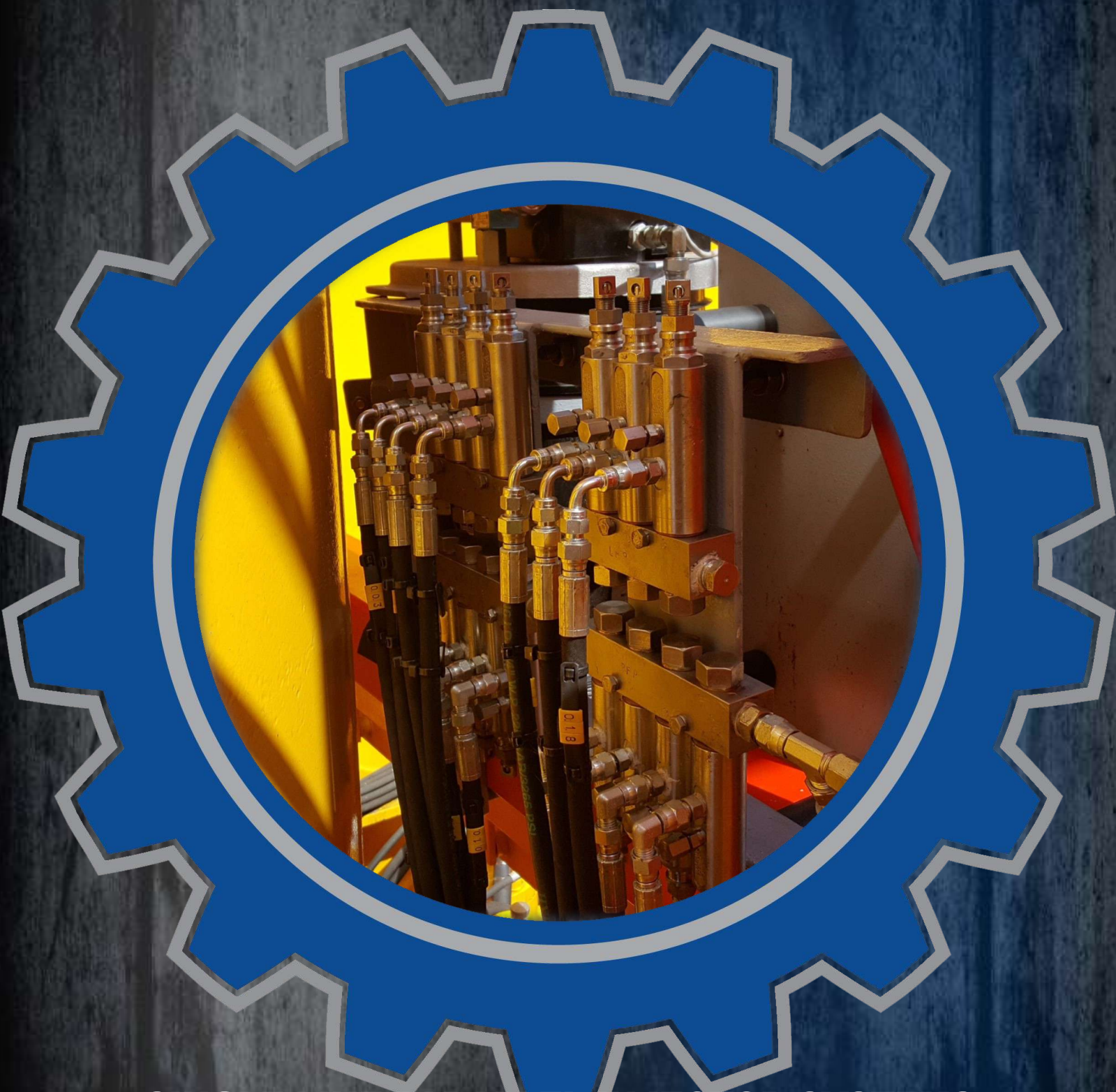




**STATEWIDE
BEARINGS**

SWB *Plus*

Engineering | Training | Site Services



SINGLE LINE PARALLEL INJECTOR SYSTEMS

INJECTORS—PUMPS—ACCESSORIES

SINGLE LINE PARALLEL INJECTORS



PRODUCT DESCRIPTION

CARBON OR STAINLESS STEEL CONSTRUCTION

POSITIVE DISPLACEMENT INJECTORS ARE SINGLE LINE

CAN BE USED AS STAND ALONE OR IN PARALLEL, 100% COMPATIBLE WITH EXISTING MANIFOLDS

FULLY ADJUSTABLE, LOW TO HIGH OUTPUT RANGING FROM .001 CU-IN UP TO .50 CU-IN PER CYCLE

REPAIR KITS AVAILABLE

U.S. & METRIC MODELS AVAILABLE

DESIGNED FOR USE IN FOOD/BEVERAGE PROCESSING, PACKAGING, PULP & PAPER MILLS, MINING, STEEL, POWER GENERATION, AUTOMOTIVE, AND MANY OTHER INDUSTRIES

BENEFITS & FEATURES

INJECTORS CAN BE STAND ALONE OR ASSEMBLED IN MULTIPLE INJECTOR MANIFOLDS

QUICK AND EASY TO REPAIR AND SERVICE WITH LITTLE TO NO DOWNTIME AND LUBRICANT LOSS

LUBRICATION APPLICATIONS FROM OIL TO #2 GREASE

EXTERNAL ADJUSTABLE OUTPUTS FROM .001-.50 CU-IN

PRESSURE RATING UP TO 6000 PSI

VISUAL INDICATOR PIN STANDARD ON ALL INJECTORS

VINYL CAPS STANDARD

SINGLE LUBE LINE, FLEXIBLE, COST EFFECTIVE LUBRICATION SOLUTION

IMPROVED SEAL DESIGN AND INTERNAL FLOW FOR QUICKER RESET

SELF ALIGNING PISTON FOR UNSTABLE ENVIRONMENTS

CARBON STEEL, 303, & 316 STAINLESS STEEL INJECTORS IN STOCK

READY FOR IMMEDIATE SHIPMENT

MADE IN



LSL-32 MAG

STANDARD VENTING PRESSURE—GREASE

100% COMPATIBLE WITH
EXISTING COMPETITORS
MANIFOLDS

OUTPUTS UP TO 50% MORE
LUBRICATION

ADJUSTABLE OUTPUT FROM .001 CU-IN
TO .012 CU-IN | .016cc TO .196cc
AVAILABLE IN 316 STAINLESS STEEL
MANUAL FILL PORT STANDARD, FILL
STUDS AVAILABLE (PAGE 6)



LSL-32 MAG STANDARD VENTING PRESSURE—(US & METRIC CONNECTORS AVAILABLE)						
INJECTORS IN ASSEMBLY	INLET (FEMALE)	OUTLET* (MALE)	OUTPUT RANGE (CU-IN / CC)	PRESSURE (PSI / BAR) MIN/MAX/VENT	303 STAINLESS	316 STAINLESS
1	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-M1-A2-303 LSL-32M-M1-MA6-303	LSL-32M-M1-A2-316 LSL-32M-M1-MA6-316
2	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-M2-A2-303 LSL-32M-M2-MA6-303	LSL-32M-M2-A2-316 LSL-32M-M2-MA6-316
3	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-M3-A2-303 LSL-32M-M3-MA6-303	LSL-32M-M3-A2-316 LSL-32M-M3-MA6-316
4	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-M4-A2-303 LSL-32M-M4-MA6-303	LSL-32M-M4-A2-316 LSL-32M-M4-MA6-316
5	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-M5-A2-303 LSL-32M-M5-MA6-303	LSL-32M-M5-A2-316 LSL-32M-M5-MA6-316
6	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-M6-A2-303 LSL-32M-M6-MA6-303	LSL-32M-M6-A2-316 LSL-32M-M6-MA6-316
7	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-M7-A2-303 LSL-32M-M7-MA6-303	LSL-32M-M7-A2-316 LSL-32M-M7-MA6-316
8	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-M8-A2-303 LSL-32M-M8-MA6-303	LSL-32M-M8-A2-316 LSL-32M-M8-MA6-316
9	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-M9-A2-303 LSL-32M-M9-MA6-303	LSL-32M-M9-A2-316 LSL-32M-M9-MA6-316
10	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-M10-A2-303 LSL-32M-M10-MA6-303	LSL-32M-M10-A2-316 LSL-32M-M10-MA6-316
STAND ALONE INJECTOR	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-SA2-303 LSL-32M-SMA6-303	LSL-32M-SA2-316 LSL-32M-SMA6-316
REPLACEMENT INJECTOR	1/4" NPSF 1/4" -19 BSPP	1/8" TUBE 6MM TUBE	.001-.012 .016-197	1200/3500/200 83/241/14	LSL-32M-A2-303 LSL-32M-MA6-303	LSL-32M-A2-316 LSL-32M-MA6-316

*ALTERNATIVE OUTLET OPTIONS AVAILABLE, SEE PAGE 6

LSL-32 MAG

HIGH VENTING PRESSURE—GREASE

100% COMPATIBLE WITH EXISTING COMPETITORS MANIFOLDS

THE LSL-32 MAGNUM OUTPUTS UP TO 50% MORE LUBRICATION
ADJUSTABLE OUTPUT FROM .001 CU-IN TO .012 CU-IN | .016cc TO .196cc

AVAILABLE IN 316 STAINLESS STEEL

MANUAL FILL PORT STANDARD, FILL STUDS AVAILABLE (PAGE 6)

VINYL PROTECTIVE CAPS INCLUDED

AVAILABLE IN METRIC INLETS & OUTLETS

TEMPERATURE RATED TO 350° STD



LSL-32 MAG HIGH VENTING PRESSURE

INJECTORS IN ASSEMBLY	INLET	OUTLET* (MALE)	OUTPUT RANGE (CU-IN / CC)	PRESSURE (PSI / BAR) MIN/MAX/VENT	303 STAINLESS	316 STAINLESS
1	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-M1-A2-303	LSL-32MH-M1-A2-316
2	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-M2-A2-303	LSL-32MH-M2-A2-316
3	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-M3-A2-303	LSL-32MH-M3-A2-316
4	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-M4-A2-303	LSL-32MH-M4-A2-316
5	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-M5-A2-303	LSL-32MH-M5-A2-316
6	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-M6-A2-303	LSL-32MH-M6-A2-316
7	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-M7-A2-303	LSL-32MH-M7-A2-316
8	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-M8-A2-303	LSL-32MH-M8-A2-316
9	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-M9A2-303	LSL-32MH-M9-A2-316
10	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-M10-A2-303	LSL-32MH-M10-A2-316
STAND ALONE INJECTOR	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-SA2-303	LSL-32MH-SA2-316
REPLACEMENT INJECTOR	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	1200/3500/600 83/241/41	LSL-32MH-A2-303	LSL-32MH-A2-316

*ALTERNATIVE OUTLET OPTIONS AVAILABLE, SEE PAGE 6

LSL-43 MAG

HIGH VENTING PRESSURE—OIL INJECTORS

100% COMPATIBLE WITH EXISTING COMPETITORS MANIFOLDS

THE LSL-43 MAGNUM OUTPUTS UP TO 50% MORE LUBRICATION
ADJUSTABLE OUTPUT FROM .001 CU-IN TO .012 CU-IN | .016cc TO .196cc

AVAILABLE IN 316 STAINLESS STEEL

MANUAL FILL PORT STANDARD, FILL STUDS AVAILABLE (PAGE 6)

VINYL PROTECTIVE CAPS INCLUDED

AVAILABLE IN METRIC INLETS & OUTLETS

TEMPERATURE RATED TO 350° STD



LSL-43 MAG OIL INJECTORS						
INJECTORS IN ASSEMBLY	INLET	OUTLET* (MALE)	OUTPUT RANGE (CU-IN / CC)	PRESSURE (PSI / BAR) MIN/MAX/VENT	303 STAINLESS	316 STAINLESS
1	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-M1-A2-303	LSL-43M-M1-A2-316
2	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-M2-A2-303	LSL-43M-M2-A2-316
3	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-M3-A2-303	LSL-43M-M3-A2-316
4	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-M4-A2-303	LSL-43M-M4-A2-316
5	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-M5-A2-303	LSL-43M-M5-A2-316
6	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-M6-A2-303	LSL-43M-M6-A2-316
7	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-M7-A2-303	LSL-43M-M7-A2-316
8	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-M8-A2-303	LSL-43M-M8-A2-316
9	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-M9-A2-303	LSL-43M-M9-A2-316
10	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-M10-A2-303	LSL-43M-M10-A2-316
STAND ALONE INJECTOR	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-SA2-303	LSL-43M-SA2-316
REPLACEMENT INJECTOR	1/4" NPSF (F)	1/8" TUBE	.001-.012 .016-197	750/1000/300 52/69/21	LSL-43M-A2-303	LSL-43M-A2-316

*ALTERNATIVE OUTLET OPTIONS AVAILABLE, SEE PAGE 6

LSL-32 MAG & LSL-43 MAG ADDITIONAL OUTLET FITTINGS

FOR OTHER OUTLET OPTIONS WHEN ORDERING THE LSL-32 OR LSL-43 INJECTOR SERIES, CHANGE THE A# IN THE PART NUMBER WITH ONE OF THE FOLLOWING OPTIONS BELOW.

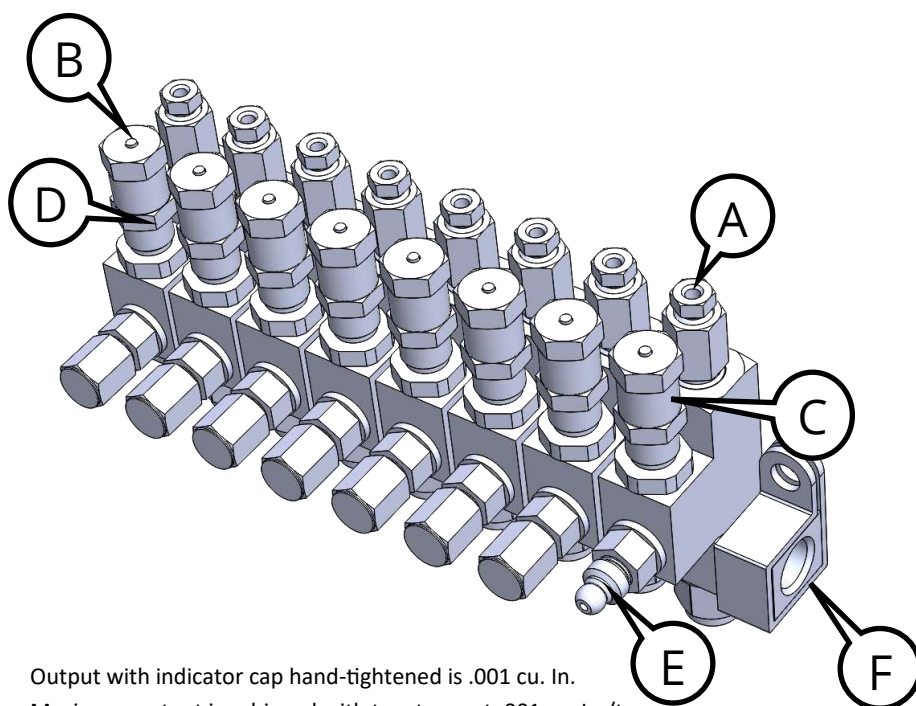
EXAMPLE

LSL-32M-M4-A2-303 (STANDARD)

LSL-32M-M4-MA6-303 (METRIC)

OUTLET TYPE	PART NUMBER
1/8" NPSF (F)	A1
1/8" TUBE (STD)	A2
1/4" TUBE	A3
1/8" NPTF (M)	A4
4MM TUBE	A5
6MM TUBE	A6
#4 JIC	A7

A	LUBRICATION OUTLET
B	CYCLE INDICATOR PIN
C	OUTPUT ADJUSTMENT
D	ADJUSTMENT LOCK NUT
E*	MANUAL FILL STUD (OPTIONAL)
F	LUBRICANT FROM SUPPLY LINE



Output with indicator cap hand-tightened is .001 cu. In.
Maximum output is achieved with two turns at .001 cu. In./turn

*** MANUAL FILL STUD PART NO.**

CHECKLESS:

L90471-ORS-303

L90471-ORS-316

LEAK PROOF/CHECKED:

L90471-ORS-LP-303

L90471-ORS-LP-316

LSL-1 SERIES

ORDERING INFORMATION & PART NUMBERS

STANDARD INJECTOR & MANIFOLD ASSEMBLIES

ADJUSTABLE OUTPUT FROM .008 CU-IN TO .080 CU-IN
 MAXIMUM/MINIMUM OPERATING PRESSURE 5000 PSI/1850 PSI
 COMES STANDARD WITH 1/8 NPTF STAINLESS STEEL FILL FITTING
 VINYL PROTECTIVE CAPS INCLUDED
 VENT PRESSURE = 600 PSI
 TEMPERATURE RATED TO 350° STD



