



AURORA®

3500 Series

Model 3560 ASME/ANSI B73.1M

Industrial Process Pumps



The Aurora Model 3560 was designed to perform in the toughest industrial applications whether in the chemical, petro-chemical, mining, pulp and paper, consumer products or general industry.

*If you are considering an ANSI pump for a **motralec** application, look to Aurora Model 3560.*

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www.motralec.com

Aurora Model 3560 Groups 1, 2 & 3

- Capacities to 7000 G.P.M. (954 m³/hr)
- Heads to 725 Feet (221 Meters)
- Temperatures to 650°F (343°C)
- Pressures to 375 PSIG (4998 kPa)

Model 3560-1 5 ASME/ANSI Pumps

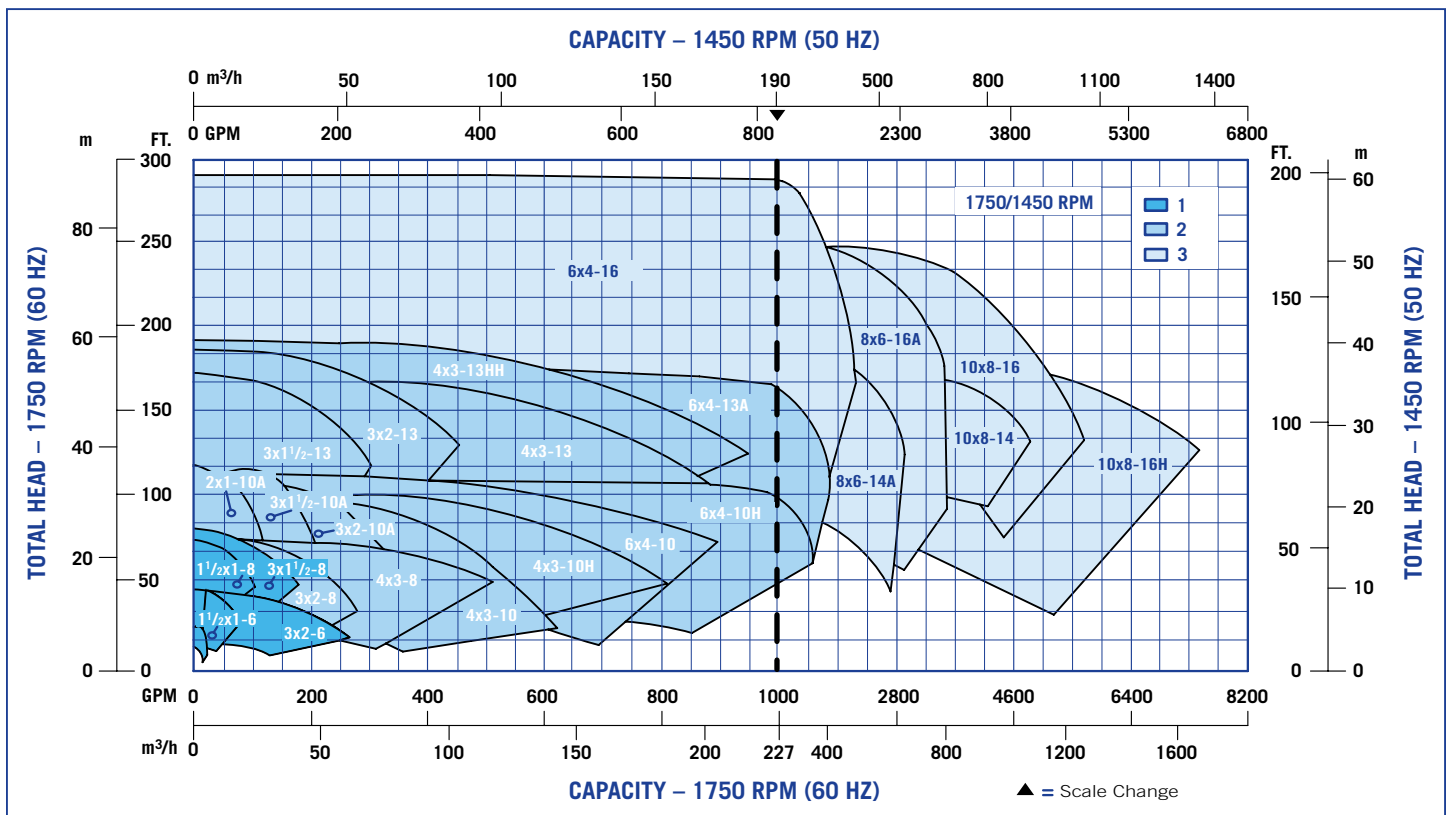
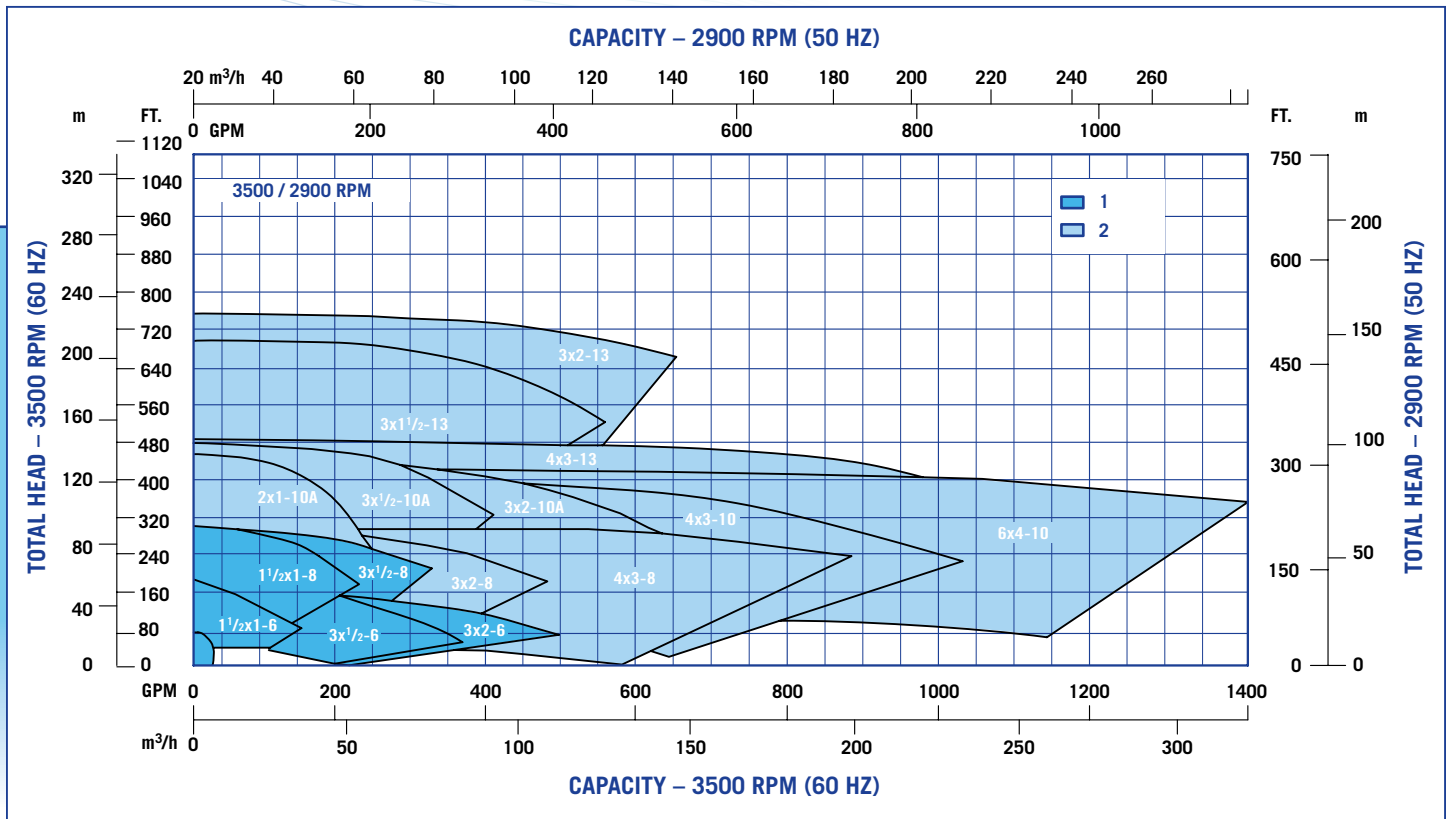
Model 3560-2 14 ASME/ANSI Pumps

Model 3560-3 6 ASME/ANSI Pumps

The Aurora Model 3560-Groups 1, 2 & 3 were developed with the standard features required to withstand the most difficult applications and maximize mean-time-between-failures (MTBF).



