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LUE – COUNTERSTAY SYSTEM WITH NEEDLE AND CYLINDRICAL ROLLER FLAT CAGE ASSEMBLIES

The LUE counterstay system is particularly suited to high-precision applications. This system provides the highest level of accuracy of all linear guidance systems with rolling elements.
It is the perfect solution when a high degree of accuracy and rigidity are required, particularly when the main load operates in a vertical or lateral direction. The separation between locating and non-locating bearings prevents the system from becoming distorted by thermal expansion.

The LUE counterstay system does not require any adjustment after assembly.

The system is preloaded by components which have been adjusted against one another in terms of dimensions. Preloading is established by observing the prescribed tightening torques during assembly without any adjustments being required.

A MATERIAL

M and V and S and J guideways: Hardened tool steel 1.2842 HRc 58 – 62

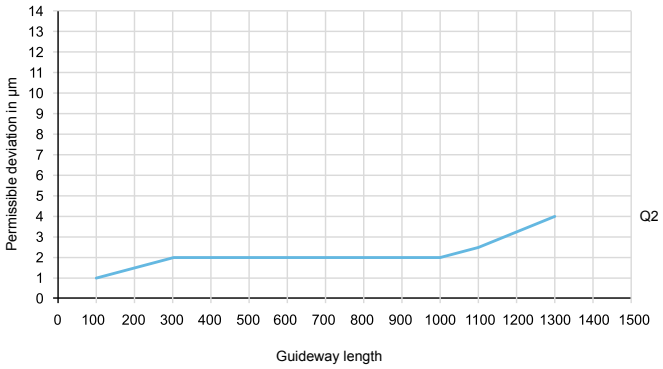
LU counterstays: counterstay bar (LUT) made from hardened tool steel 1.2842 HRc 58 – 62 and a distance bar (LUD) made from soft construction steel.

B QUALITY

The raceways and locating faces are precision ground.

The LUE counterstay system is only supplied in Q2 quality, which is the highest quality for standard guideways (parallelism tolerance of the raceways to the reference sides of the guideways in relation to a defined length).

Q2: particularly precise quality for exceptionally demanding structures



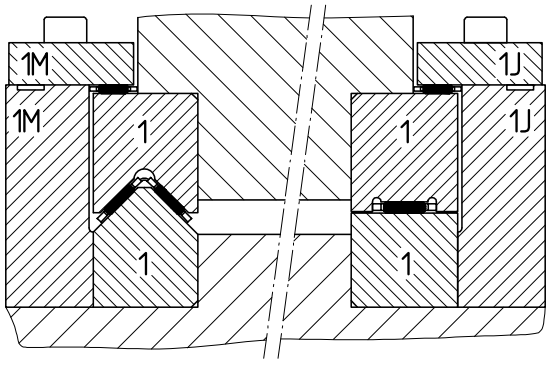
SPECIAL EXECUTIONS
SEE CHAPTER 10 ALTERNATIVE VERSIONS

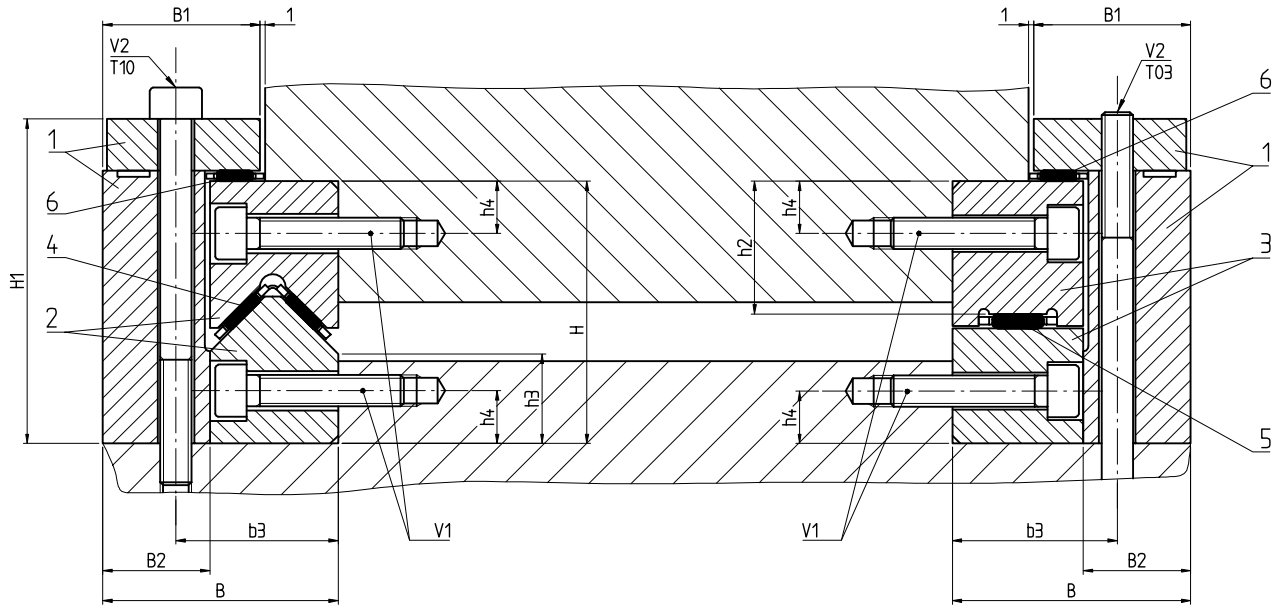
C MATCHING IN SETS

The guideways are manufactured, labelled and packaged by sets.

