

**CYLINDER SADDLES & PISTON ROD THREAD SPECIFICATIONS**

Cylinder range	Saddles					Piston rod thread				
	Standard saddle		Optional saddle			Dimensions (mm)			Thread size	Figure
	Model number	Figure	Model number	Figure	A	B	C	D		
HAS	HAS - 30T	HA30	2	HAT30	7	50	10	-	-	10
	HAS - 50T	HA50	2	HAT50	7	70	11	-	-	10
	HAS - 100T	HA100	2	HAT100	7	100	12	-	-	10
HDA	HDA - 25T	HD25	3	HD25T	9	45	9	35	1"-12 UNF	11
	HDA - 50T	HD50	3	HD50T	9	70	11	45	1"-12 UNF	11
	HDA - 100T	HD100	3	HD100T	9	100	12	55	1 3/4"-12 UNF	11
	HDA - 150T	HD200	3	HD200T	9	100	12	52	2 1/2"-12 UNF	11
	HDA - 200T	HD200	3	HD200T	9	110	12	70	2 1/2"-12 UNF	11
	HDA - 300T	HD300T	7	HD300	2	150	25	-	-	-
	HDA - 400T	HD400T	7	HD400	2	180	25	-	-	-
HDA - 500T	HD500T	7	HD500	2	180	25	-	-	-	
HFA	HFA - 30T	HAT30	7	HA30	2	50	10	-	-	10
	HFA - 50T	HAT50	7	HA50	2	70	11	-	-	10
	HFA - 100T	HAT100	7	HA100	2	100	12	-	-	10
HFG	HFG - 50T	TS50	8	-	-	31	-	15	M8x1.25	14
	HFG - 100T	TS100	8	-	-	60	-	18	M12x1.75	14
	HFG - 150T	TS150	8	-	-	60	-	18	M12x1.75	14
	HFG - 200T	TS200	8	-	-	60	-	18	M12x1.75	14
	HFG - 250T	TS300	8	-	-	70	-	16	M10x1.5	14
	HFG - 300T	TS300	8	-	-	70	-	16	M10x1.5	14
	HFG - 400T	TS400	8	-	-	125	-	17	M12x1.75	14
HFG - 500T	TS500	8	-	-	125	-	17	M12x1.75	14	
HFL	HFL - 50T	TS50	8	-	-	31	-	15	M8x1.25	14
	HFL - 100T	TS100	8	-	-	60	-	18	M12x1.75	14
	HFL - 150T	TS150	8	-	-	120	-	18	M12x1.75	14
	HFL - 250T	TS250	8	-	-	140	-	40	M10x1.5	14
	HFL - 400T	TS400	8	-	-	180	-	40	M12x1.75	14
HFL - 500T	TS500	8	-	-	200	-	40	M12x1.75	14	
HGG	HGG - 150T	TS150	8	-	-	18	-	60	M12x1.75	14
	HGG - 200T	TS201	8	-	-	18	-	124.5	M12x1.75	14
	HGG - 300T	TS301	8	-	-	21	-	95	M12x1.75	14
HHA	HHA - 18T	HA18	4	HA18T	5	-	-	28	M35x1.5	12
	HHA - 37T	HA37	4	HA37T	5	-	-	35	M50x1.5	12
	HHA - 50T	HA50	4	HA50T	5	-	-	37	M60x1.5	12
HHR	HHR - 30T	HA302	4	HA302T, HA302G	5,6	52	10	32	M48x1.5	13
	HHR - 60T	HA603	4	HA603T, HA603G	5,6	80	10	32	M70x1.5	13
	HHR - 100T	HA1003	4	HA1003T, HA1003G	5,6	114	12	38	M105x2	13
	HHR - 150T	HA1508	4	HA1508G	6	170	13.5	50	M150x3	13
	HHR - 250T	HA2508	4	HA2508G	6	242	13.5	74	M220x3	13
HHS	HHS - 10T	HA102	4	HA102T, HA102G	5,6	32	7	21	M28x1.5	13
	HHS - 20T	HA202	4	HA202T, HA202G	5,6	43	10	31	M39x1.5	13
	HHS - 30T	HA302	4	HA302T, HA302G	5,6	52	10	31	M48x1.5	13
	HHS - 60T	HA603	4	HA603T, HA603G	5,6	80	10	31	M70x1.5	13
	HHS - 100T	HA1003	4	HA1003T, HA1003G	5,6	114	12	38	M105x2	13
HRA	HRA - 30T	HA30	2	HAT30	7	50	10	-	-	10
	HRA - 50T	HA50	2	HAT50	7	70	11	-	-	10
	HRA - 100T	HA100	2	HAT100	7	100	12	-	-	10
HSG	HSG - 150T	TS150	8	-	-	18	-	60	M12x1.75	14
	HSG - 200T	TS201	8	-	-	18	-	124.5	M12x1.75	14
	HSG - 300T	TS302	8	-	-	28	-	160	M22x2.5	14
HSS	HSS - 5T	HA5	1	-	-	-	-	20	3/4"-16 UNF	12
	HSS - 10T	HA10	1	HAT10	9	-	-	14	1"-8 UNC	12
	HSS - 15T	HA15	1	HAT10	9	-	-	14	1"-8 UNC	12
	HSS - 25T	HA25	1	HAT25	9	-	-	30	1 1/2"16 UN	12
	HSS - 30T	HA25	1	HAT25	9	-	-	30	1 1/2"16 UN	12
	HSS - 50T	HA50	2	HAT50	7	70	11	-	-	10
	HSS - 75T	HA75	2	HAT75	7	80	12	-	-	10
HSS - 100T	HA100	2	HAT100	7	100	12	-	-	10	

