

ORIGINAL



RETROFIT

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

PARTS REFERENCE GUIDE FOR PISTA[®] Grit Removal System



Your Helpful Parts Resource

For S&L Product Codes: 03, and 3R
(First Two Numbers of Station Serial Number)

Smith & Loveless, Inc.
www.smithandloveless.com

ENGINEERING DATA



Smith &
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14040 Santa Fe Trail
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Page 1

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PISTA® Grit Removal System

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ALPHABETICAL PARTS LISTING

<u>PART NAME</u>	<u>PAGE</u>
AIR COMPRESSOR	19
AIR COMPRESSOR VIBRATION ISOLATOR	19
ALARM MODULE FOR SMART SLEEVE, PINCH VALVE	17
CHECK VALVES, FLOAT	23
CR RELAYS	6
DOMES, ELECTRODE/VACUUM	19
DOMES ASSEMBLIES, ELECTRODE/VACUUM	19
DRIVE ASSEMBLY PARTS	9
DRIVE GEAR	9
ELECTRODE	21, 22
ELECTRODE, NEW STYLE SOLID ELECTRODE	21
ELECTRODE, OLDEST STYLE – ALUMINUM	22
ELECTRODE, OLDER STYLE – HOLLOW	22
ELECTRODE DOMES (VACUUM)	19
ELECTRODE DOME ASSEMBLIES (VACUUM)	19
ELECTRODE DOME CONVERSION KITS	19, 20, 23
ELECTRODE PARTS/ASSEMBLIES	19, 21
ER RELAYS – ELECTRODE RELAYS	6, 20
EXPLOSION PROOF SONIC START® STREAMLINE™ PROBE	25
FILTER, VAPOR	29
FLANGE GASKETS	15
FLOAT CHECK VALVES	23
GASKETS	8, 15 (10-13)
GASKETS, FLANGE	15
GASKETS, VOLUTE	8, 15 (10-13)
GAUGES, COMBO – VACUUM/AIR	18

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Original S&L Parts

Page 2

PART NAME	PAGE
GEAR DRIVE9
GEAR DRIVE MOTOR9
GEAR REDUCER9
HEATER . . . . .	.7, 15, 18
IMPELLER BOLTS & WASHERS . . . . .	.10-13
IMPELLERS – NI-HARD . . . . .	.13 (10-13)
ISOLATOR – VIBRATION, AIR COMPRESSOR . . . . .	.18
KEYSTOCK . . . . .	.15
LINE STRAINERS . . . . .	.16, 29
MECHANICAL SEALS . . . . .	.8 (10-13)
MOTOR ADAPTERS . . . . .	.10-13
MOTOR SHAFT KEY - KEYSTOCK . . . . .	.15
NAME PLATE . . . . .	.16
O&M'S . . . . .	.16
PAINT . . . . .	.16
PINCH VALVE . . . . .	.17
PINCH VALVE RELIEF VALVE . . . . .	.17
PINCH VALVE SLEEVE . . . . .	.17
PISTA® PINCH VALVE JACKET . . . . .	.17
PISTA® DRIVE ASSEMBLY PARTS . . . . .	.9
PISTA® TURBO™ GRIT WASHER PARTS . . . . .	.15
PUMP IMPELLERS – NI-HARD . . . . .	.13 (10-13)
PUMP PARTS – TOP MOUNTED VACUUM PRIMED . . . . .	.10, 11
PUMP PARTS & STANDS – REMOTE MOUNTED FLOODED SUCTION . . . . .	.12, 13
PUMP STAND . . . . .	.12, 13
PUMP, VACUUM . . . . .	.27, 27
REDUCED MAINTENANCE VACUUM PRIMING SYSTEM KITS . . . . .	.20- 24
RELAYS . . . . .	.6, 20
RELIEF VALVE, PINCH VALVE . . . . .	.17
SEALS, MECHANICAL . . . . .	.8 (10-13)
SEAL HOUSING GASKET . . . . .	.8, 15 (10-13)
SINGLE MECHANICAL SEALS . . . . .	.8 (10-13)
SLEEVE, PINCH VALVE . . . . .	.17
SLEEVE WRENCH – SOLENOID VALVE . . . . .	.7
SMART SLEEVE, PINCH VALVE17
SOLENOID VALVES7, 24
SONIC START® STREAMLINE™ (PRIME SENSING) KITS24

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After Market
PISTA® Parts
Reference Guide
Original S&L Parts

Page 3

PART NAME

PAGE

SONIC START® STREAMLINE™ (PRIME SENSING) DRILL & TAP KIT	23
SONIC START® STREAMLINE™ OPERATING MODULE	6, 25
SONIC START® STREAMLINE™ REPLACEMENT PARTS	25
SONIC START® STREAMLINE™ VACUUM DOME ASSEMBLY	25
SV VALVES – SV1 & SV2 – SOLENOID VALVES	7
SWITCH, THERMOSTAT	7, 15, 18
TEEL FILTER – LINE STRAINER – 40 MESH	16, 28
THERMOSTAT SWITCH	7, 15, 18
THREE-WAY SOLENOID VALVE	7, 24
TOUCH-UP KIT - PAINT	16
TUBING, VACUUM	28
TWO-WAY SOLENOID VALVE	7, 24
VACUUM-AIR PRESSURE GAUGES	18
VACUUM DOMES (ELECTRODE)	19, 25
VACUUM DOME ASSEMBLIES (ELECTRODE)	19, 25
VACUUM PRIMING SYSTEM REDUCED MAINTENANCE KITS	20- 24
VACUUM PUMPS	26-29
VACUUM PUMP MUFFLER	28
VACUUM PUMP RELAY	6
VACUUM TUBING	28
VALVES, FLOAT CHECK VALVE	23
VALVES, SOLENOID	7, 24
VAPOR FILTERS	28, 23
VERSAPOX®	16
VIBRATION ISOLATOR, AIR COMPRESSOR	19
VOLUTE GASKETS	8, 15(10-13)
VOLUTES	10-13

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PISTA® Parts
Reference Guide
Original S&L Parts

Page 4

After Market Parts Catalog

PISTA® Grit Removal System

S&L Product codes: 03, 3R (First Two Numbers of Station Serial Number)

PART	PAGE
-------------	-------------

ELECTRICAL COMPONENTS

CR RELAYS – VACUUM PUMP RELAY	6
ER RELAYS – ELECTRODE RELAYS	6
RELAYS	6
SOLENOID VALVES – SV1 & SV2	7
THERMOSTAT SWITCH	7

