KPL420P Series NiCd 420Ah

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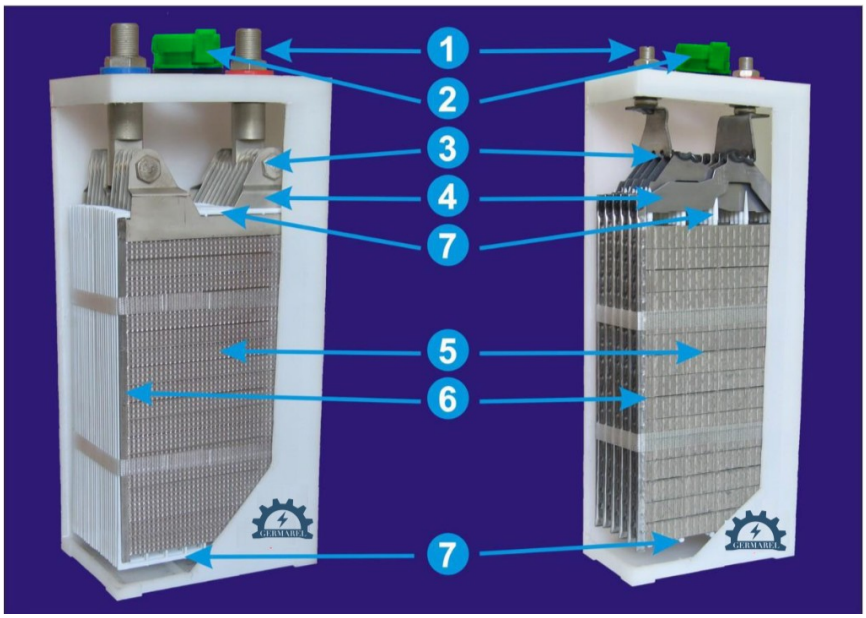
CONSTRUCTION:

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±10) kg/m^3 , (1,19 – 1,21 g/cm with addition of lithium hydroxide GOST 8595-83 in amounts of (20±1) g/l. At the electrolyte temperature less than - 30 ^{o}C use electrolyte with density 1,26 -1,28 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 KPL TYPE AND BLOCKS OF THEM

Cells of KPL 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 KPL type cells

