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**Small Traction**  
**powerbloc**  
**powerbloc dry**

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# Bigger Power for small tractors

**||** powerbloc

**||** powerbloc dry

Powerbloc and powerbloc dry are ranges of bloc batteries for all applications in small traction, from cleaning machines to pallet trucks, industrial electric vehicles etc. as well as some domestic applications like wheelchairs, golf carts, etc. Powerbloc are flooded batteries and powerbloc dry are gas recombination batteries. Both ranges can be recharged with 50 Hz or HF chargers. If you wish to use an existing charger you should check

that the profile is approved by our technical team. Our HF chargers are equipped with microprocessors and ensure a reliable full recharge for any degree of discharge of the battery (max 80 %). These chargers have an electronically regulated characteristic charging curve. Charging process is automatically controlled and terminated. All chargers are protected against overload and short circuit.

*powerbloc*  
**TP<sup>FP</sup> FPT**

*powerbloc dry*  
**XP<sup>MFP</sup> XFC**

## Operation

To achieve optimal operating life avoid deep discharges. Never leave the battery in a discharged state. Electrolyte level for flooded batteries has to be checked regularly and then filled with demineralized water (DIN43530 part4) filled up to max. level mark. The single point automatic watering system can be considered on some types. Valve regulated batteries with absorbed electrolyte (AGM) or gel electrolyte are sealed for life and need no watering.

## Installation

Battery monoblocs should be installed in accordance with the instructions from vehicles/trucks manufacturers (respect of polarity for the connection, and mechanically robust installation). While operating on battery connections avoid short circuits.

## Storage

If batteries have to be stored out of service for a long time, they must be kept fully charged in a dry, clean and frost free zone. A monthly refreshing charge avoids any harmful deep discharge and damage to the battery.

## Maintenance

Keep batteries clean and dry to avoid current leakage. Clean the monoblocs with a damp cotton rag. Never use any organic solution!  
Operation and maintenance instructions for each product range should always be observed.



# powerbloc

## powerbloc TP

Type	Voltage (V)	C <sub>5</sub> (Ah)	C <sub>20</sub> (Ah)	Dimensions (max. mm)			Weight (kg)	No of cycles <sup>1)</sup>	Polarity	Terminal <sup>3)</sup>
				L	W	H				
6 TP 175	6	175	227	263	182	271	34	1100	1	AP
6 TP 210	6	210	270	244	190	275	34.2	1100	1	AP
12 TP 90	12	90	120	346	172	236	30	1100	1	AP
12 TP 110	12	110	150	344	172	286	39	1100	1	AP
12 TP 125	12	125	167	509	175	230	43	1100	3	AP

## powerbloc FP

Type	Voltage (V)	C <sub>5</sub> (Ah)	C <sub>20</sub> (Ah)	Dimensions (max. mm)			Weight (kg)	No of cycles <sup>1)</sup>	Polarity	Terminal <sup>3)</sup>
				L	W	H				
6 FP 190	6	190	243	245	190	275	32	400	1	AP
12 FP 55	12	55	70	275	175	205	22	400	1	AP
12 FP 80	12	80	102	349	175	235	29.5	400	1	AP
12 FP 100	12	100	128	350	175	290	37	400	2	AP