INJECTOR ASSEMBLIES						
INJECTORS IN ASSEMBLY	INLET	OUTLET	OUTPUT RANGE (CU-IN / CC)	CARBON STEEL	303 STAINLESS	316 STAINLESS
1	3/8 NPTF (F)	1/8 NPSF (F)	.008-.080 .13-1.31	LSL-M1A-000	LSL-M1A-303	LSL-M1A-316
2	3/8 NPTF (F)	1/8 NPSF (F)	.008-.080 .13-1.31	LSL-M2A-000	LSL-M2A-303	LSL-M2A-316
3	3/8 NPTF (F)	1/8 NPSF (F)	.008-.080 .13-1.31	LSL-M3A-000	LSL-M3A-303	LSL-M3A-316
4	3/8 NPTF (F)	1/8 NPSF (F)	.008-.080 .13-1.31	LSL-M4A-000	LSL-M4A-303	LSL-M4A-316
5	3/8 NPTF (F)	1/8 NPSF (F)	.008-.080 .13-1.31	LSL-M5A-000	LSL-M5A-303	LSL-M5A-316
6	3/8 NPTF (F)	1/8 NPSF (F)	.008-.080 .13-1.31	LSL-M6A-000	LSL-M6A-303	LSL-M6A-316

LSL-1-R5 SERIES ORDERING INFORMATION & PART NUMBERS

OUTPUT INJECTOR & MANIFOLD ASSEMBLIES



ADJUSTABLE OUTPUT FROM .008 CU-IN TO .080 CU-IN
 MAXIMUM/MINIMUM OPERATING PRESSURE 6000 PSI/1850 PSI
 COMES STANDARD WITH 1/8 NPTF STAINLESS STEEL FILL FITTING
 VINYL PROTECTIVE CAPS INCLUDED
 VENT PRESSURE = 600 PSI
 TEMPERATURE RATED TO 350° STD



MID-RANGE OUTPUT INJECTOR ASSEMBLIES						
INJECTORS IN ASSEMBLY	INLET	OUTLET	OUTPUT RANGE (CU-IN / CC)	CARBON STEEL	303 STAINLESS	316 STAINLESS
1	3/8 NPTF (F)	1/8 NPSF (F)	.008—.080 .13-1.31	LSL-M1A-000-R5	LSL-M1A-303-R5	LSL-M1A-316-R5
2	3/8 NPTF (F)	1/8 NPSF (F)	.008—.080 .13-1.31	LSL-M2A-000-R5	LSL-M2A-303-R5	LSL-M2A-316-R5
3	3/8 NPTF (F)	1/8 NPSF (F)	.008—.080 .13-1.31	LSL-M3A-000-R5	LSL-M3A-303-R5	LSL-M3A-316-R5
4	3/8 NPTF (F)	1/8 NPSF (F)	.008—.080 .13-1.31	LSL-M4A-000-R5	LSL-M4A-303-R5	LSL-M4A-316-R5
5	3/8 NPTF (F)	1/8 NPSF (F)	.008—.080 .13-1.31	LSL-M5A-000-R5	LSL-M5A-303-R5	LSL-M5A-316-R5
6	3/8 NPTF (F)	1/8 NPSF (F)	.008—.080 .13-1.31	LSL-M6A-000-R5	LSL-M6A-303-R5	LSL-M6A-316-R5
REPLACEMENT INJECTOR	3/8 NPTF (F)	1/8 NPSF (F)	.008—.080 .13-1.31	LSL-1A-000-R5	LSL-1A-303-R5	LSL-1A-316-R5
STANDALONE INJECTOR	3/8 NPTF (F)	1/8 NPSF (F)	.008—.080 .13-1.31	LSL-1-000-R5	LSL-1-303-R5	LSL-1-316-R5

LSL-1 HIGH OUTPUT SERIES

ORDERING INFORMATION & PART NUMBERS

INJECTOR & MANIFOLD ASSEMBLIES

ADJUSTABLE OUTPUT FROM .035 CU-IN TO .305 CU-IN
 MAXIMUM/MINIMUM OPERATING PRESSURE 6000 PSI/1850 PSI
 COMES STANDARD WITH 1/8 NPTF STAINLESS STEEL FILL FITTING
 4—6 TIMES GREATER FLOW PATH ALLOWS FOR FASTER VENTING
 ENHANCED ENGINEERING TO OUTPERFORM CURRENT INJECTOR TECHNOLOGY
 HEAVY DUTY SPRINGS FOR IMPROVED LIFE CYCLE
 VINYL PROTECTIVE CAPS INCLUDED
 VENT PRESSURE = 1000 PSI
 TEMPERATURE RATED TO 350° STD



HIGH OUTPUT INJECTOR ASSEMBLIES

INJECTORS IN ASSEMBLY	INLET	OUTLET	OUTPUT RANGE (CU-IN / CC)	CARBON STEEL	303 STAINLESS	316 STAINLESS
1	3/8 NPTF (F)	1/8 NPSF (F)	.015-.31 .24-5.07	LSL-M1A-000-HO	LSL-M1A-303-HO	LSL-M1A-316-HO
2	3/8 NPTF (F)	1/8 NPSF (F)	.015-.31 .24-5.07	LSL-M2A-000-HO	LSL-M2A-303-HO	LSL-M2A-316-HO
3	3/8 NPTF (F)	1/8 NPSF (F)	.015-.31 .24-5.07	LSL-M3A-000-HO	LSL-M3A-303-HO	LSL-M3A-316-HO
4	3/8 NPTF (F)	1/8 NPSF (F)	.015-.31 .24-5.07	LSL-M4A-000-HO	LSL-M4A-303-HO	LSL-M4A-316-HO
5	3/8 NPTF (F)	1/8 NPSF (F)	.015-.31 .24-5.07	LSL-M5A-000-HO	LSL-M5A-303-HO	LSL-M5A-316-HO
6	3/8 NPTF (F)	1/8 NPSF (F)	.015-.31 .24-5.07	LSL-M6A-000-HO	LSL-M6A-303-HO	LSL-M6A-316-HO

LSL-1 / R5 / HIGH OUTPUT SERIES OVERVIEW ORDERING INFORMATION & PART NUMBERS

LSL-1 INJECTORS: STANDALONE & MANIFOLD REPLACEMENT TYPES

ADJUSTABLE OUTPUT FROM .008 CU-IN-IN TO .080 CU-IN-IN STD & R5 OUTPUT
ADJUSTABLE OUTPUT FROM .035 CU-IN-IN TO .305 CU-IN-IN HIGH OUTPUT
MAXIMUM/MINIMUM OPERATING PRESSURE 5000 PSI/1850 PSI
COMES STANDARD WITH 1/8 NPTF STAINLESS STEEL FILL FITTING
VINYL PROTECTIVE CAPS INCLUDED
VENT PRESSURE = 600 PSI - TO 1000 PSI



STANDARD PACK: 1 EACH						
PRODUCT DESCRIPTION	SUPPLY	OUTLET	OUTPUT (CU-IN)	CARBON STEEL	303 STAINLESS	316 STAINLESS
SINGLE STANDALONE INJECTOR (STD)	3/8 NPTF (M)	1/8 NPSF (F)	.008-.080 .13-1.31	LSL-1-000	LSL-1-303	LSL-1-316
SINGLE STANDALONE INJECTOR (HIGH OUTPUT)	3/8 NPTF (M)	1/8 NPSF (F)	.035 - .305 .57-4.99	LSL-1-000-HO	LSL-1-303-HO	LSL-1-316-HO
SINGLE STANDALONE INJECTOR (R5 MODEL)	3/8 NPTF (M)	1/8 NPSF (F)	.008-.080 .13-1.31	LSL-1-000-R5	LSL-1-303-R5	LSL-1-316-R5
MANIFOLD REPLACEMENT INJECTOR (STD & R5)	MANIFOLD	1/8 NPSF (F)	.008-.080 .13-1.31	LSL-1A-000	LSL-1A-303	LSL-1A-316
MANIFOLD REPLACEMENT INJECTOR (HIGH OUTPUT)	MANIFOLD	1/8 NPSF (F)	.035 - .305 .57-4.99	LSL-1A-000-HO	LSL-1A-303-HO	LSL-1A-316-HO
INJECTOR SEAL REBUILD KIT (STD)	N/A	N/A	N/A	LSL-1RK		
INJECTOR MAJOR REBUILD KIT (STD & R5)	N/A	N/A	N/A	LSL-1MRK		
INJECTOR SEAL REBUILD KIT (HIGH OUTPUT)	N/A	N/A	N/A	LSL-1RK-HO		
INJECTOR MAJOR REBUILD KIT (HIGH OUTPUT)	N/A	N/A	N/A	LSL-1MRK-HO		

REBUILD KIT NOTES:

MAJOR REBUILD KIT INCLUDES ALL NECESSARY PARTS TO DO A COMPLETE REBUILD OF THE INJECTOR'S INTERNALS.

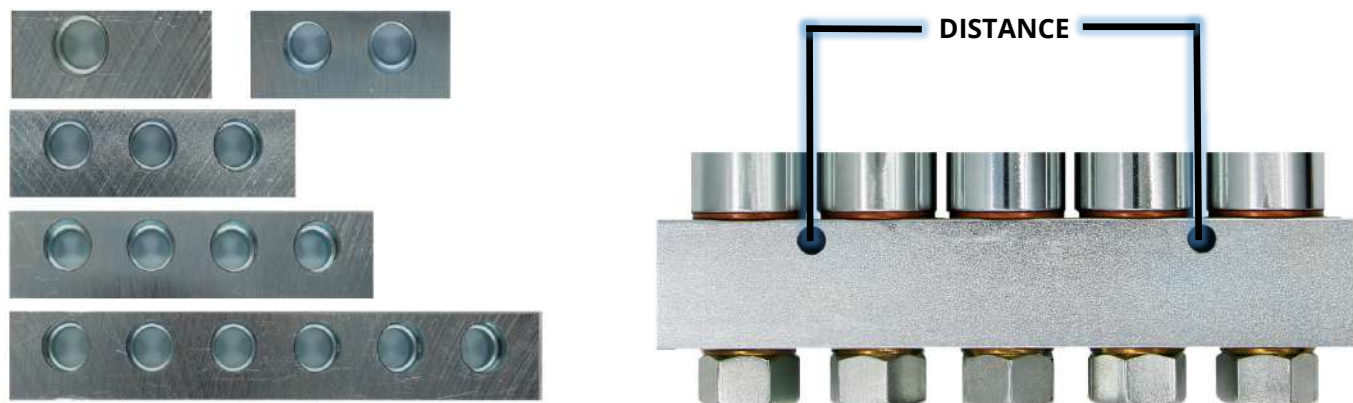
SEAL REBUILD KIT INCLUDES THE NECESSARY O-RINGS & PACKING TO REBUILD THE INJECTOR USING EXISTING INTERNAL HARDWARE

SINGLE LINE INJECTOR SYSTEM ACCESSORIES**LSL-1 INJECTOR BARE MANIFOLDS**

FOR USE WITH LSL-1A, LSL-1A-R5, & LSL-1A-HO INJECTORS

STANDARD PACK: 1 EACH

INJECTORS IN ASSEMBLY	OUTPUT	CARBON STEEL	303 STAINLESS	316 STAINLESS	MOUNTING HOLE DISTANCE
1	3/8 NPSF (F)	LSL-M1-000	LSL-M1-303	LSL-M1-316	2"/2.54cm
2	3/8 NPSF (F)	LSL-M2-000	LSL-M2-303	LSL-M2-316	2.5"/6.35cm
3	3/8 NPSF (F)	LSL-M3-000	LSL-M3-303	LSL-M3-316	1.25"/3.175cm
4	3/8 NPSF (F)	LSL-M4-000	LSL-M4-303	LSL-M4-316	2.5"/6.35cm
5	3/8 NPSF (F)	LSL-M5-000	LSL-M5-303	LSL-M5-316	3.75"/9.525cm
6	3/8 NPSF (F)	LSL-M6-000	LSL-M6-303	LSL-M6-316	5"/12.7cm

**LS MANIFOLD THREADED INSERTS**

CONVERTS LINCOLN® 3/8-16" MANIFOLD MOUNTS TO 1/4-28" LS MOUNTS

**LINCOLN® OUTER THREAD (MALE): 3/8"-16****LS INNER THREAD (FEMALE): 1/4"-28****MANIFOLD THREADED INSERTS**

DESCRIPTION	PART NUMBER
3/8-16" TO 1/4-28" THREADED INSERTS, 303 STAINLESS STEEL	LSL-MADP-303

* LINCOLN® IS A REGISTERED TRADEMARK OF LINCOLN® INDUSTRIAL

LUBRICATION SCIENTIFICS, LLC - CENTRALIZED LUBRICATION SYSTEMS

SINGLE LINE INJECTOR SYSTEM ACCESSORIES

STANDARD PACK: 1 EACH

PRODUCT DESCRIPTION	NOTES	CARBON STEEL	303 STAINLESS	316 STAINLESS
MANIFOLD PLUG KIT	PLUGS LSL-1A MANIFOLD INJECTOR PORT	LSL-1A-PLUG	LSL-1A-PLUGSS3	LSL-1A-PLUGSS6
INJECTOR CROSS PORTING KIT	PRE-BENT TUBE W/ CONNECTION FITTING STAINLESS STEEL CONSTRUCTION ONLY	N/A	LSL-1A-CPK	N/A
INJECTOR COVER (VINYL ONLY)	COVERS INDICATOR STEM ASSEMBLY	LSL-1A-CAPV		
INJECTOR COVER (STEEL)	COVERS INDICATOR STEM ASSEMBLY	LSL-1A-CAPSS		
THREAD INSERT ADAPTERS	10EA. ADAPTS TO AN EXISTING LINCOLN® MOUNTING HOLE	N/A	LSL-MADP-303	LSL-MADP-316
THREADED GREASE FILL FITTINGS	GREASE FILL FITTINGS W/ CAPS: USE WITH: LSL-11, LSL-1A, LSL-1A-HO, & LSL-1A-M5 INJECTORS 1/8 NPTF MALE	N/A	L90471-NPTF-303	L90471-NPTF-316
O-RING SEAL GREASE FILL FITTINGS	GREASE FILL FITTINGS W/ CAPS: USE WITH: LSL-32 & LSL-43 INJECTORS 1/8 NPS O-RING SEALED	N/A	L90471-ORS-303	L90471-ORS-316
LEAK PROOF SEAL CHECKED GREASE FILL FITTING	GREASE FILL FITTINGS CHECK VALVE W/ CAPS: USE WITH: LSL-11, LSL-1A, LSL-1A-HO, & LSL-1A-M5 INJECTORS 1/8 NPTF MALE	N/A	L90471-NPTF-LP-303	L90471-NPTF-LP-316
LEAK PROOF O-RING SEAL CHECKED GREASE FILL FITTING	GREASE FILL FITTINGS CHECK VALVE W/ CAPS: USE WITH: LSL-11, LSL-1A, LSL-1A-HO, & LSL-1A-M5 INJECTORS 1/8 NPS O-RING SEALED	N/A	L90471-ORS-LP-303	L90471-ORS-LP-316
INJECTOR CONNECTOR TUBE 1/8" NPTF MALE, LSL-1A & UP	USE WITH: LSL1A, LSL-1A-M5, LSL-1A-HO, LSL-11	N/A	LSL-1A-CPK-303	LSL-1A-CPK-316
LSL 32M STYLE OUTLET CONNECTOR 1/8" NPSF FEMALE	USE WITH: LSL-32 & LSL-43	N/A	AC32M-A1-303	AC32M-A1-316
LSL 32M STYLE OUTLET CONNECTOR 1/4" O.D. TUBE	USE WITH: LSL-32 & LSL-43	N/A	AC32M-A3-303	AC32M-A3-316
LSL 32M STYLE OUTLET CONNECTOR 1/8" NPTF MALE	USE WITH: LSL-32 & LSL-43	N/A	AC32M-A4-303	AC32M-A4-316
LSL 32M STYLE OUTLET CONNECTOR 4MM TUBE	USE WITH: LSL-32 & LSL-43	N/A	AC32M-A5-303	AC32M-A5-316
LSL 32M STYLE OUTLET CONNECTOR 6MM TUBE	USE WITH: LSL-32 & LSL-43	N/A	AC32M-A6-303	AC32M-A6-316
COMPRESSION NUT, 5/16-24, ONE PIECE, BRASS		N/A	AC32M-CN1-313-BR	N/A
COMPRESSION NUT, 5/16-24, ONE PIECE, 316 SS		N/A	AC32M-CN1-313-303	AC32M-CN1-313-316
COMPRESSION NUT, 5/16-24, TWO PIECE, BRASS		N/A	AC32M-CN2-313-BR	N/A
COMPRESSION NUT, 5/16-24, TWO PIECE, 316 SS		N/A	AC32M-CN2-313-303	AC32M-CN2-313-316
COMPRESSION NUT, 7/16-24, ONE PIECE, BRASS		N/A	AC32M-CN1-437-BR	N/A
INJECTOR OPERATED AIR VALVE, LSL-1A HO SERIES	USE WITH: LSL-1A HO	N/A	AC1AHO-AV-125-303	AC1AHO-AV-125-316
INJECTOR OPERATED AIR VALVE, LINCOLN® INJECTORS	FOR USE ONLY WITH LINCOLN® INJECTORS	N/A	AC1AHO-AV-125-303-L	AC1AHO-AV-125-316-L
FEEDLINE BRUSH, 1/8-27 INLET	BRUSH APPLICATOR	N/A	ACLSSL-BR-125I	ACLSSL-BR-125I
LSL-32M STYLE CLOSURE PLUG, 5/16"-24, 303 SS	USE WITH: LSL-32 & LSL-43	N/A	AC32M-CP-303	AC32M-CP-316
CLOSURE PLUG, 1/8" NPTF, 303 SS	PLUG	N/A	AC32M-CP-125-303	AC32M-CP-125-316
CLOSURE PLUG, 3/8" NPTF, 303 SS	PLUG	N/A	AC1AHO-CP-375-303	AC1AHO-CP-375-316
CLOSURE PLUG 1/4", 303 SS	PLUG	N/A	AC32M-CP-250-303 SS	AC32M-CP-125-316 SS

