

**ASSURING
ULTRA
QUIET
BALANCED
PERFORMANCE**





سبل

Video



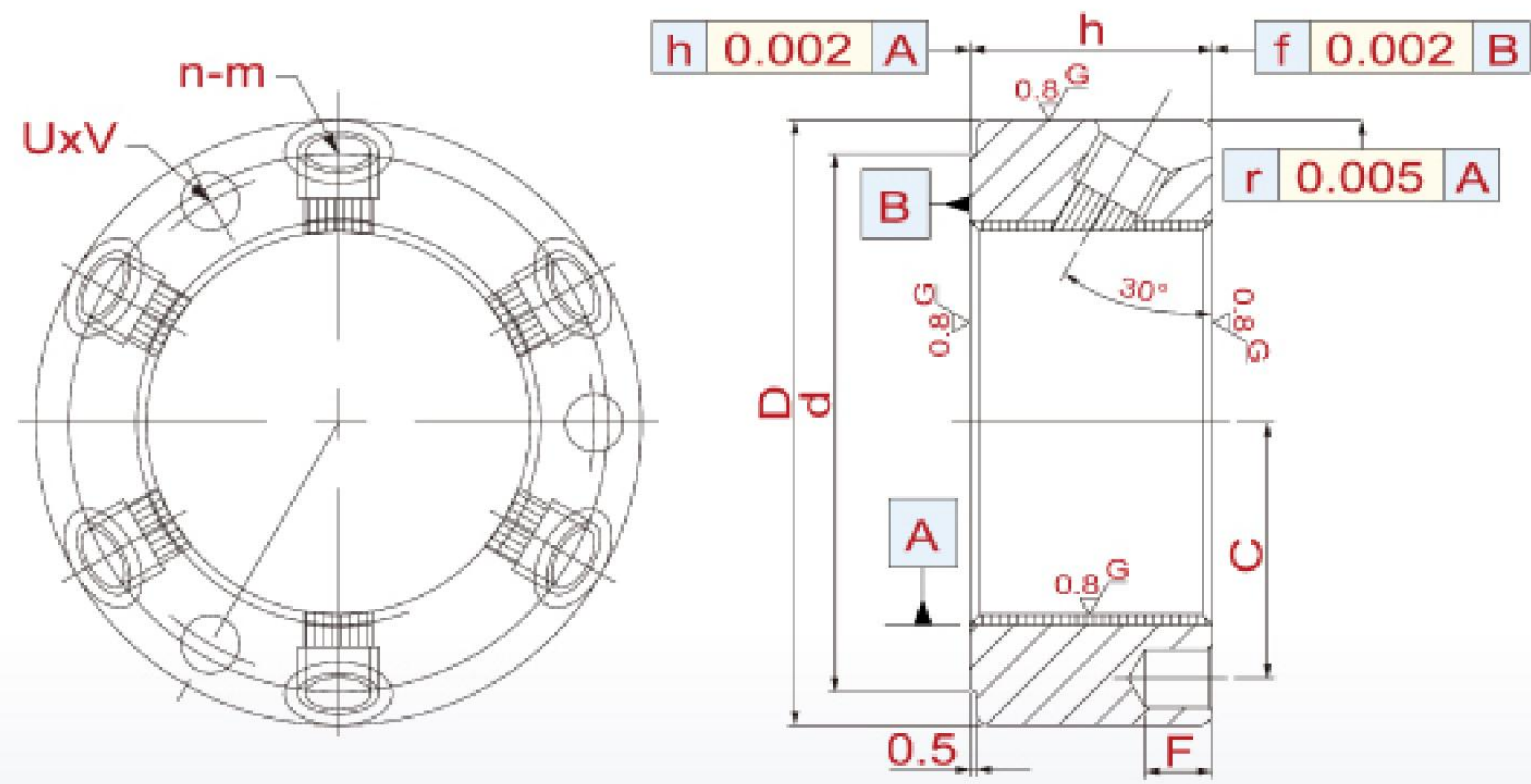


Yinsh Precision Ind. Co., Ltd. specializes in the production of superfine balanced locknuts for high speed machine tool spindles. Their newest SBL series is designed for all configurations of internal and direct drive spindles. Inner threads, outer skirts, clamping and trailing rims are all precision ground. Coupled with balance adjustment screws, these locknuts stay perfectly balanced at high speeds. Made of high grade SCM440 alloy steel and hardened to $HRC50^{\circ}C \pm 2$, rigidity and precision at high speeds is given. All locknuts can be fitted with adjustment screw hole screw-in plugs (option), eliminating high frequency noise and subsequent vibration. Trust that Yinsh Precision Ind. Co., Ltd. has the right locknuts for your machine.



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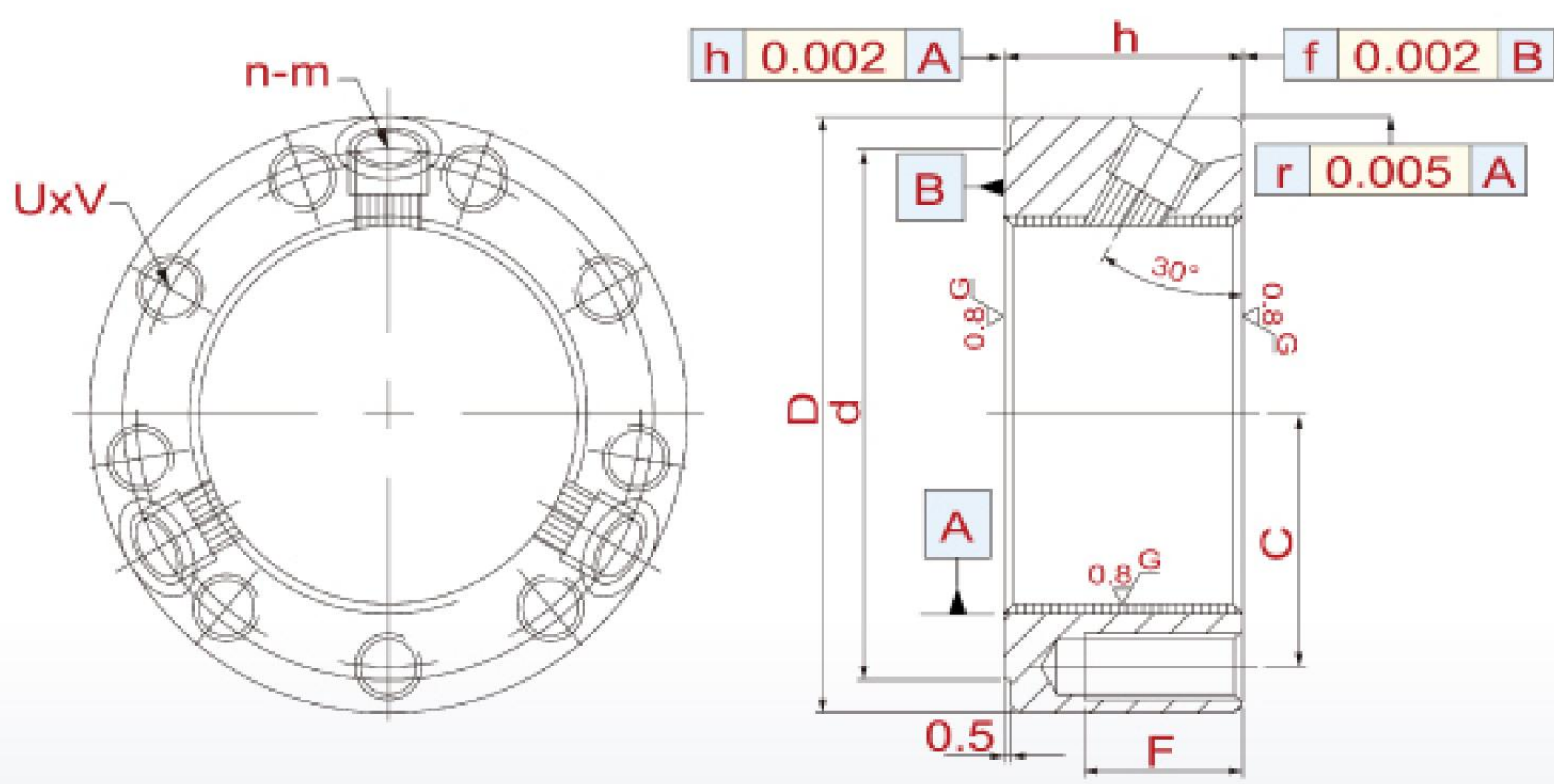
Lock screws intersect at a 30° angle. Superior to traditional locknuts with only 3 lock screws, the SBL-A employ 6 lock screws to the axis. Perfect mesh. Precision and balanced compression. Zero loosening under any load or speed. Inner threads, outer skirts, clamping and trailing rims are all precision ground, minimizing noise and vibration.

