



**black[®]
bruin**

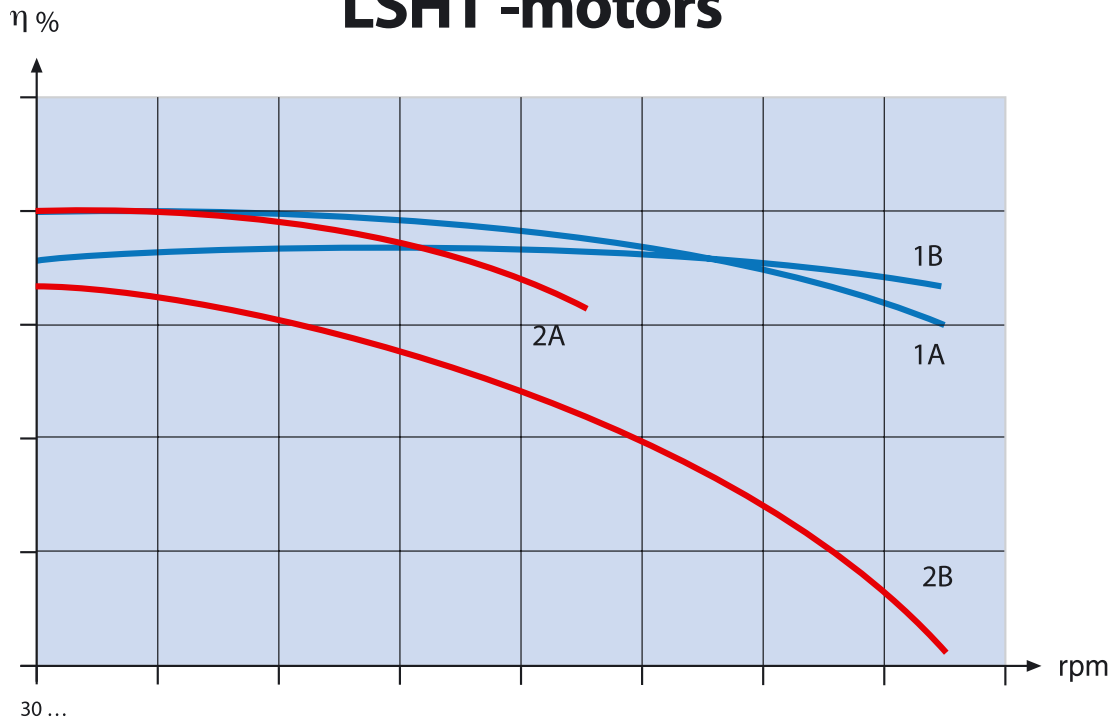
Black Bruin BBC - Motor *Radial piston motor with superior performance*



Black Bruin BBC radial piston motor gives excellent efficiency in high speeds in both directions.

In small size it provides higher torque level, wider speed range and expansive possibilities for accessories.

Mechanical efficiency of LSHT -motors



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BBC -motor

1A -full displacement

1B -1/2 displacement

Conventional LSHT -motor

2A -full displacement

2B -1/2 displacement

New Black Bruin provides:

- Superior starting torque
- Excellent efficiency at high speed — in both directions
- Top radial loading capability

