

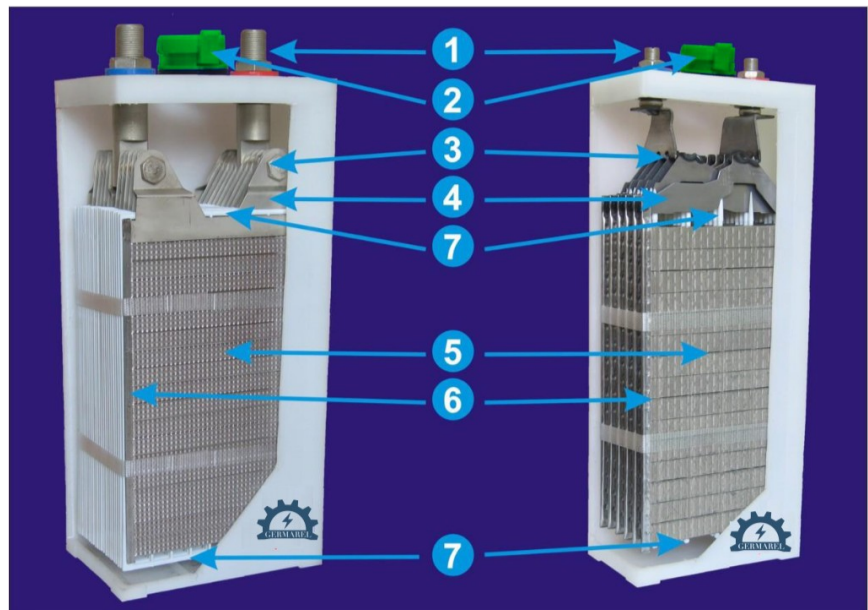
# KPM320P Series NiCd 320Ah



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## CONSTRUCTION:

Alkaline nickel-cadmium cell consists of pocket plate positive oxide-nickel and negative cadmium electrodes, divided by plastic separators, which provide stable spark gap and free circulation of electrolyte.



- 1. Terminal** - provides the current takeoff and cell connection.
- 2. Plug** - provides convenient electrolyte filling, free gas outlet during charging, and excludes electrolyte plashing and its aerosol steams.
- 3. Electrode connection** - connects the electrodes and provides the current transfer from electrodes to terminal.
- 4. Contact banks** - are welded to electrode and provide the current takeoff from the electrodes.
- 5. Electrode** - consists of horizontally located pocket plates, contains active material enclosed in steel perforated strip.
- 6. Rib** - provide electrode rigidity and current transfer to the contact banks.
- 7. Frame separator** - divides positive and negative electrodes, provides free circulation of electrolyte between the electrodes.

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## Electrolyte requirements:

Electrolyte is a water solution of potassium hydroxide GOST 9285-78 of superior grade with density  $(1200 \pm 10) \text{ kg/m}^3$ ,  $(1,19 - 1,21 \text{ g/cm}^3)$  with addition of lithium hydroxide GOST 8595-83 in amounts of  $(20 \pm 1) \text{ g/l}$ . At the electrolyte temperature less than  $-30 \text{ }^\circ\text{C}$  use electrolyte with density  $1,26 - 1,28 \text{ g/cm}^3$  without addition of lithium hydroxide.

## General characteristics:

- Batteries are supplied in the form of separate cells or battery blocks with compounds;
- Nominal voltage of cell is 1,2V, the block voltage depends on the number of the cells in the block (2,4 V; 3,6 V; 4,8 V; 6,0 V; 7,2 V; 8,4 V; 9,6 V; 10,8 V; 12,0 V);
- Cells and batteries provide full operation after storage during three months within the whole working temperature range without charge when putting into operation, under condition, that battery was charged and powered off before placing in storage;
- Cells and batteries ensure operation after six months storage, under condition, that battery was charged and powered off before placing in storage, battery should be charged before starting operation;
- Criterion of cells limiting state is a lowering of available capacity to less than 60 % of nominal capacity;

**After completion of operation, Germarel accept cells for recycling together with electrolyte.**



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## ALKALINE NICKEL-CADMIUM CELLS OF KPM TYPE AND BLOCKS OF THEM

Cells of KPM type are alkaline cells with pocket plate electrodes and comply with international standard IEC 60623.

### APPLICATIONS:

- Back-up power for cellular base stations, wire automatic telephone systems and other telecommunication objects;
- Signaling systems; emergency lighting and electrical power supply;
- Solar and wind power objects;
- Oil and gas complex (recovery, transportation and refining);
- Electric power objects (generation and distribution);
- Power systems of navigation marks;
- Underground;
- Passenger railway carriages;
- Electric locomotives and electric trains;
- Urban electric transport;
- Sea and river ships.