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SINGLE LINE INJECTOR SYSTEM ACCESSORIES (CONTINUED)

SPECTRUM ADJUSTMENT SLEEVES

STANDARD PACK: 5 EACH			
MODEL NUMBER (5 PACK)	OUTPUT in3 (cc)	RATIO FROM MAXIMUM OUTPUT	SLEEVE COLOR
N/A	0.015 (0.25)	10%	N/A
LSL-1A-ADJ1	0.030 (0.50)	25%	
LSL-1A-ADJ2	0.045 (0.75)	50%	
LSL-1A-ADJ3	0.060 (1.00)	75%	
LSL-1A-ADJ4	0.075 (1.25)	100%	

STANDARD PACK: 5 EACH			
MODEL NUMBER (5 PACK)	OUTPUT in3 (cc)	RATIO FROM MAXIMUM OUTPUT	SLEEVE COLOR
N/A	0.001 (.016)	10%	N/A
LSL-32-ADJ1	0.003 (.049)	25%	
LSL-32-ADJ2	0.006 (.098)	50%	
LSL-32-ADJ3	0.009 (.14)	75%	
LSL-32-ADJ4	0.012 (.19)	100%	

SINGLE LINE INJECTOR SYSTEM ACCESSORIES (CONTINUED)

HIGH OUTPUT SPECTRUM ADJUSTMENT SLEEVES

STANDARD PACK: 5 EACH			
MODEL NUMBER (5 PACK)	OUTPUT in3 (cc)	RATIO FROM MAXIMUM OUTPUT	SLEEVE COLOR
N/A	0.040 (.655)	10%	N/A
LSL-HO-ADJ1	0.075 (1.22)	25%	
LSL-HO-ADJ2	0.150 (2.45)	50%	
LSL-HO-ADJ3	0.225 (3.68)	75%	
LSL-HO-ADJ4	0.300 (4.91)	100%	

LSL-11 SERIES INJECTORS (HIGH OUTPUT) ORDERING INFORMATION & PART NUMBERS

ADJUSTABLE OUTPUT FROM .05 CU-IN TO .50 CU-IN
 MAXIMUM/MINIMUM OPERATING PRESSURE 5000 PSI/1000 PSI
 COMES STANDARD WITH 1/8 NPTF STAINLESS STEEL FILL FITTING
 VINYL PROTECTIVE CAPS INCLUDED
 RECHARGE PRESSURE = 800 PSI
 TEMPERATURE RATED TO 350° STD

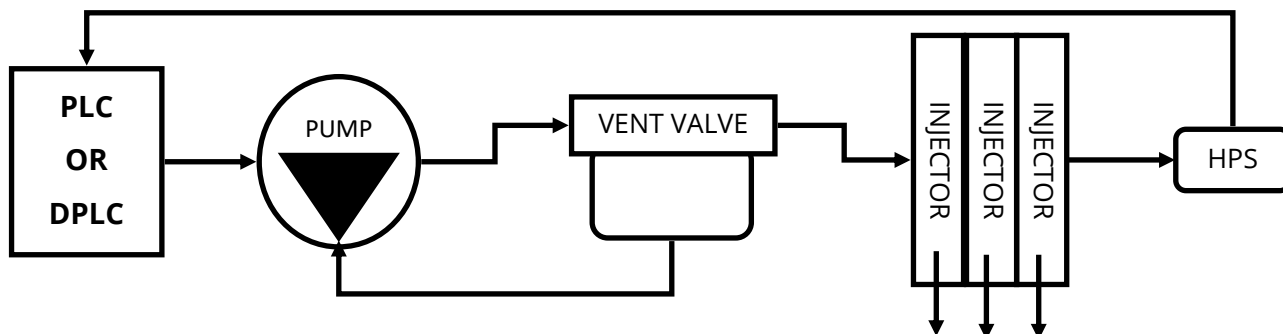
STANDARD PACK: 1 EACH					
PART DESCRIPTION	INLET	OUTLET	CARBON STEEL	303 STAINLESS	316 STAINLESS
SINGLE STANDALONE INJECTOR	1/2 NPTF (F)	1/4 NPSF (F)	LSL-11-000	LSL-11-303	LSL-11-316
LSL-11 SEAL KIT	N/A	N/A	LSL-11RK		
LSL-11 REBUILD KIT	N/A	N/A	LSL-11MRK		



PUMP PACKAGE OPTIONS

DESIGNED TO SUPPORT INJECTOR APPLICATIONS

PUMPING UNIT—VENT VALVE—SOLENOID



PNEUMATIC PUMPING PACKAGES

OPTION 1: PNEUMATIC PUMP + PNEUMATIC VENT VALVE

OPTION 2: PNEUMATIC PUMP + ELECTRIC VENT VALVE

OPTION 1



OPTION 2



HYDRAULIC PUMPING PACKAGES

OPTION 1: HYDRAULIC PUMP + HYDRAULIC VENT VALVE

OPTION 2: HYDRAULIC PUMP + ELECTRIC VENT VALVE



BARREL PUMP PACKAGES (AVAILABLE IN 35LB PAIL, 120LB (PICTURED), & 400LB DRUM)

OPTION 1: BARREL PUMP W/ BUILT-IN VENT VALVE

OPTION 2: BARREL PUMP W/O INTERNAL VENT VALVE + ELECTRIC VENT VALVE (USE FOR PANEL MOUNT)

OPTION 3: BARREL PUMP W/O INTERNAL VENT VALVE + SOLENOID + PNEUMATIC VENT VALVE (USE FOR PANEL MOUNT)



FILTERS & REPLACEMENT ELEMENTS



STANDARD PACK: 1 EACH			
FILTER RATING	PLATED CARBON STEEL 7,500 PSI	AL2024 BLUE ANODIZED ALUMINUM 6,000 PSI	316 STAINLESS STEEL 7,500 PSI
5 MICRON	DTFA-005-O	MDFA-005-O	DTFA-005-O-316
10 MICRON	DTFA-010-O	MDFA-010-O	DTFA-010-O-316
25 MICRON	DTFA-025-O	MDFA-025-O	DTFA-025-O-316
150 MICRON 100 MESH	DTFA-100-G	MDFA-100-G	DTFA-100-G-316
420 MICRON 40 MESH	DTFA-040-G	MDFA-040-G	DTFA-040-G-316

STANDARD PACK: 1 EACH		
FILTER RATING	PART NUMBER ALUMINUM ELEMENT BACK	PART NUMBER 316 SS ELEMENT BACK
5 MICRON	DT-EL-002-005MIC	DT-EL-002-005MIC-SS
10 MICRON	DT-EL-002-010MIC	DT-EL-002-010MIC-SS
25 MICRON	DT-EL-002-025MIC	DT-EL-002-025MIC-SS
150 MICRON 100 MESH	DT-EL-002-100M	DT-EL-002-100M-SS
420 MICRON 40 MESH	DT-EL-002-40M	DT-EL-002-40M-SS



VENT VALVES & ACCESSORIES

STANDARD PACK: 1 EACH

PRODUCT DESCRIPTION	NOTES	CARBON STEEL	303 STAINLESS	316 STAINLESS
PNEUMATIC VENT VALVE MIN AIR/MAX AIR PSI: 40/120PSI (NO SAFETY RELIEF VALVE INCLUDED)	INLET 3/4" NPSF (F) OUTLET 3/4" NPSF (F) VENT PORT 1/4-18" NPSF (F) MAX LUBE PRESSURE 4000 PSI INCLUDES MOUNTING BRACKET	LSL-VV-000P	LSL-VV-303P	LSL-VV-316P
PNEUMATIC VENT VALVE KIT MIN AIR/MAX AIR PSI: 40/120PSI (WITH 4000 PSI PRESSURE RELIEF VALVE INCLUDED IN KIT)		LSL-VV-000P-SRV	LSL-VV-303P-SRV	LSL-VV-316P-SRV
HYDRAULIC VENT VALVE HYDRAULIC MIN/MAX PSI: 300/450PSI (NO SAFETY RELIEF VALVE INCLUDED)		LSL-VV000H	LSL-VV303H	LSL-VV316H
HYDRAULIC VENT VALVE KIT HYDRAULIC MIN/MAX PSI: 300/450PSI (WITH 4000 PSI PRESSURE RELIEF VALVE INCLUDED IN KIT)		LSL-VV-000H-SRV	LSL-VV-303H-SRV	LSL-VV-316H-SRV
SAFETY RELIEF VALVE	4000 PSI, 1/8 NPTF INLET	N/A	SRV-303-125-4000	SRV-316-125-4000
SAFETY RELIEF VALVE	4000 PSI, 1/4 NPTF INLET	N/A	SRV-303-250-4000	SRV-316-250-4000
VENT VALVE SEAL KIT—PNEUMATIC	REBUILD KIT	LSL-VVRK-P		
VENT VALVE SEAL KIT—HYDRAULIC	REBUILD KIT	LSL-VVRK-H		
VENT VALVE MOUNTING BRACKET	REPLACEMENT BRACKET	LSL-BRKT-KIT		
ELECTRIC VENT VALVE (ZONE VALVE)	24 VDC NORMALLY OPEN	LZV527680-NO-000	LZV527680-NO-303	LZV527680-NO-316
ELECTRIC VENT VALVE (ZONE VALVE)	24 VDC NORMALLY CLOSED	LZV527680-NC-000	LZV527680-NC-303	LZV527680-NC-316
ELECTRIC VENT VALVE (ZONE VALVE)	115 VAC NORMALLY OPEN	LZV527660-NO-000	LZV527660-NO-303	LZV527660-NO-316
ELECTRIC VENT VALVE (ZONE VALVE)	115 VAC NORMALLY CLOSED	LZV527660-NC-000	LZV527660-NC-303	LZV527660-NC-316
PRESSURE SENSOR, DC, 2, PNP	N/A	N/A	N/A	LP-HPS

PNEUMATIC/HYDRAULIC VENT VALVE
MAX SYSTEM PRESSURE: 4000 PSI



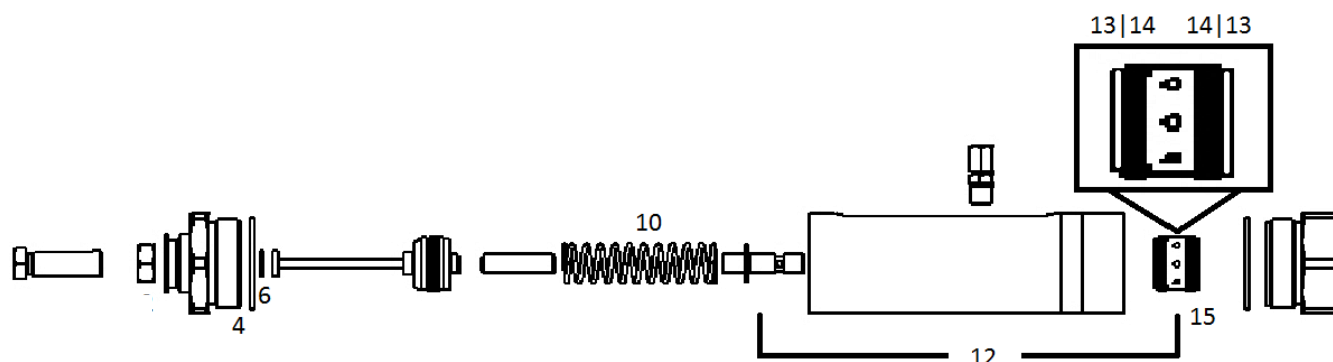
PRESSURE SENSOR

ELECTRIC VENT VALVE
(24 VDC OR 115 VAC)
MAX SYSTEM PRESSURE 3000 PSI



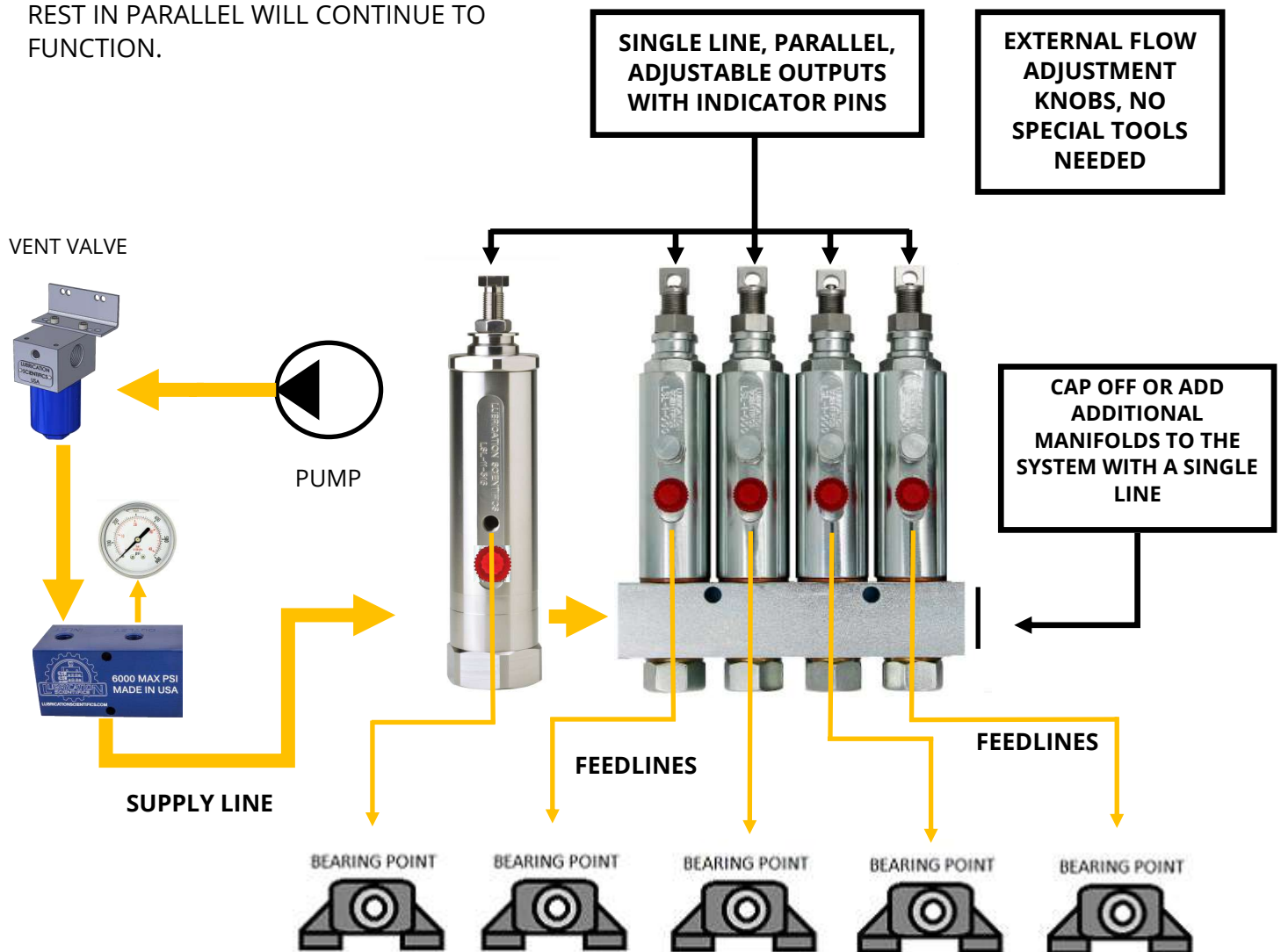
GENERAL INJECTOR TROUBLESHOOTING INSTRUCTIONS

TROUBLESHOOTING GUIDE		
PROBLEM	AREA AFFECTED	REMEDY
INSUFFICIENT LUBRICANT FLOW TO BEARING	OUTPUT SET LOW	ADJUST TO PROPER SETTING AND LOCK WITH NUT
	WORN OR DAMAGED SLIDE VALVE BODY O-RINGS	REPLACE O-RING AND BACKUP RINGS (14, 15)
	PLUNGER SPRING BROKEN OR WORN	REPLACE SPRING (10)
TOO MUCH LUBRICANT FLOW TO BEARING	OUTPUT SET HIGH	ADJUST TO PROPER SETTING AND LOCK WITH NUT
	WORN OR DAMAGED UPPER SLIDE VALVE BODY O-RING	REPLACE O-RINGS AND BACKUP RINGS (14,15)
	PLUNGER SPRING BROKEN	REPLACE SPRING (10)
	WORN OR DAMAGED SLIDE VALVE ASSEMBLY	REPLACE SLIDE VALVE ASSEMBLY
EXTERNAL LEAKAGE INJECTOR BODY	DAMAGED O-RINGS	REPLACE O-RINGS (4)
LEAKAGE AT FITTING ASSEMBLY	LOOSE CAP	TIGHTEN CAP
EXTERNAL LEAKAGE AT INDICATOR ROD	WORN OR DAMAGED INDICATOR PACKING	REPLACE PACKING (6)



