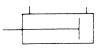
HUMPHREY BLOCK CYLINDERS

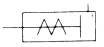
DOUBLE ACTING, SINGLE ACTING-PUSH AND SINGLE ACTING-PULL TYPES

SYMBOLS

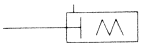
Double Acting (HJDA)



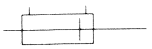
Single Acting-Push (HJSA)



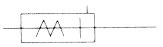
Single Acting-Pull (HJTA)



Double Acting-Double Rod (HJDAD)



Single Acting-Double Rod (HJSAD)



SPECIFICATIONS

Item		Nominal bore size inch (mm)									
		1/2 (12)	5/8 (16)	3/4 (20)	1 (25)	1 1/4 (32)	1 1/2 (40)	2 (50)	2 1/2 (63)	3 1/4 (80)	4 (100)
Operation		All double & single acting types							All double acting types		
Media		Air									
Pressure – PSI (kgf/cm²)		30 ~ 100 (2 ~ 7)			25 ~ 100 (1.5 ~ 7)			15 ~ 100 (1 ~ 7)			
Temperature °F (°C)		32 ~ 140 (0 ~ 60)									
Operating speeds in./sec. (mm/sec.)	Double	1 ~ 20 (30 ~ 500)					1 ~ 13.5 (30 ~ 350)			1 ~ 10 (30 ~ 250)	
	Single	4 ~ 20 (100 ~ 500)							–		
Bumpers	Double	Not available					Optional				
	Single	Not available							–		
Lubrication		Not required									
Port size		10 ~ 32				1/8 NPT		1/4 NPT		3/8 NPT	

NOTE : Refer to page 56 for mounting and handling tips.

BORES AND STROKES

Operation	Nominal bore in. (mm)	Standard Strokes – in. (maximum stroke)	
		w/o magnet	w/magnet
Double	1/2 (12) 5/8 (16)	1/4, 3/8, 1/2, 5/8, 3/4, 1 [2]	3/8, 1/2, 5/8, 3/4, 1 [1 1/4]
	3/4 (20)	1/4, 3/8, 1/2, 5/8, 3/4, 1 [2 5/8]	3/8, 1/2, 5/8, 3/4, 1 [2 1/4]
	1 (25)	1/4, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2 [2 5/8]	1/2, 3/4, 1, 1 1/4, 1 1/2, 2 [2 1/4]
	1 1/4 (32)	1/4, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2 [4 3/8]	1/2, 3/4, 1, 1 1/4, 1 1/2, 2 [4]
	1 1/2 (40)	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 2, 3, 4 [4 3/8]	3/8, 1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 3, 4, [4]
	2 (50) 2 1/2 (63)	1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 3, 4 [4 3/8]	1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 3, 4 [4]
	3 1/4 (80) 4 (100)	1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 3, 4	1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 3, 4 [4 1/4]
Single	1/2 (12) 5/8 (16) 3/4 (20)	1/4, 3/8, 1/2, 5/8, 3/4, 1 [1 1/4]	3/8, 1/2, 5/8, 3/4, 1 [1 1/4]
	1 (25) 1 1/4 (32)	1/4, 1/2, 3/4, 1, 1 1/4, [1 1/4]	1/2, 3/4, 1, 1 1/4, [1 1/4]
	1 1/2 (40)	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1 1/4, [1 1/4]	3/8, 1/2, 5/8, 3/4, 1, 1 1/4, [1 1/4]
	2 (50)	1/2, 3/4, 1, 1 1/4, 1 1/2, [1 1/2]	1/2, 3/4, 1, 1 1/4, [1 1/2]

HOW TO ORDER INFORMATION

HJ | DA | ☐ | 25 x 1/4 – ☐ – ☐

- HJ — SERIES: Block cylinder
- DA — TYPE
  - **DA:** Double acting
  - **SA:** Single acting - push
  - **TA:** Single acting - pull
  - **DAD:** Double acting - double rod
  - **SAD:** Single acting - double rod
- ☐ — OPTIONS
  - **Blank** : No option
  - **S:** Magnet[2]
  - **F:** Fluoroelastomer[3]
- 25 x 1/4 — BORE[1] x STROKE
- ☐ — ROD OPTIONS[5]
  - **Blank:** Female rod
  - **B:** Male rod
  - **N:** Plain rod
- ☐ — Blank: No Bumper; **R:** Bumper[4]

NOTE : Ordering strokes over 1", use __"__ /__. Examples: 1"1/4, 2"1/8.

NOTE 1: When ordering bore size, specify by using actual mm bore size.

NOTE 2: Refer to Sensor Section for sensor switch selection and information.

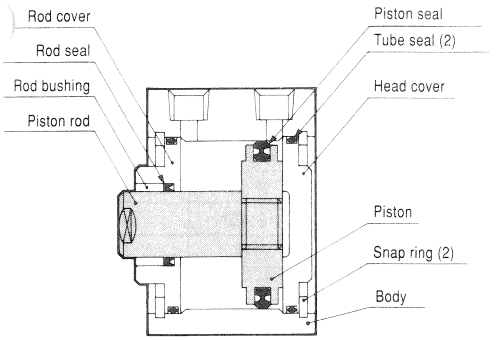
NOTE 3: Fluoroelastomer option not available with Magnet (S) and Bumper (R) options.

NOTE 4: Bumper option only available in bore sizes 1 1/2 (40) thru 4 (100).

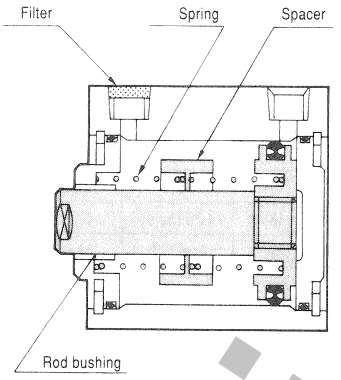
NOTE 5: Rod end specification applies to both rod ends when ordering types HJDAD and HJSAD. Refer to page 52 for male rod thread (B) and plain rod (N) information. Rod nuts sold separately.

INNER CONSTRUCTION AND MAJOR PARTS

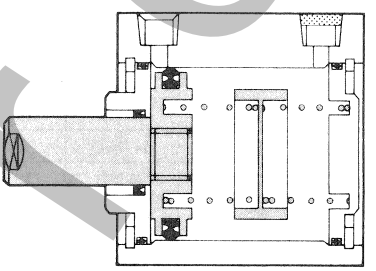
Double acting (HJDA)



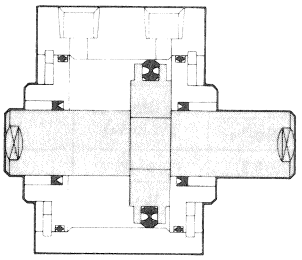
Single acting – push (HJSA)



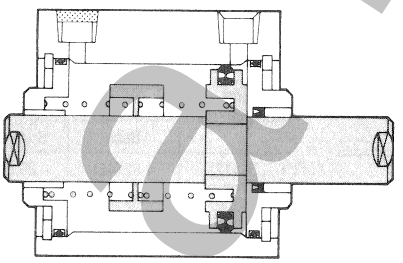
Single acting – pull (HJTA)



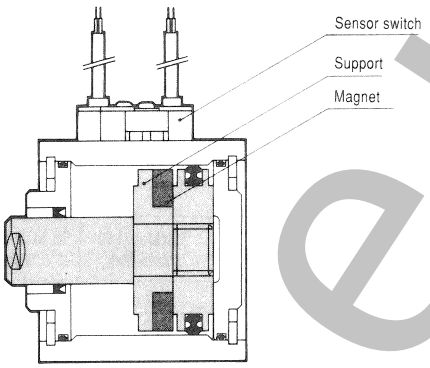
Double acting – double rod (HJDAD)



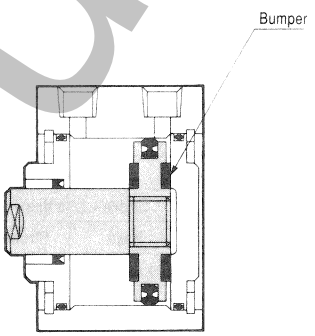
Single acting – double rod (HJSAD)



Magnet/sensor option



Bumper option



MATERIALS OF MAJOR PARTS

Item	Nominal bore size inch (mm)									
	1/2 (12)	5/8 (16)	3/4 (20)	1 (25)	1 1/4 (32)	1 1/2 (40)	2 (50)	2 1/2 (63)	3 1/4 (80)	4 (100)
Body	Aluminum (anodized)									
Piston	Stainless steel		Aluminum (anodized)[1]							
Piston rod	Stainless steel			Hard steel (chrome plated)[1]						
Seals (piston, rod, tube)	Buna N standard (fluoroelastomer option)									
Rod bushing	None		Double act. – oil permeated bronze, single act. – bronze							
Rod cover	Phosphorous bronze		Aluminum (anodized)							
Head cover	Aluminum (anodized)									
Snap ring	Hard steel									
Spacer	Aluminum (anodized)									
Spring	Music wire							–		
Filter	Porous aluminum							–		
Magnet	Resinous magnet									
Support	Aluminum (anodized)									
Bumper	Buna N									

NOTE[1]: Models HJTA 20 and 25, and HJSA 20 and 25 have stainless steel pistons and piston rods.

