORSEPOWER RATING (MAX HP RATING)				3-PHASE STARTERS (2-SPEED)				NEMA			EEC	
200/ 208V HP	220/ 240V HP	440/ 480V HP	550/ 600V HP	(includes 3-pole O.L.) Catalog No.	LIST PRICES-ENCLOSURE -O- OPEN	-MI- NEMA1	-4X- NEMA4X	-M12- NEMA12	200V HP	230V HP	460/ 575V HP	Size
3	3	7 <sup>1/2</sup>	7 <sup>1/2</sup>	2SHLS17-***	\$ 428	\$ 478	\$ 549	\$ 549	2	2	3	0+
5	5	10	15	2SHLS27-***	563	613	684	684	5	5	7 <sup>1/2</sup>	1+
5	7 <sup>1/2</sup>	15	15	2SHLS37-***	687	757	907	907				1 <sup>1/2</sup>
10	10	30	30	2SHLS47-***	1,007	1,007	1,227	1,227	7 <sup>1/2</sup>	10	20	2 <sup>1/2</sup> +
20	20	40	50	2SHLS57-***	1,122	1,192	1,382	1,382				
25	25	50	50	2SHLS77-***	1,361	1,491	1,621	1,621	20	25	40	3
30	30	60	75	2SHLS87-***	1,961	2,091	2,221	2,221				3 <sup>1/2</sup>
40	40	75	100	2SHLS107-***	3,018	3,218	3,518	3,518	30	40	75	4
50	60	100	150	2SHLS177-***	4,410	4,710	5,060	5,060				4 <sup>1/2</sup>
60	75	150	200	2SHLS247-***	5,800	6,600	7,800	7,800	60	75	150	5
75	100	200	300	2SHLS220K-***	7,120	9,120	9,120	9,120				5 <sup>1/2</sup> +
150	200	400		2SHLS280K-***	10,320	12,320	12,320	12,320	100	150	300	6+

### TWO SPEED - TWO WINDING

### CONSTANT OR VARIABLE TORQUE

5	7.5	10	10	2STLS17-***	\$ 428	\$ 478	\$ 549	\$ 549	3	3	5	0+
7 <sup>1/2</sup>	10	15	20	2STLS27-***	563	613	684	684	7 <sup>1/2</sup>	7 <sup>1/2</sup>	10	1+
10	10	20	25	2STLS37-***	687	757	907	907				1 <sup>1/2</sup>
15	20	40	50	2STLS47-***	1,007	1,007	1,227	1,227	10	15	25	2+
25	25	50	60	2STLS57-***	1,122	1,192	1,382	1,382				2 <sup>1/2</sup> +
30	30	60	75	2STLS77-***	1,361	1,491	1,621	1,621	25	30	50	3
30	40	75	100	2STLS87-***	1,961	2,091	2,221	2,221				3 <sup>1/2</sup>
40	50	100	100	2STLS107-***	3,018	3,218	3,518	3,518	40	50	100	4
60	75	150	190	2STLS177-***	4,410	4,710	5,060	5,060				4 <sup>1/2</sup>
75	100	200	250	2STLS247-***	5,800	6,600	7,800	7,800	75	100	200	5
125	150	350	400	2STLS220K-***	7,120	9,120	9,120	9,120				5 <sup>1/2</sup> +
	250	500	585	2STLS280K-***	10,320	12,320	12,320	12,320	150	200	400	6+

### TWO SPEED - ONE WINDING

### CONSTANT HORSEPOWER

3	3	7 <sup>1/2</sup>	7 <sup>1/2</sup>	1SHLS17-***	\$ 623	\$ 673	\$ 743	\$ 743	2	2	3	0+
5	5	10	15	1SHLS27-***	781	831	901	901	5	5	7 <sup>1/2</sup>	1+
5	7 <sup>1/2</sup>	15	15	1SHLS37-***	947	1,017	1,187	1,187				1 <sup>1/2</sup>
10	15	30	30	1SHLS47-***	1,364	1,484	1,604	1,604	7 <sup>1/2</sup>	10	20	2+
20	20	40	50	1SHLS57-***	1,550	1,670	1,850	1,850				2 <sup>1/2</sup> +
25	25	50	50	1SHLS77-***	1,930	2,050	2,230	2,230	20	25	40	3
30	30	60	75	1SHLS87-*	2,950	3,070	3,250	3,250				3 <sup>1/2</sup>
40	40	75	100	1SHLS107-*	4,290	4,590	4,790	4,790	30	40	75	4
50	60	100	150	1SHLS177-*	6,550	6,950	7,300	7,300				4 <sup>1/2</sup>
60	75	150	200	1SHLS247-*	7,990	8,790	9,990	9,990	60	75	150	5
75	100	200	300	1SHLS220K-*	10,290	12,290	13,030	13,030				5 <sup>1/2</sup> +
150	200	400		1SHLS280K-*	16,130	18,130	18,130	18,130	100	150	300	6+

### TWO SPEED - ONE WINDING

### CONSTANT OR VARIABLE TORQUE

5	7.5	10	10	1STLS17-***	\$ 623	\$ 673	\$ 743	\$ 743	3	3	5	0+
7 <sup>1/2</sup>	10	15	20	1STLS27-***	781	831	901	901	7 <sup>1/2</sup>	7 <sup>1/2</sup>	10	1+
10	10	20	25	1STLS37-*	947	1,017	1,187	1,187				1 <sup>1/2</sup>
15	20	40	50	1STLS47-*	1,364	1,484	1,604	1,604	10	15	25	2+
25	25	50	60	1STLS57-*	1,550	1,670	1,850	1,850				2 <sup>1/2</sup> +
30	30	60	75	1STLS77-*	1,930	2,050	2,230	2,230	25	30	50	3
30	40	75	100	1STLS87-*	2,950	3,070	3,250	3,250				3 <sup>1/2</sup>
40	50	100	100	1STLS107-*	4,290	4,590	4,790	4,790	40	50	100	4
60	75	150	190	1STLS177-*	6,550	6,950	7,300	7,300				4 <sup>1/2</sup>
75	100	200	250	1STLS247-*	7,990	8,790	9,990	9,990	75	100	200	5
125	150	350	400	1STLS220K-*	10,290	12,290	13,030	13,030				5 <sup>1/2</sup> +
	250	500	585	1STLS280K-*	16,130	18,130	18,130	18,130	150	200	400	6+

\*Coil Suffix \*\*Overload Suffix For Modifications see page 60. For 3 or 4 speed starters check with factory.  
**Order Example:** 2SHLS17S-A-L, N+M1 (size 0, 7<sup>1/2</sup> HP Two Speed Constant HP, NEMA1 Enclosed)

\*To determine overload size see back inside cover for approximate currents.

2 speed starters require high speed & low speed currents suffixes in part number.

**Combination Fusible Disconnect and Breaker Type** Two Speed Starters are available stock to two weeks. Check with factory.

Discount Schedule ST