

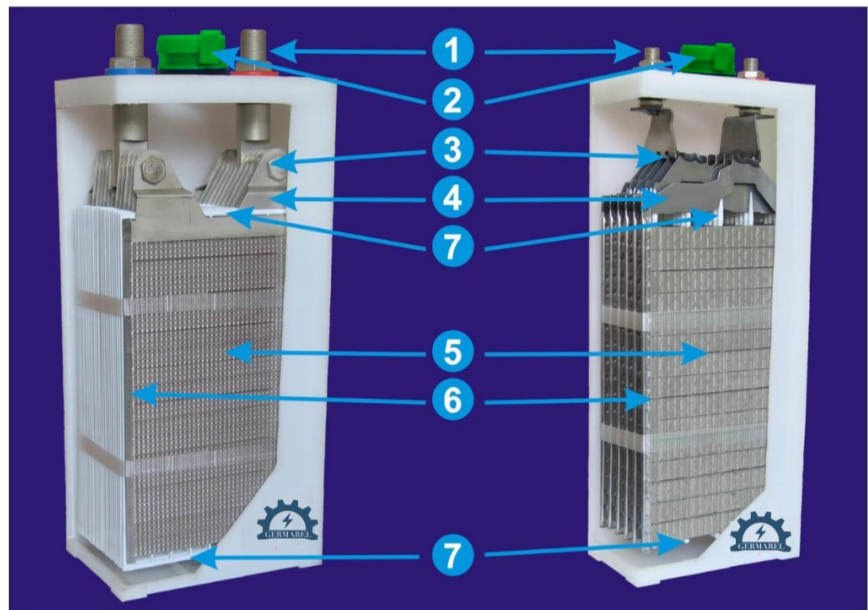
# KPH150P Series NiCd 150Ah



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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 splashing 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 KPH TYPE AND BLOCKS OF THEM

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

### APPLICATIONS:

- diesel engine starting of mainline and shunting locomotives;
- internal combustion engine starting;
- UPS with short discharge rate;
- 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 KPH type cells



KPH70P



KPH80P



KPH100P  
KPH130P



KPH150P  
KPH200P  
KPH210P



KPH220P  
KPH245P  
KPH270P

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## Range and main characteristics of KPH type cells

Cell type	IEC 60623 designation	Nominal capacity, C5	Cell dimensions, mm			Cell weight, kg		Terminals
			W	L	H	with electrolyte	without electrolyte	
KPH70P	KH70P	70	127	62,5	282	4,1	3,5	M14
KPH80P	KH80P	80	137	78	360	5,8	4,2	M14
KPH100P	KH100P	100	137	113	327	6,6	5,0	M16
KPH130P	KH130P	130	137	113	327	8,5	6,5	M16
KPH150P	KH150P	150	171	118	370	11,7	9,5	2×M20
KPH200P	KH200P	200	171	118	370	12,3	10,1	2×M20
KPH210P	KH210P	210	171	118	370	12,3	10,1	2×M20
KPH220P	KH220P	220	171	174	370	16,3	11,6	3×M20
KPH245P	KH245P	245	171	174	370	17,0	12,5	3×M20
KPH270P	KH270P	270	171	174	370	18,0	13,5	3×M20

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## Blocks Dimensions

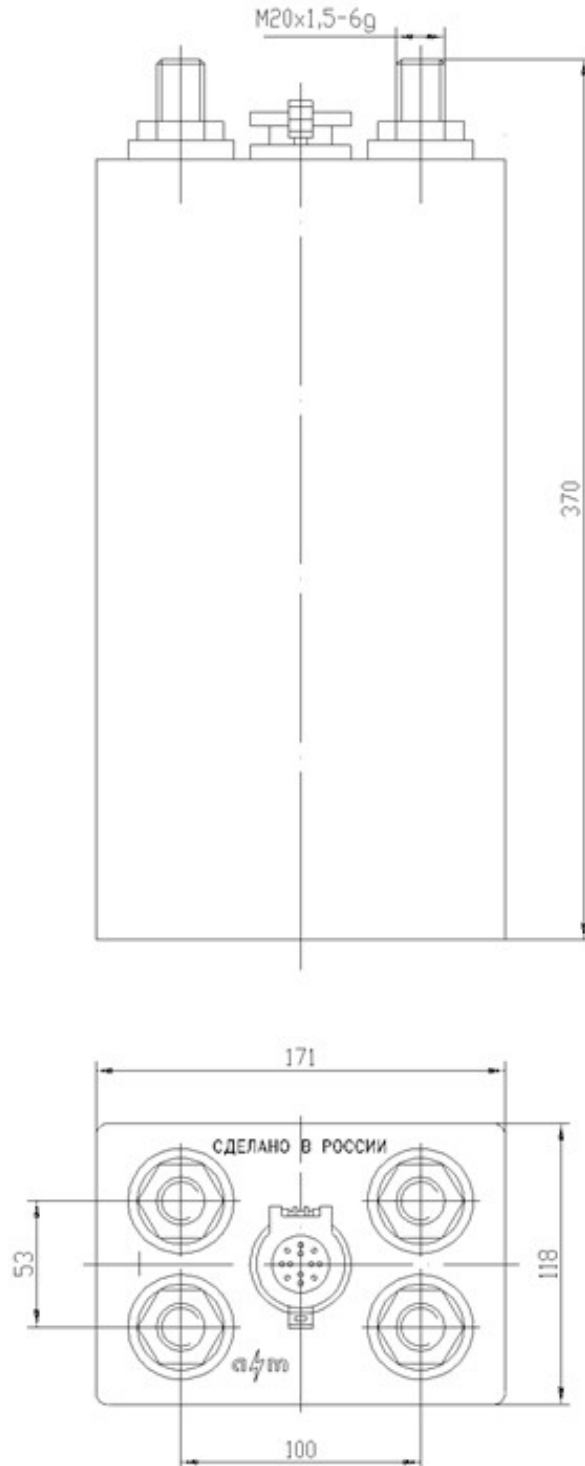
Cell type	Block dimensions, mm										
	W	H	L / L1								
			2	3	4	5	6	7	8	9	10
KPH70P	150	295	155	218	280	343	420	483	545	608	670
KPH80P	170	370	192 / 230	270 / 308	348 / 386	426 / 464	522 / 560	600 / 638	678 / 716	756 / 794	834 / 872
KPH100P	170	339	262 / 300	375 / 413	488 / 526	601 / 639	-	-	-	-	-
KPH130P	170	339	262 / 300	375 / 413	488 / 526	601 / 639	-	-	-	-	-
KPH150P	205	384	270	388	506	624	-	-	-	-	-
KPH200P	205	384	270	388	506	624	-	-	-	-	-
KPH210P	205	384	270	388	506	624	-	-	-	-	-
KPH220P	205	380	382 / 437	556 / 611	-	-	-	-	-	-	-
KPH245P	205	380	382 / 437	556 / 611	-	-	-	-	-	-	-
KPH270P	205	380	382 / 437	556 / 611	-	-	-	-	-	-	-

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## Drawing



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