



HB400P - Cell data sheet

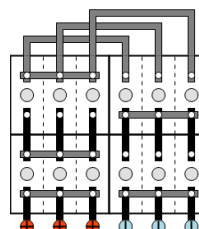
Classification

Brand
Cell type
Cell P/N
Capacity at 5 hours rate
IEC Designation
According to IEC 60623

HB400P
311027381
400 Ah
KH400P



Wiring principle



Crosswise

Physical data

Overall height	410 mm		
Cell height	400 mm		
Width	195 mm	Weight per cell	33,9 Kg
Length	244 mm		

Construction

Container material	Polypropylene	No. of terminals/polarity	3
Separator type	Grid	Terminal material	Steel
Connection torque	30,0 +/- 3,0 Nm	Vent type	
Terminal size	M10 SW 16 mm	Handle	Yes

Plates

Positive		Negative	
Type of plates	Pocket	Type of plates	Pocket

Electrolyte

Electrolyte type: Renewal	E13	Max/Min	50 mm
Electrolyte type: Initial	E22	Vent oil quantity	
Electrolyte per cell: Liquid	8,9 liters		

Connection

Cable area of internal connection cables	120 mm ²	End-lug (and external cable)	120 mm ²
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Charging

Float voltage	1,4 V/Cell	High rate voltage (min)	1,45 V/Cell
Single-level voltage	1,43 V/Cell		

Resistance/Short circuit

Internal resistance	0,11 mOhm	Short circuit current	11895 A
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Performance data

Current discharge

After prolonged float charge of fully charged cells. Available amperes at +20°C +/- 5°C (+68°F +/- 9°F)

V/Cell	10h	8h	5h	3h	2h	1,5h	1h	30m	20m	15m	10m	5m	1m	30s	5s	1s
1	40,1	50,1	80,0	132	196	258	377	684	919	1.054	1.245	1.510	1.896	2.139	2.601	2.766
1,05	39,7	49,7	78,9	130	192	252	365	649	789	897	1.055	1.227	1.590	1.795	2.166	2.257
1,1	38,7	48,4	77,1	126	186	243	345	527	618	695	783	944	1.268	1.442	1.717	1.804
1,14	37,6	47,1	74,1	121	170	216	284	416	496	556	630	771	1.011	1.159	1.364	1.412
1,16	36,5	45,6	72,3	116	156	193	230	345	411	457	507	633	859	969	1.134	1.200

Engine starting performance

For a fully charged cell by a constant current charge according to IEC 60623 standard at +20°C +/- 5°C (+68°F +/- 9°F), 30 seconds discharge down to 0,85 V

Available amperes	3.492 A
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Power discharge

Available power (W), after prolonged float charged of fully charged cells at +20°C +/- 5°C (+68°F +/- 9°F)

V/Cell	10h	8h	5h	3h	2h	1,5h	1h	30m	20m	15m	10m	5m	1m	30s	5s	1s
1	48,5	60,6	95,6	156	231	292	409	711	941	1.070	1.255	1.510	1.896	2.139	2.601	2.766
1,05	48,1	60,1	94,2	154	227	289	406	700	842	952	1.113	1.289	1.670	1.886	2.274	2.371
1,1	46,8	58,5	92,2	150	219	281	393	589	687	770	864	1.039	1.395	1.587	1.889	1.985
1,14	45,6	56,9	88,5	144	201	253	329	478	568	636	719	879	1.152	1.321	1.555	1.610
1,16	44,2	55,2	86,4	138	185	227	269	401	478	530	588	735	996	1.124	1.316	1.393

Engine starting performance

For a fully charged cell by a constant current charge according to IEC 60623 standard at +20°C +/- 5°C (+68°F +/- 9°F), 30 seconds discharge down to 0,85 V

Available amperes	3.492 A
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Kt Factor

Current discharge

After prolonged float charge of fully charged cells. Kt factor at +20°C +/- 5°C (+68°F +/- 9°F)

V/Cell	10h	8h	5h	3h	2h	1,5h	1h	30m	20m	15m	10m	5m	1m	30s	5s	1s
1	10,0	7,98	5,00	3,03	2,04	1,55	1,06	0,58	0,44	0,38	0,32	0,26	0,21	0,19	0,15	0,14
1,05	10,1	8,05	5,07	3,08	2,08	1,59	1,10	0,62	0,51	0,45	0,38	0,33	0,25	0,22	0,18	0,18
1,1	10,3	8,27	5,19	3,17	2,15	1,65	1,16	0,76	0,65	0,58	0,51	0,42	0,32	0,28	0,23	0,22
1,14	10,6	8,50	5,40	3,30	2,35	1,85	1,41	0,96	0,81	0,72	0,64	0,52	0,40	0,35	0,29	0,28
1,16	11,0	8,77	5,53	3,44	2,56	2,07	1,74	1,16	0,97	0,88	0,79	0,63	0,47	0,41	0,35	0,33

Engine starting performance

For a fully charged cell by a constant current charge according to IEC 60623 standard at +20°C +/- 5°C (+68°F +/- 9°F), 30 seconds discharge down to 0,85 V

Available amperes 3.492 A

Power discharge

Kt factor power, after prolonged float charged of fully charged cells at +20°C +/- 5°C (+68°F +/- 9°F)

V/Cell	10h	8h	5h	3h	2h	1,5h	1h	30m	20m	15m	10m	5m	1m	30s	5s	1s
1	8,25	6,60	4,18	2,56	1,73	1,37	0,98	0,56	0,43	0,37	0,32	0,26	0,21	0,19	0,15	0,14
1,05	8,32	6,66	4,24	2,60	1,76	1,39	0,99	0,57	0,48	0,42	0,36	0,31	0,24	0,21	0,18	0,17
1,1	8,54	6,83	4,34	2,67	1,83	1,42	1,02	0,68	0,58	0,52	0,46	0,38	0,29	0,25	0,21	0,20
1,14	8,78	7,02	4,52	2,79	1,99	1,58	1,22	0,84	0,70	0,63	0,56	0,46	0,35	0,30	0,26	0,25
1,16	9,06	7,25	4,63	2,90	2,17	1,77	1,49	1,00	0,84	0,75	0,68	0,54	0,40	0,36	0,30	0,29

Engine starting performance

Kt factor power, after prolonged float charged of fully charged cells at +20°C +/- 5°C (+68°F +/- 9°F)

Available amperes 3.492 A