KPL20P
KPL45P

KPL60P
KPL70P

KPL100P
KPL110P
KPL125P

KPL140P
KPL160P
KPL180P

KPL200P
KPL220P
KPL250P
KPL275P

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Cells of KPL Type

Cell type	IEC 60623 designation	Nominal capacity, C5	Cell dimensions, mm			Cell weight, kg		Terminals
			W	L	H	with electrolyte	without electrolyte	
KPL20P	KL20P	20	113	59	240	2,2	1,3	M5
KPL45P	KL45P	45	113	59	240	2,5	1,8	M5
KPL45	KL45	45	107	55	216	2,8	2,2	M5
KPL60	KL60	60	130	47	352	4,46	3,5	M10
KPL60P	KL60P	60	127	62,5	282	3,8	2,95	M14
KPL65	KL65	65	130	47	352	4,46	3,5	M10
KPL70P	KL70P	70	127	62,5	282	3,8	2,95	M14
KPL100P	KL100P	100	137	78	360	5,7	4,0	M10
KPL110P	KL110P	110	137	78	360	6,1	4,3	M10
KPL125P	KL125P	125	137	78	360	6,1	4,3	M10
KPL140P	KL140P	140	137	113	327	8,3	6,1	M16
KPL160P	KL160P	160	137	113	327	8,5	6,5	M16
KPL180P	KL180P	180	137	113	327	8,5	6,5	M16
KPL200P	KL200P	200	171	118	370	11,4	7,6	M20
KPL220P	KL220P	220	171	118	370	11,6	8,0	M20
KPL250P	KL250P	250	171	118	370	12,0	8,6	M20
KPL275P	KL275P	275	171	118	370	12,0	8,6	M20
KPL300P	KL300P	300	172	119	405	13,6	10,4	M20
KPL320P	KL320P	320	172	119	405	14,0	11,0	M20
KPL340P	KL340P	340	172	119	405	14,0	11,0	M20
KPL375P	KL375P	375	171	174	370	17,9	13,6	M20
KPL400P	KL400P	400	171	174	370	18,3	14,1	M20
KPL420P	KL420P	420	169	174	405	18,3	14,1	2×M16
KPL450P	KL450P	450	169	174	405	19,0	15,5	2×M16
KPL500P	KL500P	500	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
KPL20P	138	250	148	207	266	325	399	458	517	576	635
KPL45P	138	250	148	207	266	325	399	458	517	576	635
KPL45	145	235	170	235	300	365	445	510	576	640	705
KPL60	176	370	148 / 196	202 / 250	256 / 304	310 / 358	382 / 430	436 / 484	490 / 538	544 / 592	598 / 646
KPL60P	150	295	155	218	280	343	420	483	545	608	670
KPL65	176	370	148 / 196	202 / 250	256 / 304	310 / 358	382 / 430	436 / 484	490 / 538	544 / 592	598 / 646
KPL70P	150	295	155	218	280	343	420	483	545	608	670
KPL100P	170	370	192 / 230	270 / 308	348 / 386	426 / 464	522 / 560	600 / 638	678 / 716	756 / 794	834 / 872
KPL110P	170	370	192 / 230	270 / 308	348 / 386	426 / 464	522 / 560	600 / 638	678 / 716	756 / 794	834 / 872
KPL125P	170	370	192 / 230	270 / 308	348 / 386	426 / 464	522 / 560	600 / 638	678 / 716	756 / 794	834 / 872
KPL140P	170	338	262	375	488	601	-	-	-	-	-
KPL160P	170	338	262	375	488	601	-	-	-	-	-
KPL180P	170	338	262	375	488	601	-	-	-	-	-
KPL200P	205	384	270	388	506	624	-	-	-	-	-
KPL220P	205	384	270	388	506	624	-	-	-	-	-
KPL250P	205	384	270	388	506	624	-	-	-	-	-
KPL275P	205	384	270	388	506	624	-	-	-	-	-
KPL300P	205	419	272	391	510	629	-	-	-	-	-
KPL320P	205	419	272	391	510	629	-	-	-	-	-
KPL340P	205	419	272	391	510	629	-	-	-	-	-
KPL375P	205	380	382 / 437	556 / 611	-	-	-	-	-	-	-
KPL400P	205	380	382 / 437	556 / 611	-	-	-	-	-	-	-

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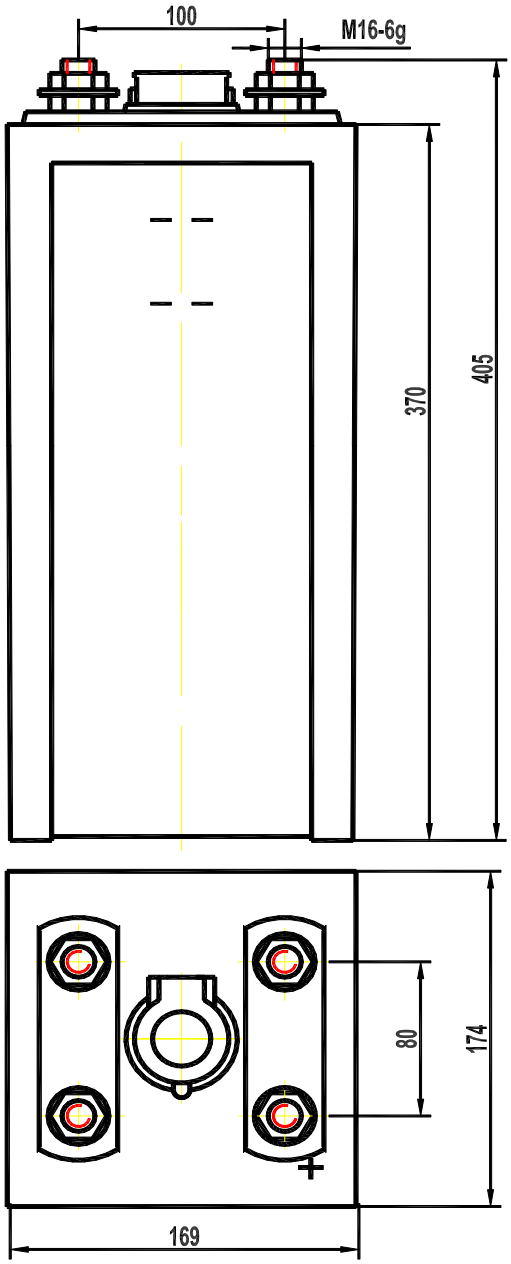

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