

**SERIES 6100  
TYPE CT**



**SEVERE DUTY  
CUP TYPE RECESSED  
IMPELLER PUMPS**



**BUILT FOR SUPERIOR PERFORMANCE**

## 6100 SERIES / CUP TYPE

# SEVERE DUTY RECESSED IMPELLER PUMPS DESIGNED TO HANDLE LARGE, ABRASIVE SOLIDS



### LONGEST LIFE, BEST PERFORMANCE

Sewage treatment plants use it, pulp and paper plants use it, mine operators use the Morris 6100 CT Series. They use this cup type recessed impeller pump to move grit, sludge, slurry and dredgings.

Anyone pumping wastewater that contains large abrasive solids would be advised to do the same. The Morris pump is now widely recognized as a top of the range option for severe duty pumping of this kind.

In addition to the long life, the Morris 6100 CT is superior in terms of cost-saving efficiency and reliability. The cup type impeller is more efficient than other recessed impellers; the power savings can therefore often pay for the pump. Machined joints offer numerous advantages, such as more accurate alignment and stronger construction. This is unique to Morris in the category of severe duty recessed impeller pumps.

Read more about the Morris 6100 CT [here](#) or contact us to discuss your application needs.

### APPLICATIONS

The toughness and superior efficiency of the Morris 6100 CT make it a popular choice for pumping abrasive wastes that contain large solids.

#### Industry

- Pulp & Paper
- Food processing waste
- Industrial processing waste

#### Municipal sewage

- Grit
- Primary sludge
- Sludge transfer
- Sludge recirculation

#### Mining & Excavation

- Tailings
- Mineral concentrate
- Dredgings



# CUP TYPE IMPELLER FOR SUPERIOR EFFICIENCY

## UNIQUE CUP DESIGN

The Morris cup type impeller is fully recessed and located completely out of the flow path.

The impeller is more efficient than comparable recessed impellers. The larger diameter and the unique cup design of the Morris 6100 CT impeller enable the unit to run at lower operating speeds compared to other recessed impeller pumps. The lower energy consumption translates into significant dollar savings year after year.

The lower operating speed also equates to less wear and longer life than other pumps. The cup design maximizes vortex action while redirecting abrasives back into the flow path.

## UNIQUELY FLEXIBLE

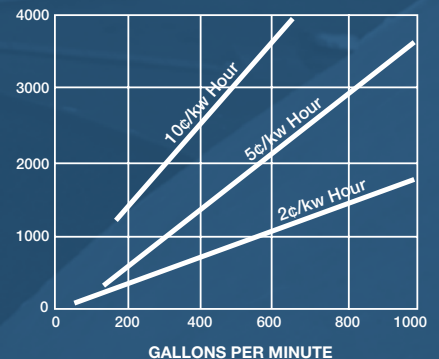
The Morris 6100 CT offers an impeller capable of operating in either direction of rotation at maximum hydraulic performance, simply by reversing the casing. This symmetrical impeller and reversible casing design offer the most flexibility for installation and reduced parts inventory.

## HIGHER EFFICIENCY EQUALS LOWER OPERATING COST

Morris 6100 CT pumps are more efficient than comparable recessed impeller pump designs. Energy costs are significantly reduced because a given flow can be achieved at a lower motor speed. It is the properties of the impeller that make this possible.

Comparative trials have shown a 4 HP difference in motor power at a duty point of 600 GPM @ 60 feet. At 5¢/kWh this translates into a saving of \$2000 per year over the lifetime of the pump.

\$ SAVINGS PER YEAR



## SUPERIOR WEAR RESISTANCE

# 6100 SERIES / CUP TYPE

## ENSURING A LONGER LIFE IN ABRASIVE SERVICE

### CAST-INTEGRATED SUPPORT LEGS

To minimize vibration and offer simple mounting

### HEAVY-DUTY SHAFT

Made of high carbon steel

### HOOK-TYPE SHAFT SLEEVE

420 stainless steel hardened to 450 to BHN to protect the pump shaft

### POSITIVE LIQUID SEALING AT IMPELLER

Fully confined O-ring between impeller and sleeve protects the shaft from pumpage.