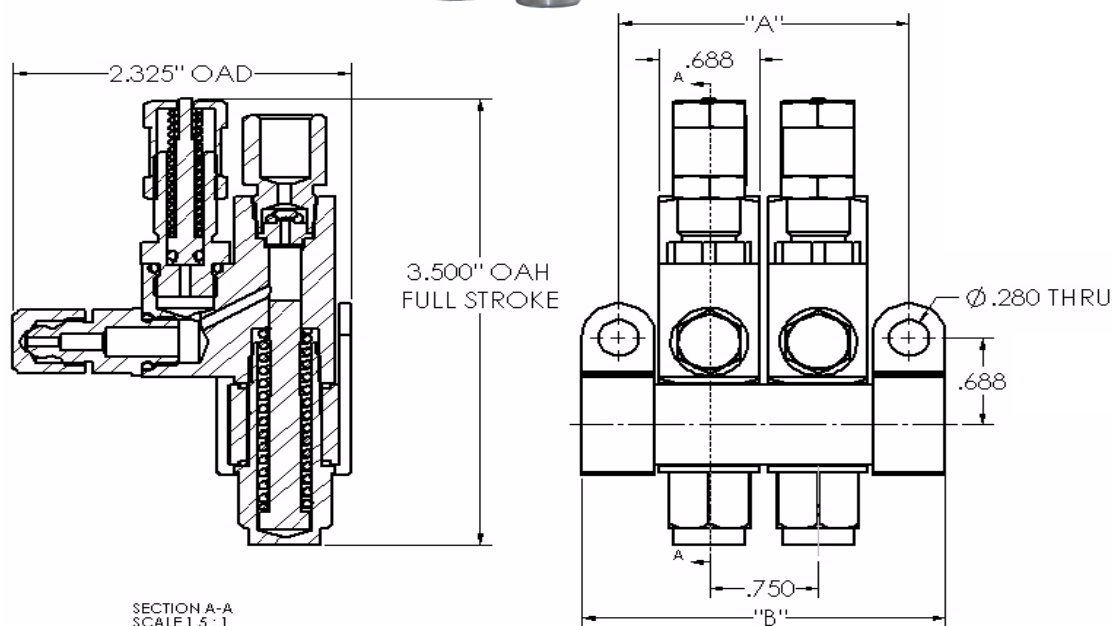
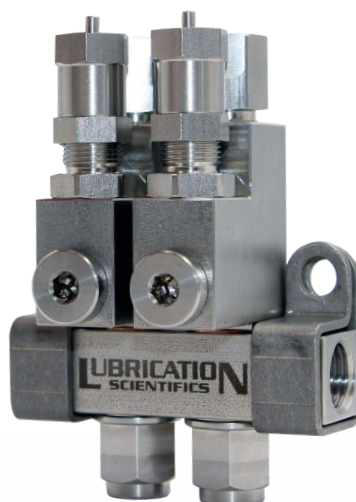
FUNCTION ILLUSTRATION & SPECIFICATIONS

INJECTORS OFFER A FLEXIBLE, COST EFFECTIVE SOLUTION FOR DELIVERING MODERATE TO HIGH FLOWS OF LUBRICATION TO A LUBE POINT. EASY TO MAINTAIN, REPAIR, AND INSTALL AS WELL AS ADDING EXISTING SYSTEMS. INJECTORS ARE EXTERNALLY ADJUSTABLE AND WORK INDEPENDENTLY. CAN BE USED IN PARALLEL; IF ONE FAILS, THE REST IN PARALLEL WILL CONTINUE TO FUNCTION.



DIMENSIONS & MOUNTING INFORMATION

LSL-32 MAG STANDARD VENTING PRESSURE

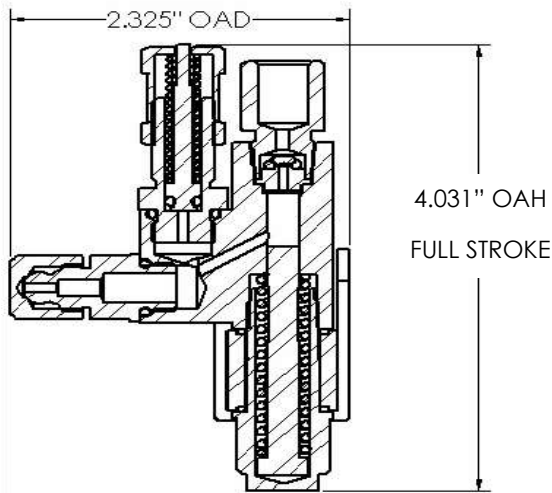


MANIFOLD CHART		
DESCRIPTION	DIMENSIONS	
	A	B
1 BANK	1.250"	1.750"
2 BANK	2.000"	2.500"
3 BANK	2.750"	3.250"
4 BANK	3.500"	4.000"
5 BANK	4.250"	4.750"
6 BANK	5.000"	5.500"
7 BANK	5.750"	6.250"
8 BANK	6.500"	7.000"
9 BANK	7.250"	7.750"
10 BANK	8.000"	8.500"

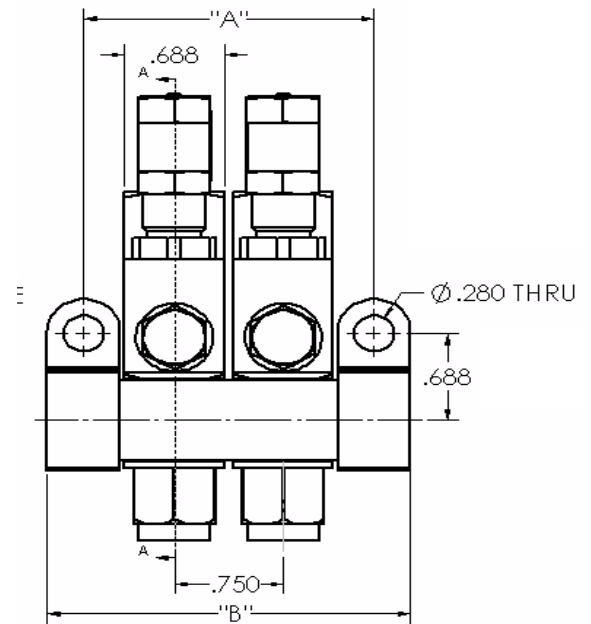
MIN. OUTPUT	MAX. OUTPUT
0.001 CI / 0.016 CC	0.012 CI / 0.196 CC

DIMENSIONS & MOUNTING INFORMATION

LSL-32 MAG HIGH VENTING PRESSURE



SECTION A-A
SCALE 1.5 : 1

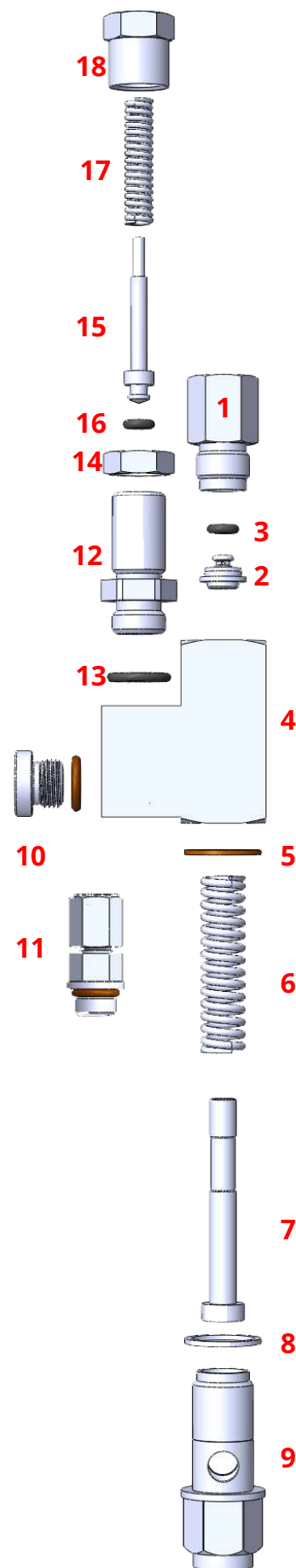


MANIFOLD CHART		
DESCRIPTION	DIMENSIONS	
	A	B
1 BANK	1.250"	1.750"
2 BANK	2.000"	2.500"
3 BANK	2.750"	3.250"
4 BANK	3.500"	4.000"
5 BANK	4.250"	4.750"
6 BANK	5.000"	5.500"
7 BANK	5.750"	6.250"
8 BANK	6.500"	7.000"
9 BANK	7.250"	7.750"
10 BANK	8.000"	8.500"

MIN. OUTPUT	MAX. OUTPUT
0.001CI/0.016CC	0.012CI/0.196CC

LSL-32 MAG PARTS BREAKDOWN

#	DESCRIPTION	PART NUMBER
1	OUTLET BODY (OPTIONS AVAILABLE) 1/8" NPSF (F) CRS 1/8" NPSF (F) SS 1/8" TUBE (STD) CRS 1/8" TUBE (STD) SS 1/8" NPTF (M) CRS 1/8" NPTF (M) SS 4MM TUBE CRS 4MM TUBE SS 6MM TUBE CRS 6MM TUBE SS #4 JIC CRS #4JIC SS	LSL32-010-1-303 LSL32-010-1-316 LSL32-010-2-303 LSL32-010-2-316 LSL32-010-4-303 LSL32-010-4-316 LSL32-010-6-303 LSL32-010-6-316 LSL32-010-6-303 LSL32-010-6-316 LSL32-010-7-303 LSL32-010-7-316
2	OUTLET CHECK	LSL32-007
3	O-RING FOR OUTLET CHECK	12261-0007
4	INJECTOR BODY	LSL32-001-303 (CRS) LSL32-001-316 (SS)
5	COPPER WASHER	LSL32-009-CPR
6	PRESSURE SPRING	LSL32-004
7	INJECTION PISTON	LSL32-002
8	CRS WASHER	LSL32-009-000
9	INLET BOLT	LSL32-008
10	A/O PLUG (STANDARD)	A-002-S
11	FILL FITTING (OPTIONAL)	L90471-ORS-XXX
12	ADJUSTMENT BODY	LSL32-013
13	ADJUSTMENT BODY O-RING	12661-0008
14	ADJUSTMENT LOCK NUT	LSL32-012
15	MEASURE CHAMBER PISTON	LSL32-006
16	MEASURE CHAMBER PISTON O-RING	12661-0007
17	MEASURE CHAMBER SPRING	LSL32-005
18	ADJUSTMENT CAP	LSL32-011



LSL-1 SERVICE INSTRUCTIONS

PRODUCT DESCRIPTION

THE LSL-1A INJECTOR IS DESIGNED FOR STANDARD OR HIGH OUTPUT APPLICATIONS UTILIZING OIL OR GREASE LUBRICANT. THIS INJECTOR CAN BE STANDALONE OR IN A MANIFOLD CONFIGURATION WITH AN 3/8 NPTF INLET CONNECTION AND A 1/8 NPSF OUTLET. THE LSL-1A IS AVAILABLE IN ZINC PLATED CARBON STEEL, 303 STAINLESS STEEL, AND 316 STAINLESS STEEL.

SPECIFICATIONS

FOR: OIL AND GREASE

OUTPUT: STANDARD ADJUSTABLE OUTPUT FROM .008 CU-IN TO .080 CU-IN / .13 CC TO 1.31 CC | HIGH OUTPUT FROM .035 CU-IN TO .305 CU-IN / .57 CC TO 5 CC

PRESSURE: MAXIMUM/MINIMUM OPERATING PRESSURE 5000 PSI/1850 PSI - 344 BAR/128 BAR

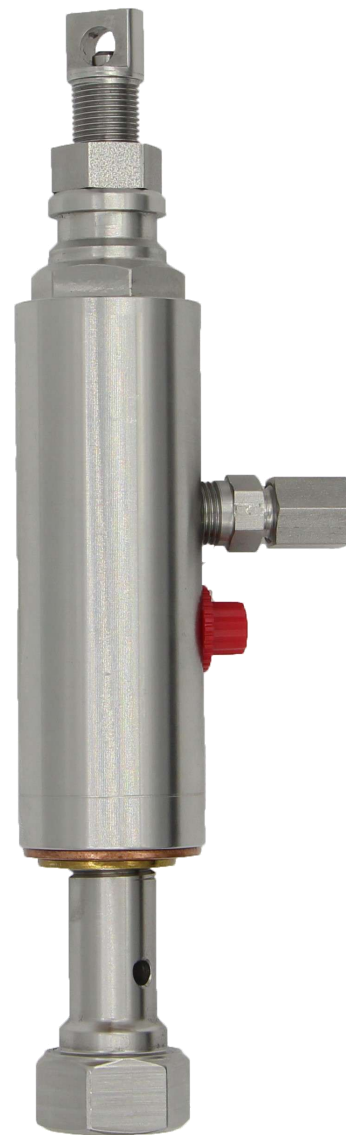
OUTPUT ADJUSTMENT

FACTORY OUTPUT IS SET AT, MAX OUTPUT. FOR MINIMUM OUTPUT, TURN THE HEX NUT CLOCKWISE INTO THE INJECTOR UNTIL IT BOTTOMS OUT (HAND TIGHT ONLY). FOR ACCURATE OUTPUT ADJUSTMENT, ROTATE THE HEX SCREW CLOCKWISE UNTIL IT BOTTOMS OUT, THEN ROTATE UNTIL THE DESIRED OUTPUT IS REACHED.

.008 CU-IN TO .080 CU-IN / .13 CC TO 1.31 CC = 10 FULL TURNS

.035 CU-IN TO .305 CU-IN / .57 CC TO 5 CC = **12.75 FULL TURNS**

1 FULL TURN = .009 CU-IN / .15 CC (STANDARD OUTPUT) | .49 CU-IN / 8.02 CC (HIGH OUTPUT)



LSL-1 DISASSEMBLY INSTRUCTIONS

STEP 1: Remove piston stop plug from top of injector body. Remove its contents (two washers & 1 gland), piston assembly, spring, and plunger assembly.

