LUBRIQUIP®
Centralized Lubrication Systems

Manzel®

DSL & SVK Lubricators
Product Specs and Ordering

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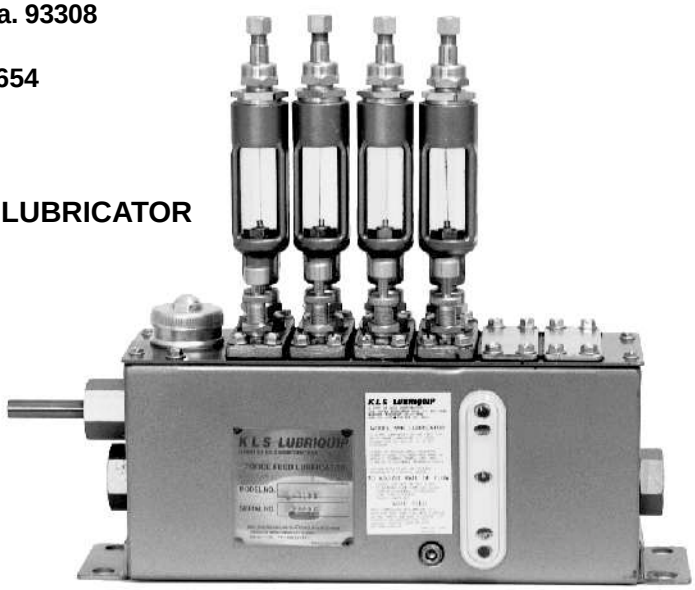
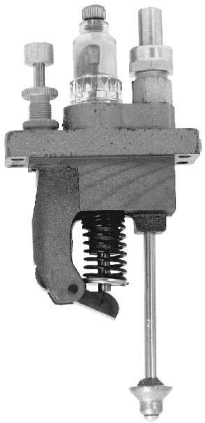
Bulletin 51050

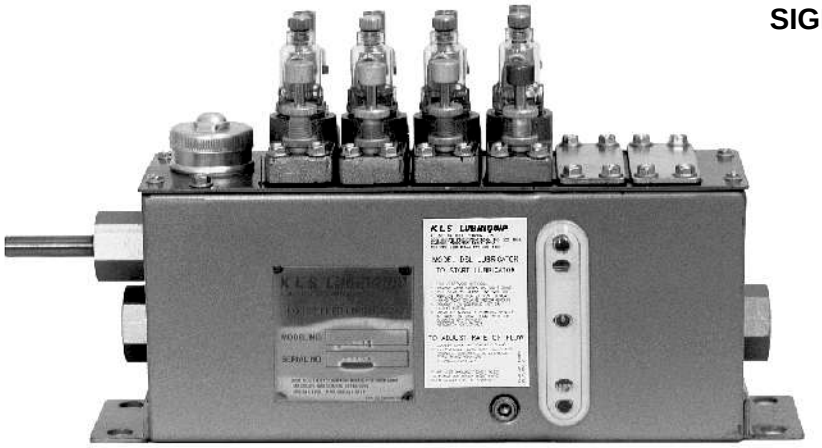
SVK PUMP
WITH LIQUID FILLED
SIGHT FEED

SVK LUBRICATOR



DSL PUMP
WITH
"DRY-VAC"
SIGHT GLASS



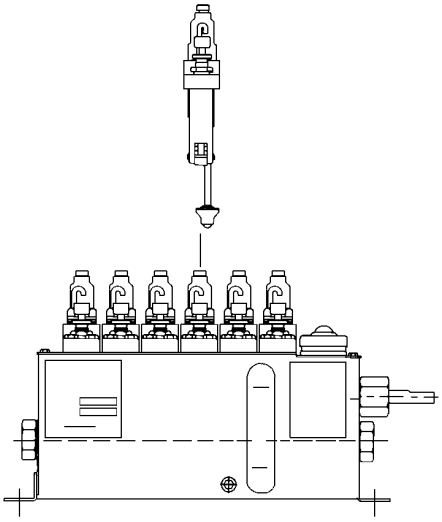


DSL LUBRICATOR

51050

DSL & SVK BOX LUBRICATOR

Wide choice of standard modular components helps you meet application requirements more exactly without the added costs of a custom system.