### REPLACEABLE REAR LINER

Extra thick wear surface of high-chrome iron for extended wear life

### INSPECTION SIGHT GLASS & VENT

For oil lubricated units

### STANDARD FLANGE CONNECTIONS

Machined flat-faced & drilled flange connections for reliability

### OPTIONAL CASING VENT AND DRAIN TAPS

To enhance serviceability

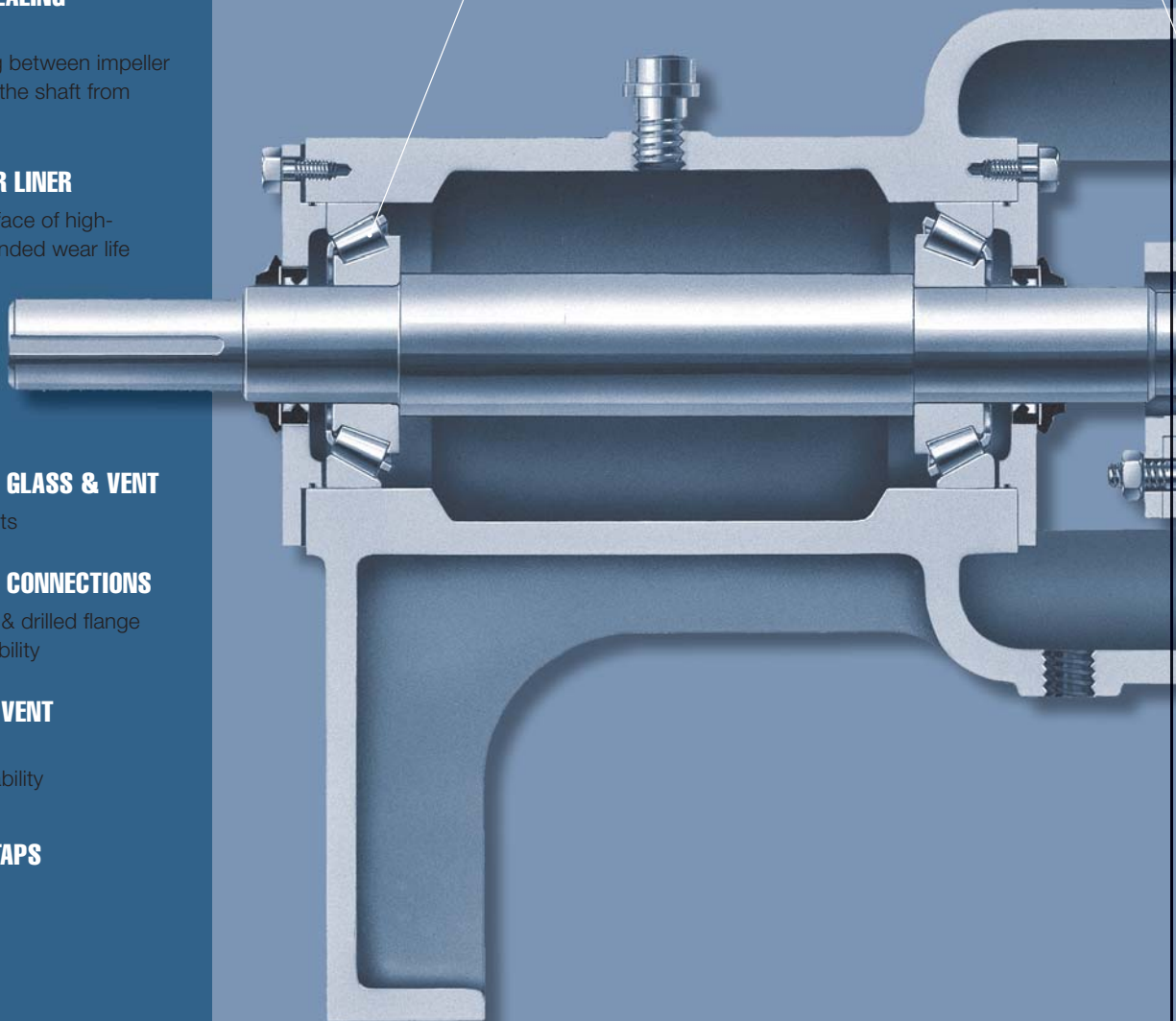
### OPTIONAL GAUGE TAPS

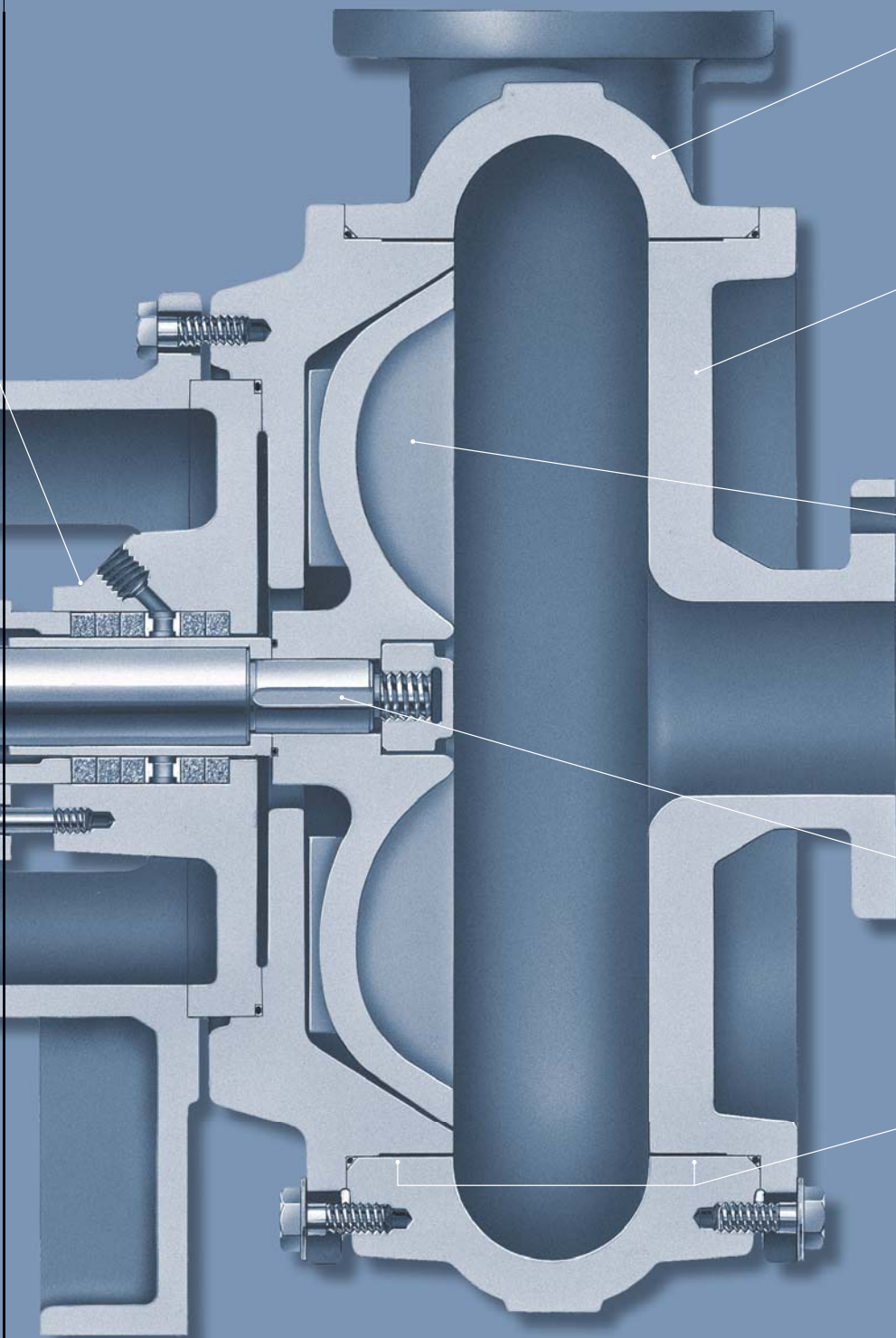
### TAPERED ROLLER BEARINGS

Minimum B-10 life of 100,000 hours

### STUFFING BOX

Suitable for either packing or a variety of mechanical seals. Machined register fits assure concentricity with shaft.





**EXTRA-HEAVY  
REVERSIBLE CASING**

Casing can be reversed for rotation in either direction. High-chrome iron construction and ample wall thickness for longer life.

