

# Black Bruin

## S-series

Industrial Hydraulic Motors



An aerial photograph of a vast, rugged mountain range. The peaks and ridges are covered in a thick layer of snow, contrasting with the dark, forested slopes. A winding road or path is visible on the left side of the image, snaking through the lower slopes. The overall scene is one of a high-altitude, alpine environment.

**S-series**





# Built to last

## With robust piston design

For over 60 years Black Bruin Low-Speed High-Torque motors have powered various industrial applications worldwide. This extensive experience in the field of radial piston-cam ring motors is behind the new S-series. These Industrial Hydraulic Motors with a rotating shaft, are the most powerful Black Bruin's, rated up to 22500 ccm and 500 kW.

S-series motor has robust piston design and no backlash. The construction is ideal for demanding recycling applications with direction changes and shock loads. The power of S-series handles inconsistent waste material effortlessly and clears jamming situations with ease.

The torque transmitting components are easily serviceable if needed to guarantee the maximal uptime of your application.



# Get the job done

## With high productivity

The foundation drilling industry sets high demands on hydraulic motors. Black Bruin S-series motor is ideal to rotate the massive drill due to the high performance and durability. Contractors rely on S-series because they get the job done!

S-series direct drive transmits hydraulic energy efficiently without gears. With the 2-speed function, drilling speed can be changed on-the-go without stopping the operation. This is a great advantage in varying soil and ground conditions, ensuring the highest productivity possible.

S-series is available with several output shafts, including the useful through hole version. With internal diameter of 110 mm, the flow capacity is superior and a vast amount of material can be fed through motor. Strong tapered roller bearings in S-series handle extreme axial and radial loads.







