

ATH Series

ATH Series

Interchangeable Block

ATH Series provides 4-row heavy load capability for applications which require high accuracy and rigidity.



Typical Applications

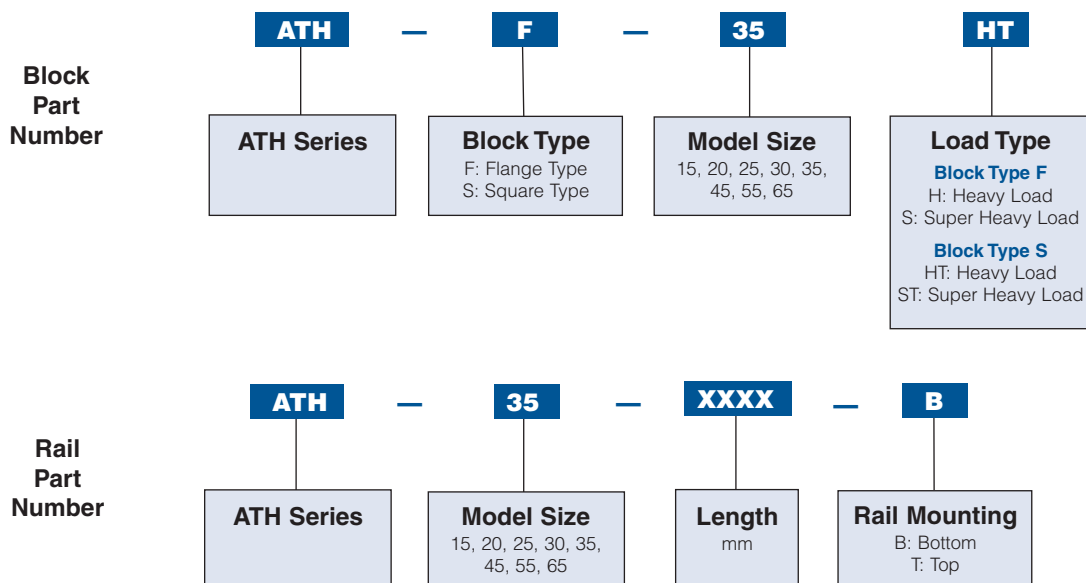
- Machine Centers
- NC Lathes
- Grinding Machines
- Precision Machining Centers
- Heavy Cutting Machines
- Automation Devices
- Transportation Equipment
- Measuring Equipment
- Devices Requiring High Positional Accuracy

Preload

A standard preload is provided in all units that will limit clearance between the block and the rail. This will create drag between 0 and 2% of the C rating of the system. For increased preload values, consult factory.

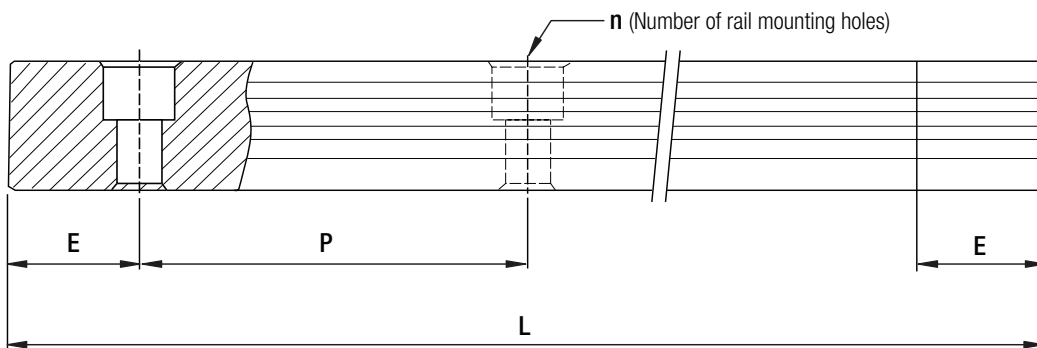
Ordering Number System for ATH Models

Example: ATH-F-35HT



ATH Series Rail Mounting

Warner Linear has offered the standard length of rails for customer needs. As for the non-standard E value, to avoid the unstable end part of rail, it is recommended the E value should not be over 1/2 of pitch (P). On the other hand, the E value should not be less than the E_{min} due to the breaking of mounting hole.



$$L = (n - 1) \times P + 2 \times E$$

L: Total length of rail (mm)

n: Number of mounting holes

P: Distance between any two holes (mm)

E: Distance from the center of the last hole to the edge (mm)