Performance Data

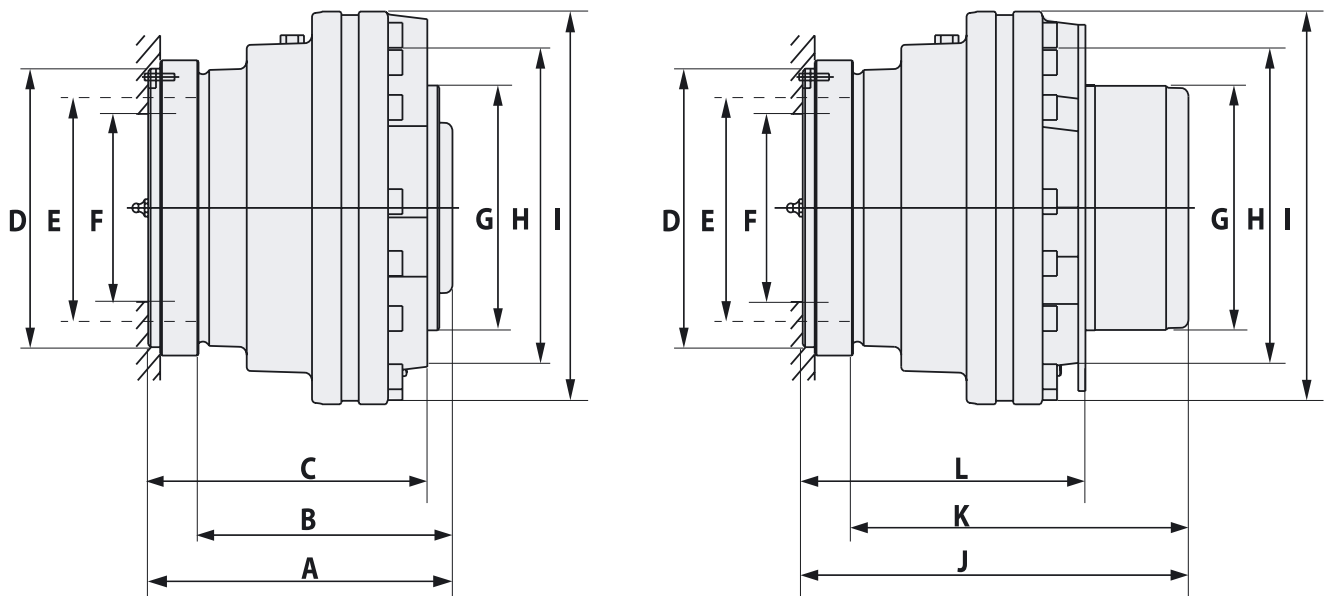
Motor class size	BBC 01						BBC 02					BBC 03				
Percentual displacement	%	90	100	110	120	130	90	100	110	120	130	90	100	110	120	130
Displacement	ccm	462	513	564	615	667	705	783	862	940	1018	909	1010	1111	1212	1313
Peak pressure	bar	450	450	450	425	400	450	450	450	425	400	450	450	450	425	400
· Peak torque	Nm	3045	3380	3715	3830	3910	4645	5160	5680	5850	5965	5990	6655	7320	7545	7690
Intermittent* pressure	bar	400	400	400	375	350	400	400	400	375	350	400	400	400	375	350
· Intermittent torque	Nm	2710	3005	3305	3380	3420	4130	4585	5050	5165	5220	5325	5915	6510	6655	6730
Power																
· Max. displacement	kW			32					42					50		
· 1/2 displacement	kW			21					28					33		
Max. speed																
· Working	rpm	260	234	213	195	180	223	201	182	167	154	206	186	169	155	143
· 1/2 displacement	rpm	364	328	298	278	252	318	286	260	238	220	290	261	238	218	201
· Freewheeling	rpm	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Brake																
· Brake torque	Nm			4300					6560					8470		
· Releasing pressure	bar			16					16					16		
· Max. brake pressure	bar			30					30					30		

Motor class size	BBC 04						BBC 05				
Percentual displacement	%	90	100	110	120	130	90	100	110	120	130
Displacement	ccm	1170	1300	1430	1560	1690	1572	1747	1922	2096	2271
Peak pressure	bar	450	450	450	425	400	450	450	450	425	400
· Peak torque	Nm	7710	8670	9425	9710	9900	10360	11515	12670	13045	13305
Intermittent* pressure	bar	400	400	400	375	350	400	400	400	375	350
· Intermittent torque	Nm	6855	7615	8380	8570	8665	9210	10235	11260	11510	11640
Power											
· Max. displacement	kW			59					72		
· 1/4, 1/2, 3/4 displacement	kW			26/39/49					32/48/60		
Max. speed											
· Working	rpm	189	170	155	142	131	172	155	141	129	119
· 3/4 displacement	rpm	225	202	184	169	156	205	185	168	154	142
· 1/2 displacement	rpm	267	240	218	200	185	244	220	200	183	169
· 1/4 displacement	rpm	356	320	291	267	246	326	293	266	244	226
· Freewheeling	rpm	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Brake											
· Brake torque	Nm			10900					20600		
· Releasing pressure	bar			16					16		
· Max. brake pressure	bar			30					30		