(DSL LUBRICATOR SHOWN)

DESCRIPTION

A basic pump-to-point system is shown in the illustration which depicts six pumps mounted on a common reservoir from which each pump is dispensing oil to a single lubrication point. These pumps are operated by individual cams on the drive shaft.

FEATURES / BENEFITS

- DSL & SVK Box Lubricators provide a proven, cost effective way to assemble customized oil systems that meet specific requirements by using standard modular components.
- DSL & SVK Box Lubricators increase opportunities to standardize lube system components and reduce lube maintenance and service costs.
- DSL & SVK Box Lubricators save you system design dollars and lead time.
- DSL & SVK Box Lubricators are dependable and backed by the industry's most comprehensive international distributor network-with application expertise, parts stocks and factory-trained service nearby, wherever you are located.

DSL PUMPS

Two configurations are available with the DSL Pumps. A standard vacuum inlet pump for applications using oil from the lubricator reservoir, and a pressurized inlet pump for use with systems requiring oil from an external source such as an overhead reservoir, a crankcase or central plant supply system. These pumps provide pressures up to 3,000 psi with mineral or synthetic oil. For more details and pump specifications see pages 4 & 6.

SVK PUMPS

In conjunction with a separate liquid sight feed assembly, this vacuum inlet pump can deliver pressures up to 5,000 psi with mineral or synthetic oil. For more details and pump specifications see pages 5 & 6.

The SVK Pump requires a liquid sight feed assembly. There are four SVK sight feeds to select from depending on your application and requirements. For more details and specifications of the sight feed see page 7.

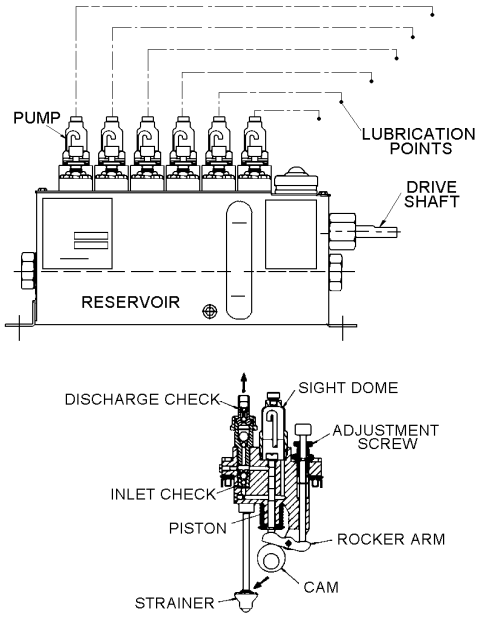
RESERVOIRS:

Five reservoir capacities are available to hold from 4—20 pints and accommodate from 1 to 15 pumps. Blank cover plates are available for unused pump stations. For more details see page 3.

DRIVE OPTIONS:

18 drive options are available from direct drive to a reduction ratio of 283:1. Options provide left- or right-hand end and front side/back side and bottom reservoir mounting. For details and ordering information see page 8.

PUMP-TO-POINT SYSTEM



(DSL LUBRICATOR SHOWN)

All working parts of the DSL & SVK Box Lubricators are totally enclosed away from dirt, water and impurities. And, each moving part is self-lubricated at all times by the fluid in the reservoir.

RESERVOIRS

Five reservoir sizes are available for the DSL & SVK Lubricator. Each is ruggedly built to reduce deflection and provide longer life.

Camshaft intermediate support bearings are side mounted to reservoir to provide maximum rigidity without adding length.

Each reservoir is equipped to handle the maximum number of pumps. Unused pump stations include cams and are covered with a gasketed, blank cover assembly that can easily be removed to convert to an active pump station.