Unit: mm

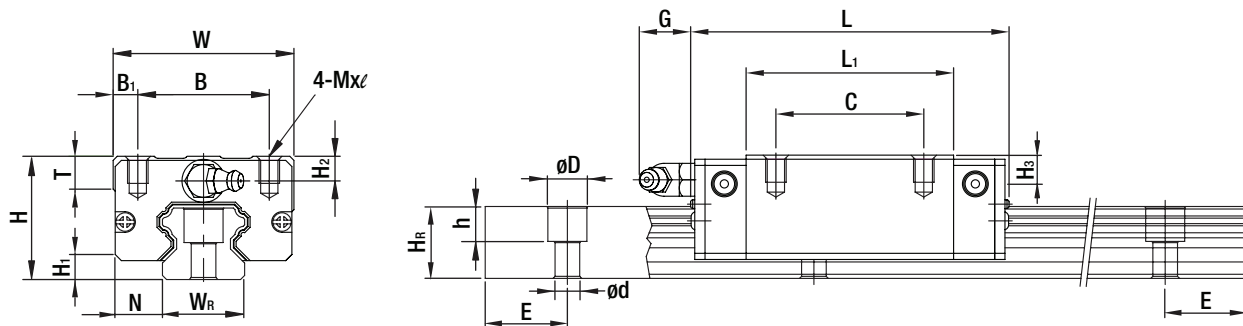
Rail Length Dimensions (standard & maximum)

Item	ATH15	ATH20	ATH25	ATH30	ATH35	ATH45	ATH55	ATH65
Std. Length L(n)	160 (3)	220 (4)	220 (4)	280 (4)	280 (4)	570 (6)	780 (7)	1,270 (9)
	220 (4)	280 (5)	280 (5)	440 (6)	440 (6)	885 (9)	1,020 (9)	1,570 (11)
	280 (5)	340 (6)	340 (6)	600 (8)	600 (8)	1,200 (12)	1,260 (11)	2,020 (14)
	340 (6)	460 (8)	460 (8)	760 (10)	760 (10)	1,620 (16)	1,500 (13)	2,620 (18)
	460 (8)	640 (11)	640 (11)	1,000 (13)	1,000 (13)	2,040 (20)	1,980 (17)	
	640 (11)	820 (14)	820 (14)	1,640 (21)	1,640 (21)	2,460 (24)	2,580 (22)	
	820 (14)	1,000 (17)	1,000 (17)	2,040 (26)	2,040 (26)	2,985 (29)	2,940 (25)	
		1,240 (21)	1,240 (21)	2,520 (32)	2,520 (32)			
		1,600 (27)	3,000 (38)	3,000 (38)				
Pitch (P)	60	60	60	80	80	105	120	150
Distance to End (E _s)	20	20	20	20	20	22.5	30	35
Max. Std. Length	1,960 (33)	4,000 (67)	4,000 (67)	3,960 (50)	3,960 (50)	3,930 (38)	3,900 (32)	3,970 (26)
Max. Length	2,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000

- Note:** 1. Tolerance of E value for standard rail is 0.5~-0.5 mm. Tolerance of E value for butt-joint is 0~-0.3 mm.
 2. Maximum standard length means the max. rail length with standard E value on both sides.
 3. If different E value is needed, please contact Warner Linear.

ATH Series

ATH-S-HT/ATH-S-ST Type



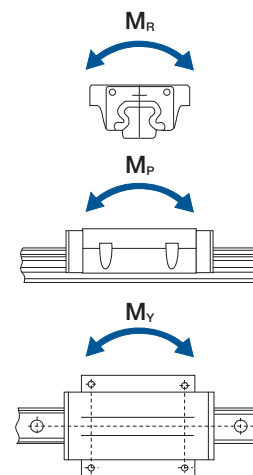
Dimensions

Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)											Dimensions of Rail (mm)					
	H	H ₁	N	W	B	B ₁	C	L ₁	L	G	M x ℓ	T	H ₂	H ₃	W _R	H _R	D	h	d	E
ATH-S-15HT	28	4.3	9.5	34	26	4	26	39.4	61.4	5.3	M4x5	6	8.5	9.5	15	15	7.5	5.3	4.5	20
ATH-S-20HT	30	4.6	12	44	32	6	36	50.5	75.6	12	M5x6	8	6	7	20	17.5	9.5	8.5	6	20
ATH-S-20ST							50	65.2	90.3											
ATH-S-25HT	40	5.5	12.5	48	35	6.5	35	58	83	12	M6x8	8	10	13	23	22	11	9	7	20
ATH-S-25ST							50	78.6	103.6											
ATH-S-30HT	45	6	16	60	40	10	40	70	97.4	12	M8x10	8.5	9.5	13.8	28	26	14	12	9	20
ATH-S-30ST							60	93	120.4											
ATH-S-35HT	55	7.5	18	70	50	10	50	80	112.4	12	M8x12	10.2	16	19.6	34	29	14	12	9	20
ATH-S-35ST							72	105.8	138.2											
ATH-S-45HT	70	9.5	20.5	86	60	13	60	97	138	12.9	M10x17	16	18.5	30.5	45	38	20	17	14	22.5
ATH-S-45ST							80	128.8	169.8											
ATH-S-55HT	80	13	23.5	100	75	12.5	75	117.7	165.7	12.9	M12x18	17.5	22	29	53	44	23	20	16	30
ATH-S-55ST							95	155.8	203.8											
ATH-S-65HT	90	15	31.5	126	76	25	70	144.2	198.2	12.9	M16x20	25	15	15	63	53	26	22	18	35
ATH-S-65ST							120	203.6	257.6											

