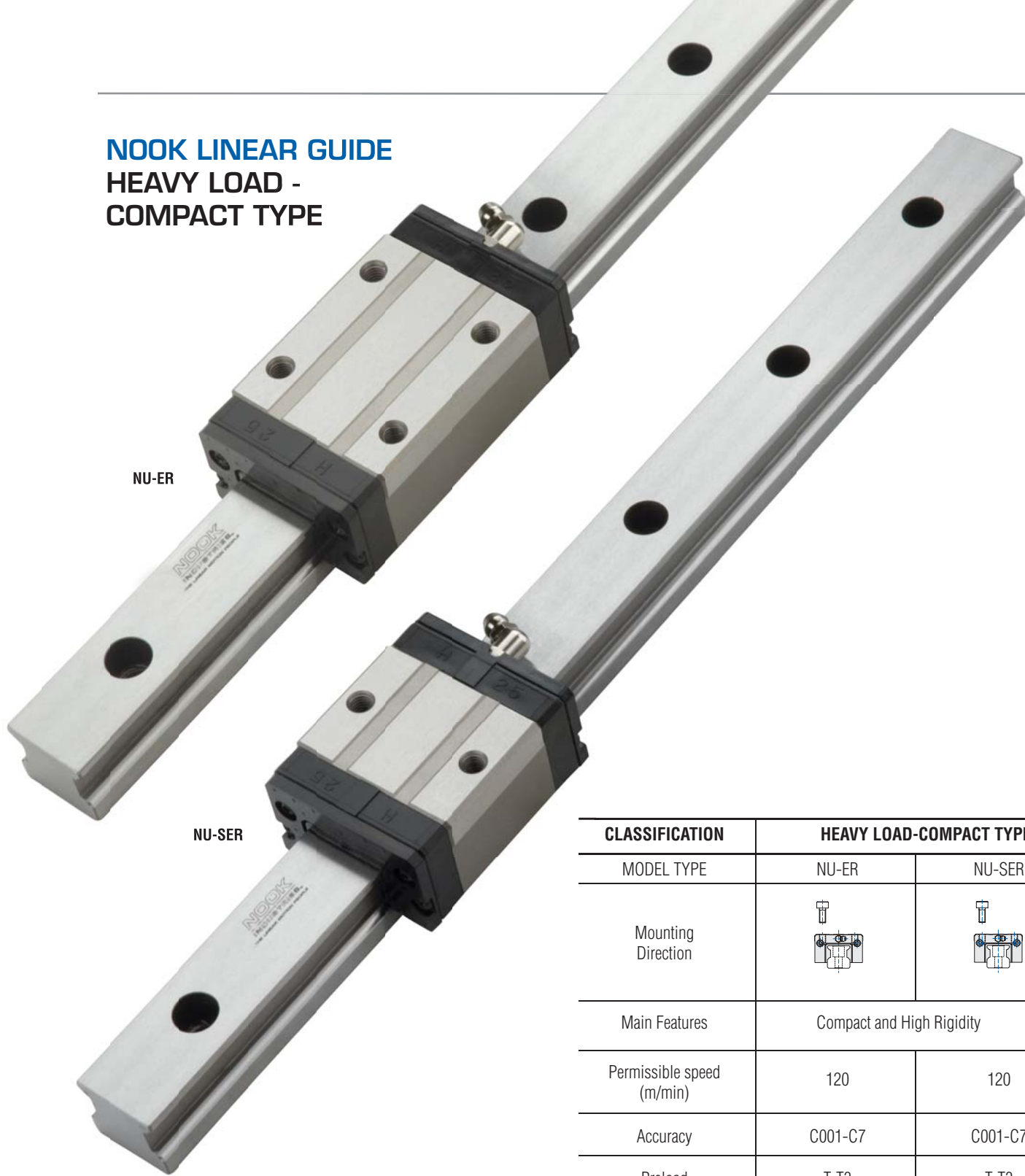
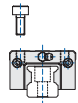
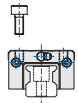