**CYLINDER SADDLES & PISTON ROD THREAD SPECIFICATIONS**

**SADDLE DRAWINGS** (for specifications, see facing page)

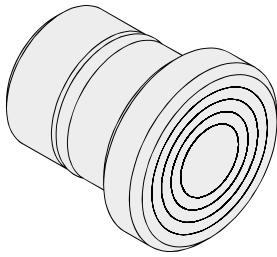


Figure 1

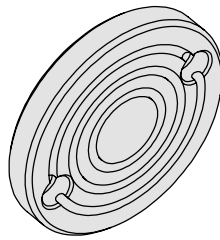


Figure 2

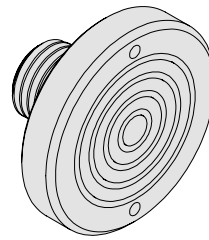


Figure 3

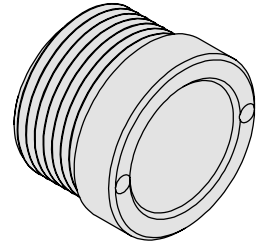


Figure 4

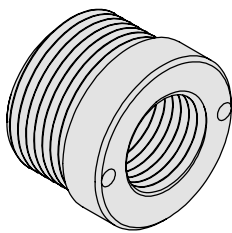


Figure 5

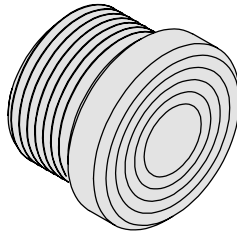


Figure 6

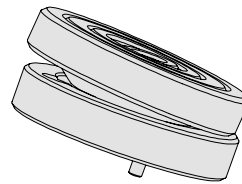


Figure 7

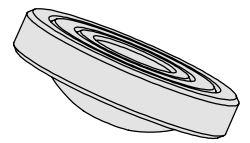


Figure 8

*Note: See below table for details on internal saddle thread*

Saddle model	Internal saddle thread specification
HA18T	M24
HA37T	M36
HA50T	M48
HA102T	¾"-16 UNF
HA202T	1"x8 UNC
HA302T	1 ¼"x7 UNC
HA603T	1 ⅝"x5 ½" UNS
HA1003T	2 ½"x8 UN

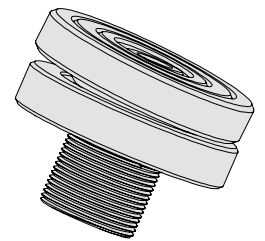


Figure 9

**PISTON ROD DRAWINGS** (for specifications, see facing page)

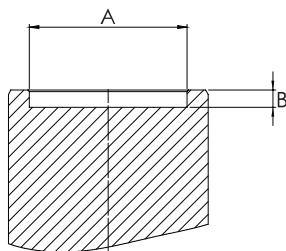


Figure 10

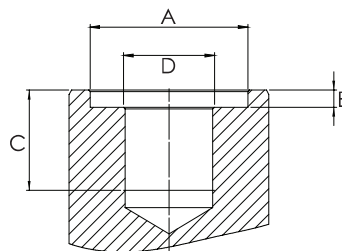


Figure 11

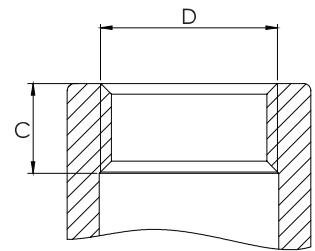


Figure 12

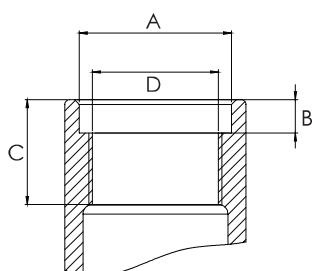


Figure 13

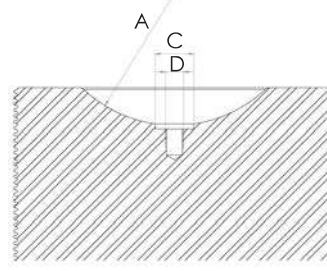


Figure 14