

Slimline Propeller Pump Series

Flygt PL-7000



Flygt Slimline Propeller Pumps



Flygt Propeller Pump Family



Flygt Propeller Pump Family



Slimline Pump Series

Typical Applications

- Storm water & Flood protection
- Open channel irrigation
- Treatment plant
 - RAS, WAS and Sludge pumping
- Effluent pumping
- Water ride applications
- Drainage & Dewatering
- Sea water & Raw water intakes
- Screened wastewater
- Aquaculture



Slimline Propeller Pump Models

PL-7020, PL-7030, PL-7035, PL-7040



- (4) new, modern industry leading features:
 - Industry leading hydraulic efficiencies
 - Leading motor efficiencies
 - Self-cleaning N-hydraulics
 - Reduced discharge column size
- Result: Smaller pump station footprint
- Replaces (5) existing pump models:
 - PL-7045 / PL-7050 / PL-7055
 - LL-3201 / LL-3300



Slimline Propeller Pumps

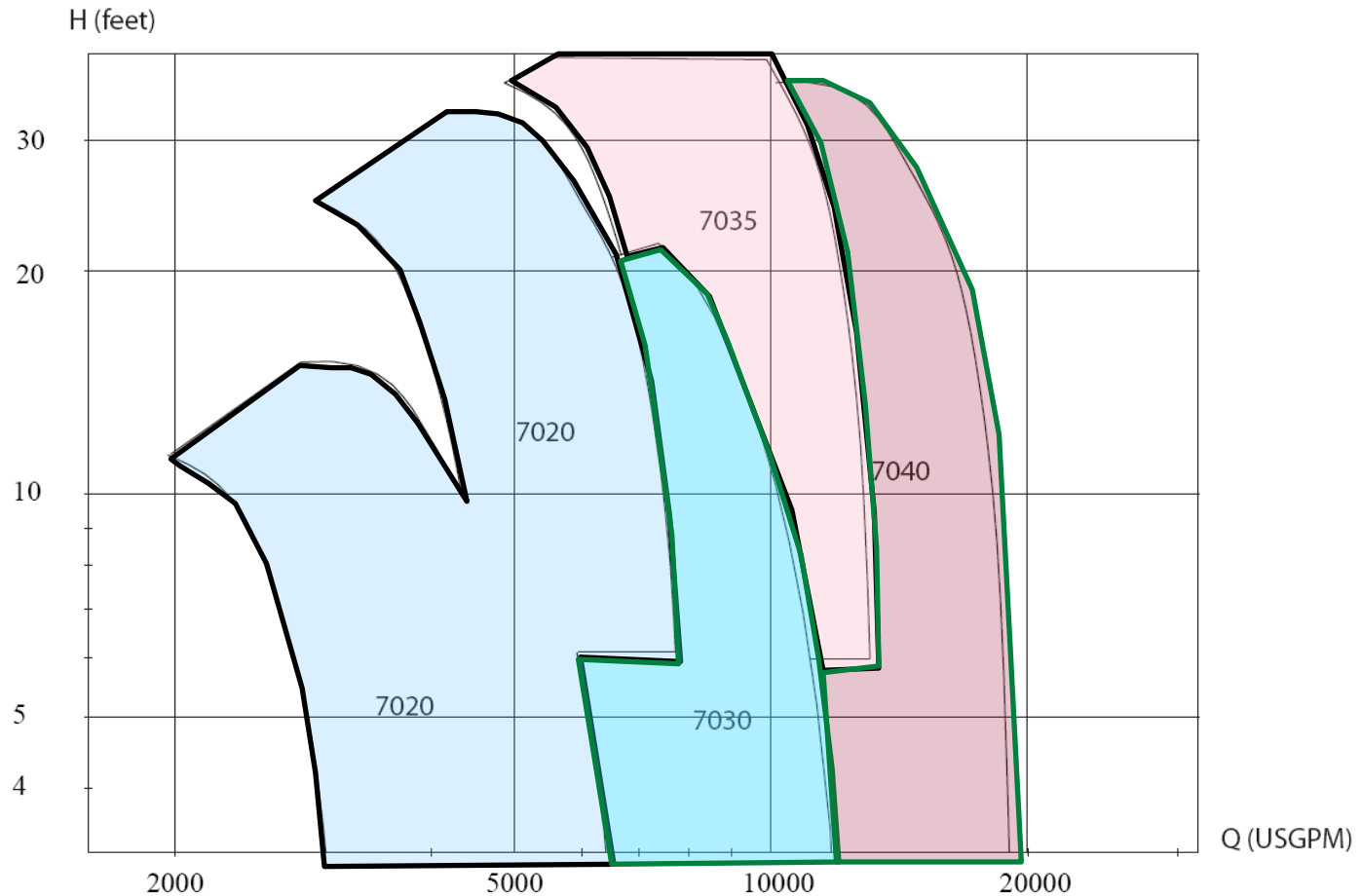


Power and a more compact pump station

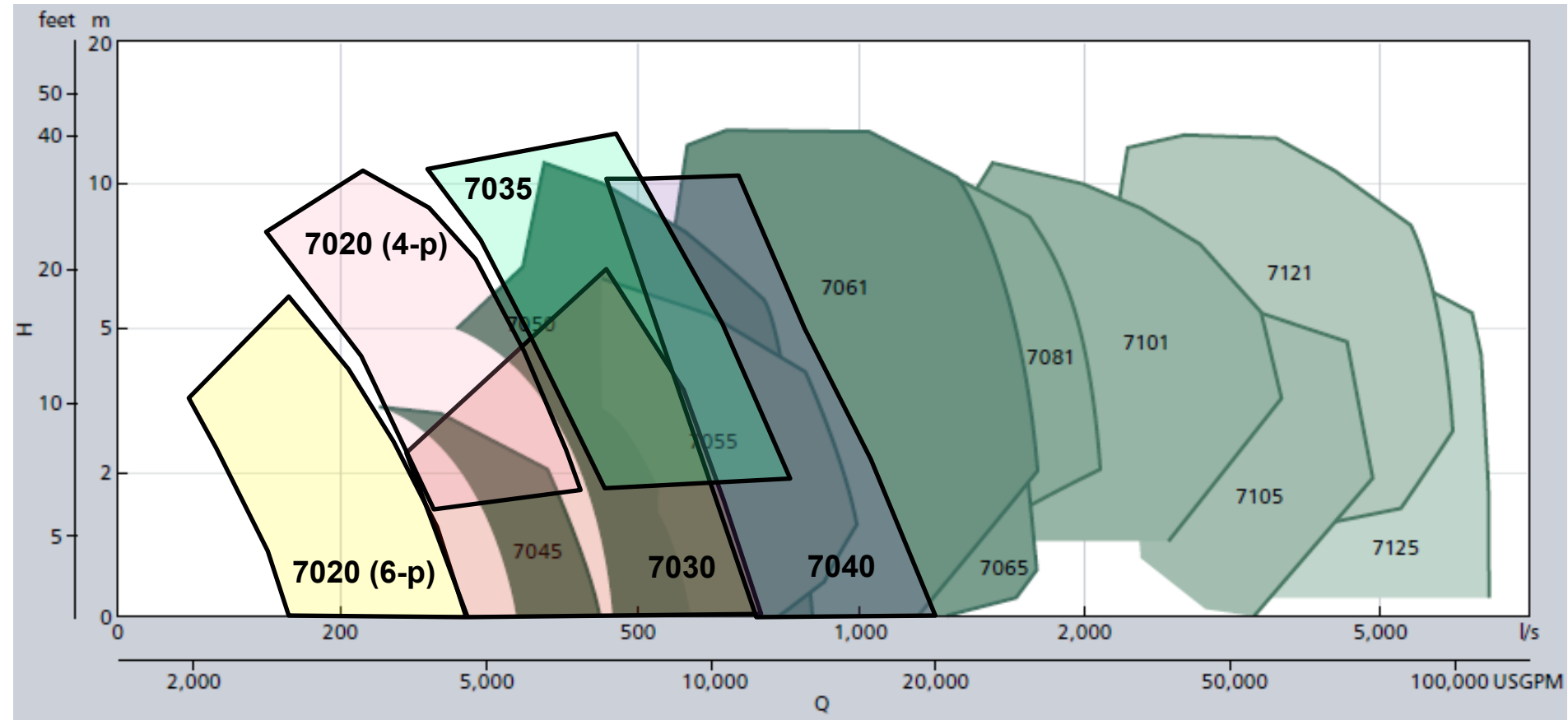
Model	Power 60Hz	Pump Column Dia.
PL-7020	27-hp to 40-hp (4-p, 6-p)	16-inch
PL-7030	38-hp to 68-hp (6-p)	20-inch
PL-7035	90-hp to 165-hp (4-p)	22-inch
PL-7040	80-hp to 155-hp (6-p)	24-inch