- Material Composition: SCM440(42CrMo4)
- Hardness: HRC48° ~ 52°
- Thread Precision: ISO 4H
- Parallelism: 0.002mm
- Edge Bevel: 0.002mm
- Concentricity: 0.005mm

SBL-A

Thread	D	h	d	U x V	C	F	m x n	MAX.Nm	Loosening Torque Nm
SBL-A M20 x 1	38	16	33	Ø4.3 x 3	13	5	M5 x 6	4.5	28.9
SBL-A M20 x 1.5					16		M6 x 6	8.0	30.4
SBL-A M25 x 1.5					19				32.4
SBL-A M30 x 1.5	45	18	40	Ø4.3 x 3	22	5			39.2
SBL-A M35 x 1.5	52	20	47		25				46.1
SBL-A M40 x 1.5	58		52		28				61.8
SBL-A M45 x 1.5	65		59	Ø5.3 x 3	30	6	M8 x 6	18.0	70.6
SBL-A M50 x 1.5	70	22	64		33				88.2
SBL-A M55 x 2	75		68		35				98.0
SBL-A M60 x 2	80	24	73	Ø5.3 x 3	38	6	M8 x 6	18.0	127.5
SBL-A M65 x 2	85		78		41				147.1
SBL-A M70 x 2	92		84		43				152.0
SBL-A M75 x 2	98	26	90	Ø6.4 x 3	46	7			156.9
SBL-A M80 x 2	105		96		49				176.5
SBL-A M85 x 2	110		102		53				186.3
SBL-A M90 x 2	120	28	108	Ø6.4 x 3	55	7			201.0
SBL-A M95 x 2	125		113		58				220.6
SBL-A M100 x 2	130		118		61				236.3
SBL-A M105 x 2	140	30	125	Ø6.4 x 3	64	7	M10 x 6	35.0	252.0
SBL-A M110 x 2	145		132		66				268.1
SBL-A M115 x 2	150		137		69				279.4
SBL-A M120 x 2	155	32	142	Ø6.4 x 3	71	7	M10 x 6	35.0	289.2
SBL-A M125 x 2	160		147		74				313.7
SBL-A M130 x 2	165		152		78				352.9
SBL-A M135 x 2	175	32	160	Ø6.4 x 3	80	7	M10 x 6	35.0	392.2
SBL-A M140 x 2	180		165		84				436.3
SBL-A M145 x 2	190		175		86				480.4
SBL-A M150 x 2	195		180						

Notes: (1) The data are intended for reference only. (2) 1Nm=10.2kgf.cm=0.73lb.ft

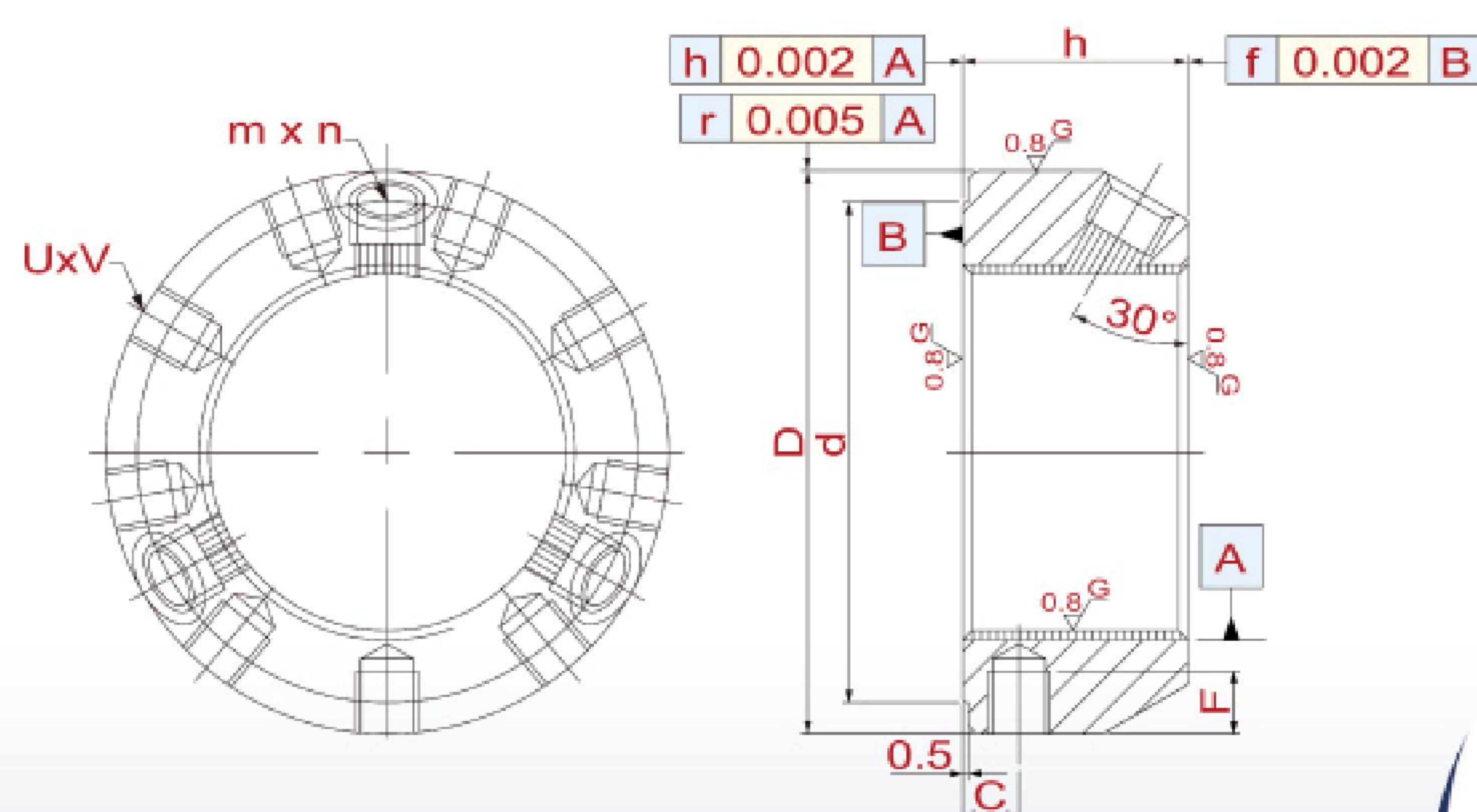


This design differs from the SBL-A in that there are balance adjustment screws added at the trailing surface, making for added convenience in precision adjustment. Balance adjustment screw holes can be fitted with screw-in plugs (option), eliminating high frequency noise and subsequent vibration.

- Material Composition: SCM440(42CrMo4)
- Hardness: HRC48° ~ 52°
- Thread Precision: ISO 4H
- Parallelism: 0.002mm
- Edge Bevel: 0.002mm
- Concentricity: 0.005mm

SBL-B

Thread	D	h	d	U x V	C	F	m x n	MAX.Nm	Loosening Torque Nm
SBL-B M20 x 1	38	16	33	M4 x 6	13	10	M5 x 3	4.5	28.9
SBL-B M20 x 1.5					16		M6 x 3	8.0	
SBL-B M25 x 1.5		18	40	M5 x 9	19	12	M8 x 3	18.0	
SBL-B M30 x 1.5	22								
SBL-B M35 x 1.5	25								
SBL-B M40 x 1.5	20	52	M6 x 9	28	14	M8 x 6	18.0		
SBL-B M45 x 1.5				30					
SBL-B M50 x 1.5				33					
SBL-B M55 x 2	22	68	M6 x 12	35	16	M8 x 6	18.0		
SBL-B M60 x 2				38					
SBL-B M65 x 2				41					
SBL-B M70 x 2	24	84	M8 x 12	43	18	M10 x 6	35.0		
SBL-B M75 x 2				46					
SBL-B M80 x 2				49					
SBL-B M85 x 2	26	102	M8 x 12	53	20	M10 x 6	35.0		
SBL-B M90 x 2				55					
SBL-B M95 x 2				58					
SBL-B M100 x 2	28	118	M8 x 12	61	22	M10 x 6	35.0		
SBL-B M105 x 2				64					
SBL-B M110 x 2				66					
SBL-B M115 x 2	30	137	M8 x 12	69	24	M10 x 6	35.0		
SBL-B M120 x 2				71					
SBL-B M125 x 2				74					
SBL-B M130 x 2	32	152	M8 x 12	78	26	M10 x 6	35.0		
SBL-B M135 x 2				80					
SBL-B M140 x 2				84					
SBL-B M145 x 2	32	175	M8 x 12	86	26	M10 x 6	35.0		
SBL-B M150 x 2				86					