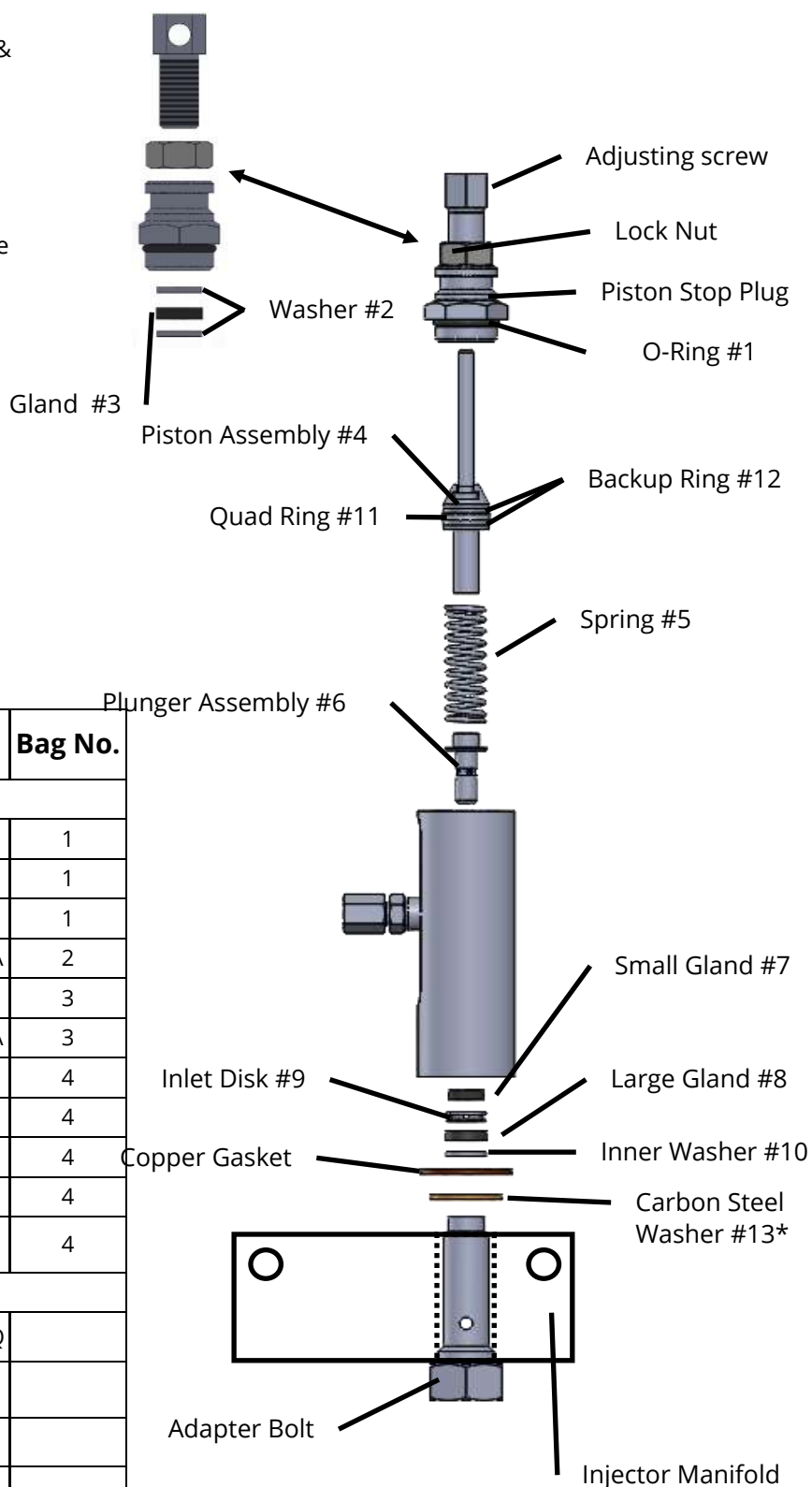
STEP 2: Remove adapter bolt from manifold and injector body. Remove injector internal, by first turning injector upside down. Push out Plunger assembly with a long, thin object from inlet side of injector. It should fall out towards adjustment adapter.

STEP 3: Remove inlet disk, small and large glands, and inner washer from injector body.

ORDERING SERVICE KITS

LSL-1RK	SEAL KIT
LSL-1MRK	MAJOR REBUILD KIT

Item No.	Description	Qty.	Part No.	Bag No.
LSL-1MRK				
1	O-RING	1	12661-0022	1
2	WASHER	2	LSL85497-009	1
3	GLAND	1	LSL85497-006	1
4	PISTON ASSEMBLY	1	LSL81713-011A	2
5	SPRING	1	LSL81713-013	3
6	PLUNGER ASSEMBLY	1	LSL81713-004A	3
7	SMALL GLAND	1	LSL81713-010	4
8	LARGE GLAND	1	LSL81713-014	4
9	INLET DISK	1	LSL81713-009	4
10	INNER WASHER	1	LSL81713-007	4
13	CARBON STEEL WASHER	1	LSL81713-019	4
LSL-1RK				
11	QUAD RING	1	LSL81713-012Q	
12	BACKUP RING	2	LSL81713-012BR	
7	SMALL GLAND	1	LSL81713-010	
8	LARGE GLAND	1	LSL81713-014	
3	GLAND	1	LSL85497-006	
1	O-RING	1	12661-0022	



* Carbon Steel Gasket is installed above the adapter bolt and below injector manifold

LSL-1A SERVICE INSTRUCTIONS

REASSEMBLY INSTRUCTIONS

STEP 1: Clean all injector components and inspect for wear. Replace parts and lube O-rings as necessary.

STEP 2: Install plunger assembly and spring into injector body. Install backup rings and quad ring onto piston assembly and guide piston assembly into the spring, as shown below.

STEP 3: Install O-Ring, gland, & two washers as shown to piston stop plug and install to injector body as shown. Install lock nut and adjustment screw.

STEP 4: Lube and insert small gland, inlet disk, large gland, and washer into bottom of injector body as shown.

STEP 5: Place carbon steel gasket over adapter bolt and insert into manifold followed by copper gasket and install into injector body as shown.

ADJUSTMENT INSTRUCTIONS

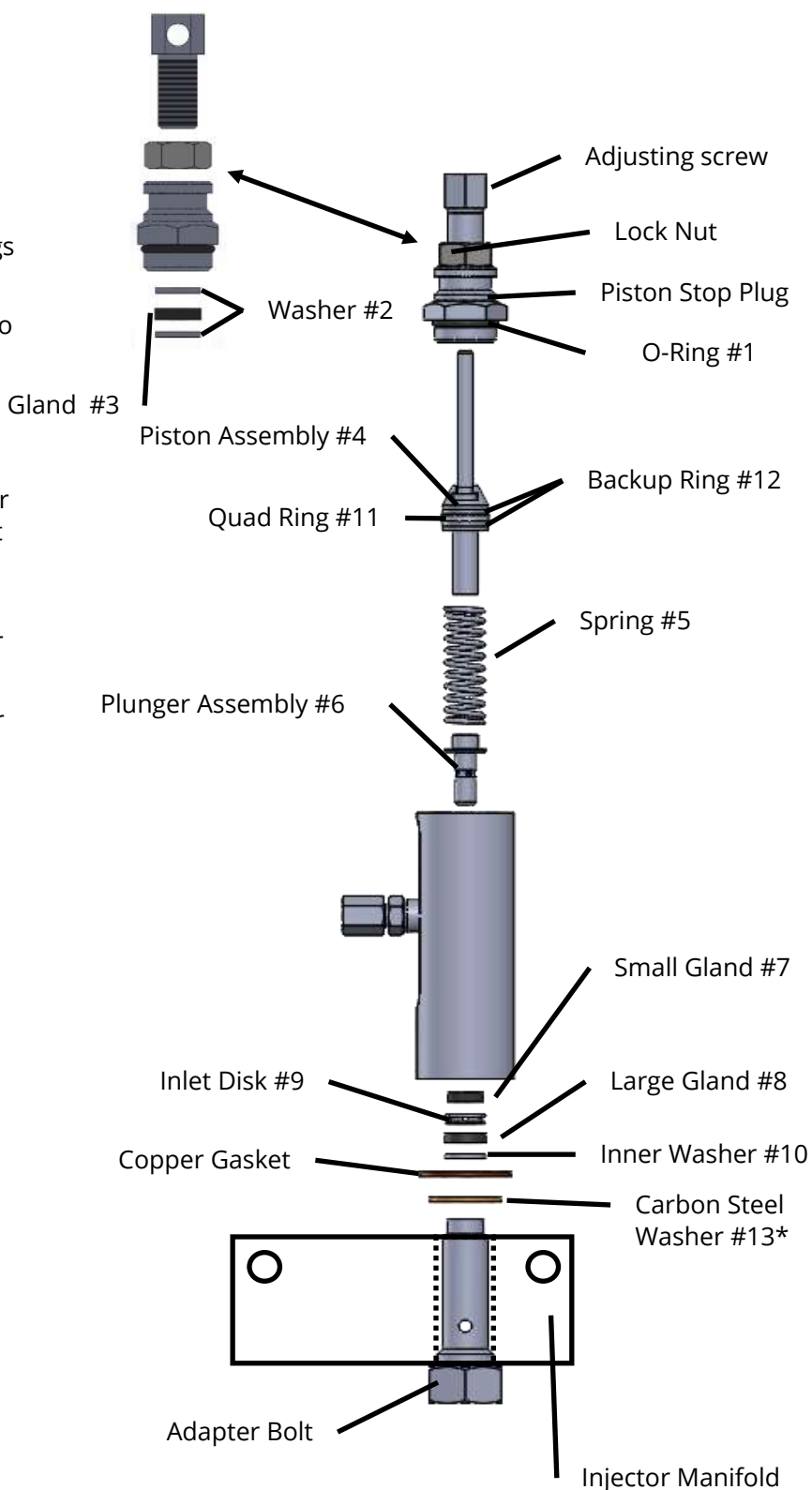
Loosen lock nut

Turn adjustment screw clockwise until it bottoms out. This will output 0.01 cubic inches of lubricant. One full turn will output an additional .01 cubic inches of lubricant maxing out at 0.1 cubic inches.

Standard Output Range = .01 CU-IN—.1 CU-IN

High Output Range = .015 CU-IN—.31 CU-IN

When desired output is achieved, secure the



* Carbon Steel Gasket is installed above adapter bolt and below injector manifold

LSL-11 SERVICE INSTRUCTIONS

PRODUCT DESCRIPTION

THE LSL-11 INJECTOR IS DESIGNED FOR HIGH OUTPUT APPLICATIONS UTILIZING OIL OR GREASE LUBRICANT. THIS IS A STANDALONE INJECTOR WITH AN 1/2 NPTF INLET CONNECTION AND A 1/4 NPSF OUTLET. THE LSL-11 IS AVAILABLE IN ZINC PLATED CARBON STEEL, 303 STAINLESS STEEL, AND 316 STAINLESS STEEL.

SPECIFICATIONS

FOR: OIL AND GREASE

OUTPUT: ADJUSTABLE OUTPUT FROM .05 CU-IN TO .50 CU-IN / .82 CC TO 8.20 CC

PRESSURE: MAXIMUM/MINIMUM OPERATING PRESSURE 5000 PSI/1000 PSI / 345 BAR/69 BAR

OUTPUT ADJUSTMENT

FACTORY OUTPUT IS SET AT .50 CU-IN, MAX OUTPUT. FOR MINIMUM OUTPUT OF .05 CU-IN, TURN THE HEX NUT CLOCKWISE INTO THE INJECTOR UNTIL IT BOTTOMS OUT (HAND TIGHT ONLY). FOR ACCURATE OUTPUT ADJUSTMENT, ROTATE THE HEX SCREW CLOCKWISE UNTIL IT BOTTOMS OUT, THEN ROTATE UNTIL THE DESIRED OUTPUT IS REACHED.

.05 CU-IN TO .50 CU-IN / .82 CC TO 8.20 CC = **12.75 FULL TURNS**

1 FULL TURN = APPROXIMATELY **0.035 CU-IN / .57 CC**



LSL-11 DISASSEMBLY INSTRUCTIONS

STEP 1: Remove adjustment adapter from top of injector body (3). Remove its contents; piston assembly, spring, and spacer.

STEP 2: Remove inlet adapter from bottom of injector body (17). Remove slide valve (12), by first turning the injector upside down. Push out upper portion of assembly with a long, thin object from inlet side of injector. It should fall out towards adjustment adapter.

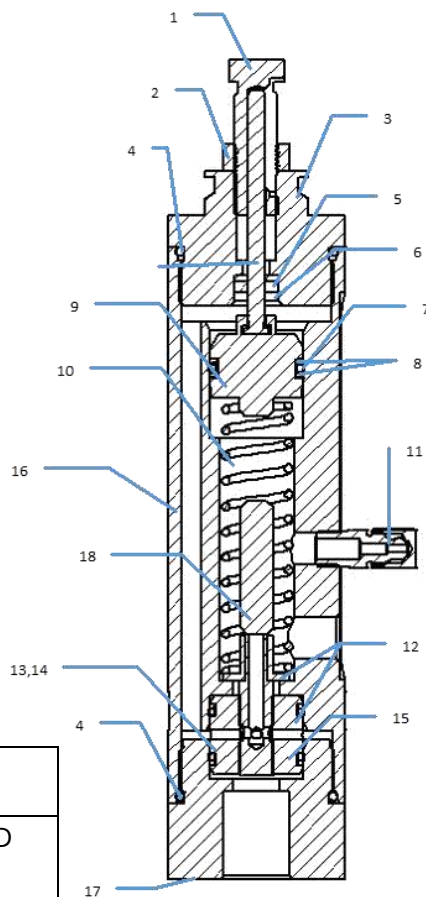
STEP 3: Remove valve body by lightly tapping a wooded dowel through top of injector body making contact with valve body. Dowel must be no bigger than 1/2" in diameter.

STEP 4: To remove indicator stem packing from adjustment adapter, remove adjustment screw from adjustment adapter. Use a hard object to gently push through screw hole and out through bottom of adapter.

ORDERING SERVICE KITS

LSL-11RK	SEAL KIT—INCLUDES HIGHLIGHTED ITEMS EXCEPT ITEM #12
LSL-11MRK	REBUILD KIT—INCLUDES ALL HIGHLIGHTED ITEMS

Item No.	Description	Qty.	Part No.
1	Adjusting Screw	1	LSL85497-001-XXX
2	Lock Nut	1	LSL85497-010
3	Adjustment Adapter	1	LSL85497-003-XXX
4	O-ring (viton)	2	LSL85497-004
5	Washer	1	LSL85497-009
6	Packing (SKF)	1	LSL85497-006
7	Quad Ring (Quniton)	1	LSL85497-007Q
8	Back-up ring (teflon)	2	LSL85497-007BR
9	Piston Assembly	1	LSL85497-008-QA
10	Plunger Spring	1	LDL85497-013
11	Fitting Assembly	1	L90471-XXX
12	Slide Valve Ass'y	1	LSL85497-025A
13	Back-up ring (teflon)	2	LSL85497-005BR
14	Quad Ring (Quniton)	2	LSL85497-005Q
15	Valve Body	1	LSL85497-014
16	Injector Body	1	LSL85497-015
17	Inlet Adapter	1	LSL85497-016
18	Spacer	1	LSL85497-017



NOTE: "XXX" SPECIFIES MATERIAL OF THE INJECTOR FOR:

CRS USE: -000

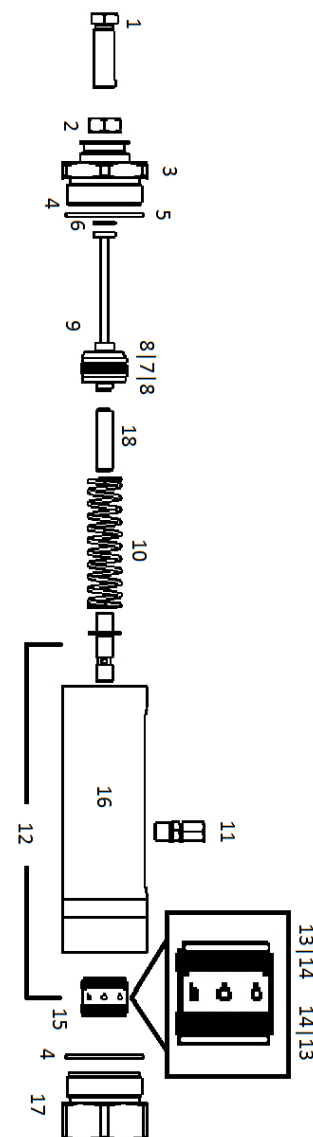
303 SS USE: -303

316 SS USE: -316

EXAMPLE:

FOR 303 SS ADJUSTMENT SCREW

USE: LSL85497-001-303



LSL-11 SERVICE INSTRUCTIONS

REASSEMBLY INSTRUCTIONS

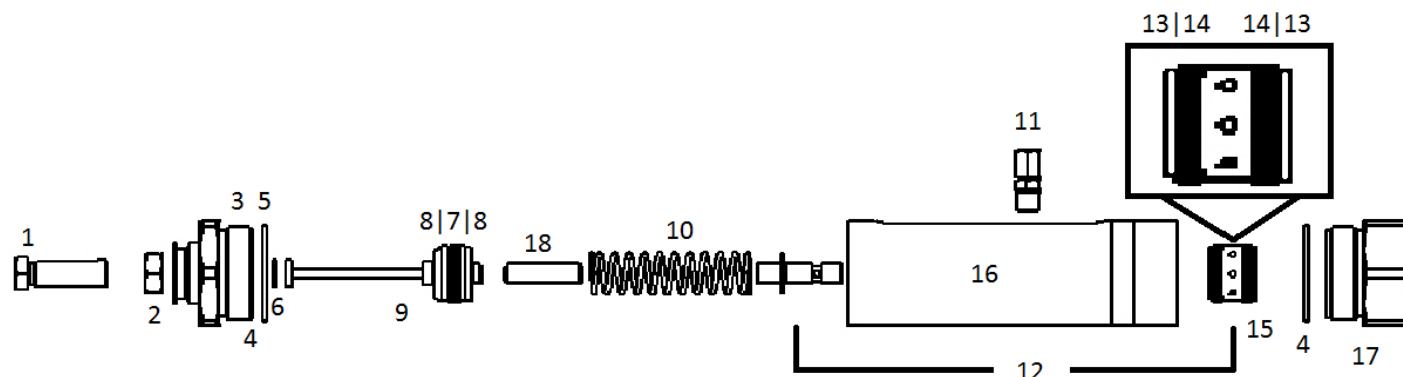
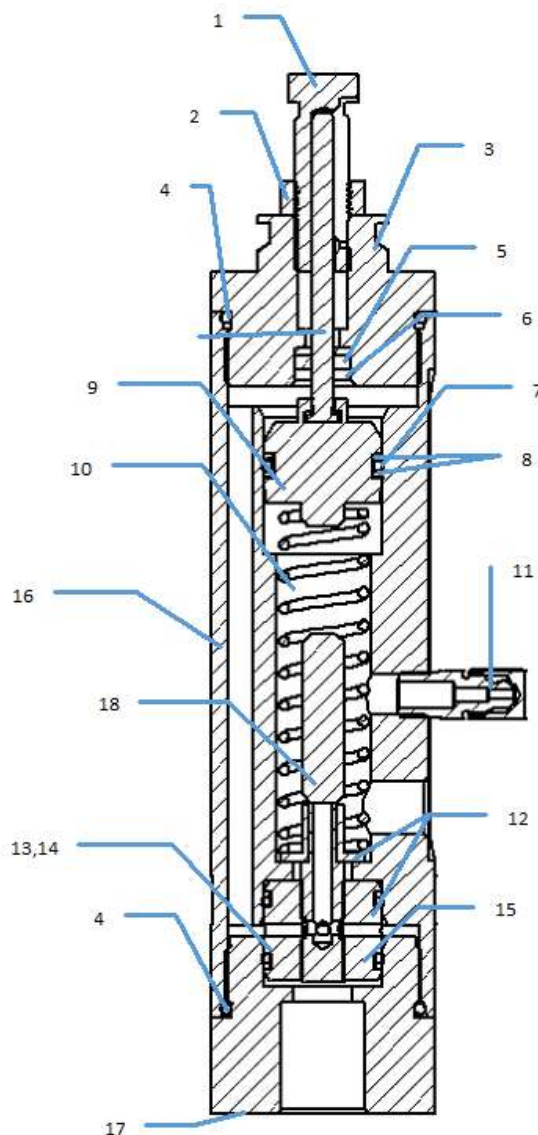
STEP 1: Clean all injector components and inspect for wear. Replace parts and O-rings as necessary.

STEP 2: Install O-rings and backup rings on outside of valve body (13 & 14). Apply grease to seals and valve body and insert valve body into inlet adapter.

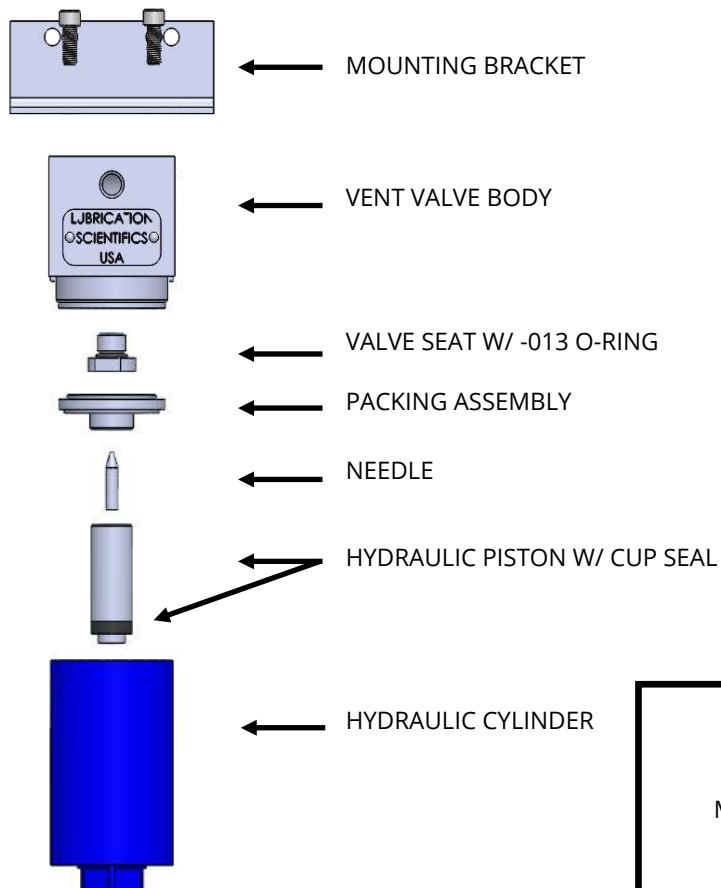
STEP 3: Install O-ring onto inlet adapter (item #4) and install inlet adapter into injector body. Hand tight to ensure everything seats properly and tighten.

STEP 4: Apply grease to slide valve assembly once reassembled (12) and insert through top of injector body into valve body. Apply grease to piston bore in injector body. Drop in the spring and spacer inside the spring.

STEP 5: Install the O-ring on piston assembly and apply grease to piston, O-Ring, and indicator rod. Insert into injector body. Install O-ring on adjustment adapter (3), install washer, and packing. Apply grease to the O-ring on adjustment adapter and slide over pre-assembled adapter into injector body. Hand tight to make sure everything is properly seated. Tighten with a wrench.



VENT VALVES REBUILD DIAGRAM & KIT



VENT VALVE SEAL KIT—HYDRAULIC

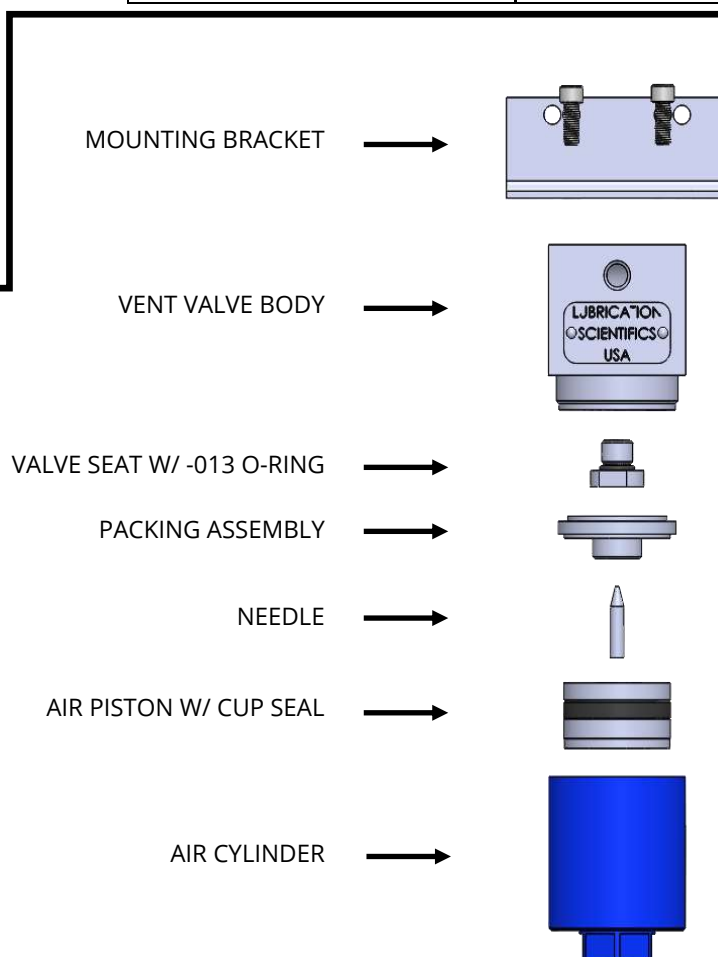
LSL-VVRK-H

PART DESCRIPTION	PART NUMBER
VENT VALVE SEAT SEAL	12661-0038
-013 O-RING	
PACKING ASSEMBLY	LSLVV-006A
HYDRAULIC PISTON CUP SEAL	12661-0072
VV NEEDLE & SEAT KIT	LSL-VV-NSK-PH

VENT VALVE SEAL KIT—PNEUMATIC

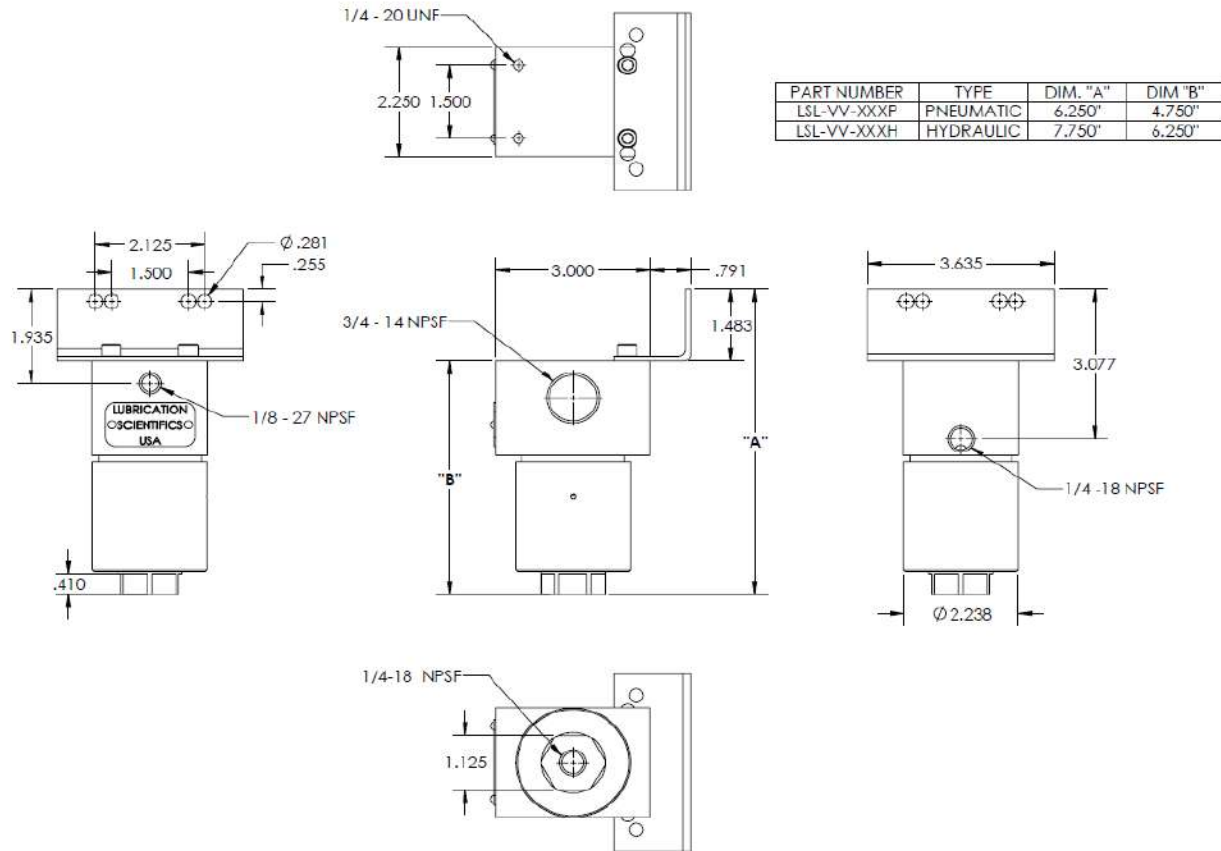
LSL-VVRK-P

PART DESCRIPTION	PART NUMBER
VENT VALVE SEAT SEAL	12661-0038
-013 O-RING	
PACKING ASSEMBLY	LSLVV-006A
AIR PISTON CUP SEAL	12661-0070
VV NEEDLE & SEAT	LSV-VV-NSK-PH