# NOOK LINEAR GUIDE HEAVY LOAD - COMPACT TYPE



NU-ER

NU-SER

CLASSIFICATION	HEAVY LOAD-COMPACT TYPE	
	NU-ER	NU-SER
MODEL TYPE	NU-ER	NU-SER
Mounting Direction		
Main Features	Compact and High Rigidity	
Permissible speed (m/min)	120	120
Accuracy	C001-C7	C001-C7
Preload	T-T3	T-T3
Vibration Behavior	○	○
Noise	○	○

See unit conversion on page 48

○ Low

● Very Low

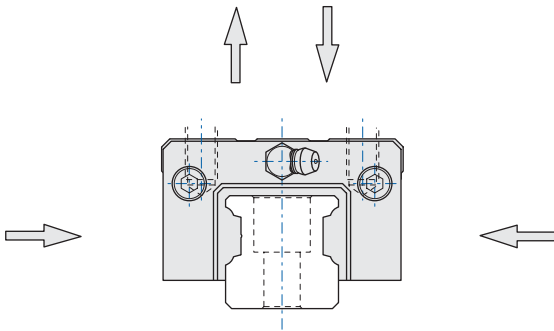
## FEATURES

### NOOK Profile Rail Design

NOOK Heavy Load and Compact Type Runner Blocks maintain circulation of the balls by a retainer and end cap. The four rows of balls on the inner runner block are arranged in two rows on either side facing each other and contacting at a 45° angle. As the load is transmitted the balls contact the rail 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.

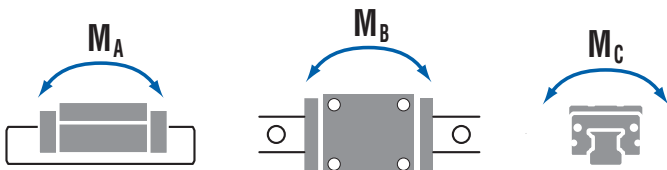
### Equal Load in Four Directions

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.



### Mounting Error Absorption and Rolling Moment Rigidity

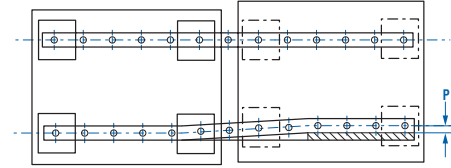
NOOK runner blocks are designed to absorb some of the mounting inaccuracies without any significant increase in the sliding friction.



### Excellent Vibration Behavior

NOOK Heavy Load and Compact Type Runner Blocks have improved dynamic stiffness at high oscillation rates. The four-way load construction offers high rigidity and high dynamic stiffness to eliminate resonance with motor, etc.

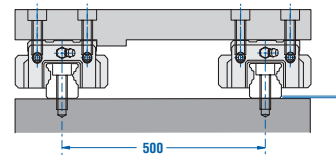
### Error Allowance in the Parallelism Between Two Rails—Horizontal Plane



Permissible Tolerance (P) for Parallelism

Model NU	P			unit = $\mu\text{m}$
Model No.	Clearance T0	Clearance T1	Normal Clearance	
15	—	25	35	
20	25	30	40	
25	30	35	50	
30	35	40	60	
35	45	50	70	
45	55	60	80	
55	65	70	100	

### Error Allowance Between Two Rails

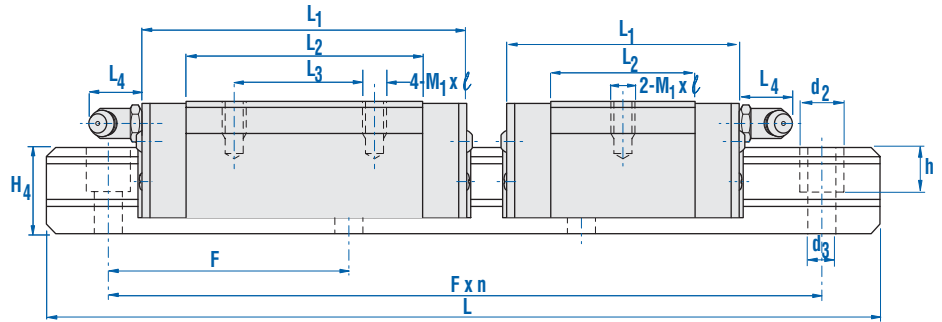


Permissible Tolerance (S) for Two Level

TWO LEVEL OFFSET: The values in the figures show the permissible tolerances for the rail-to-rail distance of 500 mm. The permissible values are proportional to the rail-to-rail distances.