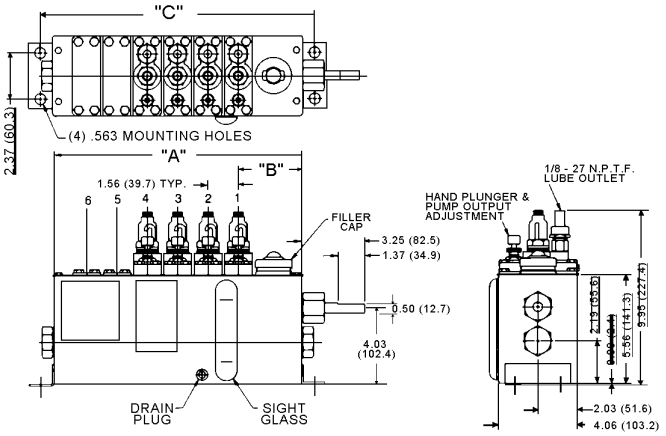
FEATURES / BENEFITS

- Rugged construction for durability
- Complete assembly - includes level sight gauge, fill cup and drain plug
- Precise camshaft alignment insures proper lubrication by all pumps
- Can be used in outdoor and ammonia (sour gas) environment

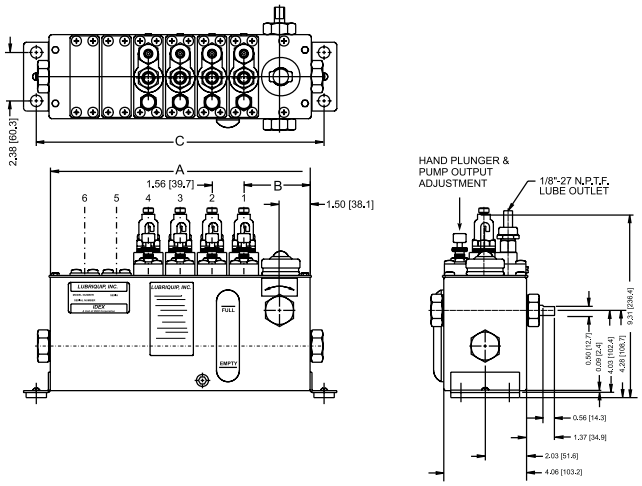
DIMENSIONS

CODE	PUMP	CAP'Y	"A"	"B"	"C"
R03	3	4 PINT	7.75	3.09	9.12
RO6	6	8 PINT	12.75	3.25	14.12
RO9	9	12 PINT	17.75	3.41	19.12
R12	12	16 PINT	22.75	3.56	24.12
R15	15	20 PINT	27.75	3.72	29.12