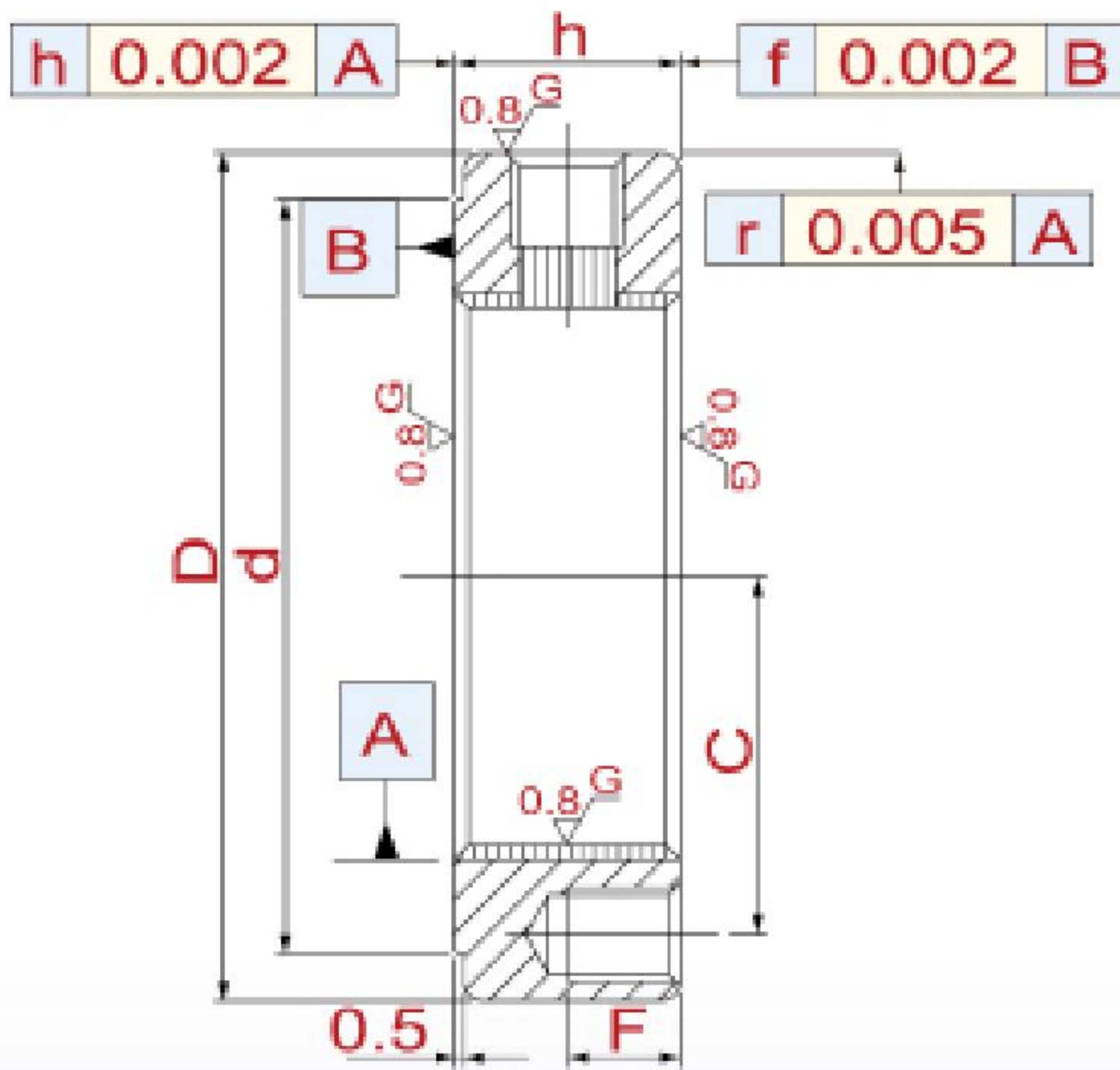
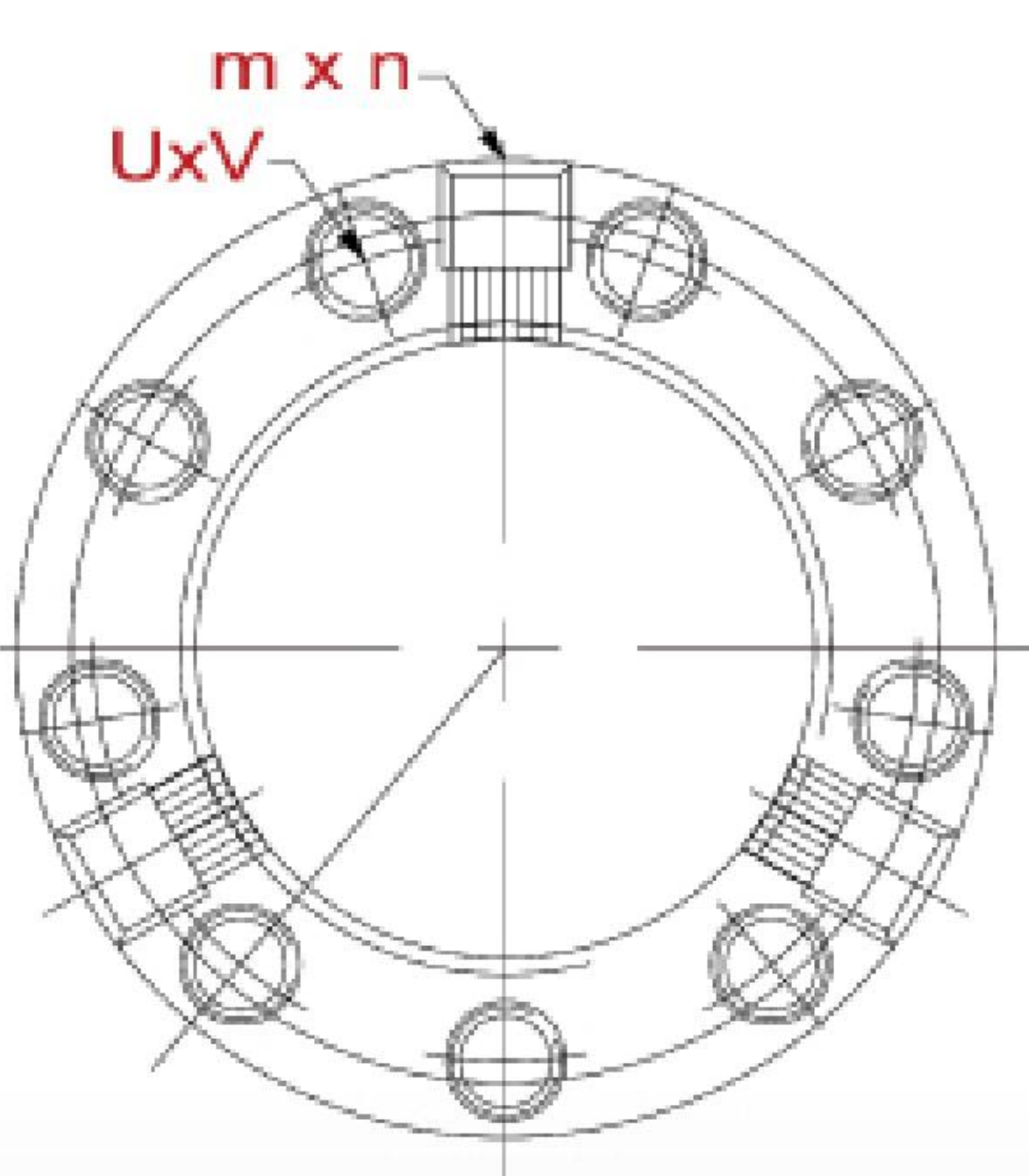
The difference with this design is that the balance adjustment screws tighten from the outer skirt at a radial angle. It is the optimal choice for spindles with restricted space. Balance adjustment screw holes can be fitted with screw-in plugs (option), eliminating high frequency noise and subsequent vibration.

- Material Composition: SCM440(42CrMo4)
- Thread Precision: ISO 4H
- Edge Bevel: 0.002mm
- Hardness: HRC48° ~ 52°
- Parallelism: 0.002mm
- Concentricity: 0.005mm



SBL-C

Thread	D	h	d	U x V	C	F	m x n	MAX.Nm	Loosening Torque Nm
SBL-C M20 x 1	38	16	33	M5 x 6	4	5	M5 x 3	4.5	28.9
SBL-C M20 x 1.5							M6 x 3	8.0	
SBL-C M25 x 1.5		18		40	4.5	4			
SBL-C M30 x 1.5	45		47				5	32.4	
SBL-C M35 x 1.5	52			59	6	39.2			
SBL-C M40 x 1.5	58	64	7				46.1		
SBL-C M45 x 1.5	65			73	8			61.8	
SBL-C M50 x 1.5	70	78	9			70.6			
SBL-C M55 x 2	75			84	10		88.2		
SBL-C M60 x 2	80	90	11					98.0	
SBL-C M65 x 2	85			96	12	127.5			
SBL-C M70 x 2	92	102	13				147.1		
SBL-C M75 x 2	98			108	14			152.0	
SBL-C M80 x 2	105	113	15			156.9			
SBL-C M85 x 2	110			118	16		176.5		
SBL-C M90 x 2	120	125	17					186.3	
SBL-C M95 x 2	125			132	18	201.0			
SBL-C M100 x 2	130	137	19				220.6		
SBL-C M105 x 2	140			142	20			236.3	
SBL-C M110 x 2	145	147	21			252.0			
SBL-C M115 x 2	150			152	22		268.1		
SBL-C M120 x 2	155	160	23					279.4	
SBL-C M125 x 2	160			165	24	289.2			
SBL-C M130 x 2	165	175	25				313.7		
SBL-C M135 x 2	175			180	26			352.9	
SBL-C M140 x 2	180	180	27			392.2			
SBL-C M145 x 2	190			180	28		436.3		
SBL-C M150 x 2	195	180	29					480.4	