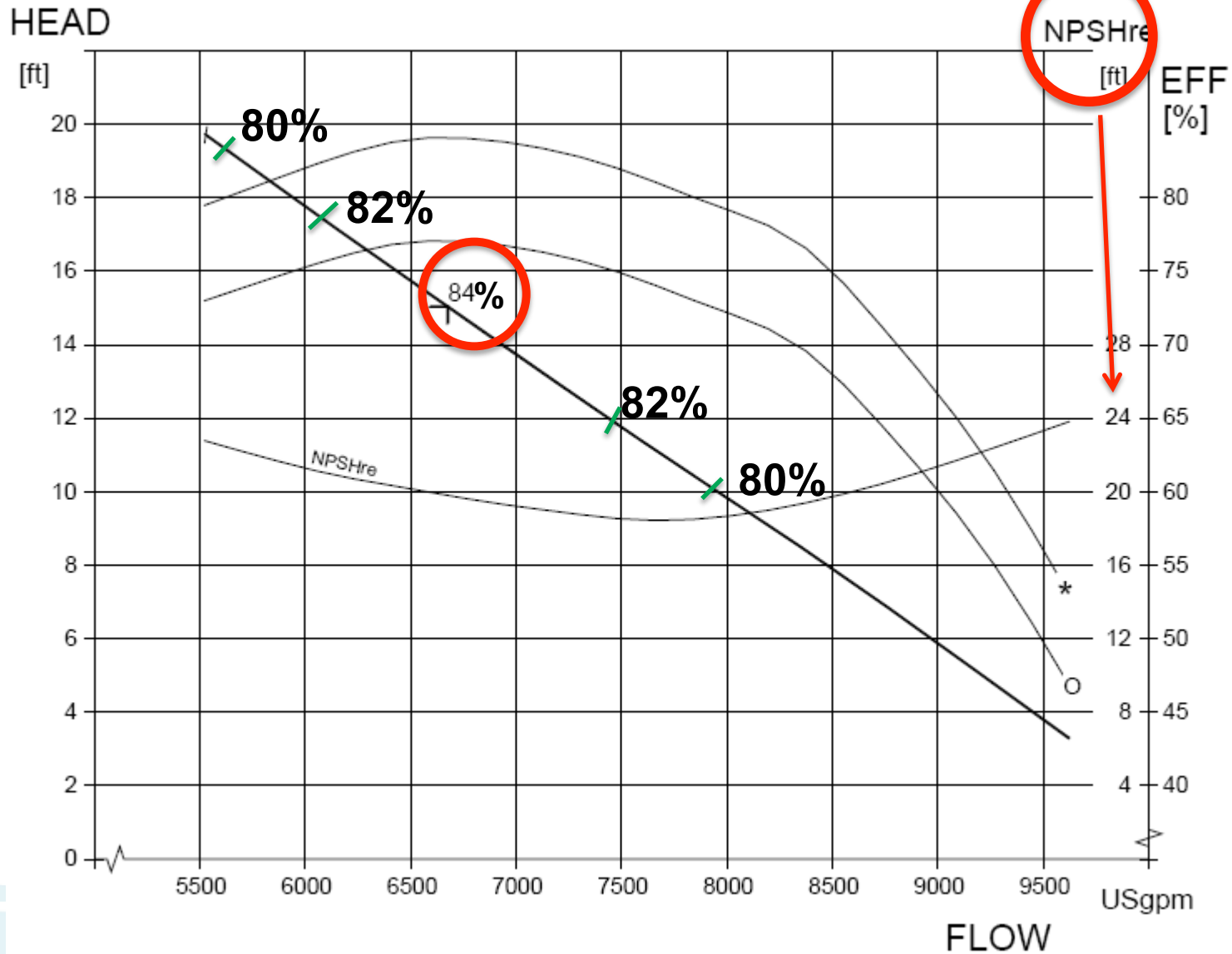
Slimline Performance Field



PL-7000 Series Performance Field



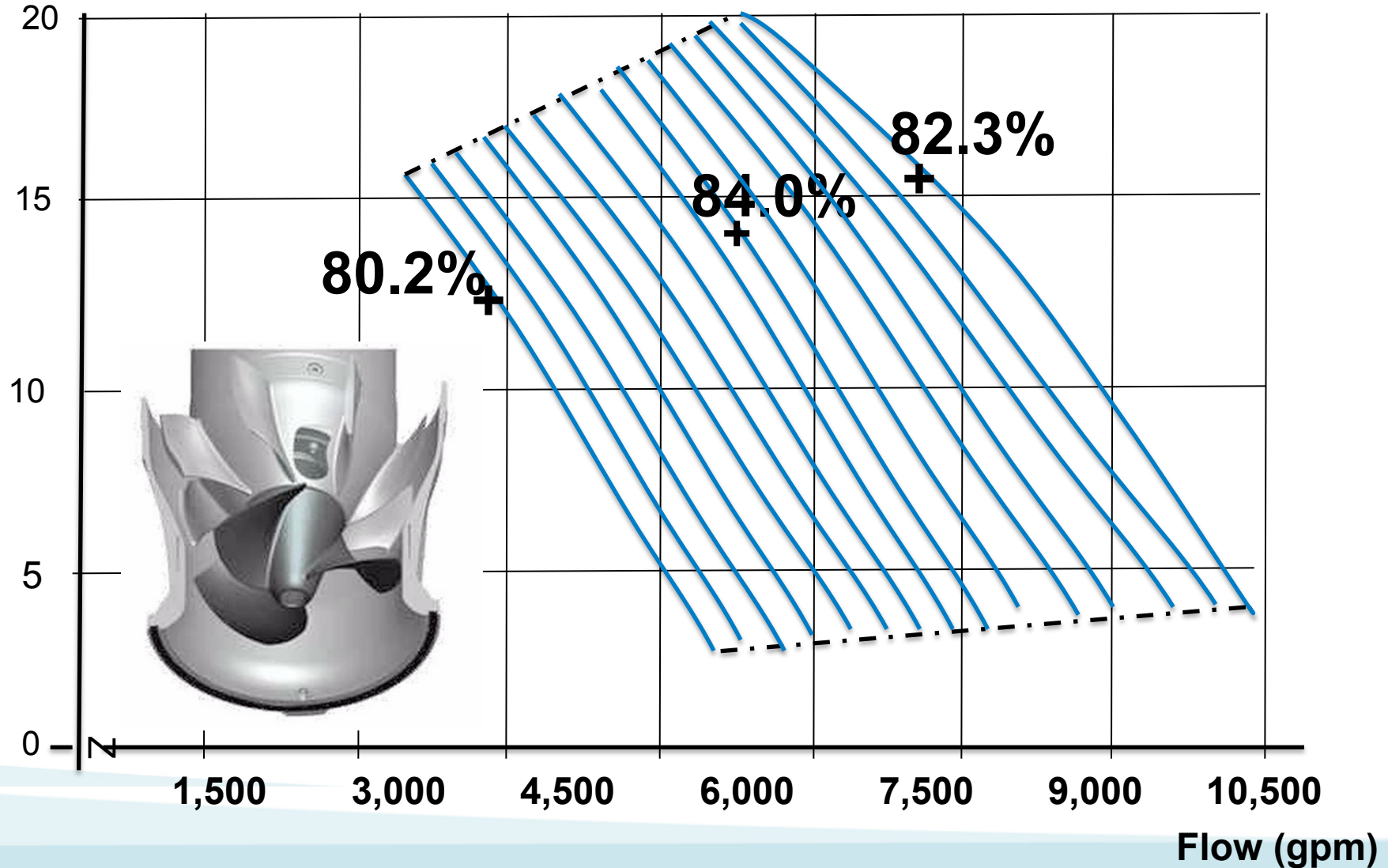
PL-7030-16-deg



PL-7030 Performance Field

(15 curves from which to choose)

Head (ft.)

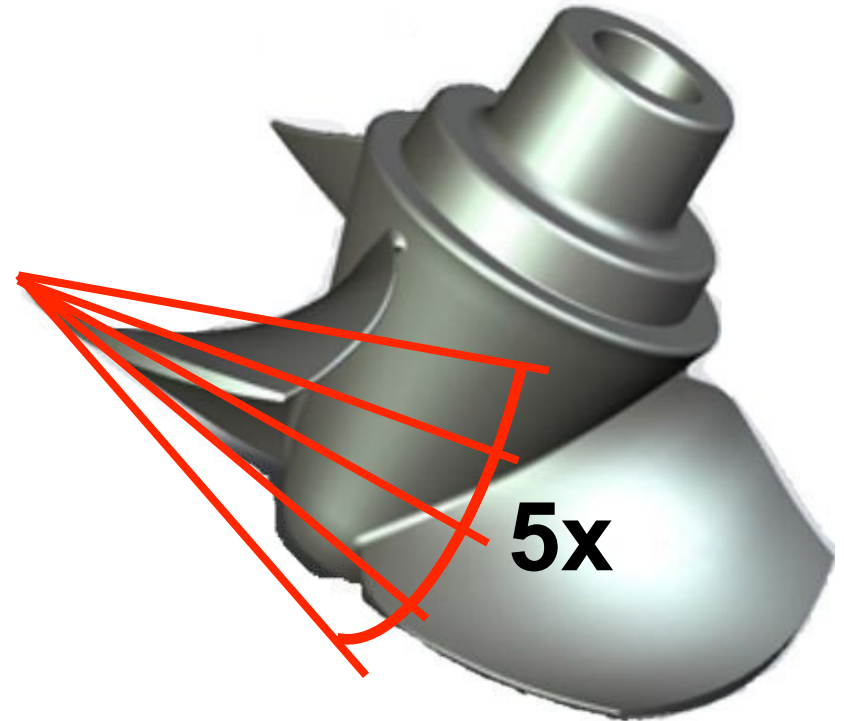


How We Get 15 Pump Curves

3-Throat Diameters

