

Built to last
With robust piston design



S Series

Industrial Hydraulic Motors



Get the job done
With high productivity



Reliable drives
For challenging conditions



Robust piston design with improved serviceability

DEMANDING RECYCLING APPLICATIONS

- Robust Piston Design
- No Backlash
- Ideal for Direction Changes and Shock Loads
- Handles Inconsistent Waste Material Effortlessly
- Clears Jamming Situations with Ease

DRILLING INDUSTRY APPLICATIONS

- Rotates Massive Drills with High Performance and Durability
- 2-speed Function On-the-go Drill Speed Changes
- High Productivity in Varying Soil and Ground Conditions
- Available with Several Output Shafts
- Useful Through Hole Output Shafts
- Large Internal Diameter Allows High Flow Capacity Feed Through the Motor
- Strong Tapered Roller Bearings Handle Extreme Axial and Radial Loads

MARINE AND OFFSHORE APPLICATIONS

- Winch Drives with Powerful Brakes
- Motors Run at Constant Torque from Low to High Speeds
- Hydraulically Freewheeling
- Reliable Under Demanding Conditions and Environments
- Triple-sealing Design Protects the Motor from Dirt and Moisture
- Safe and Secure Loads Even in Emergency Situations

60 Years Extensive Experience
in The Field of
Piston-cam Ring Motors



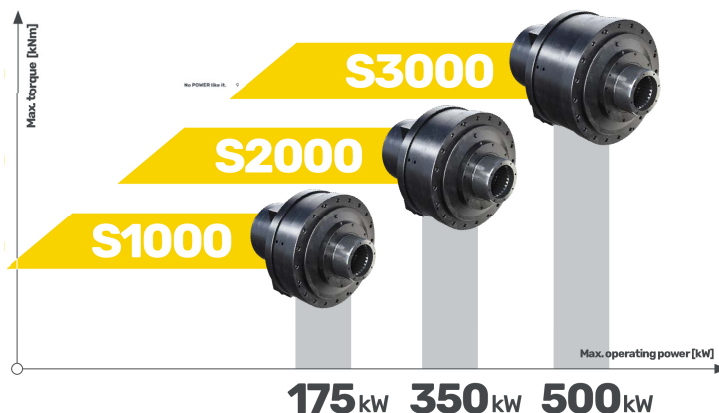
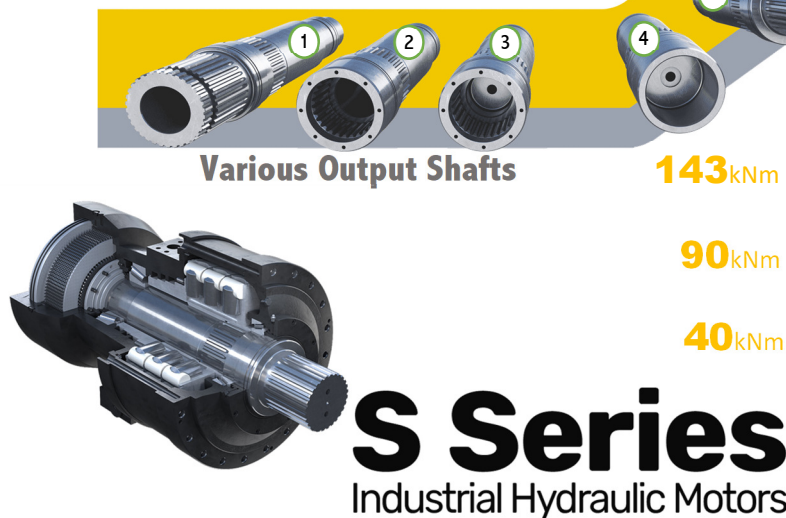
"The Black Bruin powered drills outperform any of our other drills we have in our fleet, hands down!"

Joe Gruber, Goettle, Inc.

Features

- High load capacity
- Multi-speed function
- Speed sensor
- Modular design
- Well-sealed structure
- Strong brake

Black Bruin
No power like it.