Model 3560 Pump Performance



Model 3560

Features

The Model 3560 power and wet ends were developed with the standard features required to withstand the most difficult applications and maximize mean-time-between-failures (MTBF).

Lip Type Oil Seals

- Prevents external contaminants
- Lower oil temperature
- Optional Labyrinth seals

Dramatically improves bearing life.

Lubrication Flexibility

- Oil Flooded
- Oil Mist
- Greased

Maximum lubrication options.

Oversized Shaft

- Shaft deflection less than .002 in. per ANSI B73.1M
- Decreased Vibration

Significantly increases both seal and bearing life.

Heavy Duty Bearing

- Designed for maximum hydraulic loads
- Optional Duplex (40°/40° angular contact) thrust bearings

Bearings can perform under the toughest conditions.

External Impeller Adjustment

- Optimizes energy consumption
- Reduces repairs
- Simple external adjustments

Long-term energy and repair savings.

Large Capacity Oil Sump

- Cooler oil temperature
- Better heat transfer

Increased bearing life.

Large Sight Glass

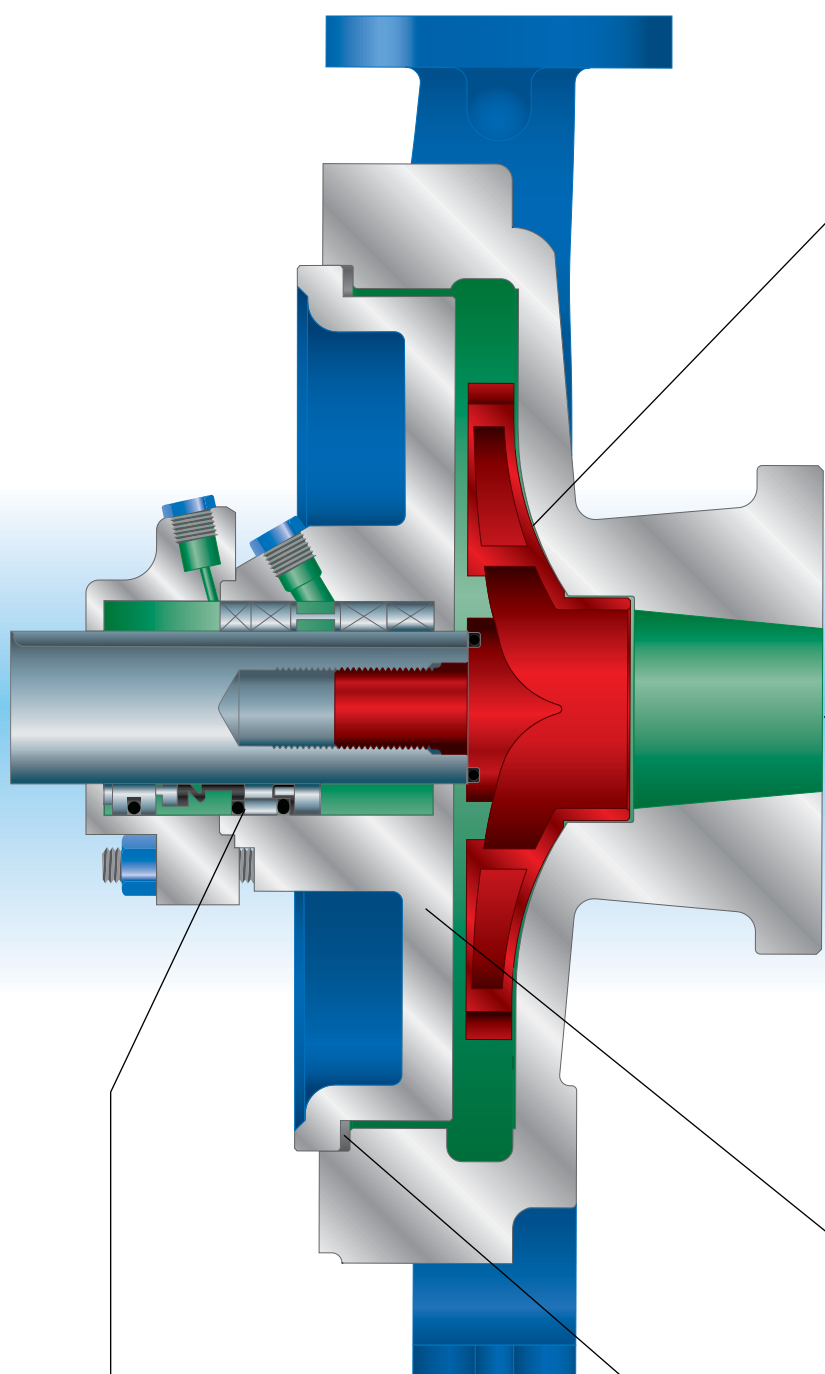
- Assures proper oil levels
- Allows monitoring of oil condition