X

5-Blade Angles



Pump Features



**Class H motor insulation w/
embedded thermal sensors.**

**Guide vanes are self-cleaning
The leading edge sweep
combines with a radius
increase.**

**Optional zinc
anodes**

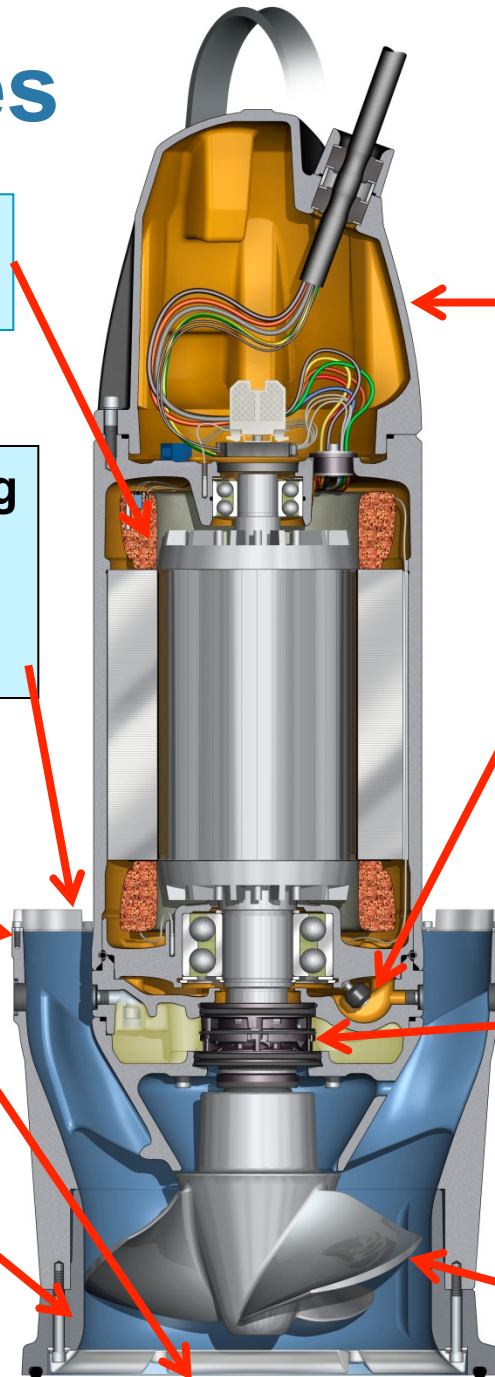
**N-technology bell mouth
has integrated:**
- Wear ring
- Relief groove

