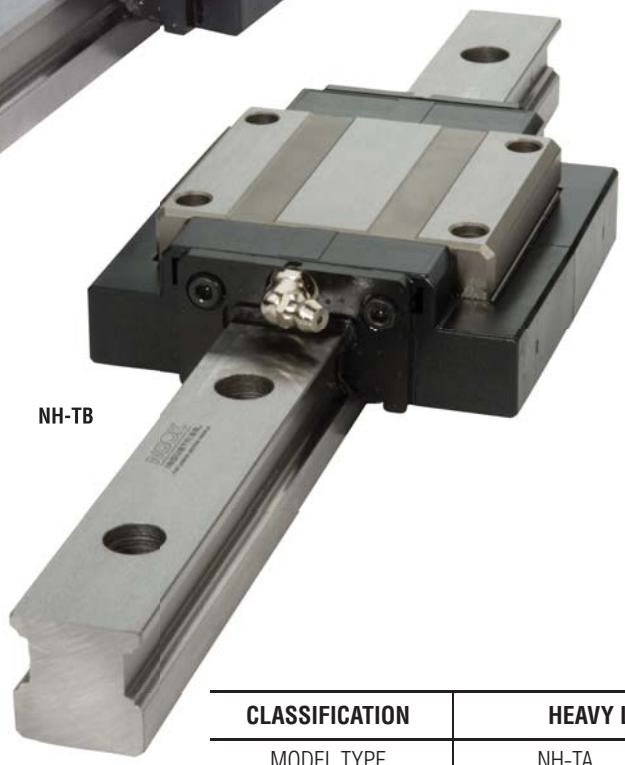
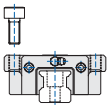
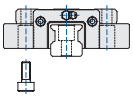
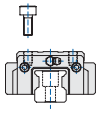
HEAVY LOAD -
HIGH SPEED TYPE

NH-TA



NH-TB

NH-TR

CLASSIFICATION	HEAVY LOAD TYPE-GREATER PERMISSIBLE SPEED		
MODEL TYPE	NH-TA	NH-TB	NH-TR
Mounting Direction			
Main Features	Heavy Load Type-Greater Permissible Speed		
Permissible speed (m/min)	200	200	200
Accuracy	C001-C7	C001-C7	C001-C7
Preload	T-T3	T-T3	T-T3
Vibration Behaviors	◉	◉	◉
Noise	◉	◉	◉

See unit conversion on page 48

○ Low ◉ Very Low

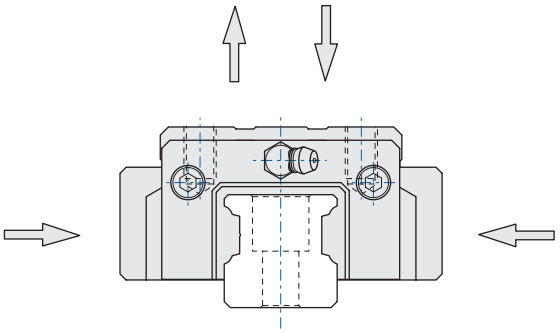
FEATURES

NOOK Profile Rail Design

NOOK Heavy Load and High Speed Type Runner Blocks recirculate the balls via a tube. The four rows of balls on the inner runner block are arranged 2 rows each on either side facing each other and contacting at a 45° angle. As the load is transmitted the balls contact the track at two points at an inclusive angle of 90°. In turn, the contact with the outer track is the same making a square load force configuration.

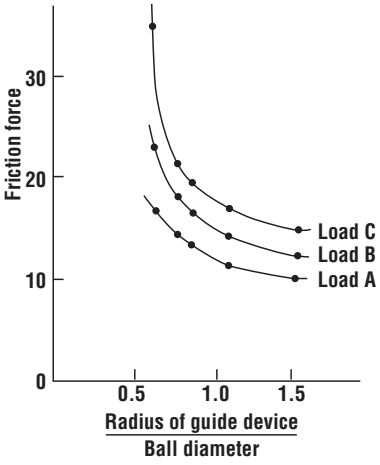
Equal Load in Four Directions

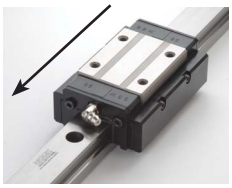
The shape of NOOK runner blocks have an equal rated load capacity in any direction. Equal rigidity is therefore obtained in any of the four loading directions making NOOK runner blocks ideal for single or combination loads.



