

All the Parts You Need . . . Before You Need Them!

2011

ORIGINAL
S&L
PARTS

PARTS REFERENCE GUIDE

FOR

FORMULA X[®]

Wet Well Mounted Pump Stations



Your Helpful Parts Resource

For S&L Product Codes: FX, SC, and 15
(First Two Numbers of Station Serial Number)

Smith & Loveless, Inc.
www.smithandloveless.com

Parts Reference Guide



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FORMULA X®

Wet Well Mounted Pump Stations

S&L Product codes: FX , DX (First Two Letters of Station Serial Number)
(15-04_ _ _ for Modified FX Stations)

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MECHANICAL, PIPING, & PARTS

PUMP PARTS

Includes: shaft diameter, impeller, maximum diameter, diameter eye, front head, pump stand, volute, gaskets, motor adapter, impeller bolt, impeller washer.

4B2B, 4B2D	•19
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ELECTRICAL COMPONENTS

ALARM LIGHT - RED

PART DESCRIPTION	PART #
Alarm Light – Complete Assembly - Red, 120V	28B580B
Body Fixture – Alarm Light	5L76
Adapter – Alarm Light	5L77
Globe – Alarm Light	5L78B
Guard – Alarm Light	5L79
Bulb – 12 Volt	4L120
Bulb – 115 Volt	4L95A

AUXILIARY CONTACTS

PART DESCRIPTION	PART #
Auxiliary Contacts one (1) NO (Normally Open)	4L560A
Auxiliary Contacts one (1) NC (Normally Closed)	4L560B
Auxiliary Contacts one (1) NO (Normally Open) & one (1) NC (Normally Closed)	4L560C
Auxiliary Contacts two (2) NO (Normally Open)	4L560D

CONTACTORS

Not descriptive enough. Ask customer if they mean contact terminal block, Auxiliary Relay, Starter, etc.

CONTROLLER – PROTRONIX™

PART DESCRIPTION	PART #
PROTRONIX™ I Controller – 4L536A, 4L536B (SOLD THRU RETROFIT ONLY)	Call Retrofits
PROTRONIX™ II Controller – 4L536C-1 (SOLD THRU RETROFIT ONLY)	Call Retrofits

DISPLAY FUSE

PART DESCRIPTION	PART #
Fuse, FNQ, 1 AMP	4L371A
Fuse, FNQ-R, 1/2 AMP	4L371T

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ELECTRICAL COMPONENTS (CONTINUED)

DISPLAY SCREEN	PART #
PART DESCRIPTION	
Display Screen – HMI – Color Touch Screen - 4L523F – current- (SOLD THRU RETROFIT ONLY) Replaces 4L53C & 4L523E	Call Retrofit
Display Screen – HMI – 2-line LED – 4L523D – obsolete (SOLD THRU RETROFIT ONLY)	Call Retrofit
Display Screen – HMI – 4-line LED – 4L523B – obsolete (SOLD THRU RETROFIT ONLY)	Call Retrofit
Display Screen – HMI – Monochrome Touch Screen – 4L523E – obsolete (SOLD THRU RETROFIT ONLY)	Call Retrofit
Communication Cable (PROTRONIX™ II to HMI) 4L536C-4	Call Retrofit

FLOAT (DISPLACEMENT) SWITCHES, BACKUP

Serve as Backup to the Submersible Pressure Transducer

PART DESCRIPTION	PART #
Float Switch (Normally Open Blue), 30 ft. cord	4L291A
Float Switch (Normally Closed Red), 30 ft. cord	4L291B
Float Switch (Normally Open Blue), 45 ft. cord	4L291C
Submersible Pressure Transducer – Wet Well Level Sensor – 25' Cord hangs down inside of wet well. (Replaces 4L563C).	4L563J

FLOAT SWITCH, CORD CONNECTOR

PART DESCRIPTION	PART #
Cord Connector, Float Switch Adjustment	5L57C

GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES

PART DESCRIPTION	PART #
GFCI Receptacle, 15 Amp, Color: Ivory	5L269C
Receptacle Box, Aluminum	5L98A

HEATER

PART DESCRIPTION	PART #
Heater, Strip/Panel Mount with Thermostat – UL Listed 120 Volt 500 Watt	4L364A
Heater, Auxiliary, with Fan, 120 Volt 1320/1650 Watt	4L84
Fan Motor for 4L84 Heater	4L84-1
Temperature Transmitter	5L350AA

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ELECTRICAL COMPONENTS (CONTINUED)

LIGHTNING PROTECTION

PART DESCRIPTION	PART #
Surge Capacitor	4L368
Lightning Arrestor	4L369

PHASE MONITOR RELAYS

PART DESCRIPTION	PART #
Phase Monitor, Voltage: 190 to 270	4L336A
Phase Monitor, Voltage: 430 to 480	4L336B

POWER SUPPLY – 24 VOLT

Powers all 24 volt panel components

PART DESCRIPTION	PART #
Power Supply, 24 VDC (2.3 Amp rating)	4L452C

PRESSURE TRANSDUCERS/SENSORS, SUBMERSIBLE

(Submersible Pressure Transducer hangs down from the pump station and into the wet well, in addition to the float switches used for back-up. Both are used for wet well level sensing.)

PART DESCRIPTION	PART #
0-15 PSI, Submersible Pressure Transducer – 25' Cord (old style) (old PN: 4L563B-now 4L563J + reprogrammed E_PROM through Retrofit)	See Retrofit
0-7.5 PSI, Submersible Pressure Transducer – 25' Cord (<i>Replaces 4L563A</i>) (CURRENT STYLE) (<i>Replaces 4L563C</i>).	4L563J

PROTRONIX™ CONTROLLER

PART DESCRIPTION	PART #
PROTRONIX™ II Input/Output Module (8 In/8 Out)	4L536C-2
PROTRONIX™ II Controller - 4L452C-1 (<i>SOLD THRU RETROFIT ONLY</i>)	Call Retrofits

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ELECTRICAL COMPONENTS (CONTINUED)

PUMP FAILURE ALARM

PART DESCRIPTION	PART #
Pump Failure Alarm Retrofit Kit for Relay Logic (two pump – LH & RH)	H87A376
Pump Failure Alarm Retrofit Kit for Relay Logic (one pump – RH only)	H87A383A
Pump Failure Alarm Retrofit Kit for Relay Logic (one pump – LH only)	H87A383B
*Water Proof – Pump Failure Alarm – Switch Only – (one pump - RH only)	87B397C
*Water Proof – Pump Failure Alarm – Switch Only – (one pump – LH only)	87B397D
Pump Failure Alarm Tester (Works with all styles)	87B399

**Note: 87B397A & 87B397B are Switch Only & do not include parts required for initial installation of the pump failure alarm. Customer must verify that they have already installed a pump failure alarm. Otherwise, you will either need H87A376, H87A383A, or H87A383B.*

RELAYS

PART DESCRIPTION	PART #
Relay, Vacuum Pump Contactor	4L609C
Relay, Time Delay (for Pump Failure, Prime Failure, Time Delay)	4L304J
Relay, 24 VDC, Din Rail Mounted (Double Pole, Double Throw)	4L571D
Relay, 24 VDC, Din Rail, SPST	4L571A
SONIC START® Operating Module	4L264S

RESISTOR

PART DESCRIPTION	PART #
250 OHM Resistor Wire	4L198A

RUNNING TIME METER-USED WITH PUMPLOGIX & RELAY LOGIC

PART DESCRIPTION	PART #
Running Time Meter (Old) Square face, but fits through round hole NEMA 12	4L587A
Running Time Meter (Current) Rectangular-NEMA 3R	4L198C

SOLENOID VALVE, 2-WAY LARGE PORT

PART DESCRIPTION	PART #
2-Way Solenoid Valve (5/16" orifice) Cannot be used with SONIC START® STREAMLINE™	1L545B mounted through panel & backpan
2-Way Solenoid Valve Assembly for the FORMULA X® (Old Style arrangement with solenoid next to Float Check Valve)	87B351
SONIC START® STREAMLINE™ Solenoid Valve/Dome Assembly (New Style arrangement)	87B728A