# Reliable drives

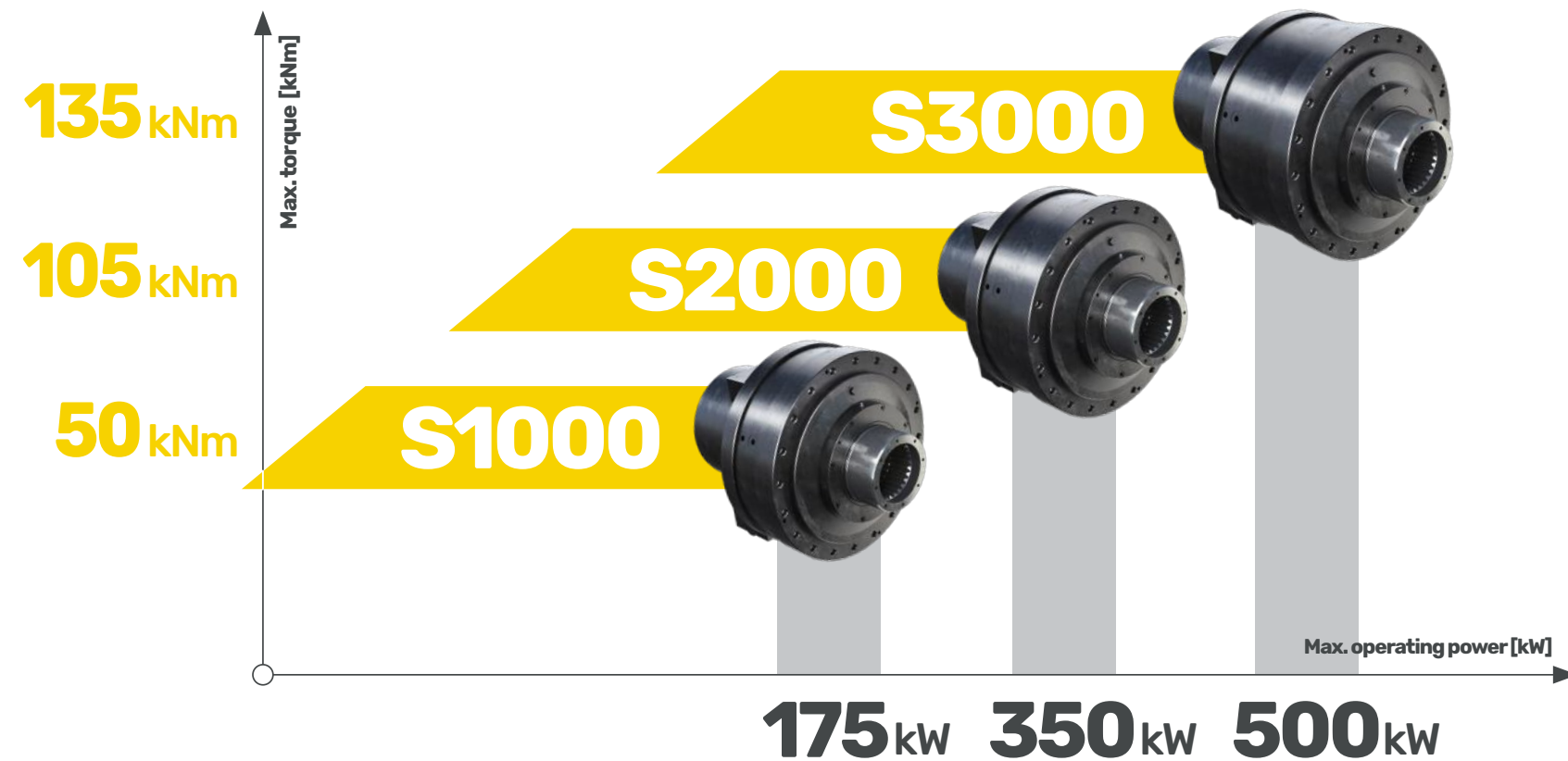
## For challenging conditions

Black Bruin S-series motor with a powerful brake is typically used as a direct winch drive in various marine and offshore applications. The motor runs at constant torque from low to high speeds. Motor can be hydraulically freewheeled when needed.

S-series is designed to operate reliably under demanding conditions and environments. The durable triple-sealing design protects the motor from dirt and moisture, thus protecting the entire hydraulic system.

The powerful (95 kNm) load-holding brake keeps the load safely and securely and it can be used in emergency situations.





### High working pressure

S-series is designed for high pressure, up to 450 bar. This allows optimal component sizing and gives flexibility to hydraulic system design.

### Power and torque

S-series offers displacements from 4400 ccm up to 22500 ccm. The radial piston-cam ring design is precisely balanced, providing a constant ripple-free output torque even at low speeds.

**“The Black Bruin powered drills outperform any of our other drills we have in our fleet, hands down!”**

Joe Gruber, Goettle, Inc.





# Features

## ● High load capacity

Optimally placed tapered roller bearings give a high radial and axial load capacity.

## ● Multi-speed function

Superior productivity with shift-on-the-go 2-speed function.

## ● Speed sensor

All S-series motors can be equipped with a speed sensor with direction detection.

