

# GUIDEWAYS



## Linear Guideways



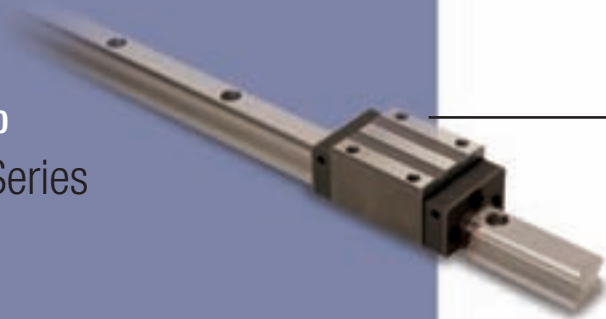
# Warner Linear Guideways Selection Guide

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ATH Series

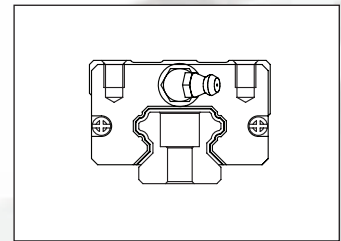


Type

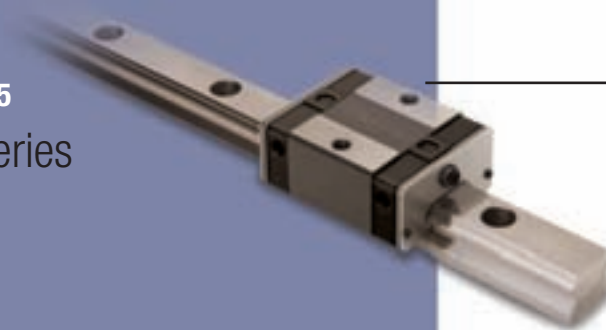
Shape

4-Row

Square ATH

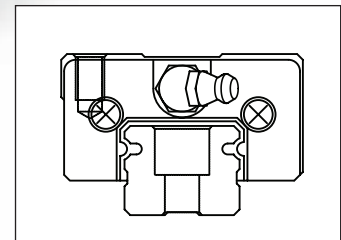


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ATE Series

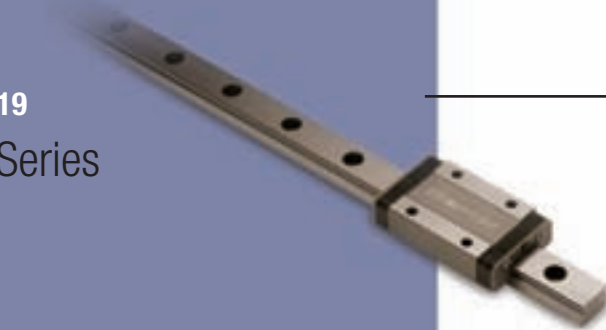


4-Row

Square ATE

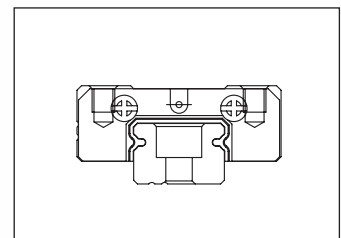


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ATM Series



2-Row

Narrow ATMN



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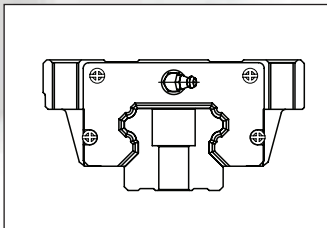
Page 24 Request For Quote Form

Shape

Height

Rail Length  
(mm)

**Flange ATH**



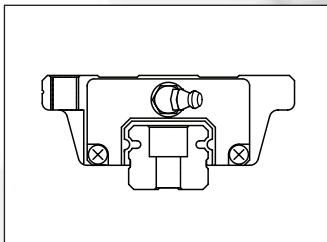
Square  
28-90

Square  
160-4000

Flange  
24-90

Flange  
160-4000

**Flange ATE**



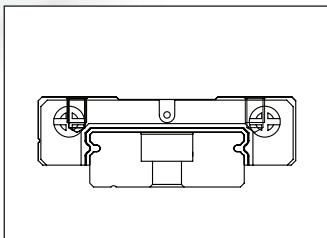
Square  
24-42

Square  
160-4000

Flange  
24-42

Flange  
160-4000

**Wide ATMW**



Square  
8-16

Square  
40-1000

Flange  
9-16

Flange  
80-1200

## Warner Linear Guideways lead the industry.

Our guideway assemblies are designed for high accuracy, large capacity, high reliability, and excellent operating characteristics. The patented recirculation system provides smooth linear motion with low noise.

## World-class linear guideways from Warner Linear are engineered for long-lasting, trouble-free performance.

Our guideways are loaded with features that provide reliability in high speed, high accuracy applications. Low friction design allows for smooth operation and low noise. Fully Interchangeable rails and easy installation help to make Warner Linear guideways the preferred choice of both OEM's and end users.

Tapped and threaded holes are referenced to mounting surface. Wide blocks can be mounted from either top or bottom.

End Seals provide protection from ambient contamination. Optional double seals and scrapers can provide added protection.

Precisely located mounting holes allow for ease of rail mounting. Top or bottom mounting available.

Grease fitting can be mounted at either end of the block.

Clearly marked blocks provide reference surface to ensure accurate installation and operation.

End cap provides lubrication retention and low noise bearing re-circulation.

Rails provide accurate straightness and parallelism with pre-located mounting holes.

Reference surface for rails is provided on both sides of the rails for ease of reference access regardless of mounting location.

Sealed bearing blocks provide low friction, accurate, quiet, smooth operation in designs that are easy to install and mount properly.



# A full range of models is available to meet your specific application requirements.

Warner Linear offers specific guideways for use with super heavy, heavy, medium, or light loads. Choose from various levels of precision and dust protection.



## ATH Series

Designed for heavy and super heavy loads.

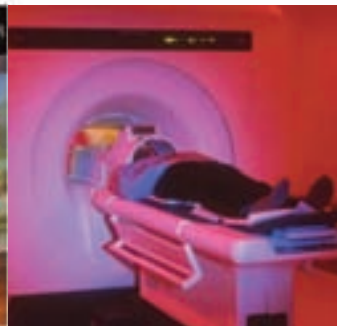
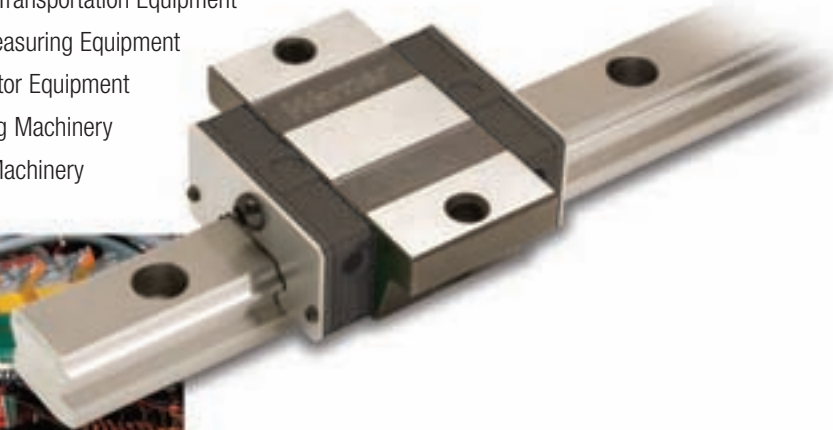
- Machine Centers
- NC Lathes
- Grinding Machines
- Precision Machining Centers
- Heavy Cutting Machines
- Automation Devices
- Transportation Equipment
- Measuring Equipment
- Devices Requiring High Positional Accuracy



## ATE Series

Designed for medium and heavy loads.

- Automation Equipment
- High Speed Transportation Equipment
- Precision Measuring Equipment
- Semiconductor Equipment
- Woodworking Machinery
- Packaging Machinery



## ATM Series

Designed for light loads.

- Miniature Devices
- Medical Equipment
- IC Manufacturing Equipment
- Woodworking Machinery
- X-Y Tables
- Packaging Machinery

# ATH Series

## ATH Series

### Interchangeable Block

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



### Typical Applications

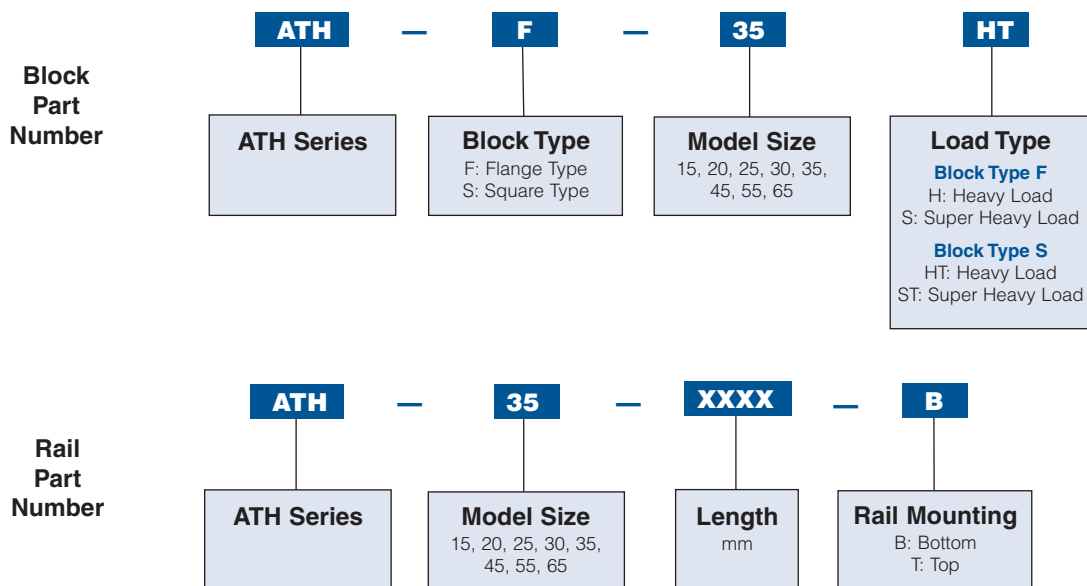
- Machine Centers
- NC Lathes
- Grinding Machines
- Precision Machining Centers
- Heavy Cutting Machines
- Automation Devices
- Transportation Equipment
- Measuring Equipment
- Devices Requiring High Positional Accuracy