Motor class size	BBC 06						BBC 07				
Percentual displacement	%	90	100	110	120	130	90	100	110	120	130
Displacement	ccm	2214	2460	2706	2952	3198	3825	4250	4675	5100	5525
Peak pressure	bar	450	450	450	425	400	450	450	450	425	400
· Peak torque	Nm	14590	16215	17835	18375	18735	25200	28000	30800	31740	32360
Intermittent* pressure	bar	400	400	400	375	350	400	400	400	375	350
· Intermittent torque	Nm	12970	14410	15855	16215	16395	22400	24890	27380	28000	28310
Power											
· Max. displacement	kW			91					125		
· 1/4, 1/2, 3/4 displacement	kW			40/60/76					54/81/104		
Max. speed											
· Working	rpm	154	139	126	116	107	123	110	100	92	85
· 3/4 displacement	rpm	183	165	150	137	127	136	122	111	102	94
· 1/2 displacement	rpm	217	195	177	163	150	170	153	139	127	117
· 1/4 displacement	rpm	289	260	237	217	200	226	203	185	170	156
· Freewheeling	rpm	800	800	800	800	800	650	650	650	650	650
Multi-disc brake											
· Brake torque	Nm			20600					42000		
· Releasing pressure	bar			16					16		
· Max. brake pressure	bar			30					30		

* Intermittent operation: Permissible values for max. 10% of every minute.

