



**black<sup>®</sup>  
bruin**

## ***Black Bruin BB - motor***

*Low-speed, high-torque radial piston motor*



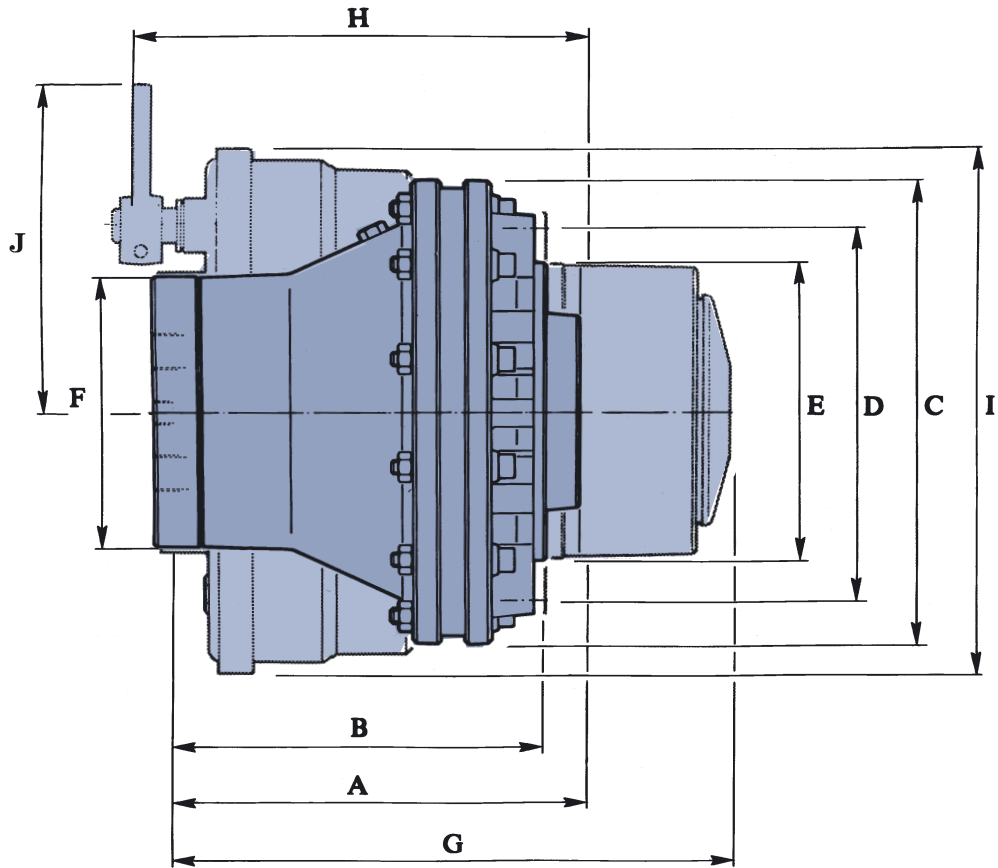
Light weight and small size gives freedom for designers.

Excellent low speed operating characteristics.

High starting torque.

Wide operating speed range.

Various brake selections.

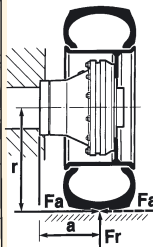
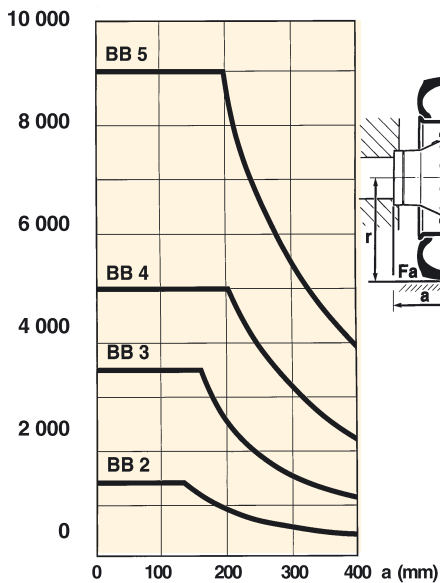