NB

Under no circumstances must the counterstay components be mixed up as matching and preloading could no longer be guaranteed in that case.



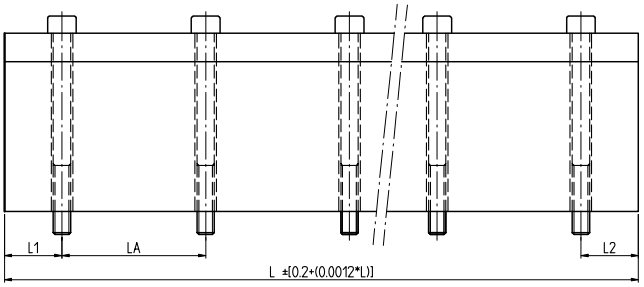


DIMENSIONS IN MM

Type	H 0/-0.2	H1	B	B1	B2	b3	V1	V2 T10 / T03	h2	h3	h4	L max.
LUE 5025	50	62	45	30	20	31	M6	M6	25.5	17	10	800
LUE 6035	60	77	60	40	25	42	M8	M8	33	20	11	1000
LUE 7040	70	89	65	40	25	47	M10	M8	37.5	24	13	1000
LUE 8050	80	100	86	51	36	61	M12	M12	42	26	14	1000

LUE COUNTERSTAY SYSTEM COMPONENTS:

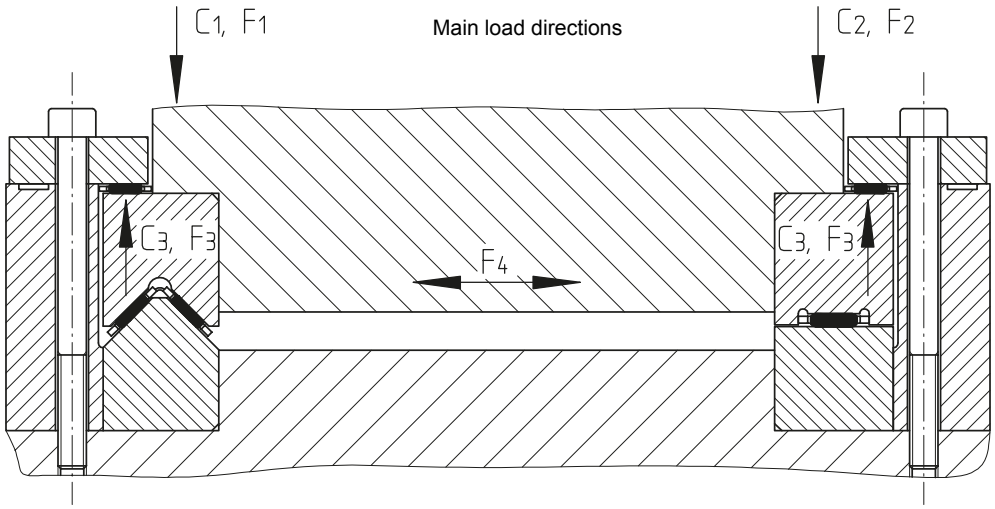
Type	L1* min.	LA**	L2* min.	L max.
LU 5025	20	50	20	800
LU 6035	20	50	20	1000
LU 7040	20	50	20	1000
LU 8050	20	50	20	1000



* L1 and L2 are the same size at both ends of the guideway and dependent on the guideway length without any specific requests being made.
** The tolerance of the hole distances (LA) is in proportion to the length tolerance

LUE COUNTERSTAY SYSTEM COMPONENTS:

Type	Counterstays	Guideways		Precision cages: G1		
	LU	M / V	J / S			
	Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6
LUE 5025	LU5025	5025	5025	E-HW15	E-H15	E-H10
LUE 6035	LU6035	6035	6035	E-HW20	E-H24 ZW	E-BF5015
LUE 7040	LU7040	7040	7040	E-HW25	E-H34 ZW	E-BF5015
LUE 8050	LU8050	8050	8050	E-HW30	E-H44 ZW	E-BF5015



DIMENSIONS IN MM

Type	Load carrying capacity						
	Basic dynamic load ratings			Limiting loads*			
	C_1 (N)	C_2 (N)	C_3 (N)	F_1 (N)**	F_2 (N)**	F_3 (N)***	F_4 (N)***
LUE 5025	25'960	35'620	21'410	13'840	15'630	1'200	7'500
LUE 6035	40'200	36'710	70'410	38'690	58'620	1'500	10'000
LUE 7040	62'840	56'850	70'410	42'500	61'720	2'500	16'000
LUE 8050	82'980	88'860	70'410	43'150	69'540	4'000	23'000

* For a theoretical cage length of 100 mm in load direction according to table (see above)
Calculation of limiting loads for effective cage lengths:

$$F_{w1,2,3} = F_{1,2,3} \cdot \frac{L_k - 2e + t}{100} \text{ where } Z = \frac{L_k - 2e + 1}{100} = \text{whole number}$$

** limited by system preload
*** limited by load carrying capacity / friction locking effect of fixing screws

TIGHTENING TORQUE FOR FIXING SCREWS:

For V1 and V2 screws	Tightening torque
Strength category 10.9	**Nm**
M6	12
M8	29
M10	58
M12	101