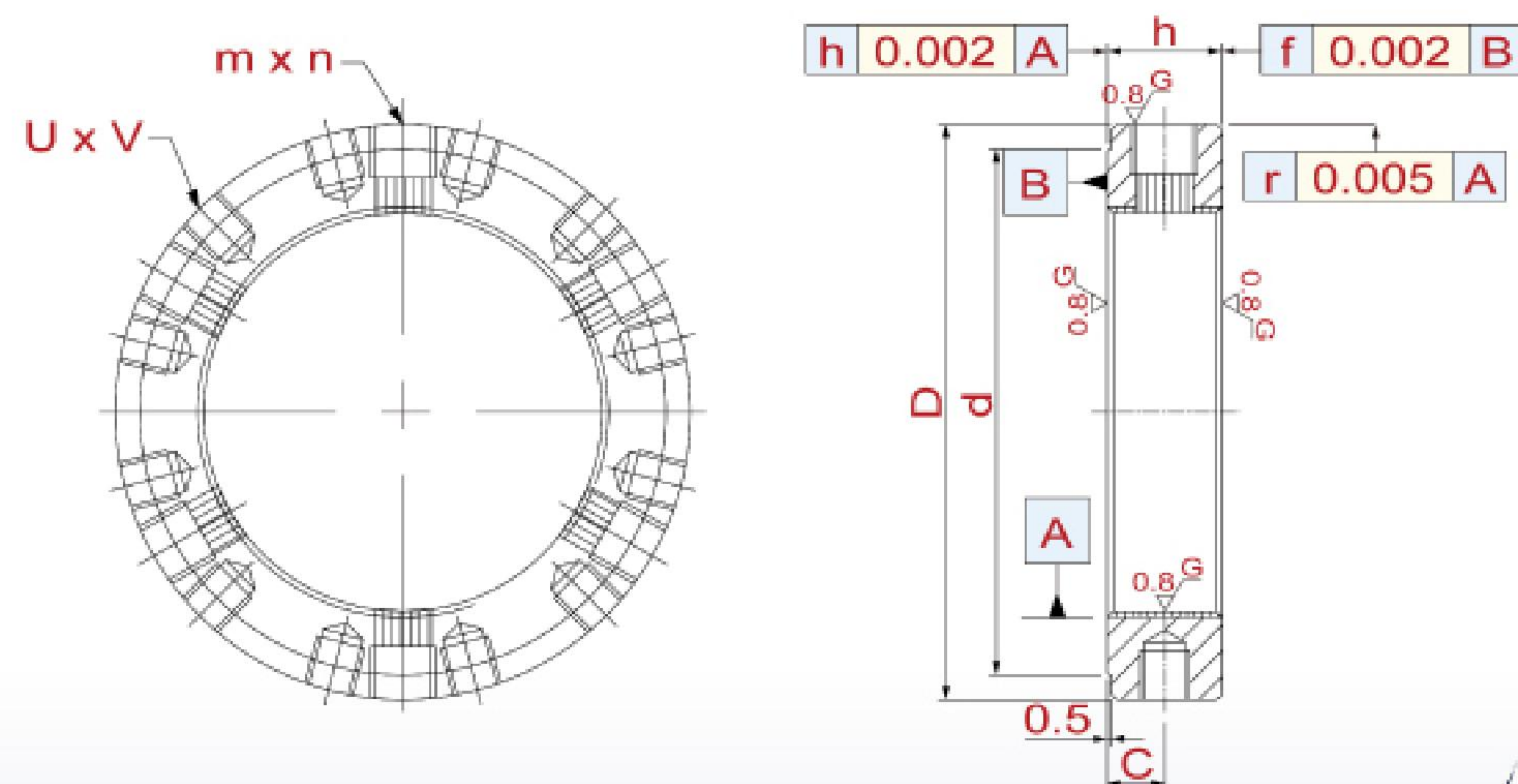
For spindles with exceptionally restricted or narrow space, this model is ideal in that it is super thin and requires no additional tooling or components to do its job. For thread sizes under M45 we offer the SBL-D with 3 lock screws, and for larger threads we offer the SBL-D with 6 lock screws. Balance adjustment screw holes can be fitted with screw-in plugs (option), eliminating high frequency noise and subsequent vibration.

- Material Composition: SCM440(42CrMo4)
 - Thread Precision: ISO 4H
 - Edge Bevel: 0.002mm
- Hardness: HRC48° ~ 52°
 - Parallelism: 0.002mm
 - Concentricity: 0.005mm

SBL-D

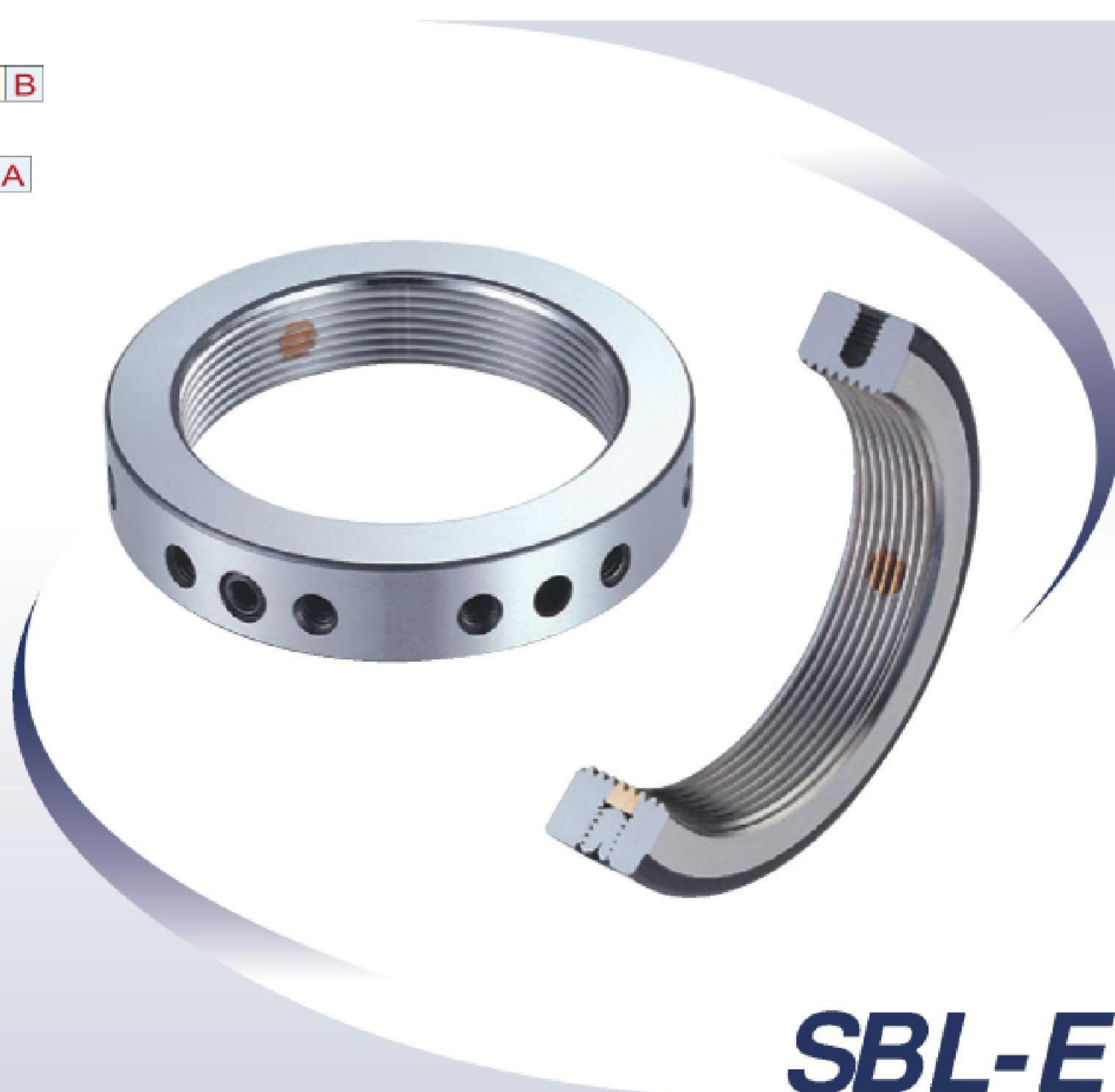
Thread	D	h	d	U x V	C	F	m x n	MAX.Nm	Loosening Torque Nm
SBL-D M20 x 1	32	10	27	M4 x 6	13	5	M5 x 3	4.5	24.0
SBL-D M20 x 1.5					16				
SBL-D M25 x 1.5	38	12	33	M5 x 9	19	6	M6 x 3	8.0	26.5
SBL-D M30 x 1.5	45		40		22				28.4
SBL-D M35 x 1.5	52		47		25				34.3
SBL-D M40 x 1.5	58	14	52	M6 x 9	28	8			36.3
SBL-D M45 x 1.5	65		59		30				56.9
SBL-D M50 x 1.5	70		64		33				63.7
SBL-D M55 x 2	75	16	68	M6 x 12	35	10			68.6
SBL-D M60 x 2	80		73		38				96.1
SBL-D M65 x 2	85		78		41				112.7
SBL-D M70 x 2	92	18	84		43	12			137.3
SBL-D M75 x 2	98		90		46				145.1
SBL-D M80 x 2	105		96		49				149.0
SBL-D M85 x 2	110	20	102		53	14	M8 x 6	18.0	168.6
SBL-D M90 x 2	120		108		55				178.4
SBL-D M95 x 2	125		113		58				193.1
SBL-D M100 x 2	130	22	118	M8 x 12	61	16			210.8
SBL-D M105 x 2	140		125		64				215.7
SBL-D M110 x 2	145		132		66				230.4
SBL-D M115 x 2	150	24	137		69	18			250.0
SBL-D M120 x 2	155		142		71				264.7
SBL-D M125 x 2	160		147		74				274.5
SBL-D M130 x 2	165	26	152		78	20	M10 x 6	35.0	294.1
SBL-D M135 x 2	175		160		80				328.4
SBL-D M140 x 2	180		165		84				372.5
SBL-D M145 x 2	190		175		86				402.0
SBL-D M150 x 2	195		180						421.6

Notes: (1) The data are intended for reference only. (2) 1Nm=10.2kgf.cm=0.73lb.ft



This model is for spindles with exceptionally restricted or narrow space, particularly where any adjustment from the trailing surface is inconvenient. Balance adjustment screw holes can be fitted with screw-in plugs (option), eliminating high frequency noise and subsequent vibration.

