

## RANGE SUMMARY AVANTGARDE NI-CD BATTERIES KGM...P / LONG LIFE – ZERO MAINTENANCE

### PIBAS® KGM...P Range – Zero Maintenance

Based on the more than 130 years of experience PIBAS® KGM...P ranges are built on the well proven pocket plate design combined with the break-through PIBAS® AFM-Technology (absorbed fibre mat) ensuring the highest possible recombination efficiency. PIBAS® KGM...P is leading the battery world in terms of high performance, longest proven service life, widest operational temperature range and lowest maintenance requirements. The plate technology and electrolyte choice tolerates temperature fluctuations from  $-50^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  with no effect on plate structure. The high temperature characteristics offer the unchallenged, longest lifetime of any battery in this hostile environment. The PIBAS® KGM...P design offers a 20 years+ service life, while it remains maintenance free throughout its life by reaching a 95% gas recombination rate – being equipped with the break-through PIBAS® AFM-Technology. All this makes PIBAS® KGM...P the perfect product when the total cost of ownership (TOC) and an optimized OPEX is considered.

#### PIBAS® AFM-Technology

PIBAS® AFM-Technology makes the battery virtually maintenance free by combining certain key features. PIBAS® has combined special new materials and proven plate design to deliver the most reliable battery available to today's engineers. By using a special fibre mat separator together with a low pressure flame arresting vent, enhance of negative plate capacity and special active materials no topping up is required through the life of the battery. All this makes the product unique in the today's market.

#### PIBAS® Modular Single Cell Concept

All PIBAS® KGM...P single cell cases are made by robust polypropylene container material moulded out of one piece to ensures 100% leak free operation, maximum stability to withstand internal recombination pressure, easy and fast installation and economical replacement/reduced OPEX throughout the lifetime.

#### Advantages of PIBAS® Avantgarde KGM...P Batteries

- Excellent resistance against electrical and mechanical stress
- No risk of terminal decompose or sudden death due to plate construction
- Extremely long lifetime - 20 years+ service life in stationary standby operation
- Advanced plate design leads to outstanding performance and smaller batteries
- Excellent chargeability – narrow voltage windows can be used
- Gas recombination rate – far beyond the IEC62259 requirements
- Zero maintenance\* but without the risk of boiling out
- Robust construction - hard-wearing and insensitive to faults in maintenance
- PIBAS® single cell concept for economical replacement and highest safety
- 44 capacity steps (11 Ah - 1560 Ah) ensuring a close economic fit to any load
- Optimized for mixed loads with low and high discharge rates

#### Field of application

PIBAS® KGM...P is perfectly suited for all stationary standby energy storage applications and leading the market in Oil & Gas, Utility and Power Plants, demanding UPS and Telecom applications.

\* Zero maintenance means no topping up with water is necessary during the lifetime if PIBAS's operating conditions are observed.

#### Important

The rated capacity  $C_5$  is not the basis for the performance of the batteries. It is to take into account that the performance depends on the battery construction, i.e. on the different battery ranges. Therefore, our discharge tables should be used to find out the appropriated cell type for a specific application in comparison to prices, dimensions ...

The rated capacity  $C_5$  of PIBAS® KGM...P range batteries is based on the available ampere hours (Ah) at a discharge rate of 5 hours to the final discharge voltage which is stated in technical specification table per cell at  $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$ . Nominal voltage per cell is 1.2 V.

PIBAS® Ni-Cd battery cells KGM...P fulfil all requirements according to IEC 62259.

#### Discharging conditions

The rated capacities  $C_5$  given in this brochure are only valid for fully charged cells in accordance with IEC 62259.

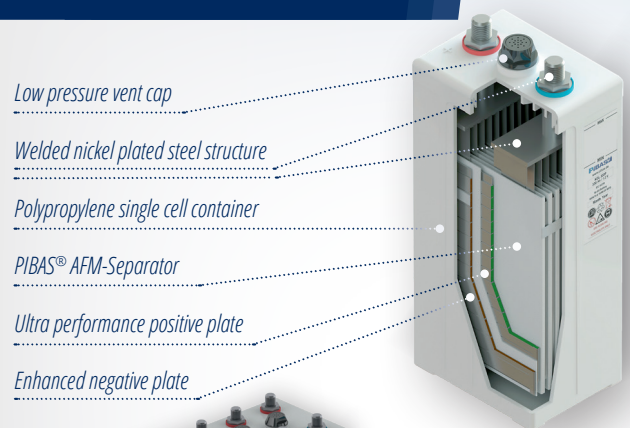
#### Charging conditions

1. Two level charge:
- |                            |                          |
|----------------------------|--------------------------|
| Floating:                  | 1.40V/cell - 1.42 V/cell |
| Boost charge:              | 1.45 V/cell              |
| <b>Current limitation:</b> | <b>0.1 It A</b>          |