WEIGHTS

DOUBLE ACTING – SINGLE ROD oz.(gf)

Bore nominal (mm)	Base weight	Add-on weight	
		Stroke per 1/4"	Magnet option
1/2 (12)	1.27 (36)	.29 (8.3)	.07 (2)
5/8 (16)	1.64 (46.5)	.40 (11.4)	.16 (4.5)
3/4 (20)	2.19 (62)	.54 (15.2)	.21 (6)
1 (25)	3.07 (87)	.74 (21)	.53 (15)
1 1/4 (32)	4.69 (133)	.88 (24.8)	.81 (23)
1 1/2 (40)	6.88 (195)	1.26 (35.6)	1.87 (53)
2 (50)	11.07 (314)	1.70 (48.3)	3.35 (95)
2 1/2 (63)	15.73 (446)	2.08 (59.1)	4.51 (128)
3 1/4 (80)	29.91 (848)	3.22 (91.4)	6.74 (191)
4 (100)	53.96 (1530)	4.57 (129.5)	12.34 (350)

NOTE: The chart depicts standard strokes.

DOUBLE ACTING – DOUBLE ROD oz.(gf)

Bore nominal (mm)	Base weight	Add-on weight	
		Stroke per 1/4"	Magnet option
1/2 (12)	1.44 (41)	.34 (9.5)	.07 (2)
5/8 (16)	1.75 (49.5)	.47 (13.3)	.16 (4.5)
3/4 (20)	2.33 (66)	.62 (17.7)	.21 (6)
1 (25)	3.32 (94)	.87 (24.7)	.53 (15)
1 1/4 (32)	5.08 (144)	1.07 (30.4)	.67 (19)
1 1/2 (40)	7.48 (212)	1.61 (45.6)	1.83 (52)
2 (50)	12.42 (352)	2.28 (64.6)	3.17 (90)
2 1/2 (63)	17.85 (506)	2.63 (74.7)	3.99 (113)
3 1/4 (80)	36.57 (1037)	4.09 (115.9)	6.60 (187)
4 (100)	62.08 (1760)	5.99 (169.7)	14.11 (400)

NOTE: The chart depicts standard strokes.

SENSOR SWITCH (INCLUDES HOLDER)

Model	oz. (gf)
CS9HA-HJDAS	1.41 (40)
CS3HA-HJDAS	1.06 (30)
CS4HA-HJDAS	1.06 (30)
CS5HA-HJDAS	1.06 (30)

SINGLE ACTING – PUSH oz. (gf)

Bore Nominal (mm)	Weights: base plus stroke (per 1/4")				Magnet option	
	Stroke – less than 3/4"		3/4" Stroke to 1 1/4"		1/2 (Model 50 1/2 to 3/4)	3/4 to 1 1/4 (Model 50 1 to 1 1/4)
	Base	Stroke/1/4	Base	Stroke/1/4		
1/2 (12)	1.66 (47)	.29 (8.3)	3.40 (96.5)	.29 (8.3)	.07 (2)	.30 (8.5)
5/8 (16)	1.78 (50.5)	.43 (12.1)	4.16 (118)	.43 (12.1)	.16 (4.5)	.42 (12)
3/4 (20)	2.36 (67)	.54 (15.2)	5.54 (157)	.54 (15.2)	.21 (6)	.63 (18)
1 (25)	3.40 (96.5)	.74 (21)	7.18 (203.5)	.74 (21)	.53 (15)	1.13 (32)
1 1/4 (32)	4.64 (131.5)	.87 (24.8)	10.28 (291.5)	.87 (24.8)	.81 (23)	1.52 (43)
1 1/2 (40)	6.91 (196)	1.26 (35.6)	15.98 (453)	1.26 (35.6)	1.87 (53)	2.86 (81)
2 (50)	11.18 (317)	1.70 (48.3)	26.81 (760)	1.70 (48.3)	3.35 (95)	3.35 (95)

NOTE: The chart depicts standard strokes.

SINGLE ACTING – PULL oz. (gf)

Bore Nominal (mm)	Weights: base plus stroke (per 1/4")				Magnet option	
	Stroke – less than 3/4"		3/4" Stroke to 1 1/4"		1/2 (Model 50 1/2 to 3/4)	3/4 to 1 1/4 (Model 50 1 to 1 1/4)
	Base	Stroke/1/4	Base	Stroke/1/4		
1/2 (12)	1.62 (46)	.29 (8.3)	2.87 (81.5)	.29 (8.3)	.07 (2)	.30 (8.5)
5/8 (16)	1.83 (52)	.43 (12.1)	3.56 (101)	.43 (12.1)	.16 (4.5)	.42 (12)
3/4 (20)	2.43 (69)	.54 (15.2)	4.76 (135)	.54 (15.2)	.21 (6)	.63 (18)
1 (25)	3.39 (96)	.74 (21)	6.19 (175.5)	.74 (21)	.53 (15)	1.13 (32)
1 1/4 (32)	5.38 (152.5)	.87 (24.8)	9.12 (258.5)	.87 (24.8)	.81 (23)	1.52 (43)
1 1/2 (40)	6.91 (196)	1.26 (35.6)	12.38 (351)	1.26 (35.6)	1.87 (53)	2.86 (81)
2 (50)	11.15 (316)	1.70 (48.3)	20.21 (573)	1.70 (48.3)	3.35 (95)	3.35 (95)

NOTE: The chart depicts standard strokes.

SINGLE ACTING – DOUBLE ROD oz. (gf)

Bore Nominal (mm)	Weights: base plus stroke (per 1/4")				Magnet option	
	Stroke – less than 3/4"		3/4" Stroke to 1 1/4"		1/2 (Model 50 1/2 to 3/4)	3/4 to 1 1/4 (Model 50 1 to 1 1/4)
	Base	Stroke/1/4	Base	Stroke/1/4		
1/2 (12)	1.83 (52)	.34 (9.5)	3.58 (101.5)	.34 (9.5)	.07 (2)	.34 (9.5)
5/8 (16)	1.87 (53.5)	.47 (13.3)	4.25 (120.5)	.47 (13.3)	.16 (4.5)	.46 (13)
3/4 (20)	2.50 (71)	.63 (17.8)	5.68 (161)	.63 (17.8)	.21 (6)	.71 (20)
1 (25)	3.67 (104)	.85 (24.1)	7.42 (210.5)	.85 (24.1)	.53 (15)	1.23 (35)
1 1/4 (32)	5.01 (142)	1.08 (30.5)	10.69 (303)	1.08 (30.5)	.67 (19)	1.52 (43)
1 1/2 (40)	7.51 (213)	1.61 (45.7)	16.58 (470)	1.61 (45.7)	1.83 (52)	3.10 (88)
2 (50)	14.32 (406)	2.29 (64.8)	28.60 (811)	2.29 (64.8)	3.17 (90)	3.17 (90)

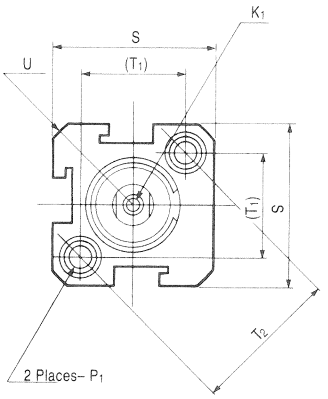
NOTE: The chart depicts standard strokes.