### 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.

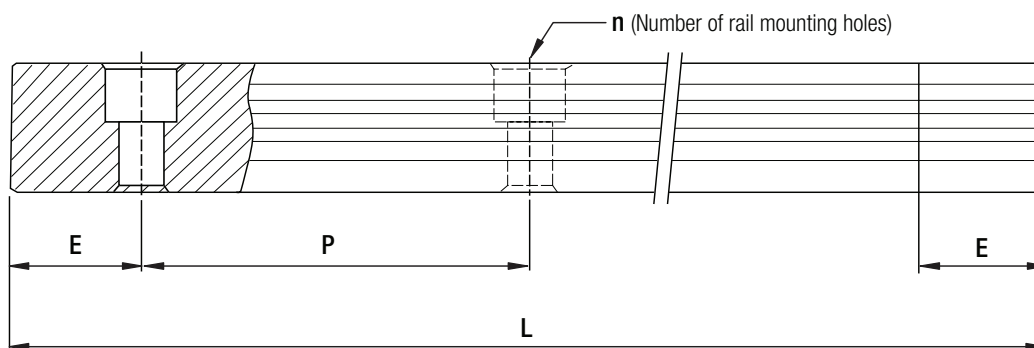
## Ordering Number System for ATH Models

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 <sub>s</sub> )	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

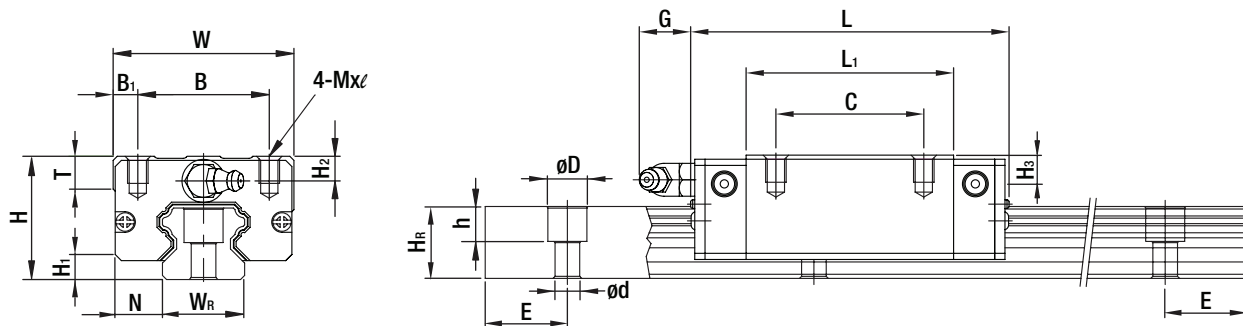
**Note:** 1. Tolerance of E value for standard rail is 0.5~-0.5 mm. Tolerance of E value for butt-joint is 0~-0.3 mm.

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



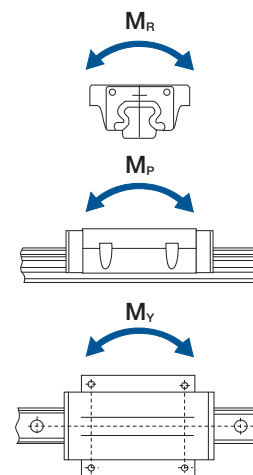
### Dimensions

Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)											Dimensions of Rail (mm)					
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	G	M x ℓ	T	H <sub>2</sub>	H <sub>3</sub>	W <sub>R</sub>	H <sub>R</sub>	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											

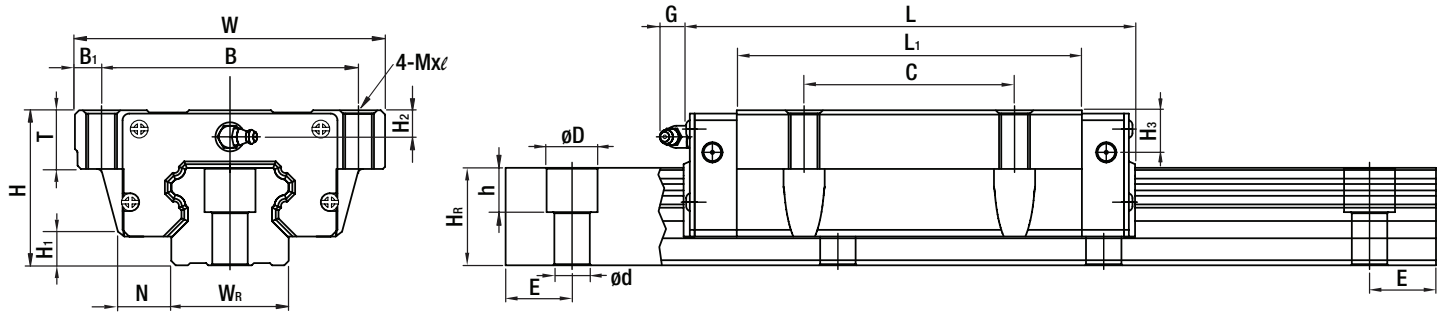
Note: 1kgf=9.81N

### Specifications

Model No.	Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C <sub>0</sub> (kN)	Static Rated Moment			Weight	
				M <sub>R</sub> (kN-m)	M <sub>P</sub> (kN-m)	M <sub>V</sub> (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

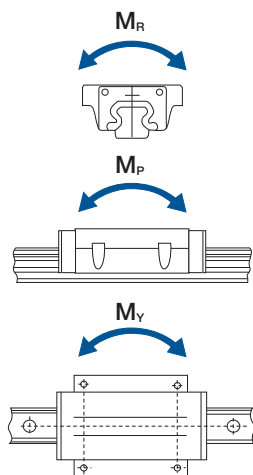


### Dimensions

Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)											Dimensions of Rail (mm)							
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	G	M	T	T <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	W <sub>R</sub>	H <sub>R</sub>	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

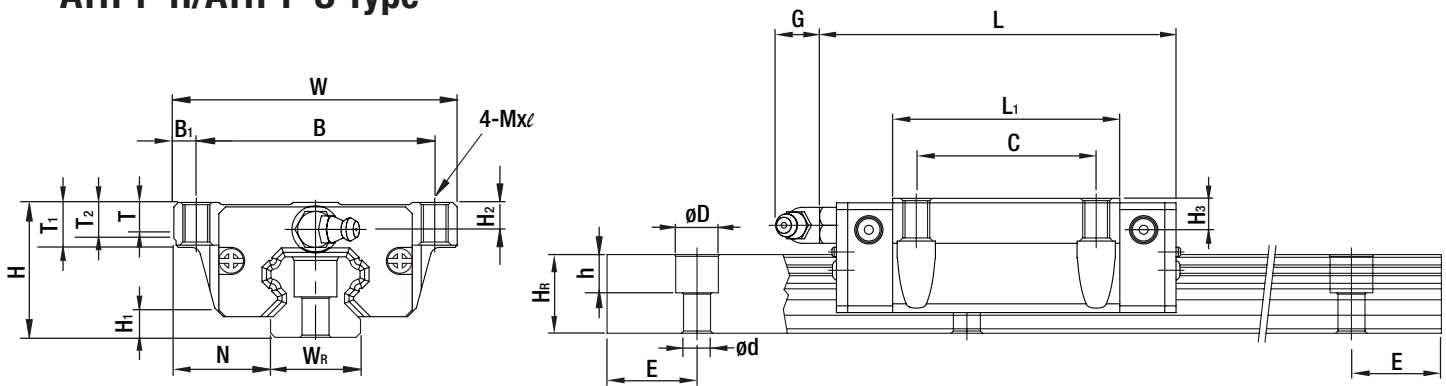
### Specifications



Model No.	Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C <sub>0</sub> (kN)	Static Rated Moment			Weight	
				M <sub>R</sub> (kN-m)	M <sub>P</sub> (kN-m)	M <sub>V</sub> (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