MECHANICAL PIPING & PARTS

GASKETS, VOLUTE	8
MECHANICAL SEALS	8
PISTA® DRIVE ASSEMBLY PARTS	9
PUMP PARTS – TOP MOUNTED VACUUM PRIMED	10, 11
PUMP PARTS – REMOTE MOUNTED FLOODED SUCTION	12, 13
PUMP IMPELLERS – NI-HARD	13

OTHER PARTS

GASKETS, FLANGE, SEAL HOUSING	15
GASKETS, VOLUTE	15
HEATER	15
KEYSTOCK – MOTOR SHAFT KEY	15
LINE STRAINER	16
NAME PLATE – FOR S&L SERIAL NUMBER	16
O&M'S	16
PAINT (VERSAPOX®) & TOUCH-UP KITS	16
PINCH VALVE	17
PINCH VALVE SLEEVE & REPAIR PARTS	17
PINCH VALVE, RELIEF VALVE (ADJUSTING THUMB WHEEL)	17
THERMOSTAT SWITCH	18
VACUUM-AIR PRESSURE GAUGES	18

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After Market
PISTA® Parts
Reference Guide
Original S&L Parts

Page 5

PART

PAGE

VACUUM PRIMING SYSTEM

AIR COMPRESSOR.....	19
ELECTRODE DOMES.....	19
ELECTRODE DOME ASSEMBLIES.....	19
ELECTRODE DOME CONVERSION KITS.....	19
ELECTRODE RELAYS – ER1 & ER2.....	20
ELECTRODES.....	20
ELECTRODES – NEW STYLE SOLID ELECTRODE.....	21
ELECTRODES – OLDEST STYLE.....	22
ELECTRODES – OLDER STYLE HOLLOW ELECTRODE.....	22
FLOAT CHECK VALVES.....	23
FLOAT CHECK VALVES – OLDER STYLE.....	23
SOLENOID VALVES.....	24
SONIC START® STREAMLINE™ FOR PISTA® PRIME SENSING KITS.....	24
SONIC START® STREAMLINE™ (PRIME SENSING) DRILL & TAP KIT.....	24
STREAMLINE™ JACKET.....	24
SONIC START® STREAMLINE™- PRIME SENSING REPLACEMENT PARTS.....	25
SONIC START® VACUUM DOME ASSEMBLY.....	25
SONIC START® VACUUM DOME INDIVIDUAL PARTS - P/N 87B452A.....	24
VACUUM PUMP – HEAVY DUTY – SINGLE PISTON & SPARE PARTS.....	26
VACUUM PUMP – STANDARD – SINGLE PISTON & SPARE PARTS.....	27
VACUUM PUMP – HEAVY DUTY – DUAL PISTON & SPARE PARTS.....	27
VACUUM PUMP – OLD DUAL PISTON SPARE PARTS.....	28
VACUUM PUMP MUFFLER.....	28
VACUUM TUBING.....	28
VAPOR FILTER – LINE STRAINER.....	28

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After Market
PISTA® Parts
Reference Guide
Original S&L Parts

Page 6

ELECTRICAL COMPONENTS

CONTACTORS

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

CR RELAYS (VACUUM PUMP RELAY)

PART DESCRIPTION	PART #
Relay, for Vacuum Pump (1CR, 2CR)	4L107A
Relay, for Vacuum Pump (1CR, 2CR) "Series Stations"	4L424A

ER RELAYS (ELECTRODE RELAY)

PART DESCRIPTION	PART #
Relay, for Electrode current style - (1ER, 2ER) (requires modification if replacing 4L29 or 4L408)	4L408H
Relay, for Electrode – (1ER, 2ER) Older Style (determine which part is needed)	4L29 or 4L408
Socket Base, 8 pin for 4L29 Relay	5L49B
SONIC START® Operating Module	4L264S

RELAYS

PART DESCRIPTION	PART #
Relay, for Vacuum Pump (1CR, 2CR)	4L107A
Relay, for Vacuum Pump (1CR, 2CR) "Series Stations"	4L424A
Relay, Intrinsically Safe Relay (Replaces 4L279A)	4L374
Relay, for Electrode (1ER, 2ER) Current Style (requires modification if replacing 4L29 or 4L408)	4L408H
Relay, for Electrode – (1ER, 2ER) Older Style (determine which part is needed)	4L29 or 4L408
Socket Base, 8 pin for 4L29 Relay	5L49B
SONIC START® Operating Module	4L264S

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After Market
PISTA® Parts
Reference Guide
Original S&L Parts

Page 7

ELECTRICAL COMPONENTS (CONTINUED)

SOLENOID VALVES – (SV1 & SV2)

PART DESCRIPTION	PART #
3-Way Solenoid Valve (3/32" orifice) (Replaced Old Style PN 1L406A)	1L406E
Conduit Nut for 3-Way Solenoid Valve <i>(required when ordering 1L406E first time)</i>	5L13A
Valve Sleeve Wrench for 1L406A	1L406W
Valve Sleeve Wrench for 1L406E	1L406EW
2-Way Solenoid Valve (5/16" orifice) <i>(Newest Solenoid – Upgrade from 1L406A & 1L406E Style)</i>	1L545A
DIN Connector for 1L545A with 8' cord (OLD P/N: 1L545A-1) <i>(Required for initial installation of 1L545A)</i>	87A481-STK
Reduced Maintenance Vacuum Priming System Retrofit Kit <i>(Includes one each 87B309 & 87B309A electrode dome assemblies, 4L408H electrode relay upgrade, & 1L545B solenoid valve to retrofit stations that have the 87A229 hollow electrode) (For both Duplex and Series [parallel] Pump Stations)</i>	H87A310C

THERMOSTAT SWITCH

PART DESCRIPTION	PART #
Thermostat Switch C-37 0-52	4L135B
Heater Strip – 1/60/120 VAC	4L362C
Heater Guard	67A182
High Temp Cable (12 Feet required)	5L265C

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Page 8

MECHANICAL, PIPING, & PARTS GASKETS, VOLUTE

PART DESCRIPTION PUMP SIZE	STANDARD GASKET PART #	OTHER GASKETS 1/64" & 1/16" THICKNESS
4B2C, 4B2H, 4B2J	60A26 (1/32")	60A27 (1/16")
6B3H, 6C3H, 6D3H, 6B3J, 6C3J, 6D3J	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.