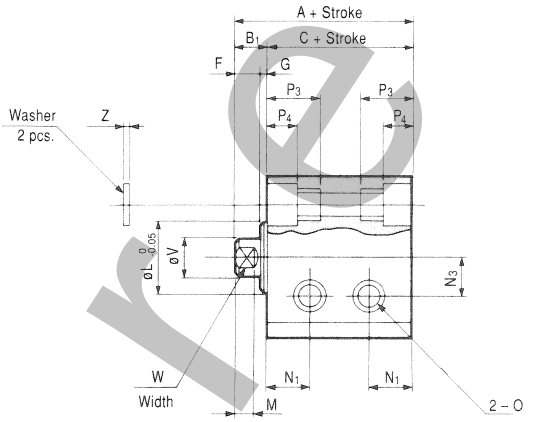
Calculation example:

HJDAS25 x 1/2 with two CS3HA-HJDAS sensor switches (oz.):
3.07 + (40 x 2) + (1.06 x 2) = 6.15 oz. (174.3 gf)

DOUBLE ACTING (HJDA)
DOUBLE ACTING WITH MAGNET (HJDAS)

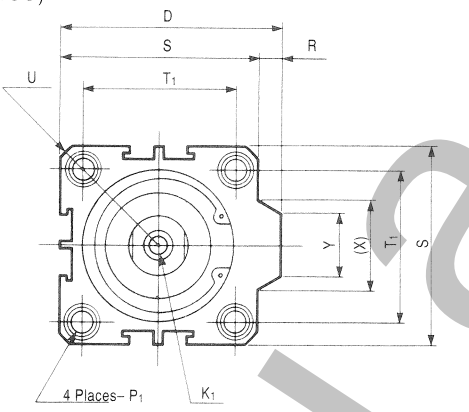
Bores 1/2 (12) & 5/8 (16)

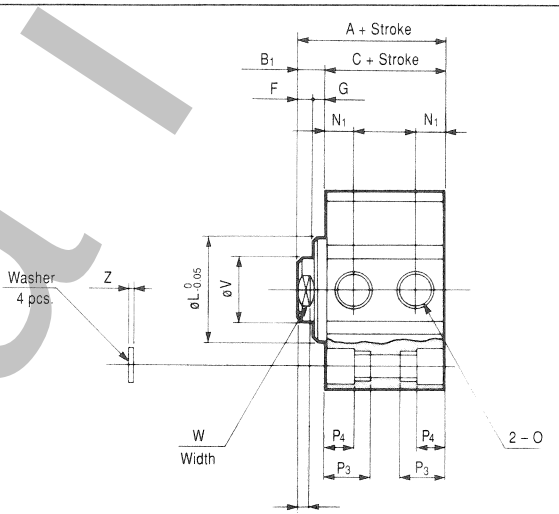




1/2 (12) bore is shown above. Refer to page 56 for non-standard strokes.

Bores 3/4 (20) thru 4 (100)





Refer to page 56 for non-standard strokes.

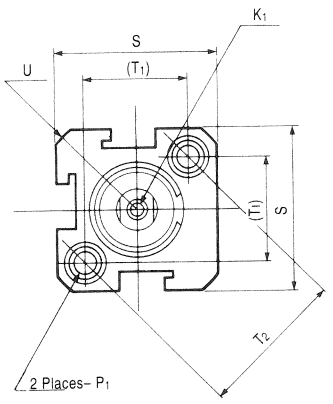
Bore Nominal in. (mm)	Dimension – inch (mm)														
	HJDA (without magnet)			HJDAS (with magnet)											
	A	B1	C	A	B1	C	D	F	G	K1	L	M	N1	N3	O
1/2 (12)	.866 (22)	.197 (5)	.669 (17)	1.114 (28.3)	.197 (5)	.917 (23.3)	–	.157 (4)	.039 (1)	4-40 UNC × .236 (6) dp.	.433 (11)	.118 (3)	.256 (6.5)	.236 (6)	10-32
5/8 (16)	.945 (24)	.217 (5.5)	.729 (18.5)	1.441 (36.6)	.217 (5.5)	1.224 (31.1)	–	.157 (4)	.059 (1.5)	4-40 UNC × .236 (6) dp.	.433 (11)	.118 (3)	.276 (7)	.236 (6)	10-32
3/4 (20)	.984 (25)	.217 (5.5)	.768 (19.5)	1.358 (34.5)	.217 (5.5)	1.142 (29)	1.417 (36)	.157 (4)	.059 (1.5)	8-32 UNC × .315 (8) dp.	.591 (15)	.118 (3)	.296 (7.5)	–	10-32
1 (25)	1.063 (27)	.236 (6)	.827 (21)	1.437 (36.5)	.236 (6)	1.201 (30.5)	1.654 (42)	.157 (4)	.079 (2)	10-32 UNF × .394 (10) dp.	.669 (17)	.118 (3)	.315 (8)	–	10-32
1 1/4 (32)	1.240 (31.5)	.276 (7)	.965 (24.5)	1.614 (41)	.276 (7)	1.339 (34)	1.969 (50)	.157 (4)	.118 (3)	1/4-20 UNC × .472 (12) dp.	.866 (22)	.118 (3)	.354 (9)*	–	1/8 NPT
1 1/2 (40)	1.299 (33)	.276 (7)	1.024 (26)	1.673 (42.5)	.276 (7)	1.398 (35.5)	2.303 (58.5)	.157 (4)	.118 (3)	5/16-18 UNC × .472 (12) dp.	1.102 (28)	.118 (3)	.394 (10)*	–	1/8 NPT
2 (50)	1.457 (37)	.354 (9)	1.102 (28)	1.831 (46.5)	.354 (9)	1.476 (37.5)	2.815 (71.5)	.197 (5)	.157 (4)	3/8-16 UNC × .591 (15) dp.	1.496 (38)	.118 (3)	.394 (10)	–	1/4 NPT
2 1/2 (63)	1.614 (41)	.354 (9)	1.260 (32)	1.988 (50.5)	.354 (9)	1.634 (41.5)	3.327 (84.5)	.197 (5)	.157 (4)	3/8-16 UNC × .591 (15) dp.	1.575 (40)	.118 (3)	.472 (12)	–	1/4 NPT
3 1/4 (80)	2.098 (53.3)	.433 (11)	1.665 (42.3)	2.472 (62.8)	.433 (11)	2.039 (51.8)	4.094 (104)	.236 (6)	.197 (5)	1/2-13 UNC × .787 (20) dp.	1.772 (45)	.157 (4)	.492 (12.5)	–	3/8 NPT
4 (100)	2.531 (64.3)	.472 (12)	2.059 (52.3)	2.906 (73.8)	.472 (12)	2.433 (61.8)	4.882 (124)	.276 (7)	.197 (5)	3/4-10 UNC × .787 (20) dp.	2.165 (55)	.157 (4)	.669 (17)	–	3/8 NPT