**SUCTION COVER**

Extra heavy, high-chrome iron construction, removable suction cover allows easy maintenance access to pump internals.

**FULLY RECESSED CUP TYPE  
IMPELLER**

High-chrome iron construction for superior wear resistance and maximum solids handling. State-of-the-art design provides higher efficiencies than other recessed impeller pumps.

**POSITIVE DRIVE**

Machined fit, straight bore, key drive provides positive torque transmission that is unavailable with other hard metal pump designs.

**MACHINED FITS**

Fully machined wet-end registered fits with confined O-rings provide positive alignment and ease of maintenance. Close tolerance minimizes wear.



# MACHINABILITY MAKES ALL THE DIFFERENCE

Machined parts give more exacting tolerances and make the pump more reliable. The Morris 6100 CT combines the 'toughness factor' of hardened high-chrome iron (28HC650) with the many advantages of machined fits.

## MACHINED REGISTER FITS ON ALL PARTS

- Assures a proper fit & true alignment
- Reduces localized wear at internal contours & fits
- Dimensional control assures part interchangeability

## MACHINED SURFACES ALLOW CONFINED O-RING SEALING

- Improved sealing versus flat gaskets
- O-ring not exposed to high velocity wear areas

## DRILLED AND TAPPED HOLES ELIMINATE USE OF "SOFT METAL" INSERTS

- Greater reliability
- Won't pull out from torque or pipe strain

## STRAIGHT MACHINED FIT IMPELLER BORE

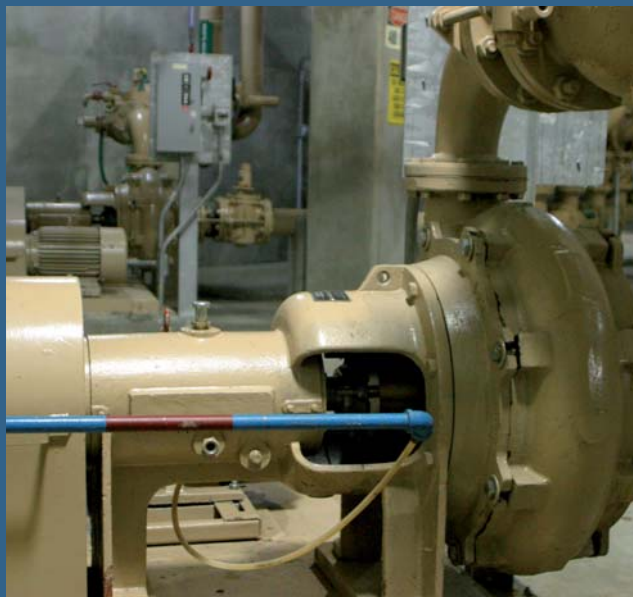
- Key driven to assure positive torque transfer
- No bore failure as a result of starting/stopping torque