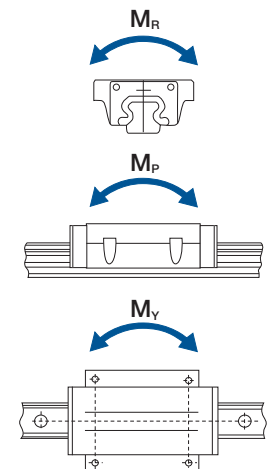
### Dimensions

Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)													Dimensions of Rail (mm)						
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	G	M	T	T <sub>1</sub>	T <sub>2</sub>	H <sub>2</sub>	H <sub>3</sub>	W <sub>R</sub>	H <sub>R</sub>	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 <sub>0</sub> (kN)	Static Rated Moment			Weight	
				M <sub>R</sub> (kN-m)	M <sub>P</sub> (kN-m)	M <sub>V</sub> (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	



## Typical Applications

- Automation Equipment
- High Speed Transportation Equipment
- Precision Measuring Equipment
- Semiconductor Equipment
- Woodworking Machinery

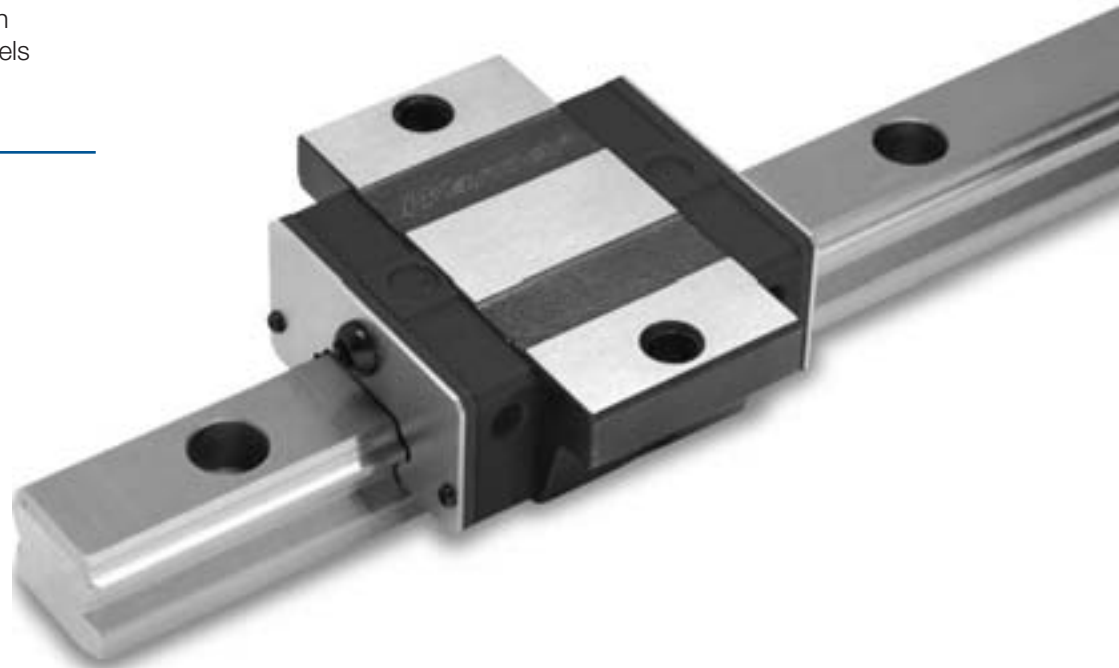
## Preload

The ATE Series is offered with a minimal preload. Higher levels of preload can be provided when desired.

## ATE Series

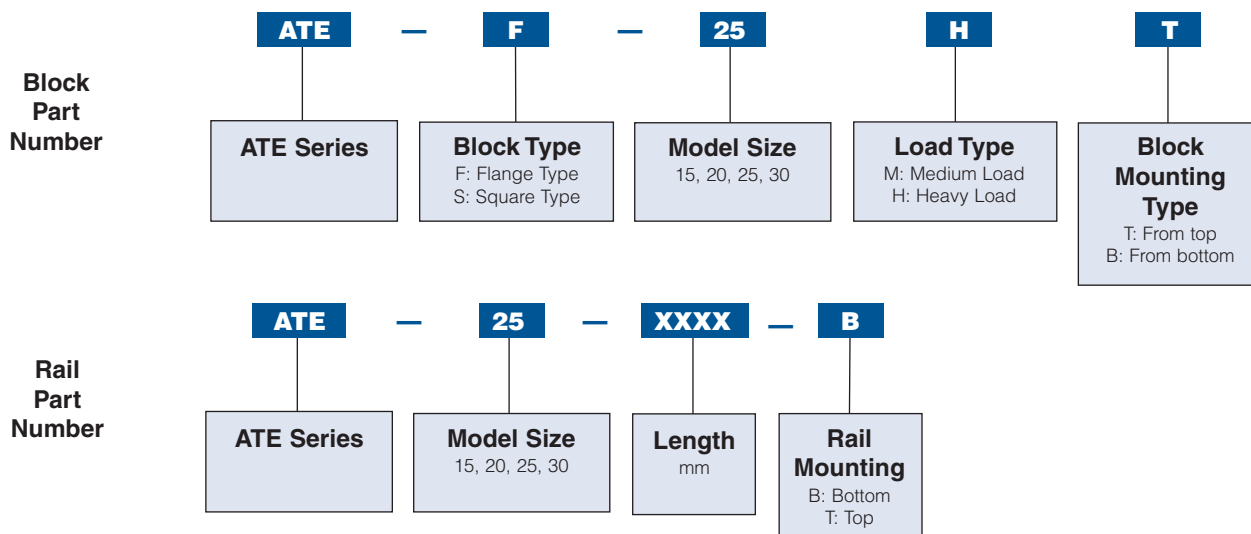
### Interchangeable Block

The ATE series provides a four row design with a low profile rail where moderate loads and high speeds are required.



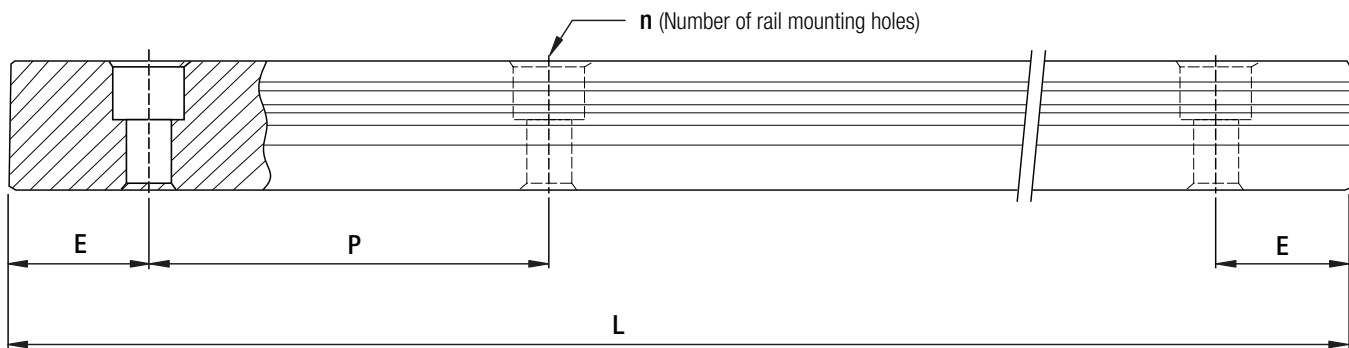
## Ordering Number System for ATE Models

Example: ATE-F-25HT



## ATE Series Rail Mounting

Warner Linear has stock for standard length of rails. 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<sub>min</sub> 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)

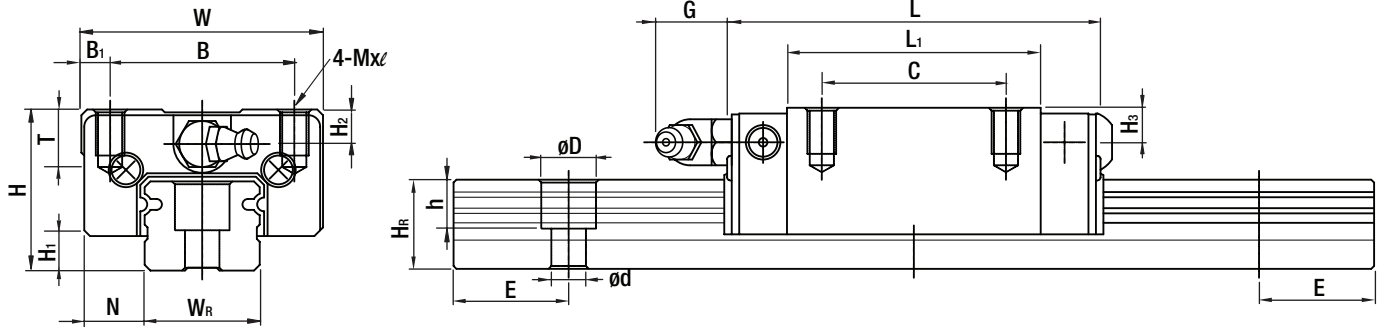
Unit: mm

### Rail Length Dimensions (standard & maximum)

Item	ATE15	ATE20	ATE25	ATE30
Std. Length L(n)	160 (3)	220 (4)	220 (4)	280 (4)
	220 (4)	280 (5)	280 (5)	440 (6)
	280 (5)	340 (6)	340 (6)	600 (8)
	340 (6)	460 (8)	460 (8)	760 (10)
	460 (8)	640 (11)	640 (11)	1,000 (13)
	640 (11)	820 (14)	820 (14)	1,640 (21)
	820 (14)	1,000 (17)	1,000 (17)	2,040 (26)
	1,240 (1 <sub>1</sub> )	2,520 (32)	2,520 (32)	
	3,000 (38)	3,000 (38)		
Pitch (P)	60	60	60	80
Distance to End (E <sub>s</sub> )	20	20	20	20
Max. Std. Length	1,960 (33)	4,000 (67)	4,000 (67)	3,960 (50)
Max. Length	2,000	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.