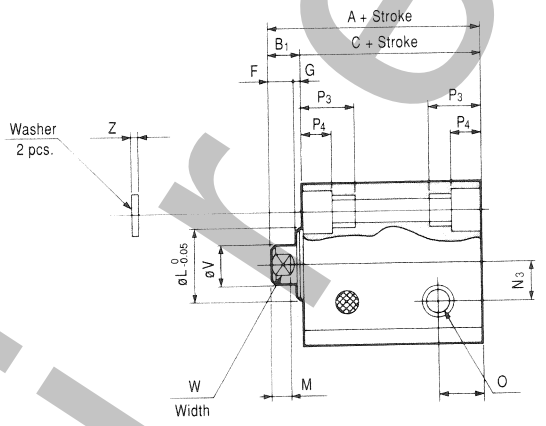
Bore Nominal in. (mm)	Dimension – inch (mm)												
	P1 – thru hole x C bore x thru hole thread	P3	P4	R	S	T1	T2	U (Radius)	V	W	X	Y	Z
1/2 (12)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	–	.984 (25)	.638 (16.2)	.906 (23)	.630 (16)	.236 (6)	.197 (5)	–	–	.039 (1)
5/8 (16)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	–	1.142 (29)	.779 (19.8)	1.102 (28)	.748 (19)	.236 (6)	.197 (5)	–	–	.039 (1)
3/4 (20)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	.079 (2)	1.339 (34)	.945 (24)	–	.866 (22)	.315 (8)	.236 (6)	.484 (12.3)	.394 (10)	.039 (1)
1 (25)	.181 (4.6) x .315 (8) x 1/4-20 UNC	.453 (11.5)	.217 (5.5)	.079 (2)	1.575 (40)	1.102 (28)	–	.984 (25)	.394 (10)	.315 (8)	.484 (12.3)	.394 (10)	.039 (1)
1 1/4 (32)	.181 (4.6) x .315 (8) x 1/4-20 UNC	.453 (11.5)	.217 (5.5)	.236 (6)	1.732 (44)	1.339 (34)	–	1.162 (29.5)	.472 (12)	.394 (10)	.901 (22.9)	.630 (16)	.039 (1)
1 1/2 (40)	.225 (5.7) x .374 (9.5) x 5/16-18 UNC	.611 (15.5)	.296 (7.5)	.256 (6.5)	2.047 (52)	1.575 (40)	–	1.378 (35)	.630 (16)	.551 (14)	.926 (23.5)	.630 (16)	.063 (1.6)
2 (50)	.276 (7) x .433 (11) x 3/8-16 UNC	.650 (16.5)	.335 (8.5)	.374 (9.5)	2.441 (62)	1.890 (48)	–	1.614 (41)	.787 (20)	.669 (17)	1.220 (31)	.787 (20)	.063 (1.6)
2 1/2 (63)	.276 (7) x .433 (11) x 3/8-16 UNC	.650 (16.5)	.335 (8.5)	.374 (9.5)	2.953 (75)	2.362 (60)	–	1.969 (50)	.787 (20)	.669 (17)	1.220 (31)	.787 (20)	.063 (1.6)
3 1/4 (80)	.362 (9.2) x .551 (14) x 1/2-13 UNC	.886 (22.5)	.414 (10.5)	.394 (10)	3.701 (94)	2.913 (74)	–	2.441 (62)	.984 (25)	.866 (22)	1.477 (37.5)	1.024 (26)	.063 (1.6)
4 (100)	.445 (11.3) x .689 (17.5) x 1/2-13 UNC	1.063 (27)	.512 (13)	.394 (10)	4.488 (114)	3.543 (90)	–	2.953 (75)	1.260 (32)	1.063 (27)	1.477 (37.5)	1.024 (26)	.079 (2)

• Dimension is .276 (7) for 1 1/4 (32) bore with 1/4" stroke. Dimension is .287 (7.3) for 1 1/2 (40) bore with 1/4" stroke.
NOTE 1: Please refer to page 50 for male rod thread information.
NOTE 2: Plain rod is same as female rod end except no threads.
NOTE 3: Please refer to page 50 for sensor switch dimensional information.

SINGLE ACTING – PUSH (HJSA)
SINGLE ACTING – PUSH WITH MAGNET (HJSAS)

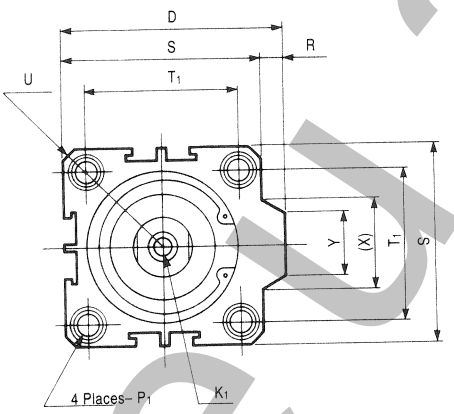
Bores 1/2 (12) & 5/8 (16)

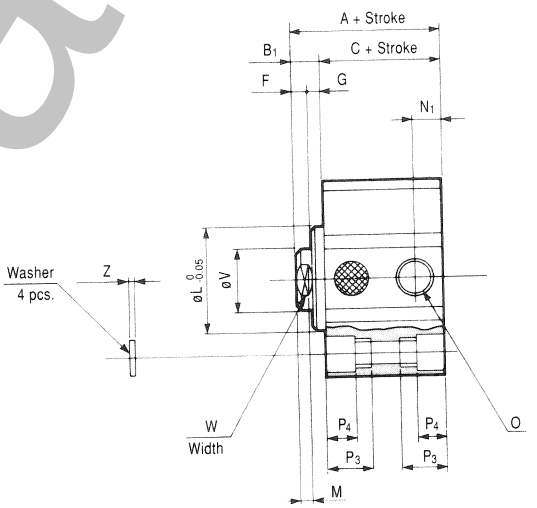




1/2 (12) bore is shown above. Refer to page 56 for non-standard strokes.

Bores 3/4 (20) thru 2 (50)





Refer to page 56 for non-standard strokes.

Bore Nominal in. (mm)	Dimension – inch (mm)					
	HJSA (without magnet)					
	0 to 1/2 Stroke (Bore 50: 0 to 3/4)			5/8 to 1 1/8 (Bore 50: 3/4 to 1 1/2)		
	A	B_1	C	A	B_1	C
1/2 (12)	1.114 (28.3)	.197 (5)	.917 (23.3)	1.488 (37.8)	.197 (5)	1.291 (32.8)
5/8 (16)	1.193 (30.3)	.217 (5.5)	.976 (24.8)	1.571 (39.9)	.217 (5.5)	1.354 (34.3)
3/4 (20)	.984 (25)	.217 (5.5)	.768 (19.5)	1.484 (37.7)	.217 (5.5)	1.267 (32.2)
1 (25)	1.063 (27)	.236 (6)	.827 (21)	1.563 (39.7)	.236 (6)	1.327 (33.7)
1 1/4 (32)	1.240 (31.5)	.276 (7)	.965 (24.5)	1.740 (44.2)	.276 (7)	1.464 (37.2)
1 1/2 (40)	1.299 (33)	.276 (7)	1.024 (26)	1.921 (48.8)	.276 (7)	1.645 (41.8)
2 (50)	1.457 (37)	.354 (9)	1.102 (28)	2.079 (52.8)	.354 (9)	1.725 (43.8)

Bore Nominal in. (mm)	Dimension – inch (mm)															
	HJSAS (with magnet)						D	F	G	K_1	L	M	N_1	N_3	O
	1/2 Stroke (Bore 50: 1/2 to 3/4)			5/8 to 1 1/8 (Bore 50: 3/4 to 1 1/2)											
	A	B_1	C	A	B_1	C									
1/2 (12)	1.362 (34.6)	.197 (5)	1.165 (29.6)	1.736 (44.1)	.197 (5)	1.539 (39.1)	–	.157 (4)	.039 (1)	4-40 UNC × .236 (6) dp.	.433 (11)	.118 (3)	.256 (6.5)	.236 (6)	10-32
5/8 (16)	1.441 (36.6)	.217 (5.5)	1.224 (31.1)	1.815 (46.1)	.217 (5.5)	1.598 (40.6)	–	.157 (4)	.059 (1.5)	4-40 UNC × .236 (6) dp.	.433 (11)	.118 (3)	.276 (7)	.236 (6)	10-32
3/4 (20)	1.358 (34.5)	.217 (5.5)	1.142 (29)	1.858 (47.2)	.217 (5.5)	1.642 (41.7)	1.417 (36)	.157 (4)	.059 (1.5)	8-32 UNC × .315 (8) dp.	.591 (15)	.118 (3)	.296 (7.5)	–	10-32
1 (25)	1.437 (36.5)	.236 (6)	1.201 (30.5)	1.937 (49.2)	.236 (6)	1.701 (43.2)	1.654 (42)	.157 (4)	.079 (2)	10-32 UNF × .394 (10) dp.	.669 (17)	.118 (3)	.315 (8)	–	10-32
1 1/4 (32)	1.614 (41)	.276 (7)	1.339 (34)	2.114 (53.7)	.276 (7)	1.839 (46.7)	1.969 (50)	.157 (4)	.118 (3)	1/4-20 UNC × .472 (12) dp.	.866 (22)	.118 (3)	.354 (9)*	–	1/8 NPT
1 1/2 (40)	1.673 (42.5)	.276 (7)	1.398 (35.5)	2.295 (58.3)	.276 (7)	2.020 (51.3)	2.303 (58.5)	.157 (4)	.118 (3)	5/16-18 UNC × .472 (12) dp.	1.102 (28)	.118 (3)	.394 (10)*	–	1/8 NPT
2 (50)	1.831 (46.5)	.354 (9)	1.476 (37.5)	2.453 (62.3)	.354 (9)	2.098 (53.3)	2.815 (71.5)	.197 (5)	.157 (4)	3/8-16 UNC × .591 (15) dp.	1.496 (38)	.118 (3)	.394 (10)	–	1/4 NPT