## THE TOUGHNESS FACTOR

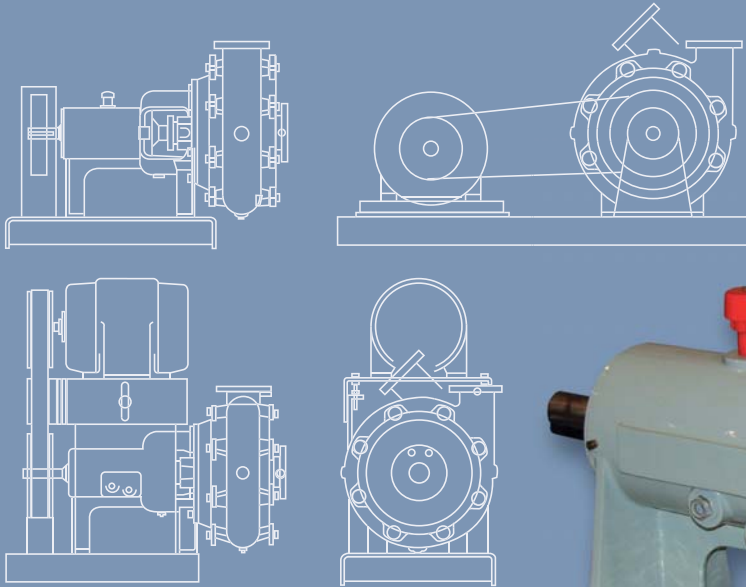
Morris 6100 CT pump materials are tough enough and thick enough to truly extend the lifetime of the pump despite the hostile conditions. For a pump of this type nothing is more important than its ability to resist the severely abrasive properties of grit. This is where hardened high-chrome iron (28HC650) makes all the difference. High-chrome iron not only has the surface hardness that can be found in Ni-Hard and other alloys, it also exhibits superior corrosion resistance and has twice the tensile strength of Ni-Hard #1.

A controlled heat-treating process provides Morris 28HC650 with a final hardness of minimum 650 BHN. A variety of surface treatment options further adds to corrosion resistance in both indoor and outdoor locations.

A range of shaft seals is available with increasing degrees of wearability, and the stuffing box is also suitable for packing. Discuss the options with Morris consultants to find the right solution for your installations

