



**HBL<sup>®</sup>**

# NICKEL CADMIUM **Railroad Batteries**

for use on-board  
Metro trains  
Light Rail Vehicles / Trams  
Long Haul Coaches  
Locomotives



HBL Ni-Cd railroad batteries are specifically designed and tested for use on passenger rail vehicles. The robust designs survive for many years in the harsh environments of the rail operator. They provide emergency power, reliably and safely to maintain critical functions on-board the trains in the event power is lost to the train from the catenary/third rail or the head end power.

**HBL batteries meet the stringent specifications of the rail operator – especially focused on:**

- Flammability/smoke specifications
- Electrical performance
- Mechanical strength
- Low maintenance
- Life expectancy

We offer the widest range of cell types in the industry today. This allows us to offer existing fleets drop in replacements for legacy rail vehicles where the battery boxes have been designed around a particular OEM manufacturer.

HBL batteries come complete with all the necessary Nickel plated copper inter-cell connectors, cables, central water filling system and flame arrestor vents to make a completely safe installation. We provide stainless steel carrying crates appropriate to the battery layout for ease of installation and protection of the cells.

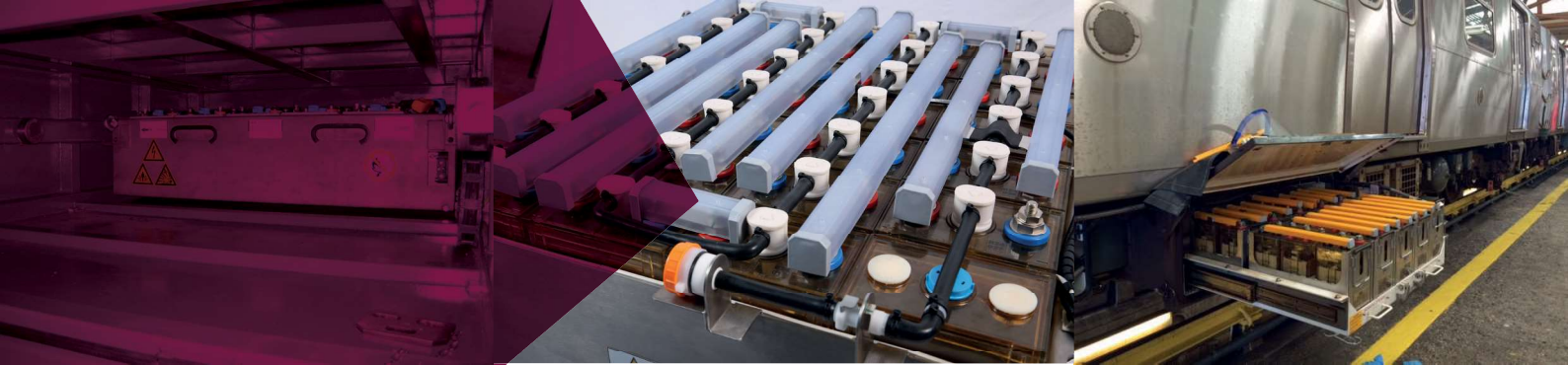


Quality – HBL has an unwavering focus and commitment to quality and customer satisfaction. All HBL rail battery factories are certified to ISO9001, ISO14001 and ISO3834-2. HBL Ni-Cd batteries are designed and type tested to IEC60623:2017.

Where new vehicle fleets are being designed by a rail OEM, HBL can propose a cell type that minimises the space and weight required for the battery. When constraints are particularly demanding HBL is prepared to design a specific size for the vehicle – allowing the rail OEM to save space and weight – and money. HBL is also qualified to EN15085-2 for welding of car body components. We are able to supply entire battery housings and distribution panels for rail OEM's with the battery pre-wired, ready to be mounted to the new vehicle.







HBL Power Systems Ltd. is a stock market listed company specialising in industrial battery design and manufacture. We have supplied railways around the world for more than 40 years with a wide variety of battery solutions both on-board and trackside.

HBL America Inc., based in Connecticut is able to provide support for our North American customers – including engineering design, logistics support, service and test capabilities and spare parts.

## Compliant Standards

### Electrical:

- Exceeds the medium "M" type requirements of IEC 60 623 for KFM, KRM & KRMC models
- Exceeds the medium "H" type requirements of IEC 60 623 for KFH, KRX & KRXC models
- Exceeds the medium "X" type requirements of IEC 60 623 for KFX
- Meets the requirement of UIC 854R

### Fire & smoke:

- ASTM E 162 (NFPA 130 :2020)
- ASTM E 662 (NFPA 130 :2020)
- BSS 7239 (NFPA 130 :2020)