2. Single level charge: Standard charge: 1.42 V/cell

*Note: A higher charging level is possible but effects the recombination rate and causes in a higher water consumption.*

#### PIBAS® Avantgarde Single Cell Concept



**PIBAS® Avantgarde**  
Modular High Capacity  
Single Cell

**PIBAS® AVANTGARDE KGM...P RANGE CELL DIMENSIONAL DETAILS / LONG LIFE - ZERO MAINTENANCE / NI-CD SINGLE CELL**

TYPE	NOMINAL CAPACITY		DIMENSIONS [mm]				TERMINALS	WEIGHT
			l	w	h	h1		
	5 hr rate [Ah]						Size	
KGM	11	P	46	85	167	193	2 x M10	1,03
KGM	18	P	59	113	213	235	2 x M10	1,48
KGM	24	P	59	113	213	235	2 x M10	1,59
KGM	30	P	59	113	213	235	2 x M10	1,72
KGM	40	P	59	113	213	235	2 x M10	2,76
KGM	48	P	59	113	213	235	2 x M10	2,82
KGM	55	P	59	113	213	235	2 x M10	2,97
KGM	65	P	60	127	253	275	2 x M14	4,85
KGM	75	P	74	136	339	357	2 x M10	5,00
KGM	90	P	74	136	339	357	2 x M10	6,18
KGM	110	P	74	136	339	357	2 x M10	6,51
KGM	125	P	112	134	291	327	2 x M16	7,67
KGM	140	P	112	134	291	327	2 x M16	7,84
KGM	160	P	118	167	327	362	4 x M20	10,61
KGM	185	P	118	167	327	362	4 x M20	10,91
KGM	205	P	118	167	327	362	4 x M20	11,17
KGM	225	P	118	167	327	362	4 x M20	11,62
KGM	250	P	129	167	364	400	2 x M20	12,22
KGM	270	P	129	167	364	400	2 x M20	16,30
KGM	300	P	129	167	364	400	2 x M20	16,50
KGM	320	P	129	167	364	400	2 x M20	17,00
KGM	340	P	171	174	337	372	4 x M20	17,50
KGM	355	P	171	174	337	372	4 x M20	18,00
KGM	380	P	171	174	337	372	4 x M20	18,50
KGM	400	P	171	174	337	372	4 x M20	18,90
KGM	420	P	195	215	375	405	6 x M20	23,50
KGM	450	P	195	215	375	405	6 x M20	24,50
KGM	500	P	195	215	375	405	6 x M20	28,30
KGM	520	P	195	215	375	405	6 x M20	28,90
KGM	570	P	195	268	375	405	6 x M20	29,70
KGM	600	P	195	268	376	405	6 x M20	33,50
KGM	630	P	195	268	376	405	6 x M20	35,40
KGM	675	P	195	268	376	405	6 x M20	38,50
KGM	690	P	195	268	375	405	6 x M20	39,80
KGM	750	P	195	351	375	405	8 x M20	43,10
KGM	770	P	195	351	375	405	8 x M20	45,40
KGM	800	P	195	351	375	405	8 x M20	47,80
KGM	850	P	195	351	375	405	8 x M20	49,50
KGM	950	P	195	437	375	405	10 x M20	53,70
KGM	1000	P	195	437	375	405	10 x M20	55,30
KGM	1030	P	195	437	375	405	10 x M20	57,20
KGM	1100	P	195	472	375	405	10 x M20	60,70
KGM	1250	P	195	472	375	405	10 x M20	66,30
KGM	1350	P	195	523	375	405	12 x M20	68,90
KGM	1560	P	195	523	375	405	12 x M20	72,50

All dimensions and weights are subject to manufacturing tolerances. Issue January 2020