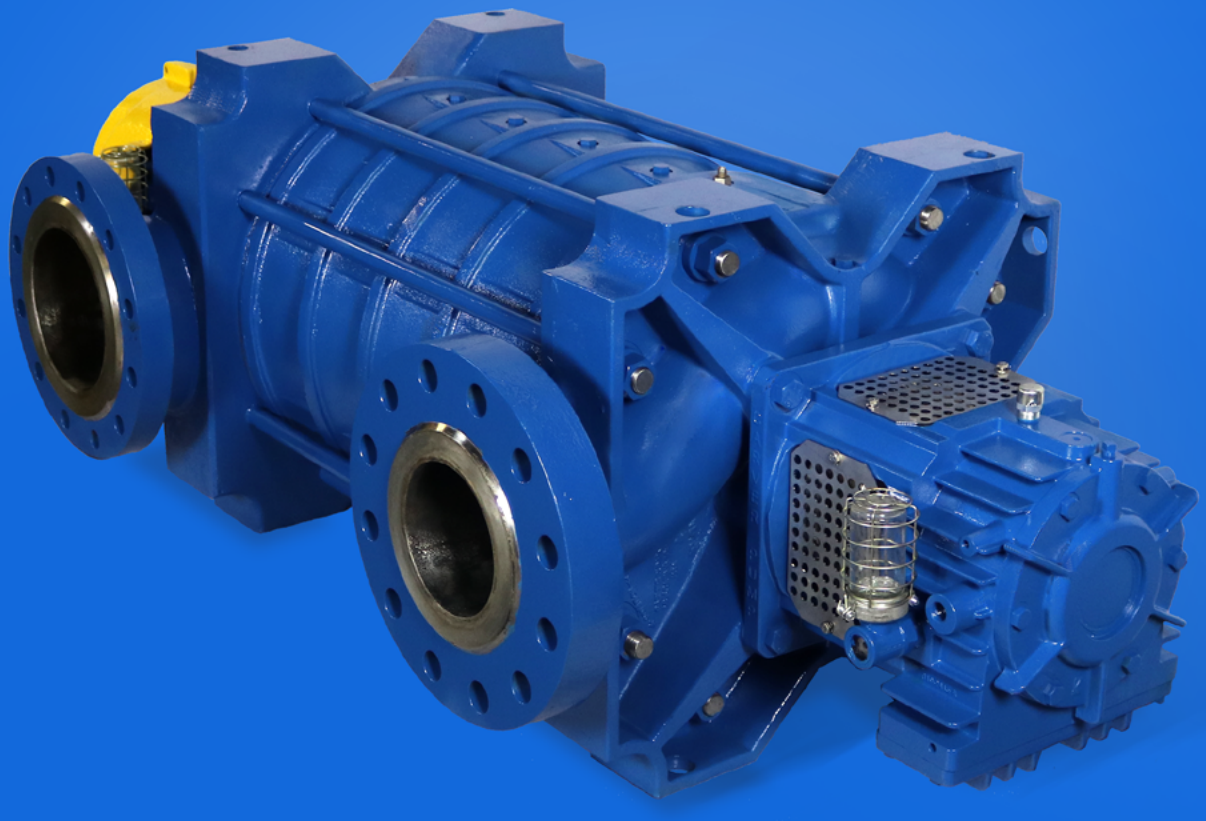
CARVER PUMP™

Built for purpose



RS

Multistage Ring Section Pump for pressure to 1,500 PSI

RS

The RS is our process duty, horizontal ring section multistage pump. Designed for moderate to high-pressure pumping, the RS is available in seven basic sizes with overall performance to 2,600 HP.

The RS is offered with Class 300 ANSI R.F. inlet flanges and Class 600 or 900 ANSI R.F. discharge flanges, depending on the pressures and number of stages involved. Hydraulic performance extends to 2,000 GPM and 3,400 ft. TDH, making it ideally suited for the most demanding industrial and process applications.

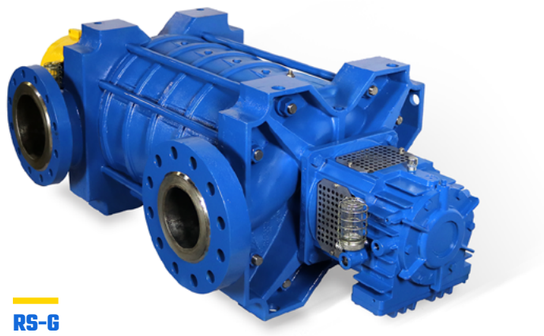
The RS design incorporates a product-lubricated, advanced composite material, sleeve-type radial bearing at the outboard (discharge) end. The thrust bearings are two matched angular contact ball bearings located at the inboard (suction) end of the pump. An optional outboard mechanical seal with an inboard radial ball bearing is also available. The RS has oil-lubricated ball bearings, which can be water cooled. Larger units can also be fan cooled.