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SWITCHES

PART DESCRIPTION	PART #
Switch, 3-POS Operator Selector, Spring Return Left, HOA (Hand-Off-Auto)	4L13C
Switch, Limit for Intrusion Alarm	5L241
Actuator, for use with 5L241	5L241A
Switch, 2-POS Operator Selector, Keyed	4L366A
Switch (Alarm), 2-POS Operator Selector, Maintained	4L71
Switch, 3-POS Operator Selector, Spring Return Left, HOA	4L13C
Switch, Push Button	4L561A
Float Switch (Normally Open Blue), 30 ft. cord	4L291A
Float Switch (Normally Closed Red), 30 ft. cord	4L291B
Float Switch (Normally Open Blue), 45 ft. cord	4L291C

TEMPERATURE TRANSMITTER

PART DESCRIPTION	PART #
Temperature Transmitter	5L350AA

TRANSFORMER DESCRIPTION

DESCRIPTION	PART #
2 KVA	4L402A
3 KVA	4L402B
5 KVA	4L402E

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ELECTRICAL COMPONENTS (CONTINUED)

IEC RATED STARTERS – 4L515 MOTOR CIRCUIT PROTECTORS – 4L531, 4L532						
MOTOR HORSEPOWER	208 VOLTS		230 VOLTS		460 VOLTS	
	STARTER PART #	CIRCUIT PROTECTOR PART #	STARTER PART #	CIRCUIT PROTECTOR PART #	STARTER PART #	CIRCUIT PROTECTOR PART #
1½	4L515G	4L531F	4L515L	4L531F	4L515L	4L531E
2	4L515G	4L531F	4L515G	4L531F	4L515L	4L531E
3	4L515G	4L531F	4L515M	4L531F	4L515L	4L531E
5	4L515C	4L531G	4L515N	4L531G	4L515G	4L531F
7½	4L515H	4L531A	4L515C	4L531G	4L515G	4L531F
10	4L515D	4L531A	4L515D	4L531A	4L515N	4L531G
15	4L515J	4L531B	4L515J	4L531B	4L515C	4L531G
20	4L515K	4L531C	4L515K	4L531C	4L515H	4L531A
25	4L515K	4L531D	4L515K	4L531C	4L515H	4L531A
30	4L515P	4L532G	4L515P	4L532A	4L515J	4L531A
40	4L515Q	4L532H	4L515Q	4L532B	4L515J	4L531B
50			4L515Q	4L532H	4L515K	4L531C
60					4L515E	4L531D
75					4L515P	4L532B
100					4L515Q	4L532B

SPECIAL NOTE: Starter Motor Circuit Protector Sizing has changed slightly over the years.
Consult Factory's BOM for Direct Replacement.

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ELECTRICAL COMPONENTS (CONTINUED)

NEMA RATED STARTERS – 4L514 MOTOR CIRCUIT PROTECTORS – 4L531, 4L532						
MOTOR HORSEPOWER	208 VOLTS		230 VOLTS		460 VOLTS	
	STARTER PART #	BREAKER PART #	STARTER PART #	BREAKER PART #	STARTER PART #	BREAKER PART #
1½	4L514A	4L531F	4L514A	4L531F	4L514G	4L531E
2	4L514A	4L531F	4L514A	4L531F	4L514G	4L531E
3	4L514B	4L531F	4L514B	4L531F	4L514A	4L531E
5	4L514C	4L531G	4L514C	4L531G	4L514A	4L531F
7½	4L514C	4L531A	4L514C	4L531G	4L514C	4L531F
10	4L514D	4L531A	4L514D	4L531A	4L514C	4L531G
15	4L514E	4L532F	4L514D	4L531B	4L514D	4L531G
20	4L514E	4L532E	4L514E	4L532F	4L514D	4L531A
25	4L514E	4L532A	4L514E	4L532E	4L514D	4L531A
30	4L514F	4L532G	4L514E	4L532A	4L514E	4L531A
40	4L514F	4L532H	4L514F	4L532B	4L514E	4L532A
50			4L514F	4L532H	4L514E	4L532B
60					4L514F	4L532B
75					4L514F	4L532B
100					4L514F	4L532H

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ELECTRICAL COMPONENTS *(CONTINUED)*

BREAKERS – “QUICKLAG C” TYPE, SINGLE POLE, 5000 AMPERE INTERRUPTING CAPACITY, 120/240 VAC

PART DESCRIPTION	PART #
10, Continuous Amp Rating	4L82B
15, Continuous Amp Rating	4L82C
20, Continuous Amp Rating	4L82D
30, Continuous Amp Rating	4L82F
35, Continuous Amp Rating	4L82G
40, Continuous Amp Rating	4L82H
50, Continuous Amp Rating	4L82J
Handle Tie (California)	4L82P

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ELECTRICAL COMPONENTS (CONTINUED)

MOTORS – VERTICAL “P”

BASE PUMP MOTORS, ODP, 3/60/230-460 VOLT			STANDARD SEAL
HORSEPOWER	RPM	OLD PART #	NEW PART #
1 hp, Motor	900	95L39-1	95L39041-3BA002B0
1½ hp, Motor	900	95L39-2	95L39051-3BA002B0
2 hp, Motor	900	95L39-3	95L39061-3BA002B0
2 hp, Motor	1200	95L39-4	95L39161-3BA002B0
3 hp, Motor	900	95L39-5	95L39071-3BA002B0
3 hp, Motor	1200	95L39-6	95L39171-3BA002B0
3 hp, Motor	1800	95L39-28	95L39271-3BA002B0
5 hp, Motor	900	95L39-8	95L39081-3BA002B0
5 hp, Motor	1200	95L39-9	95L39181-3BA002B0
5 hp, Motor	1800	95L39-10	95L39281-3BA002B0
7½ hp, Motor	900	95L39-11	95L39091-3BA002B0
7½ hp, Motor	1200	95L39-12	95L39191-3BA002B0
7½ hp, Motor	1800	95L39-13	95L39291-3BA002B0
10 hp, Motor	900	Consult Factory *	Consult Factory *
10 hp, Motor	1200	95L39-15	95L391A1-3BA002B0
10 hp, Motor	1800	95L39-16	95L392A1-3BA002B0
15 hp, Motor	900	95L39-17	95L390B2-3BA002B0
15 hp, Motor	1200	95L39-18	95L391B2-3BA002B0
15 hp, Motor	1800	95L39-19	95L392B1-3BA002B0
20 hp, Motor	900	Consult Factory *	95L390C3-3BA002B0
20 hp, Motor	1200	Consult Factory *	Consult Factory *
20 hp, Motor	1800	Consult Factory *	Consult Factory *
25 hp, Motor	1200	95L39-23	95L391D3-3BA002B0
25 hp, Motor	1800	95L39-24	95L392D2-3BA002B0
30 hp, Motor	1200	95L39-25	95L391E3-3BA002B0
30 hp, Motor	1800	95L39-26	95L392E2-3BA002B0
40 hp, Motor	1200	95L39-46	95L391F3-3BA002B0
40 hp, Motor	1800	95L39-27	95L392F3-3BA002B0
50 hp, Motor	1200	95L39-47	95L391G3-3BA002B0
50 hp, Motor	1800	95L39-34	95L392G3-3BA002B0
60 hp, Motor	1200	95L39-48	95L391H3-3BA002B0
60 hp, Motor	1800	95L39-52	95L392H3-3BA002B0
75 hp, Motor	1200	95L39-49	95L391J3-3BA002B0
75 hp, Motor	1800	95L39-53	95L392J3-3BA000B0

* Need shaft size confirmation to determine correct motor

- MOTORS—TEFC, Explosion-proof, Immersible call factory for sizing, pricing, and delivery

