

Cellular Buffers

TDB0180-0001c-E

Buffers for end stops/cranes, conveyor systems, hoists

Order number
018xxxx-xxxY



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Quantity delivered:
Deviations from the order may occur on order-related manufacture and material cut. We reserve the right for a max. deviation of +/- 10%.

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1 General information

Cellular buffers have a strong absorption capacity with long compression length. As a result they produce low limit forces and favorable deceleration values.

Cellular buffers are made up of a spring body made of cellular Polyurethane-Elastomere with high structural stability. Their outstanding characteristic is their volume compressibility, which produces a low transverse elongation under pressure.

Cellular buffers are resistant against aliphatic hydrocarbons, such as oils and greases as well as ozone, UV-radiation and aging. You can expect a general resistance in technical application.

The cellular body is only limited resistant against hydraulic oil and degenerates when exposed to hot water and water vapor over a longer period. Cellular buffers are not resistant to strong acids and leaches. The operating temperature is between -20°C and +80°C. Temporary temperature peaks of +100°C are practicable and do not harm the buffer. When exposed to -20°C the material becomes harder, which does however not affect the consistency of the material.

The mounting structure must be flat and rigidly. In order the buffer is an area of 1,5 x diameters for the diameter increase with compression to be considered.

2 Examples of application

Crane systems, storage and retrieval machines, smelter and rolling mill machines, handling technique, plant construction and engineering, hoist systems.

Conveyor, transport and gate systems that are equipped with form-locking drives (e.g. chain or toothed rack). Lift buffers for vertically moved loads such as hoists and counter weights.

3 Conductix-Wampfler standard cellular buffer quality

Cellular Polyurethane-Elastomere with a volumetric weight of 0.53 g/cm³

- Resilient and tear resistant
- Age resistant
- Material is volume compressible
- Operating temperature: -20°C to +80°C

Special qualities and special constructions on inquiry.

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Cellular buffers product group 018111 and 018112 (see item 5.1).

The compatible type without safety device (018111) was stopped for the avoidance of the confounding danger. The series 018112 with integrated safety device against can be used over 3 m height. The sizes up to 200 mm of buffer diameters are the base plates from glass fiber reinforced plastic and integrated safety against falling equipped.

Starting from size 250 (optionally with size 200) the base plates from steel are two-way primed and. Buffer plate and body stucked together. These buffers have a cable safety device against crash of the buffer body within the range of the center line with failure of the sticking seam by environmental condition.

For use as safety element please consider the valid regulation for the final product and the result of the risk analyse for this task.

Recommended exchange interval: 5 years for safety-relevant applications.

4 Quality degrees

Abrasion resistance	2
Breaking elongation	2
Tear resistance	2
Rebound resistance	2
Tensile strength	2
Temp. resistance hot air	+80°C
Temp. resistance coldness	-20°C
Alkali resistance	4
Age resistance	2
Gasoline resistance	4
Electrical insulation resistance	3
Oil and grease resistance	2
Ozone resistance	1
Acid resistance	6
Hot water	3

Quality degrees:

1 = very good; 2 = good; 3 = satisfying; 4 = sufficient; 5 = deficient; 6 = insufficient

International abbreviation: PUR (cellular Polyurethane-Elastomere)

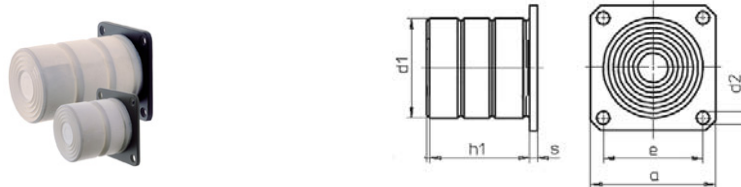
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5 Construction

5.1 With base plate



Design with plastic base plate and integrated safety device

Order number	W_{max} [J]	F [kN]	Weight [kg]	d_1 [mm]	h_1 [mm]	a [mm]	d_2 [mm]	e [mm]	s [mm]	PE ¹⁾ [pc.]	LZ ²⁾
018112-080x040	368	31	0,4	80	40	110	Ø14	80	10	1	L
018112-080x080	687		0,6		80					1	L
018112-080x120	1056		0,7		120					1	L
018112-100x050	687	50	0,6	100	50	125	Ø14	100	10	1	L
018112-100x100	1420		0,9		100					1	L
018112-100x150	2018		1,15		150					1	L
018112-125x063	1331	65	1,2	125	63	160	Ø18	125	12	1	L
018112-125x125	2610		1,65		125					1	L
018112-125x188	3940		2,25		190					1	L
018112-160x080	2400	125	2,2	160	80	200	Ø18	160	12	1	L
018112-160x160	4800		3,1		160					1	L
018112-160x240	7200		4,0		240					1	L
018112-200x100	5500	190	4,0	200	100	250	Ø22	200	14	1	L
018112-200x200	10.900		5,8		200					1	L
018112-200x300	15.900		7,5		300					1	L

