PRO Pump
And Equipment

CV 3196 i-FRAME®

CV 3196 i-FRAME®

Recessed ImpellerProcessPumps Designed forNon-ClogSolids Handling

- Capacities to 2700 GPM (610m/h) [3]
- Heads to 440 feet (134 m)
- Temperatures to 500°F (260°C)
- Pressures to 285 PSIG (1965 kPa)

Performance Features for Solids Handling Services

ExtendedPump Life • Concentric vortex casing for non-clog, minimum wear • Recessed impeller for minimum solids degradation • TaperBore™ / BigBore™ seal chambers • i-FRAME® power ends Ease of Maintenance

- Back pull-out design
- Parts interchangeable with Goulds Model 3196 i-FRAME®
- External impeller adjustment
- Easy retrofit

Safety

- ANSI B15.1 coupling guard
- Ductile iron frame adapter

Applications

- Filterslurries
- Latex
- Polystyrene beads
- Crystal suspensions
- Screen rejects
- Hydropulper pump
- Sodium chlorate slurry
- Fruit and vegetable suspensions
- Dye liquor
- Fibrous wastewater
- Long fibre white water
- Primary cleaner pump

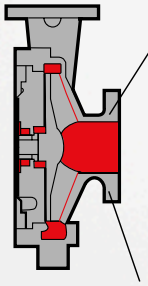
CV 3196 i-ALERT® *STi*
(2 x 2-8)

CV 3196 i-ALERT® *STi*
(2 x–10, 3 x 3–10, 2 x 3–13, 3 x 4–13)
CV 3196 *LTi* (4 x 6–13)
CV 3196 *XLTi* (6 x 8–15)

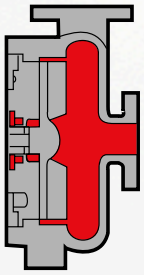
Designed for Solids Handling Services

NotAll Pumps AreDesignedto Handle Certain Bulky /FibrousorShear Sensitive Solids

Conventional end suctionpumps have closeclearances between impeller and casing to maintain efficiency and performance. However, when handling certain bulky, fibrous solids, they can clog. In addition, high velocities in the casing



CLOSE CLEARANCES Conventional end suction pump with ANSI casing and open impeller. HIGHER VELOCITIES



CV 3196 i-ALERT® end suction pump with circular volute casing and recessed impeller designed to prevent clogging and degradation of solids.

cause increased wear, and can degrade or shear pumpage.

CV 3196 i-FRAME® Designed Specifically for Non-Clog Pumping with Minimum Solids Degradation

Since the induced flow or vortex impeller isrecessed from the casing, velocities are low, and solids contact with the impeller is reduced, wear rate, solids degradation and shearing of liquid are minimized.

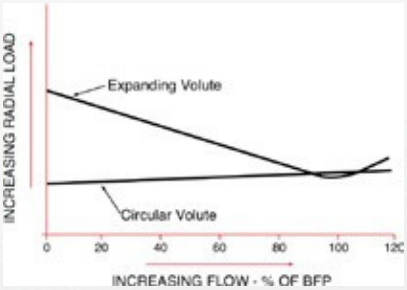
The casing design is well suited to handling solids in liquid suspension. Anything that can exit the discharge will pass through the pump.

Reduced Radial Loads

Trouble Free Operation At Low Flows

Manyusers throttlepumps to attain desired low flow performance. Because most pumps are not designed to operate continuously in this range, the resultant higher radial loads and increased shaft deflection lead to premature bearing and mechanical seal failure.

An added benefit of recessed impeller pumps is reliable operation at low flows. The CV 3196 uses a concentric casing which reduces radial loads by as much as 85% compared to end suction expanding volute pumps at low flows. Bearing, seal and overall pump life are optimized.



EXPANDING VOLUTE PUMP

CV 3196 i-*FRAME*® CIRCULAR VOLUTE PUMP

Easy Replacement or Retrofit

Pump Replacement

Since the CV 3196i-FRAME® foot mounting dimensions are the same as ANSI pumps, replacing ANSI pumps not designed to handle solids is simple... the inadequate pump is easily replaced by the appropriate size Model CV 3196 i-FRAME®.