- Material Composition: SCM440(42CrMo4)
- Thread Precision: ISO 4H
- Edge Bevel: 0.002mm
- Hardness: HRC48° ~ 52°
- Parallelism: 0.002mm
- Concentricity: 0.005mm



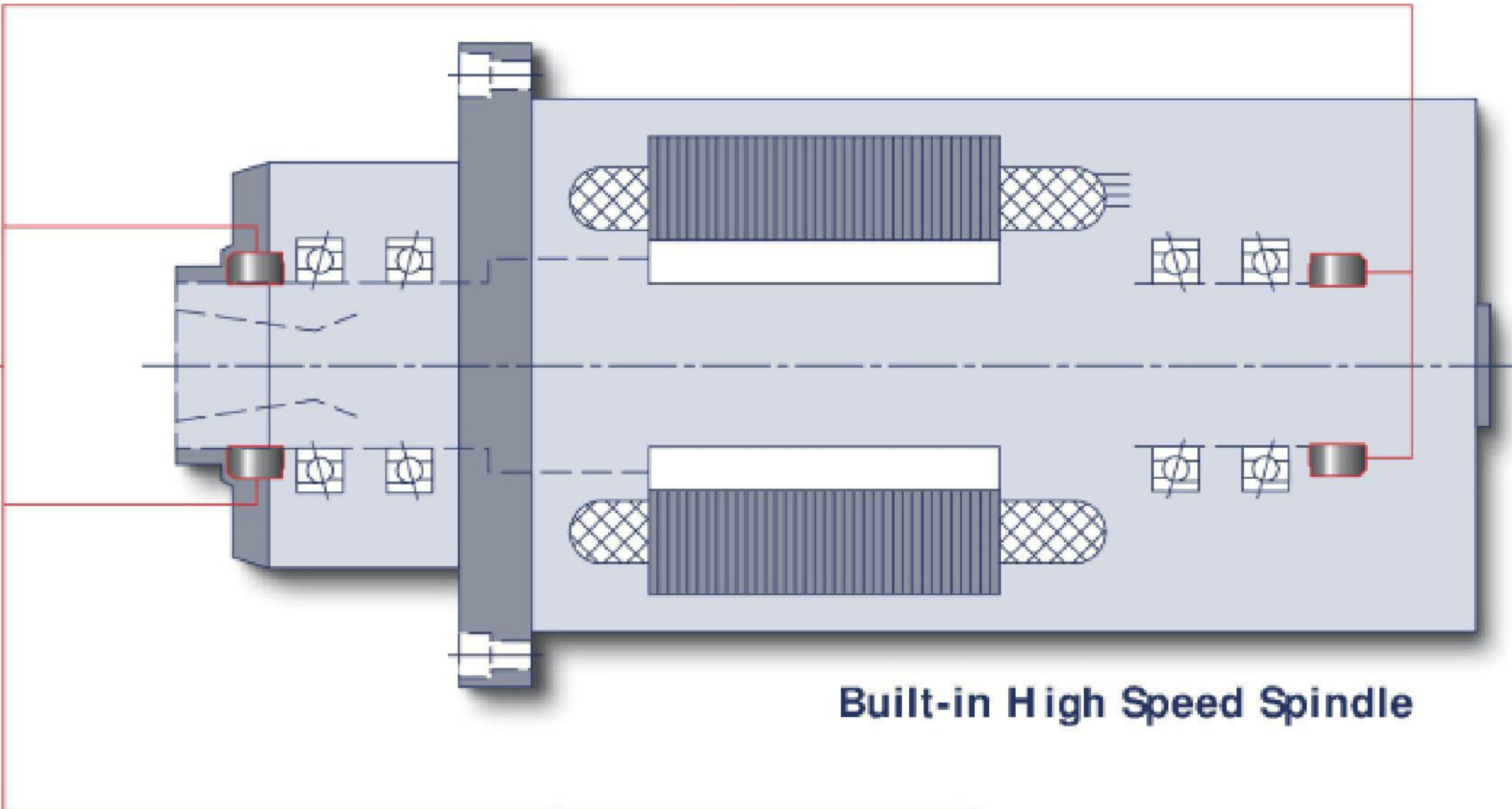
SBL-E

Thread	D	h	d	U x V	C	F	m x n	MAX.Nm	Loosening Torque Nm
SBL-E M20 x 1	32	10	27	M5 x 6	5	3	M5 x 3	4.5	24.0
SBL-E M20 x 1.5									
SBL-E M25 x 1.5	38	12	33	M5 x 9	6	4	M6 x 3	8.0	26.5
SBL-E M30 x 1.5	45		40						28.4
SBL-E M35 x 1.5	52		47						34.3
SBL-E M40 x 1.5	58	14	52	M6 x 9	7	5	M8 x 6	18.0	36.3
SBL-E M45 x 1.5	65		59						56.9
SBL-E M50 x 1.5	70		64						63.7
SBL-E M55 x 2	75	16	68	M6 x 12	8	6	M8 x 6	18.0	68.6
SBL-E M60 x 2	80		73						96.1
SBL-E M65 x 2	85		78						112.7
SBL-E M70 x 2	92	18	84	M8 x 12	9	8	M8 x 6	18.0	137.3
SBL-E M75 x 2	98		90						145.1
SBL-E M80 x 2	105		96						149.0
SBL-E M85 x 2	110	20	102	M8 x 12	10	9	M8 x 6	18.0	168.6
SBL-E M90 x 2	120		108						178.4
SBL-E M95 x 2	125		113						193.1
SBL-E M100 x 2	130	22	118	M8 x 12	11	11	M8 x 6	18.0	210.8
SBL-E M105 x 2	140		125						215.7
SBL-E M110 x 2	145		132						230.4
SBL-E M115 x 2	150	24	137	M8 x 12	12	11	M8 x 6	18.0	250.0
SBL-E M120 x 2	155		142						264.7
SBL-E M125 x 2	160		147						274.5
SBL-E M130 x 2	165	26	152	M8 x 12	13	14	M10 x 6	35.0	294.1
SBL-E M135 x 2	175		160						328.4
SBL-E M140 x 2	180		165						372.5
SBL-E M145 x 2	190	26	175	M8 x 12	13	16	M10 x 6	35.0	402.0
SBL-E M150 x 2	195		180						421.6