### Shock & vibration:

- IEC 61 373

### Quality:

- ISO 9001
- IRIS
- Welding – EN 15085 - 2

### Environment:

- Fully recyclable
- ISO 14001

ALSTOM

NEW YORK CITY TRANSIT

METRO NORTH COMMUTER RAILROAD

ST LOUIS METRO

STADLER AMERICA

SIEMENS MOBILITY US AND GERMANY

TEXRAIL, FORT WORTH

MASSACHUSETTS BAY COMMUTER  
RAILROAD

LA METRO

# PES Rail Range KF... PS Fibre Data

## Fibre - M Type Dimensional Data

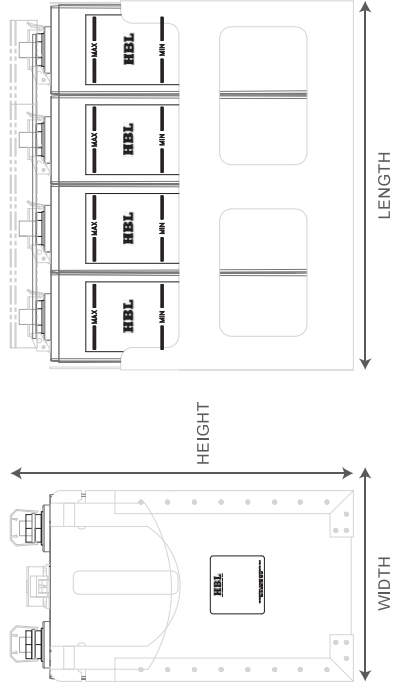
Type	Rated capacity (C <sub>5</sub> Ah)	Cell Dimensions						Crate Dimensions																			
		Length			Width			Height			Length																
											2 Cell Crate		3 Cell Crate		4 Cell Crate		5 Cell Crate		6 Cell Crate								
		mm	in		mm	in		mm	in		mm	in	mm	in	mm	in	mm	in	mm	in							
KFM 80PS	80	105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-	-	-	327	12.87						
KFM 90PS	90	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-	-	-	316	12.44	468	18.43				
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-	-	-	-	-	327	12.87				
KFM 100PS	100	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-	-	-	316	12.44	468	18.43				
KFM 105PS	105	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-	-	-	316	12.44	468	18.43				
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-	-	-	-	-	327	12.87				
KFM 120PS	120	80	3.13	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	-	-	-	-	330	12.99	410	16.12	489	19.25		
KFM 140PS	140	80	3.13	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	-	-	-	-	330	12.99	410	16.12	489	19.25		
KFM 160PS	160	95	3.74	171	6.73	317	12.48	176	6.93	326	12.83	-	-	-	-	-	-	-	-	392	15.43	487	19.17	582	22.91		
KFM 180PS	180	95	3.74	171	6.73	317	12.48	176	6.93	326	12.83	-	-	-	-	-	-	-	-	392	15.43	487	19.17	582	22.91		
		98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	-	-	-	-	-	-	404	15.91	502	19.76	600	23.62		
KFM 200PS	200	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	-	-	-	-	-	-	404	15.91	502	19.76	600	23.62		
KFM 225PS	225	115	4.53	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	-	-	-	-	357	14.06	472	18.58	587	23.11	-	-
KFM 235PS	235	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16	637	25.08	-	-	-	-	-	-		
KFM 250PS	250	102	4.02	159	6.26	408	16.06	164	6.46	417	16.42	-	-	-	-	-	-	-	-	318	12.52	420	16.54	522	20.55	-	-
KFM 265PS	265	113	4.43	162	6.38	401	15.79	167	6.57	410	16.14	-	-	-	-	-	-	-	-	350	13.77	462	18.20	575	22.64	-	-
KFM 275PS	275	102	4.02	159	6.26	408	16.06	164	6.46	417	16.42	-	-	-	-	-	-	-	-	318	12.52	420	16.54	522	20.55	-	-
		138	5.41	166	6.54	317	12.48	171	6.73	326	12.83	287	11.30	425	16.71	562	22.13	-	-	-	-	-	-	-	-		
KFM 295PS	295	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	462	18.19	612	24.09	-	-	-	-	-	-	-	-		
KFM 308PS	308	102	4.02	159	6.26	408	16.06	164	6.46	417	16.42	-	-	-	-	-	-	-	-	318	12.52	420	16.54	522	20.55	-	-
KFM 320PS	320	113	4.43	162	6.38	401	15.79	167	6.57	410	16.14	-	-	-	-	-	-	-	-	350	13.77	462	18.20	575	22.64	-	-
KFM 340PS	340	113	4.43	162	6.38	401	15.79	167	6.57	410	16.14	-	-	-	-	-	-	-	-	350	13.77	462	18.20	575	22.64	-	-

\* KFM 80 KFM 90 and KFM 105 models HBL can offer crates in 8 cell, 10 cell and 12 cell configurations - For Dimensional details please contact HBL

# PES Rail Range KF... PS Fibre Data

## Fibre - M Type Weight Data

Type	Crate Weight									
	Cell Weight Kg	2 Cell Crate Kg	3 Cell Crate Kg	4 Cell Crate Kg	5 Cell Crate Kg	6 Cell Crate Kg				
KFM 80PS	4.8	10.6	-	-	-	-	31.4	69.3		
KFM 90PS	5.0	11.0	-	-	22.6	49.9	27.7	61.1	32.8	72.4
	4.9	10.8	-	-	-	-	-	-	32.0	70.6
KFM 100PS	5.1	11.2	-	-	-	23.0	50.8	28.2	62.2	33.4
KFM 105PS	5.2	11.5	-	-	-	23.4	51.6	28.7	63.3	34.0
	5.0	11.0	-	-	-	-	-	-	32.6	71.9
KFM 120PS	6.4	14.1	-	-	-	28.2	62.2	34.7	76.5	41.2
KFM 140PS	6.8	15.0	-	-	-	29.8	65.7	36.7	81.0	43.6
KFM 160PS	7.2	15.9	-	-	-	31.6	69.7	39.0	86.0	46.4
KFM 180PS	7.4	16.3	-	-	-	32.4	71.5	40.0	88.2	47.6
	8.4	18.5	-	-	27.8	61.3	36.4	80.3	45.1	99.5
KFM 200PS	8.8	19.4	-	-	29.0	64.0	38.0	83.8	47.1	103.9
KFM 225PS	10.4	22.9	-	-	34.0	75.0	44.6	98.4	55.3	122.0
KFM 235PS	12.6	27.8	27.8	61.3	40.7	89.7	53.6	118.2	66.5	146.7
KFM 250PS	10.8	23.8	-	-	35.2	77.5	46.3	102.0	57.4	126.6
KFM 265PS	12.0	26.5	-	-	38.9	85.8	51.2	112.9	63.5	140.0
KFM 275PS	11.0	24.3	-	-	35.8	78.8	47.1	103.7	58.4	128.8
	13.0	28.7	28.8	63.5	42.1	92.9	55.4	122.2	-	-
KFM 295PS	15.4	34.0	33.9	74.8	49.6	109.4	65.3	144.0	-	-
KFM 308PS	11.3	24.9	-	-	36.7	81.0	48.3	106.5	59.9	132.1
KFM 320PS	13.0	28.7	-	-	41.9	92.4	55.2	121.7	68.5	151.1
KFM 340PS	13.4	29.5	-	-	43.1	95.1	56.8	125.3	70.5	155.5