## ATES-MT/ATES-HT Type

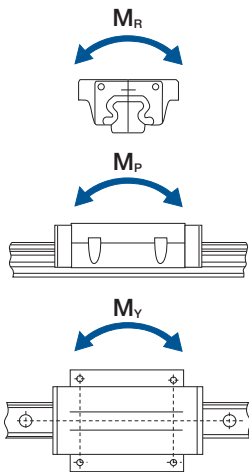


### Dimensions

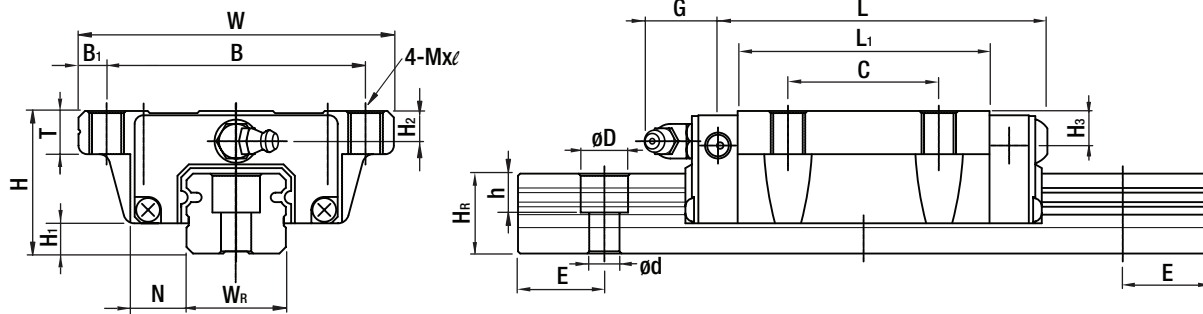
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)						
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	G	M x L	T	H <sub>2</sub>	W <sub>R</sub>	H <sub>R</sub>	D	h	d	P	E
ATES-15MT	24	4.5	9.5	34	26	4	–	23.1	40.7	5.7	M4x6	6	5.5	15	12.5	6	4.5	3.5	60	20
ATES-15HT							26	39.8	57.4											
ATES-20MT	28	6	11	42	32	5	–	29	50.6	12	M5x7	7.5	6	20	15.5	9.5	8.5	6	60	20
ATES-20HT							32	48.1	69.7											
ATES-25MT	33	7	12.5	48	35	6.5	–	35.5	61.1	12	M6x9	8	8	23	18	11	9	7	60	20
ATES-25HT							35	59	84.6											
ATES-30MT	42	10	16	60	40	10	–	41.5	71.5	12	M8x12	9	8	28	23	11	9	7	80	20
ATES-30HT							40	70.1	100.1											

### Specifications

Model No.	Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C <sub>0</sub> (kN)	Static Rated Moment			Weight	
				M <sub>R</sub> (kgf-m)	M <sub>P</sub> (kgf-m)	M <sub>V</sub> (kgf-m)	Block (kg)	Rail (kg/m)
ATES-15MT	M3x16	440	590	0.08	0.04	0.04	0.09	1.25
ATES-15HT		640	1,010	0.13	0.10	0.10	0.15	
ATES-20MT	M5x16	650	920	0.13	0.06	0.06	0.15	2.08
ATES-20HT		970	1,450	0.22	0.16	0.16	0.24	
ATES-25MT	M6x20	1,080	1,330	0.23	0.12	0.12	0.25	2.67
ATES-25HT		1,550	2,290	0.38	0.32	0.32	0.41	
ATES-30MT	M6x25	1,550	2,030	0.40	0.21	0.21	0.45	4.35
ATES-30HT		2,470	3,390	0.68	0.55	0.55	0.76	



## ATEF-MT/ATEF-HT Type

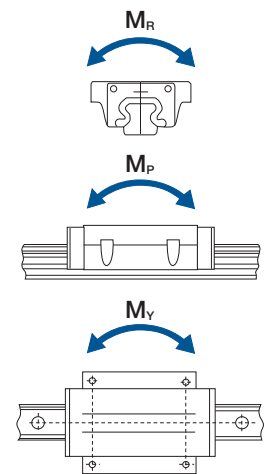


### Dimensions

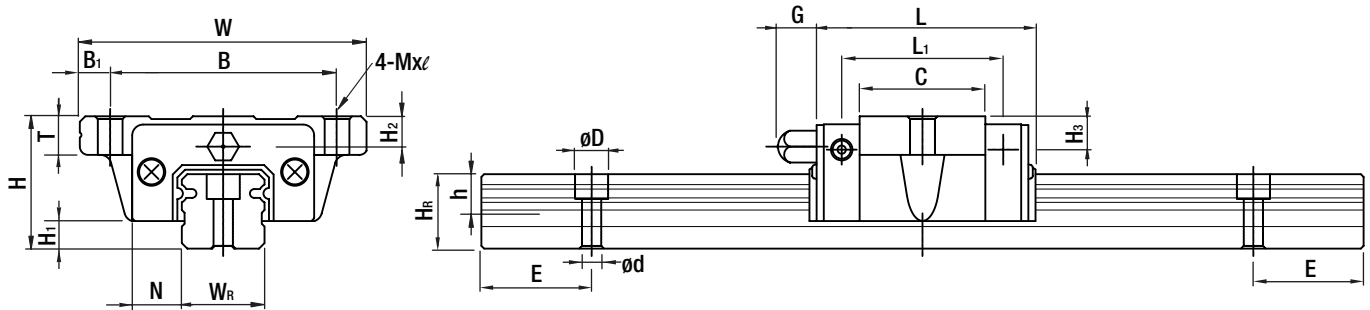
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)						
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	G	M	T	H <sub>2</sub>	W <sub>R</sub>	H <sub>R</sub>	D	h	d	P	E
ATEF-15MT ATEF-15HT	24	4.5	18.5	52	41	5.5	– 26	23.1 39.8	40.7 57.4	5.7	M5	7	5.5	15	12.5	6	4.5	3.5	60	20
ATEF-20MT ATEF-20HT	28	6	19.5	59	49	5	– 32	29 48.1	50.6 69.7	12	M6	9	6	20	15.5	9.5	8.5	6	60	20
ATEF-25MT ATEF-25HT	33	7	25	73	60	6.5	– 35	35.5 59	61.1 84.6	12	M8	10	8	23	18	11	9	7	60	20
ATEF-30MT ATEF-30HT	42	10	31	90	72	9	– 40	41.5 70.1	71.5 100.1	12	M10	10	8	28	23	11	9	7	80	20

### Specifications

Model No.	Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C <sub>0</sub> (kN)	Static Rated Moment			Weight	
				M <sub>R</sub> (kgf-m)	M <sub>P</sub> (kgf-m)	M <sub>V</sub> (kgf-m)	Block (kg)	Rail (kg/m)
ATEF-15MT ATEF-15HT	M3x16	440 640	590 1,010	0.08 0.13	0.04 0.10	0.04 0.10	0.12 0.21	1.25
ATEF-20MT ATEF-20HT	M5x16	650 970	920 1,450	0.13 0.22	0.06 0.16	0.06 0.16	0.19 0.32	2.08
ATEF-25MT ATEF-25HT	M6x20	1,080 1,550	1,330 2,290	0.23 0.38	0.12 0.32	0.12 0.32	0.35 0.59	2.67
ATEF-30MT ATEF-30HT	M6x25	1,550 2,470	2,030 3,390	0.40 0.58	0.21 0.55	0.21 0.55	0.62 1.04	4.35



## ATES-MB/ATES-HB Type

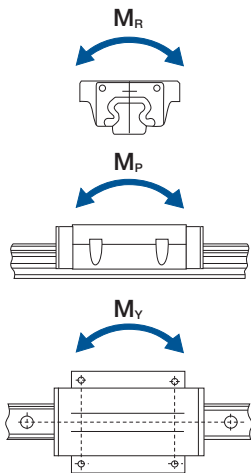


### Dimensions

Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)						
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	G	M	T	H <sub>2</sub>	W <sub>R</sub>	H <sub>R</sub>	D	h	d	P	E
ATES-15MB	24	4.5	18.5	52	41	5.5	–	23.1	40.7	5.7	ø4.5	7	5.5	15	12.5	6	4.5	3.5	60	20
ATES-15HB							26	39.8	57.4											
ATES-20MB	28	6	19.5	59	49	5	–	29	50.6	12	ø5.5	9	6	20	15.5	9.5	8.5	6	60	20
ATES-20HB							32	48.1	69.7											
ATES-25MB	33	7	25	73	60	6.5	–	35.5	61.1	12	ø7	10	8	23	18	11	9	7	60	20
ATES-25HB							35	59	84.6											
ATES-30MB	42	10	31	90	72	9	–	41.5	71.5	12	ø9	10	8	28	23	11	9	7	80	20
ATES-30HB							40	70.1	100.1											

### Specifications

Model No.	Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C <sub>0</sub> (kN)	Static Rated Moment			Weight	
				M <sub>R</sub> (kgf-m)	M <sub>P</sub> (kgf-m)	M <sub>V</sub> (kgf-m)	Block (kg)	Rail (kg/m)
ATES-15MB	M3x16	440	590	0.08	0.04	0.04	0.12	1.25
ATES-15HB		640	1,010	0.13	0.10	0.10	0.21	
ATES-20MB	M5x16	650	920	0.13	0.06	0.06	0.19	2.08
ATES-20HB		970	1,450	0.22	0.16	0.16	0.32	
ATES-25MB	M6x20	1,080	1,330	0.23	0.12	0.12	0.35	2.67
ATES-25HB		1,550	2,290	0.38	0.32	0.32	0.59	
ATES-30MB	M6x25	1,550	2,030	0.40	0.21	0.21	0.62	4.35
ATES-30HB		2,470	3,390	0.68	0.55	0.55	1.04	



# ATM Series

## ATM Series

### Interchangeable Block

The ATM Series provides a miniature size design while maintaining high accuracy and rigidity capabilities.