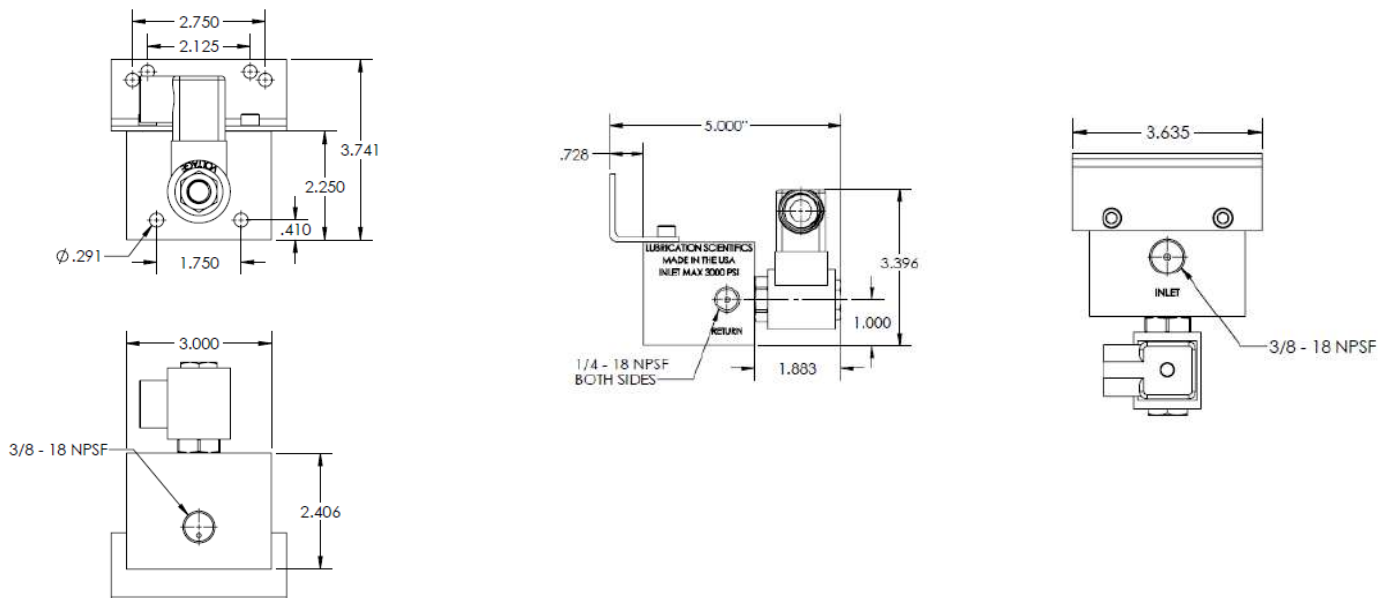


VENT VALVE DIMENSIONS

PNEUMATIC & HYDRAULIC VENT VALVE DIMENSIONS

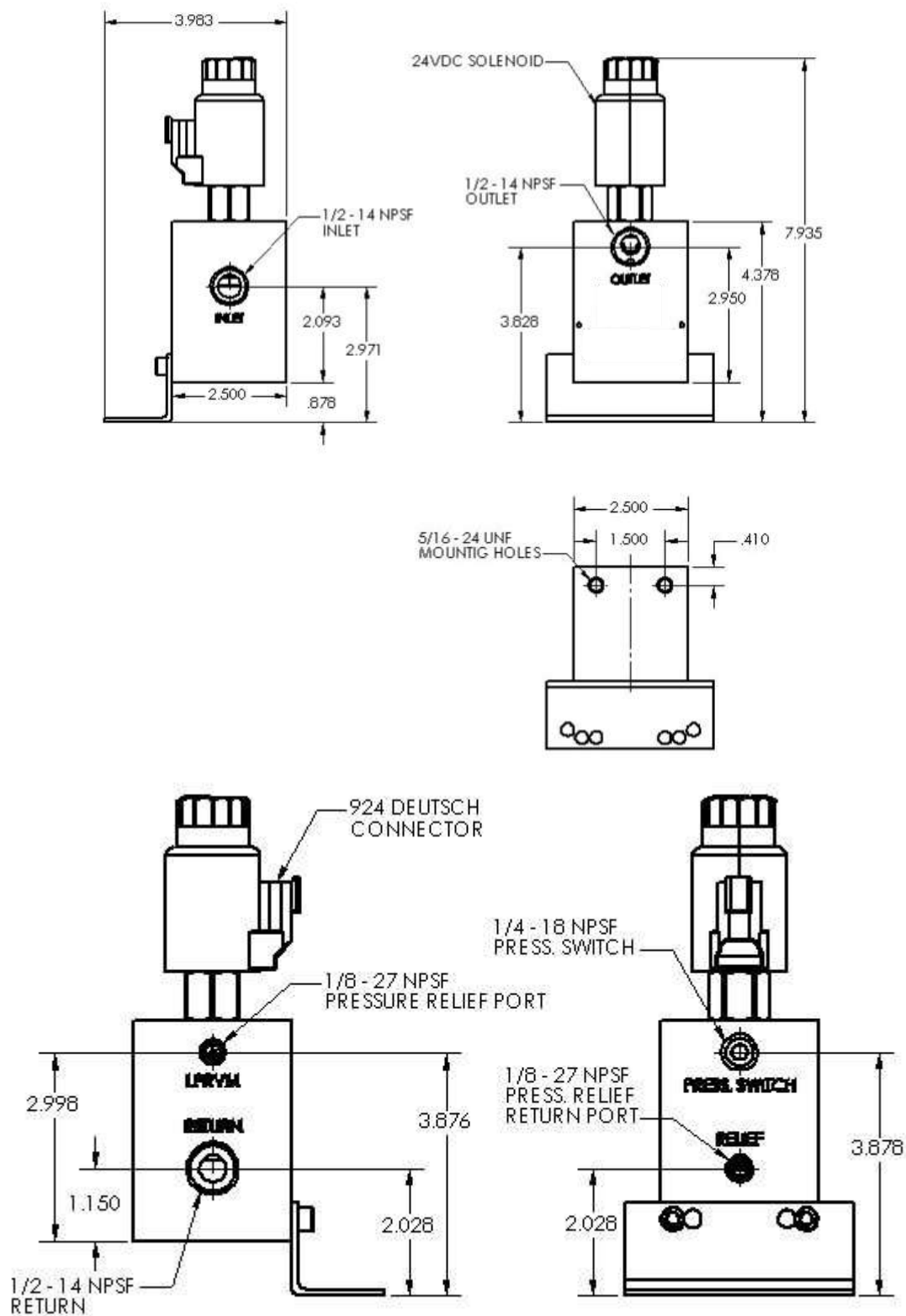


3,500 PSI ELECTRIC VENT VALVE DIMENSIONS

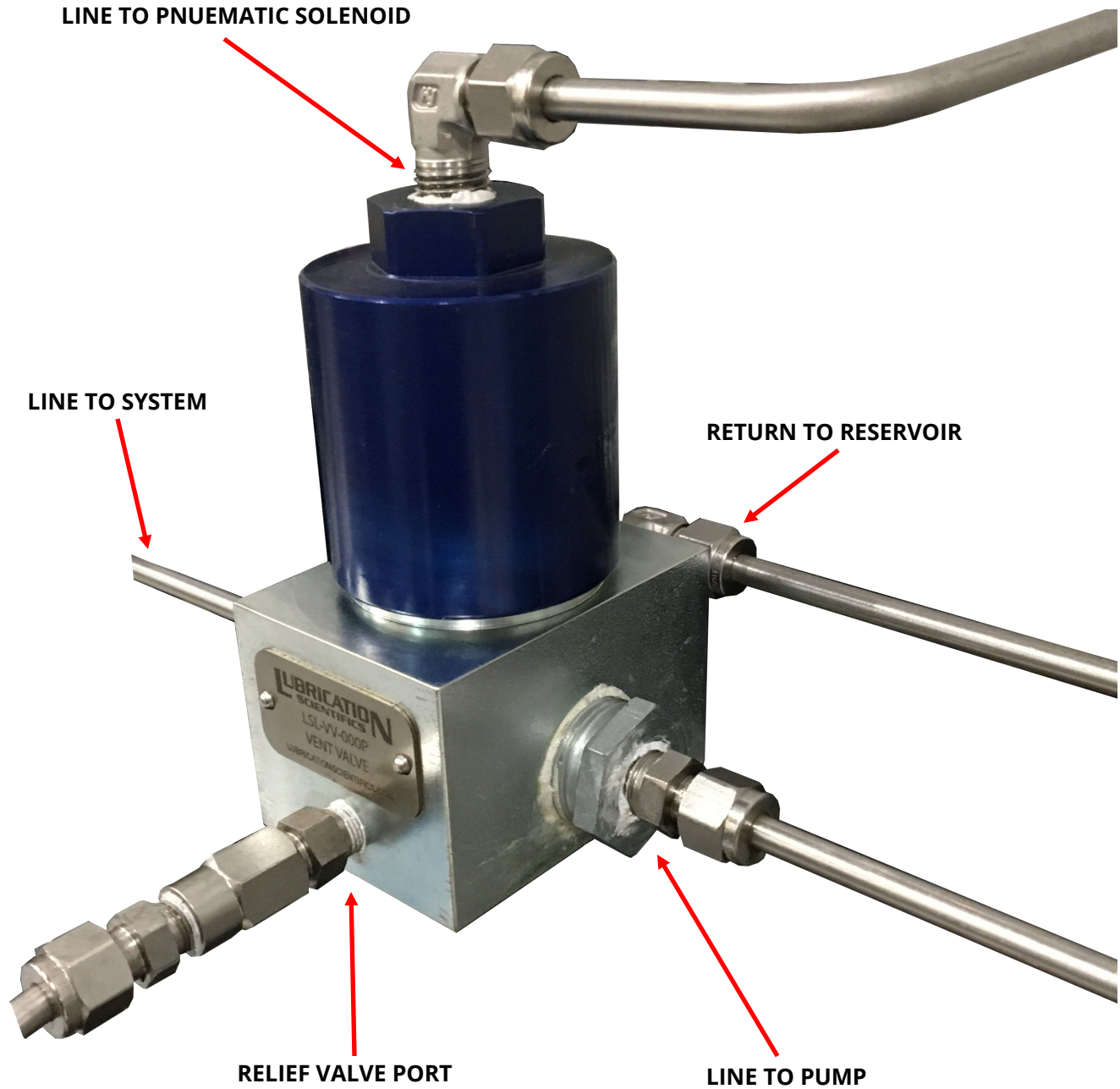


VENT VALVE DIMENSIONS

5,000 PSI ELECTRIC VENT VALVE DIMENSIONS



PNEUMATIC VENT VALVE INSTALLATION LAYOUT



COMPETITOR'S PART NUMBER INTERCHANGE LINCOLN®

LINCOLN® PART NUMBER	LUBRICATION SCIENTIFICS PART NUMBER	PRODUCT DESCRIPTION
83336-1	LSL-32M-M1-A2-303	LSL-32M SERIES, 1 INJECTOR ASSY(W/MFLD) 303 SS
12511	AC32M-CP-125-303	CLOSURE PLUG, 1/8" NPTF, 303 SS
12698	AC32M-CP-303	LSL-32M STYLE CLOSURE PLUG, 5/16"-24, 303 SS
14988	AC32M-A1	LSL 32M STYLE OUTLET CONNECTOR 1/8" NPSF FEMALE
14991	AC32M-A4	LSL 32M STYLE OUTLET CONNECTOR 1/8" NPTF MALE
66260	AC32M-CN1-313-BR	COMPRESSION NUT, 5/16-24, ONE PIECE, BRASS
66713	AC32M-CN1-437-BR	COMPRESSION NUT, 7/16-24, ONE PIECE, BRASS
67007	AC32M-CP-250-303 SS	CLOSURE PLUG 1/4", 303 SS
67044	AC1AHO-CP-375-303	CLOSURE PLUG, 3/8" NPTF, 303 SS
68483	LSL32M-CAPV	LSL 32M STYLE VINYL CAP
68874	ACLSL-BR-125I	FEEDLINE BRUSH, 1/8-27 INLET
81646	LSL-1A-CPK	INJECTOR CONNECTOR TUBE 1/8" NPTF MALE, LSL-1A & UP
81713	LSL-1A-000	LSL-1A, 1 REPLACEMENT INJECTOR CRS
82272	AC1AHO-AV-125-303	INJECTOR OPERATED AIR VALVE, LSL-1A HO SERIES
83337	LSL-32M-A2-303	LSL-32M SERIES, 1 REPLACEMENT INJECTOR 303 SS
83338	LSL-32M-SA2-303	LSL-32M SERIES, 1 INJECTOR ASSY(STAND ALONE) 303 SS
83660	LSL-43M-A6-303	LSL-43M SERIES, 1 REPLACEMENT INJECTOR 303 SS
83730	LSL-11-CAPV	LSL-11 VINYL CAP
83748	LSL-1A-O-000	LSL-44, 1 REPLACEMENT INJECTOR CRS, OIL
83924	AC32M-CN2-313-BR	COMPRESSION NUT, 5/16-24, TWO PIECE, BRASS
83948	LSL-VV-000P	PNEUMATIC VENT VALVE, NO PRESSURE RELIEF VALVE INCLUDED
83948	LSL-VV-000P-SRV	PNEUMATIC VENT VALVE, 4000 PSI PRESSURE RELIEF VALVE INCLUDED
84200	AC32M-A3	LSL 32M STYLE OUTLET CONNECTOR 1/4" O.D. TUBE
84776	LSL-1A-316	LSL-1A, 1 INJECTOR, REPLACEMENT, 316 SS
84980	LSL-VV000H	HYDRAULIC VENT VALVE, NO PRESSURE RELIEF VALVE INCLUDED
84980	LSL-VV-000H-SRV	HYDRAULIC VENT VALVE, 4000 PSI PRESSURE RELIEF VALVE INCLUDED
85497	LSL-11-000	LSL-11 STANDALONE INJECTOR CRS
85771	LSL-1A-000-R5	LSL-1 MED OUTPUT SQ, 1 REPLACEMENT INJECTOR
85772	LSL-1-000-M5	LSL-1 MED OUTPUT SQ, 1 INJECTOR, STAND ALONE
85781	LSL-1A-000-HO	LSL-A1-HO, 1 REPLACEMENT INJECTOR
85782	LSL-1-000-HO	LSL-A1-HO, 1 INJECTOR, STAND ALONE
239351	LSL-M1A-316	LSL-1A, 1 INJECTOR ASSY (W/MFLD) 316 SS
239352	LSL-M2A-316	LSL-1A, 2 INJECTOR ASSY (W/MFLD) 316 SS
239353	LSL-M3A-316	LSL-1A, 3 INJECTOR ASSY (W/MFLD) 316 SS
239354	LSL-M4A-316	LSL-1A, 4 INJECTOR ASSY (W/MFLD) 316 SS
239355	LSL-M5A-316	LSL-1A, 5 INJECTOR ASSY (W/MFLD) 316 SS
249281	AC32M-A5	LSL 32M STYLE OUTLET CONNECTOR 4MM TUBE
249282	AC32M-A6	LSL 32M STYLE OUTLET CONNECTOR 6MM TUBE
273089	LSL-1A-CAPV	LSL-1A VINYL CAP
12511-9	AC32M-CP-125-316	CLOSURE PLUG, 1/8" NPTF, 316 SS
12698-9	AC32M-CP-316	LSL-32M STYLE CLOSURE PLUG, 5/16"-24, 316 SS
66260-9	AC32M-CN1-313-SS	COMPRESSION NUT, 5/16-24, ONE PIECE, 316 SS
67007-9	AC32M-CP-125-316 SS	CLOSURE PLUG 1/4", 316 SS
81713A	LSL-1-000	LSL-1A, 1 INJECTOR NO MFLD CRS
81770-1	LSL-M1A-000	LSL-1A, 1 INJECTOR ASSY (W/MFLD) CRS
81770-2	LSL-M2A-000	LSL-1A, 2 INJECTOR ASSY (W/MFLD) CRS
81770-3	LSL-M3A-000	LSL-1A, 3 INJECTOR ASSY (W/MFLD) CRS
81770-4	LSL-M4A-000	LSL-1A, 4 INJECTOR ASSY (W/MFLD) CRS
81770-5	LSL-M5A-000	LSL-1A, 5 INJECTOR ASSY (W/MFLD) CRS
81770-6	LSL-M6A-000	LSL-1A, 6 INJECTOR ASSY (W/MFLD) CRS
83336-2	LSL-32M-M2-A2-303	LSL-32M SERIES, 2 INJECTOR ASSY(W/MFLD) 303 SS
83336-3	LSL-32M-M3-A2-303	LSL-32M SERIES, 3 INJECTOR ASSY(W/MFLD) 303 SS
83336-4	LSL-32M-M4-A2-303	LSL-32M SERIES, 4 INJECTOR ASSY(W/MFLD) 303 SS
83336HV	LSL-32MH-A2-303	LSL-32M HP VENTING, 1 INJECTOR ASSY (STAND ALONE) 303 SS
83336HV-1	LSL-32MH-M1-A2-303	LSL-32M HP VENTING, 1 INJECTOR ASSY (W/MFLD) 303 SS
83336HV-10	LSL-32MH-M10-A2-303	LSL-32M HP VENTING, 10 INJECTOR ASSY (W/MFLD) 303 SS
83336HV-2	LSL-32MH-M2-A2-303	LSL-32M HP VENTING, 2 INJECTOR ASSY (W/MFLD) 303 SS
83336HV-3	LSL-32MH-M3-A2-303	LSL-32M HP VENTING, 3 INJECTOR ASSY (W/MFLD) 303 SS
83336HV-4	LSL-32MH-M4-A2-303	LSL-32M HP VENTING, 4 INJECTOR ASSY (W/MFLD) 303 SS
83336HV-5	LSL-32MH-M5-A2-303	LSL-32M HP VENTING, 5 INJECTOR ASSY (W/MFLD) 303 SS
83336HV-6	LSL-32MH-M6-A2-303	LSL-32M HP VENTING, 6 INJECTOR ASSY (W/MFLD) 303 SS
83336HV-7	LSL-32MH-M7-A2-303	LSL-32M HP VENTING, 7 INJECTOR ASSY (W/MFLD) 303 SS
83336HV-8	LSL-32MH-M8-A2-303	LSL-32M HP VENTING, 8 INJECTOR ASSY (W/MFLD) 303 SS
83336HV-9	LSL-32MH-M9-A2-303	LSL-32M HP VENTING, 9 INJECTOR ASSY (W/MFLD) 303 SS

* LINCOLN® IS A REGISTERED TRADEMARK OF LINCOLN® INDUSTRIAL

COMPETITOR'S PART NUMBER INTERCHANGE (CONTINUED)

LINCOLN®

LINCOLN® PART NUMBER	LUBRICATION SCIENTIFICS PART	PRODUCT DESCRIPTION
83337HV	LSL-32MH-SA2-303	LSL-32M HP VENTING, 1 REPLACEMENT INJECTOR 303 SS
83661-1	LSL-43M-M1-A6-303	LSL-43M SERIES, 1 INJECTOR ASSY(W/MFLD) 303 SS
83661-2	LSL-43M-M2-A6-303	LSL-43M SERIES, 2 INJECTOR ASSY(W/MFLD) 303 SS
83661-3	LSL-43M-M3-A6-303	LSL-43M SERIES, 3 INJECTOR ASSY(W/MFLD) 303 SS
83661-4	LSL-43M-M4-A6-303	LSL-43M SERIES, 4 INJECTOR ASSY(W/MFLD) 303 SS
83724-1	LSL-32M-M1-A2-316	LSL-32M SERIES, 1 INJECTOR ASSY(W/MFLD) 316 SS
83724-2	LSL-32M-M2-A2-316	LSL-32M SERIES, 2 INJECTOR ASSY(W/MFLD) 316 SS
83724-3	LSL-32M-M3-A2-316	LSL-32M SERIES, 3 INJECTOR ASSY(W/MFLD) 316 SS
83724-4	LSL-32M-M4-A2-316	LSL-32M SERIES, 4 INJECTOR ASSY(W/MFLD) 316 SS
83724-9	LSL-32M-A2-316	LSL-32M SERIES, 1 REPLACEMENT INJECTOR 316 SS
83749-1	LSL-M1A-O-000	LSL-44, 1 INJECTOR ASSY (W/MFLD) CRS, OIL
83749-2	LSL-M2A-O-000	LSL-44, 2 INJECTOR ASSY (W/MFLD) CRS, OIL
83749-3	LSL-M3A-O-000	LSL-44, 3 INJECTOR ASSY (W/MFLD) CRS, OIL
83749-4	LSL-M4A-O-000	LSL-44, 4 INJECTOR ASSY (W/MFLD) CRS, OIL
83749-5	LSL-M5A-O-000	LSL-44, 5 INJECTOR ASSY (W/MFLD) CRS, OIL
83924-9	AC32M-CN2-313-SS	COMPRESSION NUT, 5/16-24, TWO PIECE, 316 SS
85353-1	LSL-32M-M1-MA6-303	LSL-32M, 1 INJECTOR ASSY (W/MFLD), GREASE, IN 1/8BSPP/OUT 6MM, 303
85353-2	LSL-32M-M2-MA6-303	LSL-32M, 2 INJECTOR ASSY (W/MFLD), GREASE, IN 1/8BSPP/OUT 6MM, 303
85353-3	LSL-32M-M3-MA6-303	LSL-32M, 3 INJECTOR ASSY (W/MFLD), GREASE, IN 1/8BSPP/OUT 6MM, 303
85353-4	LSL-32M-M4-MA6-303	LSL-32M, 4 INJECTOR ASSY (W/MFLD), GREASE, IN 1/8BSPP/OUT 6MM, 303
85770-1	LSL-M1A-000-R5	LSL-1 MED OUTPUT SQ, 1 INJECTOR ASSY (W/MFLD) CRS
85770-2	LSL-M2A-000-R5	LSL-1 MED OUTPUT SQ, 2 INJECTOR ASSY (W/MFLD) CRS
85770-3	LSL-M3A-000-R5	LSL-1 MED OUTPUT SQ, 3 INJECTOR ASSY (W/MFLD) CRS
85770-4	LSL-M4A-000-R5	LSL-1 MED OUTPUT SQ, 4 INJECTOR ASSY (W/MFLD) CRS
85770-5	LSL-M5A-000-R5	LSL-1 MED OUTPUT SQ, 5 INJECTOR ASSY (W/MFLD) CRS
85770-6	LSL-M6A-000-R5	LSL-1 MED OUTPUT SQ, 6 INJECTOR ASSY (W/MFLD) CRS
85780-1	LSL-M1A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
85780-2	LSL-M2A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
85780-3	LSL-M3A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
85780-4	LSL-M4A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
85780-5	LSL-M5A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
85780-6	LSL-M6A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
N/A	LSL-32M-MA6-303	LSL-32M SERIES, 1 REPLACEMENT INJECTOR 303 SS, 6MM OUTLET