Design with steel base plate and safety rope

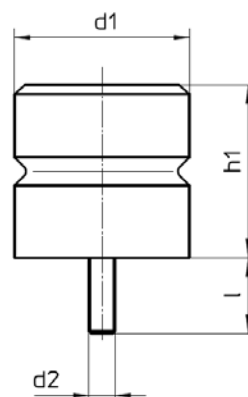
018112-200x200-A	10.900	190	5,8	200	200	250	Ø22	200	14	1	3
018112-200x300-A	15.900		7,5		300					1	3
018112-250x125	10.540	275	12,9	250	125	315	Ø21	250	12	1	7
018112-250x250	21.130		16,2		250					1	1
018112-250x375	31.700		19,6		375					1	1
018112-315x158	12.500	650	22,2	315	158	400	Ø21	315	12	1	7
018112-315x315	25.000		29,0		315					1	1
018112-315x475	40.000		35,9		475					1	1
018112-400x200	30.000	1050	43,8	400	200	500	Ø25	400	15	1	1
018112-400x400	50.000		57,6		400					1	7
018112-400x600	80.000		70,4		600					1	7
018112-500x250	50.000	1700	74,6	500	250	600	Ø25	500	15	1	7
018112-500x500	100.000		101,1		500					1	1
018112-500x750	150.000		128,0		750					1	7
018112-600x300	87.500	2500	130,0	600	300	730	Ø25	600	20	1	7
018112-600x600	175.000		176,0		600					1	7
018112-600x900	250.000		222,0		900					1	7

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5.2 With threaded bolt



Order number	W_{max} [J]	F [kN]	Weight [kg]	d_1 [mm]	h_1 [mm]	d_2 [mm]	l [mm]	PE ¹⁾ [pc.]	LZ ²⁾
018121-080x040	368	31,5	0,21	80	40	M12	35	1	L
018121-080x080	687		0,31		80			1	L
018121-080x120	1056		0,42		120			1	L
018121-100x050	687	50	0,31	100	50	M12	35	1	L
018121-100x100	1420		0,52		100			1	L
018121-100x150	2018		0,72		150			1	L
018121-125x063	1331	65	0,51	125	63	M12	35	1	L
018121-125x125	2610		0,91		125			1	L
018121-125x188	3940		1,32		188			1	L
018121-160x080	2400	125	0,95	160	80	M12	35	1	L
018121-160x160	4800		1,80		160			1	L
018121-160x240	7200		2,66		240			1	L
018121-200x100	5500	190	1,76	200	100	M12	35	1	4
018121-200x200	10.900		3,43		200			1	4
018121-200x300	15.900		5,09		300			1	4
018121-250x125	10.540	275	5,40	250	125	M24	80	1	4
018121-250x250	21.130		8,47		250			1	L
018121-250x375	31.700		11,53		375			1	4
018121-315x158	12.500	650	8,49	315	158	M24	80	1	4
018121-315x315	25.000		14,64		315			1	L
018121-315x475	40.000		20,79		475			1	4
018121-400x200	30.000	1050	16,48	400	200	M30	80	1	4
018121-400x400	50.000		29,04		400			1	4
018121-400x600	80.000		41,60		600			1	4

Tolerances of the cellular buffers according to ISO 3302-1M4

1) = packing unit = minimum order quantity

2) = delivery time; L = on stock, 1 = one week, 2 = two weeks, a.s.o.

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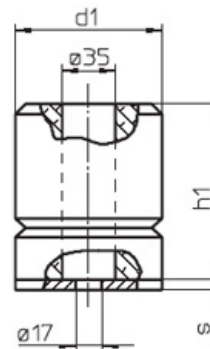
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5.3 Lift buffer with steel plate

The design check for the lift buffers listed in the table has been made according to the hoisting directives 95/16/EG. The permissible load zones are documented for each lift buffer type by the certificate No. An EC design check certificate can be provided for each lift buffer type.

Lifts with lower speed than the maximum nominal speed taken as a basis for the design check, are for the same load zone, when the loads from cabin / working load or counter load are within the values m_{max} and m_{min} .



Order number	Nominal speed [m/s]						Max. comp. length. [mm]	G [kg]	d ₁ [mm]	h ₁ [mm]	s [mm]	PE ¹⁾
	0,4		0,63		1,00							
	Permissible impact mass [kg]											
	max.	min.	max.	min.	max.	min.						
018230-100x160	1344	103	1030	128	927	128	144	1,07	100	160	8	1
018230-125x100	1661	153	1504	263	1486	263	90	1,38	125	100	8	1
018230-125x160	1504	128	1344	263	1106	263	144	1,75		160		1
018230-125x200	1661	103	1504	153	1442	253	180	1,98		200		1
018230-140x100	2744	203	2120	203	1980	203	90	1,93	140	100	10	1
018230-140x200	2451	203	2120	278	1966	278	180	2,66		200		1
018230-165x160	3434	278	3117	395	3035	465	144	3,40	165	160	10	1
018230-165x220	4079	203	4079	303	3919	777	198	4,04		220		1
018230-220x160	7567	465	7043	568	6500	1344	144	5,54	220	160	10	1
018230-220x220	8132	465	8000	727	8000	1604	198	6,72		220		1

Tolerances of the cellular buffers according to ISO 3302-1M4

1) = packing unit = minimum order quantity