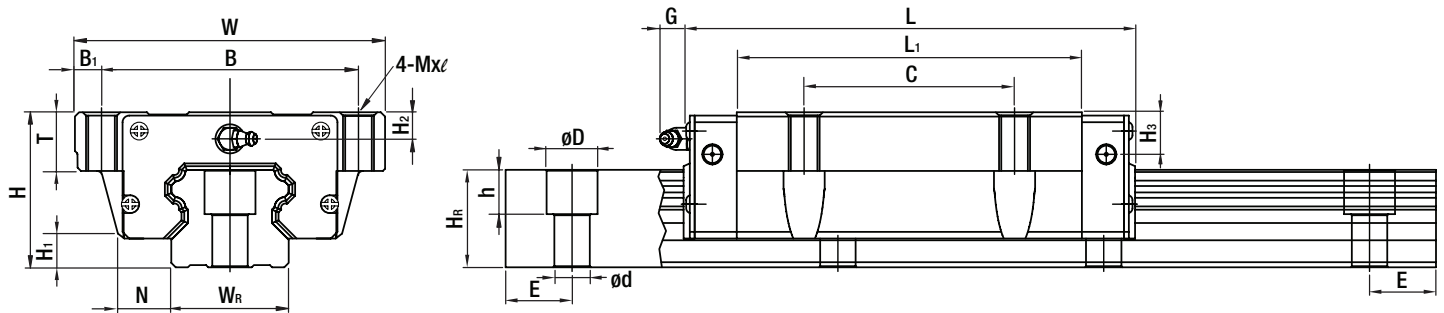
Note: 1kgf=9.81N

Specifications

Model No.	Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C ₀ (kN)	Static Rated Moment			Weight	
				M _R (kN-m)	M _P (kN-m)	M _V (kN-m)	Block (kg)	Rail (kg/m)
ATH-S-15HT	M4x16	11.38	25.31	0.17	0.15	0.15	0.18	1.45
ATH-S-20HT	M5x16	17.75	37.84	0.38	0.27	0.27	0.30	2.21
ATH-S-20ST		21.18	48.84	0.48	0.47	0.47	0.39	
ATH-S-25HT	M6x20	26.48	56.19	0.64	0.51	0.51	0.51	3.21
ATH-S-25ST		32.75	76.00	0.87	0.88	0.88	0.69	
ATH-S-30HT	M8x25	38.74	83.06	1.06	0.85	0.85	0.88	4.47
ATH-S-30ST		47.27	110.13	1.40	1.47	1.47	1.16	
ATH-S-35HT	M8x25	49.52	102.87	1.73	1.20	1.20	1.45	6.30
ATH-S-35ST		60.21	136.31	2.29	2.08	2.08	1.92	
ATH-S-45HT	M12x35	77.57	155.93	3.01	2.35	2.35	2.73	10.41
ATH-S-45ST		94.54	207.12	4.00	4.07	4.07	3.61	
ATH-S-55HT	M14x45	114.44	227.81	5.66	4.06	4.06	4.17	15.08
ATH-S-55ST		139.35	301.26	7.49	7.01	7.01	5.49	
ATH-S-65HT	M16x50	163.63	324.71	10.02	6.44	6.44	7.00	21.18
ATH-S-65ST		208.36	457.15	14.15	11.12	11.12	9.82	