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MECHANICAL, PIPING, & PARTS

PUMP PARTS	4B2B	4B2D
<i>VERIFY ALL CASTED PARTS WITH FACTORY</i>	Pump	Pump
Shaft Diameter	1 7/8"	1 7/8"
Mechanical Seal Kit	H87A28	H87A28
Impeller, CW (Clockwise)	60D21	60C76
Impeller, CCW (Counter-Clockwise)	60D42	60C75
Maximum Diameter	10 1/8"	10 1/8"
Diameter Eye	4"	4"
Motor Adapter	60B165A-304	60B165A-304
Suction Piping		
Integral Volute & Front Head, CCW	87B286A-304 – 4" Suc. Piping 87B287A-304 – 6" Suc. Piping	87B286A-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping
Integral Volute & Front Head, CW	87B286B-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping	87B286B-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping
Mounting Adapter	87B239-304 – 4" Suc. Piping 87B241-304 – 6" Suc. Piping	87B239-304 – 4" Suc. Piping 87B241-304 – 6" Suc. Piping
Flange Gasket	11L1AA – 4" Suc. Piping 11L1CA – 6" Suc. Piping	11L1AA – 4" Suc. Piping 11L1CA – 6" Suc. Piping
Socket Head Capscrew	6L178B – 4" Suc. Piping 6L178F – 6" Suc. Piping	6L178B – 4" Suc. Piping 6L178F – 6" Suc. Piping
Discharge Pipe – 4"	28A549BE-304 – 4" piping 28A550BX-304 – 6" piping	28A549BE-304 – 4" piping 28A550BX-304 – 6" piping
Elbow (Between Discharge Pipe & Tee)	2L7A-304 – 4" piping 2L7B-304 – 6" piping	2L7A-304 – 4" piping 2L7B-304 – 6" piping
Tee (Required only on 4" piping)	2L12A-304	2L12A-304
Flange Filler – Use on 4' diameter Wet Well Only	2L28AH-304	2L28AH-304
4" piping with 5/6' diameter Wet Well doesn't use 6" piping with 5/6' diameter Wet Well	2L86B009J-304	2L86B009J-304
Plug Valve	2L104A-304 – 4" piping 2 req'd 2L148M-304 – 6" piping 1 req'd	2L104A-304 – 4" piping 2 req'd 2L148M-304 – 6" piping 1 req'd
Elbow (Between Plug Valve & Check Valve)	87B242-304 & 87B243-304 – 4"	87B242-304 & 87B243-304 – 4"
4" standard elbow, 6" reducing elbow	87B244-304 & 87B245-304 – 6"	87B244-304 & 87B245-304 – 6"
Check Valve Assembly, LH – 4"	2L153S-304 87A255 (Flange Gasket)	2L153S-304 87A255 (Flange Gasket)
Check Valve Assembly, LH – 6"	2L153Q-304 87A224 (Flange Gasket)	2L153Q-304 87A224 (Flange Gasket)
Check Valve Assembly, RH – 4"	2L153T-304 87A255 (Flange Gasket)	2L153T-304 87A255 (Flange Gasket)
Check Valve Assembly, RH – 6"	2L153R-304 87A224 (Flange Gasket)	2L153R-304 87A224 (Flange Gasket)
Volute Gasket (1/64 & 1/16 thickness available)	60A26 (1/32)	60A26 (1/32)
Impeller Bolt	60A12	60A12
Impeller Washer	60A20	60A20

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MECHANICAL, PIPING, & PARTS (CONTINUED)

PUMP PARTS	4B3B	4C2B
<i>VERIFY ALL CASTED PARTS WITH FACTORY</i>	Pump	Pump
Shaft Diameter	1 7/8"	2 1/8"
Mechanical Seal Kit	H87A28	H87A97
Impeller, CW (Clockwise)	60D43	60D63
Impeller, CCW (Counter-Clockwise)	60D1	60D64
Maximum Diameter	12"	10-1/8"
Diameter Eye	4"	4"
Motor Adapter	60B165D-304	60B165B-304
Suction Piping		
Integral Volute & Front Head, CCW	87D310A-304 – 4" Suc. Piping 87D311A-304 – 4" Suc. Piping	87B286A-304 – 4" Suc. Piping 87B287A-304 – 6" Suc. Piping
Integral Volute & Front Head, CW	87D310B-304 – 4" Suc. Piping 87D311B-304 – 4" Suc. Piping	87B286B-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping
Mounting Adapter	87B239-304 - 4" Suc. Piping 87B241-304 – 6" Suc. Piping	87B239-304 - 4" Suc. Piping 87B241-304 – 6" Suc. Piping
Flange Gasket	11L1AA – 4" Suc. Piping 11L1CA – 6" Suc. Piping	11L1AA – 4" Suc. Piping 11L1CA – 6" Suc. Piping
Socket Head Capscrew	6L178B – 4" Suc. Piping 6L178F – 6" Suc. Piping	6L178B – 4" Suc. Piping 6L178F – 6" Suc. Piping
Discharge Pipe	28A549BE-304 – 4" piping 28A550BX-304 – 6" piping	28A549BE-304 – 4" piping 28A550BX-304 – 6" piping
Elbow (Between Discharge Pipe & Tee)	2L7A-304 – 4" piping 2L7B-304 – 6" piping	2L7A-304 – 4" piping 2L7B-304 – 6" piping
Tee (Required only on 4" piping)	2L12A-304	2L12A-304
Flange Filler – Use on 4' diameter Wet Well Only 4" piping with 5/6" diameter Wet Well doesn't use 6" piping with 5/6" diameter Wet Well	2L28AJ-304 2L86B014-304	2L28AH-304 2L86B009J-304
Plug Valve	2L104A-304 – 4" piping 2 req'd 2L148M-304 – 6" piping 1 req'd	2L104A-304 – 4" piping 2 req'd 2L148M-304 – 6" piping 1 req'd
Elbow (Between Plug Valve & Check Valve) 4" standard elbow, 6" reducing elbow	87B242-304 & 87B243-304 – 4" 87B244-304 & 87B245-304 – 6"	87B242-304 & 87B243-304 – 4" 87B244-304 & 87B245-304 – 6"
Check Valve Assembly, LH – 4" Check Valve Assembly, LH – 6"	2L153S-304 87A255 (Flange Gasket) 2L153Q-304 87A224 (Flange Gasket)	2L153S-304 87A255 (Flange Gasket) 2L153Q-304 87A224 (Flange Gasket)
Check Valve Assembly, RH – 4" Check Valve Assembly, RH – 6"	2L153T-304 87A255 (Flange Gasket) 2L153R-304 87A224 (Flange Gasket)	2L153T-304 87A255 (Flange Gasket) 2L153R-304 87A224 (Flange Gasket)
Volute Gasket (1/64 & 1/16 thickness available)	60A28 (1/32)	60A26 (1/32)
Impeller Bolt	60A12	60A12
Impeller Washer	60A20	60A20

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MECHANICAL, PIPING, & PARTS (CONTINUED)