Ratio Ball Recirculation Method

Experiments have shown that a ratio of the ball diameter to the return curvature radius of 1.5:1 results in reduced friction with lower noise signature and lower vibration and less variation in friction at high speeds when compared to normal return ratios of 0.6:1 to 1.1:1 as found in standard systems. NOOK high-speed runner blocks utilize this ratio.

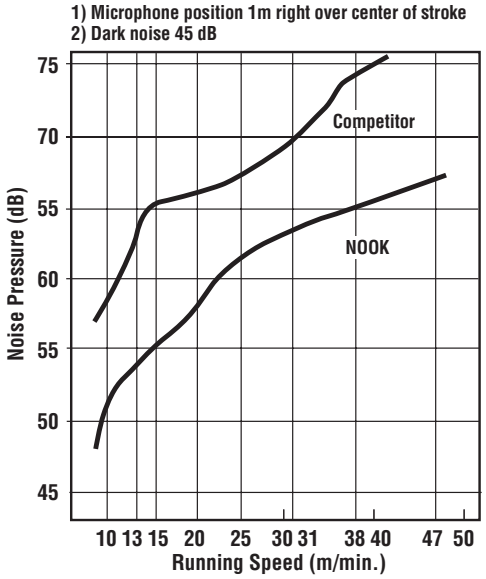




Friction force during steel ball recirculation

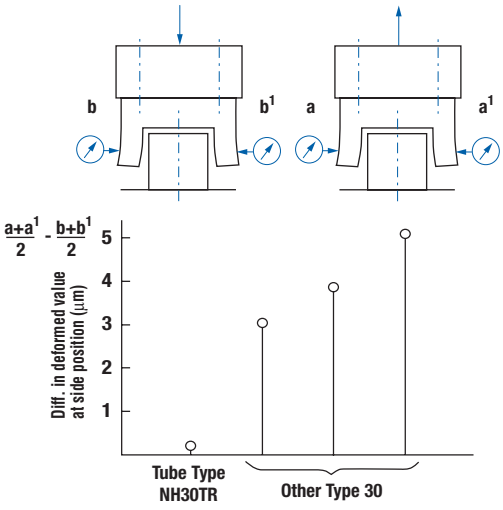
Noise

As a result of the reduction in friction, the noise vibration signature decreases during travel and consequently reduces the audible noise.



Rigidity of Runner Block

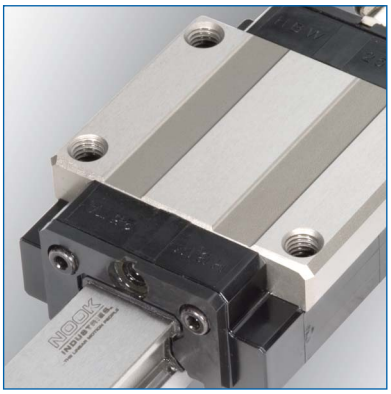
The "Tube" Type NOOK runner block has a solid structure with no return holes for balls as with the conventional runner block. The tube type design offers a stronger construction, giving the advantage of near equal resistance to deformation in both the radial and reverse radial loaded directions at the sides of the runner block.

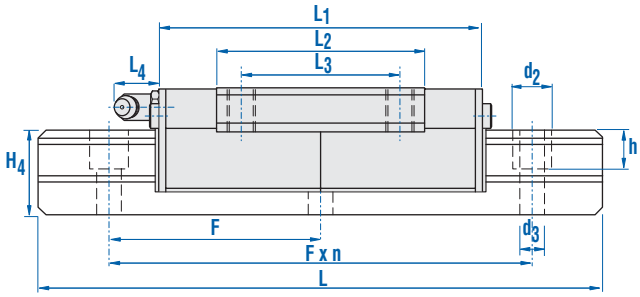


Consistent Travelling Accuracy

High Speed Type runner blocks have a simple machined form offering continuity of movement at elevated speeds.