## ● Modular design

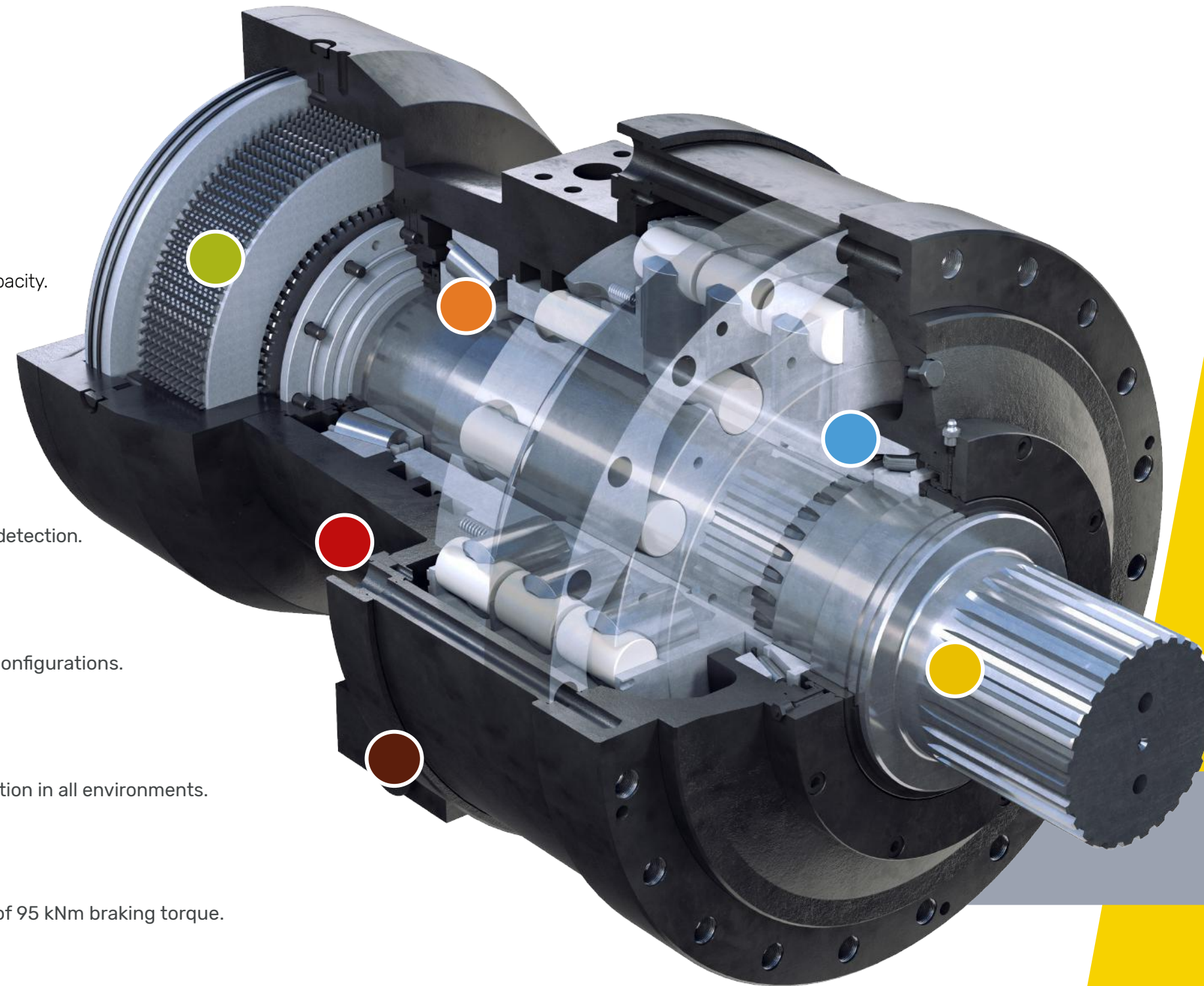
Flexibility in motor design and service. One frame with various shaft configurations.

## ● Well-sealed structure

The triple-sealing design protects the motor and ensures reliable operation in all environments.