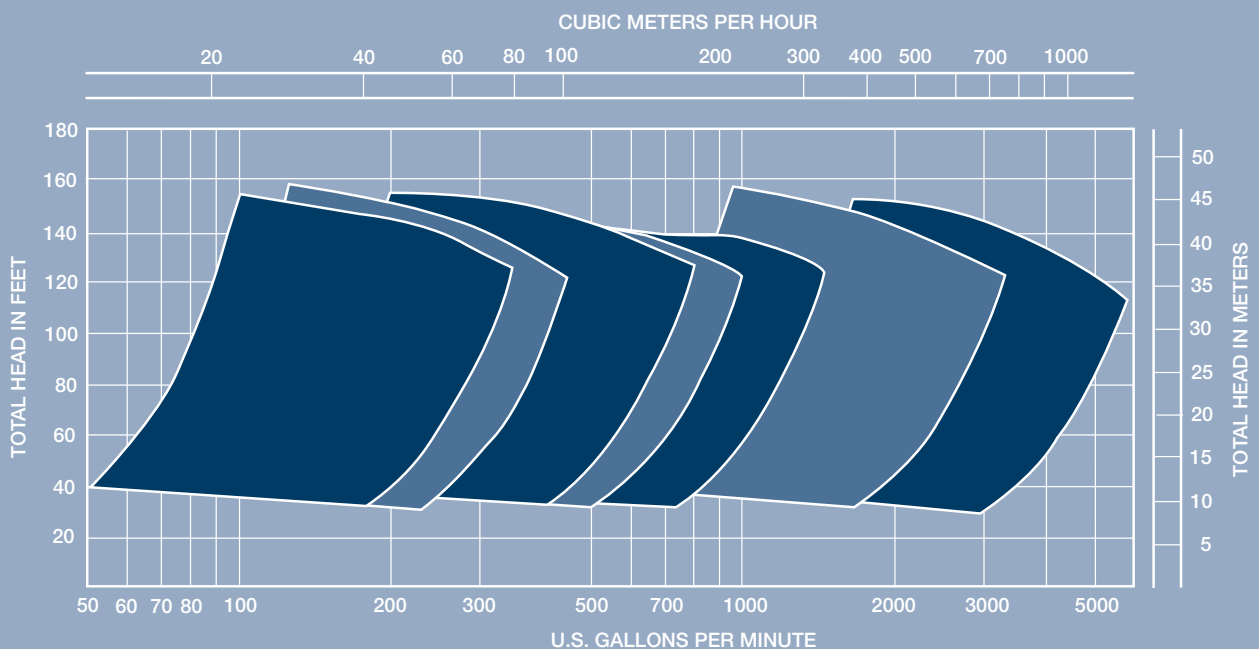
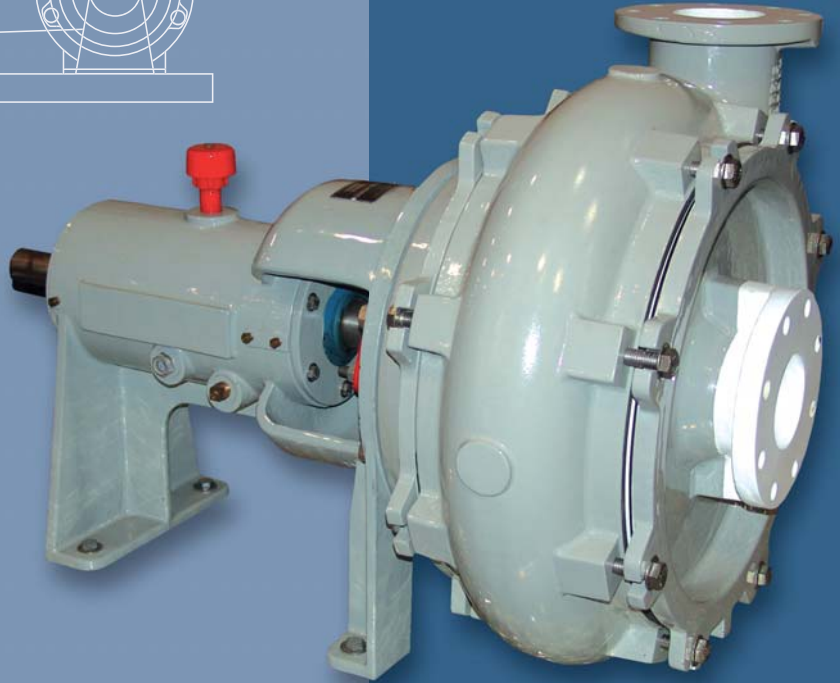


## MORRIS PUMPS — BUILT FOR SUPERIOR PERFORMANCE



### SPECIFICATIONS

- Capacities to 4600 GPM (1045 m<sup>3</sup>/h)
- Heads to 150 feet (45 m)
- Temperatures to 250° F (120° C)
- Pressures to 100 PSIG (690 kPa)
- Solids to 8 inches (200 mm)





## WHEN OTHER PUMPS CAN'T TAKE IT

The Morris 6100 CT pump is a severe duty recessed impeller pump designed to handle large abrasive solids.

For over 150 years, Morris pumps have been built using proven design and manufacturing methods. This rich history combines with an effective utilization of today's engineering methods and technologies to bring a pumping solution built for superior performance .

We work hand-in-hand with pumping system designers and consultants. We pride ourselves in bringing the end-user a reliable, trouble-free system that exceeds expectations.

Morris Pumps stands for tough, heavy-duty wastewater pumps manufactured by Yeomans Chicago Corporation.

**MORRIS 6100 CT – TRULY THE TOUGHEST SEVERE  
DUTY RECESSED IMPELLER PUMP**

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