PUMP PARTS	4C2D *
<i>VERIFY ALL CASTED PARTS WITH FACTORY</i>	Pump
Shaft Diameter	2 1/8"
Mechanical Seal Kit	H87A97
Impeller, CW (Clockwise)	60C77
Impeller, CCW (Counter-Clockwise)	60C78
Maximum Diameter	10-1/8"
Diameter Eye	4"
Motor Adapter	60B165B-304
Suction Piping	
Integral Volute & Front Head, CCW	87B286A-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping
Integral Volute & Front Head, CW	87B286B-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping
Mounting Adapter	87B239-304 - 4" Suc. Piping 87B241-304 – 6" Suc. Piping
Flange Gasket	11L1AA – 4" Suc. Piping 11L1CA – 6" Suc. Piping
Socket Head Capscrew	6L178B – 4" Suc. Piping 6L178F– 6" Suc. Piping
Discharge Pipe – 4"	28A549BE-304 – 4" piping 28A550BX-304 – 6" piping
Elbow (Between Discharge Pipe & Tee)	2L7A-304 – 4" piping 2L7B-304 – 6" piping
Tee	2L12A-304
Flange Filler – Use on 4' diameter Wet Well Only 4" piping with 5/6" diameter Wet Well doesn't use 6" piping with 5/6" diameter Wet Well	2L28AH-304 2L86B009J-304
Plug Valve	2L104A-304 – 4" piping 2 req'd 2L148M-304 – 6" piping 1 req'd
Elbow (Between Plug Valve & Check Valve) 4" standard elbow, 6" reducing elbow	87B242-304 & 87B243-304 – 4" 87B244-304 & 87B245-304 – 6"
Check Valve Assembly, LH – 4"	2L153S-304 87A255 (Flange Gasket)
Check Valve Assembly, LH – 6"	2L153Q-304 87A224 (Flange Gasket)
Check Valve Assembly, RH – 4"	2L153T-304 87A255 (Flange Gasket)
Check Valve Assembly, RH – 6"	2L153R-304 87A224 (Flange Gasket)
Volute Gasket (1/64 & 1/16 thickness available)	60A26 (1/32)
Impeller Bolt	60A12
Impeller Washer	60A20

PARTS ORDERING NOTE: Remind customer that gaskets may be needed when ordering casted parts

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MECHANICAL, PIPING, & PARTS (CONTINUED)

PUMP PARTS <i>VERIFY ALL CASTED PARTS WITH FACTORY</i>	4C3B Pump	4D3B Pump
Shaft Diameter	2 1/8"	3"
Mechanical Seal Kit	H87A97	H87A182
Impeller, CW (Clockwise)	60D44	60D129
Impeller, CCW (Counter-Clockwise)	60D23	60D193
Maximum Diameter	12"	12"
Diameter Eye	4"	4"
Motor Adapter	60B165E-304	60B165M-304
Suction Piping		
Integral Volute & Front Head, CCW	87B286A-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping	87B286A-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping
Integral Volute & Front Head, CW	87B286B-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping	87B286B-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping
Mounting Adapter	87B239-304 - 4" Suc. Piping 87B241-304 – 6" Suc. Piping	87B239-304 - 4" Suc. Piping 87B241-304 – 6" Suc. Piping
Flange Gasket	11L1AA – 4" Suc. Piping	11L1AA – 4" Suc. Piping
	11L1CA – 6" Suc. Piping	11L1CA – 6" Suc. Piping
Socket Head Capscrew	6L178B – 4" Suc. Piping	6L178B – 4" Suc. Piping
	6L178F – 6" Suc. Piping	6L178F – 6" Suc. Piping
Discharge Pipe	28A549BE-304 – 4" piping	28A549BE-304 – 4" piping
	28A550BX-304 – 6" piping	28A550BX-304 – 6" piping
Elbow (Between Discharge Pipe & Tee)	2L7A-304 – 4" piping	2L7A-304 – 4" piping
	2L7B-304 – 6" piping	2L7B-304 – 6" piping
Tee (Required only on 4" piping)	2L12A-304	2L12A-304
Flange Filler – Use on 4' diameter Wet Well Only	2L28AJ-304	2L28AJ-304
4" piping with 5/6' diameter Wet Well doesn't use 6" piping with 5/6' diameter Wet Well	2L86B014-304	2L86B014-304
Plug Valve	2L104A-304 – 4" piping 2 req'd	2L104A-304 – 4" piping 2 req'd
	2L148M-304 – 6" piping 1 req'd	2L148M-304 – 6" piping 1 req'd
Elbow (Between Plug Valve & Check Valve)	87B242-304 & 87B243-304 – 4"	87B242-304 & 87B243-304 – 4"
	87B244-304 & 87B245-304 – 6"	87B244-304 & 87B245-304 – 6"
Check Valve Assembly, LH – 4"	2L153S-304 87A255 (Flange Gasket)	2L153S-304 87A255 (Flange Gasket)
Check Valve Assembly, LH – 6"	2L153Q-304 87A224 (Flange Gasket)	2L153Q-304 87A224 (Flange Gasket)
Check Valve Assembly, RH – 4"	2L153T-304 87A255 (Flange Gasket)	2L153T-304 87A255 (Flange Gasket)
Check Valve Assembly, RH – 6"	2L153R-304 87A224 (Flange Gasket)	2L153R-304 87A224 (Flange Gasket)
Volute Gasket (1/64 & 1/16 thickness available)	60A28 (1/32)	60A28 (1/32)
Impeller Bolt	60A12	60A87
Impeller Washer	60A20	60A86

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MECHANICAL, PIPING, & PARTS (CONTINUED)

PUMP PARTS	4B2X	4C2X
<i>VERIFY ALL CASTED PARTS WITH FACTORY</i>	Pump	Pump
Shaft Diameter	1 7/8"	2 1/8"
Mechanical Seal Kit	H87A28	H87A97
X-PELLER® , CW (Clockwise)	<i>(see table on page 19)</i>	60B144 *
X-PELLER® , CCW (Counter-Clockwise)	<i>(see table on page 19)</i>	60B145 *
Maximum Diameter	10-1/8"	10-1/8"
Diameter Eye	4"	4"
Motor Adapter	60B165A-304	60B165A-304
Suction Piping		
Integral Volute & Front Head, CCW	87B286A-304 – 4" Suc. Piping 87B287A-304 – 6" Suc. Piping	87B286A-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping
Integral Volute & Front Head, CW	87B286B-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping	87B286B-304 – 4" Suc. Piping 87B287B-304 – 6" Suc. Piping
Mounting Adapter	87B239-304 – 4" Suc. Piping 87B241-304 – 6" Suc. Piping	87B239-304 – 4" Suc. Piping 87B241-304 – 6" Suc. Piping
Flange Gasket	11L1AA – 4" Suc. Piping 11L1CA – 6" Suc. Piping	11L1AA – 4" Suc. Piping 11L1CA – 6" Suc. Piping
Socket Head Capscrew	6L178B – 4" Suc. Piping 6L178F – 6" Suc. Piping	6L178B – 4" Suc. Piping 6L178F – 6" Suc. Piping
Discharge Pipe	28A549BE-304 – 4" piping 28A550BX-304 – 6" piping	28A549BE-304 – 4" piping 28A550BX-304 – 6" piping
Elbow (Between Discharge Pipe & Tee)	2L7A-304 – 4" piping 2L7B-304 – 6" piping	2L7A-304 – 4" piping 2L7B-304 – 6" piping
Tee (Required only on 4" piping)	2L12A-304	2L12A-304
Flange Filler – Use on 4" diameter Wet Well Only	2L28AH-304	2L28AH-304
4" piping with 5/6" diameter Wet Well doesn't use		
6" piping with 5/6" diameter Wet Well	2L86B009J-304	2L86B009J-304
Plug Valve	2L104A-304 – 4" piping 2 req'd 2L148M-304 – 6" piping 1 req'd	2L104A-304 – 4" piping 2 req'd 2L148M-304 – 6" piping 1 req'd
Elbow (Between Plug Valve & Check Valve)	87B242-304 & 87B243-304 – 4"	87B242-304 & 87B243-304 – 4"
4" standard elbow, 6" reducing elbow	87B244-304 & 87B245-304 – 6"	87B244-304 & 87B245-304 – 6"
Check Valve Assembly, LH – 4"	2L153S-304 87A255 (Flange Gasket)	2L153S-304 87A255 (Flange Gasket)
Check Valve Assembly, LH – 6"	2L153Q-304 87A224 (Flange Gasket)	2L153Q-304 87A224 (Flange Gasket)
Check Valve Assembly, RH – 4"	2L153T-304 87A255 (Flange Gasket)	2L153T-304 87A255 (Flange Gasket)
Check Valve Assembly, RH – 6"	2L153R-304 87A224 (Flange Gasket)	2L153R-304 87A224 (Flange Gasket)
Volute Gasket (1/64 & 1/16 thickness available)	60A26 (1/32)	60A26 (1/32)
Impeller Bolts	60A12	60A12
Impeller Washer	60A20	60A20