Dimensions

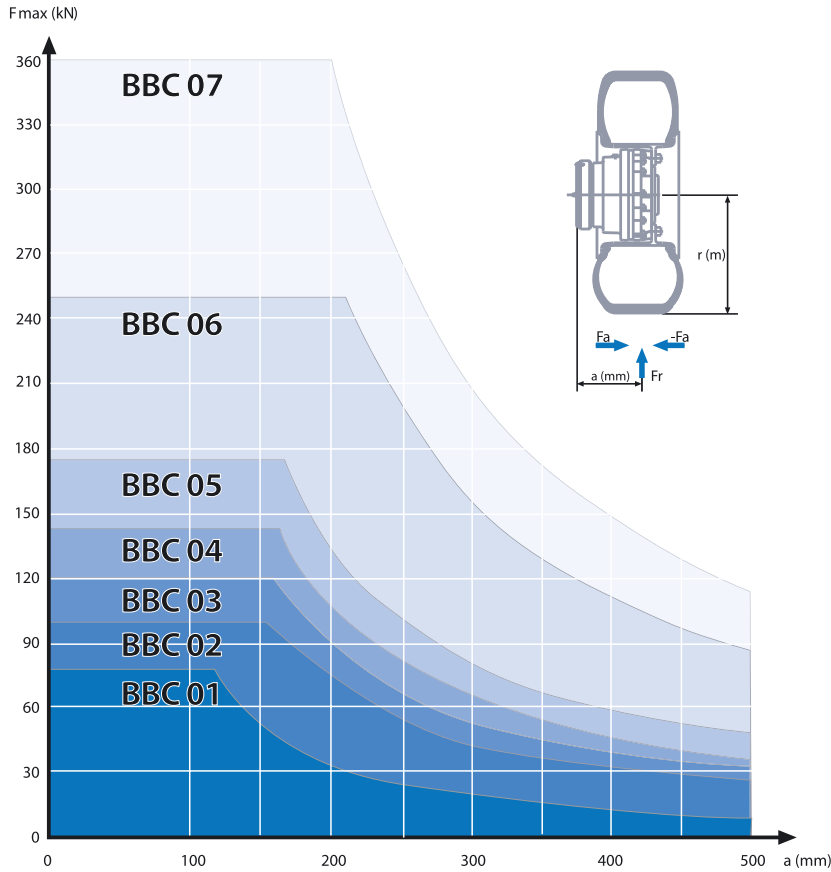


Model	Weight without brake kg	A mm	Rotating part B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Rotating part K mm	L mm	Weight with brake kg	Model
BBC 01	41	234	193	210	172	140 12xM12	117	175,8	225 5xM22x1,5	263	299	258	213	47	BBC 01
BBC 02	62	254	212	233	200	160 8xM16	135	175,8	225 5xM22x1,5	282	322	280	236	71	BBC 02
BBC 03	80	267,5	223	241	216	175 10xM16	150	220,8	275 8xM20x1,5	315	331	286,5	241	92	BBC 03
BBC 04	103	281	234	246	216	175 12xM16	150	220,8	275 8xM22x1,5	343	350	303,5	250	118	BBC 04
BBC 05	138	298	254	259	240	200 12xM20x1,5	166	280,8	335 10xM22x1,5	376	383	339	263	159	BBC 05
BBC 06	180	328	279,5	290	262	215 12xM20x1,5	185	280,8	335 10xM22x1,5	420	423	374,5	295	215	BBC 06
BBC 07	300	387	332,5	338	310	260 12xM20x1,5	220	370,8	425 10xM22x1,5	492	535	480,5	338	400	BBC 07