Bore Nominal in. (mm)	Dimension – inch (mm)												
	P_1 – thru hole x C bore x thru hole thread	P_3	P_4	R	S	T_1	T_2	U (Radius)	V	W	X	Y	Z
1/2 (12)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	–	.984 (25)	.638 (16.2)	.906 (23)	.630 (16)	.236 (6)	.197 (5)	–	–	.039 (1)
5/8 (16)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	–	1.142 (29)	.779 (19.8)	1.102 (28)	.748 (19)	.236 (6)	.197 (5)	–	–	.039 (1)
3/4 (20)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	.079 (2)	1.339 (34)	.945 (24)	–	.866 (22)	.315 (8)	.236 (6)	.484 (12.3)	.394 (10)	.039 (1)
1 (25)	.181 (4.6) x .315 (8) x 1/4-20 UNC	.453 (11.5)	.217 (5.5)	.079 (2)	1.575 (40)	1.102 (28)	–	.984 (25)	.394 (10)	.315 (8)	.484 (12.3)	.394 (10)	.039 (1)
1 1/4 (32)	.181 (4.6) x .315 (8) x 1/4-20 UNC	.453 (11.5)	.217 (5.5)	.236 (6)	1.732 (44)	1.339 (34)	–	1.162 (29.5)	.472 (12)	.394 (10)	.901 (22.9)	.630 (16)	.039 (1)
1 1/2 (40)	.225 (5.7) x .374 (9.5) x 5/16-18 UNC	.611 (15.5)	.296 (7.5)	.256 (6.5)	2.047 (52)	1.575 (40)	–	1.378 (35)	.630 (16)	.551 (14)	.926 (23.5)	.630 (16)	.063 (1.6)
2 (50)	.276 (7) x .433 (11) x 3/8-16 UNC	.650 (16.5)	.335 (8.5)	.374 (9.5)	2.441 (62)	1.890 (48)	–	1.614 (41)	.787 (20)	.669 (17)	1.220 (31)	.787 (20)	.063 (1.6)

• Dimension is .276 (7) for 1 1/4 (32) bore with 1/4" stroke. Dimension is .287 (7.3) for 1 1/2 (40) bore with 1/4" stroke.

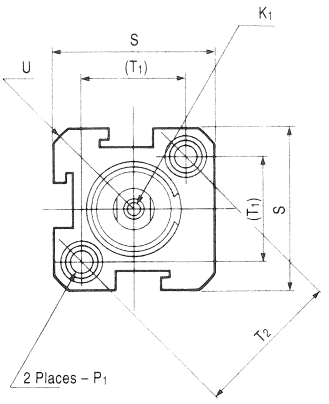
NOTE 1: Please refer to page 50 for male rod thread information.

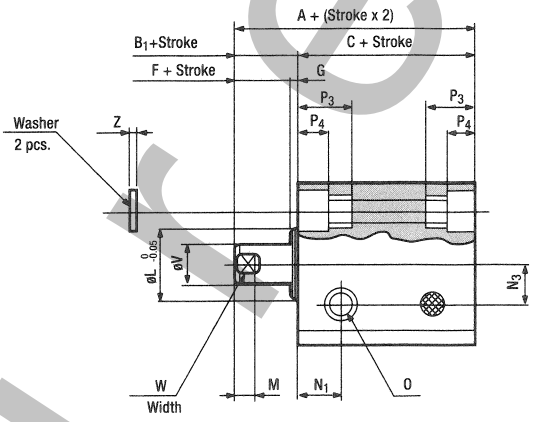
NOTE 2: Plain rod is same as female rod end except no threads.

NOTE 3: Please refer to page 50 for sensor switch dimensional information.

SINGLE ACTING – PULL (HJTA)
SINGLE ACTING – PULL WITH MAGNET (HJTAS)

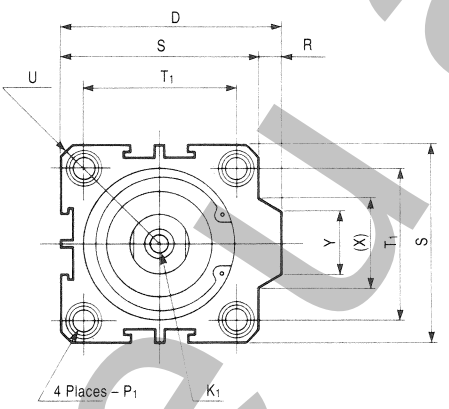
Bores 1/2 (12) & 5/8 (16)

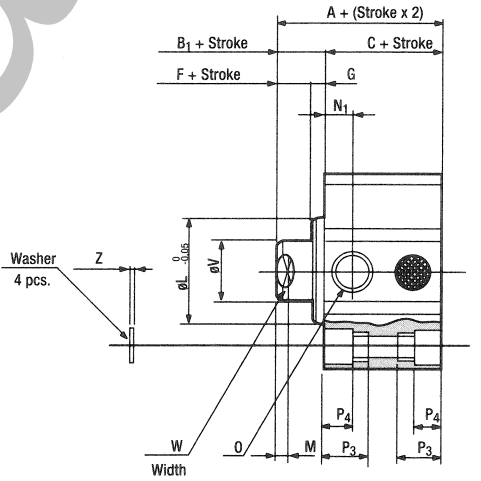




1/2 (12) bore is shown above. Refer to page 56 for non-standard strokes.

Bores 3/4 (20) thru 2 (50)





Refer to page 56 for non-standard strokes.

Bore Nominal in. (mm)	Dimension – inch (mm)					
	HJTA (without magnet)					
	0 to 1/2 Stroke (Bore 50: 0 to 3/4)			5/8 to 1 1/8 (Bore 50: 3/4 to 1 1/2)		
	A	B_1	C	A	B_1	C
1/2 (12)	1.114 (28.3)	.197 (5)	.917 (23.3)	1.488 (37.8)	.197 (5)	1.291 (32.8)
5/8 (16)	1.193 (30.3)	.217 (5.5)	.976 (24.8)	1.567 (39.8)	.217 (5.5)	1.350 (34.3)
3/4 (20)	.984 (25)	.217 (5.5)	.768 (19.5)	1.484 (37.7)	.217 (5.5)	1.267 (32.2)
1 (25)	1.063 (27)	.236 (6)	.827 (21)	1.563 (39.7)	.236 (6)	1.327 (33.7)
1 1/4 (32)	1.240 (31.5)	.276 (7)	.965 (24.5)	1.740 (44.2)	.276 (7)	1.465 (37.2)
1 1/2 (40)	1.299 (33)	.276 (7)	1.024 (26)	1.921 (48.8)	.276 (7)	1.645 (41.8)
2 (50)	1.457 (37)	.354 (9)	1.102 (28)	2.079 (52.8)	.354 (9)	1.725 (43.8)