**The pump top gives a
smooth transition at the
outlet of the pump helping
minimize friction losses.**

**Large inspection chamber
with leakage sensor
minimizes bearing and
stator failure.**

**Plug-in™ seal w/ Active
Seal™ system increases
sealing reliability,
reduces risk of bearing
and stator failure.**

**N-technology propeller
is self-cleaning, corrosion
and wear resistance.**



Pump Materials

**All fasteners:
Stainless steel type
ASTM 316**

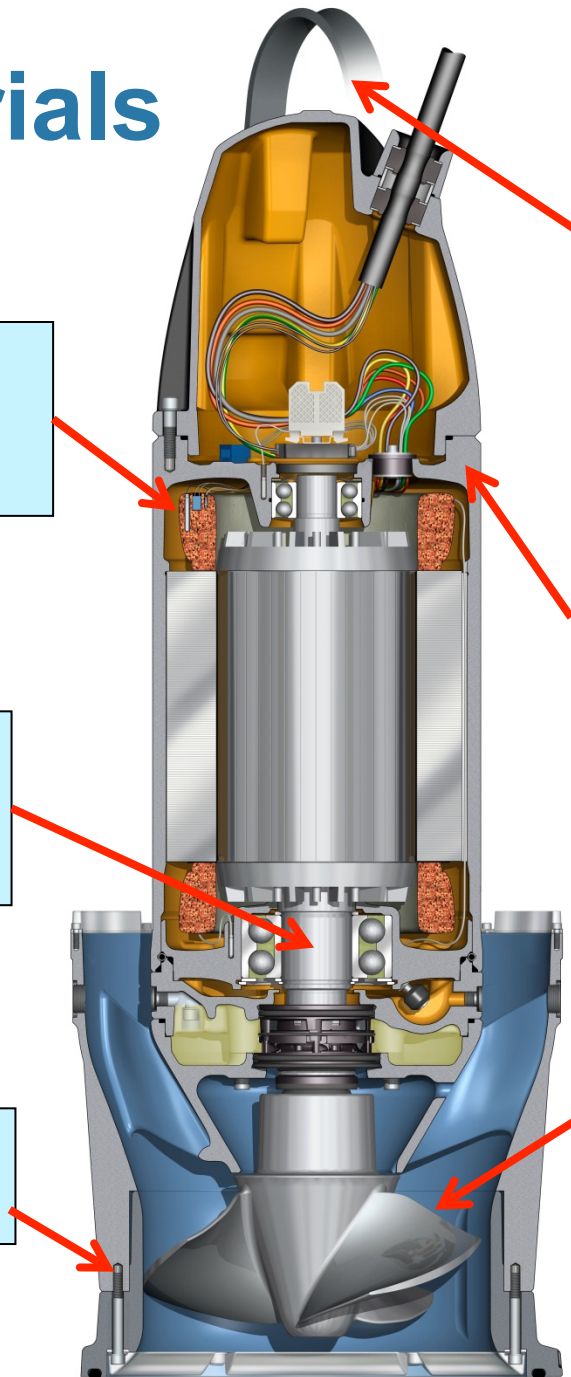
**Lifting handle:
Stainless steel type
ASTM 316L**

**Major castings:
Cast iron type
ASTM-A 48 – No. 35 B**

**Shaft:
Martensitic stainless steel
Type ASTM 431**

**Insert Ring: Hard Iron™
ASTM A 532 – Alloy III A.**

**Propeller:
Stainless steel Type
ASTM A 743 CF-8M**



Pump Sensors

VIB-10 Vibration Sensor

Pump Memory

(3) Stator Thermal Switches

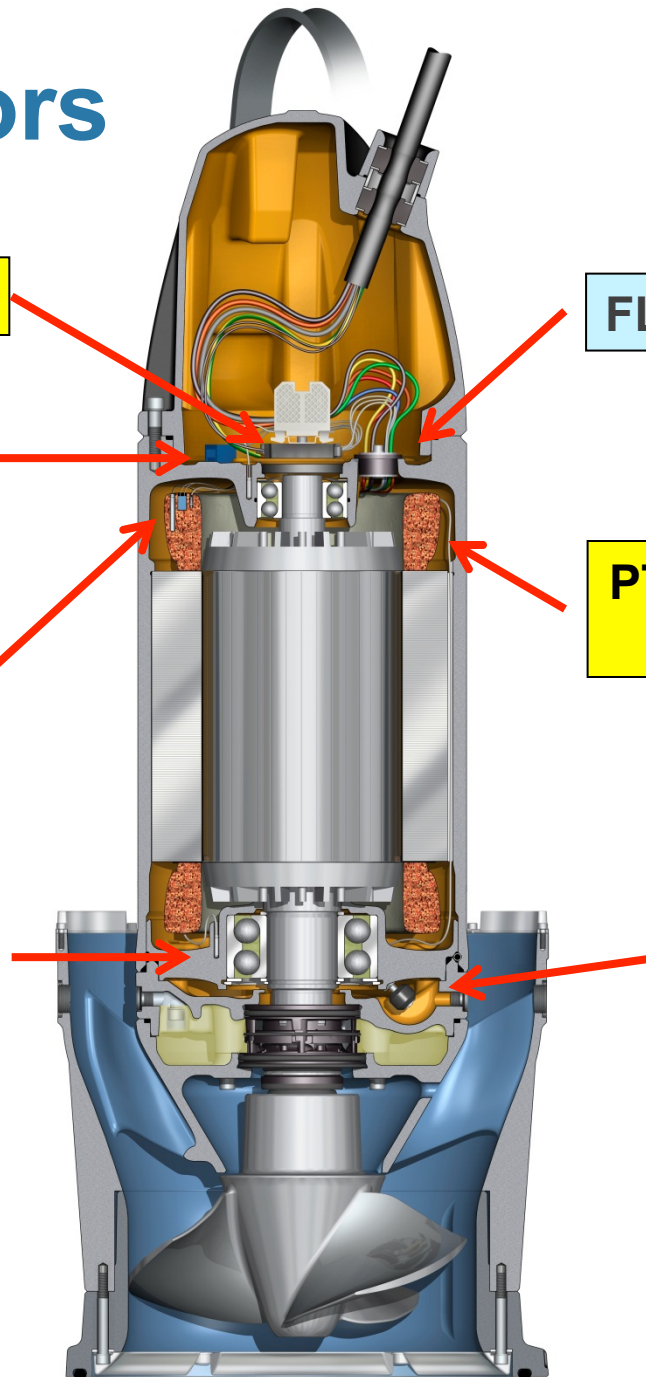
PT-100 Lower Bearing Temperature Sensor

FLS in Stator Housing

PT-100 Temperature Sensor

FLS in Leakage Chamber

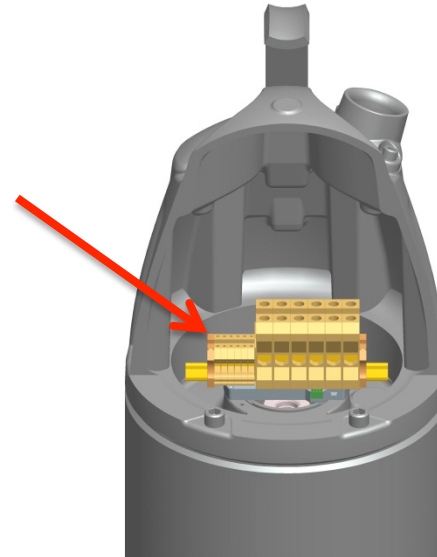
 **Standard**
 **Optional**



Slimline Pump Monitoring

Existing Monitoring

Terminal
block



Mini-CAS / MAS-711

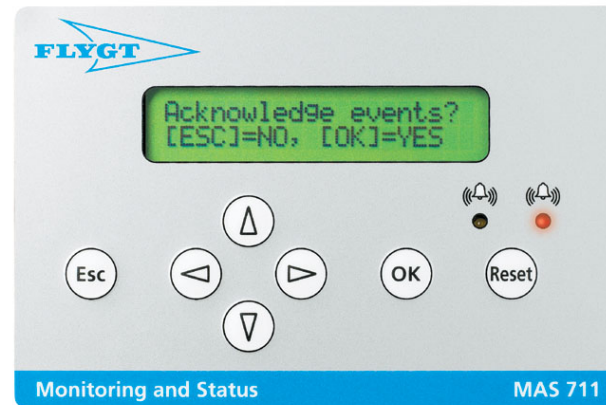
- FLS Connection chamber
- (3) Thermal switches
- FLS Stator housing
- FLS Junction chamber
- + Optional sensors