Helps increase bearing life.

Magnetic Drain Plug

- Removes magnetic particles

Increases bearing life.



Enclosed and Fully Open Impeller

Fully Open

- Back pump-out vanes
- Reduced radial/thrust loads
- Lower seal chamber pressure
- Double the wear area of a closed impeller

Designed for the toughest applications including solids handling, stringy materials, abrasives and corrosives.

Enclosed

- Low seal chamber pressure
- Lower thrust loads
- NPSHR values are lower
- Impeller adjustment in shop

Enclosed impellers have enhanced performance and maintenance advantages.

Heavy Duty Casing

- Class 150 flanges with Class 300 casing wall thickness
- Self-venting
- Back Pull-out design
- Integral cast feet
- Serrated flange surfaces
- Standard Class 150 FF and optional Class 150 RF, 300 FF/RF

Designed for increased reliability, ease of maintenance and maximum life.

Sealing Options

- Packing
- Conventional Single/Double
- Cartridge Single/Double

Sealing options to accommodate most any fluid and temperature combinations.

Positive Sealing

- Fully confined gasket
- Protects alignment fit

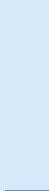
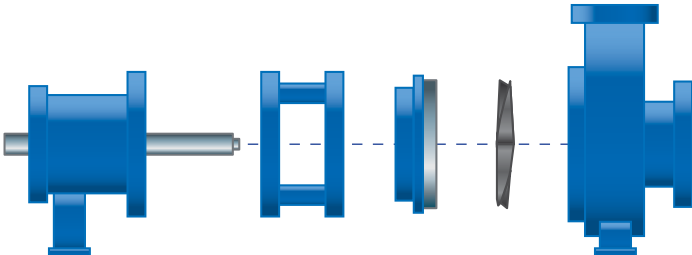
Provides ease of maintenance and increased safety.

Engineered Seal Chambers

- Standard Bore
- Large Bore
- Taper Bore / Modified flow

Designed to provide optimum seal environment.

Model 3560 Modular/Dimensional Interchangeability

POWER END	ADAPTERS	SEAL CHAMBER	REVERSE VANE IMPELLER	OR	FRONT VANE OPEN STYLE IMPELLER	CASING	SIZE	POWER END	ADAPTER	SEAL CHAMBER	REVERSE VANE IMPELLER	OR	FRONT VANE OPEN STYLE IMPELLER	CASING	SIZE
GROUP 1								GROUP 3							
							1.5x1-6 AA								8x6-14A A90
							3x1.5-6 AB								10x8-14 A100
							3x2-6 AC								6x4-16
							1.5x1-8 AA								8x6-16A A110
							3x1.5-8								10x8-16 A120
GROUP 2															
							3x2-8 A60								
							4x3-8 A70								
							2x1-10A A05								
							3x1.5-10A A50								
							3x2-10A A60								
							4x3-10 A70								
							4x3-10H A70								
							6x4-10 A80								
							6x4-10H A80								
							3x1.5-13 A20								
							3x2-13 A30								
							4x3-13 A40								
							4x3-13HH A40								
							6x4-13A A80								