### Typical Applications

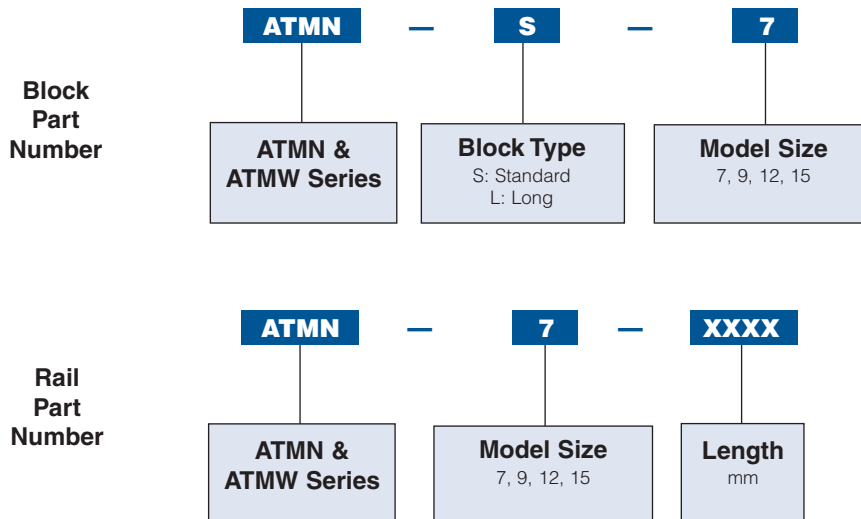
- Miniature Devices
- Medical Equipment
- IC Manufacturing Equipment
- Woodworking Machinery
- X-Y Tables

### Preload

The ATM Series is offered with a minimal preload. Higher levels of preload can be provided when desired.

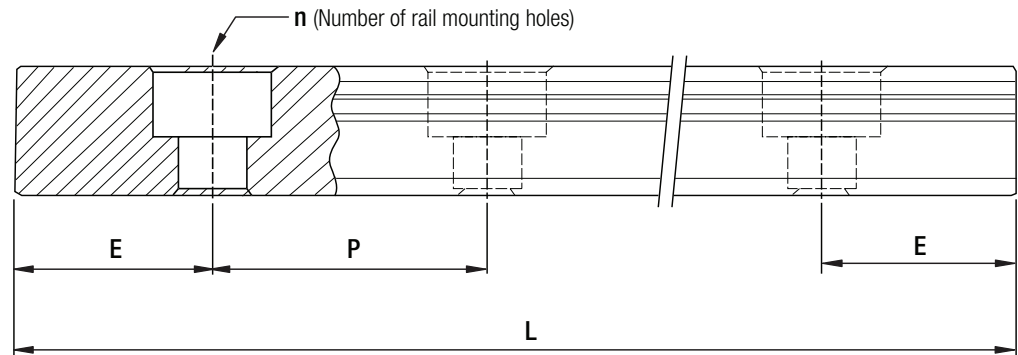


## Ordering Number System for ATM Models Example: ATMN-S-7



## ATM Series Rail Mounting

Warner Linear has stock of standard length of rails. 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<sub>min</sub> 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

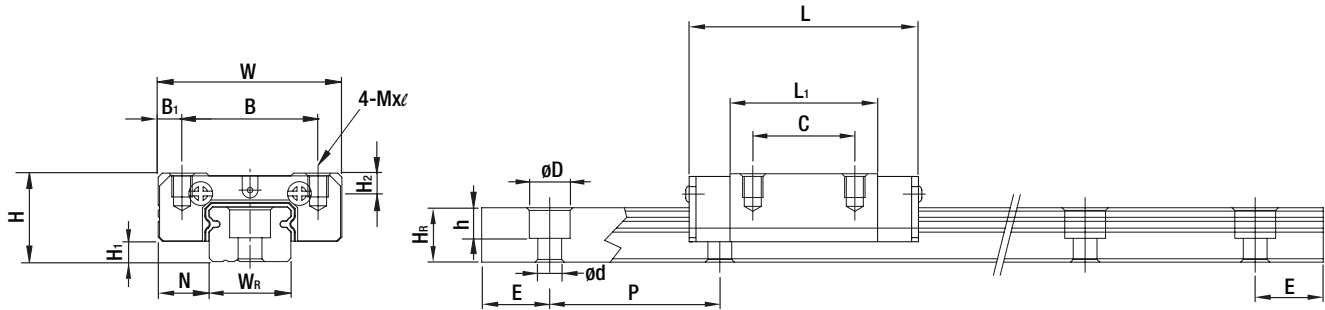
### Rail Length Dimensions (standard & maximum)

Item	ATMN7	ATMN9	ATMN12	ATMN15	ATMW7	ATMW9	ATMW12	ATMW15
Std. Length L(n)	40 (3)	55 (3)	70 (3)	70 (2)	80 (3)	80 (3)	110 (3)	110 (3)
	55 (4)	75 (4)	95 (4)	110 (3)	110 (4)	110 (4)	150 (4)	150 (4)
	70 (5)	95 (5)	120 (5)	150 (4)	140 (5)	140 (5)	190 (5)	190 (5)
	85 (6)	115 (6)	145 (6)	190 (5)	170 (6)	170 (6)	230 (6)	230 (6)
	100 (7)	135 (7)	170 (7)	230 (6)	200 (7)	200 (7)	270 (7)	270 (7)
	130 (9)	155 (8)	195 (8)	270 (7)	260 (9)	230 (8)	310 (8)	310 (8)
		175 (9)	220 (9)	310 (8)		260 (9)	350 (9)	350 (9)
		195 (10)	245 (10)	350 (9)		290 (10)	390 (10)	390 (10)
		275 (14)	270 (11)	390 (10)		350 (14)	430 (11)	430 (11)
		375 (19)	320 (13)	430 (11)		500 (19)	510 (13)	510 (13)
			370 (15)	470 (12)		710 (24)	590 (15)	590 (15)
			470 (19)	550 (14)		860 (29)	750 (19)	750 (19)
		570 (23)	670 (17)			910 (23)	910 (23)	
		695 (28)	870 (22)			1,070 (27)	1,070 (27)	
Pitch (P)	15	20	25	40	30	30	40	40
Distance to End (E <sub>s</sub> )	5	7.5	10	15	10	10	15	15
Max. Std. Length	595 (40)	995 (40)	995 (40)	990 (25)	590 (20)	980 (33)	1,150 (29)	1,150 (29)
Max. Length	600	1,000	1,000	1,000	1,000	1,000	1,200	1,200

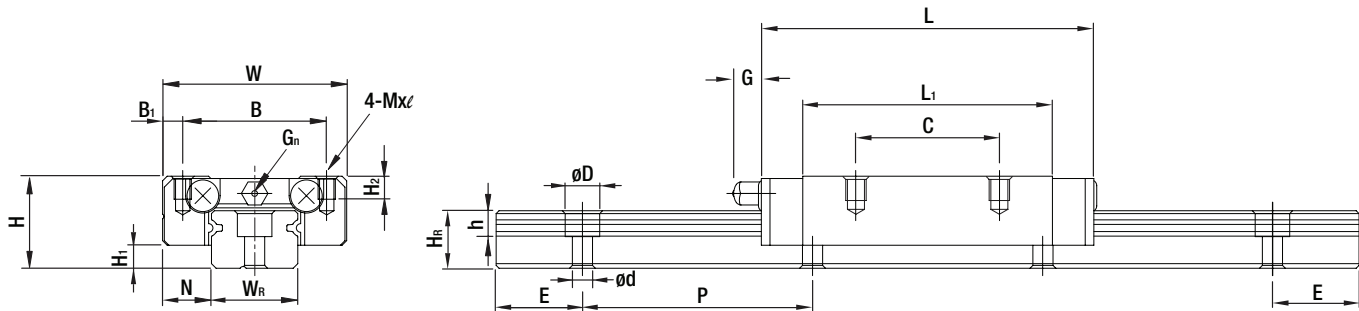
**Note:** 1. Tolerance of E value for standard rail is 0.5~-0.5 mm. Tolerance of E value for butt-joint is 0~-0.3 mm.  
2. Maximum standard length means the max. rail length with standard E value on both sides.  
3. If different E value is needed, please contact Warner Linear.