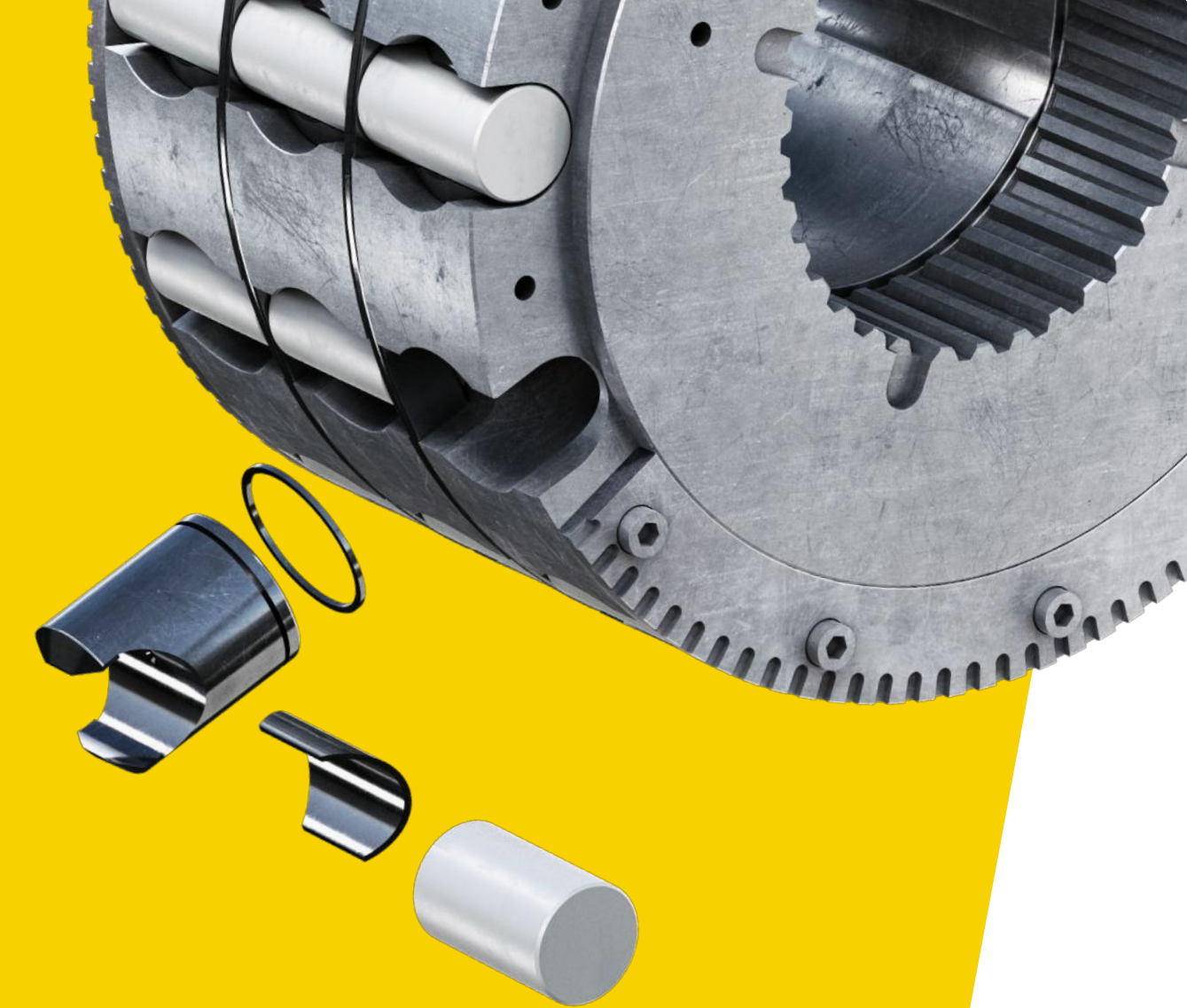
## ● Strong brake

The spring-applied, hydraulic release wet multi-disc brake is capable of 95 kNm braking torque.



## Robust piston design with improved serviceability

Piston design is engineered to last a lifetime!