Black Bruin S-series Industrial Hydraulic Motors

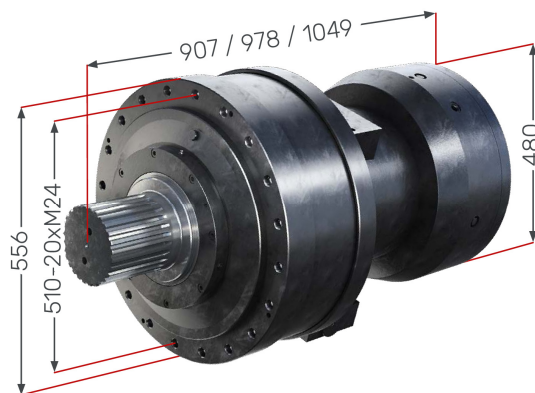
Technical Data	S1000 S1100	S2000 S2100	S3000 S3100
Displacement (ccm)	4400/6300/7500	8800/10000/12600/13200/15000	13200/15000/18900/22500
Max. operating power (kW)	175/175/175	350/350/350/350/350	500/500/500/500
Max. rotating speed (rpm)	180/180/150	130/110/90/86/75	85/75/60/50
Max. working pressure (bar)	450/450/450	450/450/450/450/450	450/450/450/380
Weight (kg) Without Brake	430-448	540-618	642-725
Weight (kg) With Brake	748-766	850-868	957-975
Brake Torque (Nm)	55000	95000	95000
Options			
1-speed	x	x	x
2-speed valve	x	x	x
Freewheeling valve	x	x	x
Cross over relief valve	x	x	x



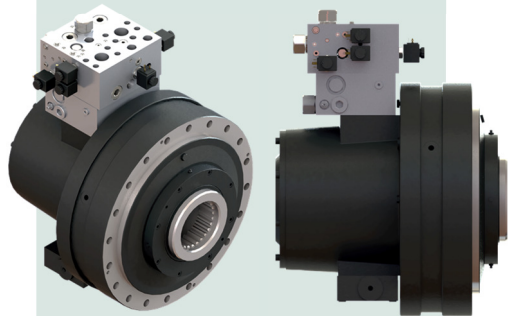
Features

- **High load capacity**
Optimally placed tampered 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**
T spring-applied, hydraulic release wet multi-disc brake is capable of 95kNm braking torque.
- **Various output shafts**

1 External Splines – Through Shaft	W150/W180
2 Internal Splines – Through Shaft	N150
3 Internal Splines	N140/N150
4 Shrink Disc	Ø140/150
5 External Splines – Solid Shaft	W150/W180
6 External Splines – Solid Shaft, Motors with Brake	W150/W180
- **Freewheeling**
Allows for least restrictions while turning shaft.
- **Cross over relief**
Direct mounted to prevent shock loads.



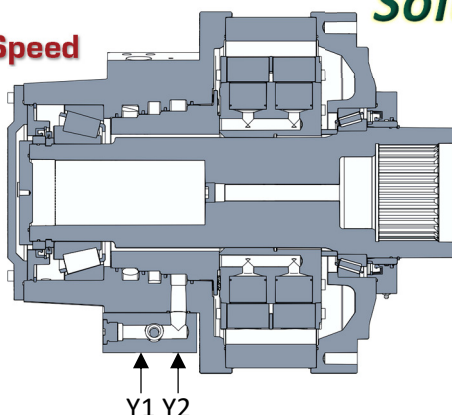
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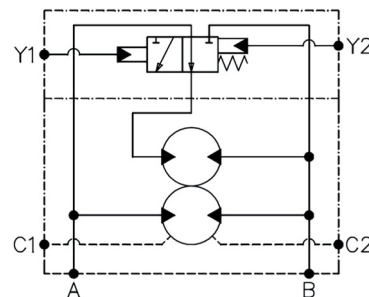
2 Speed Operation:

- 2 Speeds and 2 torques with the same hydraulic system
- Every other piston is moved to idle in the distribution block and from hydraulic fluid
- Motor switches to half displacement, speed increases to twice as fast and torques reduce by half
- Motor operates like a single speed motor when operating at full displacement