# ATM Series

## ATMN-S/ATMN-L Type



ATMN 7, ATMN 9, ATMN 12



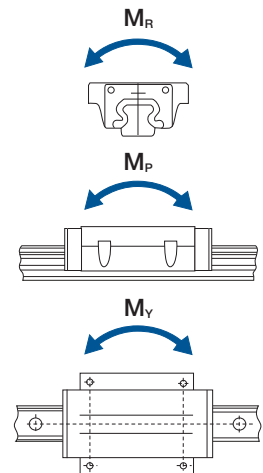
ATMN 15

### Dimensions

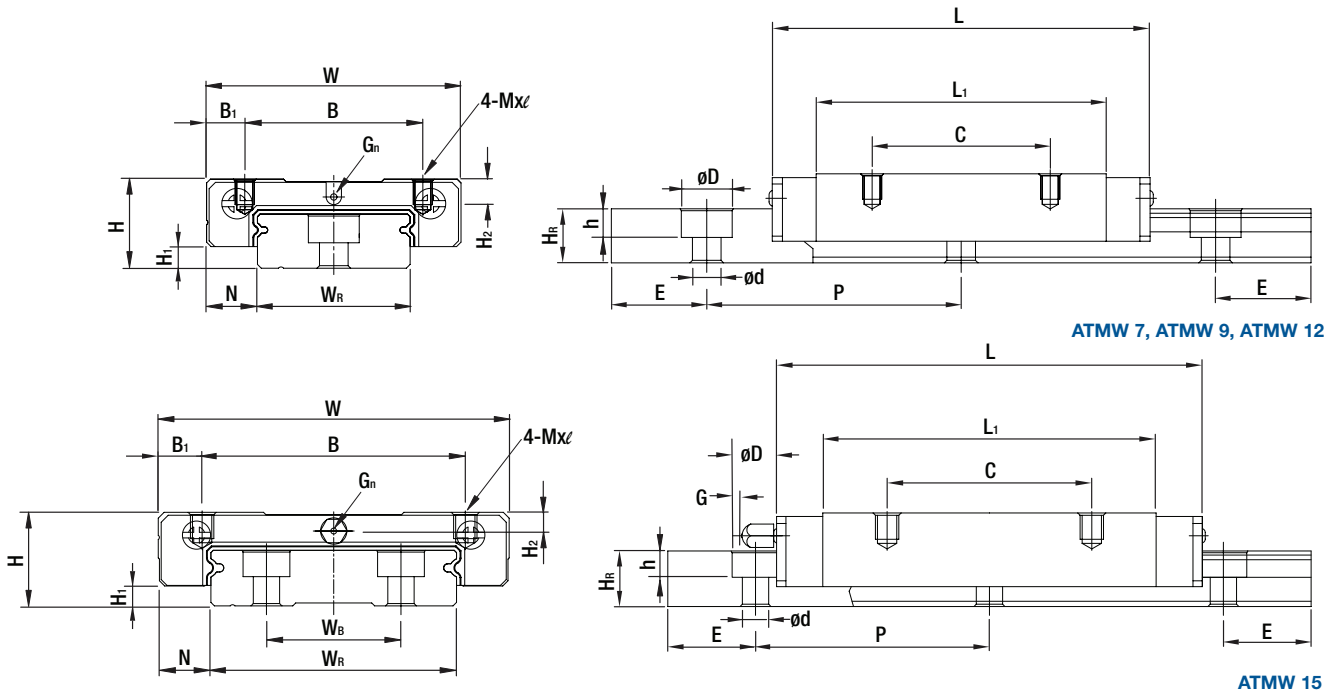
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)									Dimensions of Rail (mm)							
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	G	G <sub>n</sub>	M x ℓ	H <sub>2</sub>	W <sub>R</sub>	H <sub>R</sub>	D	h	d	P	E
ATMN-7S ATMN-7L	8	1.5	5	17	12	2.5	8 13	13.5 21.8	22.5 30.8	-	ø0.8	M2x2.5	1.5	7	4.8	4.2	2.3	2.4	15	5
ATMN-9S ATMN-9L	10	2	5.5	20	15	2.5	10 16	18.9 29.9	28.9 39.9	-	ø0.8	M3x3	1.8	9	6.5	6	3.5	3.5	20	7.5
ATMN-12S ATMN-12L	13	3	7.5	27	20	3.5	15 20	21.7 32.4	34.7 45.4	-	ø0.8	M3x3.5	2.5	12	8	6	4.5	3.5	25	10
ATMN-15S ATMN-15L	16	4	8.5	32	25	3.5	20 25	26.7 43.4	42.1 58.8	4.5	GN3S	M3x4	3	15	10	6	4.5	3.5	40	15

### Specifications

Model No.	Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C <sub>0</sub> (kgf)	Static Rated Moment			Weight	
				M <sub>R</sub> (kgf-m)	M <sub>P</sub> (kgf-m)	M <sub>V</sub> (kgf-m)	Block (kg)	Rail (kg/m)
ATMN-7S ATMN-7L	M2x6	100 140	127 200	0.48 0.78	0.29 0.49	0.29 0.49	10 15	0.22
ATMN-9S ATMN-9L	M3x8	190 260	260 410	1.2 2	0.75 1.9	0.75 1.9	16 26	0.38
ATMN-12S ATMN-12L	M3x8	290 380	400 600	2.6 3.9	1.4 3.7	1.4 3.7	34 54	0.65
ATMN-15S ATMN-15L	M3x10	470 650	570 930	4.6 7.5	2.2 5.9	2.2 5.9	59 92	1.06

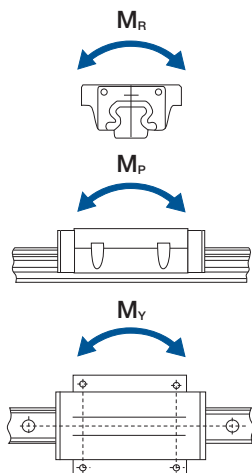


## ATMW-S/ATMW-L Type



### Dimensions

Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)							
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	G	G <sub>n</sub>	M x ℓ	H <sub>2</sub>	W <sub>R</sub>	W <sub>B</sub>	H <sub>R</sub>	D	h	d	P	E
ATMW-7S ATMW-7L	9	1.9	5.5	25	19	3	10 19	21 30.8	31.2 41	-	ø0.9	M3x3	1.85	14	-	5.2	6	3.2	3.5	30	10
ATMW-9S ATMW-9L	12	2.9	6	30	21 23	4.5 3.5	12 24	27.5 38.5	39.3 50.7	-	ø1.0	M3x3	2.4	18	-	7	6	4.5	3.5	30	10
ATMW-12S ATMW-12L	14	3.4	8	40	28	6	15 28	31.3 45.6	46.1 60.4	-	ø1.8	M3x3.6	2.8	24	-	8.5	8	4.5	4.5	40	15
ATMW-15S ATMW-15L	16	3.4	9	60	45	7.5	20 35	38 57	54.8 73.8	5.2	GN3S	M4x4.2	3.2	42	23	9.5	8	4.5	4.5	40	15



### Specifications

Model No.	Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C <sub>0</sub> (kN)	Static Rated Moment			Weight	
				M <sub>R</sub> (kgf-m)	M <sub>P</sub> (kgf-m)	M <sub>Y</sub> (kgf-m)	Block (kg)	Rail (kg/m)
ATMW-7S ATMW-7L	M3x6	140 180	210 320	1.6 2.39	0.73 1.58	0.73 1.58	20 29	0.51
ATMW-9S ATMW-9L	M3x8	280 350	420 600	4.09 5.56	1.93 3.47	1.93 3.47	40 57	0.91
ATMW-12S ATMW-12L	M4x8	400 520	570 840	7.17 10.47	2.83 5.85	2.83 5.85	71 103	1.49
ATMW-15S ATMW-15L	M4x10	690 910	940 1410	20.32 30.48	5.78 12.85	5.78 12.85	143 215	2.86

## ATH E2 Self-Lubricating Model

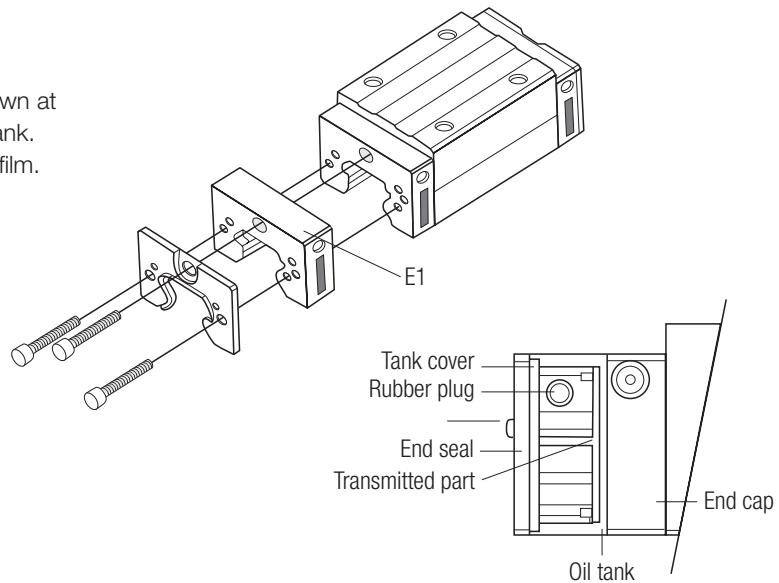
The configuration of the ATH E2 linear guideway is shown at right. The self-lubricant apparatus contains a filled oil tank. The oil is dispensed on the rail to form a lubricating oil film.