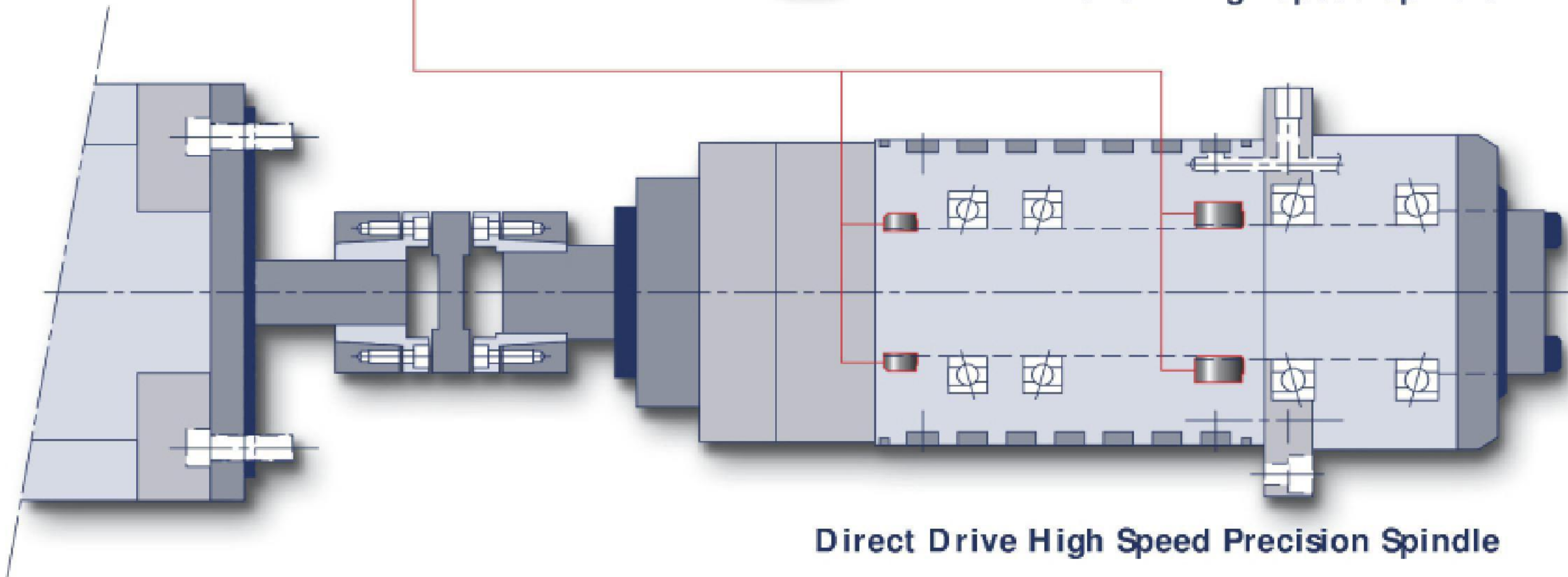


Diagram of Locknuts in Use

SBL Series
Superfine Balanced Locknuts



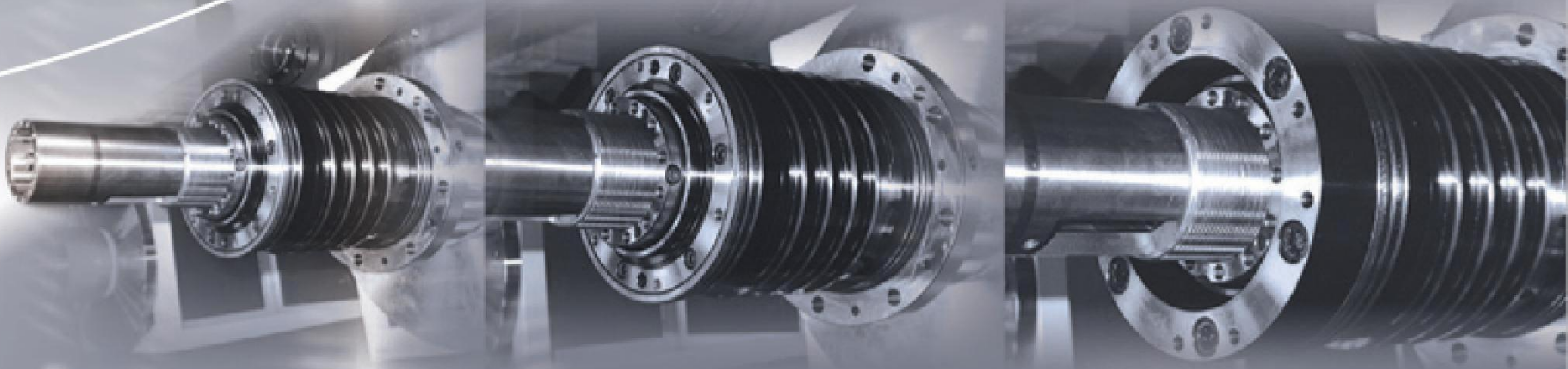
Built-in High Speed Spindle



Direct Drive High Speed Precision Spindle

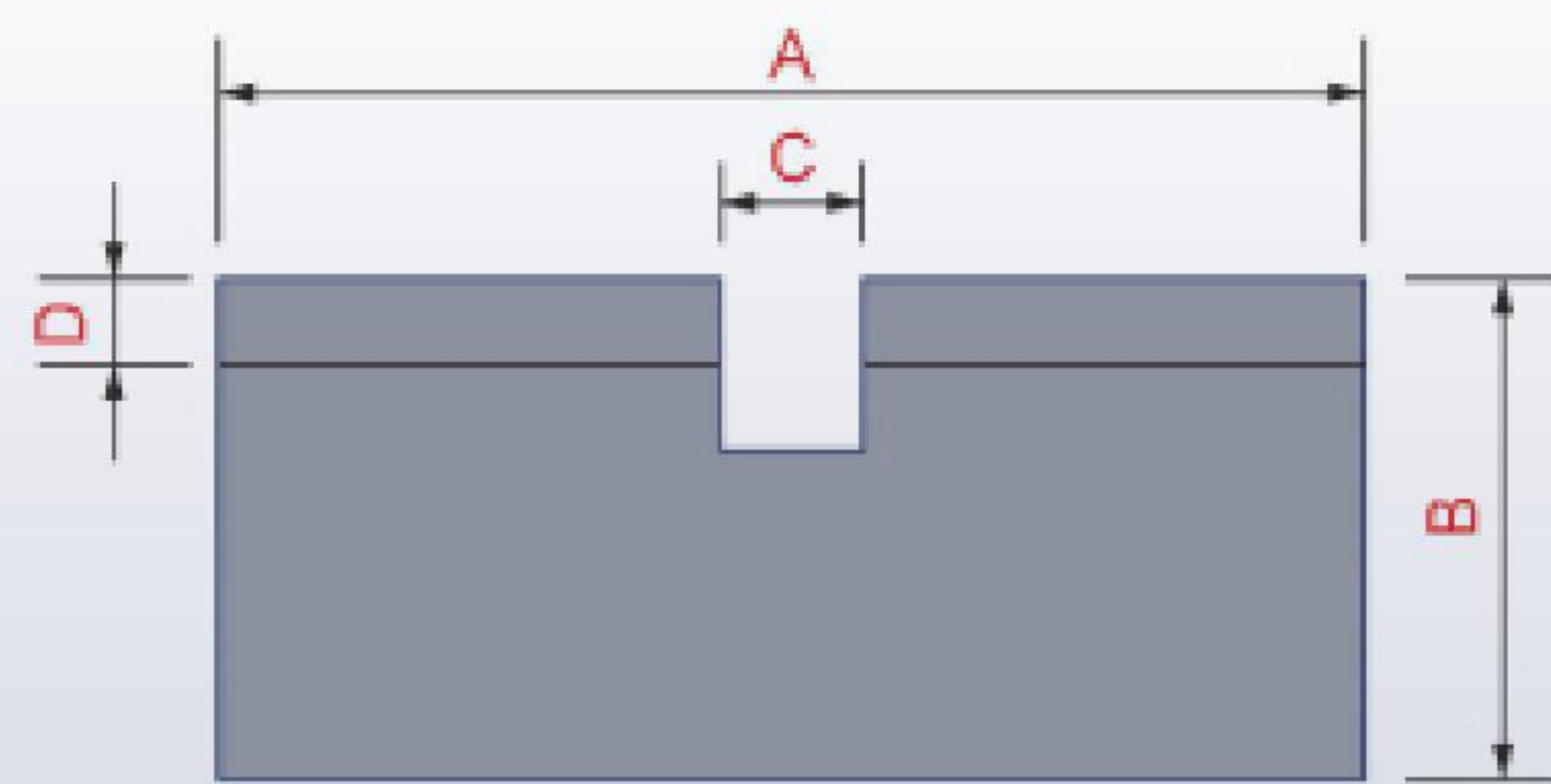


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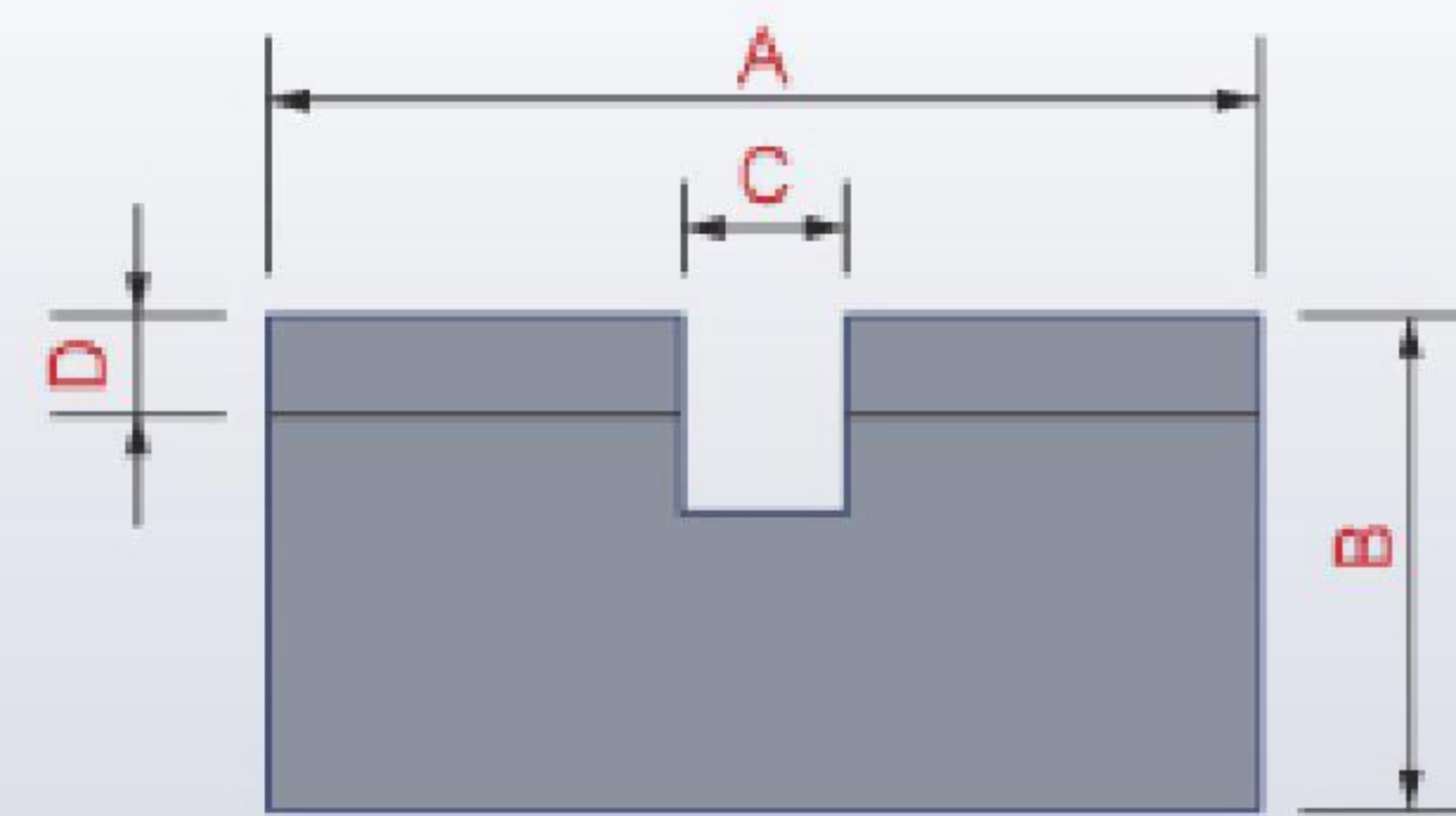