PARTS ORDERING NOTE: Remind customer that gaskets may be needed when ordering casted parts

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MECHANICAL, PIPING, & PARTS (CONTINUED)

PUMP PARTS <i>VERIFY ALL CASTED PARTS WITH FACTORY</i>	6B3B Pump	6C3B Pump	6D3B Pump
Shaft Diameter	1 ⁷ / ₈ "	2 ¹ / ₈ "	3"
Mechanical Seal Kit	H87A28	H87A97	H87A182
Impeller, CW (Clockwise)	60D45	60D47	60D90
Impeller, CCW (Counter-Clockwise)	60D34	60D46	60D192
Maximum Diameter	12"	12"	12"
Diameter Eye	5 ¹ / ₈ "	5 ¹ / ₈ "	5 ¹ / ₈ "
Motor Adapter	60B165D-304	60B165F-304	60B165M-304
Suction Piping			
Volute	60D35-304	60D35-304	60D35-304
Front Head	60C88-304	60C88-304	60C88-304
Mounting Adapter	87B241-304	87B241-304	87B241-304
Flange Gasket	11L1CA	11L1CA	11L1CA
Socket Head Capscrew	6L17BF	6L17BF	6L17BF
Front Head	60C88-304	60C88-304	60C88-304
Pump Stand	None	None	None
Discharge Pipe 8" needs 2L28013-304 + 2L201B	2L28013-304 – 6"	2L28013-304 – 6"	2L28013-304 – 6"
Elbow (Between Discharge Pipe & Tee)	2L7B	2L7B	2L7B
Tee	None	None	None
Flange Filler	2L86BO12D-304	2L86BO12D-304	2L86BO12D-304
Plug Valve	2L148M-304	2L148M-304	2L148M-304
Elbow (Between Plug Valve & Check Valve)	87B246-304 & 87B247-304	87B246-304 & 87B247-304	87B246-304 & 87B247-304
Check Valve Assembly, LH – 6"	2L153Q-304 87A224 (Flange Gasket)	2L153Q-304 87A224 (Flange Gasket)	2L153Q-304 87A224 (Flange Gasket)
Check Valve Assembly, RH – 6"	2L153R-304 87A224 (Flange Gasket)	2L153R-304 87A224 (Flange Gasket)	2L153R-304 87A224 (Flange Gasket)
Volute Gasket (1/64 & 1/16 thickness available)	60A28 (1/32)	60A28 (1/32)	60A28 (1/32)
Impeller Bolt	60A12	60A12	60A87
Impeller Washer	60A20	60A20	60A86

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MECHANICAL, PIPING, & PARTS (CONTINUED)

MECHANICAL SEALS

SEAL & SPARE PARTS	B-SHAFT	C-SHAFT	D-SHAFT
	1 ⁷ / ₈ "	2 ¹ / ₈ "	3"
Seal Kit, Mechanical Seal	H87A28	H87A97	H87A182
Bronze Seal Housing	87B2	87B19***	87B73***
Seal Housing – Flat Gasket **	60A11	60A17	60A84
Seal Housing - Quad Ring **	60A110	60A111	60A146
Ceramic Rotating Wear Ring	60A32 *	60A33 *	60A85 *
Carbon Stationary Wear Ring	60A36 *	60A37 *	60A52 *
Rotating O-Ring	60A39 *	60A41 *	60A53 *
Stationary Quad Ring	60A38 *	60A40 *	60A54 *
Spring	60A30 *	60A31 *	60A55 *
Impeller Bolt	60A12	60A12	60A87
Impeller Washer	60A20	60A20	60A86
Volute Gasket	See Volute Gasket Table Below		

* Parts contained in H87A28, H87A97, or H87A182 Mechanical Seal Kits

PARTS ORDERING NOTE: Each time the impeller bolt is removed (required for seal replacement), Smith & Loveless recommends installation of a new impeller bolt that has the imbedded Nylock.

PARTS ORDERING NOTE: Each time a new seal, ceramic, carbon or spring is installed, a volute gasket, seal housing gasket or quad ring, and impeller bolt are recommended.

** **PARTS TIP: Seal Housing - Flat Gasket vs. Quad Ring:** The older seal housing has a flat surface and uses the flat gasket for both the single and double mechanical seals. The newer seal housing has a groove and it can use either the flat gasket or the quad ring.

*** **SEAL HOUSING:** Call factory for different seal housings for 4-frame pumps. (4B4B, 6C4V)

**** **BOLDED PARTS:** Always quote all bolded parts when quoting a mechanical seal kit.

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MECHANICAL, PIPING, & PARTS (CONTINUED)

DOUBLE BALANCED (FOR OVER 200' TDH****) MECHANICAL SEALS

SEAL & SPARE PARTS (HIGH HEAD SEALS – For Over 200' TDH**** or Series P.S.)	C-SHAFT 2-1/8"	D-SHAFT 3"
Seal Kit, Mechanical Seal – Double Balanced (DOES NOT INCLUDE BALANCE SLEEVE)	H60A156	H60A137
Complete Assembly including Bronze Seal Housing & Mechanical Seal (Parts include Upper Housing thru Lower Housing) (Order one extra Seal Housing Quad Ring)	87C425	87C427
Bronze Seal Housing, Upper	60C94	60C96
Bronze Seal Housing, Lower	60C95	60C97
Seal Housing Gasket - Flat ***	60A17	60A84
Seal Housing Gasket - Quad Ring ***	60A111	60A112
Ceramic Rotating Wear Ring (requires 2)	60A155 *	60A85 *
Carbon Stationary Wear Ring (requires 2)	60A153 *	60A136 *
Stationary Quad Ring (requires 2)	11L47E *	60A54 *
Spring	60A154 *	60A135 *
O-Ring-Balance Sleeve, Inner (D-Shaft – new style sleeve 60C112/B requires 2, old style sleeve 60C112/A requires 1)	11L207C *	11L207A *
O-Ring Balance Sleeve, Outer (Both old & new require two out O-Rings)	11L207D *	11L207B *
Balance Sleeve	60C159**	60C112**
Impeller Bolts	60A12	60A87
Impeller Washer	60A20	60A86
Volute Gaskets	See the Volute Gasket Table	

BOLDED PARTS: Always quote all bolded parts when quoting a mechanical seal kit.

* Parts contained in H60A156 or H60A137 Double Balanced Mechanical Seal Kits

** **PARTS ORDERING NOTE:** Each time the balance sleeves are replaced, new Balance Sleeve O-Rings are recommended.

PARTS ORDERING NOTE: Each time the impeller bolt is removed (required for seal replacement), Smith & Loveless recommends installation of a new impeller bolt that has the imbedded Nylock.

PARTS ORDERING NOTE: Each time a new seal, ceramic, carbon or spring is installed, a volute gasket, seal housing gasket or quad ring, and impeller bolt are recommended.

*** **PARTS TIP: Seal Housing – Flat Gasket vs. Quad Ring:** The older seal housing has a flat surface and uses the flat gasket for both the single and double mechanical seals. The newer seal housing has a groove and it can use either the flat gasket or the quad ring.

**** **NOTE:** Series 4 Pump C&D Shaft WWMPs-See Factory. High Head Seals on Second Stage Pumps may be required For Over 200'TDH. Add Pump 1 & Pump 2 TDH together to determine if more than 200'TDH. See Factory.