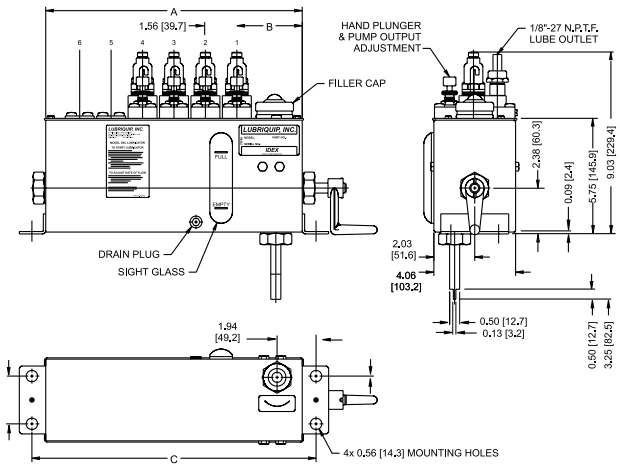
END ROTARY DRIVE



SIDE ROTARY DRIVE

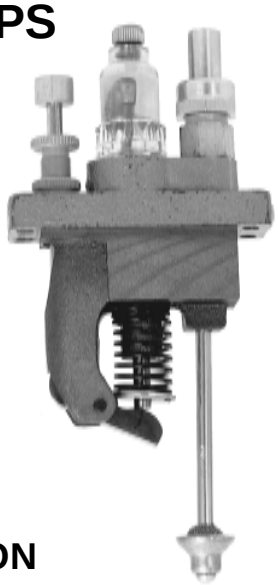


BOTTOM ROTARY DRIVE



LUBRIQUIP® Centralized Lubrication Systems

DSL PUMPS



DESCRIPTION

DSL Box Lubricators feature heavy-duty precision metering pumps capable of accurately delivering small flows of either mineral or synthetic oil to machinery injection points. The single-piston pump is mechanically driven from a common camshaft in the reservoir and is adjustable from 2.0 to 6.25 drops per stroke. The 18 drive options provide many variations to suit the application.

The pump's maximum pressure is 3,000 psi. All working parts are totally enclosed away from dirt, water, and impurities and self-lubricated at all times by the fluid in the watertight reservoir.

DSL Pumps are rugged, heavy duty units. The pump cylinder housing is a precision machined casting fitted with an alloy steel piston.

FEATURES / BENEFITS

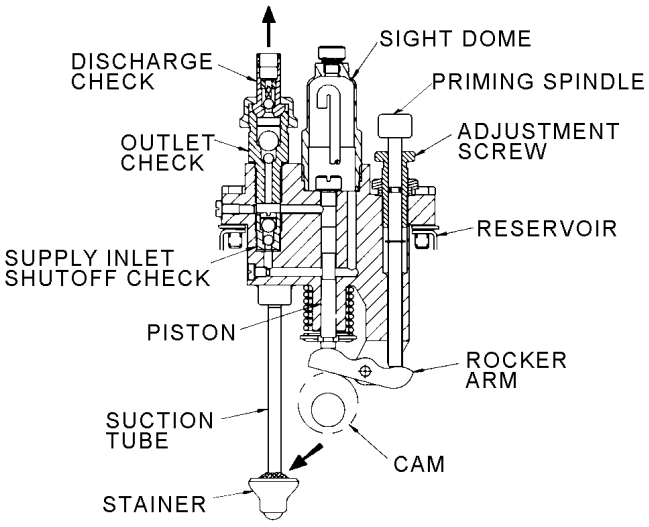
- Rugged construction for high performance and durability
- Easy serviceability-pumps can be added or replaced quickly
- Pump output is easily adjustable

OPERATION

Pumps With Drip Tube

Rotation of the lubricator cam actuates the pump rocker arm assembly to operate the pump piston. On the piston downstroke, spring pressure is exerted on the piston causing it to follow the cam. As it moves down, a pressure reduction (vacuum) is created between the piston and the outlet check valve and the valve closes. The supply inlet shutoff check is then unseated and lubricant is drawn into the piston cylinder from the sight well.

This creates a pressure reduction (vacuum) in the airtight sight well that causes lubricant from the reservoir to be drawn into the well until pressure is equalized. On the piston up-stroke, the oil in the cylinder is injected out through the discharge check valve to the machine injection point. The number of drops seen falling in the sight well is the amount of oil discharged by the pump. Each pump can be adjusted by means of an external screw. This changes the length of the



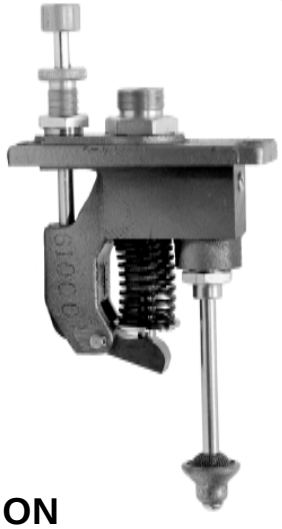
DSL PUMP WITH SIGHT GLASS

piston down-stroke which changes the pump discharge volume. On up-stroke the piston always stops at the uppermost point, regardless of displacement adjustment.