Slimline Pump Monitoring

Basic - Mini-CAS



Optional – MAS-711

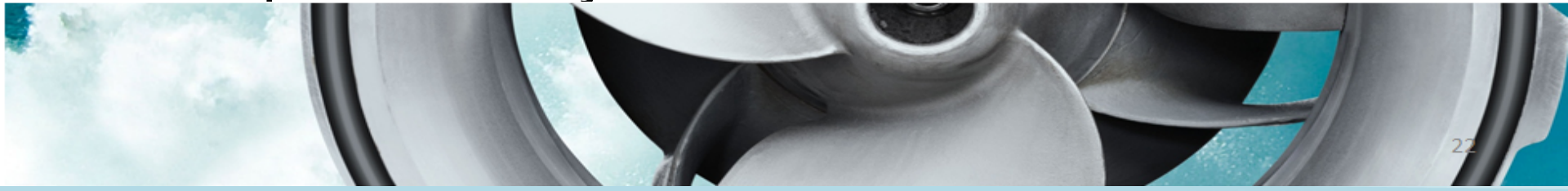


Our Advantages



Specifiable Standard Features

- High hydraulic efficiency
- High overall efficiency
- NRTL (CSA_{US}) general purpose approval
- Smaller discharge tube size
- Single piece cast propeller
- Type 316 SS propeller
- Hard-Iron™ wear ring
- WCCr tungsten-carbide seals (Upper and lower)
- Active™ seal technology
- N-technology, self-cleaning propeller design
- Pump & motor by same manufacturer



Specifiable Optional Features

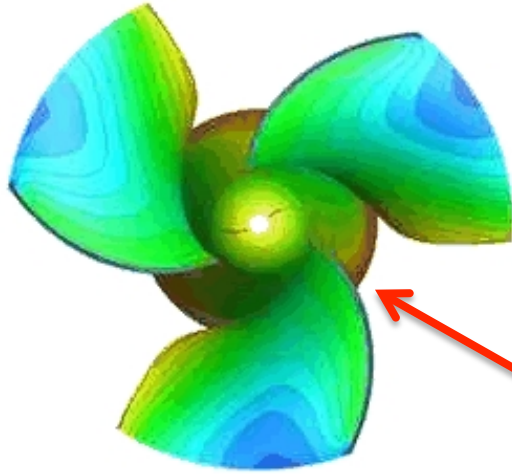
- Factory Mutual Approval (Hazardous Location)
- Adapters for retrofit market
- Lifting & cable handling system
- Zinc anodes
- Silicon-Carbide mechanical seal (outer)
- Epoxy coating
- Stainless steel hose cable protection
- Viton O-rings
- Premium efficiency motors, IE3 / NEMA



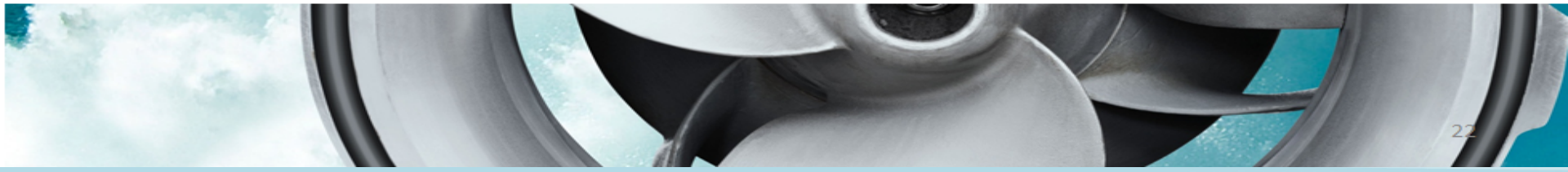
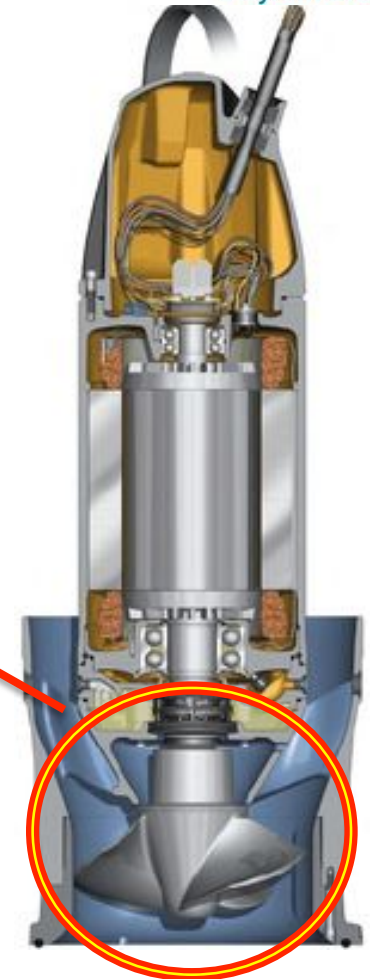
Higher Efficiency



