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Ingersoll Rand



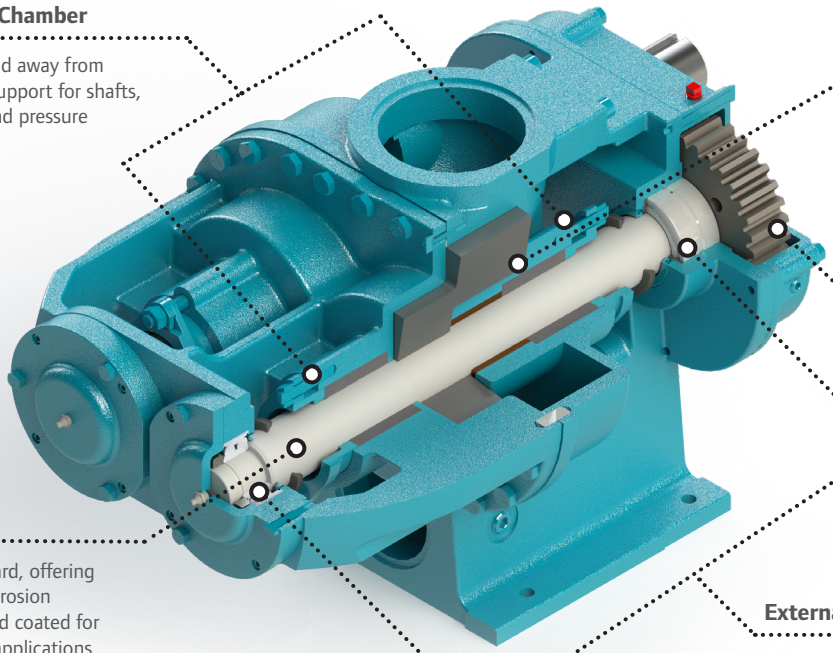
Heavy Duty Series

HEAVY DUTY

Bring On Your Most Demanding Applications
Circumferential Piston Process Pumps

THE MOST ROBUST PROBLEM-SOLVING PUMP IN THE INDUSTRY

The Heavy Duty Series pumps are resistant to abrasives and air entrainment, can withstand high and variable viscosities, and can run dry without damage. The HD Series is rated to 450 PSI differential pressure, outperforming most other rotary positive displacement pumps. This is a true workhorse known to last 30 years in the field!



Isolated Fluid Chamber

Keeps process fluid away from primary bearing support for shafts, maximizing life and pressure capability

Single Lobe Impellers

Maximum strength for high pressure requirements and minimal fluid shear

External Timing Gears

Prevents any metal-to-metal contact in the fluid chamber

High Strength Shafts

17-4 PH shafts are standard, offering high torque capability, corrosion resistance, and can be hard coated for maximum life in abrasive applications

External Bearing Support

Allows pump to run dry without damage

OTHER FEATURES & BENEFITS

Heavy-Duty Performance

- Pass solids up to 1 1/4"
- Flow rate up to 600 GPM (136 M3/HR)
- Differential pressure up to 450 PSI (31 BAR)
- Viscosities up to 4,400,000 CST
- Temperatures up to 550°F (290°C)
- Self-priming up to 14 feet

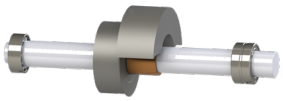
Customized Options

- Tutriding: hardening process for maximum life in abrasive applications
- A variety of flanges to satisfy any requirements
- Special clearances to meet a variety of temperature and fluid shear requirements
- Special construction for high temperature
- Bolt-on heating/cooling jackets for enhanced process control

Engineered Sealing Options

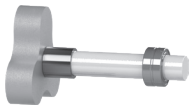
- Standard PTFE/graphite packing
- Food-grade packing (pure PTFE)
- A variety of engineered packing solutions and configurations, including Wedgee packing
- Cartridge lip seals for leak-free performance and dry run conditions
- A variety of single or double mechanical seal options, including slurry seal

The HD Series can handle it all: slurries, high-viscosity liquids, suspended solids, concentrated acids, chemicals, high-temperature liquids, sludge, resins, sewage and scum, paints, polymers, plastics, pharmaceuticals, foods, and shear-sensitive fluids. Heavy-duty construction provides longer life in the toughest pumping applications.



HD Design

HD with bearing support on both sides of impellers



Competitors

Cantilevered designs result in shaft deflection

Single Lobe Impeller Design

- Maximum strength for high viscosity and high pressure capability
- Long sealing length on impeller arc for maximum life in abrasive applications
- Allows large solids to pass through undamaged
- Sharp leading edge can shear softer materials to prevent lock up

External Bearing Support

- Heavy-duty, grease-lubricated double-row ball bearings support radial load as well as axial positioning of impellers
- Oil-lubricated roller bearings provide maximum radial load support
- Constant diameter shaft (no steps or stress risers) provides maximum

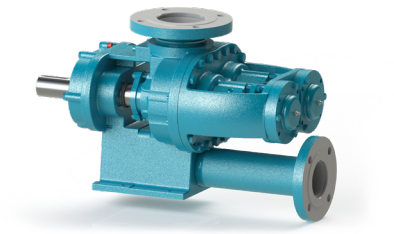
SPECIFICATIONS

MODEL	FLOW RATE		MAXIMUM DIFFERENTIAL PRESSURE		MAXIMUM SPEED	WEIGHT	
	GPM	M^3/HR	PSI	BAR	RPM	LBS	KG
70A	52	12	450	31.0	350	280	127
120A	105	24	450	31.0	350	300	136
330	265	60	450	31.0	350	550	249
600	520	118	450	31.0	350	900	408

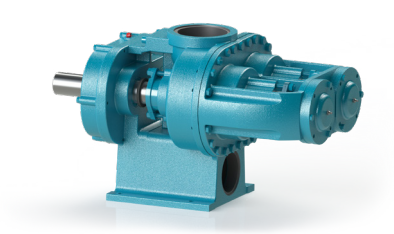
CAUTION: The fluid being pumped must always be specified. Applications above 200 PSI (13.8 BAR), 350°F (177°C), or 200 RPM must be reviewed by factory to ensure proper pump selection

STANDARD MATERIALS OF CONSTRUCTION	
Housing:	Ductile Iron, 316 Stainless Steel
Housing Bearing:	DU, Bronze, or Carbon
Faceplate:	Ductile Iron, 316 Stainless Steel
Faceplate Bearing:	Outboard Ball Bearing
Impellers:	Ductile Iron, 316 Stainless Steel
Shafts:	17-4 Stainless Steel
Gear Case:	Gray Iron

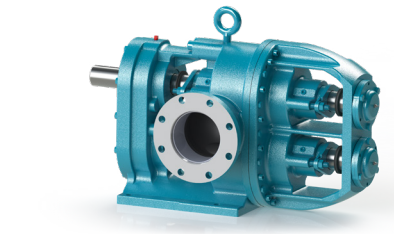
HD120A



HD330



HD600





DIFFERENTIAL PRESSURE UP TO 450

RUN DRY CAPABILITY

YOUR BEST PUMPING PROBLEM SOLVER!

INDUSTRIES AND APPLICATIONS

- Adhesive & Sealant
- Chemical Processing
- Confectionery
- Construction Material
- Energy & Power
- Filled Asphalt
- Food & Beverage
- Meat Processing
- Resins, Paints, & Coatings
- Soaps & Surfactants
- Pulp & Paper
- Water & Wastewater

ATEX

CE

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