### Dimensions

\*without brake

Model	Weight * kg	Min. rim size (in)	A mm	B * mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J max. mm
BB 2	17	9	198	184	∅ 195	∅ 140 4 x M14 x 1.5	∅ 96.3	∅ 130	—	192	∅ 222	190
BB 3	32	11	243	227	∅ 234	∅ 170 6 x M16 x 1.5	∅ 129.9	∅ 150	364	243	∅ 275	279
BB 4	50	13	280	262	∅ 282	∅ 205 6 x M18 x 1.5	∅ 160.8	∅ 165	420	280	∅ 334	300
BB 5	85	15	312	279	∅ 343	∅ 275 8 x M20 x 1.5	∅ 220.8	∅ 200	469	342	∅ 395	243
BB 6	145	18	336	317	∅ 416	∅ 335 10 x M22 x 1.5	∅ 280.8	∅ 240	480	—	—	—
BB 7	270	—	402	377	∅ 520	∅ 425 12 x M22 x 1.5	∅ 370.8	∅ 300	550	—	—	—

### $F_{max}$ (kg) Shaft load



### $F_{max}$ (kg) Technical Data



Model	Braking torque Nm	
	Drum brake	Multi-disc brake
BB 2	1100	—
BB 3	1700	2000
BB 4	3500	3700
BB 5	6860	8000
BB 6	—	20000
BB 7	—	40000

### Allowable pressure levels

- Peak pressure BB 2 - BB 5 350 bar  
BB 6 - BB 7 450 bar
- Max. pressure in mobile drives BB 2 - BB 5 300 bar  
BB 6 - BB 7 400 bar



# Black Bruin hydraulic motors - small size giants for mobile and industrial use



# black bruin®

## Small compact construction

Black Bruin motors - with standard rim attachments, built-in brakes, and small overall size - are easy to adapt and mount. Light compact construction for individual wheel-hub units imposes no limitation in vehicle design; no conventional axles or reduction gears are needed.

## Remarkable low speed characteristics

Black Bruin motors run smoothly at speed close to zero. The radial piston cam curve design motors are precisely balanced, providing constant ripple free output torque.

## Superior starting torque

Black Bruin radial piston construction provides high starting torque to achieve maximum tractive effort when starting from standstill or for smooth steady traction in low speed conditions.

## Freewheeling and re-engagement while moving

Black Bruin motors can be free-wheeled either hydraulically or mechanically. This feature allows the motors to work in multi-speed transmission designs, or to be free-wheeled on towed vehicles at high speeds. The motors can be re-engaged, or disengaged while the vehicle is moving. Hydraulic power is not required when the mechanical free wheel option is installed.

## Variety of brake options

- Wet multi-disc, spring set, pressure release
- Pressure to apply wet multi-disc type for standard automotive operation
- Mechanical shoe or mechanical disc and caliper

## Wide speed range

- 2-speed options



- Casing pressure
- Operating pressure
- Return pressure



- Freewheeling
- No pressure



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## Sampo Hydraulics as Part of Sampo Rosenlew Ltd



SAMPO ROSENLEW Ltd was founded in 1991 through a management buy-out from the Rauma Group. Today's Sampo Rosenlew Ltd originates from the family business of W.ROSENLEW Ltd, which was established in Pori, Finland, in 1853. In the very beginning the company shipped timber from a harbour located at that time in the middle of the town.

Gradually the manufacture of agricultural machines and implements was started, and at the beginning of the 20th century the factory produced stationary threshing machines. Ploughs and harrows constituted an important part of production, and the product range was enormous.

Simultaneously the household appliance sector was expanding. Castings from the factory's own foundry were machined for various products.

In 1957 the combine harvester was introduced, and gradually became the most successful agricultural product in the product range. By 1975 it was the only farm implement still in production.

In 1991 the business and production of combine harvesters was bought out from the Rauma Group

Since then, Sampo Rosenlew Ltd, now as an independent medium-sized industrial company, under the direction of its sole owner, Mr. Timo Prihti, has been pursuing an ambitious strategy to make the company more diversified and competitive through product research and development based on synergy and high technology.

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