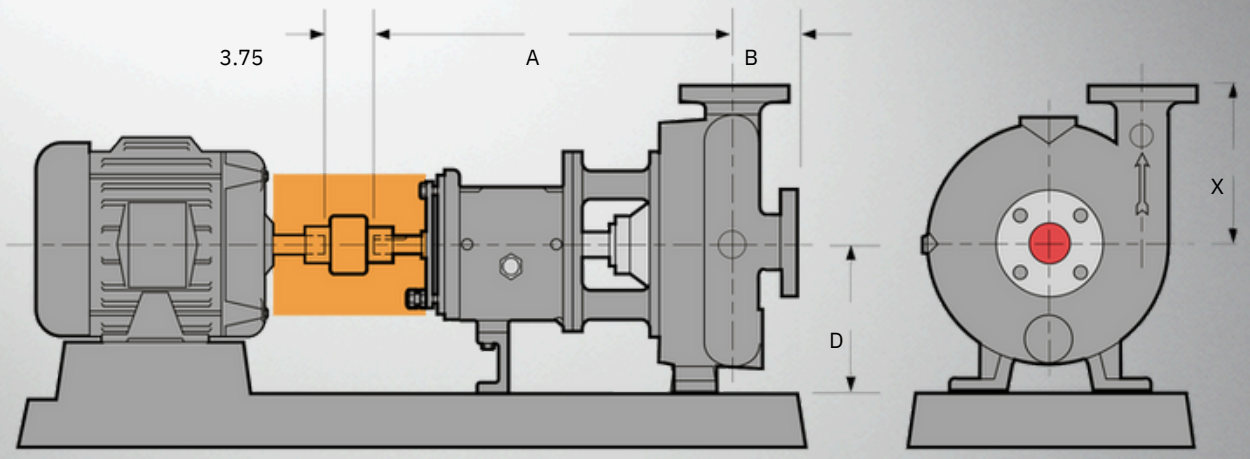
The CV 3196 i-FRAME® uses all Model 3196 parts except casing and impeller, making pump retrofit and upgrade easy and economical.

A CV 3196 i-ALERT® retrofit kit (casing and impeller) easily converts an existing 3196.

CV 3196 i-FRAME®

Dimensions

All dimensions in inches and (mm). Not to be used for construction.



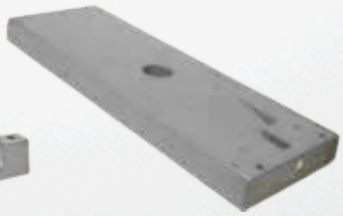
DIMENSIONS						
Group	Size	A	B	D	X	Bare Pump Weight Lbs. (kg)
STi	2x2-8	15.38 (391)	2.75 (70)	5.25 (133)	6.50 (165)	140 (65)
MTi/LTi	2x2-10	21.75 (552)	3.50 (89)	8.25 (210)	8.50 (216)	260 (120)
	3x3-10	22.50 (572)	4.25 (108)	8.25 (210)	9.00 (229)	280 (125)
	2x3-13	22.38 (568)	4.12 (105)	10.00 (254)	10.50 (267)	360 (165)
	3x4-13	22.81 (579)	4.12 (105)	10.00 (254)	10.50 (267)	410 (185)
LTi	4x6-13	23.13 (588)	4.75 (121)	10.00 (254)	11.50 (292)	430 (194)
XLTi	6x8-15	32.5 (826)	6.5 (165)	14.5 (368)	14.00 (356)	486 (219)

Baseplate Mounting Options

Gouldsoffersacompleterangeofmountingsystemstomeetplantreliability requirements, and to make alignment and maintenance easier.

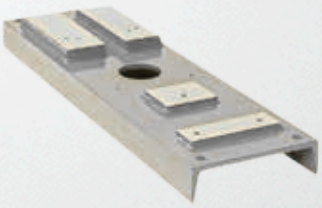
CAMBER TOP CAST IRON

Rigidand corrosionresistant,itispreferred by many plants.