The available materials of construction, from ductile iron to duplex stainless steel, offer combinations suitable for all applications from general water services to light abrasives and corrosive applications. Our proprietary advanced composite material, available for wear rings and interstage bushings, offers high-temperature performance, and exceptional resistance to wear and corrosion.

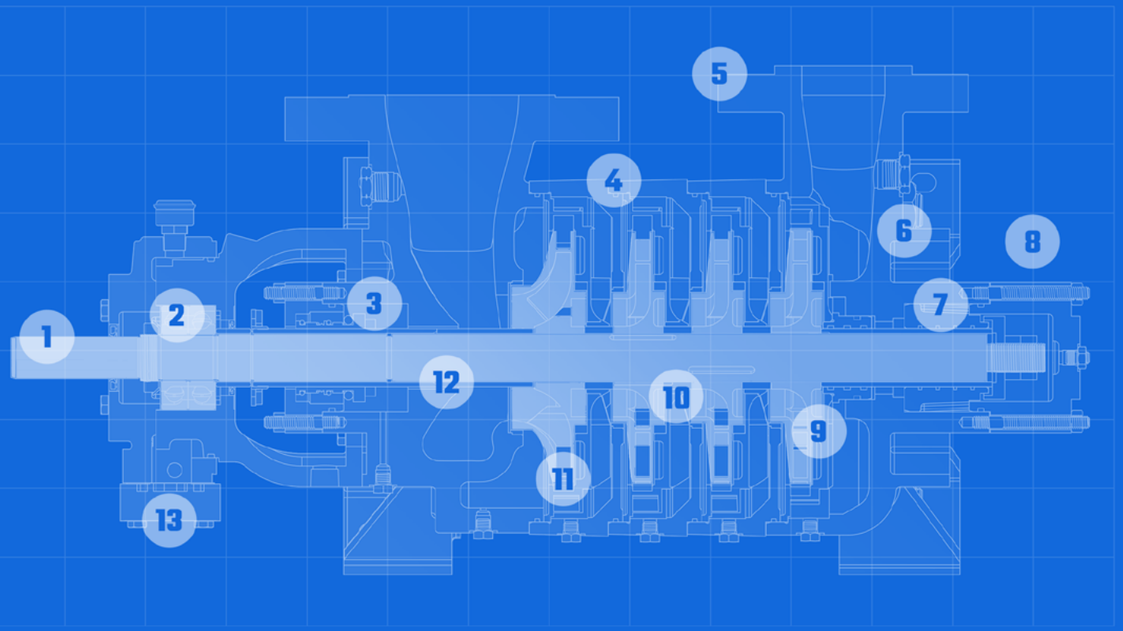
Many other options and arrangements, such as turbine and magnetic drive units, are also available. These options, together with all the value-added features shown on the following pages, offer the benefits of:

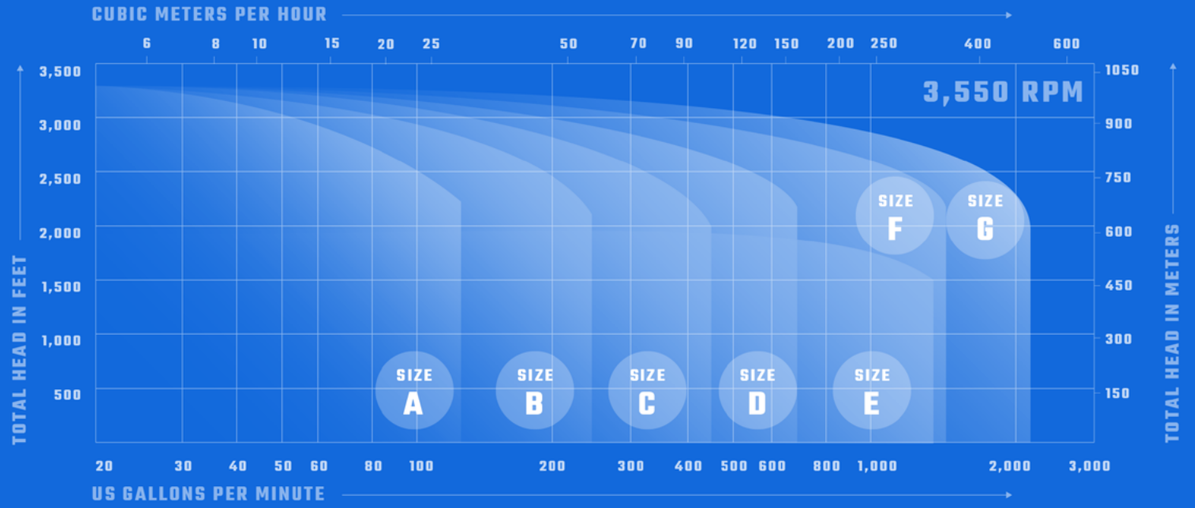
- Maximum safety
- Maximum installation flexibility
- Maximum fluid compatibility
- Higher efficiencies
- Longer component life
- Minimal downtime