ATH-F-H/ATH-F-S Type

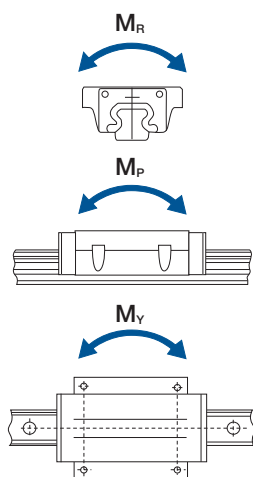


Dimensions

Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)											Dimensions of Rail (mm)							
	H	H ₁	N	W	B	B ₁	C	L ₁	L	G	M	T	T ₁	H ₂	H ₃	W _R	H _R	D	h	d	P	E
ATH-F-15H	24	4.3	16	47	38	4.5	30	39.4	61.4	5.3	M5	6	8.9	4.5	5.5	15	15	7.5	5.3	4.5	60	20
ATH-F-20H	30	4.6	21.5	63	53	5	40	50.5	75.6	12	M6	8	10	6	7	20	17.5	9.5	8.5	6	60	20
ATH-F-20S								65.2	90.3													
ATH-F-25H	36	5.5	23.5	70	57	6.5	45	58	83	12	M8	8	14	6	9	23	22	11	9	7	60	20
ATH-F-25S								78.6	103.6													
ATH-F-30H	42	6	31	90	72	9	52	70	97.4	12	M10	8.5	16	6.5	10.8	28	26	14	12	9	80	20
ATH-F-30S								93	120.4													
ATH-F-35H	48	7.5	33	100	82	9	62	80	112.4	12	M10	10.1	18	9	12.6	34	29	14	12	9	80	20
ATH-F-35S								105.8	138.2													
ATH-F-45H	60	9.5	37.5	120	100	10	80	97	138	12.9	M12	15.1	22	8.5	20.5	45	38	20	17	14	105	22.2
ATH-F-45S								128.8	169.8													
ATH-F-55H	70	13	43.5	140	116	12	95	117.7	165.7	12.9	M14	17.5	26.5	12	19	53	44	23	20	16	120	30
ATH-F-55S								155.8	203.8													
ATH-F-65H	90	15	53.5	170	142	14	110	144.2	198.2	12.9	M16	25	37.5	15	15	63	53	26	22	18	150	35
ATH-F-65S								203.6	257.6													