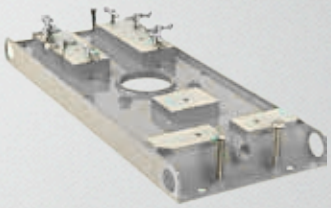
CHEMBASE PLUS™

Polymer concreteconstruction provides exceptional rigidity & corrosion resistance. ANSI 1991 dimensional.



FABRICATED STEEL

Economical baseplate thatmeets ANSI/ASME B73.1 M current edition dimensional requirements.



ENHANCED FEATURE FABRICATED STEEL

UpgradedANSIbaseplatedesigned to maximize pump operation life and ease installation by meeting API-minded chemical pump users toughest requirements.

CV 3196 i-FRAME®

Non Clog Process Pumps

DUCTILE IRON FRAME ADAPTER
Material strengthequaltocarbon steel for safety.

INPRO VBXX-D HYBRID LABYRINTH SEALS
Preventspremature bearing failurecaused by lubricant contamination or loss of oil. Stainless steel rotors for optimal performance in corrosive environments.

CONTINUOUS PERFORMANCE
Original flow, pressure and efficiencyare maintained by simple external adjustment resulting in long-term energy and repair parts savings.

PREMIUM SEVERE-DUTY THRUST BEARINGS
Increase bearing fatigue lifeby2-5Xthat of conventional bearing steels.

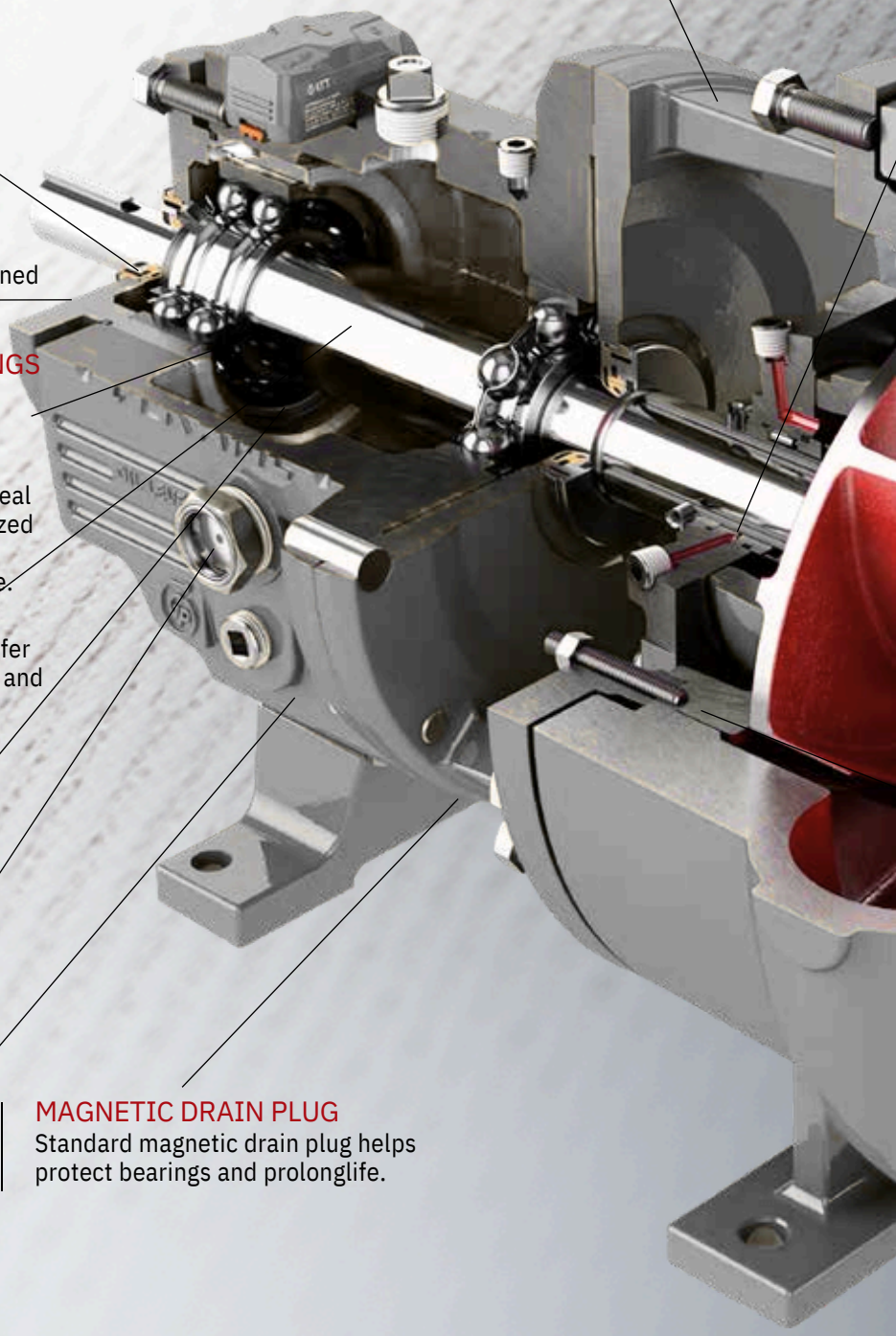
HEAVY DUTY SHAFT & BEARINGS
Rigid shaft designed for minimum deflection at seal faces – less than 0.002 in. (.05 mm). Bearings sized for 10-year average life under tough operating conditions. Available with or without shaft sleeve.