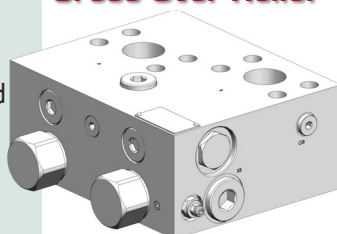
2 Speed



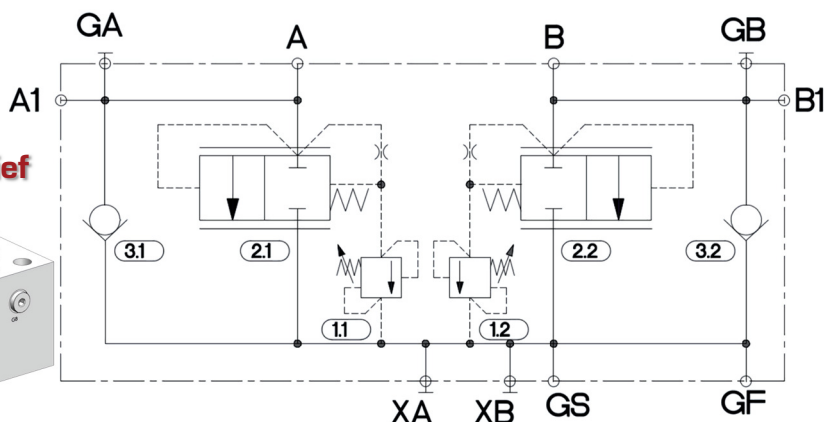
S-series Motors Solution Providers



Cross Over Relief



CPV500
1747001002



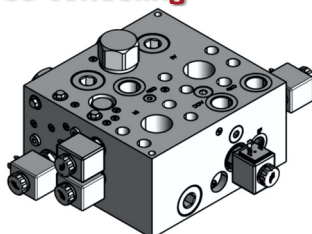
Cross Over Relief:

- Direct mount to A/B ports on motor
- Protects the motor from high pressure peaks
- Provides cavitation protection

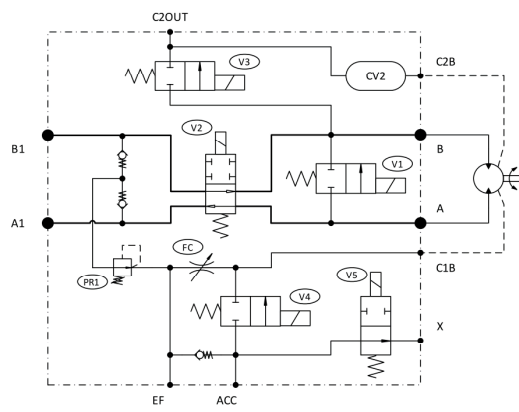
Free Wheeling:

- To freewheel pressurize the case to retract pistons
- Equalize pressure on ports A/B
- Case pressure at 0.5 bar higher than ports A/B
- Maximum case pressure is 10 bar peak, 2 bar nominal
- Damage can occur if pressure loss happens during operation
- From freewheel to power mode don't exceed 100 bar at time of shifting

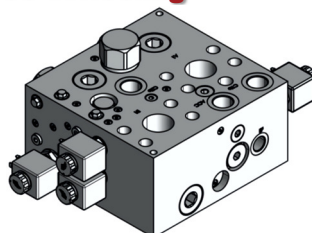
Free Wheeling



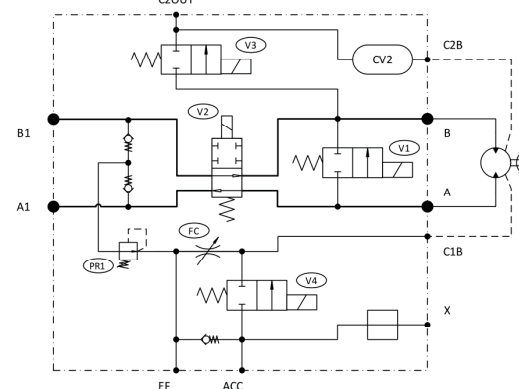
FWV600-X1-F1-0-U12-0000
1747002001



Free Wheeling



FWV600-X0-F1-0-U12-0000
1747002000



Please contact NAHI for additional information

The above information should be used as a guide and is subject to change without notice. Please contact NAHI for proper selection.

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