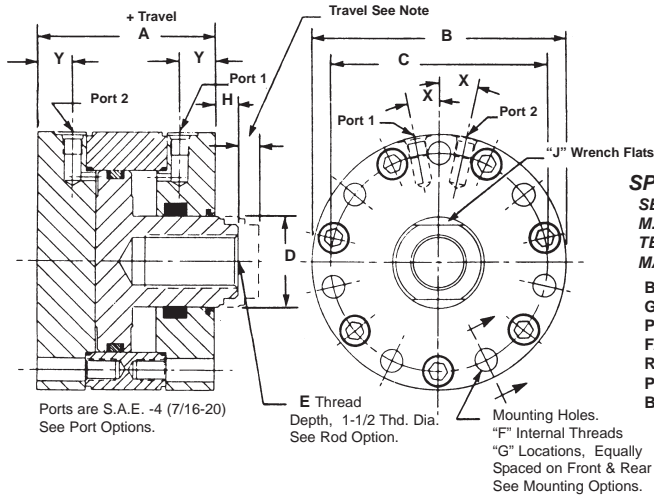


SHORT STROKE HYDRAULIC CYLINDERS, HI-ENERGY® SERIES 3000-LS-SP-FM

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



SPECIFICATIONS:

SERVICE, HYDRAULIC OIL
M.O.P., 3000 PSI
TEMPERATURE, -40 TO 275 deg. F
MATERIALS:

BODY & PLAIN COVER, STAINLESS STEEL
GUIDE COVER, BEARING BRONZE
PISTON, STAINLESS STEEL
FASTENERS, ALLOY STEEL, I.S.H.C.S.
ROD SEALS, LIP STYLE
PISTON HEAD SEAL, "O" RING
BACKUP RINGS, TEFLON

NOTES:

Dimensions are nominal in U.S. Customary units.

Metric versions are dimensionally equivalent except for conversion in mounting details where fasteners, threads, clearance holes & counter-bores are to metric standards. Please see inside rear cover for a table of U.S. Customary to Metric fastener and travel conversion.

There is no added cost for this metric modification.

Angular relationship between Ports 1 & 2 may be adjusted in increments of "K" degrees by removing cover bolts from one side indexing the cover to a new location & re-torquing to values shown in column "L".

All inquiries regarding modification to standard cylinders are welcome.

BASIC PART NUMBER	A	O.D. B	B.C. C	ROD DIA. D	ROD THD. E	THD. F	NO. G	H	W.F. J	DEG. K	TORQ. (in.lbs) DEG.			BORE DIA. (IN.)	EXT. PISTON AREA (SQ. IN.)	RETR. PISTON AREA (SQ. IN.)
											L	X	Y			
HS3668 (-) -LS	3.125	2.250	1.657	0.625	3/8-24	5/16-24	2	0.375	0.500	180	145	90	0.575	1.125	0.99	0.68
HS3669 (-) -LS	3.125	2.500	1.907	0.750	3/8-24	5/16-24	2	0.375	0.625	180	145	90	0.575	1.375	1.48	1.04
HS3670 (-) -LS	3.250	3.000	2.345	0.875	1/2-20	5/16-24	4	0.375	0.750	90	145	22-1/2	0.638	1.750	2.40	1.80
HS3671 (-) -LS	3.375	3.500	2.782	1.125	5/8-18	3/8-24	4	0.407	0.938	90	265	22-1/2	0.700	2.125	3.54	2.55
HS3672 (-) -LS	3.375	4.000	3.220	1.250	3/4-16	3/8-24	5	0.407	1.063	72	265	18	0.700	2.500	4.90	3.68
HS3673 (-) -LS	3.625	4.500	3.657	1.375	3/4-16	7/16-20	5	0.407	1.125	72	412	18	0.825	2.875	6.49	5.00
HS3674 (-) -LS	3.625	5.000	4.157	1.625	1-14	7/16-20	6	0.438	1.375	60	412	15	0.825	3.375	8.94	6.87
HS3675 (-) -LS	3.625	5.500	4.595	1.750	1-14	1/2-20	6	0.438	1.500	60	650	15	0.825	3.750	11.04	8.63
HS3676 (-) -LS	3.625	6.000	5.095	2.125	1-1/4-12	1/2-20	7	0.438	1.750	51.5	650	13	0.825	4.250	14.18	10.63

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

International Port Options:

- U.S.A. - 1/8 NPTF port. Tapered thread sealing. Add suffix -1/8 NPTF to the BASIC PART NO.
- BRITISH 1/8 - 28 BSPT port. Tapered thread sealing. Add suffix -BSPT to the BASIC PART NUMBER.
- BRITISH 1/8-28 BSPP port. Str. thd. with "O" ring sealing. Add suffix -BSPP to the BASIC PART NUMBER.
- METRIC M10 X 1 port per Spec. ISO-6149. Str. thd. with captive "O" ring sealing. Add suffix -M10 to the BASIC PART NUMBER.

OPTIONAL PORTS ARE FURNISHED AT NO ADDED COST.

Mounting Options:

- Clearance holes for thru bolts of the size shown as "F" in the table. Add suffix -CL to the BASIC PART NUMBER.
- Clearance holes with counter-bores in the cover which incorporates "PORT # 1" for internal socket head cap screws of size shown as "F" in the table. Add suffix -CB1 to the BASIC PART NUMBER.
- Clearance holes with counter-bores in the cover which incorporates "PORT # 2" for internal socket head cap screws of size shown as "F" in the table. Add suffix -CB2 to the BASIC PART NUMBER.

OPTIONAL MOUNTING IS SUPPLIED AT NO ADDED COST

Rod End Options:

- Rod end with external thread and wrench flats. Add suffix -ETW to the BASIC PART NUMBER. Add 4% to the BASE PRICE.

Ordering Information:

HOW TO ORDER BASIC CYLINDERS

A BASIC PART NUMBER consists of two letters & 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 = HS3668-8-LS
 HS3668 - BASIC PART NUMBER
 8 - Lip seal suffix
 LS - Piston travel of 8/10 (0.800)
 Two letters & four digits from the table.

HOW TO ORDER CYLINDERS WITH OPTIONS

Add options to the BASIC PART NUMBER as suffixes in any order.

EXAMPLE = HS3668-8-LS-CL
 HS3668 - BASIC PART NUMBER
 8 - Lip seal suffix
 LS - Piston travel of 8/10 (0.800)
 CL - Cl. holes for mounting

HOW TO ORDER METRIC VERSIONS

A BASIC PART NUMBER FOR METRIC VERSIONS consists of two letters & four digits from the table with a prefix "M" and a suffix to indicate piston travel in millimeters followed by the suffix -LS. Please see inside rear cover for travel and thread conversion.

EXAMPLE = M HS3658-10(mm)-LS
 M - Metric prefix
 HS3658 - From the table
 10 - Travel in millimeters
 LS - Suffix

HOW TO ORDER SERVICE KITS

Specify the COMPLETE PART NO. followed by the suffix -SK.

EXAMPLE = HS3658-3-LS-SK
 HS3658 - BASIC PART NUMBER
 3 - Indicates service kit only
 LS - Suffix