OPTIMIZED OIL SUMP DESIGN
Increased oil capacity provides better heat transfer for reduced oil temperature. Bearings run cooler and last longer. Contaminants directed away from bearings to magnetic drain plug.

ONE-INCH BULL'S EYE SIGHT GLASS
Assures properoil levelcritical to bearinglife. Can be mounted on either side of pumpfor installation flexibility.

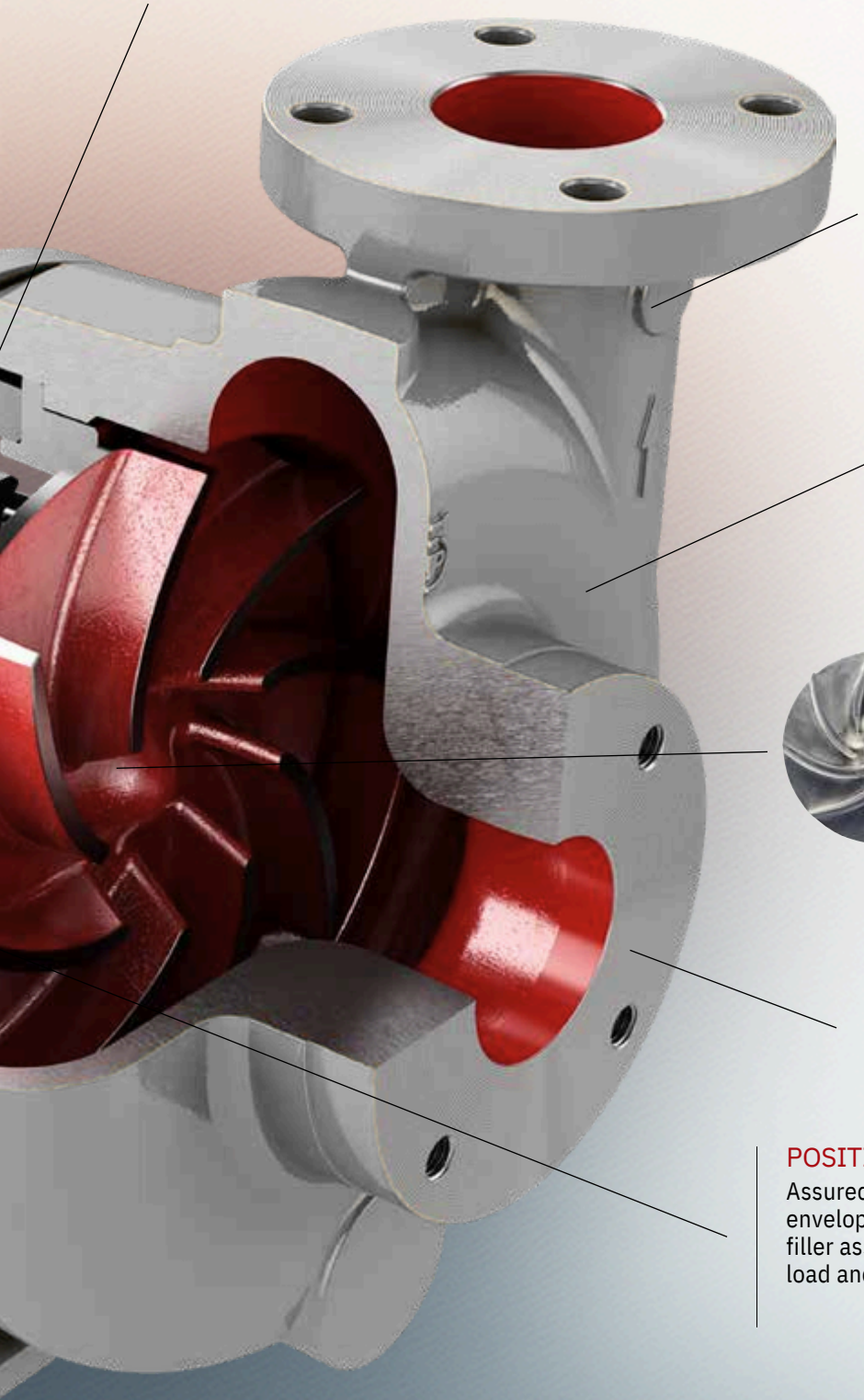
Designed for reliability and extended pump life, backed with a 5-year warranty.

