There are two sides to every story: inside and outside.

On the outside, the CPT Advantage offers special features that make maintenance and adjustments a breeze. The real difference between the CPT Advantage and other ANSI pumps, however, is what you'll find inside. For example, the standard CPT Advantage wet-end components are cast in duplex stainless steel (unless specified otherwise) at our in-house foundry, one of the most unique facilities in the world. Another example is our heavy-duty bearing unit, designed for long life and tough applications. As you can see, our CPT chemical process pump gains its advantage from the inside-out.

Partial list of liquids that can be pumped using the CPT Advantage

Acetic Acid (all strengths)  
Aluminum Chloride  
Aluminum Sulfate w/H2SO4  
Barium Chloride  
Benzaic Acid  
Black Liquor  
Boric Acid  
Brine  
Carbolic Acid  
Carbonic Acid  
Chlorine Dioxide  
Condensate  
Copper Nitrate  
Copper Sulfate + H2SO4  
Citric Acid  
Deionized Water  
Ethanol  
Fatty Acids  
Hydrofluoric Acid  
Hydrofluosilicic Acid  
Kalolin Slurries  
Mash Slurries  
Mercuric Sulfate  
Nitric Acid  
Phosphoric Acid (all strengths)  
Seawater  
Sodium Chloride  
Starch  
Sulfur  
Sulfuric Acid  
Sulfur Dioxide  
Toluene  
Sugar Solutions  
Zinc Sulfate
**Heavy Duty Bearings**
- Bearing life exceeds all ANSI requirements
- Inboard cylindrical roller bearings for maximum radial load carrying capabilities
- Angular contact thrust bearing locked in position, carries radial and axial loads extending service life

**Accu-Just™ Impeller Clearance Adjustment**
- Quick and accurate impeller adjustments without the use of a feeler gauge or removal of pump
- Assures concentricity and bearing alignment throughout the impeller's adjustable range
- No snap ring required to hold bearing

**Inpro VBX/Labyrinth Bearing Isolators**
- Inboard and outboard bearing protection
- Isolates bearings from environmental contamination
- Multi-port for proper drainage
- Bronze standard (non-metallic available)
- Cooler running Bearing Unit

**Large Capacity Oil Sump**
- Improved oil circulation and cooling
- Magnetic oil drain plugs (optional)
- Bearing monitor taps as standard
- Extra-large, multiple oil return slots
- Optional bearing unit cooling

**Constant Level Oiler Available**

**Large Bullseye**
- Located on each side of Bearing Unit

**Rigid Bearing Housing Support Foot**
- Improved mounting stability
- Fully machined mounting surfaces assures accurate alignment

**Splash Lubrication**
- Directs oil to thrust bearing for efficient cooling & improved lubrication
- Designed for high load applications

**Bearing Housing Adapter**
- Ductile iron for strength and safety
- Jacking bolts for ease of disassembly
- Rabbeted fit to bearing housing assures accurate alignment

*Teflon* is a Registered Trademark of E.I. Du Pont De Nemours & Company.
The advantage is performance

Head to Head. How does your current ANSI pump compare to the CPT Advantage? Performance curves prove that not all ANSI pumps are created equal.
### CPT Base Dimensions

<table>
<thead>
<tr>
<th>Group</th>
<th>Base</th>
<th>Max Motor</th>
<th>HA</th>
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* Note that CPT 11-3 is not part of ANSI specification and may have different dimensions

**Note that numbers xx/yy depend on pump size D=8.25”/D=10”

### CPT Pump Dimensions

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<tr>
<th>Group</th>
<th>Size</th>
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<td>6.5</td>
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<td>5.25</td>
<td>¼</td>
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</tbody>
</table>

**Note that numbers xx/yy depend on pump size D=8.25”/D=10”
The advantage is toughness

Start to finish, the CPT Advantage pump is made in Sulzer Pumps’ North American manufacturing facility in Easley, SC. So the integrity of our materials and the precision of our methods are ensured. Not to mention the performance of your pump. We test every single pump we make. Before they can meet your tough standards, they must meet ours.

Our standard casting material for stainless steel wet-end component parts is ASTM A-890 Grade 3A duplex stainless steel (CD6MN). 3A provides excellent corrosion and abrasion resistance. In fact, when used in mildly abrasive applications, our duplex stainless steel can last 30% to 40% longer than conventional 316 stainless steel. Since alloy wet-end components are cast in Sulzer Pumps’ own in-house foundry, we are able to go a step further to ensure your CPT Advantage pump is one of the most wear-resistant, corrosion-resistant ANSI process pumps you’ll ever buy. After casting, the duplex stainless steel is solution annealed to add more strength and corrosion resistance. We reheat the component parts to a minimum 1950°F and maintain that temperature for a prescribed length of time, then freeze the molecules with a rapid water quench. The result is a casting among the toughest in the industry. It is also readily weldable. So modifications and maintenance are easy and reliable.

(A matching weld filler must be used and castings should be heat treated following major welding to restore optimum performance characteristics.)

