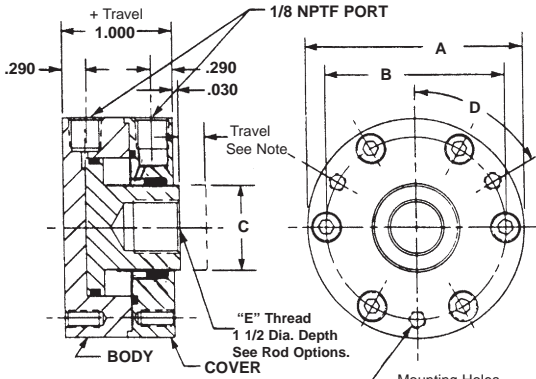


SHORT STROKE HYDRAULIC CYLINDERS, HI-ENERGY® SERIES 125-LS-SP-FM

Double Acting- Single Ended Pistons-Side Ported -Either Face Mounted



BASIC PART NO.	O.D. A	BOLT CIRCLE B	ROD DIA. C	DEG D	THD. E	THD. F	NO. G	WR. FLATS H	PISTON DIA. (IN)	EXTEND PISTON AREA (SQ.IN.)	RETRACT PISTON AREA (SQ.IN.)
S3513(-)-LS	1.500	1.142	0.438	90	5/16-24	8-32	2	0.375	0.738	0.428	0.277
S3514(-)-LS	1.625	1.260	0.500	90	5/16-24	8-32	2	0.375	0.863	0.585	0.389
S3515(-)-LS	1.750	1.358	0.563	90	5/16-24	10-32	2	0.438	0.925	0.672	0.423
S3516(-)-LS	1.875	1.457	0.625	90	3/8-24	10-32	2	0.500	0.993	0.774	0.467
S3517(-)-LS	2.000	1.575	0.688	90	3/8-24	10-32	2	0.500	1.118	0.982	0.610
S3518(-)-LS	2.125	1.713	0.750	90	1/2-20	10-32	2	0.625	1.243	1.213	0.772
S3519(-)-LS	2.250	1.831	0.813	60	1/2-20	10-32	3	0.625	1.368	1.470	0.951
S3520(-)-LS	2.375	1.949	0.875	60	1/2-20	10-32	3	0.688	1.493	1.751	1.150
S3521(-)-LS	2.500	2.067	1.000	60	5/8-18	10-32	3	0.750	1.600	2.010	1.226

Nom. Force (lbs) = Pressure (psi) times Area (sq.in.)

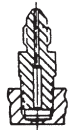
SPECIFICATIONS:

SERVICE, HYDRAULIC OIL
M.O.P. 1500 PSI
TEMPERATURE, -40 to +200 deg. F
MATERIALS:
BODY & COVER, BEARING BRONZE
PISTON, STAINLESS STEEL
FASTENERS, ALLOY STEEL
PISTON SEAL, "O" RING
ROD SEALS, LIP Style

NOTES:

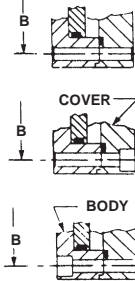
Dimensions are nominal in U.S. Customary specifications.
Covers may be oriented relative to bodies to offset port locations in increments of 180 deg. on 1.500" thru 2.125" O.D. cylinders and in increments of 120 deg. on 2.250" thru 2.500" O.D. cylinders.
Ports are offset to avoid fitting interference on cylinders with 1/10 (0.100) travel.
Metric cylinders are dimensionally equivalent except for conversion in mounting details where threads, fasteners, clearance holes & counter-bores are to metric standards. See inside rear cover for a table of metric fastener conversion. There is no added cost for this metric modification.
Wrench flats may not be necessary if cylinders can be pressurized in the retracted or extended position when tightening the rod connection.

OPTIONAL FITTING:



Fittings are supplied for 37 degree flared 1/8 O.D. metal tube or equivalent flexible hose. (Reference - S.A.E. -2)
Add suffix -37 to the BASIC PART NUMBER.
There is no added cost.

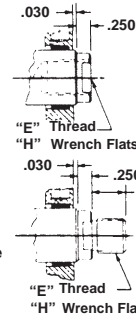
OPTIONAL MOUNTING STYLE:



Clearance holes for thru bolts of the size identified as "F" in the tabulated data.
Add suffix -CL to the BASIC PART NO.
Clearance holes with counter-bores on the cover side for internal socket head cap screws of the size shown as "F" in the tabulated data.
Add suffix -CBC to the BASIC PART NO.
Clearance holes with counter-bores on the body side for internal socket head cap screws of the size shown as "F" in the table.
Add suffix -CBB to the BASIC PART NO.

There is no added cost for mounting options.

OPTIONAL ROD ENDS:



Internal Thd. With Wrench Flats.
Add Suffix -ITW To The BASIC PART NUMBER.
Add 5% To The BASE PRICE.
External Thd. With Wrench Flats.
Add Suffix -ETW To The BASIC PART NUMBER.
Add 8% To The BASE PRICE.

ORDERING INFORMATION:

HOW TO ORDER BASIC CYLINDERS:
A BASIC PART NUMBER consists of the letter "S" and four digits followed by a dash number to indicate piston travel in increments of 1/10 (0.100) inch followed by the suffix -LS. Travel to -40 (4.000) is standard.

EXAMPLE = S3513-8-LS
S - BASIC PART NUMBER.
3513 - Lip Seal Suffix
8 - Indicates Piston Travel
Letter & four digits from the table.

HOW TO ORDER CYLINDERS WITH OPTIONS:
Add options to the BASIC PART NUMBER as suffixes in any order.

EXAMPLE = S3513-8-LS-ETW
ETW - External Rod Thd. Option.
S3513-8-LS - BASIC PART NUMBER.

HOW TO ORDER ALL STAINLESS STEEL CYLINDERS:
Add another letter "S" as a prefix to a BASIC PART NO.
Add 20% to the BASE PRICE.

EXAMPLE = S-S3513-8-LS
S - BASIC PART NUMBER
S - All Stainless Steel Prefix

HOW TO ORDER METRIC CYLINDERS:
A BASIC PART NUMBER FOR METRIC CYLINDERS consists of the letter "S" and a four digit number from the table with a prefix "M" followed by a dash number to indicate travel in millimeters and the suffix -LS. Please see inside rear cover for metric thread and travel conversions. There is no added cost.

EXAMPLE = M-S3513-20-LS
M - Metric Prefix
S3513 - Suffix
20 - Travel in Millimeters
From The Table
LS - Metric Prefix

HOW TO ORDER CYLINDERS WITH SEALS FOR TEMPERATURES TO 275 DEGREES.
Add the letter "H" as a prefix to a BASIC PART NO.
Add 10% to the BASE PRICE.

EXAMPLE = H-S3513-8-LS
H - High Temperature Seals
S3513-8-LS - BASIC PART NUMBER.

HOW TO ORDER SERVICE KITS:
Specify the complete part number followed by the suffix "SK".

EXAMPLE = S3513-8-LS-SK
S3513-8-LS - Complete part number
SK - Indicates SERVICE KIT