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MECHANICAL, PIPING, & PARTS (CONTINUED)

PUMP IMPELLERS	CLOCKWISE	COUNTER-CLOCKWISE	ADDITIONAL PARTS 1 SET PER IMPELLER
PUMP MODEL	PART #	PART #	PART#
4B2B	60D21	60D42	60A12, 60A20, 60A26
4B2D	60C76	60C75	60A12, 60A20, 60A26
4B2X (X-PELLER®)	(see table below)	(see table below)	60A12, 60A20, 60A26
4B3B	60D43	60D1	60A12, 60A20, 60A28
4C2B	60D63	60D64	60A12, 60A20, 60A26
4C2D	60C77	60C78	60A12, 60A20, 60A26
4C2X (X-PELLER®)	60B144	60B145	60A12, 60A20, 60A26
4C3B	60D44	60D23	60A12, 60A20, 60A28
4D3B	60D129	60D193	60A87, 60A86, 60A28
6B3B	60D45	60D34	60A12, 60A20, 60A28
6C3B	60D47	60D46	60A12, 60A20, 60A28
6D3B	60D90	60D192	60A87, 60A86, 60A28

PUMP X-PELLER® IMPELLERS - VACUUM PRIMED

PUMP MODEL	MOTOR RPM	CLOCKWISE PART #	COUNTER CLOCKWISE PART #	ADDITIONAL PARTS 1 SET PER IMPELLER PART#
4B2X	900	60B121C	60B122C	60A12, 60A20, 60A26
4B2X	1200	60B121B	60B122B	60A12, 60A20, 60A26
4B2X	1800	60B121A	60B122A	60A12, 60A20, 60A26
4C2X	1800	60B144	60B145	60A12, 60A20, 60A26

GASKETS, VOLUTE PUMP SIZE	STANDARD GASKET PART #	OTHER VOLUTE GASKETS PART # 1/16" THICKNESS
4B2B, 4B2C, 4B2D, 4C2B, 4C2D, 4B2X, 4C2X	60A26 (1/32)	60A27 (1/16")
4B3B, 4C3B, 4D3B, 6B3B, 6C3B, 6D3B	60A28 (1/32)	60A29 (1/16")

PARTS ORDERING NOTE: New volute gasket is required each time the rotating assembly (motor, impeller, mechanical seals, &/or volute) is disassembled.

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OTHER PARTS

ALARMS

PART DESCRIPTION	PART #
Horn, 120 VAC, 60 cycle	4L73A
Horn, 12 VDC.	4L73B
Horn, Weatherproof Box	4L73D
RED ALARM LIGHT ASSEMBLY:	
Light, Red 12 VDC	28B580A
Lamp, 12 VDC, 50 W for 28B580A Light	4L120
Light, Red 120 VAC	28B580B
Lamp, 120 VAC, 50 W for 28B580B Light	4L95A
Light Fixture Body	5L76
Light Fixture Adapter	5L77
Red Globe for 5L77	5L78B
Globe Guard for 5L77	5L79
Trickle Charger (CURRENT) Can be used in place of 4L222	4L222C**
Trickle Charger (OLD STYLE)	4L222

***Consult the factory.*

BLOWER - VENTILATION

PART DESCRIPTION	PART #
Blower – 265 CFM	7L195
Electrical Cord – 15' - Coiled	4L379B
Cord Connector	5L15A
Air Discharge Seal (seals blower to hood)	87A86
Blower & Cord Assembly (includes blower, cord connector and 15' coiled cord)	87A414B
Air Discharge Seal (seals blower to hood)	87A86
Louver, Adjustable 6 x 6	11L138A
Seal for Louver (Placed between louver & fiberglass)	87A86

FORM-A-GASKET

PART DESCRIPTION	PART #
Form-A-Gasket, 1.5 oz.	12L90A

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OTHER PARTS (CONTINUED)

GASKETS	
PART DESCRIPTION	PART #
4" Flange Gasket (check valves & suction/discharge piping)	11L1A
6" Flange Gasket (check valves & suction/discharge piping)	11L1C
Volute/Base Gasket	60A108
Seal Housing Gasket - Quad Ring *	B Shaft: 60A110
	C Shaft: 60A111
	D Shaft: 60A146
Hood Gasket, 64" X 156"	10L122AD
Hood Gasket, 72" X 172"	10L122AD
Baseplate Gasket, 64" X 59"	10L122AB
Baseplate Gasket, 72" X 67"	10L122AB

* **PARTS TIP:** Seal Housing Gasket - Flat vs. Quad Ring. The seal housing has a groove and can use either gasket

GAUGES, COMBO		STANDARD	GLYCERIN-FILLED
VACUUM-AIR PRESSURE			
PART DESCRIPTION	PART #	PART #	PART #
Handles Up To 65 TDH (0-30" HG: 0-30 PSI) (Old P/N 1L275CB)	OBSOLETE		1L780B
Handles Up To 135 TDH (0-30" HG: 0-60 PSI) (Old P/N 1L275DB)	OBSOLETE		1L780C
Handles Up To 230 TDH (0-30" HG: 0-100 PSI) (Old P/N 1L275EB)	OBSOLETE		1L780D
Gauge Guard (built into new gauges, Only needed on new gauges if extra protection is desired.)	1L372A		1L372A

* **4" dimeter dial (Customer must verify fit. If smaller dial is needed, contact factory)**

PARTS ORDERING TIP: If no gauge is currently in use, order 1L780C. Otherwise, determine correct PSI

HMI MESSAGE PANEL SCREENS – Requires Engineering Programming

PART DESCRIPTION	PART #
HMI-140 Message Panel – 4 Line Display, 8 Programmable Keys – 4L523D	Retrofit Product
HMI-240 Message Panel – 4 Line Display, 20 Programmable Keys – 4L523B-*	OBSOLETE
HMI-750 Message Panel – Graphic Color Touch Screen – 4L523C-*	OBSOLETE

*Replaced by the 4L523H

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OTHER PARTS (CONTINUED)

HMI MESSAGE PANEL SCREENS – Graphic Color Touch Screen

PART DESCRIPTION	PART #
HMI-8046 Message Panel – Graphic Color Touch Screen – 4L523H The 4L523H replaces the 4L523 B,C,D,E,F,& G. Requires a new cable when replacing with a previous model. 4L523H-1 for PROTRONIX™ I , 4L536C-7 for PROTRONIX™ II Controller)	Retrofit Product

Connection Cable-Connect the HMI to **PROTRONIX™ I**- 4L523-1

Connection Cable-Connect the HMI to **PROTRONIX™ I**-4L536C-7

HOODS

PART DESCRIPTION	NON-GASKET SIDE	GASKET SIDE
	PART #	PART #
Fiberglass Hood 64" X 64" Non-Insulated *	87B186A	87B186B
Fiberglass Hood 64" X 64" Insulated *	87B295A	87B295B
Fiberglass Hood 72" X 72" Non-Insulated *	87B187A	87B187B
Fiberglass Hood 72" X 72" Insulated *	87B296A	87B296B
Hood, Pocket Pull Handle – 2 per hood side, 4 per station - Black		12L216A
Hood, Stainless Steel Lockable Draw Latch		12L233A
Hood Gasket, 64" X 156"		10L122AD
Hood Gasket, 72" X 172"		10L122AD
Louver, Adjustable 6" x 6"		11L138A

* **NOTE:** Hardware is not included with the hood - must be requested separately.