Noise Elimination Screw-in Plugs (Option)

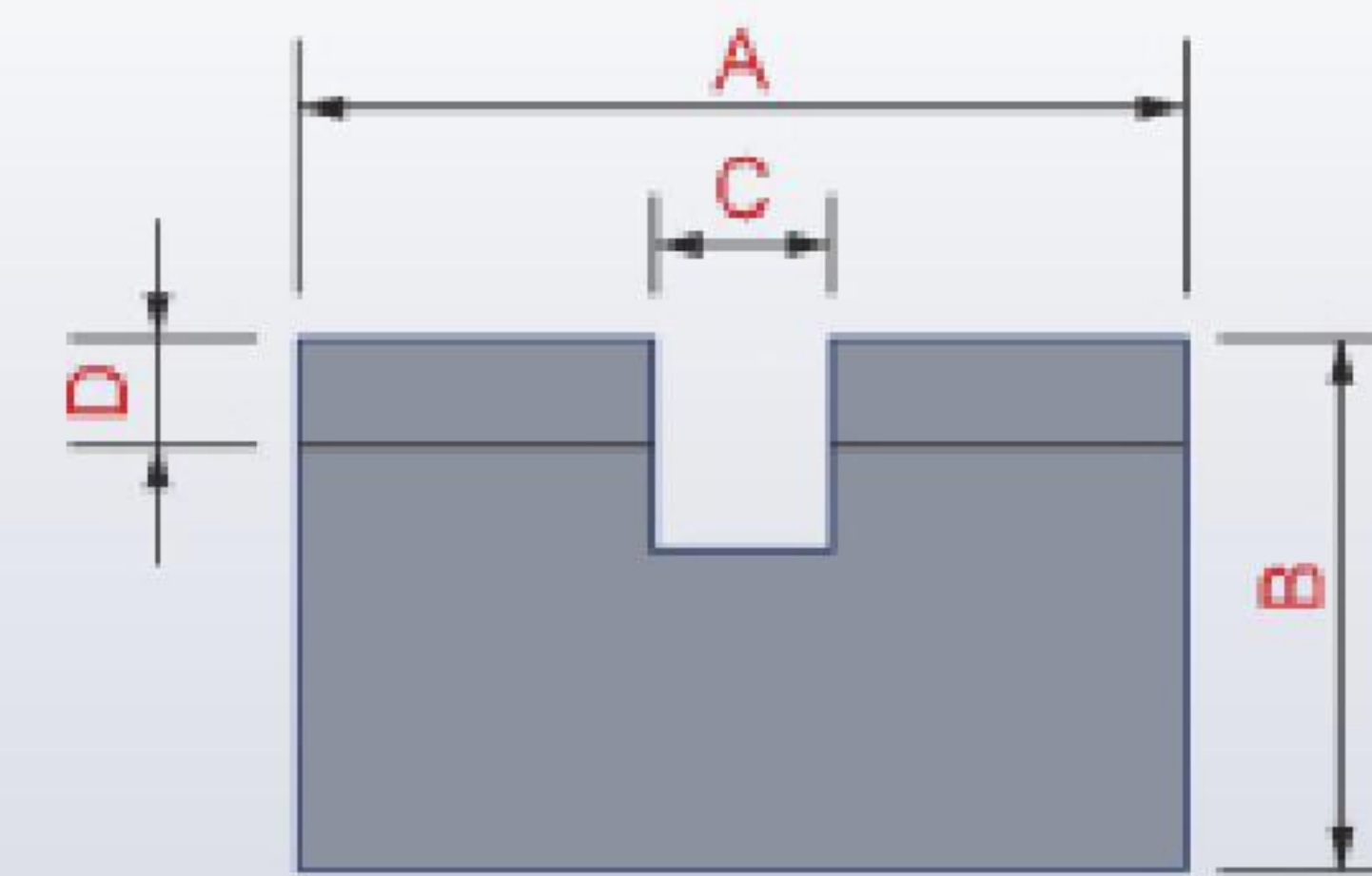
At high speeds, the threaded holes for lock or balance screws generate high frequency noise and subsequent vibration. Our answer to this is the noise elimination screw-in plugs (option). Made of Polycarbonate Fiber, these plugs are extremely light and stable. An added benefit is the elimination of any rust build up.



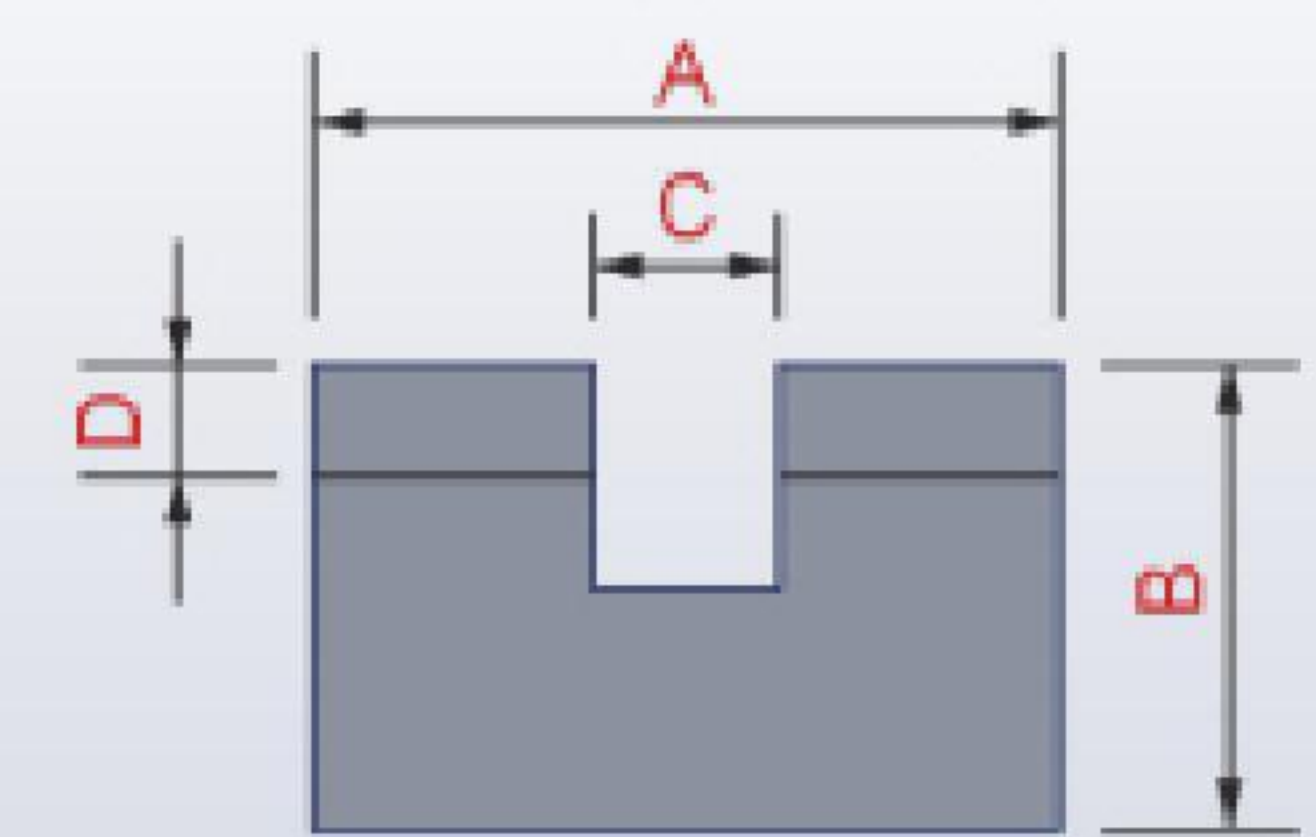
M8 x P1.25



M6 x P1



M5 x P0.8



M4 x P0.7

Noise Elimination Screw-in Plugs (Option) Specifications	A	B	C	D	Weight in Grams
M4 x P0.7	ø4	2.5	1.0	0.6	0.025
M5 x P0.8	ø5	3.0	1.0	0.6	0.045
M6 x P1	ø6	3.0	1.0	0.6	0.075
M8 x P1.25	ø8	3.5	1.0	0.6	0.165