Bore Nominal in. (mm)	Dimension – inch (mm)														
	HJTAS (with magnet)						D	F	G	K_1	L	M	N_1	N_3	O
	1/2 Stroke (Bore 50: 1/2 to 3/4)			5/8 to 1 1/8 (Bore 50: 3/4 to 1 1/2)											
	A	B_1	C	A	B_1	C									
1/2 (12)	1.362 (34.6)	.197 (5)	1.165 (29.6)	1.736 (44.1)	.197 (5)	1.539 (39.1)	–	.157 (4)	.039 (1)	4-40 UNC × .236 (6) dp.	.433 (11)	.118 (3)	.256 (6.5)	.236 (6)	10-32
5/8 (16)	1.441 (36.6)	.217 (5.5)	1.224 (31.1)	1.815 (46.1)	.217 (5.5)	1.598 (40.6)	–	.157 (4)	.059 (1.5)	4-40 UNC × .236 (6) dp.	.433 (11)	.118 (3)	.276 (7)	.236 (6)	10-32
3/4 (20)	1.358 (34.5)	.217 (5.5)	1.142 (29)	1.858 (47.2)	.217 (5.5)	1.642 (41.7)	1.417 (36)	.157 (4)	.059 (1.5)	8-32 UNC × .315 (8) dp.	.591 (15)	.118 (3)	.296 (7.5)	–	10-32
1 (25)	1.437 (36.5)	.236 (6)	1.201 (30.5)	1.937 (49.2)	.236 (6)	1.701 (43.2)	1.654 (42)	.157 (4)	.079 (2)	10-32 UNF × .394 (10) dp.	.669 (17)	.118 (3)	.315 (8)	–	10-32
1 1/4 (32)	1.614 (41)	.276 (7)	1.339 (34)	2.114 (53.7)	.276 (7)	1.839 (46.7)	1.969 (50)	.157 (4)	.118 (3)	1/4-20 UNC × .472 (12) dp.	.866 (22)	.118 (3)	.354 (9)*	–	1/8 NPT
1 1/2 (40)	1.673 (42.5)	.276 (7)	1.398 (35.5)	2.295 (58.3)	.276 (7)	2.020 (51.3)	2.303 (58.5)	.157 (4)	.118 (3)	5/16-18 UNC × .472 (12) dp.	1.102 (28)	.118 (3)	.394 (10)*	–	1/8 NPT
2 (50)	1.831 (46.5)	.354 (9)	1.476 (37.5)	2.453 (62.3)	.354 (9)	2.098 (53.3)	2.815 (71.5)	.197 (5)	.157 (4)	3/8-16 UNC × .591 (15) dp.	1.496 (38)	.118 (3)	.394 (10)	–	1/4 NPT

Bore Nominal in. (mm)	Dimension – inch (mm)												
	P_1 – thru hole x C bore x thru hole thread	P_3	P_4	R	S	T_1	T_2	U (Radius)	V	W	X	Y	Z
1/2 (12)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	–	.984 (25)	.638 (16.2)	.906 (23)	.630 (16)	.236 (6)	.197 (5)	–	–	.039 (1)
5/8 (16)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	–	1.142 (29)	.779 (19.8)	1.102 (28)	.748 (19)	.236 (6)	.197 (5)	–	–	.039 (1)
3/4 (20)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	.079 (2)	1.339 (34)	.945 (24)	–	.866 (22)	.315 (8)	.236 (6)	.484 (12.3)	.394 (10)	.039 (1)
1 (25)	.181 (4.6) x .315 (8) x 1/4-20 UNC	.453 (11.5)	.217 (5.5)	.079 (2)	1.575 (40)	1.102 (28)	–	.984 (25)	.394 (10)	.315 (8)	.484 (12.3)	.394 (10)	.039 (1)
1 1/4 (32)	.181 (4.6) x .315 (8) x 1/4-20 UNC	.453 (11.5)	.217 (5.5)	.236 (6)	1.732 (44)	1.339 (34)	–	1.162 (29.5)	.472 (12)	.394 (10)	.901 (22.9)	.630 (16)	.039 (1)
1 1/2 (40)	.225 (5.7) x .374 (9.5) x 5/16-18 UNC	.611 (15.5)	.296 (7.5)	.256 (6.5)	2.047 (52)	1.575 (40)	–	1.378 (35)	.630 (16)	.551 (14)	.926 (23.5)	.630 (16)	.063 (1.6)
2 (50)	.276 (7) x .433 (11) x 3/8-16 UNC	.650 (16.5)	.335 (8.5)	.374 (9.5)	2.441 (62)	1.890 (48)	–	1.614 (41)	.787 (20)	.669 (17)	1.220 (31)	.787 (20)	.063 (1.6)

• Dimension is .276 (7) for 1 1/4 (32) bore with 1/4" stroke. Dimension is .287 (7.3) for 1 1/2 (40) bore with 1/4" stroke.

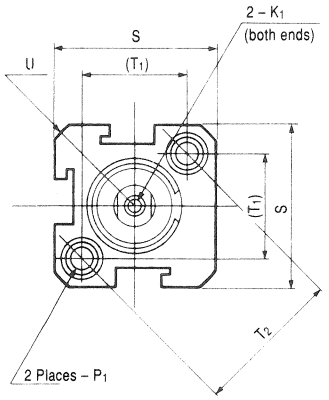
NOTE 1: Please refer to page 50 for male rod thread information.

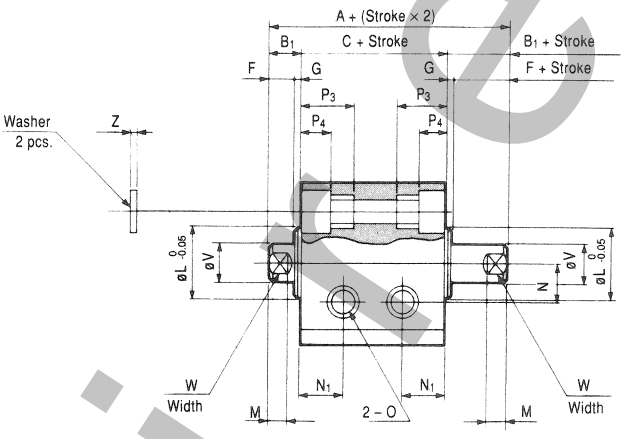
NOTE 2: Plain rod is same as female rod end except no threads.

NOTE 3: Please refer to page 50 for sensor switch dimensional information.

DOUBLE ACTING – DOUBLE ROD(HJDAD)
DOUBLE ACTING – DOUBLE ROD WITH MAGNET (HJDADS)

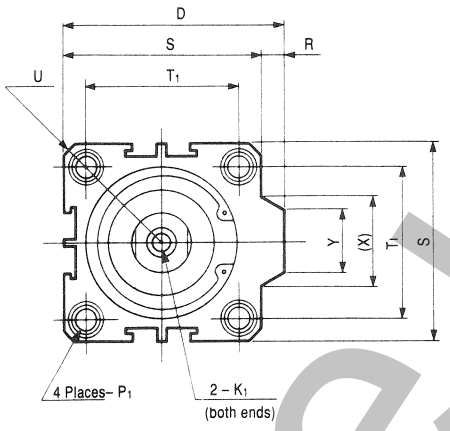
Bores 1/2 (12) & 5/8 (16)

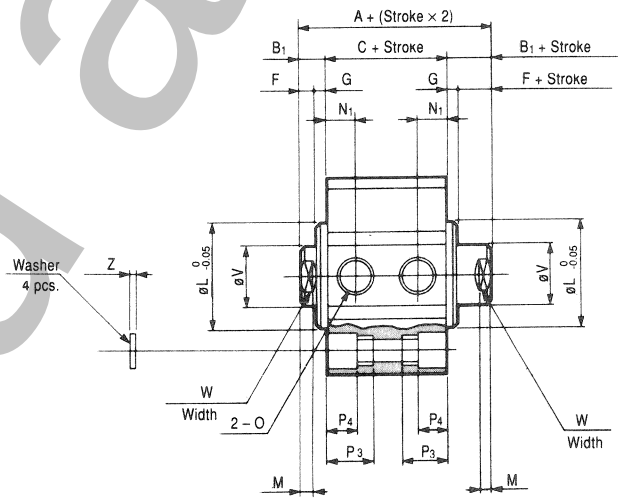




1/2 (12) bore is shown above. Refer to page 56 for non-standard strokes.

Bores 3/4 (20) thru 4 (100)





Refer to page 56 for non-standard strokes.