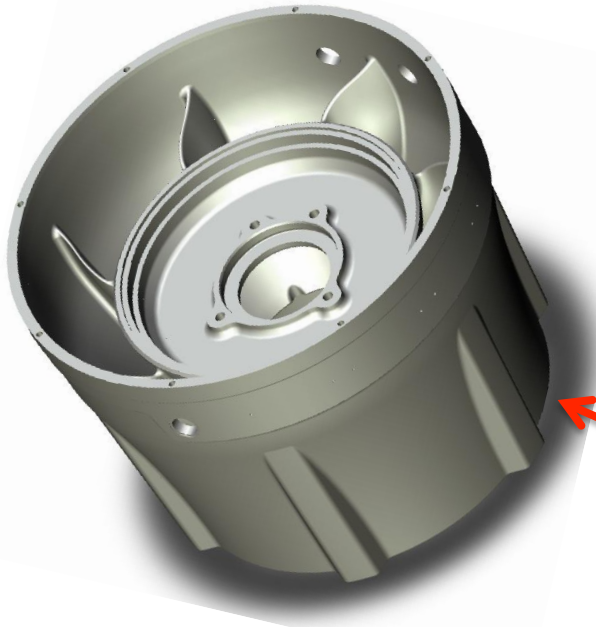
Higher Efficiency



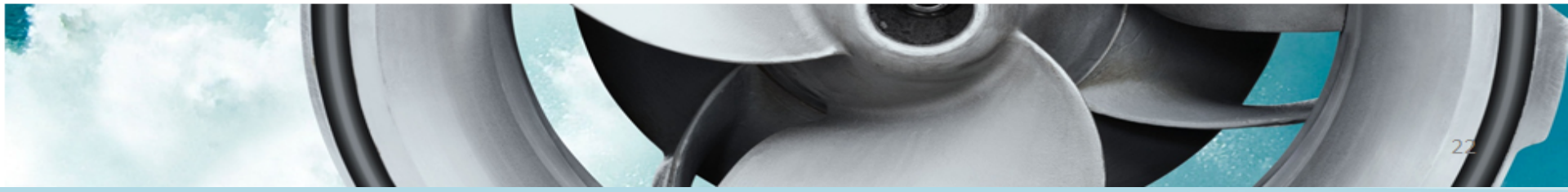
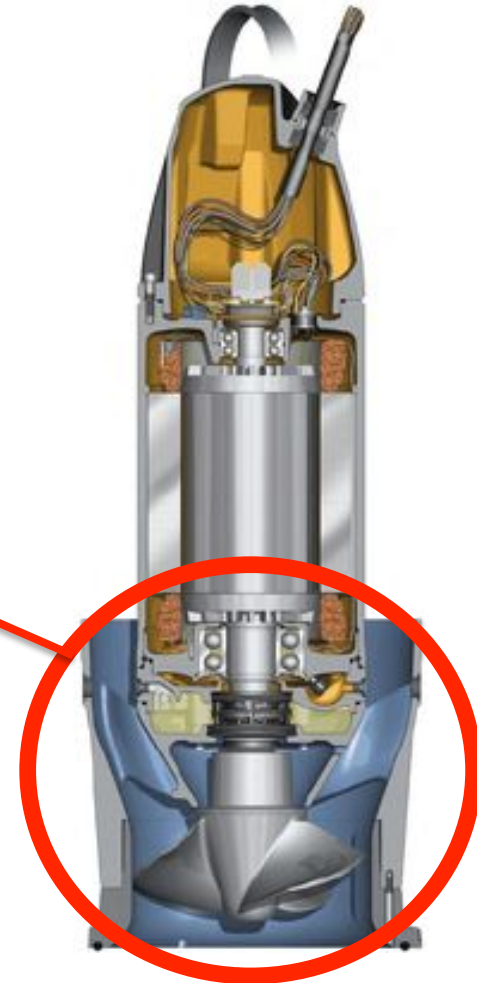
- **Optimized propeller loading**
- **Optimized flow dynamics**
- **Single piece casting in Type 316 SS**
 - Excellent corrosion and wear properties
- ***RepliCast* casting method results in:**
 - Consistently held tight tolerances
 - Highest quality finished casting
 - Superior casting strength



Higher Efficiency

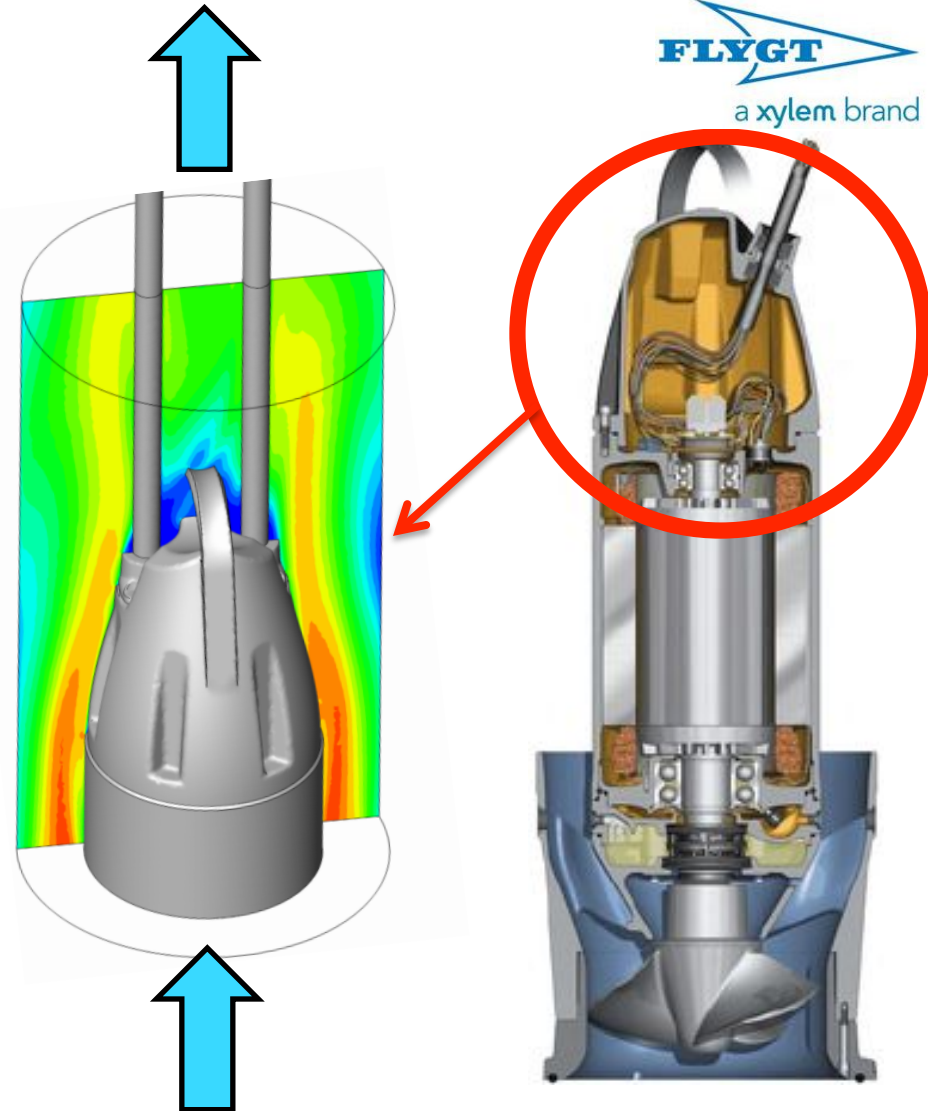


- The diffuser recovers dynamic energy to maximize pump efficiency
- Decreases velocity / Guides the flow
- Self-cleaning guide vane design



Higher Efficiency

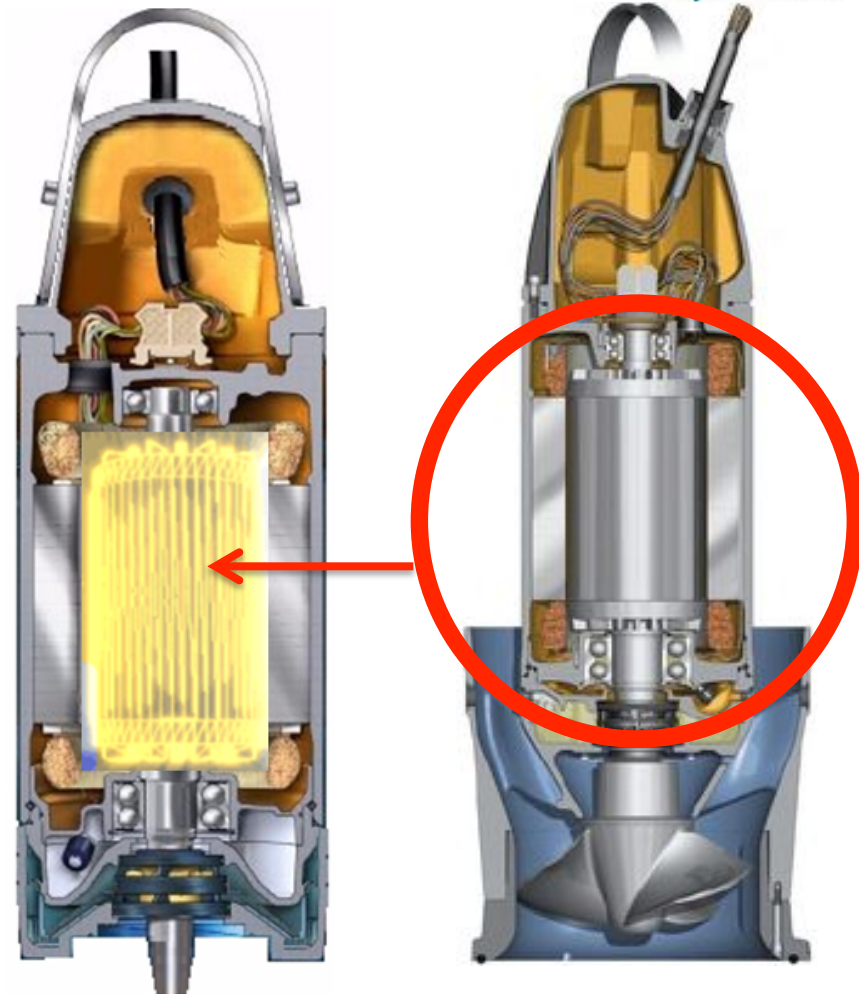
- **Stream-lined pump top**
 - Reduces losses
 - Benefits at pump top
 - Benefits downstream