Note: Actual weights may vary within +/- 5%

# PES Rail Range KF... PS Fibre Data

## Fibre - H Type Dimensional Data

Type	Rated capacity (C <sub>5</sub> Ah)	Cell Dimensions						Dimensions																				
		Length			Width			Height			2 Cell crate		3 Cell crate		4 Cell crate		5 Cell crate		6 Cell crate									
		mm		in	mm		in	mm		in	mm		in	mm		in	mm		in	mm		in						
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in							
KFH 70PS	70	105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-	-	-	-	327	12.87						
KFH 85PS	85	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-	-	-	-	316	12.44	392	15.43	468	18.43		
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-	-	-	-	-	-	-	327	12.87			
KFH 100PS	100	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-	-	-	-	316	12.44	392	15.43	468	18.43		
KFH 115PS	115	80	3.13	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	-	-	-	-	-	330	12.99	410	16.12	489	19.25		
KFH 135PS	135	95	3.74	171	6.73	317	12.48	176	6.93	326	12.83	-	-	-	-	-	-	-	-	-	392	15.43	487	19.17	582	22.91		
KFH 155PS	155	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	-	-	-	-	-	-	-	306	12.05	404	15.91	502	19.76	600	23.62
KFH 170PS	170	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	-	-	-	-	-	-	-	306	12.05	404	15.91	502	19.76	600	23.62
KFH 185PS	185	115	4.53	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	-	-	-	-	-	357	14.06	472	18.58	587	23.11	-	-
KFH 205PS	205	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	262	10.31	387	15.24	512	20.16	637	25.08	-	-	-	-	-	-	
KFH 220PS	220	138	5.41	166	6.54	317	12.48	171	6.73	326	12.83	287	11.30	287	11.30	425	16.71	562	22.13	-	-	-	-	-	-	-	-	
KFH 225PS	225	102	4.02	159	6.26	408	16.06	164	6.46	417	16.42	-	-	-	-	318	12.52	420	16.54	522	20.55	-	-	-	-	-	-	
KFH 235PS	235	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	312	12.28	462	18.19	612	24.09	-	-	-	-	-	-	-	-	
KFH 245PS	245	102	4.02	159	6.26	408	16.06	164	6.46	417	16.42	-	-	-	-	318	12.52	420	16.54	522	20.55	-	-	-	-	-	-	
KFH 250PS	250	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	312	12.28	462	18.19	612	24.09	-	-	-	-	-	-	-	-	
KFH 260PS	260	113	4.43	162	6.38	401	15.79	167	6.57	410	16.14	-	-	-	-	350	13.77	462	18.20	575	22.64	-	-	-	-	-	-	
KFH 280PS	280	113	4.43	162	6.38	401	15.79	167	6.57	410	16.14	-	-	-	-	350	13.77	462	18.20	575	22.64	-	-	-	-	-	-	

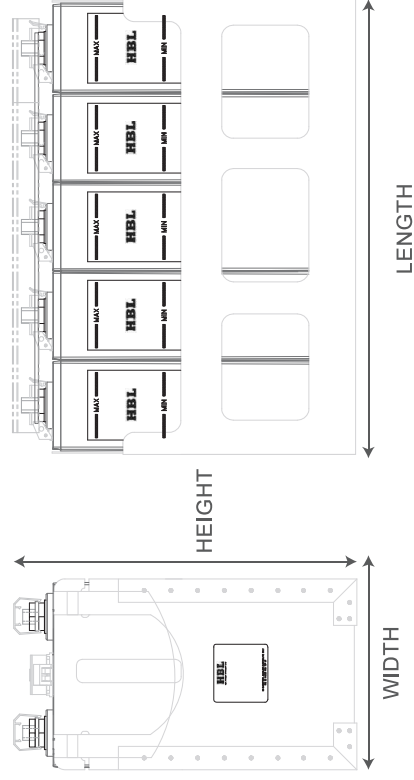
\* KFM 80 KFM 105 models HBL can offer crates in 8 cell, 10 cell and 12 cell configurations - For Dimensional details please contact HBL



# PES Rail Range KF... PS Fibre Data

Fibre - H Type Weight Data

Type	Rated capacity (C <sub>5</sub> Ah)	Cell Weight		Weight					
				2 Cell crate		3 Cell crate		4 Cell crate	
		Kg	lb	Kg	lb	Kg	lb	Kg	lb
KFH 70PS	70	5.0	11.0	-	-	-	-	-	-
KFH 85PS	85	5.2	11.5	-	-	-	-	23.4	51.6
		5.2	11.5	-	-	-	-	-	-
KFH 100PS	100	5.4	11.9	-	-	-	-	24.2	53.4
KFH 115PS	115	7.0	15.4	-	-	-	-	30.6	67.5
KFH 135PS	135	7.6	16.8	-	-	-	-	33.2	73.2
KFH 155PS	155	8.6	19.0	-	-	28.4	62.7	37.2	82.1
KFH 170PS	170	9.0	19.8	-	-	29.6	65.3	38.8	85.6
KFH 185PS	185	10.6	23.4	-	-	34.6	76.3	45.4	100.1
KFH 205PS	205	12.8	28.2	28.2	62.2	41.3	91.1	54.4	120.0
KFH 220PS	220	13.2	29.1	29.2	64.4	42.7	94.2	56.2	123.9
KFH 225PS	225	11.0	24.3	-	-	35.8	79.0	47.1	103.9
KFH 235PS	235	15.2	33.5	33.5	73.9	49.0	108.1	64.5	142.2
KFH 245PS	245	11.4	25.1	-	-	37.0	81.6	48.7	107.4
KFH 250PS	250	15.6	34.4	34.3	75.7	50.2	110.7	66.1	145.8
KFH 260PS	260	13.0	28.7	-	-	41.9	92.4	55.2	121.7
KFH 280PS	280	13.6	30.0	-	-	43.7	96.4	57.6	127.0