Bore Nominal in. (mm)	Dimension – inch (mm)														
	HJDAD (without magnet)			HJDADS (with magnet)											
	A	B_1	C	A	B_1	C	D	F	G	K_1	L	M	N_1	N_3	O
1/2 (12)	1.063 (27)	.197 (5)	.669 (17)	1.311 (33.3)	.197 (5)	.917 (23.3)	–	.157 (4)	.039 (1)	4-40 UNC × .236 (6) dp.	.433 (11)	.118 (3)	.256 (6.5)	.236 (6)	10-32
5/8 (16)	1.162 (29.5)	.217 (5.5)	.729 (18.5)	1.665 (42.3)	.217 (5.5)	1.232 (31.3)	–	.157 (4)	.059 (1.5)	4-40 UNC × .236 (6) dp.	.433 (11)	.118 (3)	.276 (7)	.236 (6)	10-32
3/4 (20)	1.201 (30.5)	.217 (5.5)	.768 (19.5)	1.575 (40)	.217 (5.5)	1.142 (29)	1.417 (36)	.157 (4)	.059 (1.5)	8-32 UNC × .315 (8) dp.	.591 (15)	.118 (3)	.296 (7.5)	–	10-32
1 (25)	1.299 (33)	.236 (6)	.827 (21)	1.673 (42.5)	.236 (6)	1.201 (30.5)	1.654 (42)	.157 (4)	.079 (2)	10-32 UNF × .394 (10) dp.	.669 (17)	.118 (3)	.315 (8)	–	10-32
1 1/4 (32)	1.516 (38.5)	.276 (7)	.965 (24.5)	1.890 (48)	.276 (7)	1.339 (34)	1.969 (50)	.157 (4)	.118 (3)	1/4-20 UNC × .472 (12) dp.	.866 (22)	.118 (3)	.354 (9)*	–	1/8 NPT
1 1/2 (40)	1.575 (40)	.276 (7)	1.024 (26)	1.949 (49.5)	.276 (7)	1.398 (35.5)	2.303 (58.5)	.157 (4)	.118 (3)	5/16-18 UNC × .472 (12) dp.	1.102 (28)	.118 (3)	.394 (10)*	–	1/8 NPT
2 (50)	1.811 (46)	.354 (9)	1.102 (28)	2.185 (55.5)	.354 (9)	1.476 (37.5)	2.815 (71.5)	.197 (5)	.157 (4)	3/8-16 UNC × .591 (15) dp.	1.496 (38)	.118 (3)	.394 (10)	–	1/4 NPT
2 1/2 (63)	1.969 (50)	.354 (9)	1.260 (32)	2.343 (59.5)	.354 (9)	1.634 (41.5)	3.327 (84.5)	.197 (5)	.157 (4)	3/8-16 UNC × .591 (15) dp.	1.575 (40)	.118 (3)	.472 (12)	–	1/4 NPT
3 1/4 (80)	2.780 (70.6)	.433 (11)	1.914 (48.6)	3.102 (78.8)	.433 (11)	2.287 (58.1)	4.094 (104)	.236 (6)	.197 (5)	1/2-13 UNC × .787 (20) dp.	1.772 (45)	.157 (4)	.492 (12.5)	–	3/8 NPT
4 (100)	3.252 (82.6)	.472 (12)	2.307 (58.6)	3.575 (90.8)	.472 (12)	2.681 (68.1)	4.882 (124)	.276 (7)	.197 (5)	3/4-10 UNC × .787 (20) dp.	2.165 (55)	.157 (4)	.669 (17)	–	3/8 NPT

Bore Nominal in. (mm)	Dimension – inch (mm)												
	P_1 – thru hole x C bore x thru hole thread	P_3	P_4	R	S	T_1	T_2	U (Radius)	V	W	X	Y	Z
1/2 (12)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	–	.984 (25)	.638 (16.2)	.906 (23)	.630 (16)	.236 (6)	.197 (5)	–	–	.039 (1)
5/8 (16)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	–	1.142 (29)	.779 (19.8)	1.102 (28)	.748 (19)	.236 (6)	.197 (5)	–	–	.039 (1)
3/4 (20)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	.079 (2)	1.339 (34)	.945 (24)	–	.866 (22)	.315 (8)	.236 (6)	.484 (12.3)	.394 (10)	.039 (1)
1 (25)	.181 (4.6) x .315 (8) x 1/4-20 UNC	.453 (11.5)	.217 (5.5)	.079 (2)	1.575 (40)	1.102 (28)	–	.984 (25)	.394 (10)	.315 (8)	.484 (12.3)	.394 (10)	.039 (1)
1 1/4 (32)	.181 (4.6) x .315 (8) x 1/4-20 UNC	.453 (11.5)	.217 (5.5)	.236 (6)	1.732 (44)	1.339 (34)	–	1.162 (29.5)	.472 (12)	.394 (10)	.901 (22.9)	.630 (16)	.039 (1)
1 1/2 (40)	.225 (5.7) x .374 (9.5) x 5/16-18 UNC	.611 (15.5)	.296 (7.5)	.256 (6.5)	2.047 (52)	1.575 (40)	–	1.378 (35)	.630 (16)	.551 (14)	.926 (23.5)	.630 (16)	.063 (1.6)
2 (50)	.276 (7) x .433 (11) x 3/8-16 UNC	.650 (16.5)	.335 (8.5)	.374 (9.5)	2.441 (62)	1.890 (48)	–	1.614 (41)	.787 (20)	.669 (17)	1.220 (31)	.787 (20)	.063 (1.6)
2 1/2 (63)	.276 (7) x .433 (11) x 3/8-16 UNC	.650 (16.5)	.335 (8.5)	.374 (9.5)	2.953 (75)	2.362 (60)	–	1.969 (50)	.787 (20)	.669 (17)	1.220 (31)	.787 (20)	.063 (1.6)
3 1/4 (80)	.362 (9.2) x .551 (14) x 1/2-13 UNC	.886 (22.5)	.414 (10.5)	.394 (10)	3.701 (94)	2.913 (74)	–	2.441 (62)	.984 (25)	.866 (22)	1.477 (37.5)	1.024 (26)	.063 (1.6)
4 (100)	.445 (11.3) x .689 (17.5) x 1/2-13 UNC	1.063 (27)	.512 (13)	.394 (10)	4.488 (114)	3.543 (90)	–	2.953 (75)	1.260 (32)	1.063 (27)	1.477 (37.5)	1.024 (26)	.079 (2)

• Dimension is .276 (7) for 1 1/4 (32) bore with 1/4" stroke. Dimension is .287 (7.3) for 1 1/2 (40) bore with 1/4" stroke.

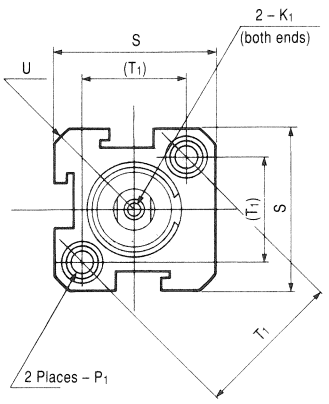
NOTE 1: Please refer to page 50 for male rod thread information.

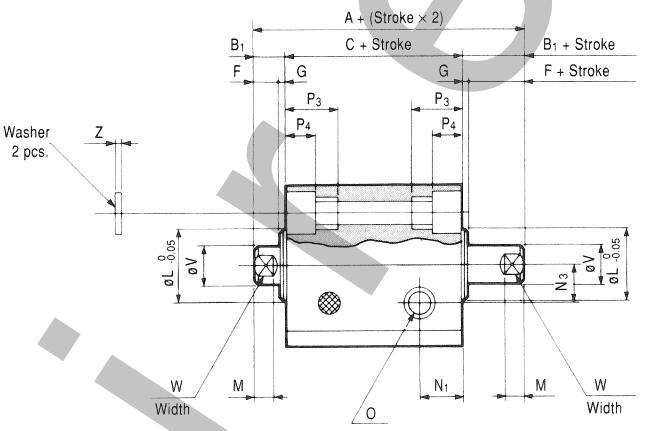
NOTE 2: Plain rod is same as female rod end except no threads.

NOTE 3: Please refer to page 50 for sensor switch dimensional information.