Model 3560 Parts & Material Composition

Item Number	Req' d Per Pump	Part Name	All Steel	All 316SS	All Alloy 20	All CD4MCu	All Titanium	Hastelloy B&C
100	1	Casing	Steel	316SS	Alloy 20	CD4MCu	Titanium	Hastelloy B&C
103	1	Impeller	Steel	316SS	Alloy 20	CD4MCu	Titanium	Hastelloy B&C
106	1	Lantern Ring	Glass Filled Teflon*					
112	1	Packing	Teflon* Impregnated Fibers					
113	1	Packing Gland	316SS		Alloy 20		Titanium	Hastelloy B&C
108	1	Frame Adapter	Ductile Iron					
121	1	Outboard (Thrust) Bearing	Double Row Angular Contact					
105	1	Shaft – Less Sleeve (Optional)	316SS					
105	1	Shaft – With Sleeve	SAE4140				316SS	
177	1	Shaft Sleeve	316SS	316SS	Alloy 20	316SS	Titanium	Hastelloy B&C
201	1	Bearing Housing	Cast Iron					
124	1	Lock Nut / Lock Washer	Steel					
120	1	Inboard (Radial) Bearing	Single Row Deep Groove					
106	1	Stuffing Box	Steel	316SS	Alloy 20	CD4MCu	Titanium	Hastelloy B&C
119	1	Frame	Cast Iron (Ductile for Group 1)					
109	1	Frame Foot	Cast Iron					
110	1	Gland	316SS		Alloy 20			
200	1	Sight Oil Gauge	316SS					
129	1	Lip Type Oil Seal (Outboard)	Optional Labyrinth Oil Seal					
118	1	Lip Type Oil Seal (Inboard)	Optional Labyrinth Oil Seal					
107	1	Casing Gasket	Aramid Fiber with EPDM Rubber					
111	4	Gland Stud	316SS					
111A	4	Gland Nut	304SS					
140	3	Bearing Housing Hex Bolt	Steel					
201B	1	Bearing Housing O-Ring	Buna Rubber					
105	1	Impeller O-Ring	Glass Filled TFE					