Note: Actual weights may vary within +/- 5%

# PES Rail Range KF... PS Fibre Data

## Fibre - X Type Dimensional Data

Type	Rated capacity (C <sub>5</sub> Ah)	Cell Dimensions						Dimensions																			
		Length			Width			Height			Length																
											2 Cell Crate			3 Cell Crate			4 Cell Crate			5 Cell Crate			6 Cell Crate				
		mm	in		mm	in		mm	in		mm	in		mm	in		mm	in		mm	in		mm	in		mm	in
KFX 50PS	50	105	4.13	86	3.39	303	11.93	312	12.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KFX 60PS	60	76	2.99	159	6.26	287	11.30	296	11.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		105	4.13	86	3.39	303	11.93	312	12.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KFX 74PS	74	76	2.99	159	6.26	287	11.30	296	11.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KFX 85PS	85	80	3.13	162	6.38	328	12.91	337	13.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KFX 110PS	110	95	3.74	171	6.73	317	12.48	326	12.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KFX 115PS	115	98	3.86	162	6.38	344	13.54	353	13.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KFX 125PS	125	98	3.86	162	6.38	344	13.54	353	13.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KFX 140PS	140	115	4.53	162	6.38	328	12.91	337	13.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KFX 150PS	150	125	4.92	164	6.46	323	12.72	332	13.07	280	11.02	405	15.94	530	20.87	655	25.79	-	-	-	-	-	-	-	-	-	-
KFX 156PS	156	102	4.02	159	6.26	408	16.06	417	16.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KFX 165PS	165	138	5.41	166	6.54	317	12.48	326	12.83	305	12.01	443	17.42	580	22.83	-	-	-	-	-	-	-	-	-	-	-	-
KFX 170PS	170	113	4.43	162	6.38	401	15.79	410	16.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KFX 190PS	190	150	5.91	164	6.46	323	12.72	332	13.07	330	12.99	480	18.90	630	24.80	-	-	-	-	-	-	-	-	-	-	-	-

\* KFM 80 KFM 90 and KFM 105 models HBL can offer crates in 8 cell, 10 cell and 12 cell configurations - For Dimensional details please contact HBL

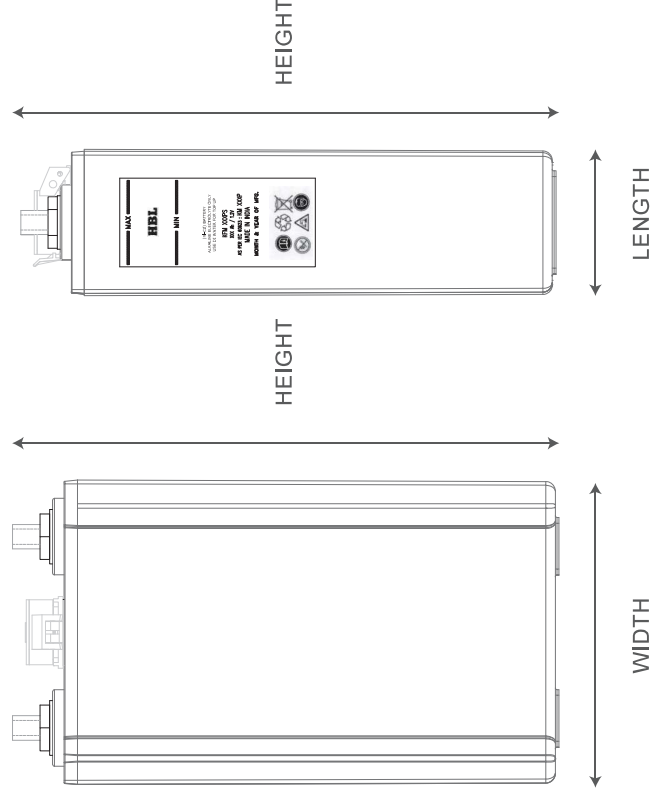


# PES Rail Range KF... PS Fibre Data

# Fibre - X Type Weight Data

Type	Rated capacity (C <sub>5</sub> Ah)	Cell Weight		Weight											
		2 Cell crate		3 Cell crate		4 Cell crate		5 Cell crate		6 Cell crate					
		Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb		
KFX 50PS	50	5.2	11.5	-	-	-	-	-	-	-	-	-	-	33.8	74.6
KFX 60PS	60	5.4	11.9	-	-	-	-	24.2	53.4	29.7	65.5	35.2	77.7		
		5.3	11.7	-	-	-	-	-	-	-	-	-	-	34.4	75.9
KFX 74PS	74	5.5	12.1	-	-	-	-	24.6	54.3	30.2	66.6	35.8	79.0		
KFX 85PS	85	7.2	15.9	-	-	-	-	31.4	69.3	38.7	85.4	46.0	101.5		
KFX 110PS	110	7.8	17.2	-	-	-	-	34.0	75.0	42.0	92.6	50.0	110.3		
KFX 115PS	115	8.8	19.4	-	-	29.0	64.0	38.0	83.8	47.1	103.9	56.1	123.7		
KFX 125PS	125	9.2	20.3	-	-	30.2	66.6	39.6	87.4	49.1	108.3	58.5	129.0		
KFX 140PS	140	10.8	23.8	-	-	35.2	77.7	46.2	101.9	57.3	126.4	-	-	-	-
KFX 150PS	150	13.0	28.7	28.6	63.1	41.9	92.4	55.2	121.7	68.5	151.1	-	-	-	-
KFX 156PS	156	11.6	25.6	-	-	37.6	82.9	49.5	109.2	61.4	135.4	-	-	-	-
KFX 165PS	165	13.4	29.5	29.6	65.3	43.3	95.5	57.0	125.7	-	-	-	-	-	-
KFX 170PS	170	13.6	30.0	-	-	43.7	96.4	57.6	127.0	71.5	157.7	-	-	-	-
KFX 190PS	190	15.7	34.6	34.5	76.1	50.5	111.4	66.5	146.7	-	-	-	-	-	-