Pumps With Pressurized Supplies

Rotation of the lubricator cam actuates the pump rocker arm assembly to operate the pump piston. On the piston downstroke, spring pressure is exerted on the piston causing it to follow the cam. As it moves down, a pressure reduction (vacuum) is created between the piston and the outlet check valve and the valve closes. This allows the pressurized supply to unseat the supply inlet shutoff check and fill the piston bore with lubricant. On the piston upstroke, the piston forces the supply inlet shutoff check to seat and shut off the pressurized supply. Lubricant in the piston cylinder is forced out through the discharge check valve to the machine injection point. Each pump can be adjusted by means of an external screw. This changes the length of the piston down-stroke which changes the pump discharge volume. On up-stroke the piston always stops at the uppermost point, regardless of displacement adjustment.

SVK PUMPS



DESCRIPTION

SVK Box Lubricators feature heavy-duty precision metering pumps capable of accurately delivering small flows of either mineral or synthetic oils to machinery injection points. The single-piston pump is mechanically driven from a common camshaft in the reservoir and is adjustable from .5 to 3.4 or 6.25 drops per stroke. The 18 drive option provide many variations to suit the application.

The pump's maximum pressure is either 1,400 psi or 5,000 psi depending on the sight feed selected. All working parts are totally enclosed away from dirt, water, and impurities and self-lubricated at all times by the fluid in the water-tight reservoir.

SVK Pumps are rugged, heavy duty units. The pump cylinder housing is a precision machined casting fitted with an alloy steel piston.

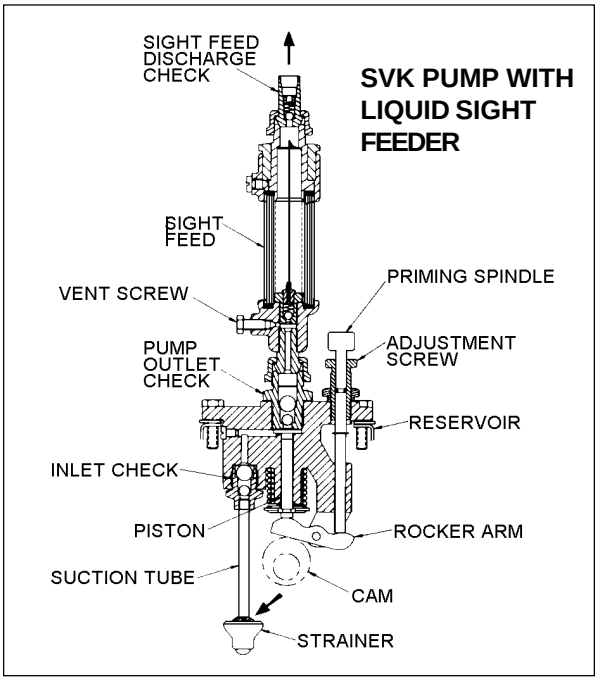
FEATURES / BENEFITS

- Rugged construction for high performance and durability
- Easy serviceability-pumps can be added or replaced quickly
- Pump output is easily adjustable

OPERATION
Pumps With Liquid Sight Feed

Rotation of the lubricator cam actuates the pump rocker arm assembly to operate the pump piston. On the piston downstroke, spring pressure is exerted on the piston causing it to follow the cam. As it moves down, a pressure reduction (vacuum) is created between the piston and the inlet and outlet checks, causing the inlet check to become unseated and lubricant to be drawn into the piston cylinder.

On the piston upstroke, the oil in the cylinder is injected out through the discharge check valve to the sight feed assembly. Once the oil is injected into the sight feed assembly, the sight feed check opens sending the oil to the oil guide line. As the oil is lighter than the liquid in the sight glass, it follows the oil guide line to the sight feed discharge to the machine injection point. The number of drops seen rising in the sight feed assembly is the amount of oil discharged by the pump. Each pump can be adjusted by means of an external screw. This changes the length of the piston down-stroke which changes the pump discharge volume. On up-stroke the piston always stops at the uppermost point, regardless of displacement adjustment.