Model NU	S			unit = $\mu\text{m}$
Model No.	Clearance T0	Clearance T1	Normal Clearance	
15	—	100	180	
20	80	100	180	
25	100	120	200	
30	120	150	240	
35	170	210	300	
45	200	240	360	
55	250	300	420	

**NU-ER • NU-SER series**  
**heavy load • compact**  
**two or four tapped holes**

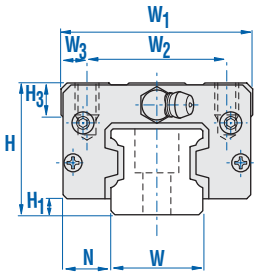


NOOK Precision Profile Rail Systems provide stable and efficient linear motion guidance under variable speeds and high load conditions.

- Interchangeable with other manufacturers
- NU-ER and NU-SER provide Compact Design with High Rigidity
- Precision Class: C0001 - C7
- Preload: T - T3
- Maximum Rail Length:  
 15 - 1500mm  
 20 thru 55 - 3000mm

Model	assembly dimensions			runner block dimensions								grease fittings
	height H	width W <sub>1</sub>	length L <sub>1</sub>	W <sub>2</sub>	L <sub>3</sub>	M <sub>1</sub> xℓ	L <sub>2</sub>	H <sub>3</sub>	L <sub>4</sub>	W <sub>3</sub>	H <sub>1</sub>	
<b>NU15ER</b>	<b>24</b>	<b>34</b>	<b>58.5</b>	26	26	M4x5	38.5	6	0	4	4.6	NAS516-1A
<b>NU15SER</b>	<b>24</b>	<b>34</b>	<b>45</b>	26	-	M4x5	25	6	0	4	4.6	NAS516-1A
<b>NU20ER</b>	<b>28</b>	<b>42</b>	<b>72</b>	32	32	M5x7	50	7.5	0	5	4	NAS516-1A
<b>NU20SER</b>	<b>28</b>	<b>42</b>	<b>52</b>	32	-	M5x7	30	7.5	0	5	4	NAS516-1A
<b>NU25ER</b>	<b>33</b>	<b>48</b>	<b>83</b>	35	35	M6x8	59	8	12	6.5	4	B-M6F
<b>NU25SER</b>	<b>33</b>	<b>48</b>	<b>60</b>	35	-	M6x8	36	8	12	6.5	4	B-M6F
<b>NU30ER</b>	<b>42</b>	<b>60</b>	<b>97</b>	40	40	M8x10	68	8	12	10	7	B-M6F
<b>NU30SER</b>	<b>42</b>	<b>60</b>	<b>73</b>	40	-	M8x10	44	8	12	10	7	B-M6F
<b>NU35ER</b>	<b>48</b>	<b>70</b>	<b>112</b>	50	50	M8x12	80	10	12	10	8	B-M6F
<b>NU35SER</b>	<b>48</b>	<b>70</b>	<b>84</b>	50	-	M8x12	52	10	12	10	8	B-M6F
<b>NU45ER</b>	<b>60</b>	<b>86</b>	<b>139</b>	60	60	M10x16	102	15	14	13	11	B-PT 1/8
<b>NU55ER</b>	<b>68</b>	<b>100</b>	<b>168</b>	75	75	M12x18	124	18	14	12.5	12	B-PT 1/8