MECHANICAL SEALS

SEAL & SPARE PARTS	B-SHAFT 1 7/8"	C-SHAFT 2 1/8"	D-SHAFT 3"
Seal Kit, Single Mechanical Seal	H87A28 (replaces P/N H60A148)	H87A97 (replaces P/N H60A156)	H87A182
Bronze Seal Housing	87B2	87B19	87B73
Seal Housing Gasket - Flat **	60A11	60A17	60A84
Seal Housing Gasket - Quad Ring **	60A110	60A111	60A112
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 Mechanical Seal Kit

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 embedded 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 Gasket - Flat 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 or the quad ring gasket.

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Page 9

MECHANICAL, PIPING, & PARTS (CONTINUED)

PISTA® DRIVE ASSEMBLY PARTS

PART DESCRIPTION	PART #
PISTA® Drive Assembly – Complete	Call Retrofit Dept
Housing Cover	67D164
Housing Base	67D163
Drive Gear	11L232
Pinion Gear	67C130A
Dowel Pin	67A138
O-Ring	67A139
Drive Plate	67C129
Eye Bolt	6L92A
Screw, Soc. Head	6L178A
Screw, Flat Head	1L69A
Pipe Plug	1L69L
Nipple, Galv. 3/8"	1L10CC
Coupling, Galvanized	1L22K
Fill Plug	1L69D
Washer, Flat	6L61L
Screw, Nylock	6L151N
Washer, Retaining	67A118
Capscrew, SS	6L59HE
Washer, Lock SS	6L94L
Gear Reducer	Contact Factory
Motor	Contact Factory
Capscrew, Socket Head SS	6L178CA

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Page 10

MECHANICAL, PIPING, & PARTS (CONTINUED)

TOP MOUNTED VACUUM PRIMED PUMPS

PUMP PARTS – Top Mounted Vacuum Primed	4B2C TURBO Standard
Shaft Diameter	1 $\frac{1}{8}$ "
Mechanical Seal Kit	H87A28 (replaces P/N H60A148)
Seal Housing Gasket - Old Style - Flat	60A11
Seal Housing Gasket - New Style – Quad Ring	60A110
Impeller, CW (Clockwise)	87D103
Impeller, CCW (Counter-Clockwise)	87D104
Maximum Diameter	10 $\frac{1}{8}$ "
Pump Stand	None
Volute	60D231-300 (CCW) 60D230-300 (CW) (Cast Iron)
Volute Gasket (1/64 & 1/16 thickness available)	60A26 (1/32")
Flange Gasket	11L1A
Motor Adapter (TEFC Standard) -Also sell S/N NAMEPLATE	60B165A-300 (replaces 87D4 & 87D4A)
Motor Adapter (Explosion-Proof) -Also sell S/N NAMEPLATE	60B165AA-300
Impeller Bolt	60A12
Impeller Washer	60A20

PUMP PARTS – Top Mounted Vacuum Primed	4B2H TURBO Standard	4B2H TURBO Ni-Hard
Shaft Diameter	1 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "
<i>Mechanical Seal</i>	H87A28 (replaces P/N H60A148)	H87A28 (replaces P/N H60A148)
Seal Housing Gasket - Old Style - Flat	60A11	60A11
Seal Housing Gasket - New Style – Quad Ring	60A110	60A110
Impeller, CW (Clockwise)	60D250 (Ni-Hard)	60D250 (Ni-Hard)
Impeller, CCW (Counter-Clockwise)	60D251 (Ni-Hard)	60D251 (Ni-Hard)
Maximum Diameter	10 $\frac{1}{8}$ "	10 $\frac{1}{8}$ "
Pump Stand	None	None
Volute	60D231-300 (CCW) 60D230-300 (CW) (Cast Iron)	60D247-300 (CCW) 60D246-300 (CW) (Ni-Hard)
Volute Gasket (1/64 & 1/16 thickness available)	60A26 (1/32")	60A26 (1/32")
Flange Gasket	11L1A	11L1A
Motor Adapter (TEFC Standard) -Also sell S/N NAMEPLATE	60B165A-300 (replaces 87D4 & 87D4A)	60B165A-300 (replaces 87D4 & 87D4A)
Motor Adapter (Explosion-Proof) -Also sell S/N NAMEPLATE	60B165AA-300	60B165AA-300
Impeller Bolt	60A12	60A12
Impeller Washer	60A20	60A20

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

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Page 11

MECHANICAL, PIPING, & PARTS (CONTINUED)

TOP MOUNTED VACUUM PRIMED PUMPS

PUMP PARTS – Top Mounted Vacuum Primed	6B3H TURBO Ni-Hard	6C3H TURBO Ni-Hard
Shaft Diameter	1 7/8"	2 1/8"
Mechanical Seal Kit	H87A28 (replaces P/N H60A148)	H87A97 (replaces P/N H60A156)
Seal Housing Gasket – Quad Ring	60A110	60A111
Impeller, CW (Clockwise)	60B150 (Ni-Hard)	60B117 (Ni-Hard)
Impeller, CCW (Counter-Clockwise)	N/A	N/A
Maximum Diameter	12 1/4"	12 1/4"
Pump Stand	None	None
Volute, CW (Clockwise)	60B116-300 (Ni-Hard)	60B116-300 (Ni-Hard)
Volute, CCW (Counter-Clockwise)	N/A	N/A
Volute Gasket (1/64 & 1/16 thickness available)	60A28 (1/32")	60A28 (1/32")
Flange Gasket	11L1C	11L1C
Motor Adapter (TEFC Standard) -Also sell S/N NAMEPLATE	60B165D-300*	Consult Factory
Motor Adapter (Explosion-Proof) -Also sell S/N NAMEPLATE	60B165DA-300*	Consult Factory
Impeller Bolt	60A12	60A12
Impeller Washer	60A20	60A20

*Note: See Factory for pumps with 20Hp motors, as the adapter can change.