Liquid Sightfeeds

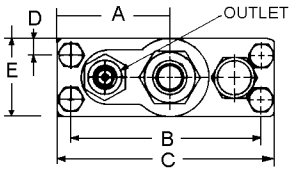
The SVK Lubricator offers four liquid sight feeds to choose from. Selection of a liquid sight feed is determined by pressure requirements. The 2 basic units are shown below, for additional information and specifications see page 7.

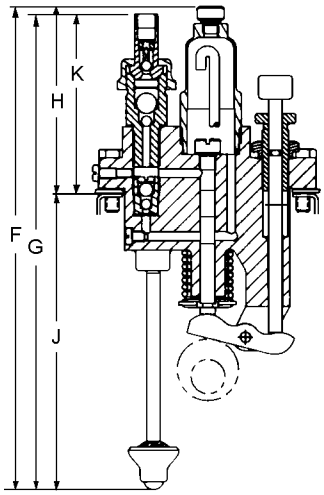
ADJUSTMENT, DSL AND SVK

Pump discharge (output flow) can be adjusted within the min./max. range as shown in the specifications. The adjustment is linear. Therefore, positioning the screw midway will produce one-half of the pump capacity. To adjust the flow, proceed as follows:

1. Loosen adjusting screw locknut.
2. Turn the adjusting screw to the desired position and, with the pump operating, count the drops falling in the sight well or rising in the sight feed for a one-minute interval.
3. Tighten adjusting screw locknut.

PUMP, DSL DIMENSIONS





Dim.	Inches	Mill.
A	2.06	52.4
B	3.50	88.9
C	4.00	101.6
D	0.31	7.9
E	1.44	36.5
F	8.80	223.7
G	8.67	220.1
H	3.41	86.7
J	5.39	137.0
K	3.27	83.2

ORDERING INFORMATION DSL

(D1) 9/32 Vacuum Inlet Pump 060360

(D2) 9/32 Pressurized Inlet Pump (10 psi max.) 060372

Vacuum Inlet Pump with Suction Tube length reduced by 1” 060371

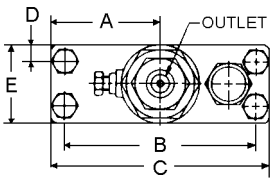
Calculate Minimum or Maximum Pump Output Capacity

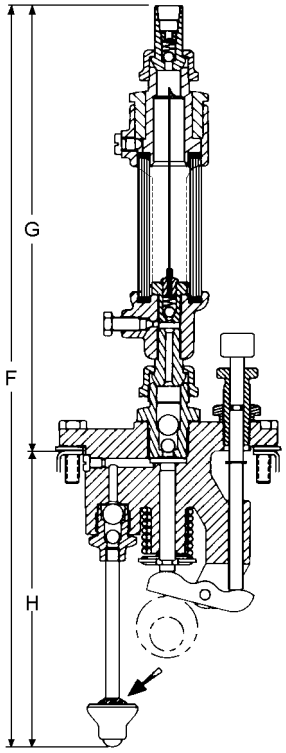
$$\frac{\text{Input Speed}}{\text{Gear Reduction}} \times \text{Pump Output (Mm. or Max. drops/stroke)} \times \text{1440 (Min./day)}$$

$$\frac{\quad}{\text{14115 (Number of Drops in a Pint)}} = \text{Mim. or Max. Pump Output (Pints Per Day)}$$

*Minimum and Maximum Drops Per Stroke Listed in the Specifications.