The self-lubricating blocks work in all block mounting configurations.

Configuration of the self-lubricant apparatus

- Oil tank
- Tank cover
- Transmitted part
- Lubricant part
- Rubber plug
- Oil

*E1: Economy First & Ecology First  
(patent pending)*



## Features

- **Cost reduction:** Saves cost by reducing oil usage and maintenance.

Item	Force Lubricant	E1 (Self-lubricant) Block
Lubricant device	\$XXX	—
Design and installation of lubricant device	\$XXX	—
Cost of oil purchase	0.3cc/hr x 8 hrs/day x 280 days/year x 5 year = 3,360cc x cost/cc = \$XXX	17cc (5 years 10,000km) x cost/cc = \$XX
Cost of change oil	3~5 hrs/time x 3~5 times/year x 5 year x cost/time = \$XXX	—
Waste oil disposal	3~5 times/year x 5 year x cost/time = \$XXX	—

- **Clean and environmentally friendly:** Optimized oil usage prevents leaking, making it the ideal solution for clean working environments.
- **Long lasting and low maintenance:** Self-lubricating block is maintenance-free in most applications.
- **No installation limitations:** Available in all block-mounting configurations.
- **Easy refillable tank:** The oil is easily refillable with the new plug design.

## Applications

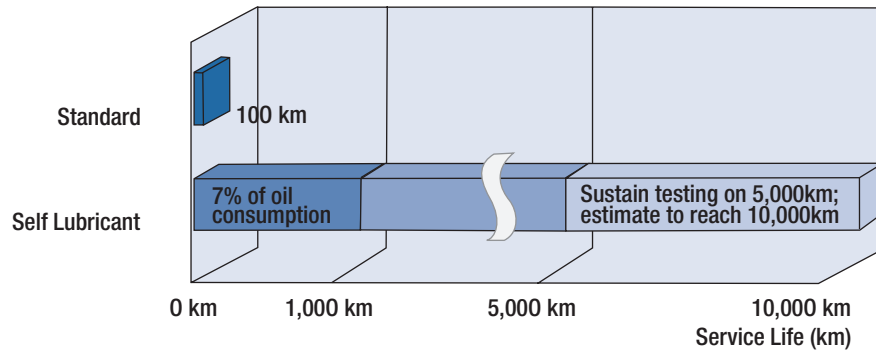
- **Machine Tools**
- **Manufacturing Machines:** Plastic injection, paper making, textile machines, food processing machines, woodworking machines, etc.
- **Electronic Machinery:** Semiconductor equipment, robotics, X-Y tables, measuring and inspecting equipment.
- **Others:** Medical equipment, transporting equipment.

## ATH E2 Self-Lubricating Model

### Specification

Add "/E2" after the specification of linear guideway.

(Ex: ATH-S-25HT-1600 + ZZ/E2)



### Lubrication Capability

Life testing with light load

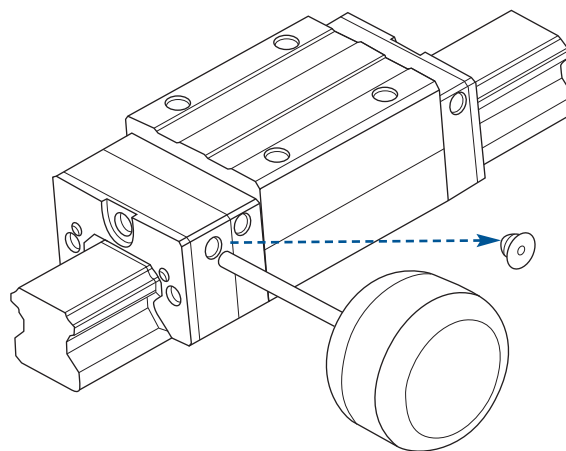
Test condition:

<b>Model No.</b>	ATH-S-25-ST
<b>Speed</b>	60m/min
<b>Stroke</b>	1500mm
<b>Load</b>	500kgf

### Characteristic of lubricant

1. Synthetic oils with stable characteristics
2. Temperature range of oil operations is -15°C ~ 240°C, covering most working conditions for linear guideways
3. Reduces friction
4. Anti-corrosion
5. Non-toxic

### Oil Replacement Procedure

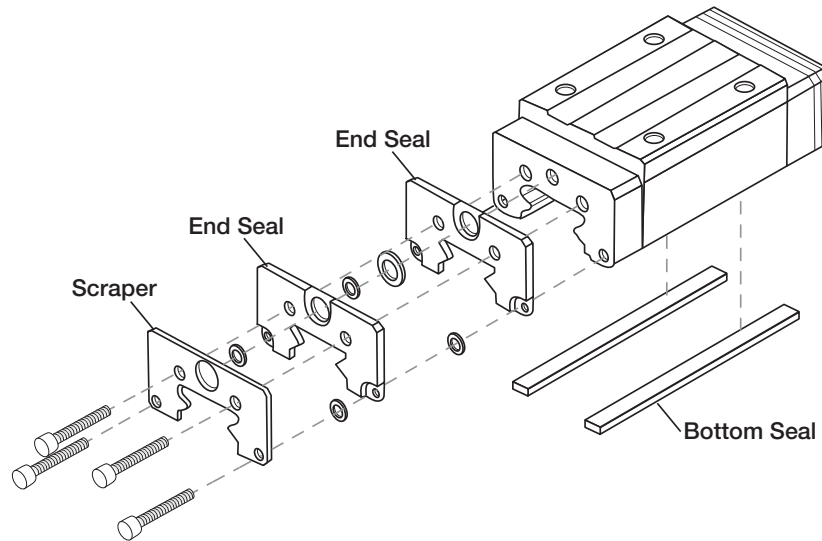


1. Pull out the rubber plug.
2. Refill the oil tank using syringe.

# Options & Accessories

## Dust-Proof Accessories

Selecting suitable dustproof accessories can prevent the loss in life and accuracy resulting from damage caused by iron chips or dust entering the block.



## Selection Guide

Code (HG/AG Series)	Dust Proof Accessory	Condition
U (Std)	End Seal + Bottom Seal	Normal Chips
DD	Double End Seal + Bottom Seal	Heavy Dust or Chips
KK	Double End Seal + Scraper + Bottom Seal	Heavy Dust, Heavy Chips, Heat Chips, Work Spark
ZZ	End Seal + Scraper + Bottom Seal	Heat Chips or Work Spark

## How To Specify

No symbol required for standard dust proof.

Please add "DD/KK/ZZ" for additional dust protection accessories.

Ex: ATEF25HT600 + **DD**

## Metric Conversions

### mm: Millimeter

To convert inches to millimeters: multiply times 25.4.  
Inches to Meters: multiply inches times .0254

### kN: Kilo Newton

To convert kN to pounds multiply times 224.8

### Kg: Kilogram

To convert pounds to kg: multiply pounds times 0.4535924. To convert kg to pound: multiply times 2.20

### Kgf-m: Kilogram Meters

1 kilogram meter = 9.80665 newton meters.  
1 newton meter = 8.84 lb./inches

### Kg to Newtons:

Multiply kg times 9.8066

### Kg to KN (kilo newtons):

Multiply kg times .0098066

### N: Newton

1 pound = 4.4482 newtons  
1 newton = 0.2248 pounds

## Glossary

### Dynamic Load Rating (C):

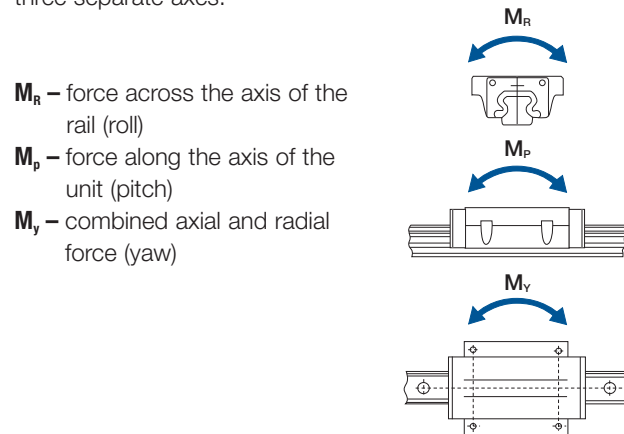
This load does not change in direction or magnitude and that will result in a nominal life of 50 kilometers for a linear guideway. Dynamic Load rating can be used to predict service life.

### Static Load Rating (C<sub>0</sub>):

Static load is a load that is constant in magnitude and direction. The Static load rating is the maximum load that the system can support.

### Static Permissible Moment (M):

Static permissible moment is the maximum force along three separate axes:



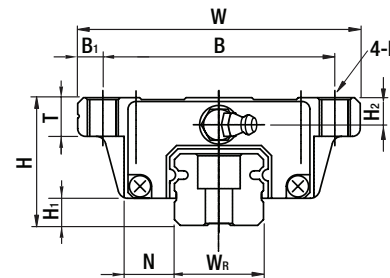
$M_R$  – force across the axis of the rail (roll)

$M_p$  – force along the axis of the unit (pitch)

$M_y$  – combined axial and radial force (yaw)

### Reference Surface:

The surface on the block or rail from which all mounting tolerances should be measured. There is a reference surface on each block and also on each rail.