Note: Actual weights may vary within +/- 5%



# PES Rail Range KR... PS Sintered Data

## Sintered - M Type Dimensional Data

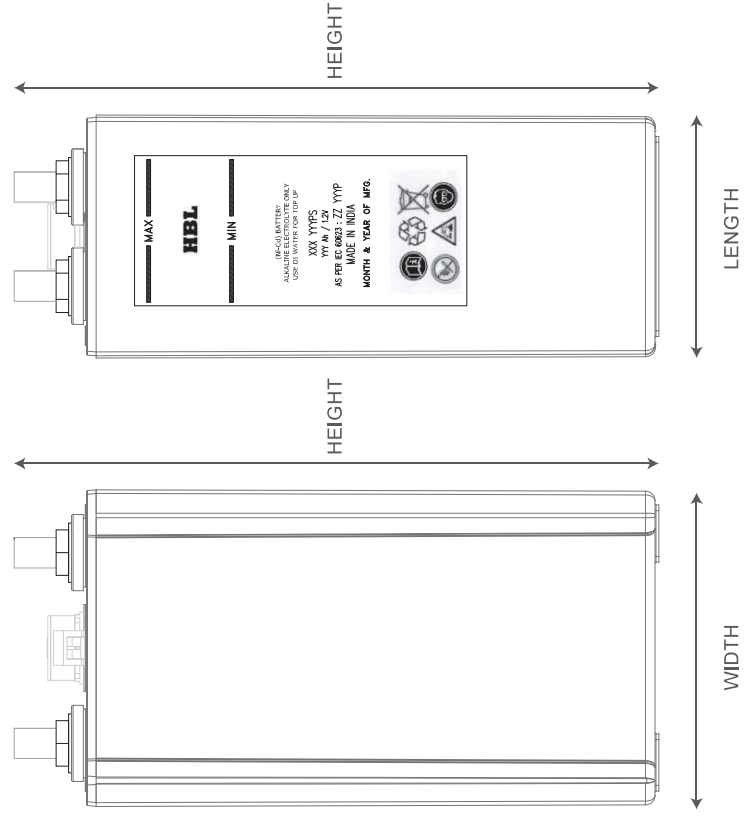
Type	Rated capacity (C <sub>5</sub> Ah)	Cell Dimensions						Dimensions											
		Length		Width		Height		Width		Height		2 Cell crate		3 Cell crate		4 Cell crate		5 Cell crate	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
KRM 80PS	80	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	316	12.44	392	15.43
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-	-	-
KRM 105PS	105	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	316	12.44	392	15.43
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-	-	-
KRM 124PS	124	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	316	12.44	392	15.43
KRM 140PS	140	80	3.13	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	330	12.99	410	16.12
KRM 155PS	155	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	306	12.05	404	15.91	502	19.76
KRM 172PS	172	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	306	12.05	404	15.91	502	19.76
KRM 188PS	188	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	306	12.05	404	15.91	502	19.76
KRM 205PS	205	95	3.74	171	6.73	317	12.48	176	6.93	326	12.83	-	-	-	-	392	15.43	487	19.17
KRM 220PS	220	115	4.53	162	6.38	328	12.91	167	6.57	337	13.27	-	-	357	14.06	472	18.58	587	23.11
KRM 235PS	235	115	4.53	162	6.38	328	12.91	167	6.57	337	13.27	-	-	357	14.06	472	18.58	587	23.11
KRM 250PS	250	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16	637	25.08
KRM 265PS	265	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16	637	25.08
KRM 280PS	280	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16	637	25.08
KRM 295PS	295	138	5.41	166	6.54	317	12.48	171	6.73	326	12.83	287	11.30	425	16.71	562	22.13	-	-
KRM 315PS	315	138	5.41	166	6.54	317	12.48	171	6.73	326	12.83	287	11.30	425	16.71	562	22.13	-	-
KRM 330PS	330	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	462	18.19	612	24.09	-	-
KRM 348PS	348	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	462	18.19	612	24.09	-	-

\* KRX 80 PS and KRM 105 PS models, HBL can offer crates in 8 cell, 10 cell and 12 cell configurations - For Dimensional details please contact HBL

# PES Rail Range KR... PS Sintered Data

## Sintered - M Type Weight Data

Type	Rated capacity (C <sub>5</sub> Ah)	Cell Weight		Weight											
				2 Cell crate		3 Cell crate		4 Cell crate		5 Cell crate		6 Cell crate			
		Kg	lb												
KRM 80PS	80	5.3	11.7	-	-	-	-	23.8	52.5	29.2	64.4	34.6	76.3		
		5.2	11.5	-	-	-	-	-	-	-	-	33.8	74.6		
KRM 105PS	105	5.6	12.3	-	-	-	-	25.0	55.2	30.7	67.7	36.4	80.3		
		5.5	12.1	-	-	-	-	-	-	-	-	35.6	78.5		
KRM 124PS	124	5.9	13.0	-	-	-	-	26.2	57.8	32.2	71.0	38.2	84.3		
KRM 140PS	140	7.2	15.9	-	-	-	-	31.4	69.3	38.7	85.4	46.0	101.5		
KRM 155PS	155	8.8	19.4	-	-	29.0	64.0	38.0	83.8	47.1	103.9	56.1	123.7		
KRM 172PS	172	9.0	19.8	-	-	29.6	65.3	38.8	85.6	48.1	106.1	57.3	126.4		
KRM 188PS	188	9.4	20.7	-	-	30.8	68.0	40.4	89.1	50.1	110.5	59.7	131.7		
KRM 205PS	205	7.8	17.2	-	-	-	-	34.0	75.0	42.0	92.6	50.0	110.3		
KRM 220PS	220	10.5	23.1	-	-	34.3	75.7	45.0	99.3	55.8	123.1	-	-		
KRM 235PS	235	10.8	23.8	-	-	35.2	77.7	46.2	101.9	57.3	126.4	-	-		
KRM 250PS	250	12.3	27.1	27.2	60.0	39.8	87.8	52.4	115.6	65.0	143.4	-	-		
KRM 265PS	265	12.7	28.0	28.0	61.8	41.0	90.4	54.0	119.1	67.0	147.8	-	-		
KRM 280PS	280	13.0	28.7	28.6	63.1	41.9	92.4	55.2	121.7	68.5	151.1	-	-		
KRM 295PS	295	13.3	29.3	29.4	64.9	43.0	94.8	56.6	124.8	-	-	-	-		
KRM 315PS	315	13.6	30.0	30.0	66.2	43.9	96.8	57.8	127.5	-	-	-	-		
KRM 330PS	330	15.4	34.0	33.9	74.8	49.6	109.4	65.3	144.0	-	-	-	-		
KRM 348PS	348	15.8	34.8	34.7	76.6	50.8	112.0	66.9	147.5	-	-	-	-		