COMPETITOR'S PART NUMBER INTERCHANGE

GRACO

GRACO PART NUMBER	LUBRICATION SCIENTIFICS PART NUMBER	PRODUCT DESCRIPTION
114901	LSL-M1A-000	LSL-1A, 1 INJECTOR ASSY (W/MFLD) CRS
114902	LSL-M2A-000	LSL-1A, 2 INJECTOR ASSY (W/MFLD) CRS
114903	LSL-M3A-000	LSL-1A, 3 INJECTOR ASSY (W/MFLD) CRS
114905	LSL-M4A-000	LSL-1A, 4 INJECTOR ASSY (W/MFLD) CRS
114905	LSL-M5A-000	LSL-1A, 5 INJECTOR ASSY (W/MFLD) CRS
114906	LSL-M6A-000	LSL-1A, 6 INJECTOR ASSY (W/MFLD) CRS
114909	LSL-1-000	LSL-1A, 1 INJECTOR NO MFLD CRS
114911	LSL-M1-000	LSL-1A, 1 BANK, BARE INJECTOR MANIFOLDS CRS
114912	LSL-M2-000	LSL-1A, 2 BANK, BARE INJECTOR MANIFOLDS CRS
114913	LSL-M3-000	LSL-1A, 3 BANK, BARE INJECTOR MANIFOLDS CRS
114914	LSL-M4-000	LSL-1A, 4 BANK, BARE INJECTOR MANIFOLDS CRS
114915	LSL-M5-000	LSL-1A, 5 BANK, BARE INJECTOR MANIFOLDS CRS
114916	LSL-11RK	LSL-11 SEAL KIT
118206	LSL-M6-000	LSL-1A, 6 BANK, BARE INJECTOR MANIFOLDS CRS
24E241	LSL-43M-M1-A6-303	LSL-43M SERIES, 1 INJECTOR ASSY(W/MFLD) 303 SS
24E242	LSL-43M-M2-A6-303	LSL-43M SERIES, 2 INJECTOR ASSY(W/MFLD) 303 SS
24E243	LSL-43M-M3-A6-303	LSL-43M SERIES, 3 INJECTOR ASSY(W/MFLD) 303 SS
24E244	LSL-43M-M4-A6-303	LSL-43M SERIES, 4 INJECTOR ASSY(W/MFLD) 303 SS
24E245	LSL-43M-A6-303	LSL-43M SERIES, 1 REPLACEMENT INJECTOR 303 SS
241572	LSL-VV-000P	PNEUMATIC VENT VALVE, NO PRESSURE RELIEF VALVE INCLUDED
241572	LSL-VV-000P-SRV	PNEUMATIC VENT VALVE, 4000 PSI PRESSURE RELIEF VALVE INCLUDED
243170	LSL-VV000H	HYDRAULIC VENT VALVE, NO PRESSURE RELIEF VALVE INCLUDED
243170	LSL-VV-000H-SRV	HYDRAULIC VENT VALVE, 4000 PSI PRESSURE RELIEF VALVE INCLUDED

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* GRACO® IS A REGISTERED TRADEMARK OF GRACO®

COMPETITOR'S PART NUMBER INTERCHANGE (CONTINUED)

GRACO

GRACO PART NUMBER	LUBRICATION SCIENTIFICS PART NUMBER	PRODUCT DESCRIPTION
N/A	ACLSL-BR-125I	FEEDLINE BRUSH, 1/8-27 INLET
17B169	AC32M-A4	LSL 32 STYLE OUTLET CONNECTOR 1/8" NPTF MALE 303 SS
17B781	AC32M-A1	LSL 32 STYLE OUTLET CONNECTOR 1/8" NPSF FEMALE 303 SS
17B783	AC32M-CP-250-303 SS	CLOSURE PLUG 1/4", 303 SS
17B785	LSL32M-CAPV	LSL 32 STYLE VINYL CAP
17B880	AC32M-A3	LSL 32 STYLE OUTLET CONNECTOR 1/4" O.D. TUBE 303 SS
17D401	LSL-M1-303	LSL-1A, 1 BANK, BARE INJECTOR MANIFOLDS 303 SS
17D402	LSL-M2-303	LSL-1A, 2 BANK, BARE INJECTOR MANIFOLDS 303 SS
17D403	LSL-M3-303	LSL-1A, 3 BANK, BARE INJECTOR MANIFOLDS 303 SS
17D404	LSL-M4-303	LSL-1A, 4 BANK, BARE INJECTOR MANIFOLDS 303 SS
17D405	LSL-M5-303	LSL-1A, 5 BANK, BARE INJECTOR MANIFOLDS 303 SS
17D906	LSL-M6-303	LSL-1A, 6 BANK, BARE INJECTOR MANIFOLDS 303 SS
24A918	LSL-11-000	LSL-11 INJECTOR
24A919	LSL-32M-SA2-303	LSL-32M SERIES, 1 INJECTOR ASSY(STAND ALONE) 303 SS
24A920	LSL-32M-A2-303	LSL-32M SERIES, 1 REPLACEMENT INJECTOR 303 SS
24A921	LSL-32M-M1-A2-303	LSL-32M SERIES, 1 INJECTOR ASSY(W/MFLD) 303 SS
24A922	LSL-32M-M2-A2-303	LSL-32M SERIES, 2 INJECTOR ASSY(W/MFLD) 303 SS
24A923	LSL-32M-M3-A2-303	LSL-32M SERIES, 3 INJECTOR ASSY(W/MFLD) 303 SS
24A924	LSL-32M-M4-A2-303	LSL-32M SERIES, 4 INJECTOR ASSY(W/MFLD) 303 SS
24B395	LSL-11MRK	LSL-11 REBUILD KIT
24E390	LSL-32M-A2-316	LSL-32M SERIES, 1 REPLACEMENT INJECTOR 316 SS
24E391	LSL-32M-M1-A2-316	LSL-32M SERIES, 1 INJECTOR ASSY(W/MFLD) 316 SS
24E392	LSL-32M-M2-A2-316	LSL-32M SERIES, 2 INJECTOR ASSY(W/MFLD) 316 SS
24E393	LSL-32M-M3-A2-316	LSL-32M SERIES, 3 INJECTOR ASSY(W/MFLD) 316 SS
24E394	LSL-32M-M4-A2-316	LSL-32M SERIES, 4 INJECTOR ASSY(W/MFLD) 316 SS
24F507	LSL-32M-MA6-303	LSL-32, STANDALONE INJECTOR, GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F508	LSL-32M-MA6-303	LSL-32, REPLACEMENT INJECTOR, GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F509	LSL-32M-M1-MA6-303	LSL-32, 1 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F510	LSL-32M-M2-MA6-303	LSL-32, 2 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F511	LSL-32M-M3-MA6-303	LSL-32, 3 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F512	LSL-32M-M4-MA6-303	LSL-32, 4 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F543	LSL-43M-A6-303	LSL-43M SERIES, 1 REPLACEMENT INJECTOR, 6MM METRIC, 303 SS
24F544	LSL-43M-M1-MA6-303	LSL-43M SERIES, 1 INJECTOR ASSY(W/MFLD), 6MM METRIC, 303 SS
24F545	LSL-43M-M2-MA6-303	LSL-43M SERIES, 2 INJECTOR ASSY(W/MFLD), 6MM METRIC, 303 SS
24F546	LSL-43M-M3-MA6-303	LSL-43M SERIES, 3 INJECTOR ASSY(W/MFLD), 6MM METRIC, 303 SS
24F547	LSL-43M-M4-MA6-303	LSL-43M SERIES, 4 INJECTOR ASSY(W/MFLD), 6MM METRIC, 303 SS
24F550	LSL-32M-M1-MA6-303	LSL-32, STANDALONE INJECTOR, GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F551	LSL-32M-M1-MA6-303	LSL-32, 1 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F551	LSL-32M-MA6-303	LSL-32, REPLACEMENT INJECTOR, GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F552	LSL-32M-M2-MA6-303	LSL-32, 2 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F553	LSL-32M-M3-MA6-303	LSL-32, 3 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F554	LSL-32M-M4-MA6-303	LSL-32, 4 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC OUTLET, BSPP INLET, 303 SS
24F555	AC32M-A5	LSL 32 STYLE OUTLET CONNECTOR 4MM TUBE 303 SS
24F556	AC32M-A6	LSL 32 STYLE OUTLET CONNECTOR 6MM TUBE 303 SS
24F943		LSL 32 STYLE OUTLET CONNECTOR 1/8" O.D. TUBE 303 SS
24W302	LSL-32M-M5-A2-303	LSL-33, 5 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W303	LSL-32M-M5-MA6-303	LSL-33, 5 INJECTOR ASSY (W/MFLD), GREASE, METRIC PORTS 303 SS
24W304	LSL-32M-M5-A2-303	LSL-33, 5 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W305	LSL-32M-M5-MA6-303	LSL-33, 5 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC PORTS 303 SS
24W401	LSL-32M-M1-A2-303	LSL-33, 1 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W402	LSL-32M-M2-A2-303	LSL-33, 2 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W403	LSL-32M-M3-A2-303	LSL-33, 3 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W404	LSL-32M-M4-A2-303	LSL-33, 4 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W405	LSL-32M-M6-A2-303	LSL-33, 6 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W483	LSL-32M-A2-303	LSL-33, REPLACEMENT INJECTOR, GREASE, 1/8 NPSF, 303 SS
24W485	LSL-32M-A2-303	LSL-33, REPLACEMENT INJECTOR, GREASE, 1/8 NPSF, 303 SS
24W486	LSL-32M-MA6-303	LSL-33, REPLACEMENT INJECTOR, GREASE, 6MM METRIC PORTS, 303 SS
24W487	LSL-32M-SA2-303	LSL-33, STANDALONE INJECTOR, GREASE, 1/8 NPSF, 303 SS
24W489	LSL-32M-SA2-303	LSL-33, STANDALONE INJECTOR, GREASE, 1/8 NPSF, 303 SS
24W490	LSL-32M-MA6-303	LSL-33, STANDALONE INJECTOR, GREASE, 6MM METRIC PORTS, 303 SS
24W501	LSL-32M-M1-MA6-303	LSL-33, 1 INJECTOR ASSY (W/MFLD), GREASE, METRIC PORTS 303 SS
24W502	LSL-32M-M2-MA6-303	LSL-33, 2 INJECTOR ASSY (W/MFLD), GREASE, METRIC PORTS 303 SS
24W503	LSL-32M-M3-MA6-303	LSL-33, 3 INJECTOR ASSY (W/MFLD), GREASE, METRIC PORTS 303 SS
24W504	LSL-32M-M4-MA6-303	LSL-33, 4 INJECTOR ASSY (W/MFLD), GREASE, METRIC PORTS 303 SS
24W505	LSL-32M-M6-MA6-303	LSL-33, 6 INJECTOR ASSY (W/MFLD), GREASE, METRIC PORTS 303 SS
24W601	LSL-32M-M1-A1-303	LSL-33, 1 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS

* GRACO® IS A REGISTERED TRADEMARK OF GRACO®

COMPETITOR'S PART NUMBER INTERCHANGE (CONTINUED)

GRACO

GRACO PART NUMBER	LUBRICATION SCIENTIFICS PART NUMBER	PRODUCT DESCRIPTION
24W602	LSL-32M-M2-A2-303	LSL-33, 2 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W603	LSL-32M-M3-A2-303	LSL-33, 3 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W604	LSL-32M-M4-A2-303	LSL-33, 4 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W605	LSL-32M-M6-A2-303	LSL-33, 6 INJECTOR ASSY (W/MFLD), GREASE, 1/8 NPSF, 303 SS
24W701	LSL-32M-M1-MA6-303	LSL-33, 1 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC PORTS 303 SS
24W702	LSL-32M-M2-MA6-303	LSL-33, 2 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC PORTS 303 SS
24W703	LSL-32M-M3-MA6-303	LSL-33, 3 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC PORTS 303 SS
24W704	LSL-32M-M4-MA6-303	LSL-33, 4 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC PORTS 303 SS
24W705	LSL-32M-M6-MA6-303	LSL-33, 6 INJECTOR ASSY (W/MFLD), GREASE, 6MM METRIC PORTS 303 SS
24X153	LSL-1-303	LSL-1A, 1 INJECTOR NO MFLD 303 SS
24X401	LSL-M1A-303	LSL-1A, 1 INJECTOR ASSY (W/MFLD) 303 SS
24X402	LSL-M2A-303	LSL-1A, 2 INJECTOR ASSY (W/MFLD) 303 SS
24X403	LSL-M3A-303	LSL-1A, 3 INJECTOR ASSY (W/MFLD) 303 SS
24X404	LSL-M4A-303	LSL-1A, 4 INJECTOR ASSY (W/MFLD) 303 SS
24X405	LSL-M5A-303	LSL-1A, 5 INJECTOR ASSY (W/MFLD) 303 SS
24X406	LSL-M6A-303	LSL-1A, 6 INJECTOR ASSY (W/MFLD) 303 SS
24X801	LSL-M1A-000-R5	LSL-1 MED OUTPUT SQ, 1 INJECTOR ASSY (W/MFLD) CRS
24X802	LSL-M2A-000-R5	LSL-1 MED OUTPUT SQ, 2 INJECTOR ASSY (W/MFLD) CRS
24X803	LSL-M3A-000-R5	LSL-1 MED OUTPUT SQ, 3 INJECTOR ASSY (W/MFLD) CRS
24X804	LSL-M4A-000-R5	LSL-1 MED OUTPUT SQ, 4 INJECTOR ASSY (W/MFLD) CRS
24X805	LSL-M5A-000-R5	LSL-1 MED OUTPUT SQ, 5 INJECTOR ASSY (W/MFLD) CRS
24X806	LSL-M6A-000-R5	LSL-1 MED OUTPUT SQ, 6 INJECTOR ASSY (W/MFLD) CRS
24X807	LSL-1-000-R5	LSL-1 MED OUTPUT SQ, 1 INJECTOR, STAND ALONE
24X811	LSL-M1A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
24X812	LSL-M2A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
24X813	LSL-M3A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
24X814	LSL-M4A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
24X815	LSL-M5A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
24X816	LSL-M6A-000-HO	LSL-A1-HO, 1 INJECTOR ASSY (W/MFLD) CRS
24X817	LSL-1-000-HO	LSL-A1-HO, 1 INJECTOR, STAND ALONE
25A087	LSL-1A-CAPV	LSL-1A VINYL CAP
77X540	L527680-NO-000	24VDC VENT VALVE
	LSL-11-CAPV	LSL-11 VINYL CAP

NOTES

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SWB *Plus*

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SA	Wingfield (State H/Office) 13 Streiff Road Wingfield SA 5013 Ph: (08) 8260 6299	Wingfield Linear dept Ph: (08) 8260 6299	TAS	Hobart 39 Sunderland Street Derwent Park TAS 7009 Ph: (03) 6216 6999
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