PUMP, SVK DIMENSIONS





Dim.	Inches	Mill.
A	2.00	50.8
B	3.50	88.9
C	4.00	101.6
D	0.31	7.9
E	1.44	36.5
F	13.52	343.4
G	8.13	206.5
H	5.39	137.0

SVK

(S1) 7/32 Vacuum Pump 061005

(S2) 9/32 Vacuum Pump 061031

9/32 Vacuum Pump with suction tube length reduced by 1” 061026

ORDERING CODE	PISTON SIZE (INCHES)	MAXIMUM PRESSURE (PSI)	*DROPS PER STROKE MAX.	*DROPS PER STROKE MIN.	CUBIC INCHES PER STROKE MAX.	CUBIC INCHES PER STROKE MIN.	CUBIC CENTIMETERS PER STROKE MAX.	CUBIC CENTIMETERS PER STROKE MIN.	STROKES PER MINUTE MAX.	STROKES PER MINUTE MIN.
D1	9/32	3000	6.25	2.0	0.15	.0048	.245	.079	25	3
D2	9/32	3000	6.25	2.0	.015	.0048	.245	.079	25	3
S1	7/32	1400/5000	3.4	0.5	.008	.0012	.131	.020	25	1
S2	9/32	1400/5000	6.25	0.5	.015	.0012	.245	.020	25	1

SVK-LIQUID SIGHT FEED ASSEMBLIES

SF1 - SF6
Maximum Pressure
1,400 psi

(SF 1) Part Number 050401

Medium pressure liquid sight feed assembly -1/8" NPTF outlet with 100% 3M brand fluorochemical FC-101, for use with all types of mineral and synthetic oils. (Previously filled with water/glycerin mixture)

(SF2) Part Number 050401S (Same as SF1, P.N. 050401)

Fluoro-filled medium pressure sight feed assembly -1/8" NPTF outlet with 100% 3M brand fluorochemical FC-101, for use with all types of mineral and synthetic oils.

(SF3) Part Number 050675

Same as (SF1) Part Number 050401 but with a 1/4" tube connector outlet.

(SF4) Part Number 050675S (Same as SF3, P.N. 050675)

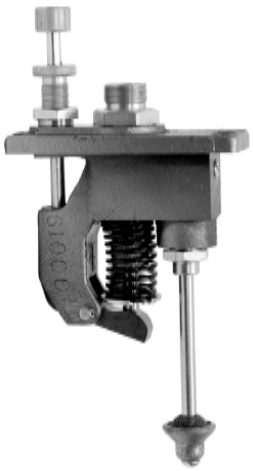
Same as (SF2) Part Number 050401S but with a 1/4" tube connector outlet.

(SF5) Part Number 050402

Same as (SF1) Part Number 050401 with a white background on the sight glass.

(SF6) Part Number 050402S (Same as SF5, P.N. 050402)

Same as (SF2) Part Number 050401S with a white background on the sight glass.



SF7 - SF8
Maximum Pressure
5,000 psi

(SF7) Part Number 040033

High pressure liquid sight feed assembly -1/8" NPTF outlet with 100% 3M brand fluorochemical FC-101, for use with all types of mineral and synthetic oils. (Previously filled with water/glycerin mixture)

(SF8) Part Number 040033S (Same as SF7, P.N. 040033)

Fluoro-filled high pressure sight feed assembly -1/8" NPTF outlet with 100% 3M brand fluorochemical FC-101, for use with all types of mineral and synthetic oils.

See Bulletin 15900 for Sight Feed Purge Block Assembly.

ORDERING INFORMATION

XXX-XXX-XX-XX-XXX-XXX-X-XXX-XX

LUBRICATOR MODEL
- DSL
- SVK

RESERVOIRS
- R3 4 PINT, 3 STATION
- R6 8 PINT, 6 STATION
- R9 12 PINT, 9 STATION
- R12 16 PINT, 12 STATION
- R15 20 PINT, 15 STATION

PUMP UNITS

DSL PUMPS
- D1 DSL VACUUM INLET, 9/32" PLUNGER
- D2 DSL PRESSURIZED INLET 9/32" PLUNGER

SVK PUMPS (SIGHT FEED ORDINARILY REQUIRED FOR SVK PUMPS-SEE BELOW)
- S1 SVK PUMP *7/32"* PLUNGER
- S2 SVK PUMP 9/32" PLUNGER