PUMP PARTS – Top Mounted Vacuum Primed	6D3H TURBO Ni-Hard
Shaft Diameter	3"
Mechanical Seal Kit	H87A182
Seal Housing Gasket - Quad Ring	60A112
Impeller, CW (Clockwise)	60B143 (Ni-Hard)
Impeller, CCW (Counter-Clockwise)	N/A
Maximum Diameter	12 1/4"
Pump Stand	N/A
Volute	60B116-300 (Ni-Hard)
Volute Gasket (1/64 & 1/16 thickness available)	60A28 (1/32")
Flange Gasket	11L1C
Motor Adapter (TEFC Standard) -Also sell S/N NAMEPLATE	60B165M-300
Motor Adapter (Explosion-Proof) -Also sell S/N NAMEPLATE	60B165MA-300
Impeller Bolt	60A87
Impeller Washer	60A86

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Page 12

MECHANICAL, PIPING, & PARTS (CONTINUED) REMOTE MOUNTED FLOODED SUCTION PUMPS

PUMP PARTS - Remote Mounted Flooded Suction	4B2J TURBO Old-Style	4B2J TURBO Ni-Hard
Shaft Diameter	1 7/8"	1 7/8"
Mechanical Seal Kit	H60A119 (replaces P/N H60A156)	H87A28
Seal Housing Gasket – Old Style – Flat	60A11	60A11
Seal Housing Gasket – New Style – Quad Ring	60A110	60A110
Impeller, CW (Clockwise)	60D250 (Ni-Hard)	60D250 (Ni-Hard)
Impeller, CCW (Counter-Clockwise)	60D251 (Ni-Hard)	60D251 (Ni-Hard)
Maximum Diameter	10 1/8"	10 1/8"
Pump Stand	60D232-300	60D232-300
Volute (CW)	60D228-300 (Cast Iron)	60D242-300 (Ni-Hard)
Volute (CCW)	60D229-300 (Cast Iron)	60D243-300 (Ni-Hard)
Volute Gasket	60A26 (1/32")	60A26 (1/32")
Flange Gasket	11L1A	11L1A
Motor Adapter -Also sell S/N NAMEPLATE	60C8 -300	60C8-300
Impeller Bolt	60A12	60A12
Impeller Washer	60A20	60A20

PUMP PARTS – Remote Mounted Flooded Suction	6B3J TURBO Ni-Hard	6C3J TURBO Ni-Hard
Shaft Diameter	1 7/8"	2 1/8"
<i>Mechanical Seal</i>	H87A28 (replaces P/N H60A148)	H87A97 (replaces P/N H60A156)
Seal Housing Gasket - New Style – Quad Ring	60A110	60A111
Impeller, CW (Clockwise)	60B150 (Ni-Hard)	60B117 (Ni-Hard)
Impeller, CCW (Counter-Clockwise)	N/A	N/A
Maximum Diameter	12 1/4"	12 1/4"
Pump Stand	60B141-300	60B141-300
Volute (CW)	60B116-300 (Ni-Hard)	60B116-300 (Ni-Hard)
Volute (CCW)	N/A	N/A
Volute Gasket (1/64 & 1/16 thickness available)	60A28 (1/32")	60A28 (1/32")
Flange Gasket	11L1C	11L1C
Motor Adapter-Also sell S/N NAMEPLATE	60D3-300	60D14-300
Impeller Bolt	60A12	60A12
Impeller Washer	60A20	60A20

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Page 13

MECHANICAL, PIPING, & PARTS (CONTINUED)

REMOTE MOUNTED FLOODED SUCTION PUMPS

PUMP PARTS – <i>Remote Mounted Flooded Suction</i>	6D3J TURBO Ni-Hard
Shaft Diameter	3"
<i>Mechanical Seal</i>	H87A182
Seal Housing Gasket - New Style – Quad Ring	60A112
Impeller, CW (Clockwise)	60B143 (Ni-Hard)
Impeller, CCW (Counter-Clockwise)	N/A
Maximum Diameter	12 ¼"
Pump Stand	60B141-300
Volute (CW)	60B116-300 (Ni-Hard)
Volute (CCW)	N/A
Volute Gasket (1/64 & 1/16 thickness available)	60A28
Flange Gasket	11L1C
Motor Adapter-Also sell S/N NAMEPLATE	60D111-300
Impeller Bolt	60A87
Impeller Washer	60A86

PUMP IMPELLERS – NI-HARD

PUMP MODEL	IMPELLER CW PART #	IMPELLER CCW PART #	ADDITIONAL PARTS 1 SET PER IMPELLER PART #
4B2C TURBO	60D250 (Ni-Hard)	60D251 (Ni-Hard)	60A12, 60A20, 60A26
4B2H TURBO	60D250 (Ni-Hard)	60D251 (Ni-Hard)	60A12, 60A20, 60A26
6B3H TURBO	60B150 (Ni-Hard)	N/A	60A12, 60A20, 60A28
6C3H TURBO	60B117 (Ni-Hard)	N/A	60A12, 60A20, 60A28
6D3H TURBO	60B143 (Ni-Hard)	N/A	60A87, 60A86, 60A28
4B2J TURBO	60D250 (Ni-Hard)	60D251 (Ni-Hard)	60A12, 60A20, 60A26
6B3J TURBO	60B150 (Ni-Hard)	N/A	60A12, 60A20, 60A28
6C3J TURBO	60B117 (Ni-Hard)	N/A	60A12, 60A20, 60A28
6D3J TURBO	60B143 (Ni-Hard)	N/A	60A87, 60A86, 60A28

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Original S&L Parts

Page 14

OTHER PARTS

PISTA®TURBO™ GRIT WASHER

PART DESCRIPTION	PART #
Clamp Hose Stainless Steel	1L102A
Hose Air Rubber 1 ID 25	1L105C
Tubing Pneumatic Polyethylene B	1L142AD
Tubing Pneumatic Polyethylene	1L142CD
Clamp Pipe Unistrut	1L307AC
Clamp Tube Unistrut	1L307CA
Plug Pipe 316 Stainless Steel 1	1L449F
Bushing Red Stainless Steel 2X1	1L491G
Bushing Red 316 Stainless Steel	1L491J
Bushing Red 316 Stainless Steel	1L491K
Nipple 316/316L Stainless Steel	1L503FB
Nipple 316/316L Stainless Steel	1L503FE
Nipple 316/316L Stainless Steel	1L504BF
Nipple 316/316L Stainless Steel	1L504FG
Tee 316 Stainless Steel 1 FEM NP	1L561C
Nipple King 316/316L	1L562A
Nipple 316/316L Stainless Steel	1L564A
Nipple 316/316L Stainless Steel	1L564B
Nipple 316/316L Stainless Steel	1L564F
Elbow ST 90 316L Stainless Steel	1L587C
Valve Ball 316L Stainless Steel	1L589E
Elbow 90 316L Stainless Steel	1L591A
Elbow 90 316L Stainless Steel	1L591C
Cap Pipe 316 Stainless Steel 2 N	1L660G
Cap Pipe 316 Stainless Steel 3 N	1L660J
Valve CHK SWG 316 SS	1L73AB
Fitting Male CONN SS	1L772E
Fitting Male CONN SS	1L772F
Flow Meter Liquid	1L306K
Switch Sonic Start	4L628F
Fluidizing Injection	67B368B
Lubricator Auto	11L227B
Flowmeter w/ Tube	1L306Q
Valve Ball 316 Stainless Steel	1L582DB
Valve SOL 3 Way Stainless Steel	1L406B
Valve Ball 316 Stainless Steel	1L582UB
Switch Liquid Level Sonic	4L793A