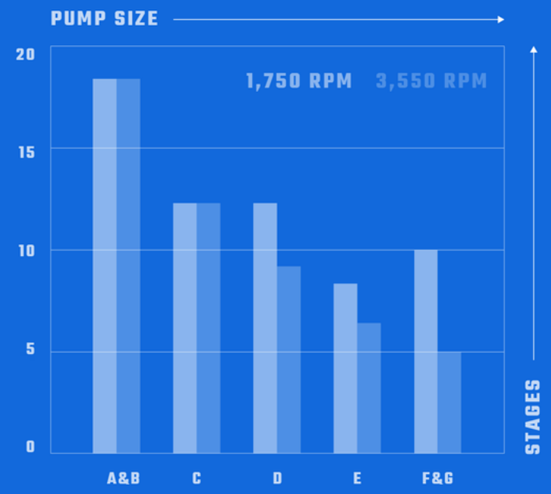
Together these benefits add up to lower total costs of ownership.



RS-G







Approval Certification Number 95-370

1 SHAFTS
17-4 PH stainless steel as standard

2 BALL BEARINGS
Oil-lubricated angular contact ball bearings to handle axial thrust in either direction

3 STUFFING BOX
Accepts either component or cartridge-type mechanical seals

4 O-RINGS
O-ring sealed casing and interstages assure leak-free operation

5 FLANGES
Class 300 ANSI R.F. inlet flange and Class 600 or 900 ANSI R.F. discharge flanges

6 CASING
Ductile iron or CD4MCuN duplex stainless steel as standard

7 SLEEVE BEARINGS
Radial sleeve-type bearing made of standard Carver composite material

8 OPTIONAL BEARING DESIGN
Optional matched angular contact ball bearings on outboard end with grooved radial ball bearing on inboard

9 WEAR RINGS
Replaceable front and rear wear rings at each pump stage as standard

10 INTERSTAGE BUSHING
Replaceable interstage bushing made of composite or hardened metal

11 FIRST STAGE IMPELLER
Special low-NPSH first-stage impeller

12 SHAFT SLEEVES
Stainless steel shaft sleeves as standard

13 OPTIONAL COOLER
Included when temperatures exceed 220° F

RS SNAPSHOT

The transfer of crude oil from producer to end user required a pump that could provide sustained high pressure and hold up to the harsh, changing climate of Canada's Oil Sands region. Carver Pump's RS (Ring Section) pump line was an easy choice for the LACT system booster pumps needed in this application. Our RS pumps produce up to 3400 ft TDH (Total Dynamic Head) and can easily pump oil long distances over changing elevations.

HYDRAULICS

- Flows to 2,000 GPM (454 m³/hr)
- Heads to 3,400 feet (1,000 m)
- Pressures to 1,500 psig (100 bar)
- Temperatures from -20° F to 300° F (-30° C to 149° C)
- Speeds to 3,550 RPM

APPLICATIONS

- Agriculture irrigation
- Boiler feed
- Chemical and light hydrocarbon transfer
- Coating and surface treatment
- Desalination and reverse osmosis
- High rise building sprinklers
- Large vehicle washers
- Paper mill shower water
- Pressure boosting systems
- Sanitary wash down services
- Ski resort snowmaking systems
- Equipment lube and seal oil supply
- High-pressure injection applications
- Natural gas processing systems

WHY AN RS?

- The ability to select the number of stages to meet the design point makes the RS a more cost-effective solution.
- Interstage diffusers minimize radial loads, for longer seal and bearing life, while carefully controlling fluid flow, for smooth and quiet operation.
- Lower rotational speed vs. high-speed gearbox pumps results in lower NPSHr, more durability and longer life.
- Suction and discharge casings can be rotated to meet a variety of piping configurations.
- Hydraulically balanced thrust loads at each stage preserve bearing life.
- Water and fan cooling are available for high-temperature applications.

STANDARD MATERIALS

Casing	Ductile Iron or CD4MCuN
Impeller	Cast Iron or CD4MCuN
Diffuser	Cast Iron or CD4MCuN
Shaft	17-4PH SS
Sleeve Bearing	Composite Material

Other Materials Available Upon Request

MECHANICAL DATA

Rotation	Clockwise as Standard
Flange Positions	3 Positions Available
Suction Flange	Class 300 ANSI R.F.
Discharge Flange	Class 600 or 900 ANSI R.F.
Bearings	Oil Lubricated

CARVER PUMP™
Built for purpose

80 years of experience

Since we built our first pumps in 1938, Carver Pump has become recognized as one of the leading centrifugal pump companies, building pumps to the most demanding engineering specifications and military standards in the world.

We were one of the first American pump companies to attain ISO 9001 certification – the most recognized standard for quality in the world. This certification is your assurance that our commitment to quality includes not only our hardware, but also superior customer service, leading-edge R&D, and continuous improvement in everything we do.

So whether the job is refueling fighter jets on the deck of an aircraft carrier, supplying paint to an auto assembly line, or bringing water to the fountain in a city park, we put our reputation on the line everyday with every pump we build.

Contact us

2415 Park Avenue
Muscatine, Iowa 52761-5691
USA

(563) 263-3410
sales@carverpump.com
www.carverpump.com