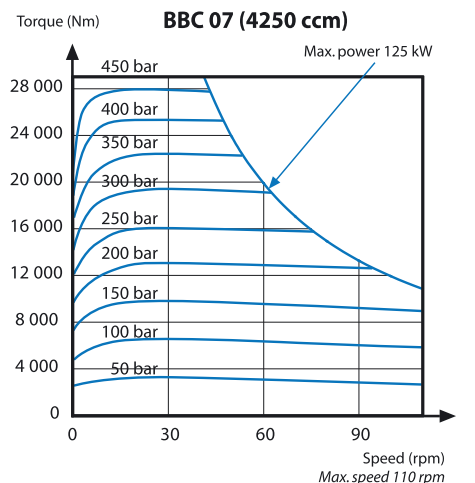
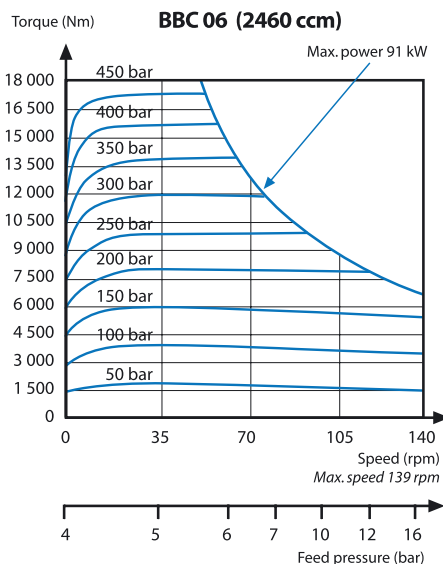
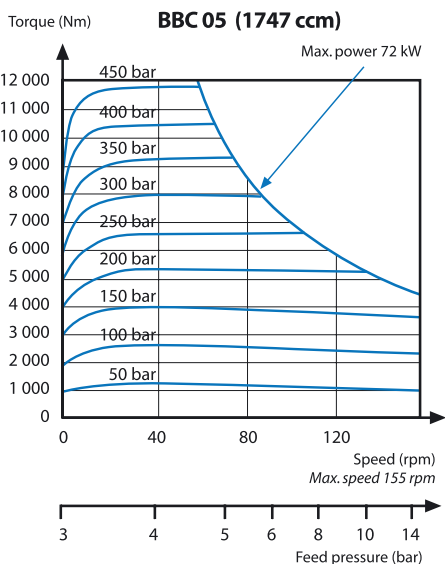
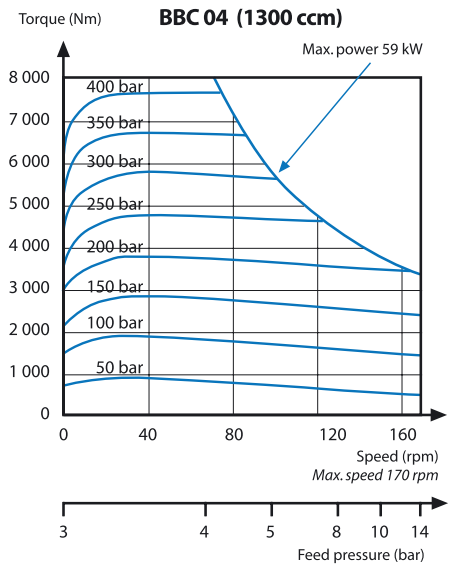
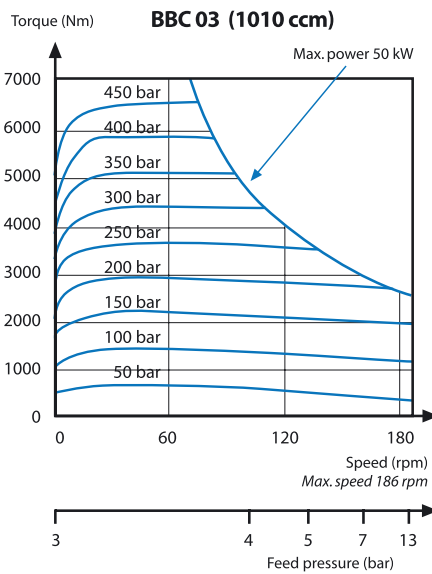
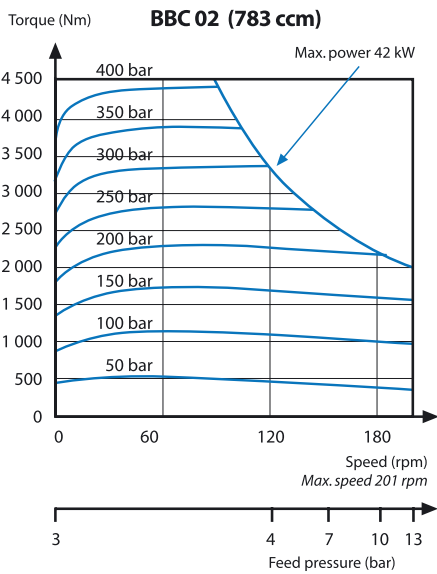
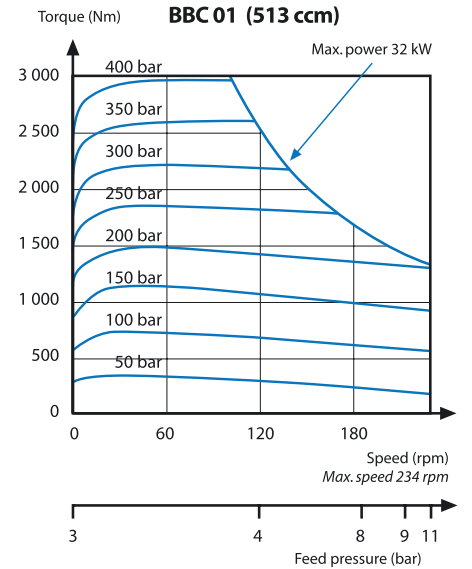
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Shaft load



Performance curves

The performance curves are based on nominal displacement (100%) of each frame size. Also 90, 110, 120 and 130% displacements are available. For more information, please contact us.



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

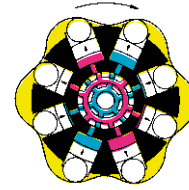
Black Bruin motors can be free-wheeled either hydraulically or mechanically. This feature allows the motors to work in multi-speed transmission designs, or to be free-wheeled on towed vehicles at high speeds. The motors can be re-engaged, or disengaged while the vehicle is moving. Hydraulic power is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

Variety of brake options

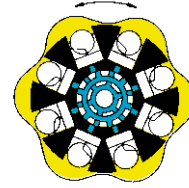
- Wet multi-disc, spring loaded, pressure to release
- Pressure to apply wet multi-disc type for standard automotive operation
- Mechanical shoe or external disc

Wide speed range

- 2-, 3- and 4-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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