Higher Motor Efficiency

Premium Efficiency Motors

- Available as an option:
 - 4-P and 6-P motors
 - IE-3 / NEMA compliant



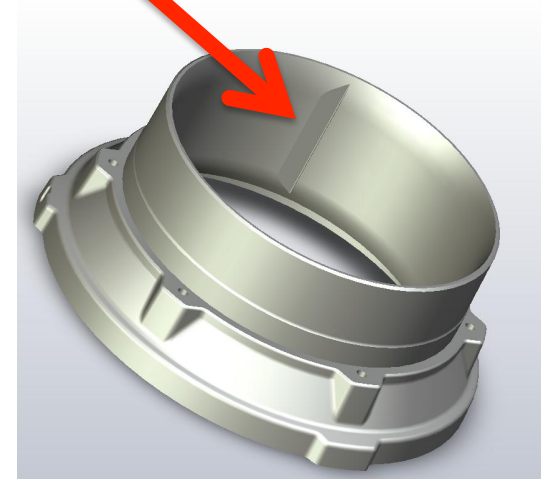
Higher Operational Reliability



High Operational Reliability



Propeller Pump N-Technology:
Self-cleaning propeller blades
with housing relief groove

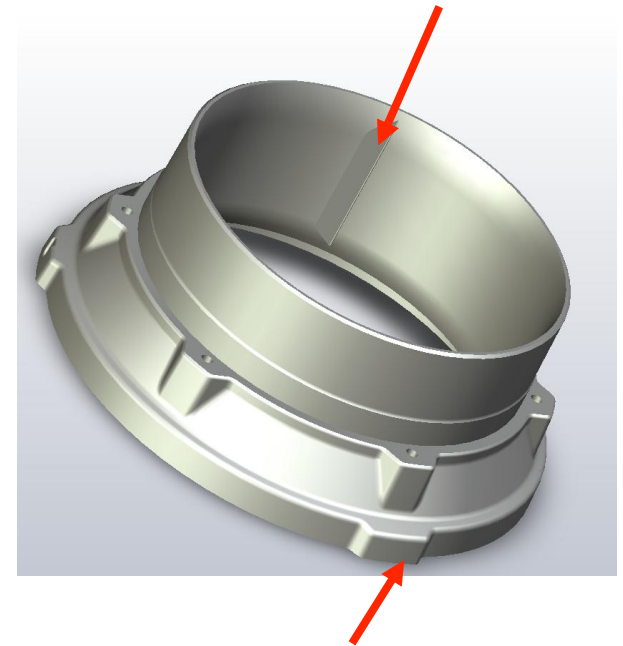


Bell Mouth / Wear Ring

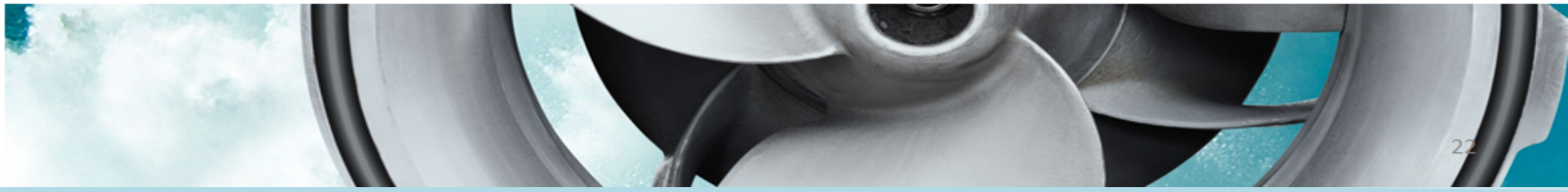
- Increases the liquid velocity with minimum losses
- Has a built in wear ring function with an integrated relief groove for clog resistance
- Cast in high chromium iron for good corrosion and wear resistance
- Acts as a pump rotation prevention during pump start
- Holds zinc anodes