## powerbloc FPT

Type	Voltage (V)	C <sub>5</sub> (Ah)	C <sub>20</sub> (Ah)	Dimensions					Weight (kg)	No. of cycles <sup>1)</sup>	Polarity	Terminal <sup>3)</sup>
				L1 <sup>2)</sup>	L2 <sup>2)</sup>	W1 <sup>2)</sup>	W2 <sup>2)</sup>	H				
6 FPT 185	6	185	237	264		181		276	26	700	1	LPT
6 FPT 195	6	195	250	264		181		276	28	700	1	DT
6 FPT 200	6	200	256	244		191		276	31	700	1	AP
6 FPT 210	6	210	269	264		181		295	33	700	1	DT
6 FPT 215	6	215	275	292		172		290	30	700	1	UT
6 FPT 255	6	255	326		295		178	365	41	700	1	UT
6 FPT 305	6	305	390		295		178	432	48	700	1	DT
8 FPT 145	8	145	186	264		181		276	29	700	1	DT
12 FPT 70	12	70	90		286		171	248	21	700	2	DT
12 FPT 85	12	85	109		324		171	248	25	700	1	DT
12 FPT 105	12	105	134		355		171	238	30	700	1	AP
12 FPT 114	12	114	146	346		171		289	39	700	1	AP
12 FPT 150	12	150	192		381		178	371	48	700	1	DT

<sup>1)</sup> 80 % depth of discharge max.

<sup>2)</sup> L1 = length without handles, L2 = length with handles,  
W1 = width without handles, W2 = width with handles.  
Always supplied with handles.

<sup>3)</sup> Terminal Configuration, see next page.

## powerbloc TP

### Cell construction

The TP series consists of robust tubular positive plate with free electrolyte to ensure a long operating life.

### Benefits

- Premium tubular plate construction for robust 1100 cycle performance.
- Maximum performance giving best possible run-times in the heaviest duty applications.
- Extended performance and run time for maximum machine performance.

## powerbloc FP

### Cell construction

The FP series consists of reinforced flat grid plates with free electrolyte and is especially designed for use as a motive power battery.

### Connection

This range is equipped with lug type terminals or tapered terminals.

### Benefits

- Economical and reliable, the FP range gives 400 cycle performance to suit your everyday needs.
- Reliable, predictable performance for standard duty applications.
- Tailored specification to give best cost/performance balance.

## powerbloc FPT



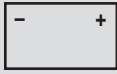
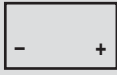


### Cell construction

The powerbloc FPT range has advanced flat grid plates and paste formulation giving extended service life. It is especially suited to arduous deep cycle semi-traction applications.

### Benefits

- Advanced separator design and paste formulation gives true 700 cycle performance.
- Enhanced performance gives extended running times and lower maintenance.
- Superior performance means more productive run-time.

### Variants of polarity

	1	2	3
6 V			
8 V			
12 V			

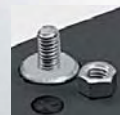
## Terminal Configuration



Automotive Post (AP)



Wingnut Terminal (WNT)



Stud Terminal (ST)



Lighting Terminal (LT)



Female Terminal (FT)



Universal Terminal (UT)



Dual Terminal (DT)



Low Profile Terminal (LPT)

# powerbloc dry

## powerbloc dry XP

Type	Voltage (V)	C <sub>5</sub> (Ah)	C <sub>20</sub> (Ah)	Dimensions (max. mm)			Weight (kg)	No of cycles <sup>1)</sup>	Polarity	Terminal <sup>3)</sup>
				L	W	H				
6 XP 180	6	180	230	246	192	276	37	800-1000	1	ST-M8
12 XP 51	12	51	65	271	164	220	22.1	800-1000	1	ST-M6
12 XP 73	12	73	93	360	164	227	30.6	800-1000	1	ST-M6

## powerbloc dry MFP

Type	Voltage (V)	C <sub>5</sub> (Ah)	C <sub>20</sub> (Ah)	Dimensions					Weight (kg)	No. of cycles <sup>1)</sup>	Polarity	Terminal <sup>3)</sup>
				L1 <sup>2)</sup>	L2 <sup>2)</sup>	W1 <sup>2)</sup>	W2 <sup>2)</sup>	H				
6 MFP 160	6	160	205	264		183		270	33	500	1	AP
6 MFP 180	6	180	230	244		190		275	31	500	1	AP
6 MFP 240	6	240	307		311		182	359	48	500	1	AP
12 MFP 27	12	27	35	195	211	132	132.6	178	10.6	500	2	LT
12 MFP 44	12	44	56	229	250	139	139.2	228	17.7	500	2	AP
12 MFP 50	12	50	64	278		175		190	20	500	1	AP
12 MFP 63	12	63	81	260	281.7	169	169.2	228	24.1	500	2	AP
12 MFP 77	12	77	98	307	331	169	169.2	228	27.7	500	2	AP
12 MFP 105	12	105	134	345		174		283	40	500	1	AP