Note: Actual weights may vary within +/- 5%



# PES Rail Range KR... PS Sintered Data

## Sintered - H Type Dimensional Data

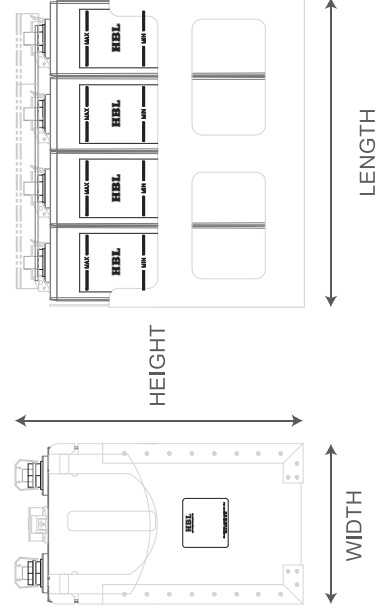
Type	Rated capacity (C <sub>5</sub> Ah)	Cell Dimensions						Dimensions									
		Length		Width		Height		Width		Height		Length					
		mm		in		mm		in		mm		2 Cell crate		3 Cell crate		4 Cell crate	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
KRX 70PS	70	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-
KRX 80PS	80	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-
KRM 94PS	94	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-
KRX 107PS	107	80	3.13	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	330	12.99
KRX 130PS	130	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	306	12.05	404	15.91
KRX 145PS	145	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	306	12.05	404	15.91
KRX 150PS	150	95	3.74	171	6.73	317	12.48	176	6.93	326	12.83	-	-	-	-	392	15.43
KRX 160PS	160	115	4.53	162	6.38	328	12.91	167	6.57	337	13.27	-	-	357	14.06	472	18.58
KRX 175PS	175	115	4.53	162	6.38	328	12.91	167	6.57	337	13.27	-	-	357	14.06	472	18.58
KRX 190PS	190	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16
KRX 210PS	210	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16
KRX 215PS	215	138	5.41	166	6.54	317	12.48	171	6.73	326	12.83	287	11.30	425	16.71	562	22.13
KRX 235PS	235	138	5.41	166	6.54	317	12.48	171	6.73	326	12.83	287	11.30	425	16.71	562	22.13
KRX 240PS	240	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	462	18.19	612	24.09
KRX 255PS	255	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	462	18.19	612	24.09

\* KRX 70 PS and KRX 80 PS models, HBL can offer crates in 8 cell, 10 cell and 12 cell configurations - For Dimensional details please contact HBL

# PES Rail Range KR... PS Sintered Data

## Sintered - H Type Weight Data

Type	Rated capacity (C <sub>5</sub> Ah)	Cell Weight		Weight											
		2 Cell crate		3 Cell crate		4 Cell crate		5 Cell crate		6 Cell crate					
		Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb
KRX 70PS	70	5.1	11.2	-	-	-	-	23.0	50.8	28.2	62.2	33.4	73.7		
		5.0	11.0	-	-	-	-	-	-	-	-	32.6	71.9		
KRX 80PS	80	5.3	11.7	-	-	-	-	23.8	52.5	29.2	64.4	34.6	76.3		
		5.2	11.5	-	-	-	-	-	-	-	-	33.8	74.6		
KRX 94PS	94	5.5	12.1	-	-	-	-	24.6	54.3	30.2	66.6	35.8	79.0		
KRX 107PS	107	7.0	15.4	-	-	-	-	30.6	67.5	37.7	83.2	44.8	98.8		
KRX 130PS	130	8.6	19.0	-	-	28.4	62.7	37.2	82.1	46.1	101.7	54.9	121.1		
KRX 145PS	145	9.0	19.8	-	-	29.6	65.3	38.8	85.6	48.1	106.1	57.3	126.4		
KRX 150PS	150	7.5	16.5	-	-	-	-	32.8	72.4	40.5	89.3	48.2	106.3		
KRX 160PS	160	10.2	22.5	-	-	33.4	73.7	43.8	96.6	54.3	119.8	-	-		
KRX 175PS	175	10.4	22.9	-	-	34.0	75.0	44.6	98.4	55.3	122.0	-	-		
KRX 190PS	190	12.2	26.9	27.0	59.6	39.5	87.1	52.0	114.7	64.5	142.2	-	-		
KRX 210PS	210	12.5	27.6	27.6	60.9	40.4	89.1	53.2	117.3	66.0	145.6	-	-		
KRX 215PS	215	13.0	28.7	28.8	63.5	42.1	92.9	55.4	122.2	-	-	-	-		
KRX 235PS	235	13.2	29.1	29.2	64.4	42.7	94.2	56.2	123.9	-	-	-	-		
KRX 240PS	240	14.6	32.2	32.3	71.3	47.2	104.1	62.1	137.0	-	-	-	-		
KRX 255PS	255	14.8	32.6	32.7	72.1	47.8	105.4	62.9	138.7	-	-	-	-		