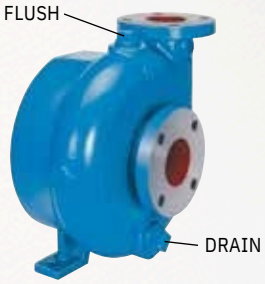
MAGNETIC DRAIN PLUG
Standard magnetic drain plug helps protect bearings and prolonglife.



SEALING FLEXIBILITY

Widerangeof sealing arrangements available to meet service conditions. Engineered seal chambers improve lubrication and heat removal (cooling) of seal faces for extended seal life and pump uptime.





OPTIONAL FLUSH & DRAIN CONNECTIONS

Providecapabilityto clean impeller and casing without disturbing piping. Scheduled maintenance is easy.

NON-CLOG CIRCULAR CASING

Large open passageways prevent clogging when handling bulky, stringy or fibrous liquids. Circular volute reduces radial loads during low flow operation.

RECESSED IMPELLER

Since impeller is recessed from casing, velocities are lowand solids contact with impeller is reduced. Wear rate, solids degradation and shearing of liquid are minimized. Liquids containing significant entrained air or gas can also be pumped.

SERRATED FLANGES

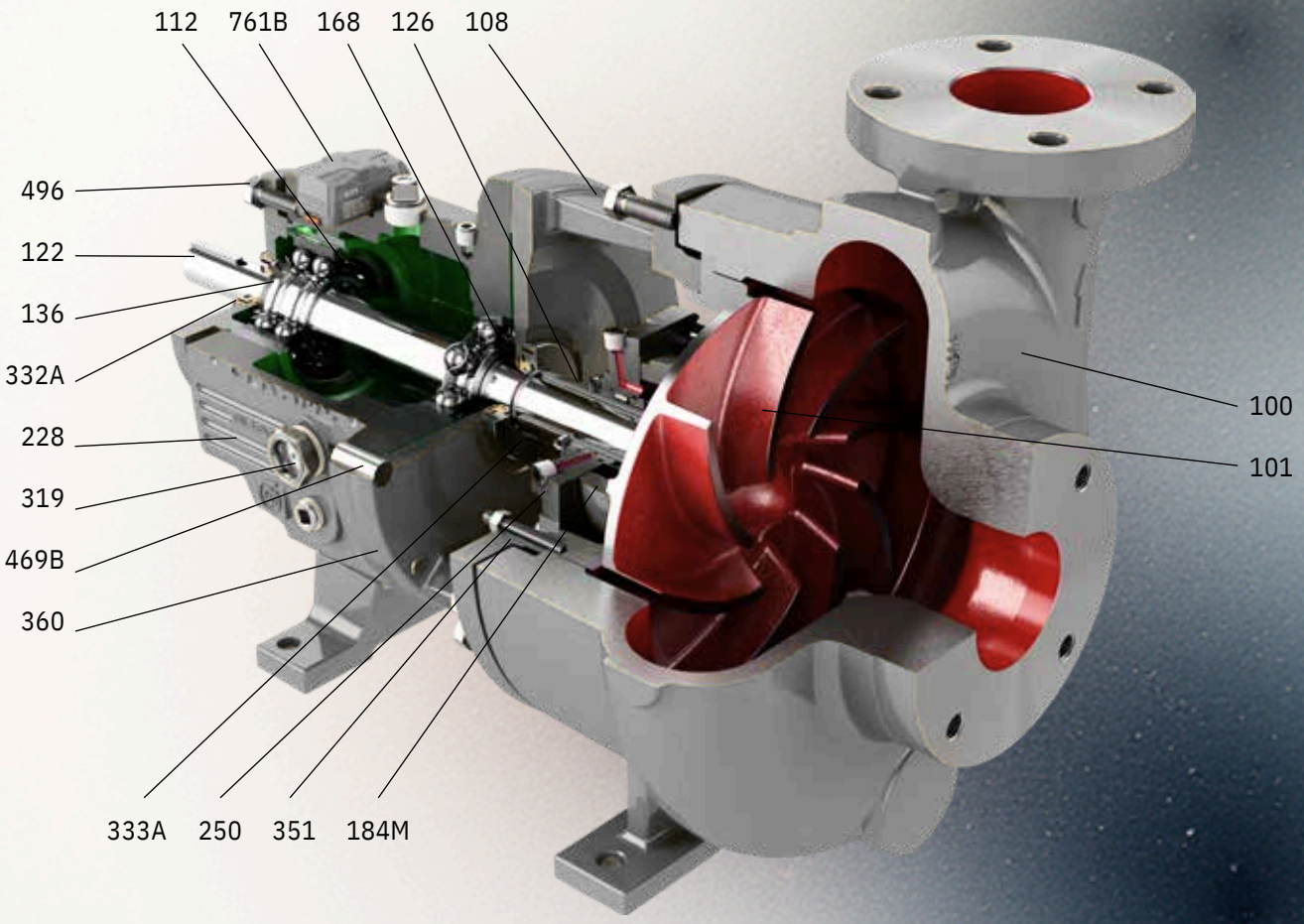
Forpositive sealing against leakage. Meets ANSI B16.5 requirements. Class 150 FF standard.

POSITIVE SEALING

Assured by renewable,confined PTFE envelope casing gasket.Compressible filler assures positivesealwith low bolt load and withoutneed for retightening.

CV 3196 i-FRAME®

Sectional View



Bonus Interchangeability

i-FRAME® Power Ends Fit 7 Different Process Pumps

Minimize inventory, reduce downtime.