Note: 1kgf=9.81N

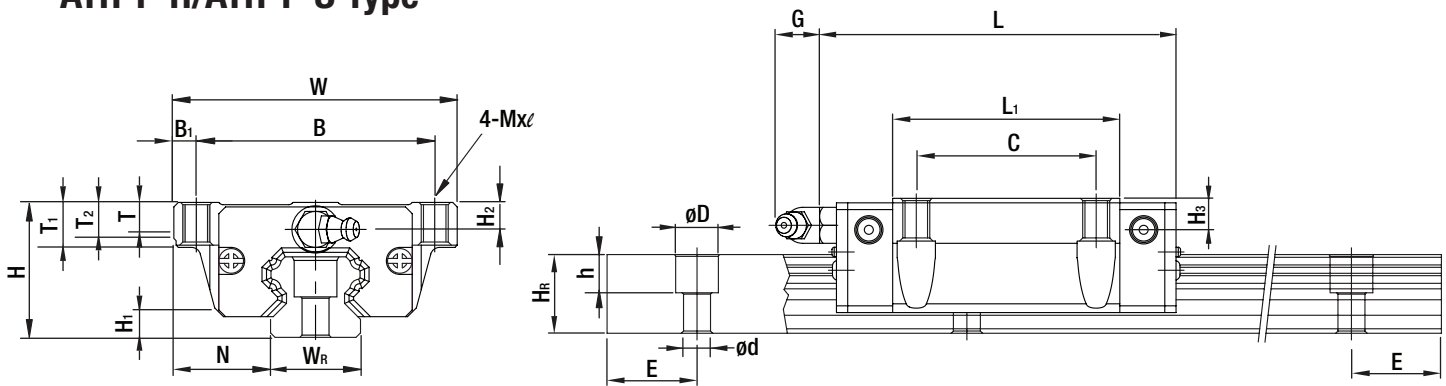
Specifications



Model No.	Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C ₀ (kN)	Static Rated Moment			Weight	
				M _R (kN-m)	M _P (kN-m)	M _V (kN-m)	Block (kg)	Rail (kg/m)
ATH-F-15H	M4x16	11.38	25.31	0.17	0.15	0.15	0.17	1.45
ATH-F-20H	M5x16	17.75	37.84	0.38	0.27	0.27	0.40	2.21
ATH-F-20S		21.18	48.84	0.48	0.47	0.47	0.52	
ATH-F-25H	M6x20	26.48	56.19	0.64	0.51	0.51	0.59	3.21
ATH-F-25S		32.75	76.00	0.87	0.88	0.88	0.80	
ATH-F-30H	M8x25	38.74	83.06	1.06	0.85	0.85	1.09	4.47
ATH-F-30S		47.27	110.13	1.40	1.47	1.47	1.44	
ATH-F-35H	M8x25	49.52	102.87	1.73	1.20	1.20	1.56	6.30
ATH-F-35S		60.21	136.31	2.29	2.08	2.08	2.06	
ATH-F-45H	M12x35	77.57	155.93	3.01	2.35	2.35	2.79	10.41
ATH-F-45S		94.54	207.12	4.00	4.07	4.07	3.69	
ATH-F-55H	M14x45	114.44	227.81	5.66	4.06	4.06	4.52	15.08
ATH-F-55S		139.35	301.26	7.49	7.01	7.01	5.96	
ATH-F-65H	M16x50	163.63	324.71	10.02	6.44	6.44	9.17	21.18
ATH-F-65S		208.36	457.15	14.15	11.12	11.12	12.89	

ATH Series

ATH-F-H/ATH-F-S Type



Dimensions

Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)													Dimensions of Rail (mm)						
	H	H ₁	N	W	B	B ₁	C	L ₁	L	G	M	T	T ₁	T ₂	H ₂	H ₃	W _R	H _R	D	h	d	P	E
ATH-F-15H	24	4.3	16	47	38	4.5	30	39.4	61.4	5.3	M5	6	8.9	6.95	4.5	5.5	15	15	7.5	5.3	4.5	60	20
ATH-F-20H	30	4.6	21.5	63	53	5	40	50.5	75.6	12	M6	8	10	9.5	6	7	20	17.5	9.5	8.5	6	60	20
ATH-F-20S								65.2	90.3														
ATH-F-25H	36	5.5	23.5	70	57	6.5	45	58	83	12	M8	8	14	10	6	9	23	22	11	9	7	60	20
ATH-F-25S								78.6	103.6														
ATH-F-30H	42	6	31	90	72	9	52	70	97.4	12	M10	8.5	16	10	6.5	10.8	28	26	14	12	9	80	20
ATH-F-30S								93	120.4														
ATH-F-35H	48	7.5	33	100	82	9	62	80	112.4	12	M10	10.1	18	13	9	12.6	34	29	14	12	9	80	20
ATH-F-35S								105.8	138.2														
ATH-F-45H	60	9.5	37.5	120	100	10	80	97	138	12.9	M12	15.1	22	15	8.5	20.5	45	38	20	17	14	105	22.5
ATH-F-45S								128.8	169.8														
ATH-F-55H	70	13	43.5	140	116	12	95	117.7	165.7	12.9	M14	17.5	26.5	17	12	19	53	44	23	20	16	120	30
ATH-F-55S								155.8	203.8														
ATH-F-65H	90	15	53.5	170	142	14	110	144.2	198.2	12.9	M16	25	37.5	23	15	15	63	53	26	22	18	150	35
ATH-F-65S								203.6	257.6														

Note: 1kgf=9.81N

Specifications

Model No.	Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C ₀ (kN)	Static Rated Moment			Weight	
				M _R (kN-m)	M _P (kN-m)	M _V (kN-m)	Block (kg)	Rail (kg/m)
ATH-F-15H	M4x16	11.38	25.31	0.17	0.15	0.15	0.17	1.45
ATH-F-20H	M5x16	17.75	37.84	0.38	0.27	0.27	0.40	2.21
ATH-F-20S		21.18	48.84	0.48	0.47	0.47	0.52	
ATH-F-25H	M6x20	26.48	56.19	0.64	0.51	0.51	0.59	3.21
ATH-F-25S		32.75	76.00	0.87	0.88	0.88	0.80	
ATH-F-30H	M8x25	38.74	83.06	1.06	0.85	0.85	1.09	4.47
ATH-F-30S		47.27	110.13	1.40	1.47	1.47	1.44	
ATH-F-35H	M8x25	49.52	102.87	1.73	1.20	1.20	1.56	6.30
ATH-F-35S		60.21	136.31	2.29	2.08	2.08	2.06	
ATH-F-45H	M12x35	77.57	155.93	3.01	2.35	2.35	2.79	10.41
ATH-F-45S		94.54	207.12	4.00	4.07	4.07	3.69	
ATH-F-55H	M14x45	114.44	227.81	5.66	4.06	4.06	4.52	15.08
ATH-F-55S		139.35	301.26	7.49	7.01	7.01	5.96	
ATH-F-65H	M16x50	163.63	324.71	10.02	6.44	6.44	9.17	21.18
ATH-F-65S		208.36	457.15	14.15	11.12	11.12	12.89	