Note: Actual weights may vary within +/- 5%

# PES Rail Range KR... PS Sintered Data

## Sintered - MC Type Dimensional Data

Type	Rated capacity (C <sub>5</sub> Ah)	Cell Dimensions						Dimensions									
		Length		Width		Height		Width		Height		Length					
		mm		in		mm		in		mm		mm		in		mm	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
KRCM 100PS	100	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	316	12.44
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	327	12.87
KRCM 110PS	110	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	316	12.44
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	327	12.87
KRCM 125PS	125	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	316	12.44
KRCM 140PS	140	80	3.13	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	330	12.99
KRCM 160PS	160	80	3.13	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	330	12.99
KRCM 170PS	170	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	306	12.05	404	15.91
KRCM 190PS	190	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	306	12.05	404	15.91
KRCM 205PS	205	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	306	12.05	404	15.91
KRCM 225PS	225	95	3.74	171	6.73	317	12.48	176	6.93	326	12.83	-	-	-	-	392	15.43
KRCM 235PS	235	115	4.53	162	6.38	328	12.91	167	6.57	337	13.27	-	-	357	14.06	472	18.58
KRCM 260PS	260	115	4.53	162	6.38	328	12.91	167	6.57	337	13.27	-	-	357	14.06	472	18.58
KRCM 280PS	280	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16
KRCM 300PS	300	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16
KRCM 330PS	330	138	5.41	166	6.54	317	12.48	171	6.73	326	12.83	287	11.30	425	16.71	562	22.13
KRCM 350PS	350	138	5.41	166	6.54	317	12.48	171	6.73	326	12.83	287	11.30	425	16.71	562	22.13
KRCM 360PS	360	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	462	18.19	612	24.09
KRCM 380PS	380	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	462	18.19	612	24.09

\* KRCM 100 PS and KRCM 110 PS models, HBL can offer crates in 8 cell, 10 cell and 12 cell configurations - For Dimensional details please contact HBL

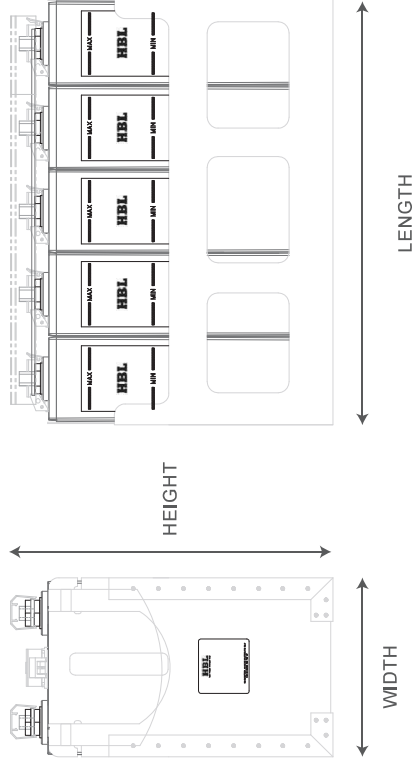


# PES Rail Range KR... PS Sintered Data

## Sintered - MC Type Weight Data

Type	Rated capacity (C <sub>5</sub> Ah)	Cell Weight		Weight											
		2 Cell Crate		3 Cell Crate		4 Cell Crate		5 Cell Crate		6 Cell Crate					
		Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb		
KRMC 100PS	100	5.6	12.3	-	-	-	-	25.0	55.2	30.7	67.7	36.4	80.3		
		5.5	12.1	-	-	-	-	-	-	-	-	35.6	78.5		
KRMC 110PS	110	5.8	12.8	-	-	-	-	25.8	56.9	31.7	69.9	37.6	82.9		
		5.7	12.6	-	-	-	-	-	-	-	-	36.8	81.2		
KRMC 125PS	125	6.0	13.2	-	-	-	-	26.6	58.7	32.7	72.1	38.8	85.6		
KRMC 140PS	140	7.3	16.1	-	-	-	-	31.8	70.2	39.2	86.5	46.6	102.8		
KRMC 160PS	160	7.5	16.5	-	-	-	-	32.6	71.9	40.2	88.7	47.8	105.4		
KRMC 170PS	170	9.1	20.1	-	-	29.9	66.0	39.2	86.5	48.6	107.2	57.9	127.7		
KRMC 190PS	190	9.4	20.7	-	-	30.8	68.0	40.4	89.1	50.1	110.5	59.7	131.7		
KRMC 205PS	205	9.6	21.2	-	-	31.4	69.3	41.2	90.9	51.1	112.7	60.9	134.3		
KRMC 225PS	225	8.0	17.6	-	-	-	-	34.8	76.8	43.0	94.8	51.2	112.9		
KRMC 235PS	235	10.8	23.8	-	-	35.2	77.7	46.2	101.9	57.3	126.4	-	-		
KRMC 260PS	260	11.1	24.5	-	-	36.1	79.6	47.4	104.5	58.8	129.7	-	-		
KRMC 280PS	280	13.1	28.9	28.8	63.5	42.2	93.1	55.6	122.6	69.0	152.2	-	-		
KRMC 300PS	300	13.3	29.3	29.2	64.4	42.8	94.4	56.4	124.4	70.0	154.4	-	-		
KRMC 330PS	330	13.7	30.2	30.2	66.6	44.2	97.5	58.2	128.4	-	-	-	-		
KRMC 350PS	350	14.0	30.9	30.8	68.0	45.1	99.5	59.4	131.0	-	-	-	-		
KRMC 360PS	360	16.0	35.3	35.1	77.4	51.4	113.4	67.7	149.3	-	-	-	-		
KRMC 380PS	380	16.3	35.9	35.7	78.8	52.3	115.4	68.9	151.9	-	-	-	-		