## powerbloc dry XFC

Type	Voltage (V)	Nominal Capacity (Ah) C <sub>5</sub>	Nominal Capacity (Ah) C <sub>20</sub>	Dimensions (mm)				Weight (kg)	No. of cycles @ 60% DOD	Terminal	Terminal adapter	Polarity
				L	W	Box Ht	Term. Ht					
12XFC25	12	25	29	250	97	147	156	10	1200	M6 Female	SAE post	1
12XFC35	12	35	41	250	97	197	206	13	1200	M6 Female	SAE post	1
12XFC48	12	48	54	220	121	250	261	19	1200	M6 Female	SAE post	1
12XFC58	12	58	64	280	97	256	264	19	1200	M8 Female	M6 Male front terminal	3
12XFC60	12	60	63	329	166	174	171	25	1200	M6 Female	SAE post	1
12XFC82	12	82	98	367	105	256	264	28	1200	M8 Female	M6 Male front terminal	3
12XFC158	12	158	179	561	125	285	285	51	1200	M8 Female	M6 Male front terminal	3
12XFC177	12	177	202	561	125	317	317	58	1200	M8 Female	M6 Male front terminal	3

<sup>1)</sup> 80 % depth of discharge max.

<sup>2)</sup> L1 = length without handles, L2 = length with handles, W1 = width without handles, W2 = width with handles. Always supplied with handles.

<sup>3)</sup> Terminal Configuration, see next page.

## powerbloc dry XP

### Cell construction

This range consists of flat grid plates in special alloy with high mechanical resistance. The electrolyte is absorbed in a microporous separator (AGM).

### Benefits

- Fully sealed for zero-maintenance, the XP range uses gas recombination to eliminate the need for watering.
- Long shelf life due to very low self-discharge & low internal resistance.
- Advanced plate composition and separators result in improved recovery from deep discharge.
- For applications in medium cycling duty and decentralised installation.

## powerbloc dry MFP

### Cell construction

Unique/advanced thin plate pure lead technology. The MFP consists of grid plates in special alloy with gel electrolyte.

### Benefits

- Totally maintenance free due to electrolyte immobilized in a gel.
- Very high aptitude for high current, reduced self-discharge and resilient to temperature variations.
- For applications in medium cycling duty.

## powerbloc dry XFC

### Cell construction

Unique/advanced thin plate pure lead technology. The electrolyte is absorbed in a superior quality microporous glass mat separator with high absorption and stability designed to enhance cyclic capability.

### Benefits

- High energy throughput (up to 300% of  $C_5$  per 24 hours- maximum DOD of 80% must be observed, please ask for further details for this application)
- Excellent cycle life (up to 1,200 cycles at 60% DOD)
- Environmentally friendly: Minimum gassing
- Highly recyclable
- Suitable for multi-shift operations and optimises machine availability
- Short recharge time (less than 3 hours at 60% DOD, with approved charger)
- Suitable for opportunity charging
- High tolerance to occasional overdischarge
- Increased shelf life (up to 2 years at 20°C)
- Easy installation in any orientation except inverted
- Space saving : An XFC bloc typically occupies 30% less space than the equivalent lead calcium bloc = more power for less space

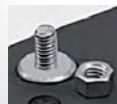
### Variants of polarity

	1	2	3
6 V			
8 V			
12 V			

### Terminal Configuration



Automotive Post (AP)



Stud Terminal (ST)



Lighting Terminal (LT)



SAE post



Female to male adapter



M6 male front terminal adapter



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