# Various output Shafts



**External splines**  
Through shaft



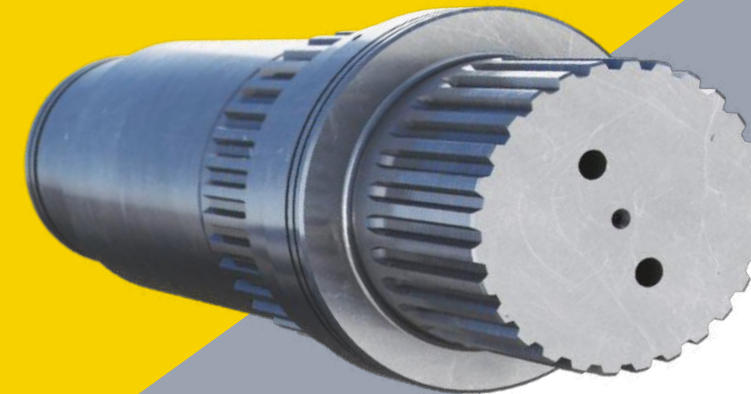
**Internal splines**  
Through shaft



**Internal splines**



**Shrink disc**



**External splines**  
Solid shaft



**External splines**  
Solid shaft, motors with brake



# Valves for S-series motors

Suitable for all frame sizes



## Cross-port relief valve

Direct mount CPV500 protects the motor from pressure spikes and cavitation under rapid direction changes, shock loads and runaway loads.



## Freewheeling valve

Smooth shift on-the-go freewheeling and free-circulation mode. FWV600 comes with integrated pressure reducing valve and flow control for case flush. Direct mounts on the motor ports and compatible with CPV500.



## FWV600 Freewheeling valve

Rated flow 600 l/min - Max pressure 420 bar



## CPV500 Cross-port relief valve

Rated flow 500 l/min - Max pressure 420 bar





**Accessories**  
For more information, please  
contact [sales@blackbruin.com](mailto:sales@blackbruin.com)

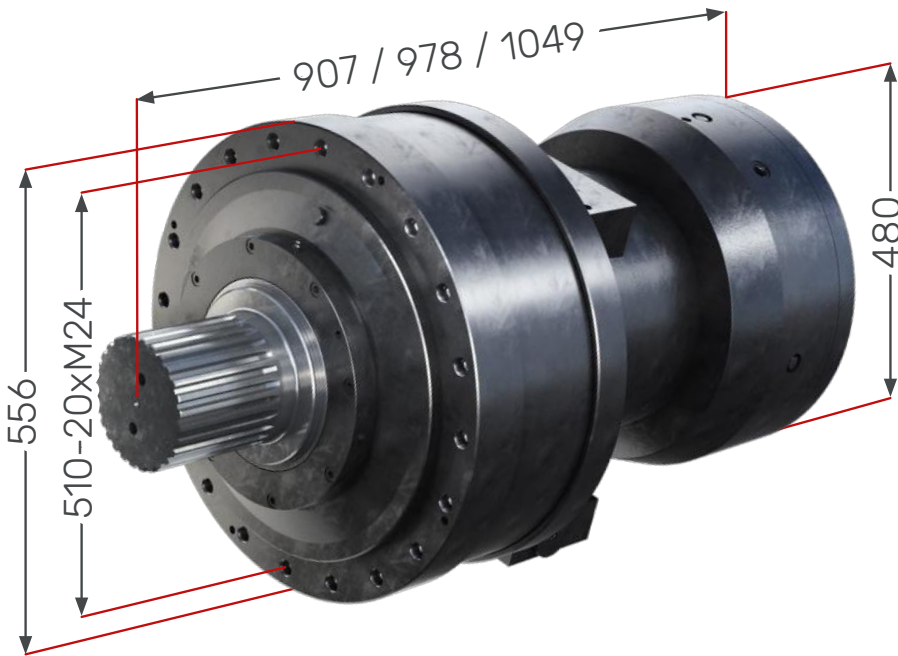




# S1100/S2100/S3100

Motors with brake

Options	S1100	S2100	S3100
1-speed	X	X	X
2-speed valve	X	X	X
Shaft type			
External splines, solid shaft	X	X	X