HOODS - MISCELLANEOUS PARTS

PART DESCRIPTION	PART #
Hood Roller Assembly (8 needed per hood)	87A301
S.S. External Retaining Ring	NPN
Roller – 1-1/2" diameter	87A258
Roller Stud	87B259
Roller Washer	87A359
Hood Roller Track – 62" (for 64" X 64" hood)	87B251A
Hood Roller Track – 70" (for 72" X 72" hood)	87B251B
Removable Track Stop – 4 required per station	87A279
Pocket Pull Hood Handle – 2 required per hood side, 4 per station – black	12L216A
Blower & Cord Assembly (includes blower, cord connector and 15' coiled cord)	87A414B
Air Discharge Seal (seals blower to hood)	87A86
Louver, Adjustable 6" x 6"	11L138A
Hood Gasket, 64" X 156"	10L122AD
Hood Gasket, 72" X 172"	10L122AD
Baseplate Gasket, 64" X 59"	10L122AB
FX Roller Replacement Kit	H87A484

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Label, S&L Logo 8" x 3-1/4"	12L154B
Label, S&L Logo 5" x 2"	12L154C
Label, Motor Lift Warning	12L166
Label, Control Panel Nameplate	12L170
Label, FORMULA X ® Logo	12L217A

LATCHES, FOR LOCKS

PART DESCRIPTION	PART #
Pad Lockable Draw Latch & Striker, S.S. (for hood)	12L233A
Pad Lockable Striker Plate & Latch, S.S. (for wet well access plates)	12L222A

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OTHER PARTS (CONTINUED)

LEVEL INDICATION CONNECTION PLATE	
PART DESCRIPTION	PART #
Level Indication Connection Plate Complete Assembly (includes all parts listed below)	H87A397
Float Switch Connection Plate Gasket	87B350
Float Switch Connection Plate	87B348
Pipe Plug (2 required for PROTRONIX™ I control panels, 3 required per plate for relay logic control panels)	1L69C
Cord Grip for Floats (3 required for PROTRONIX™ I control panels, 2 required per plate for relay logic control panels)	5L57C
Cord Grip for Submersible Pressure Transducer (1 required for PROTRONIX™ I control panels, 0 required per plate for relay logic control panels)	5L57N
Washer, Stainless Steel (2 required per plate)	6L65F
Lock Washer, Stainless Steel (2 required per plate)	6L94F
Hex Nut, Stainless Steel (2 required per plate)	6L30K
Label, Plastic – LL ALARM/TRANSDUCER/HL ALARM	12A538
Label, Plastic – LL OFF/LL ON/HL ON	12A537
LIFTING STANCHION	
PART DESCRIPTION	PART #
Lifting Stanchion – Top Section – Hemlock	87B39A2-304
Lifting Stanchion – Bottom Section – Hemlock	87B39B2-304
LINE STRAINER	
PART DESCRIPTION	PART #
Vapor Filter 12-Pack Replacement Part Kit Do not use with SONIC START® STREAMLINE™	H87A321A
LOUVER, VENT	
PART DESCRIPTION	PART #
Louver, Adjustable – 6" x 6"	11L138A
Seal for Louver (Placed between louver & fiberglass)	87A86

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OTHER PARTS (CONTINUED)

PAINT (VERSAPOX®) & TOUCH-UP KITS

PART DESCRIPTION	PART #
Touch-Up Paint Kit – Georgian Hemlock	H87A425
Primer (RED), Part A, Gallon	12L138A *
Primer Catalyst, Part B, Gallon	12L138B

* Order one gallon of Catalyst Part B for each gallon of paint/primer – must be mixed before use.

SHADE-AIDE™

PART DESCRIPTION	PART #
SHADE AIDE™ Kit-Small (Covers HMI frame size 7" H x 9.5" W)	H87A379
SHADE AIDE™ Kit-Large (Covers HMI frame size "10 H x 15" W)	87B558
Large Kit Gasket (optional)	87A400

VENT LOUVER

PART DESCRIPTION	PART #
Vent Louver, Adjustable – 6" x 6"	11L138A

VIDEOS - TRAINING

PART DESCRIPTION	PART #
How To Replace the Single Mechanical Seal – DVD Format	12L318DVD-1
How To Replace the Single Mechanical Seal – VHS Format	12L318VHS-1

4' WET WELL MANWAY ACCESS LIDS (ALUMINUM)

PART DESCRIPTION	PART #
4' Wet Well Manway Access Lid Half With Slot (aluminum)	87B184A
4' Wet Well Manway Access Lid Half Without Slot (aluminum)	87B184B
4' Wet Well S.S. Continuous Hinge (2 Required)	87B272B
Gasket (installs where two access lids mate up) U-Shaped Neoprene 4' required for 4' wet well	10L122AC
Neoprene Gasket (4' Wet Well Hinge) for Under Continuous Hinge (2 required)	87B182-2A
Center Support Angle	87B250C
Button Socket Headscrew (18 required)	6L221CD
SS Lock Washer (18 required)	6L94G
SS Hex Nut (18 required)	6L30A

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OTHER PARTS (CONTINUED)

5' & 6' WET WELL MANWAY ACCESS LIDS (ALUMINUM)

PART DESCRIPTION	PART #
5' & 6' Wet Well Manway Access Lid Half With Slot (aluminum)	87B184C
5' & 6' Wet Well Manway Access Lid Half Without Slot (aluminum)	87B184D
5' & 6' Wet Well S.S. Continuous Hinge (2 Required)	87B272D
Gasket (installs where two access lids mate up) U-Shaped Neoprene <i>5' required for 5' & 6' Wet Well</i>	10L122AC
Neoprene Gasket for Under Continuous Hinge (2 required)	87B182-2B
Center Support Angle	87B250C
Button Socket Headscrew (23 required)	6L221CD
SS Lock Washer (23 required)	6L94G
SS Hex Nut (23 required)	6L30A

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VACUUM PRIMING SYSTEM

ELECTRODE RELAY	
PART DESCRIPTION	PART #
Electrode Relay, 8 Pin - Recommend H87A391J	4L408H
SONIC START® STREAMLINE™ Upgrade Kit	
Electrode Relay, 11 Pin- Recommend H87A391J	4L408J
SONIC START® STREAMLINE™ Upgrade Kit	

ELECTRODE	
PART DESCRIPTION	PART #
Electrode – Solid Stainless Steel 5-1/4" long- Recommend H87A391J	87A285
SONIC START® STREAMLINE™ Upgrade Kit	

ELECTRODE DOME	
PART DESCRIPTION	PART #
Electrode Dome Only (one hole at top)	87B133B
Vacuum Dome Only(one hole at top) – Use with SONIC START® Prime Sensing Probe and SONIC START® STREAMLINE™	87B133B
Compression Ring (holds dome in place) Chilean Red	87A226

ELECTRODE DOME ASSEMBLY	
PART DESCRIPTION	PART #
Electrode Dome Complete Assembly (one hole at top) <i>Has solid stainless steel 5-1/4" long - OLD TECHNOLOGY-</i> Recommend H87A391J SONIC START® STREAMLINE™ Upgrade Kit	87B309B
Vacuum Dome Complete Assembly (one hole at top) – Use with SONIC START® Prime Sensing Probe (Old Style)	87B452A
Compression Ring (holds dome in place)	87A226
Ferrule Connection Fitting <i>(Optional replacement for Quick Disconnect Fitting on new style electrodes that are includes with these assemblies.)</i>	1L248A
SONIC START® STREAMLINE™ Vacuum Dome/2-Way Solenoid Valve Assembly-Current Styles	87B728

FLOAT CHECK VALVES	
PART DESCRIPTION	PART #
Float Check Valve, 3/8" NPT (Complete Assembly) (Replaces 1L443, 1L443G, and 87A76)	1L443H
Adapter Fitting, 3/8" x 1/4"	1L43D
Body (See drawing - not normally replaced)	
Ball Seat (for 1L443H)	1L443HA
Valve Ball 1 1/2" Diameter	1L443B
O-Ring (for 1L443H)	1L443HB
Bowl Only (for 1L443H)	1L443HC
Drain Valve	1L333
SONIC START® STREAMLINE™ Float Check Valve Piping Assembly (Connects Float Check Valve to vacuum tubing includes gauge port & shut off valve)	87B739

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VACUUM PRIMING SYSTEM (CONTINUED)

SOLENOID VALVES

PART DESCRIPTION	PART #
2-Way Solenoid Valve (5/16" orifice)	1L545A
DIN Connector for 1L545A (Required for initial installation of 1L545A)	1L545A-1
2-Way Solenoid Valve Assembly for the FORMULA X® (Old Style Arrangement with Solenoid piped next to the Float Check Valve)	87B351
SONIC START® STREAMLINE™ Vacuum Dome /2-Way Solenoid Valve Assembly-Newest Current Arrangement	87B728A

