

crane	EDL 1 t x 4500 mm		
design basis	DIN 15018, H2/B3		
hoist + trolley	GM 4 1000.4-2/EF 14		
FEM group	2m / M5		
operation location	indoor operation		
ambient conditions	-5° C up to +40° C, without special requirements		
crane travel	7.5 / 30 m/min		
trolley travelling	5 / 20 m/min		
hoisting	1 / 4 m/min		
total weight	690 kg (thereof hoist + trolley 79 kg)		
mains voltage; admissible voltage swing	3/PE ~50 Hz 380 V (TN-S); -3% / +5%		
total power consumption	1.7 kW (starting current * cos phi: 12.2 A) +SKR-F1 = 10 A gG		
load data	axle loads (kN)	crane axis 1 (min/max)	1.3 / 7.0
	(without vibration coefficient)	crane axis 2 (min/max)	1.3 / 7.1
	lateral loads (kN)	mass forces trolley travelling (min/max)	< 0.1 / 0.1
		lateral forces crane travel (min/max)	0.2 / 0.8
	longitudinal loads (kN)	mass forces crane travel (max.)	1.3
(per crane runway beam)	collision forces (max.)	5.6	

<sup>1)</sup> maximum hook path of hoist 5 m, actual use according to conditions on site

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**crane EDL**

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**ABUS**

person in charge: Penner, V.  
 Date: 20/11/2015

# Load data according to DIN EN 1991-3

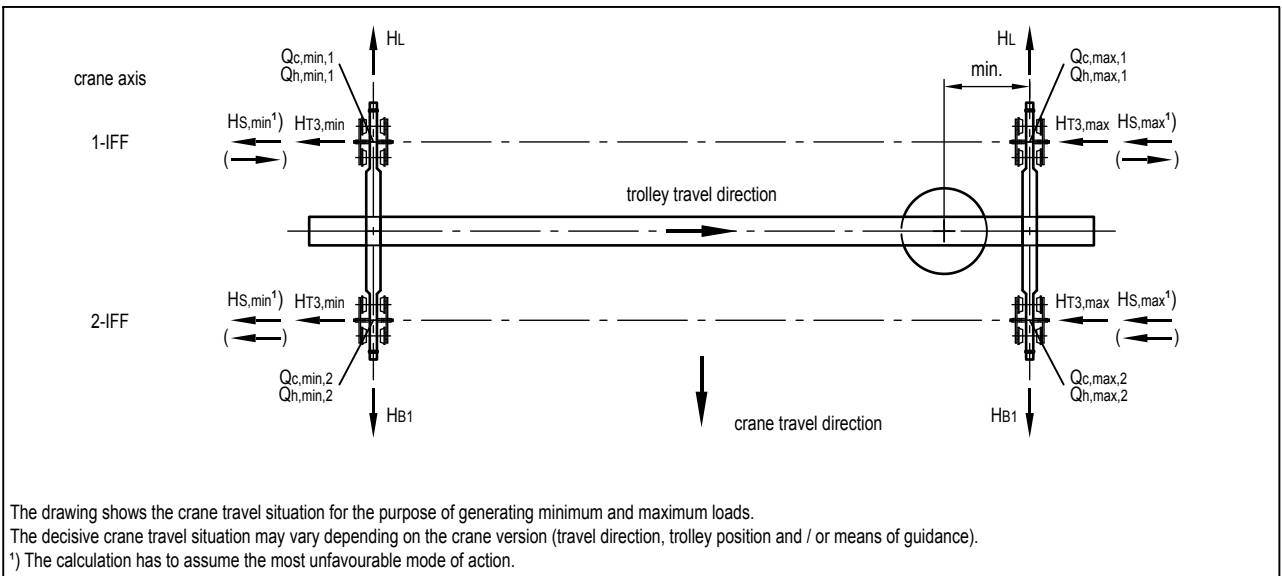
Classification of crane	S3	(for the verification of the runway beam)
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Dynamic coefficients  $\phi_i$ :

$\phi_1$	1.10	Acceleration (resulting from lifting and gravitation) acting on the mass of the crane
$\phi_2$	1.05	inertia and gravitation when lifting an unrestricted load from off the floor
$\phi_3$	1.00	inertia and gravitation when suddenly releasing a part of the lifted load
$\phi_4$	1.00	Loads resulting from travelling across uneven surfaces
$\phi_{5,Kr}$	1.80	Loads resulting from acceleration of crane travel drives
$\phi_{5,Ka}$	1.80	Loads resulting from acceleration of hoist trolley drives
$\phi_{6,dyn}$	1.03	Dynamic test load
$\phi_{6,stat}$	1.00	static test load
$\phi_{7,Kr}$	1.25	Loads resulting from buffer forces

Load effects and relevant force components:

axle loads (vertical)	Force component from the mass of the crane and the hoist(s) per crane axis	$Q_{c,min,1}$	1.5	$Q_{c,max,1}$	1.8	[kN]
		$Q_{c,min,2}$	1.5	$Q_{c,max,2}$	1.9	[kN]
	Force component from mass of hoist load per crane axis	$Q_{h,min,1}$	-0.2	$Q_{h,max,1}$	5.2	[kN]
		$Q_{h,min,2}$	-0.2	$Q_{h,max,2}$	5.2	[kN]
Lateral loads (horizontal)	Force from the acceleration of the trolley (mass forces)	$HT_{3,min}$	< 0,1	$HT_{3,max}$	0.1	[kN]
	Horizontal force from skewing	$HS_{min}$	0.2	$HS_{max}$	0.8	[kN]
Longitudinal loads (horizontal) (per runway beam)	Force from the acceleration of the crane with hoist load (mass force)	HL			0.8	[kN]
	Force from impact on buffer (collision force)	HB1			4.5	[kN]



All load effects constitute characteristic static force components and have to have the corresponding dynamic coefficient  $\phi$  applied to them.  
 allowable span tolerance between crane runways +/- 5 mm

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