NH-TA • NH-TAH series
heavy load • high speed
four tapped holes





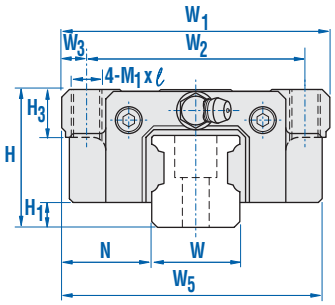
NOOK Precision Profile Rail Systems provide stable and efficient linear motion guidance under variable speeds and high load conditions.

- Interchangeable with other manufacturers
- NH-TA provides Heavy Load with Higher Speeds
- Precision Class: C0001 - C7
- Preload: T - T3
- Maximum Rail Length:
  15, 20,45, 55, 65 - 3000mm
  25, 30, 35 - 4000mm

	assembly dimensions			runner block dimensions									grease fitting
	height	width	length										
Model	H	W_1	L_1	W_2	W_5	L_3	$M_1 x \ell^*$	L_2	H_3	L_4	W_3	H_1	
NH15TA	24	47	71	38	46.5	30	M5x7	38.5	7	0	4.5	4.6	NAS516-1A
NH20TA	30	63	91	53	60	40	M6x10	50	8	0	5	5.0	NAS516-1A
NH25TA	36	70	97	57	66	45	M8x12	59	10	12	6.5	6.5	B-M6F
NH30TA	42	90	111	72	81	52	M10x14	68	13	12	9	7.0	B-M6F
NH35TA	48	100	128	82	92	62	M10x16	80	13	12	9	8.0	B-M6F
NH45TA	60	120	158	100	112	80	M12x19	102	15	14	9	11	B-PT 1/8
NH55TA	70	140	189	116	130	95	M14x23	124	17	16	12	14	B-PT 1/8
NH65TA	85	170	225	142	162	110	M16x29	148	20	16	14	14	B-PT 1/8
NH65TAH	90	170	225	142	162	110	M16x29	148	20	16	14	14	B-PT 1/8

See unit conversion on page 48

*The screw length of mounting bolts shall not exceed the effective length of tapping holes



rail dimensions					load ratings										weights	
					basic load ratings				static moment ratings						block	rail
height	width		pitch		C		C_0		M_A		M_B		M_C			
H_4	W	N	F	$d_3 \times d_2 \times h$	kN	lbf	kN	lbf	kN-m	lb-in	kN-m	lb-in	kN-m	lb-in	kg	kg/m
17	15	16.0	60	4.5 x 7.5 x 7	**8.43**	1,895	**13.53**	3,041	**0.07**	608	**0.07**	608	**0.13**	1,128	0.21	1.7
21	20	21.5	60	6 x 9.5 x 11	**13.92**	3,130	**23.83**	5,157	**0.16**	1,389	**0.16**	1,389	**0.26**	2,344	0.4	2.8
24	23	23.5	60	7 x 11 x 11	**20.00**	4,496	**34.41**	7,736	**0.27**	2,430	**0.27**	2,430	**0.44**	3,906	0.64	3.7
28	28	31.0	80	9 x 14 x 14	**28.24**	6,347	**46.86**	10,535	**0.43**	3,819	**0.43**	3,819	**0.72**	6,336	1.0	5.3
32	34	33.0	80	9 x 14 x 15	**37.55**	8,441	**62.55**	14,061	**0.64**	5,642	**0.64**	5,642	**1.13**	9,982	1.5	7.5
42	45	37.5	105	14 x 20 x 21	**60.20**	13,532	**95.71**	21,510	**1.30**	11,544	**1.30**	11,544	**2.30**	20,398	2.7	12.9
48	53	43.5	120	16 x 23 x 24	**90.02**	20,232	**137.09**	30,811	**2.22**	19,617	**2.22**	19,617	**4.25**	37,671	4.4	17.3
58	63	53.5	150	18 x 26 x 25	**141.11**	31,714	**215.15**	48,354	**4.21**	37,237	**4.21**	37,237	**7.38**	65,360	8.4	24.9
58	63	53.5	150	18 x 26 x 25	**141.11**	31,714	**215.15**	48,354	**4.21**	37,237	**4.21**	37,237	**7.38**	65,360	8.4	24.9