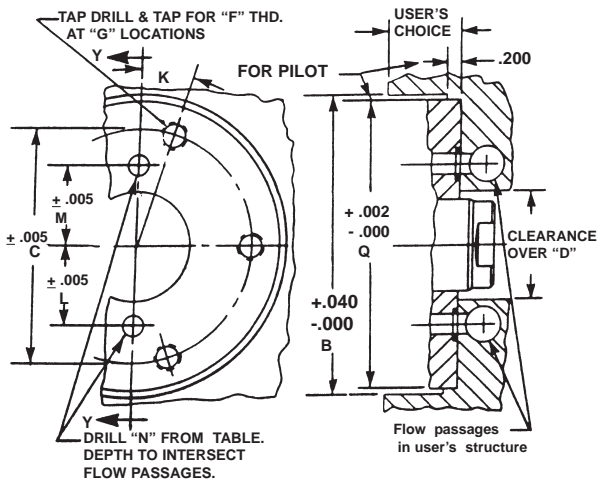
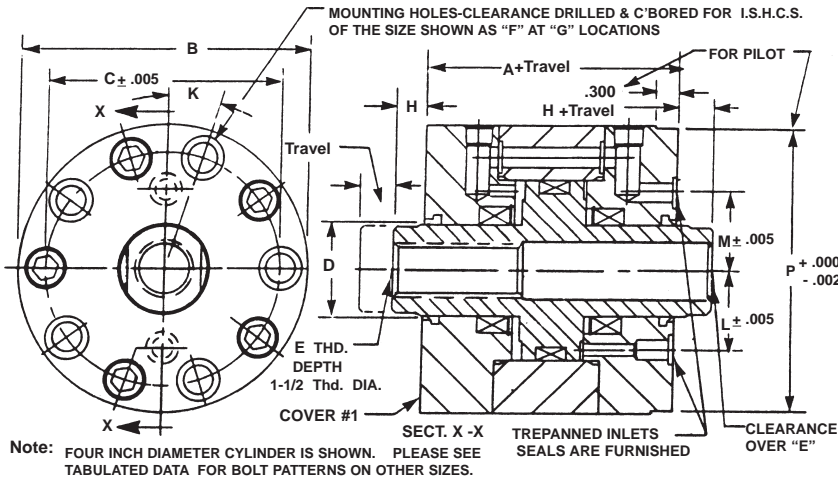


SHORT STROKE HYDRAULIC CYLINDERS - HI-ENERGY® SERIES 3000-LS-ET-PM

Double Acting-Double Ended Pistons With Thru Thd.-End Trepan Ported-Pocket Mounted™

PRODUCT DETAILS:

SUGGESTED MOUNTING DETAILS:



Note: FOUR INCH DIAMETER CYLINDER IS SHOWN. PLEASE SEE TABULATED DATA FOR BOLT PATTERNS ON OTHER SIZES.

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	OFF SET L	OFF SET M	DRILL N	CLY. PILOT P	POCKET PILOT Q	BORE DIA. (IN.)	NET PISTON AREA (SQ.IN.)	
																	Area	Stroke
HS6213(-)LS	3.125	2.250	1.657	0.625	3/8-24	5/16-24	2	0.375	0.500	90	0.660	0.813	0.156	2.220	2.222	1.125	0.68	
HS6214(-)LS	3.125	2.500	1.907	0.750	3/8-24	5/16-24	2	0.375	0.625	90	0.720	0.938	1.156	2.470	2.472	1.375	1.04	
HS6215(-)LS	3.250	3.000	2.345	0.875	1/2-20	5/16-24	4	0.375	0.750	22.5	0.820	0.820	0.219	2.970	2.972	1.750	1.80	
HS6216(-)LS	3.375	3.500	2.782	1.125	5/8-18	3/8-24	4	0.407	0.938	22.5	1.020	1.020	0.219	3.470	3.472	2.125	2.55	
HS6217(-)LS	3.375	4.000	3.220	1.250	3/4-16	3/8-24	5	0.407	1.063	18	1.100	1.100	0.281	3.970	3.972	2.500	3.68	
HS6218(-)LS	3.625	4.500	3.657	1.375	3/4-16	7/16-20	5	0.407	1.125	18	1.200	1.280	0.281	4.470	4.472	2.875	5.00	
HS6219(-)LS	3.625	5.000	4.157	1.625	1-14	7/16-20	6	0.438	1.375	15	1.400	1.400	0.281	4.970	4.972	3.375	6.87	
HS6220(-)LS	3.625	5.500	4.595	1.750	1-14	1/2-20	6	0.438	1.500	15	1.500	1.500	0.281	5.470	5.472	3.750	8.63	
HS6221(-)LS	3.625	6.000	5.095	2.125	1 1/4-12	1/2-20	7	0.500	1.750	12.86	1.700	1.700	0.281	5.970	5.972	4.250	10.63	

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

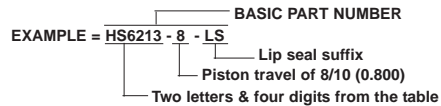
SPECIFICATIONS:

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

Ordering Information:

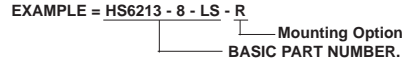
HOW TO ORDER BASIC CYLINDERS:

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.



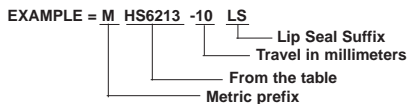
HOW TO ORDER CYLINDERS WITH OPTIONS:

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



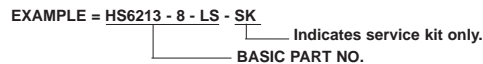
HOW TO ORDER METRIC VERSIONS

A BASIC PART NUMBER FOR METRIC MODIFICATIONS 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.



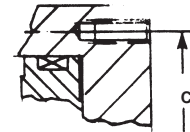
HOW TO ORDER SERVICE KITS

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



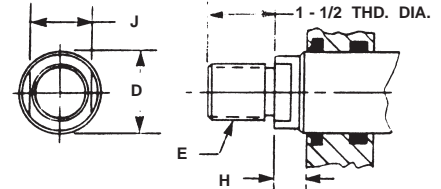
Mounting Option:

"F" internally threaded holes at "G" locations in the rear mounting face. Add suffix -R to the BASIC PART NO. There is no added cost. Intended as an option where attachment from the rear is preferred.



Rod End Options:

Rod end with external thread and wrench flats extending from cover #1. Piston is solid. Add suffix -ETW to the BASIC PART NUMBER. Add 8% to the BASE PRICE.



Note:

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 CONVERSION. THERE IS NO ADDED COST FOR THIS METRIC MODIFICATION. ALL INQUIRIES REGARDING MODIFICATIONS TO STANDARD CYLINDERS ARE WELCOME.