PUMP QUANTITY
- 0-15 (SEE NOTE 1)

***SIGHT FEEDS (SVK ONLY)**
- SF0 (NO SIGHT FEED REQUIRED)
- SF1 #50401 (FLUORO-FILLED SIGHT FEED 1,400 PSI MAX.) 1/8" NPTF OUTLET
- SF2 #50401S (FLUORO-FILLED SIGHT FEED 1,400 PSI MAX.) 1/8" NPTF OUTLET
- SF3 #50675 (SAME AS #50401 W/ 1/4" TUBE OUTLET CONNECTOR)
- SF4 #50675S (SAME AS #50401S W/ 1/4" TUBE OUTLET CONNECTOR)
- SF5 #50402 (SAME AS #50401 W/WHITE BACKGROUND)
- SF6 #50402S (SAME AS #50401S W/WHITE BACKGROUND)
- SF7 #40033 (HIGH PRESSURE, FLUORO-FILLED, 5,000 PSI MAX.) 1/8" NPTF OUTLET
- SF8 #40033S (HIGH PRESSURE, FLUORO-FILLED, 5,000 PSI MAX.) 1/8" NPTF OUTLET

DRIVE OPTION (SEE NOTE 2)

END ROTARY DRIVES
- ER1 1:1 RATIO (RIGHT OR LEFT HAND END)
- ER3 37.5:1 RATIO (RIGHT OR LEFT HAND END)
- ER4 75:1 RATIO (RIGHT OR LEFT HAND END)
- DR1 283:1 DOUBLE REDUCTION RATIO (RIGHT OR LEFT HAND END)

SIDE ROTARY DRIVES
- FS1 40:1 RATIO (FRONT SIDE, RIGHT OR LEFT HAND
- F52 60:1 RATIO (FRONT SIDE, RIGHT OR LEFT HAND)
- BS1 40:1 RATIO (BACK SIDE, RIGHT OR LEFT HAND)
- BS2 60:1 RATIO (BACK SIDE, RIGHT OR LEFT HAND)

BOTTOM ROTARY DRIVES
- BR1 1:1 RATIO (FRONT RIGHT CORNER ONLY)
- BR2 2-1/2:1 RATIO (FRONT RIGHT CORNER ONLY)

DRIVE LOCATIONS (SEE NOTE 2)
- R RIGHT HAND END OF RESERVOIR
- L LEFT HAND END OF RESERVOIR

***MOTOR MOUNTING BASES**
- P3 FOR 4 PINT RESERVOIRS
- P6 FOR 8 PINT RESERVOIRS
- P9 FOR 12 PINT RESERVOIRS
- P12 FOR 16 PINT RESERVOIRS
- P15 FOR 20 PINT RESERVOIRS

***MOTOR OPTIONS**
- M1 1/8HP, 1725 RPM, 115VAC, 60HZ, 1 PHASE, OPEN, NEMA 48 FRAME (P/N 070120)
- M2 1/8HP, 1450 RPM, 115VAC, 50HZ, 1 PHASE, OPEN, NEMA 48 FRAME (P/N 070121)

NOTES:

1. WHEN PUMP QUANTITY IS LESS THAN MAXIMUM PUMP STATIONS OF SPECIFIED RESERVOIR, BLANK COVER ASSEMBLY IS PLACED IN UNUSED PUMP STATION. UNUSED PUMP STATIONS INCLUDE CAMS.
2. FRONT OF LUBRICATOR FOR DETERMINING RIGHT AND LEFT ENDS IS SURFACE ON WHICH RESERVOIR LEVEL GAGE IS LOCATED.

* OMIT IF NOT REQUIRED

CERTIFICATE A3061 UL REGISTERED FIRM ISO 9001
LUBRIQUIP®