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Reference Guide
Original S&L Parts

Page 15

OTHER PARTS

GASKETS	
PART DESCRIPTION	PART #
4" Flange Gasket (check valves & suction/discharge piping)	11L1A
6" Flange Gasket (check valves & suction/discharge piping)	11L1C
Seal Housing Gasket - Flat *	B Shaft: 60A11
	C Shaft: 60A17
	D Shaft: 60A84
Seal Housing Gasket - Quad Ring *	B Shaft: 60A110
	C Shaft: 60A111
	D Shaft: 60A112

* **PARTS TIP: Seal Housing Gasket - Flat 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 or the quad ring gasket.

GASKETS, VOLUTE PUMP SIZE	STANDARD GASKET PART #	OTHER GASKETS 1/64" & 1/16" THICKNESS
4B2C, 4B2H, 4B2J	60A26 (1/32")	60A27 (1/16")
6B3H, 6C3H, 6D3H, 6B3J, 6C3J, 6D3J	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.

HEATER	
PART DESCRIPTION	PART #
Heater Strip – 1/60/120 VAC	4L362C
Heater Guard	67A182
High Temp Cable (12 Feet required)	5L265C
Thermostat Switch C-37 0-52	4L135B

KEYSTOCK (MOTOR SHAFT KEY)	
PART DESCRIPTION	PART #
B Shaft	95L39-0
C Shaft	95L39-0
D Shaft	95L39-01

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Original S&L Parts

Page 16

OTHER PARTS (CONTINUED)

LINE STRAINER PART DESCRIPTION	PART #
Line Strainer (Teel Filter) – Bowl Type – Male Fittings (Old P/N: 1L448)	OBSOLETE*
40 Mesh Stainless Steel Screen (Old P/N: 1L448-1)	OBSOLETE*
Buna N Gasket (Old P/N: 1L448-2)	OBSOLETE*
Line Strainer (V-Type Bronze – 30 Mesh – ¼” Female Inlet/Outlet NPT)	1L579A
Line Strainer Stainless Steel Screen 30 Mesh	1L579A-1
Line Strainer Gasket for 1L579A	1L579A-2
Line Strainer (V-Type Bronze – 24 Mesh – 3/8” Female Inlet/Outlet NPT)	1L579B

*NOTE: USE ONE 1L579A AND TWO 1L28B 1/4” CLOSE NIPPLES

NAME PLATE, FOR S&L SERIAL NUMBER PART DESCRIPTION	PART #
Vacuum Priming Panel Logo Plate (outside of panel)	12B41
Vacuum Priming Panel Name Plate (inside of panel)	12L170
Name Plate for Motor Adapter (includes addition of GPM @ ' TDH)	Sold with Motor Adapter
Vacuum Priming Panel Name Plate w/Serial Number	OBSOLETE

O&M'S PART DESCRIPTION	PART #
O&M's – Requires Job Serial Number	O&M MANUAL

PAINT (VERSAPOX®) & TOUCH-UP KITS PART DESCRIPTION	PART #
Aquamarine VERSAPOX ®, Part A, Gallon	12L181B *
Light Green VERSAPOX ®, Part A, Gallon	12L109B *
Dark S&L Green VERSAPOX ®, Part A, Gallon	12L104B *
Catalyst, VERSAPOX ®, Part B, Gallon	12L105B
Primer (RED), Part A, Gallon	12L138A *
Primer Catalyst, Part B, Gallon	12L138B
Touch-Up Paint Kit – Aquamarine	H87A424
Touch-Up Paint Kit – Light Green	H87A426
Touch-Up Paint Kit – Georgian Hemlock	H87A425

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

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After Market
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Reference Guide
Original S&L Parts

Page 17

OTHER PARTS (CONTINUED)

PINCH VALVE	
PART DESCRIPTION	PART #
Standard 4" Pinch Valve – Complete Valve	2L159A*
Smart Wear 4" Pinch Valve – Complete Valve	2L159C
Alarm Module for Smart Sleeve Pinch Valve <i>(1 required per pinch valve)</i>	2L159-1
Standard 6" Pinch Valve – Complete Valve	2L159B*
Smart Wear 6" Pinch Valve – Complete Valve	2L159D
Alarm Module for Smart Sleeve Pinch Valve <i>(1 required per pinch valve)</i>	2L159-1

PINCH VALVE SLEEVE & REPAIR PARTS

PART DESCRIPTION	PART #
Standard 4" Pinch Valve Sleeve Only	2L159AA*
Smart Wear 4" Pinch Valve Sleeve Only	2L159CC
Alarm Module for Smart Sleeve Pinch Valve <i>(1 required per pinch valve)</i>	2L159-1
4" Pinch Valve Side Gasket	2L159AB
Side Bolts for Pinch Valve	2L159AC
Standard 6" Pinch Valve Sleeve Only	2L159BB*
Smart Wear 6" Pinch Valve Sleeve Only	2L159DD
Alarm Module for Smart Sleeve Pinch Valve <i>(1 required per pinch valve)</i>	2L159-1
6" Pinch Valve Side Gasket	2L159BA
Side Bolts for Pinch Valve	2L159AC
Anchor Coupling <i>(Coupling on Vacuum Priming Panel for Pinch Valve Tubing to go through panel wall)</i>	1L287A
Pinch Valve Vacuum Line Tubing (3/8" Green Tubing) (Required 6')	1L142BB

PINCH VALVE, RELIEF VALVE (ADJUSTING THUMB WHEEL)

PART DESCRIPTION	PART #
Relief Valve for Pinch Valve	1L447
Anchor Coupling <i>(Coupling on Vacuum Priming Panel for Pinch Valve Tubing to go through panel wall)</i>	1L287A

PISTA® PINCH VALVE JACKET

PART DESCRIPTION	PART #
PISTA® PINCH VALVE JACKET (For temperatures down to 30°F)	H67A266