Note: Actual weights may vary within +/- 5%



# PES Rail Range KR... PS Sintered Data

## Sintered - HC Type Dimensional Data

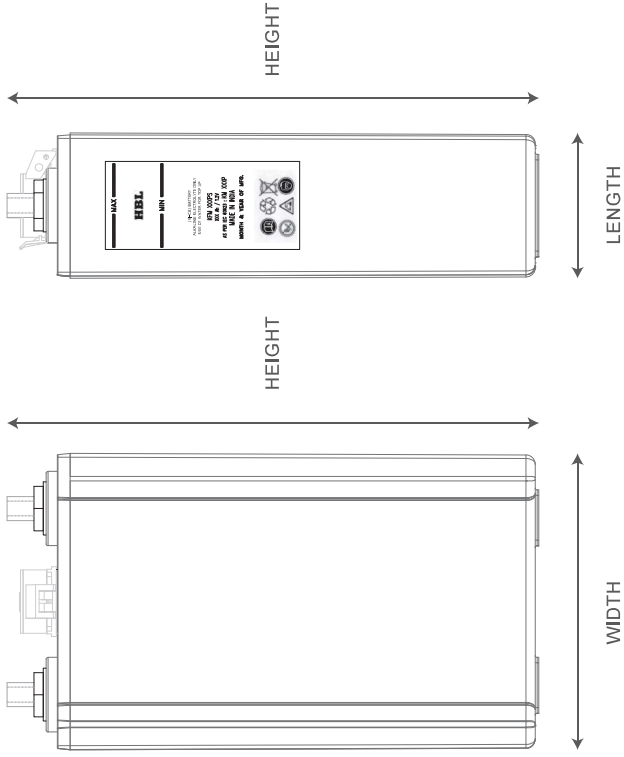
Type	Rated capacity (C <sub>5</sub> Ah)	Cell Dimensions						Dimensions																				
		Length			Width			Height			Length																	
		2 Cell Crate			3 Cell Crate			4 Cell Crate			5 Cell Crate			6 Cell Crate														
		mm	in		mm	in		mm	in		mm	in		mm	in		mm	in										
KRXC 90PS	90	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KRXC 105PS	105	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		105	4.13	86	3.39	303	11.93	179	7.05	312	12.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KRXC 115PS	115	76	2.99	159	6.26	287	11.30	164	6.46	296	11.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KRXC 135PS	135	80	3.13	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KRXC 160PS	160	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KRXC 175PS	175	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KRXC 190PS	190	98	3.86	162	6.38	344	13.54	167	6.57	353	13.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KRXC 200PS	200	95	3.74	171	6.73	317	12.48	176	6.93	326	12.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16	637	25.08	-	-	-	-	-	-	-	-	
KRXC 215PS	215	115	4.53	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KRXC 230PS	230	115	4.53	162	6.38	328	12.91	167	6.57	337	13.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KRXC 255PS	255	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16	637	25.08	-	-	-	-	-	-	-	-	-
KRXC 260PS	260	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	462	18.19	612	24.09	-	-	-	-	-	-	-	-	-	-	-
KRXC 270PS	270	125	4.92	164	6.46	323	12.72	169	6.65	332	13.07	262	10.31	387	15.24	512	20.16	637	25.08	-	-	-	-	-	-	-	-	-
KRXC 290PS	290	138	5.41	166	6.54	317	12.48	171	6.73	326	12.83	287	11.30	425	16.71	562	22.13	-	-	-	-	-	-	-	-	-	-	-
KRXC 305PS	305	138	5.41	166	6.54	317	12.48	171	6.73	326	12.83	287	11.30	425	16.71	562	22.13	-	-	-	-	-	-	-	-	-	-	-
KRXC 320PS	320	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	462	18.19	612	24.09	-	-	-	-	-	-	-	-	-	-	-
KRXC 340PS	340	150	5.91	164	6.46	323	12.72	169	6.65	332	13.07	312	12.28	462	18.19	612	24.09	-	-	-	-	-	-	-	-	-	-	-

\* KRXC 90 PS and KRXC 105 PS models, HBL can offer crates in 8 cell, 10 cell and 12 cell configurations - For Dimensional details please contact HBL

# PES Rail Range KR... PS Sintered Data

## Sintered - HC Type Weight Data

Type	Rated capacity (C <sub>5</sub> Ah)	Cell Weight		Weight											
				2 Cell crate		3 Cell crate		4 Cell crate		5 Cell crate		6 Cell crate			
		Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb	Kg	lb		
KRXC 90PS	90	5.5	12.1	-	-	-	-	24.6	54.3	30.2	66.6	35.8	79.0		
		5.4	11.9	-	-	-	-	-	-	-	-	35.0	77.2		
KRXC 105PS	105	5.8	12.8	-	-	-	-	25.8	56.9	31.7	69.9	37.6	82.9		
		5.7	12.6	-	-	-	-	-	-	-	-	36.8	81.2		
KRXC 115PS	115	5.9	13.0	-	-	-	-	26.2	57.8	32.2	71.0	38.2	84.3		
KRXC 135PS	135	7.4	16.3	-	-	-	-	32.2	71.0	39.7	87.6	47.2	104.1		
KRXC 160PS	160	9.0	19.8	-	-	29.6	65.3	38.8	85.6	48.1	106.1	57.3	126.4		
KRXC 175PS	175	9.2	20.3	-	-	30.2	66.6	39.6	87.4	49.1	108.3	58.5	129.0		
KRXC 190PS	190	9.4	20.7	-	-	30.8	68.0	40.4	89.1	50.1	110.5	59.7	131.7		
KRXC 200PS	200	8.0	17.6	-	-	-	-	34.8	76.8	43.0	94.8	51.2	112.9		
		11.6	25.6	25.8	56.9	37.7	83.2	49.6	109.4	61.5	135.6	-	-		
KRXC 215PS	215	11.0	24.3	-	-	35.8	79.0	47.0	103.7	58.3	128.6	-	-		
KRXC 230PS	230	11.2	24.7	-	-	36.4	80.3	47.8	105.4	59.3	130.8	-	-		
KRXC 255PS	255	12.8	28.2	28.2	62.2	41.3	91.1	54.4	120.0	67.5	148.9	-	-		
KRXC 260PS	260	14.5	32.0	32.1	70.8	46.9	103.4	61.7	136.1	-	-	-	-		
KRXC 270PS	270	13.0	28.7	28.6	63.1	41.9	92.4	55.2	121.7	68.5	151.1	-	-		
KRXC 290PS	290	13.6	30.0	30.0	66.2	43.9	96.8	57.8	127.5	-	-	-	-		
KRXC 305PS	305	13.8	30.4	30.4	67.1	44.5	98.2	58.6	129.2	-	-	-	-		
KRXC 320PS	320	15.8	34.8	34.7	76.6	50.8	112.0	66.9	147.5	-	-	-	-		
KRXC 340PS	340	16.2	35.7	35.5	78.3	52.0	114.7	68.5	151.1	-	-	-	-		



Note: Actual weights may vary within +/- 5%