

INKOMA /ALBERT

Great ideas need drive.

DSH SCREW JACK

Conventional screw jack applications consist of one or more screw jacks. Usually they are driven by one electric motor and typically connected via drive shafts or couplings resulting in efficiency losses within the drive train. Screw jacks fitted with worm/wormwheel or bevel gear sets often reach their maximum limit when operating with high duty cycles or high linear speeds.

These are two of the main reasons for the development of our new quiet and efficient lifting system. After a long development program with the support of local universities the new DSH screw jack has been created.

The INKOMA-DSH screw jacks have no internal gear system. Instead a special Torque motor is used to directly drive the ballscrew spindle resulting in smooth backlash free rotation.

In the DSH system there are virtually no mechanical losses. Specially selected bearings ensure the spindle can withstand both tensile and compressive loads. The compact drive unit has a rigid construction and is suitable for high dynamic applications. Cycle times of 7 cycles per second and lifting speeds of 32m/min are achievable. Repeatable positioning accuracy is also very high.

The DSH-units can be synchronised when working together within a system, allowing the screw jacks to be positioned at different levels within the application. The DSH-system has high energy efficiency. During operation the torque motor is used to control the speed and hold position of the ballscrew spindle. An integrated brake is also available for increased safety.





APPLICATIONS FOR THE DSH-SYSTEM

- Fast cycle times and high duty applications (e.g. testing machines, packaging machines, printing machines)
- High lifting speed with large lifting forces (e.g. machine tools, woodworking machines, special purpose machines)
- Large centre distances between spindles and different height levels between lifting units (e.g. entertainment equipment, theatre lifting systems)
- Backlash free and repeatable high positional accuracy (e.g. testing machines, machine tools, printing machines, special purpose machines)
- Different load factor between lifting units (e.g. working platforms, stage lifts)

Rotating version (R)

In rotating version (R) the ballscrew spindle is fixed in the rotor of the DSH-unit. Linear motion of the nut results from rotation of the spindle.

Rotating version R



Translating version (SA, SVA)

In translating version (S) linear lifting motion results from the movement of the non rotating spindle through a special rotating integral nut. The spindle is guided through the DSH unit and must not be allowed to rotate. This can be done by customers design, e.g. with a guide.

Otherwise if this is not possible spindle rotation can be prevented by the use of an anti-turn device (version SVA). Over-travel of the spindle is prevented by a travel limiter (version SA).

Translating version SA, SVA



Special designs are available.

Accessories

see accessories for HSG, KSH, HSGK and DSH

TECHNICAL INFORMATION

EFFECTIVE LOAD

MODEL	MAX. STATIC LOAD ¹ F _{STAT.} [kN]	EFFECTIVE LOAD				LIFT PER REVOLUTION P [MM]	MAX. LIFTING SPEED ² V _{LIFT ED 20%} M/MIN	NOMINAL SPEED ³ N [1/MIN]
		ED 20% / H F _{EFF.} [kN]	ED 50% / H F _{EFF.} [kN]	ED 80% / H F _{EFF.} [kN]	ED 100% / H F _{EFF.} [kN]			
TRANSLATING VERSION SA, SVA								
DSH-1-KGS 25x5	5	3,9	2,9	2,0	1,6	5	6,3	1250
DSH-1-KGS 25x10	5	1,9	1,5	1,0	0,8	10	12,5	1250
DSH-1-KGS 25x25	5	0,8	0,6	0,4	0,3	25	31,3	1250
DSH-2-KGS 25x5	10	10,0	8,6	5,8	4,7	5	6,3	1250
DSH-2-KGS 25x10	10	5,8	4,3	2,9	2,3	10	12,5	1250
DSH-2-KGS 25x25	10	2,3	1,7	1,2	0,9	25	31,3	1250
DSH-3-KGS 32x5	25	25,0	25,0	19,8	15,8	5	4,0	800
DSH-3-KGS 32x10	25	20,2	15,2	9,9	7,9	10	8,0	800
DSH-3-KGS 32x40	25	5,1	3,8	2,5	2,0	40	32,0	800
DSH-4-KGS 50x10	50	50,0	44,0	31,7	25,5	10	5,0	500
DSH-4-KGS 50x20	50	29,5	22,0	15,8	12,8	20	10,0	500
DSH-4-KGS 50x50	50	11,8	8,8	6,3	5,1	50	25,0	500
DSH-5-KGS 63x10	100	100,0	80,9	58,1	46,6	10	5,0	500
DSH-5-KGS 63x20	100	53,9	40,5	29,0	23,3	20	10,0	500
DSH-5-KGS 63x64	100	16,8	12,6	9,1	7,3	64	32,0	500

ROTATING VERSION R

DSH-1-KGS 25x5	5	3,9	2,9	2,0	1,6	5	6,3	1250
DSH-1-KGS 25x10	5	1,9	1,5	1,0	0,8	10	12,5	1250
DSH-1-KGS 25x25	5	0,8	0,6	0,4	0,3	25	31,3	1250
DSH-2-KGS 25x5	10	10,0	8,6	5,8	4,7	5	6,3	1250
DSH-2-KGS 25x10	10	5,8	4,3	2,9	2,3	10	12,5	1250
DSH-2-KGS 25x25	10	2,3	1,7	1,2	0,9	25	31,3	1250
DSH-3-KGS 32x5	25	25,0	25,0	19,8	15,8	5	4,0	800
DSH-3-KGS 32x10	25	20,2	15,2	9,9	7,9	10	8,0	800
DSH-3-KGS 32x40	25	5,1	3,8	2,5	2,0	40	32,0	800
DSH-4-KGS 50x10	50	50,0	44,0	31,7	25,5	10	5,0	500
DSH-4-KGS 50x20	50	29,5	22,0	15,8	12,8	20	10,0	500
DSH-4-KGS 50x50	50	11,8	8,8	6,3	5,1	50	25,0	500
DSH-5-KGS 63x10	100	100,0	80,9	58,1	46,6	10	5,0	500
DSH-5-KGS 63x20	100	53,9	40,5	29,0	23,3	20	10,0	500
DSH-5-KGS 63x64	100	16,8	12,6	9,1	7,3	64	32,0	500

¹ The specification of the max. lifting force is only a guide to enable pre-selection of the initial DSH-size.

The actual dynamic lifting force possible is dependant upon the operating conditions.

² Higher lifting speeds are available on request.

³ The rated speeds are valid for an operating duty of 20%/h. Higher duty cycles are possible but are dependant upon the application, and additional cooling the DSH-unit may be required.

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