Material: Hard-Iron™

Relief groove



Rotation stop

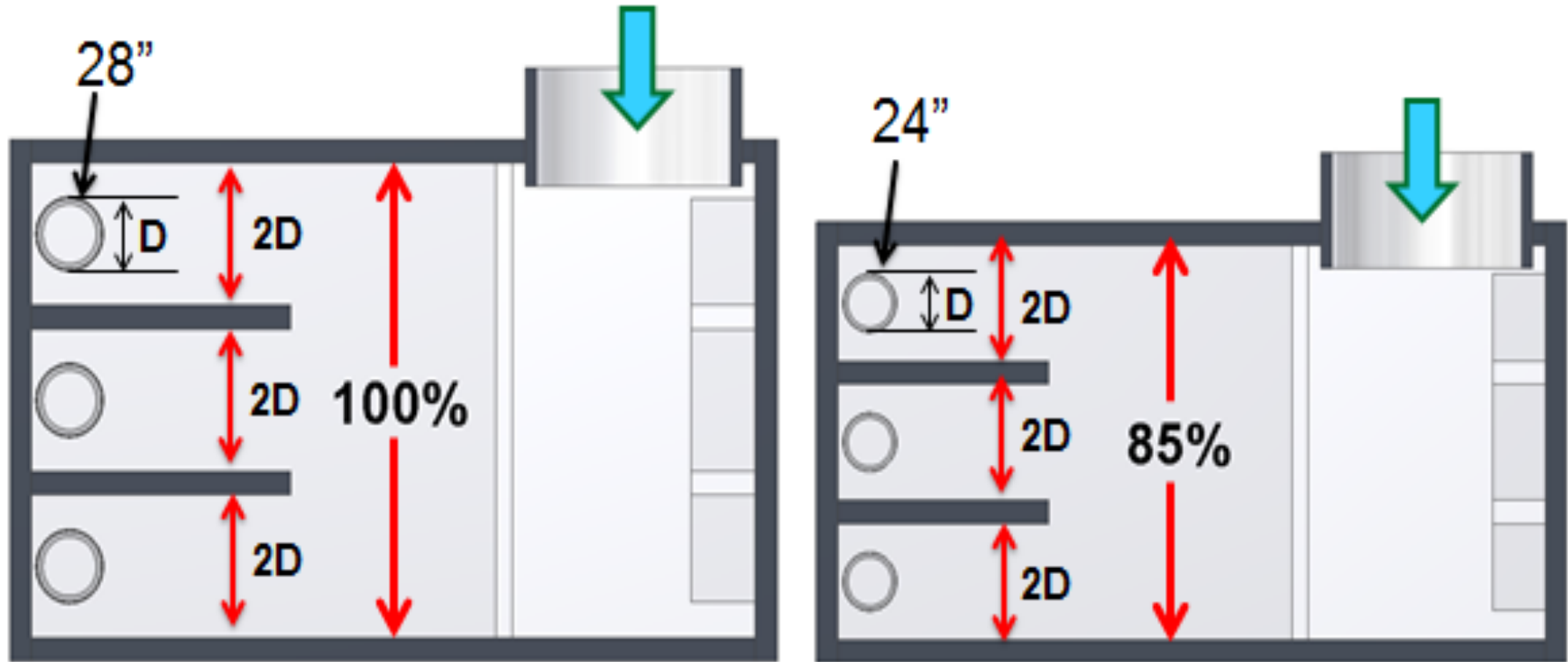


Smaller Pump Station Footprint



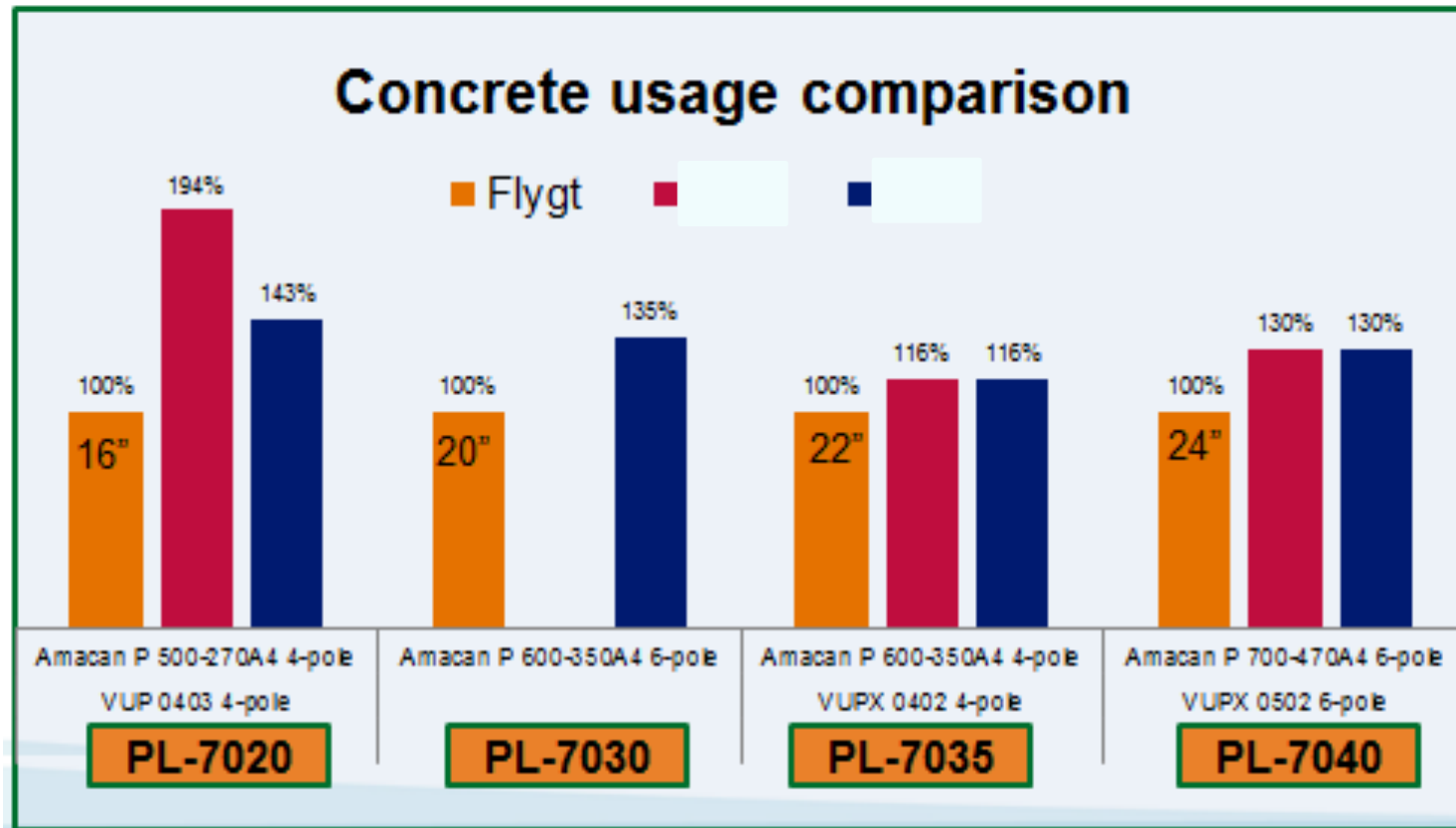
Smaller Pump Station Footprint

Station width is based upon tube 'D'



Smaller Pump Station Footprint

- Slimline design yields a smaller pump station



Flygt System Engineering Expertise



Premier System Engineering



Application expertise

Pump selection guidance

Pump station design assistance

Pump retro-fitting support

Reference list holding thousands of installations

Recommendations for a wide range of applications:

- Flood control
- WWTP process
- WWTP effluent
- Dewatering
- Storm water
- WWTP Mid-plant pumping
- Water attractions
- Raw water



Slimline Summary



Primary Features

■ High efficiency

- IE-3 motors
- Premium hydraulics
- N-Technology
- Streamline exteriors

■ Smaller footprint

- Smaller column diameter
- Smaller station footprint
- FSI further reduces footprint

■ Reliability

- Self-cleaning N-Technology
- Cast St. steel propeller
- Active™ seal
- Robust design

■ Installation / Service

- Cable handling system
- Adapters to older Flygt pumps
- Adapters to competitors machines



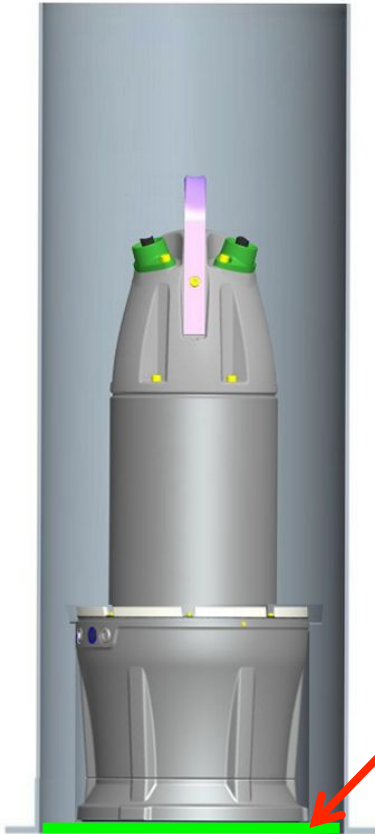
Retrofit opportunities

- Replace gracefully ageing installed Flygt machines...
- Replace pumps in high duty applications:
- WWTP process (BNR / Recycle / Mid-plant)
- Amusement attractions



Slimline Retrofit Adaptations

Standard Pump Adapter Plates



Pump
Adapter
Plates

Custom Pump Mounting Methods



Use of existing
pump column



Inspired by you... Engineered by us.



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Flygt PL-7000