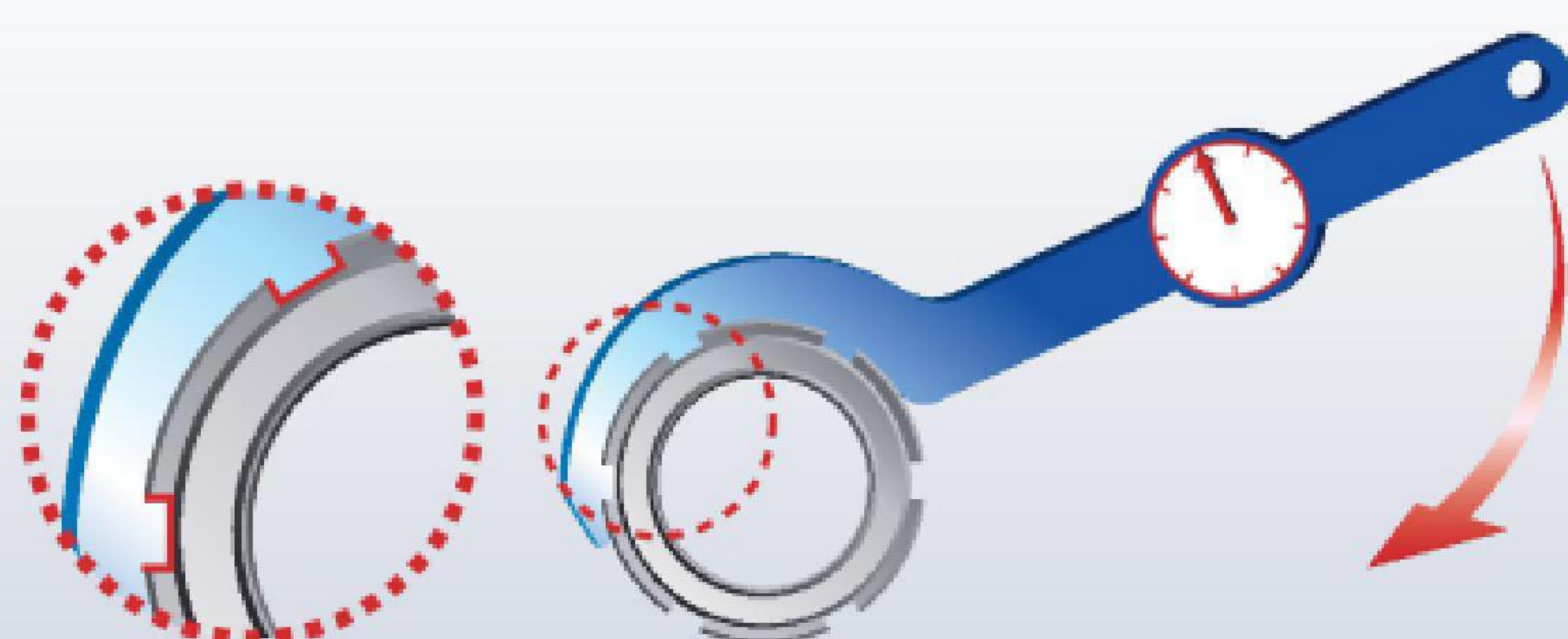
Specifics for Installation



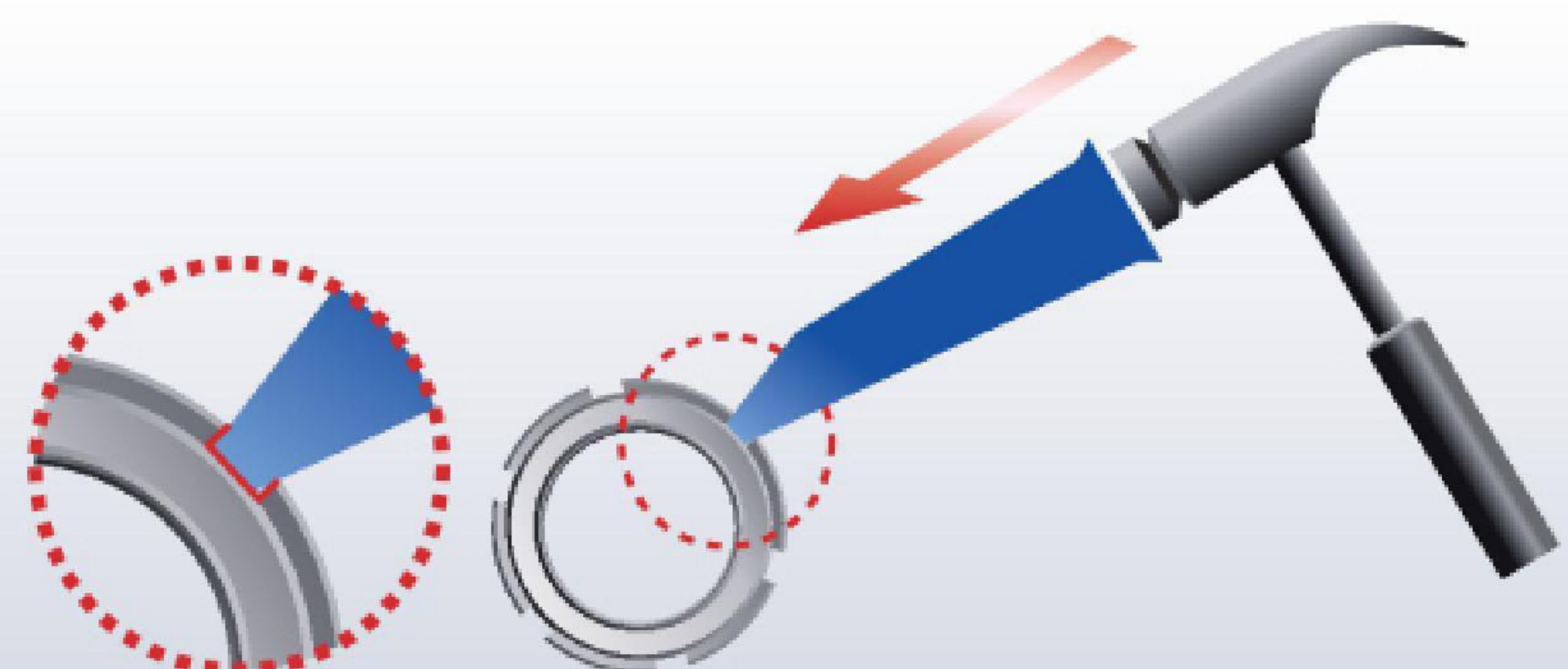
Clean the locknut with naphtha or appropriate industrial degreaser before installation.



Apply a small drop of lubricant to inner threads.

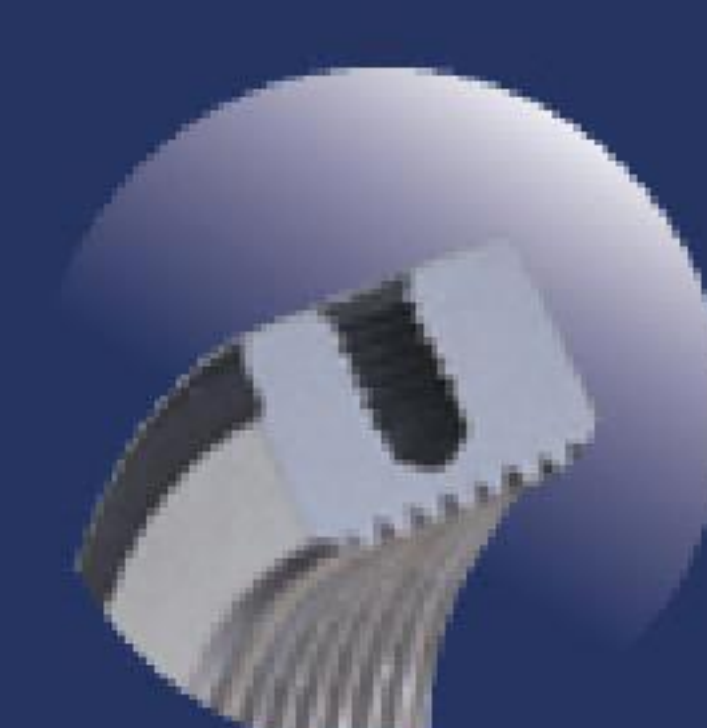


Use appropriate tools or spanner to set the correct preload.



Avoid applying direct pressure to any single point.





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YINSH PRECISION INDUSTRIAL CO., LTD.

No. 26, Lane 31, Chung Te 6 Rd., Sec. 1, Taichung, Taiwan 406

Tel: +886-4-2244-7899

E-mail: service@yinsh.com

Fax: +886-4-2245-2402

http://www.yinsh.com



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OHSAS18001