***PARTS ORDERING NOTE:** Replacement side gaskets and flange gaskets must be sold when replacing pinch valve sleeves.

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Reference Guide
Original S&L Parts

Page 18

OTHER PARTS (CONTINUED)

THERMOSTAT SWITCH	
PART DESCRIPTION	PART #
Thermostat Switch C-37 0-52	4L135B
Heater Strip – 1/60/120 VAC	4L362C
Heater Guard	67A182
High Temp Cable (12 Feet required)	5L265C

GAUGES, COMBO VACUUM-AIR PRESSURE		STANDARD	GLYCERIN-FILLED
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

* 3-1/2" diameter dial (Customer must verify fit. If smaller dial is needed, contact factory)

PARTS ORDERING TIP: If no gauge is currently in use, order 1L275D. Otherwise, determine correct PSI

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Page 19

VACUUM PRIMING SYSTEM

AIR COMPRESSOR PART DESCRIPTION	PART #
Air Compressor	9L34
Vibration Isolator (See Section 12)	11L156
Anchor Coupling (<i>Coupling on Vacuum Priming Panel for Air Compressor Tubing to go through panel wall to Air Compressor Muffler</i>)	1L287A

ELECTRODE DOMES PART DESCRIPTION	PART #
Vacuum Dome (one hole at top)	87B133B**
Aluminum Electrode Dome (two holes at top) (<i>old P/N 87B15 no longer available, order H87A329 1st time for conversion or H87A391J to convert to SONIC START®.</i>)	OBSOLETE (Order H87A329)

****PARTS ORDERING NOTE:** Small O-Ring (P/N 11L4J) & Quad Ring (11L47D) are recommended (not included with dome).

ELECTRODE DOME ASSEMBLIES PART DESCRIPTION	PART #
Electrode Dome Assembly with new style SOLID Stainless Steel 5 1/4" long Electrode and Quick Disconnect Fitting (Can be used to replace the obsolete 87B134B & 87B309 assemblies)	87B309B *
Electrode Dome Assembly with new style SOLID Stainless Steel 6" Long Electrode and Quick Disconnect Fitting. (Can be used to replace the obsolete 87B134A & 87B309A assemblies)	87B309C *
* Ferrule Connection Fitting (<i>OPTIONAL replacement for Quick Disconnect Fitting on new style electrodes that are included with these assemblies/kits</i>)	1L248A
SONIC START® Vacuum Dome Complete Assembly	87B452A

PARTS ORDERING TIP: *Hollow electrode parts for obsolete assemblies 87B134A & 87B134B available individually*
NOTE: See **SONIC START® STREAMLINE™**

ELECTRODE DOME CONVERSION KITS PART DESCRIPTION	PART #
Electrode Dome Assembly Conversion Kit – <i>Required when replacing the Old Style 87B15 Electrode Dome which has two holes at the top. Includes all parts in 87B309A</i> (Replaces H87B135)	H87A329A
Electrode Dome Conversion/Reduced Maintenance Vacuum Priming Combo Kit (OLD PN: H87A330A)	OBSOLETE
Reduced Maintenance Vacuum Priming System Retrofit Kit (OLD PN: H87A310C)	OBSOLETE
* Ferrule Connection Fitting (<i>OPTIONAL replacement for Quick Disconnect Fitting on new style electrodes that are included with these assemblies/kits</i>)	1L248A

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Page 20

VACUUM PRIMING SYSTEM (CONTINUED)

ELECTRODE RELAYS – ER1 & ER2	
PART DESCRIPTION	PART #
Electrode Relay (Old Style)	4L29
Electrode Relay (Old Style)	4L408
Electrode Relay (Current) (Includes a rewiring installation booklet)	4L408H
Socket Base (8 Pin) for 4L29, 4L408, 4L408H	5L49B
Reduced Maintenance Vacuum Priming System Retrofit Kit (Includes one each 87B309 & 87B309A electrode dome assemblies, 4L408H electrode relay upgrade, 1L545B solenoid valve, and latest vacuum priming system to retrofit stations that have the 87A229 hollow electrode) (For both Duplex and Series [parallel] Pump Stations)	H67A253 or H67A254
SONIC START® Operating Module	4L264S

ELECTRODES	
PART DESCRIPTION	PART #
Solid Aluminum Electrode (old P/N 87A72 no longer available) <i>Convert to Solid Electrode with Kit H87A329A or convert to SONIC START® with complete retrofit kit H87A391F</i>	OBSOLETE
5 ⁷ / ₈ " Long Hollow SS Electrode (P/N 87A229A no longer available, order 87B309C as replacement)	OBSOLETE
5" Long Hollow SS Electrode, (ONLY Available until current stock is depleted) <i>Convert to PN 87A285 + Bulk Head Fittings or SONIC START®</i>	87A229B *
5 ¹ / ₄ " Long Solid Stainless Steel Electrode ONLY <i>Recommend Converting to low maintenance SONIC START®</i>	87A285 *
5 ¹ / ₄ " Long Solid Stainless Steel Electrode Dome Complete Assembly <i>Recommend Converting to low maintenance SONIC START®</i>	87B309B *
6" Long Solid Stainless Steel Electrode ONLY <i>Recommend Converting to low maintenance SONIC START®</i>	87A285A *
6" Long Solid Stainless Steel Electrode Dome Complete Assembly <i>Recommend Converting to low maintenance SONIC START®</i>	87B309C *

* *Must identify correct electrode length requirement*

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Reference Guide
Original S&L Parts

Page 21

VACUUM PRIMING SYSTEM (CONTINUED)

ELECTRODES – NEW STYLE SOLID ELECTRODE *

* *Must identify correct electrode length requirement*

PART DESCRIPTION	PART #
Solid Stainless Steel Electrode - 5¼" Long	87A285 *
Solid Stainless Steel Electrode - 6" Long	87A285A *
Jam Nut	6L222A
O-Ring (Small for Top of Dome)	11L4J
Quad Ring (Old P/N: 11L4K Large O-Ring)	11L47D
Male Quick Disconnect Fitting	1L460D
Ferrule Connection Fitting (<i>OPTIONAL replacement for 1L460D</i>)	1L248A
Female Reducer Coupling	1L552A
Compression (Retainer) Ring	87A226
Retrofit Adapter Ring – Machined for Seating Dome	87A225
Stud - Stainless Steel – Used w/87A225 (2 required)	6L200DH
Nut - Stainless Steel – Used w/87A225 (4 required)	6L30K
Washer – S.S. – Used w/87A225 (2 required)	6L65F
Reduced Maintenance Vacuum Priming System Retrofit Kit (<i>Includes one each 87B309 & 87B309A electrode dome assemblies, 4L408H electrode relay upgrade, 1L545B solenoid valve, and latest vacuum priming system to retrofit stations that have the 87A229 hollow electrode</i>) (<i>For both Duplex and Series [paralle] Pump Stations</i>)	H67A253 or H67A254

