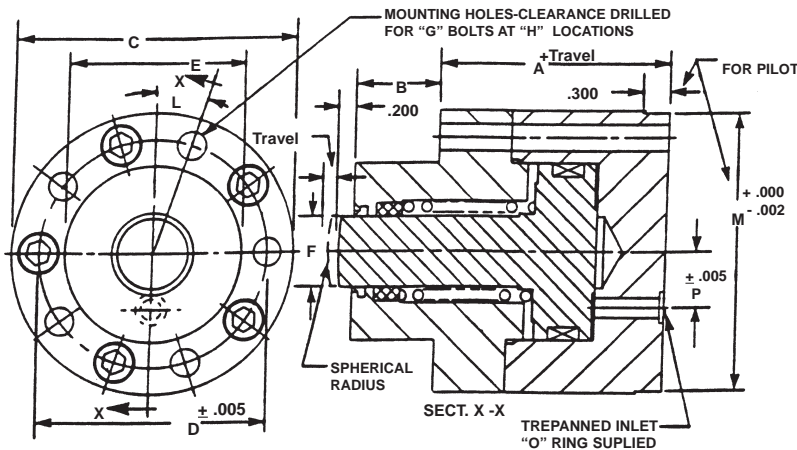


SHORT STROKE HYDRAULIC CYLINDERS - HI-ENERGY® SERIES 3000-LS-ET-PM

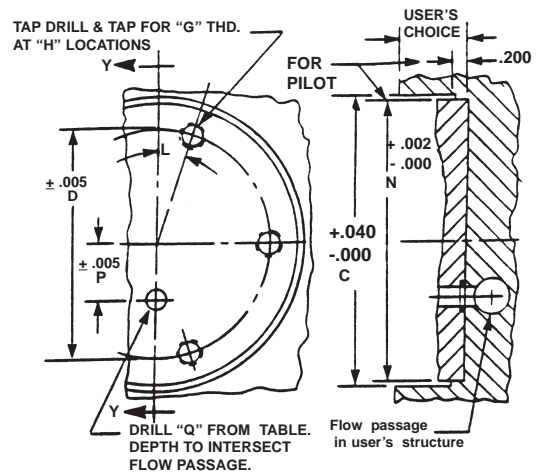
Single Acting-Spring Retracted-Single Ended Pistons-End Trepan Ported-Pocket Mounted™

PRODUCT DETAILS:



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

SUGGESTED MOUNTING DETAILS:



SPECIFICATIONS:

SERVICE, HYDRAULIC OIL
M.O.P., 3000 PSI
TEMPERATURE, -40 TO 250 deg. F
MATERIALS:

COVERS & BODY, STAINLESS STEEL
BUSHING, SINTERED BRONZE
PISTONS, STAINLESS STEEL
SPRING, OIL TEMPERED STEEL
FASTENERS, ALLOY STEEL, I.S.H.C.S.
PISTON HEAD SEAL, "O" RING
BACKUP RINGS, TEFLON

BASIC PART NUMBER	A	B	C	D	E	F	G	H	J	K	L	W.F. DEG.	CYL. PILOT	POCKET PILOT	OFF SET	PISTON DRILL	PISTON DIA. (IN.)	PISTON AREA (SQ.IN.)
HS6184(-)	2.875	1.075	2.250	1.657	1.125	0.500	5/16-24	2	5/16-24	0.375	90	2.220	2.222	0.450	0.156	1.125	0.99	
HS6185(-)	2.875	1.075	2.500	1.907	1.375	0.688	5/16-24	2	3/8-24	0.500	90	2.470	2.472	0.438	0.156	1.375	1.48	
HS6186(-)	3.000	1.013	3.000	2.345	1.750	0.750	5/16-24	4	1/2-20	0.625	22.5	2.970	2.972	0.510	0.219	1.750	2.40	
HS6187(-)	3.125	1.200	3.500	2.782	2.125	1.000	3/8-24	4	3/4-16	0.875	22.5	3.470	3.472	0.640	0.219	2.125	3.54	
HS6188(-)	3.125	1.200	4.000	3.220	2.500	1.000	3/8-24	5	3/4-16	0.875	18	3.970	3.972	0.780	0.281	2.500	4.90	
HS6189(-)	3.375	1.325	4.500	3.657	2.875	1.188	7/16-20	5	7/8-14	1.000	18	4.470	4.472	0.880	0.281	2.875	6.49	
HS6190(-)	3.375	2.075	5.000	4.157	3.375	1.875	7/16-20	6	1-1/4-12	1.500	15	4.970	4.972	1.000	0.281	3.375	8.94	
HS6191(-)	3.375	2.075	5.500	4.595	3.625	1.875	1/2-20	6	1-1/4-12	1.500	15	5.470	5.472	1.040	0.281	3.750	11.04	
HS6192(-)	3.375	2.075	6.000	5.095	4.000	1.875	1/2-20	7	1-1/4-12	1.500	12.88	5.970	5.972	1.250	0.281	4.250	14.18	

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

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. Travel to -10 (1.000) is standard. Please consult the Factory for longer travels.

EXAMPLE = HS6184 - 3 BASIC PART NUMBER

Indicates piston travel of 3/10 (0.300)
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 = HS6184 - 3 - R

Optional mounting.
BASIC PART NUMBER.

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. Please see inside rear catalog cover for travel and thread conversion.

EXAMPLE = M HS6184 - 10 (mm)

Travel in millimeters
From the table
Metric prefix

HOW TO ORDER SERVICE KITS

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

EXAMPLE = HS6184 - 3 - SK

Indicates service kit.
BASIC PART NO.

HOW TO ORDER CYLINDERS FOR OPERATING AT HIGHER TEMPERATURES

Upgrading springs to stainless steel and converting seals to fluorocarbon will permit operating at higher temperatures. Please consult the Factory.

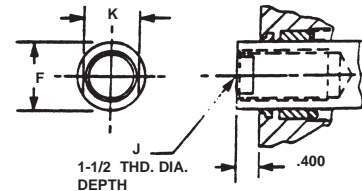
Rod End Options:

"G" internally threaded holes at "H" 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.

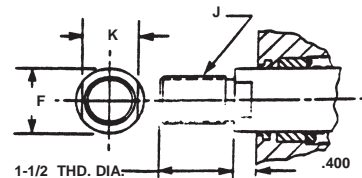


Rod End Options:

Rod end with internal thread and wrench flats. Add suffix -ITW to the BASIC PART NUMBER. Add 5% to the BASE PRICE.



Rod end with external thread and wrench flats. Add suffix -ETW to the BASIC PART NUMBER. Add 8% to the BASE PRICE.



Note:

Spring force for BASIC CYLINDERS is sufficient to fully retract pistons. Higher spring force may be required where additional load is attached to threaded rod ends. Please consult the Factory.

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.