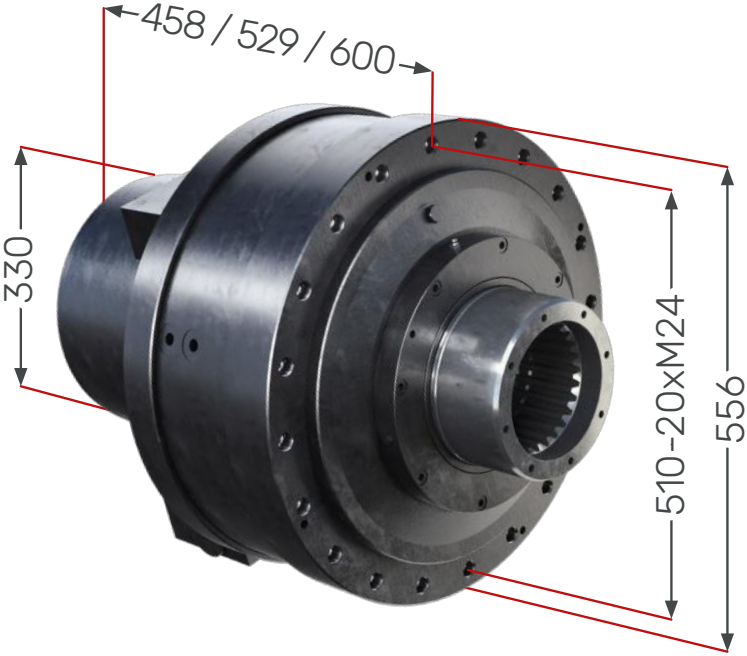


Technical data	S1100	S2100	S3100
Displacement [ccm]	4400 / 6300 / 7500	8800 / 10000 / 12600 / 15000	13200 / 15000 / 18900 / 22500
Max. theoretical torque [Nm]	31500 / 45100 / 53700	63000 / 71600 / 90200 / 107400	94500 / 107400 / 135300 / 136000
Max. torque with 100 bar [Nm]	7000 / 10000 / 11900	14000 / 15900 / 20000 / 23800	21000 / 23900 / 30000 / 35800
Max. operating power [kW]	175	350	500
Max. rotating speed [rpm]	180 / 180 / 150	130 / 110 / 90 / 75	85 / 75 / 60 / 50
Max. working pressure [bar]	450	450	450 / 450 / 450 / 380
Weight [kg]	748 - 766	850 - 868	957 - 975
Brake torque [Nm]	55000	95000	95000

# S1000/S2000/S3000

Motors without brake


Options	S1000	S2000	S3000
1-speed	X	X	X
2-speed valve	X	X	X
Shaft type			
Internal splines	X	X	X
Internal splines, through shaft	n/a	X	X
External splines, through shaft	n/a	X	X
External splines, solid shaft	n/a	X	X
Shrink disc	n/a	X	X



Technical data	S1000	S2000	S3000
Displacement [ccm]	4400 / 6300 / 7500	8800 / 10000 / 12600 / 15000	13200 / 15000 / 18900 / 22500
Max. theoretical torque [Nm]	31500 / 45100 / 53700	63000 / 71600 / 90200 / 107400	94500 / 107400 / 135300 / 136000
Max. torque with 100 bar [Nm]	7000 / 10000 / 11900	14000 / 15900 / 20000 / 23800	21000 / 23900 / 30000 / 35800
Max. operating power [kW]	175	350	500
Max. rotating speed [rpm]	180 / 180 / 150	130 / 110 / 90 / 75	85 / 75 / 60 / 50
Max. working pressure [bar]	450	450	450 / 450 / 450 / 380
Weight [kg]	430 - 448	540 - 618	642 - 725

Visit [www.blackbruin.com](http://www.blackbruin.com) for more information or contact [sales@blackbruin.com](mailto:sales@blackbruin.com)



The image shows a dark, textured surface, possibly a book cover or a folder, with a metallic handle on the left side. The handle is cylindrical and has a brushed metal finish. The text "Black Bruin" is printed in white on the right side of the surface. The word "Black" is on the top line and "Bruin" is on the bottom line. The letter "i" in "Bruin" has a small red square above it. The background is dark and has a fine, pebbled texture. There are some vertical lines and a small circular detail on the left side, and some faint circular marks at the bottom center.

**Black  
Bruin**



Your local **Black Bruin** distributor:

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