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Reference Guide
Original S&L Parts

Page 22

VACUUM PRIMING SYSTEM (CONTINUED)®

ELECTRODES – OLDEST STYLE: FOR DOMES WITH TWO HOLES AT THE TOP

PART DESCRIPTION	PART #
Dome (old P/N 87B15 no longer available, order P/N: H87B329A 1 st time for conversion, unless moving to SONIC START ®, unless moving to SONIC START ®, then order H87A391J)	OBSELETE
Solid Aluminum Electrode	87A72
Gasket for Stud	87A31
Quad Ring (if surface of dome has a groove)	11L47D
Electrode Dome Gasket (if surface of dome is flat)	87A7
Stud for Electrode	6L51CF
Nut for 6L51CF (2 required)	6L60E
Bolt for Holder (2 required)	6L20CE
Flatwasher for Holder (2 required)	6L61F
Male Connector for Electrode Dome	1L248G
90° Connector for Tubing to Valves	1L190B
Straight Fitting for Tubing to Valves	1L248A
Insulator Boot	5L68B
Tubing, Green 3/8" (Other colors available – see page 28)	1L142BB

ELECTRODES – OLDER STYLE HOLLOW ELECTRODE *

* *Must identify correct electrode length requirement*

PART DESCRIPTION	PART #
Hollow Stainless Steel Electrode, 5 7/8" Long (Old P/N 87A229A no longer available, order 87B309C as a replacement)	OBSELETE
Hollow Stainless Steel Electrode, 5" Long	87A229B *
Bulkhead Union	1L481C
Terminal Lug	5L52G
Small O-Ring (2 required)	11L4J
Quad Rig (Old P/N: 11L4K Large O-Ring)	11L47D
Compression (Retainer) Ring	87A226
Retrofit Adapter Ring – Machined for Seating Dome	87A225
Stud - Stainless Steel – Used w/87A225 (2 required)	6L200DH
Nut - Stainless Steel – Used w/87A225 (4 required)	6L30K
Washer – S.S. – Used w/87A225 (2 required)	6L65F
90° Elbow, 3/8" x 1/4"	1L190B
Quad Ring	11L47D
Insulator Boot	5L68B
Tubing, Green 3/8" (Other colors available – see page 29)	1L142BB
Ferrule, 3/8"	1L366C
Electrode Dome Assembly Conversion Kit – Required when replacing the Old Style 87B15 Electrode Dome which has two holes at the top. Includes all parts in 87B309C. (Replaces H87B135)	H87A329A

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Reference Guide
Original S&L Parts

Page 23

VACUUM PRIMING SYSTEM (CONTINUED)

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 Check Valve	1L333
Anchor Coupling (Coupling on Vacuum Priming Panel for Float Check Valve Discharge Tubing to go through panel wall)	1L287A

FLOAT CHECK VALVES – OLDER STYLE PART DESCRIPTION	PART #
Older Style Ball Seat (for 1L443G)	1L443A
Older Style O-Ring (around outside lip of 1L443)	1L443C
Older Style O-Ring (around inside lip of 1L443G)	1L443E
Older Style Bowl Assembly (for 1L443G)	1L443F
Drain valve (for 1L443 or 1L443G)	1L333
Older Style O-Ring (for 87A76)	1L410C
Older Style Bowl Assembly (for 87A76)	1L410D
Older Style Bowl Insert (for 87A76)	1L410H
Anchor Coupling (Coupling on Vacuum Priming Panel for Float Check Valve Discharge Tubing to go through panel wall)	1L287A

REDUCED MAINTENANCE VACUUM PRIMING SYSTEM KITS PART DESCRIPTION	PART #
Reduced Maintenance Vacuum Priming System Retrofit Kit (Includes one each 87B309B & 87B309C electrode dome assemblies, 4L408H electrode relay upgrade, 1L545A) (Obsolete P/N:H87A310C) Replacement part is SONIC START® STREAMLINE™ P/N:H67A253 or H67A254	Replaced with SONIC START® STREAMLINE™ H67A253 or H67A254
Electrode Dome Conversion/Reduced Maintenance Vacuum Priming Combo Kit (Includes H87A329A, 4L408H upgrade, and 1L545A solenoid upgrade) (Obsolete P/N:H87A330A) Replacement part is SONIC START® STREAMLINE™ P/N:H67A253 or H67A254	Replaced with SONIC START® STREAMLINE™ H67A253 or H67A254
Vapor Filter 12-Pack Replacement Part Kit	H87A321A

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PISTA® Parts
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Original S&L Parts

Page 24

VACUUM PRIMING SYSTEM (CONTINUED)

SOLENOID VALVES	
PART DESCRIPTION	PART #
3-Way Solenoid Valve- New Style (Replaces 1L406A – 3/32" orifice)	1L406E
Conduit Nut for 3-Way Solenoid Valve <i>(required when ordering 1L406E first time)</i>	5L13A
Valve Sleeve Wrench for old style 1L406A	1L406W
Valve Sleeve Wrench for new style 1L406E	1L406EW
2-Way Solenoid Valve (5/16" orifice) <i>New Style with Quick Disconnect Upgrade Kit</i>	H87A343A
2-Way Solenoid Valve (5/16" orifice) <i>(Newest Solenoid – Upgrade from 1L406A & 1L406E Style)</i>	1L545A
DIN Connector for 1L545A with 8' cord (OLD P/N: 1L545A-1) <i>(Required for initial installation of 1L545A)</i>	87A481-STK
Anchor Coupling <i>(Coupling on Vacuum Priming Panel for Solenoid Valve Discharge Tubing to go through panel wall)</i>	1L287A