3196 i-FRAME®
Process Pumps

CV 3196 i-FRAME®
Non-Clog
Process Pumps

HT 3196 i-FRAME®
High Temperature
Process Pumps

LF 3196 i-FRAME®
Low Flow ANSI
Process Pumps

3198 i-FRAME®
PTFE-Lined
Process Pumps

3796 i-FRAME®
Self-Priming
Process Pumps

NM 3196 i-FRAME®
Non-Metallic
Process Pumps

Parts List and Materials of Construction

Item Number	Part Name	Material			
		Ductile Iron/ CD4MCuN Trim	CD4MCuN	Alloy 20	Hastelloy B&C
100	Casing	Ductile Iron	CD4MCuN	Alloy 20	Hastelloy
101	Impeller	CD4MCuN	CD4MCuN	Alloy 20	Hastelloy
105	Lantern Ring (Not Illustrated)	Glass-Filled PTFE			
106	Stuffing Box Packing (Not Illustrated)	PTFE Impregnated Fibers			
108	Frame Adapter	Ductile Iron			
112	Thrust Bearing	Double Row Angular Contact Conrad**			
122	Shaft—Less Sleeve (Optional)	SAE4140	3166SS	Alloy 20	Hastelloy
122	Shaft—With Sleeve	SAE4140			316SS
126	Shaft Sleeve	316SS	Alloy 20		Hastelloy
136	Bearing Locknut and Lockwasher	Steel			
168	Radial Bearing	Single Row Deep Groove			
184	Stuffing Box Cover (Packed Box)	Ductile Iron	CD4MCuN	Alloy 20	Hastelloy
184M	Seal Chamber (Mechanical Seal)	Ductile Iron	CD4MCuN	Alloy 20	Hastelloy
228	Bearing Frame	Cast Iron (Ductile Iron for STX Group)			
250	Gland	316SS	CD4MCuN	Alloy 20	Hastelloy
262	Repeller/Sleeve (Dynamic Seal Option)	CD4MCuN		Alloy 20	Hastelloy
264	Gasket, Cover-to-Backplate (Dynamic Seal)	PTFE			
265A	Stud/Nut, Cover-to-Adapter	304SS			
319	Oil Sight Glass	Glass/Steel			
332A	INPRO® Labyrinth Oil Seal (Outboard)	Stainless Steel / Bronze			
333A	INPRO® Labyrinth Oil Seal (Inboard)	Stainless Steel / Bronze			
351	Casing Gasket	Aramid Fiber with EPDM Rubber			
358A	Casing Drain Plug (Optional)	Steel	Alloy 20		Hastelloy
360	Gasket, Frame-to-Adapter	Buna			
370	Cap Screw, Adapter-to-Casing	Steel	304SS		
412A	O-ring, Impeller	Glass-Filled PTFE			
418	Jacking Bolt	304SS			
444	Backplate (Dynamic Seal Option)	Ductile Iron	CD4MCuN	Alloy 20	Hastelloy
469B	Dowl Pin	Steel			
496	O-ring, Bearing Housing	Buna Rubber			
761B	i-ALERT Condition Monitor	Stainless Steel / Epoxy			

Construction Details All dimensions in inches and (mm).

		STi	*MTi*	*LTi*	*XLTi*
Shaft	Diameter at Impeller	.75 (19)	1 (25)	1.25 (32)	1.5 (38)
	Diameter in Stuffing Box/Seal Chamber (Less Sleeve) (With Sleeve)	1.375 (35) 1.125 (29)	1.75 (45) 1.5 (38)	2.125 (54) 1.875 (48)	2.5 (64) 2 (51)
	Diameter Between Bearings	1.5 (38)	2.125 (54)	2.5 (64)	3.125 (79)
	Diameter at Coupling	.875 (22)	1.125 (29)	1.875 (48)	2.375 (60)
	Overhang	6.125 (156)	8.375 (213)	8.375 (213)	9.969 (253)
	Maximum Shaft Deflection	0.002 (0.05)			
Sleeve	O.D thru Stuffing Box/Seal Chamber	1.375 (35)	1.75 (45)	2.125 (54)	2.5 (64)
Bearings	Radial	6207	6309	6311	6313
	Thrust	5306 A/C3	5309 A/C3	7310 BECBM	5313 A/C3
	Bearing Span	4.125 (105)	6.75 (171)	6.875 (164)	9.25 (235)
BigBore® Seal Chamber	Bore	2.875 (73)	3.5 (89)	3.875 (98)	4.75 (121)
Stuffing Box	Bore	2 (51)	2.5 (64)	2.875 (73)	3.375 (86)
Power Limits	HP (kW) per 100 RPM Oil/Grease Lubrication without Cooling	1.1 (.82)	3.4 (2.6)	6.6 (4.9)	14.0 (10.5)
Maximum Liquid Temperature	Oil Lubrication with Finned Cooler	350°F (177°C)			
	Corrosion Allowance	500°F (260°C)			
Casing		.125 (3)			

Hydraulic Coverage