SONIC START® KITS

PART DESCRIPTION	PART #
SONIC START® Upgrade Kit for One Pump	H87A391J
SONIC START® Upgrade Kit for Two Pumps -Must order 2 kits (Old P/N: H87A391B)	H87A391J
SONIC START® Drill & Tap Kit	H87A390A

SONIC START® PROBE

PART DESCRIPTION	PART #
SONIC START® - 120 VAC (PROBE)	4L628F
SONIC START® - 24 VDC (PROBE)	4L628G

SONIC START® REPLACEMENT PARTS

These parts come standard in the SONIC START® Kits

PART DESCRIPTION	PART #
SONIC START® Replacement Sensor Probe – 120 VAC	4L628F
SONIC START® Replacement Sensor Probe – 24 VAC	4L628G
Explosion Proof SONIC START® Prime Sensing Probe	4L628H
SONIC START® Operating Module	4L264S
SONIC START® DIN Connector Cable	1L545A-2
SONIC START® 8 Pin Socket	5L49B
SONIC START® Cord Grip	5L57L
SONIC START® Cable Ties	5L150A
SONIC START® Brass Bulkhead Adapter	87A384
SONIC START® O-Ring for Bulkhead Adapter	11L4J
SONIC START® Jam Nut	6L222A
SONIC START® Reducer Coupling	1L552A
SONIC START® Male Tubing Connector	1L460D
SONIC START® O-Ring for Cord Grip	5L57L-2
SONIC START® Nut for Cord Grip	5L57L-1

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VACUUM PRIMING SYSTEM (CONTINUED)

VACUUM DOME PART DESCRIPTION	PART #
Vacuum Dome (one hole at top)	87B133B
Electrode Dome (one hole at top)	87B133B
Compression Ring (holds dome in place)	87A226
SONIC START® STREAMLINE™ Vacuum Dome /2-Way Solenoid Valve Assembly (Current Style)	87B728

VACUUM DOME ASSEMBLY PART DESCRIPTION	PART #
Vacuum Dome Complete Assembly (one hole at top) Used with SONIC START® Probe. Old Style.	87B452A
DO NOT USE WITH SONIC START® STREAMLINE™	
Electrode Dome Complete Assembly (one hole at top) <i>Has solid stainless steel 5-1/4" long</i>	87B309B
Compression Ring (holds dome in place)	87A226
Ferrule Connection Fitting <i>(Optional replacement for Quick Disconnect Fitting on new style electrodes that are includes with these assemblies.)</i>	1L248A
Ferrule Nut & Sleeve	1L786A
SONIC START® STREAMLINE™ Complete Vacuum Dome Assembly Vacuum Dome/ 2-Way Solenoid Valve Dome Assembly. Current Style	87B728

VACUUM PUMP - HEAVY DUTY - SINGLE PISTON & SPARE PARTS PART DESCRIPTION	PART #
Heavy Duty 1/6 HP (For Pumps with 4" Piping) (Complete pump)	8L29
Repair Kit (K264 or K265)	8L29AB
Inlet Filter	8L29A1
Head Gasket	8L29A4
Valve Outlet	8L29A5
Valve Plate	8L29A6
Inlet Valve	8L29A7
Cylinder Gasket	8L29A8
Piston Ring	8L29A10
Piston Seal	8L29A11
Rider Ring	8L29A12
Fan	8L29A20
Shroud	8L29A21
Motor, 1/6 HP 1725	8L29A22
Vibration Isolator (See Section 6)	87A291

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VACUUM PRIMING SYSTEM (CONTINUED)

VACUUM PUMP - HEAVY DUTY - DUAL PISTON & SPARE PARTS

PART DESCRIPTION	PART #
Heavy Duty 1/2 HP (For Pumps with 6" Piping) (<i>Complete pump</i>) (replaces 8L40A*)	8L32*
Repair Kit (K262 or K263)	8L32-1
Head Gasket	8L32-2
Outlet Valve	8L32-3
Inlet Valve	8L32-4
Cylinder Gasket	8L32-5
Felt	8L32-6
Piston Ring	8L32-7
Piston Seal	8L32-8
Rider Ring	8L32-9
Valve Plate	8L32-10
Motor 1/2 HP 1725 RPM	8L32-11
Shroud	8L32-12
Fan	8L32-13
Cylinder Head	8L32-14
Vibration Isolator (See Section 6)	87A291

* SEE SECTION 6 FOR COMBINED EXHAUST CONFIGURATION

VACUUM PUMP - COMBINED EXHAUST ASSEMBLY

PART DESCRIPTION	PART #
Vacuum Pump	8L32
Tee	1L37C
Adapter	1L42B
Elbow	1L90H
Tube/NPT Connector	1L248D
Polyethelyne Tubing	1L142CA

VACUUM TUBING

PART DESCRIPTION	PART #	
Vacuum Tubing - 1/4"	Natural:	1L142AA
	Green:	1L142AB
	Red:	1L142AC
Vacuum Tubing - 3/8"	Natural:	1L142BA
	Green:	1L142BB
	Red:	1L142BC

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Parts Reference Guide



Smith &
Loveless, Inc.®

14040 Santa Fe Trail
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VACUUM PRIMING SYSTEM (CONTINUED)

VACUUM TUBING FITTINGS (for vacuum domes, solenoid valves, & float check valves)

PART DESCRIPTION	PART #
Ferrule (old style) elbow - 3/8" x 1/4" NPT	1L190B
Ferrule (old style) straight - 3/8" x 1/4" NPT	1L248A
Ferrule Nut & Sleeve	1L786A
Quick Disconnect (new style) elbow - 3/8" x 1/4" NPT	1L546C
Quick Disconnect (new style) straight - 3/8" x 1/4" NPT	1L460D

VAPOR FILTER

PART DESCRIPTION	PART #
Vapor Filter 12-Pack Replacement Part Kit - Recommend H87A391J SONIC START® STREAMLINE™ Upgrade Kit DO NOT USE H87A321A WITH SONIC START® STREAMLINE™	H87A321A

VALVES

PLUG VALVES

PART DESCRIPTION	PART #
4" Plug Valve	2L104A-304 *
Handle/Wrench Only for 4" Plug Valve (Chilean Red)	2L104AA1
4" Flange Gasket	11L1A
6" 3-Way Tapered Plug Valve	2L148-304 *
6" Flange Gasket	11L1C
Valve Wrench for Plug Valves – (Chilean Red)	2L104AA1

* **PARTS ORDERING NOTE:** 2 new Flange Gaskets per Plug Valve will be required.

SOLENOID VALVES

PART DESCRIPTION	PART #
2-Way Solenoid Valve (5/16" orifice) Uses din connector	1L545A
DIN Connector for 1L545A (Required for initial installation of 1L545A)	1L545A-1
2-Way Solenoid Valve Assembly for the FORMULA X® (Old Style Arrangement with Solenoid in piping next to Float Check Valve)	87B351
SONIC START® STREAMLINE™ Vacuum Dome /2-Way Solenoid Valve Assembly- Newest, Current Arrangement	87B728

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S&L Parts: Here for Life

Smith & Loveless Pump Stations have one of the **longest life cycles** within the marketplace. In fact, our first three complete pump stations were installed in Salina, Kansas in 1950 and are *still operational today*.

Many competitors build throw-away equipment and don't support their products with replacement spare parts – even for products that are a mere 10 years old . They'd rather sell you a costly new piece of equipment rather than repair it.

At Smith & Loveless, we fully support all of our products with spare parts and can even provide parts for our first three pump stations. When you buy a Smith & Loveless product, we're here to *support* you for the **entire life cycle** with spare parts, even when it is heading towards 60 years. No matter the age of your pump station, you'll find this Parts Reference Guide helpful in determining the current part number for your part.



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