**It's possible to develop and supply battery blocks with the different number of cell and individual layout according to customer's technical requirements.**

### Appearance of KPM type cells



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## Range and main characteristics of KGL type cells

Cell type	IEC 60623 designation	Nominal capacity, C5	Cell dimensions, mm			Cell weight, kg.		Terminals
			W	L	H	with electrolyte	without electrolyte	
KPM50P	KM50P	50	127	62,5	282	3,8	2,95	M14
KPM100P	KM100P	100	137	78	360	6,1	4,3	M10
KPM140P	KM140P	140	137	113	327	8,5	6,5	M16
KPM160P	KM160P	160	171	118	370	11,4	7,6	M20
KPM180P	KM180P	180	171	118	370	11,6	8,0	M20
KPM210P	KM210P	210	171	118	370	12,0	8,6	M20
KPM250P	KM250P	250	172	119	405	14,0	11,0	M20
KPM300P	KM300P	300	171	174	370	17,9	13,6	M20
KPM320P	KM320P	320	171	174	370	18,3	14,1	M20
KPM350P	KM350P	350	169	174	405	18,3	14,1	2×M16
KPM375P	KM375P	375	169	174	405	19,0	15,5	2×M16
KPM420P	KM420P	420	169	174	405	20,0	15,8	2×M16

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## Blocks Dimensions

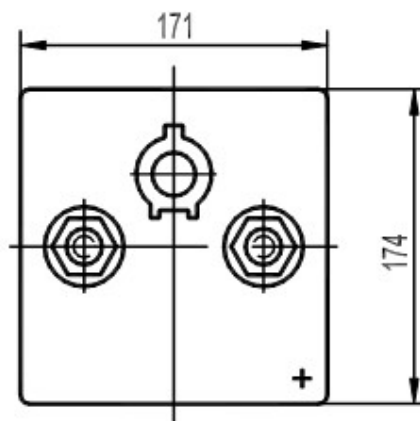
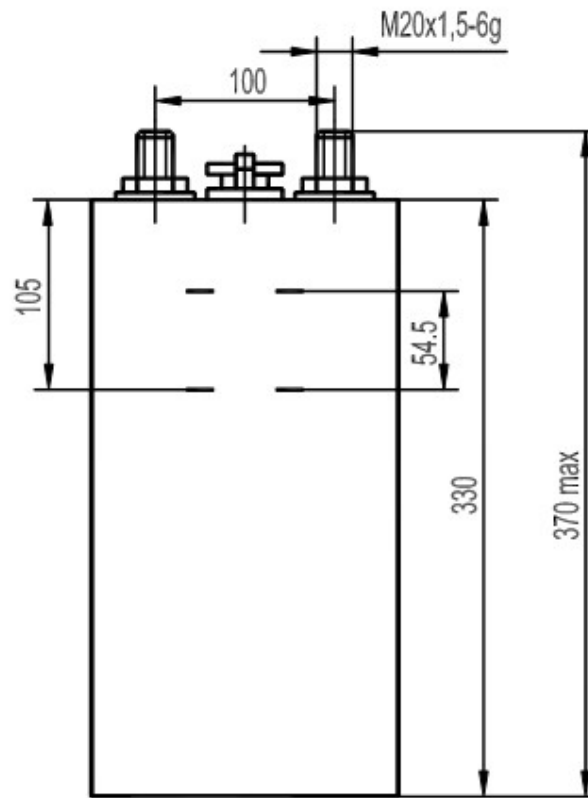
Cell type	Block dimensions, mm										
	W	H	L / L1								
			2	3	4	5	6	7	8	9	10
KPM50P	150	295	155	218	280	343	420	483	545	608	670
KPM100P	170	370	192	270	348	426	522	600	678	756	834
KPM140P	170	338	262	375	488	601	-	-	-	-	-
KPM160P	205	384	270	388	506	624	-	-	-	-	-
KPM180P	205	384	270	388	506	624	-	-	-	-	-
KPM210P	205	384	270	388	506	624	-	-	-	-	-
KPM250P	205	419	272	391	510	629	-	-	-	-	-
KPM300P	205	380	382 / 437	556 / 611	-	-	-	-	-	-	-
KPM320P	205	380	382 / 437	556 / 611	-	-	-	-	-	-	-

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## KPM320P Drawing





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