SINGLE ACTING – DOUBLE ROD (HJSAD)
SINGLE ACTING – DOUBLE ROD WITH MAGNET (HJSADS)

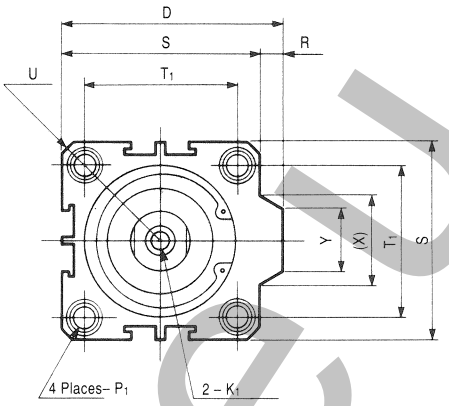
Bores 1/2 (12) & 5/8 (16)

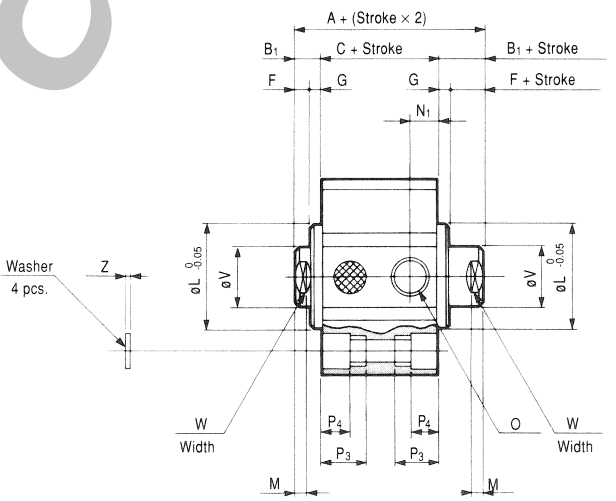




1/2 (12) bore is shown above. Refer to page 56 for non-standard strokes.

Bores 3/4 (20) thru 2 (50)





Refer to page 56 for non-standard strokes.

Bore Nominal in. (mm)	Dimension – inch (mm)					
	HJSAD (without magnet)					
	0 to Stroke 1/2 (Bore 50: 0 to 3/4)			5/8 to 1 1/8 (Bore 50: 3/4 to 1 1/2)		
	A	B_1	C	A	B_1	C
1/2 (12)	1.311 (33.3)	.197 (5)	.917 (23.3)	1.685 (42.8)	.197 (5)	1.291 (32.8)
5/8 (16)	1.409 (35.8)	.217 (5.5)	.976 (24.8)	1.783 (45.3)	.217 (5.5)	1.351 (34.3)
3/4 (20)	1.201 (30.5)	.217 (5.5)	.768 (19.5)	1.701 (43.2)	.217 (5.5)	1.268 (32.2)
1 (25)	1.299 (33)	.236 (6)	.827 (21)	1.799 (45.7)	.236 (6)	1.327 (33.7)
1 1/4 (32)	1.516 (38.5)	.276 (7)	.965 (24.5)	2.016 (51.2)	.276 (7)	1.465 (37.2)
1 1/2 (40)	1.575 (40)	.276 (7)	1.024 (26)	2.197 (55.8)	.276 (7)	1.645 (41.8)
2 (50)	1.811 (46)	.354 (9)	1.102 (28)	2.433 (61.8)	.354 (9)	1.724 (43.8)

Bore Nominal in. (mm)	Dimension – inch (mm)														
	HJSADS (with magnet)						D	F	G	K_1	L	M	N_1	N_3	O
	1/2 Stroke (Bore 50: 1/2 to 3/4)			5/8 to 1 1/8 (Bore 50: 3/4 to 1 1/2)											
	A	B_1	C	A	B_1	C									
1/2 (12)	1.559 (39.6)	.197 (5)	1.165 (29.6)	1.933 (49.1)	.197 (5)	1.539 (39.1)	–	.157 (4)	.039 (1)	4-40 UNC × .236 (6) dp.	.433 (11)	.118 (3)	.256 (6.5)	.236 (6)	10-32
5/8 (16)	1.657 (42.1)	.217 (5.5)	1.224 (31.1)	2.031 (51.6)	.217 (5.5)	1.598 (40.6)	–	.157 (4)	.059 (1.5)	4-40 UNC × .236 (6) dp.	.433 (11)	.118 (3)	.276 (7)	.236 (6)	10-32
3/4 (20)	1.575 (40)	.217 (5.5)	1.142 (29)	2.075 (52.7)	.217 (5.5)	1.642 (41.7)	1.417 (36)	.157 (4)	.059 (1.5)	8-32 UNC × .315 (8) dp.	.591 (15)	.118 (3)	.296 (7.5)	–	10-32
1 (25)	1.673 (42.5)	.236 (6)	1.201 (30.5)	2.173 (55.2)	.236 (6)	1.701 (43.2)	1.654 (42)	.157 (4)	.079 (2)	10-32 UNF × .394 (10) dp.	.669 (17)	.118 (3)	.315 (8)	–	10-32
1 1/4 (32)	1.890 (48)	.276 (7)	1.339 (34)	2.390 (60.7)	.276 (7)	1.839 (46.7)	1.969 (50)	.157 (4)	.118 (3)	1/4-20 UNC × .472 (12) dp.	.866 (22)	.118 (3)	.354 (9)*	–	1/8 NPT
1 1/2 (40)	1.949 (49.5)	.276 (7)	1.398 (35.5)	2.571 (65.3)	.276 (7)	2.020 (51.3)	2.303 (58.5)	.157 (4)	.118 (3)	5/16-18 UNC × .472 (12) dp.	1.102 (28)	.118 (3)	.394 (10)*	–	1/8 NPT
2 (50)	2.185 (55.5)	.354 (9)	1.476 (37.5)	2.807 (71.3)	.354 (9)	2.098 (53.3)	2.815 (71.5)	.197 (5)	.157 (4)	3/8-16 UNC × .591 (15) dp.	1.496 (38)	.118 (3)	.394 (10)	–	1/4 NPT

Bore Nominal in. (mm)	Dimension – inch (mm)												
	P_1 – thru hole x C bore x thru hole thread	P_3	P_4	R	S	T_1	T_2	U (Radius)	V	W	X	Y	Z
1/2 (12)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	–	.984 (25)	.638 (16.2)	.906 (23)	.630 (16)	.236 (6)	.197 (5)	–	–	.039 (1)
5/8 (16)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	–	1.142 (29)	.779 (19.8)	1.102 (28)	.748 (19)	.236 (6)	.197 (5)	–	–	.039 (1)
3/4 (20)	.138 (3.5) x .256 (6.5) x 10-32 UNF	.374 (9.5)	.177 (4.5)	.079 (2)	1.339 (34)	.945 (24)	–	.866 (22)	.315 (8)	.236 (6)	.484 (12.3)	.394 (10)	.039 (1)
1 (25)	.181 (4.6) x .315 (8) x 1/4-20 UNC	.453 (11.5)	.217 (5.5)	.079 (2)	1.575 (40)	1.102 (28)	–	.984 (25)	.394 (10)	.315 (8)	.484 (12.3)	.394 (10)	.039 (1)
1 1/4 (32)	.181 (4.6) x .315 (8) x 1/4-20 UNC	.453 (11.5)	.217 (5.5)	.236 (6)	1.732 (44)	1.339 (34)	–	1.162 (29.5)	.472 (12)	.394 (10)	.901 (22.9)	.630 (16)	.039 (1)
1 1/2 (40)	.225 (5.7) x .374 (9.5) x 5/16-18 UNC	.611 (15.5)	.296 (7.5)	.256 (6.5)	2.047 (52)	1.575 (40)	–	1.378 (35)	.630 (16)	.551 (14)	.926 (23.5)	.630 (16)	.063 (1.6)
2 (50)	.276 (7) x .433 (11) x 3/8-16 UNC	.650 (16.5)	.335 (8.5)	.374 (9.5)	2.441 (62)	1.890 (48)	–	1.614 (41)	.787 (20)	.669 (17)	1.220 (31)	.787 (20)	.063 (1.6)

• Dimension is .276 (7) for 1 1/4 (32) bore with 1/4" stroke. Dimension is .287 (7.3) for 1 1/2 (40) bore with 1/4" stroke.

NOTE 1: Please refer to page 50 for male rod thread information.

NOTE 2: Plain rod is same as female rod end except no threads.

NOTE 3: Please refer to page 50 for sensor switch dimensional information.