### Precision Accuracy:

The amount of movement that is allowed between the rail and the block.

### Preload Force:

The amount of force that will allow for movement between the block and the rail. A higher level of preload force will increase drag between the block and the rail.

# Request For Quote Form

## Mail or Fax to:

Warner Linear  
 Application Engineering  
 449 Gardner Street, South Beloit, IL 61080

**FAX: 815-389-6678**  
 Phone: 800-825-9050

Date \_\_\_\_\_ Company \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_

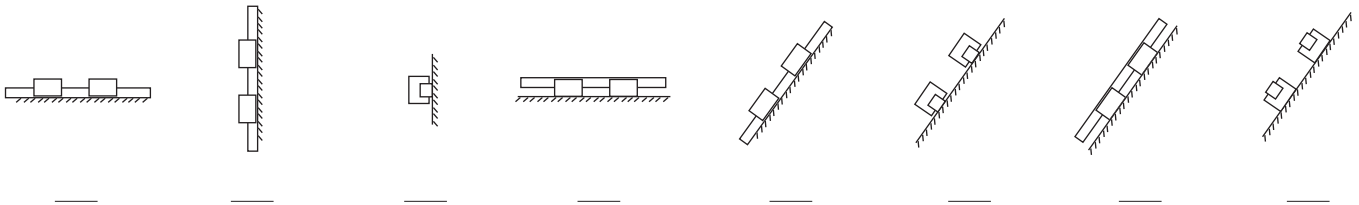
State \_\_\_\_\_ Zip \_\_\_\_\_ Name \_\_\_\_\_

Title \_\_\_\_\_ Phone ( \_\_\_\_ ) \_\_\_\_\_

Machine Type \_\_\_\_\_ Drawing No. \_\_\_\_\_

Axis  X  Y  Z  Other ( \_\_\_\_\_ )

## Install Position



Model No. \_\_\_\_\_

Rail Mounting  R (from top)  T (from bottom)  U (from top with bolt hole enlarged)

Dust Protection  Double end seal + Bottom seal (DD)  Double end seal + Scraper + Bottom seal (KK)  
 End seal + Scraper + Bottom seal (ZZ)  End seal + Bottom seal (U)

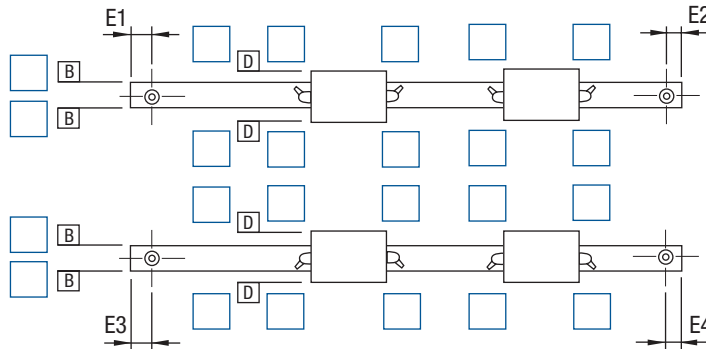
Special Option  Steel end cap (SE)  Self-Lubrication (E1)

Lubrication  Grease nipple (grease)  Piping joint (oil)  Other

Butt-joint  No  Yes

Number of Rails per axis  I (1)  II (2)  III (3)  Other

## Reference Surface and Injection Direction



Please mark "X" in the  to indicate the filling directions.

E1=  E2=  E3=  E4=

# Other products available from Altra Industrial Motion



## Clutches and Brakes

Warner Electric designed and patented the first electromagnetic clutch/brake over seventy years ago, and has led every major innovation since. Every product in Warner Electric's extensive offering is designed for long life, exceptional reliability, and low cost of operation. Models are available to meet the demands of applications throughout the world.



## Enclosed Gear Drives

Boston Gear's comprehensive line of enclosed gear drives, including worm, in-line and parallel-shaft helical, miter, and bevel, provides the product variety you need to get the job done. Boston Gear's speed reducers are preferred by manufacturers worldwide. In fact, every time you specify a Boston Gear product, you incorporate quality, responsiveness, and Boston Gear's 123-year reputation into your design.



## Electrically Released Brakes

Spring-set designs are available for stopping or holding a load in the event of a power failure; or choose permanent magnet designs for dynamic stopping or cycling moving loads. Choose from C-face, UniModule or Electro Module series brakes available in shaft mounted or flange mounted designs with a torque range from 35 lb. in. to 400 lb. ft.



## Precision Couplings

Huco is recognized as the world leader in the specialized field of precision couplings. By engineering plastics in combination with metals, to develop a full range of innovative misalignment couplings, Huco has achieved an enviable record of application engineering success and a reputation for quality products and service.



## Linear Actuators

Rugged, energy efficient A-Track linear actuators from Warner Electric have been carefully designed to provide long-lasting, maintenance free operation in light, moderate and heavy-duty applications both in-plant and mobile in all types of conditions worldwide. Models are available with Acme and Ball Screw drives to meet specific requirements.



## Precision Gearheads

Boston Gear's unique motor adapter and bushing module system design allow for quick and easy mounting of our gearheads to all popular servomotors. These stainless steel precision gearheads provide almost zero backlash with virtually no slippage. In-line, right angle and high speed models are available.



## Magnetic Headsets

The Precision Tork™ line of hysteresis capping clutches from Warner Electric, utilize the most efficient torque control technology on the market to provide extremely smooth, consistent application of torque with less adjustment and downtime.



## Bearing Products

When you want the freedom to select from the widest range of the highest quality bearings, come to the power transmission specialists at Boston Gear. Everything from plain sleeve bearings, ball bearings, rod ends, and spherical bearings to linear bearings, pillow blocks and flanged units are in stock.



## Open Gearing

Boston Gear has been a leader and pioneer in manufacturing gearing products since 1877, when we introduced the concept of gear standardization and stock gears - innovations of enormous benefit to power transmission system designers, specifiers, and users. Today, Boston Gear manufactures a wide range of open gearing solutions to meet your specific needs.

# ALTRA INDUSTRIAL MOTION

## **Warner Electric**

*Electromagnetic Clutches and Brakes - USA*

South Beloit, IL 61080  
815-389-3771

For application assistance:  
1-800-825-9050

*Electromagnetic Clutches and Brakes - Europe*

St Barthelemy d'Anjou, France  
+33 (0)2 41 21 24 24

For sales office:  
+33 (0)2 41 21 24 76

*Precision Electric Coils and Electromagnetic Clutches and Brakes - USA*

Columbia City, IN 46725  
260-244-6183

## **Inertia Dynamics**

*Spring Set Brakes; Power On and Wrap Spring Clutch/Brakes*

Torrington, CT 06790  
860-482-4444

## **Matrix International**

*Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes*

Brechin, Scotland  
+44 (0) 1356 602000

## **Warner Linear**

*Linear Actuators and Guideways - USA*

Belvidere, IL 61008  
815-547-1106

For application assistance:  
1-800-825-9050

## **Boston Gear**

*Enclosed and Open Gearing, Electrical and Mechanical P.T. Components, Precision Gearheads, Precision Couplings*

Quincy, MA 02171  
617-328-3300

For customer service:  
1-888-999-9860

For application assistance:  
1-800-816-5608

## **Huco Dynatork**

*Precision Couplings and Air Motors*

Hertford, England  
+44 (0) 1992 501900

## **Formsprag Clutch**

*Overrunning Clutches and Holdbacks*

Warren, MI 48089  
586-758-5000

For application assistance:  
1-800-927-3262

## **Marland Clutch**

*Roller Ramp and Sprag Type Overrunning Clutches and Backstops*

Burr Ridge, IL 60527  
630-455-1752

## **Stieber Clutch**

*Overrunning Clutches and Holdbacks*

Heidelberg, Germany  
+49 (0)6221 30 47 0

## **Wichita Clutch and Industrial Clutch**

*Pneumatic and Oil Immersed Clutches and Brakes - USA*

Wichita Falls, TX 76302  
940-723-3400

*Pneumatic Clutches and Brakes - Europe*

Bedford, England  
+44 (0)1234 350311

## **Twiflex Limited**

*Caliper Brakes and Thrusters*

Twickenham, England  
+44 (0) 20 8894 1161

## **Ameridrives Couplings**

*Gear Couplings, Mill Spindles, Universal Joints*

Erie, PA 16512  
814-480-5000

## **Bibby Transmissions**

*Disc, Gear, Grid Couplings, Overload Clutches*

Dewsbury, England  
+44 (0) 1924 460801

## **Nuttall Gear and Delroyd Worm Gear**

*Worm Gear and Helical Speed Reducers*

Niagara Falls, NY 14302  
716-298-4100

## **Saftek Friction**

*Non-asbestos Brake and Clutch Materials*

Telford, England  
+44 (0) 1952 581122

## **Altra Industrial Motion - Asia Pacific and Africa**

China	852 2615 9313
Taiwan	886 2 2577 8156
Singapore	65 487 4464
Thailand	66 2 322 5527
Australia	612 9894 0133
S. Africa	27 11 918 4270

[www.warnerlinear.com](http://www.warnerlinear.com)



### **Warner Linear**

6593 Revlon Drive • Belvidere, IL 61008  
815-547-1106 • Fax: 815-547-7206  
[www.warnerlinear.com](http://www.warnerlinear.com)