KoRo·IBS MOVING AND BRAKE SYSTEM — Hydraulic Buffers Design Data

Company:

Project:

Name:

Date:

General information

desired buffer size
size x stroke: _____

Fastening type

☐ front flange F
☐ back flange B

Field of application

☐ outdoor application
☐ indoor application

Case of application

Horizontally moved mass

☐ a) mass without propelling force (motor switched off)

☐ b) mass with propelling force (motor runs)
sum of motor power per crane side _____kW
breakdown torque factor _____Mk/Mn

Ambient temperatures

from _____°C to _____°C

Definitions and calculations	R1…R4	[kg]	wheel loads resulting from deadweight and rigidly attached loads
	M_{pu}	[kg]	mass acting on one buffer
	v	[m/s]	max. travel speed
	E_{pu}	[Nm]	energy acting on one buffer
	F_{pu}	[kN]	buffer end force

Determine the masses acting on the buffer m_{pu}

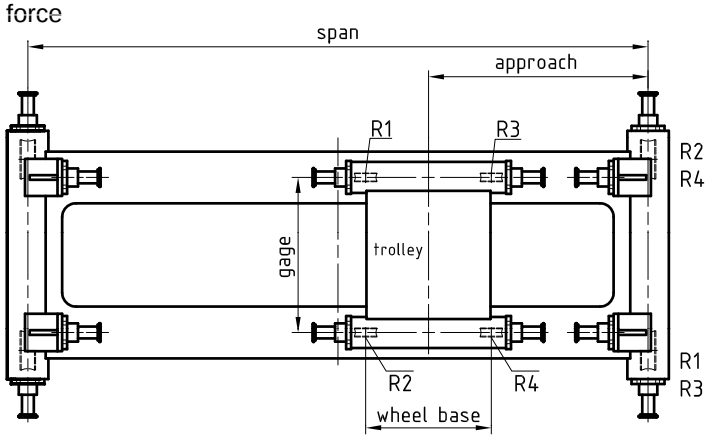
For cranes:

m_{pu} = R1+R2+R3+R4+…Rn [1])

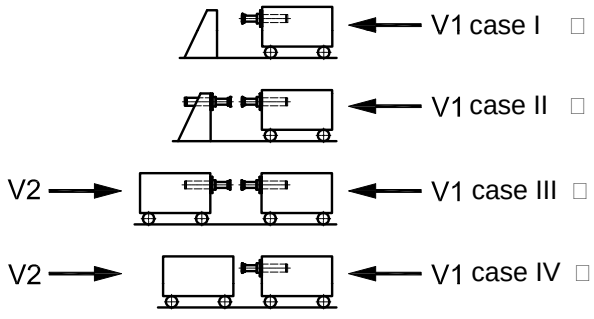
[1])For cranes with more than 4 wheels/side

For trolley:

m_{pu} = max. from (R1+R3) or (R2+R4)



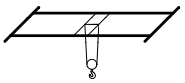
Impact conditions



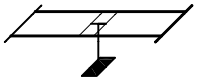
Crane/trolley weight _____ kg

Crane/trolley nominal speed_____m/min

☐ pendelation



☐ fixed load



☐ Crane/trolley drive switched off before buffer impact (fab=0,7)

Type of operation

☐ emergency-stop application
☐ impact at creep speed
☐ operational actuation

Stroke frequency _____1/h

Operating conditions

☐ normal ☐ dry ☐ humid
☐ oily ☐ dusty ☐ aggressive

Information regarding buffer design

☐ max. perm. buffer force _____ kN
☐ max. perm. buffer stroke _____ mm
☐ max. perm. deceleration _____ m/s^2

Design data of the buffer

Impact mass per buffer m_{pu} _____ [kg]
Impact speed v _____ [m/s]
Propelling force F_v _____ [N]