See unit conversion on page 48



		rail dimensions				load ratings										weights		
		height H <sub>4</sub>	width W	pitch N	pitch F	d <sub>3</sub> x d <sub>2</sub> x h	basic load ratings				static moment ratings						block	rail
							C		C <sub>0</sub>		M <sub>A</sub>		M <sub>B</sub>		M <sub>C</sub>		kg	kg/m
		kN	lbf	kN	lbf	kN-m	lb-in	kN-m	lb-in	kN-m	lb-in	kN-m	lb-in					
		<b>17</b>	<b>15</b>	9.5	60	3.5 x 6 x 9	<b>8.43</b>	1,895	<b>13.53</b>	3,041	<b>0.07</b>	608	<b>0.07</b>	608	<b>0.13</b>	1,128	0.13	1.7
		<b>17</b>	<b>15</b>	9.5	60	3.5 x 6 x 9	<b>5.49</b>	1,234	<b>7.35</b>	1,653	<b>0.03</b>	260	<b>0.03</b>	260	<b>0.07</b>	608	0.08	1.7
		<b>19.5</b>	<b>20</b>	11	60	6 x 9.5 x 12	<b>13.92</b>	3,130	<b>23.82</b>	5,356	<b>0.16</b>	1,389	<b>0.16</b>	1,389	<b>0.26</b>	2,344	0.27	2.5
		<b>19.5</b>	<b>20</b>	11	60	6 x 9.5 x 12	<b>9.12</b>	2,050	<b>12.94</b>	2,909	<b>0.05</b>	434	<b>0.05</b>	434	<b>0.15</b>	1,302	0.16	2.5
		<b>21.5</b>	<b>23</b>	12.5	60	7 x 11 x 12.5	<b>20.00</b>	4,498	<b>34.41</b>	7,736	<b>0.27</b>	2,430	<b>0.27</b>	2,430	<b>0.44</b>	3,906	0.41	3.2
		<b>21.5</b>	<b>23</b>	12.5	60	7 x 11 x 12.5	<b>13.14</b>	2,953	<b>18.63</b>	4,187	<b>0.09</b>	781	<b>0.09</b>	781	<b>0.23</b>	1,996	0.25	3.2
		<b>28</b>	<b>28</b>	16	80	7 x 11 x 14	<b>28.24</b>	6,347	<b>46.86</b>	10,535	<b>0.43</b>	3,819	<b>0.43</b>	3,819	<b>0.72</b>	6,336	0.9	5.3
		<b>28</b>	<b>28</b>	16	80	7 x 11 x 14	<b>18.53</b>	4,165	<b>25.49</b>	5,730	<b>0.14</b>	1,215	<b>0.14</b>	1,215	<b>0.39</b>	3,472	0.61	5.3
		<b>32</b>	<b>34</b>	18	80	9 x 14 x 15	<b>37.55</b>	8,441	<b>62.55</b>	14,061	<b>0.64</b>	5,642	<b>0.64</b>	5,642	<b>1.13</b>	9,982	1.3	7.5
		<b>32</b>	<b>34</b>	18	80	9 x 14 x 15	<b>28.92</b>	6,502	<b>39.71</b>	8,926	<b>0.27</b>	2,430	<b>0.27</b>	2,430	<b>0.72</b>	6,336	0.84	7.5
		<b>42</b>	<b>45</b>	20.5	105	11 x 17.5 x 20.5	<b>60.20</b>	13,532	<b>95.71</b>	21,510	<b>1.30</b>	11,544	<b>1.30</b>	11,544	<b>2.30</b>	20,398	2.2	12.9
		<b>46</b>	<b>53</b>	26	120	14 x 20 x 25	<b>89.53</b>	20,132	<b>137.09</b>	30,811	<b>2.22</b>	19,617	<b>2.22</b>	19,617	<b>3.95</b>	34,980	3.3	16.5

The specifications and data in this publication are believed to be accurate and reliable. However, it is the responsibility of the product user to determine the suitability of Nook Industries products for a specific application. While defective products will be replaced without charge if promptly returned, no liability is assumed beyond such replacement.