### CPT Material Mechanical Properties

<table>
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<tr>
<th>COMMON NAME</th>
<th>ASTM</th>
<th>Mechanical Properties</th>
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<tr>
<td>654 SMO*</td>
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### A-890 grade 3A alloy

Sulzer Advantage Series pumps are frequently used in services where resistance to both corrosion and abrasion is necessary. That is why the standard stainless steel chosen for wet-end pump components is ASTM A-890 Grade 3A (ie., 25-5 duplex steel). This Argon Oxygen Decarburization refined duplex cast steel (ferritic austenitic) with high molybdenum and nitrogen content:

- Offers corrosion resistance superior to conventional cast 316SS (CF-8M) and equal to or better than 317SS (CG-8M).
- Provides excellent abrasion resistance (230 BHN) that, when used in mildly abrasive services, may last 30% to 40% longer than 316SS.
- Features clearly superior mechanical properties over austenitic alloys and is comparable to most duplex alloys including CD4-MCu and SS2205.
Corrosion resistance

Pitting and crevice corrosion that occurs in metals are of particular interest in stainless steel.

The Pitting Resistance Equivalience (PRE) is an index that can help identify an alloy's susceptibility to these forms of corrosion. The higher the CF number, the greater the metal's resistance to pitting and crevice corrosion.

Heat Treatment

All A-890 Grade 3A castings are solution annealed to maximize corrosion resistance and mechanical properties. This heat treatment consists of heating to and holding at 1950°F minimum for a prescribed time period followed by a rapid water quench.

Welding

A-890 Grade 3A is a readily weldable metal provided a matching weld filler is used.

CPT Material Chemical Properties

<table>
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<tr>
<th>COMMON NAME</th>
<th>CHEMICAL ANALYSIS</th>
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<tr>
<td>28% Cr</td>
<td>23.0-40.0</td>
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<tr>
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<td>316SS</td>
<td>18.0-21.0</td>
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<tr>
<td>317SS</td>
<td>18.0-21.0</td>
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<td>Alloy 20</td>
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<tr>
<td>70 CNMo 150</td>
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</tr>
<tr>
<td>654 SMO*</td>
<td>24.0-25.0</td>
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</tbody>
</table>
The advantage is reliability

Dynamic Seal Option

Sulzer Pumps’ patented dynamic seal uses an expeller to move liquid back into the volute casing and away from the stuffing box when the pump is running. When the pump stops, liquid flows back into the stuffing box, forcing closed an elastomeric static seal to prevent leakage. No outside flush required. Saves water, piping costs and eliminates packing maintenance.

Seal Chambers

The CPT Advantage offers a variety of seal chambers. Each is designed to help you tailor your CPT Advantage pump to your specific process requirements without sacrificing reliability and longevity. If you’re not exactly sure which configuration is best for your process, our engineers will be happy to work with you. We’ll analyze your hydraulic requirements and recommend a system.

Standard Bore (ASB) box accommodates most single component and cartridge mechanical seals as well as standard packing.

Tapered and Ribbed Bore (ATB) features a seal chamber designed for single and double mechanical seals. The cast ribs inside the stuffing box convert circular flow into axial flow, reducing wear and extending longevity.

Large Bore (ALB) box is designed for seals with large gland bolt circles. It accommodates most single and double mechanical seals, as well as cartridge or component seals. The oversized chamber helps reduce running temperatures while improving lubrication and circulation.
Sulzer produces rigid baseplate designs that resist the distortion which can cause pump/motor misalignment. Our baseplates require minimal maintenance and are corrosion resistant for severe environments. Sulzer Pumps offers a complete range of mounting systems to meet your plants requirements. Optional V-Belt and custom designs are also available. Contact your local Sulzer Representative for details.

**Standard Baseplate**
The Sulzer Pumps standard formed steel baseplate meets ANSI specifications for pump/motor mounting. A single grout hole and epoxy paint are standard. An optional stainless steel catch basin or all stainless steel construction is available.

**Non-Metallic Baseplate**
Nothing compares to the Sulzer Polymer Composite baseplate design. The polymer baseplate is provided with a standard guaranteed surface flatness of 0.015 or 0.005 end-to-end, carbon or SS inserts, leveling holes and machined riser blocks. The polymer baseplate is the best value in the industry.

**Drip-Lip Baseplate**
The Drip-lip baseplate with welded end caps and optional center I-Beam support includes a sloped surface to a welded in drain making this an excellent upgrade to the standard baseplate. Options include motor adjustment bolts, machined mounting pads, grout vent holes and alloy construction.

**PIP Baseplate**
This baseplate is designed to current PIP requirements and is standard with grout hole, raised mounting pads machined to 0.002 in/ft surface flatness, motor alignment bolts, additional welded supports, sloped full drain rim, lifting lugs and continuous welded steel upgradeable to alloy construction. Options include leveling screws, stilt and spring mounting.
**Bearing Unit**

**Bearing Housing Adapter**

The Bearing Unit is built as standard for High Load applications. Some applications push a power end beyond ANSI design limits.

Examples are:
1) operation at reduced flows
2) pumping high specific gravity liquids
3) overhung belt drives.

The Bearing Unit features as standard:
- Splash oil lubrication
- Thrust bearing is duplex angular contact bearing design
- Radial bearing is cylindrical roller bearing design
- Large oil capacity to reduce temperature
- Inpro VBX/Labyrinth Bearing Isolators

**Accu-Just™ Impeller Clearance Adjustment**

- Quick and accurate impeller adjustments without the use of a feeler gauge or removal of pump
- Assures concentricity and bearing alignment throughout the impeller’s adjustable range
- No snap ring required to hold bearing
See your local Sulzer representative for electronic product catalogs and CD selection software for this and all Sulzer products or visit our web site at www.sulzerpumps.com
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