SONIC START® STREAMLINE™ (PRIME SENSING) KITS	
PART DESCRIPTION	PART #
SONIC START® STREAMLINE™ FOR PISTA® Upgrade Kit, Outdoor (Non-Explosion Proof)	H67A253
EXPLOSION-PROOF SONIC START® STREAMLINE™ FOR PISTA® Upgrade Kit, Indoor (Explosion-Proof)	H67A254
SONIC START® STREAMLINE™ Drill & Tap Kit for Non-Explosion Proof	H87A390A
Conversion from 2-hole dome to SONIC START® STREAMLINE™ FOR PISTA® Retrofit	
Quad Ring	11L47D
Adapter Ring	87A225
Stud	6L200DH
Nut	6L30K
Washer	6L65F

JACKET KIT	
PART DESCRIPTION	PART #
STREAMLINE™ JACKET (Non-Explosion Proof, Outdoor)	H67A262
PISTA® Pinch Valve Jacket (for temps down to -30° F)	H67A266

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After Market
PISTA® Parts
Reference Guide
Original S&L Parts

Page 25

VACUUM PRIMING SYSTEM (CONTINUED)

SONIC START® (PRIME SENSING) REPLACEMENT PARTS

These parts come standard in the SONIC START® Kits

PART DESCRIPTION	PART #
SONIC START® Replacement Sensor Probe – 120 VAC	4L628F
Explosion Proof SONIC START® Replacement Probe	4L628H
SONIC START® DIN Connector Cable (OLD P/N: 1L545-1)	87A481-STK
SONIC START® 8 Pin Socket	5L49B
SONIC START® Operating Module	4L264S
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

SONIC START® STREAMLINE™ (PRIME SENSING) REPLACEMENT PARTS

These parts come standard in the SONIC START® STREAMLINE™ Kits

PART DESCRIPTION	PART #
SONIC START® STREAMLINE™ Replacement Sensor Probe – 120 VAC	4L628F
Explosion Proof SONIC START® STREAMLINE™ Replacement Probe	4L628H
SONIC START® STREAMLINE™ Operating Module	4L264S
SONIC START® STREAMLINE™ Cord Grip	5L57L
SONIC START® STREAMLINE™ Cable Ties	5L150A
SONIC START® STREAMLINE™ Brass Bulkhead Adapter	87A384
SONIC START® STREAMLINE™ O-Ring for Bulkhead Adapter	11L4J
SONIC START® STREAMLINE™ Jam Nut	6L222A
SONIC START® STREAMLINE™ Reducer Coupling	1L43B
SONIC START® STREAMLINE™ Male Tubing Connector	1L460E

SONIC START® STREAMLINE™ VACUUM DOME ASSEMBLY

PART DESCRIPTION	PART #
SONIC START® STREAMLINE™ Vacuum Dome Complete Assembly	
Non-Explosion Proof	87B728A
Explosion Proof	87B728B

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Page 26

VACUUM PRIMING SYSTEM (CONTINUED)

VACUUM PUMP - HEAVY DUTY - SINGLE PISTON & SPARE PARTS

PART DESCRIPTION	PART #
Heavy Duty 1/6 HP (For Pumps with 4" Piping) (<i>Complete pump</i>)	8L29
Repair Kit	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 12)	11L156A

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Page 27

VACUUM PRIMING SYSTEM (CONTINUED)

VACUUM PUMP - STANDARD - SINGLE PISTON & SPARE PARTS

PART DESCRIPTION	PART #
Standard 1/8 HP (for pumps with 4" piping) (Complete pump)	8L44
Repair Kit	8L44-48

VACUUM PUMP - HEAVY DUTY - DUAL PISTON & SPARE PARTS

PART DESCRIPTION	PART #
Heavy Duty 1/2 HP (For Pumps with 6" Piping)	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
OBSOLETE: Replaced by 8L32	8L40A
Vibration Isolator (See Section 12)	11L156A
Anchor Coupling (<i>Coupling on Vacuum Priming Panel for Vacuum Pump Tubing to go through panel wall to Vacuum Pump Muffler</i>)	1L287A

*PURCHASE OF NEW 8L32 REQUIRED

** **SEE SECTION 6 FOR COMBINED EXHAUST CONFIGURATION**

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Page 28

VACUUM PRIMING SYSTEM (CONTINUED)

OLD 8L40A VACUUM PUMP DUAL PISTON - SPARE PARTS ONLY*

Diaphragm	OBSOLETE
Head (old P/N 8L40-9 no longer available)	OBSOLETE
Valve Keeper	8L40-14
Diaphragm Hold Down Plate	OBSOLETE
Head Screw	8L40-18
Exhaust Flapper Screw	8L40-19
Intake Flapper Screw	8L40-23
Valve Plate Screw	8L40-24
Filter Assembly	8L40-34

NOTE: If complete pump is needed, replace with 8L32

VACUUM PUMP MUFFLER

PART DESCRIPTION	PART #
Vacuum Pump Muffler	8L44-45
Anchor Coupling (<i>Coupling on Vacuum Priming Panel for Vacuum Pump Tubing to go through panel wall to Vacuum Pump Muffler</i>)	1L287A

VACUUM TUBING

PART DESCRIPTION	PART #
Vacuum Tubing - $\frac{3}{8}$ "	Natural: 1L142BA
* $\frac{1}{4}$ " & $\frac{1}{2}$ " also available	Green: 1L142BB
	Red: 1L142BC

VAPOR FILTER

PART DESCRIPTION	PART #
Vapor Filter 12-Pack Replacement Part Kit	H87A321A

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Maintenance

the secret to longevity

Maintenance of equipment is the secret of longevity. We at Smith & Loveless firmly believe that if you give a WWMP5 6 hours of maintenance a year, you will have very few problems, if any.

So, what is included in this maintenance?

- Clean the solenoid twice a year.
- Verify that all vacuum pumps pull 24 inches of Hg.
- Lubricate the motor annually (remember over greasing can cause severe damage).
- Inspect or replace all vacuum lines.
- Inspect and clean all fittings.
- Verify the wet well is clean.
- Inspect the motor adapter for any sign of mechanical seal leakage, replace if necessary. Also, twice a year, remove the vacuum line from the electrode dome/priming dome.
- Note the length of time it takes each pump to prime. Periodically check this against your recorded numbers.
- Install gauges on all pumps.

Smith & Loveless now offers a complete set of glycerin gauges with an internal diaphragm. These quality compact gauges can be sized by Smith & Loveless for every station.

If you put the annual 6 hours of maintenance in your schedule, these stations require very little and you're sure to have trouble-free station operation. Just last week, we had a customer come in for an electrode housing and he said he had not done a thing to the station since 2001. While we do not recommend this, it just goes to show how durable Smith & Loveless pump stations are.

Smith & Loveless Inc.
After Market Division

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