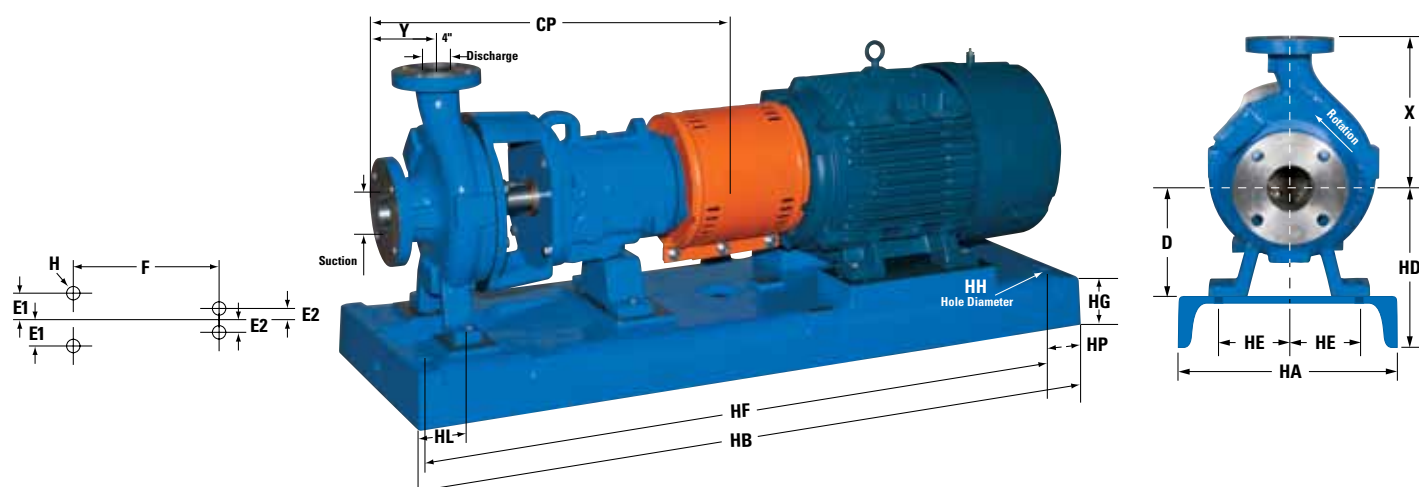
*E.I. Dupont Registered Trademark

Group		1	2	3
Volute		single		
Nominal Case Thickness (inches)		$\frac{3}{8}, \frac{1}{16}$	$\frac{1}{2}, \frac{1}{16}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{16}$
Corrosive Allowance @ Maximum		$\frac{1}{8}$		
Working Pressure		Limits set by ANSI B16.5		
Maximum Working PSIG		See Pressure/Temperature charts		
Hydro Test PSIG @ 100°F		150% of working pressure at 100°F (38°C)		
Maximum Liquid Temperature (°F)		350°F without cooling / 650°F with cooling		
Shaft Diameter	At Coupling (inches)*	.875	1.250	2.375
	Sleeve Diameter Under Seal (inches)	1.375	1.875	2.625
	Under Sleeve (inches)	1.125	1.50	1.125
	Overhang (inches)	5.969	7.688	10.250

*6x4-10 shaft coupling end 1.50

Group		1	2	3
Bearings	Radial	SKF 6207	SKF 6310	SKF 6314
	Thrust	SKF 5306 A/C3	SKF 5310 A/C3	SKF 5314 A/C3
	Bearing Span	3.593	6.875	10.50
Mechanical Seal Size (inches)		1.375	1.875	2.625
Stuffing Box – Standard Bore	I.D. (inches)	2.125	2.625	3.625
	Depth (inches)	2.187	2.625	3.250
	Distance End of Box to Nearest Obstruction	2.156	3	3.593
Stuffing Box – Large Bore	I.D. (inches)	2.875	3.625	4.625
	Depth (inches)	2	2	3
	Distance End of Box to Nearest Obstruction	2.343	3.625	3.843
Lantern Ring Width (inches)		.437	.625	.625

Model 3560 Pump Dimensions



Pump Group	Pump Size Suction x Discharge	ANSI Designation	Pump Weight kg (lb)	X mm (in)	D mm (in)	E ₁ mm (in)	E ₂ mm (in)	CP mm (in)	F mm (in)	H mm (in)	Y mm (in)
1	1½x1-6	AA	44 (97)	165 (6½)	133 (5¼)	76 (3)	0	445 (17½)	184 (7¼)	16 (¾)	102 (4)
	3x1½-6	AB	51 (112)								
	3x2-6	AC	53 (116)								
	1½x1-8	AA	47 (103)								
	3x1½-8		56 (124)	190.5 (7½)	177.8 (7)						
2	3x2-8	A60	90 (200)	242 (9½)	210 (8¼)	124 (4¾)	92 (3¾)	597 (23¾)	318 (12½)	16 (¾)	102 (4)
	4x3-8	A70	103 (227)	280 (11)							
	2x1-10A	A05	95 (210)	216 (8½)							
	3x1½-10A	A50	100 (220)	216 (8½)							
	3x2-10A	A60	103 (226)	242 (9½)							
	4 x 3 - 10	A70	101 (225)	280 (11)							
	4 x 3 - 10H	A70	112 (249)	318 (12½)							
	6 x 4 - 10	A80	130 (290)	343 (13½)	254 (10)						
	6 x 4 - 10H	A80	149 (328)	343 (13½)							
	3 x 1½ - 13	A20	112 (250)	266 (10½)							
	3 x 2 - 13	A30	116 (258)	292 (11½)							
	4 x 3 - 13	A40	126 (281)	318 (12½)							
	4 x 3 - 13HH	A40	126 (281)	318 (12½)							
	6 x 4 - 13A	A80	145 (324)	343 (13½)							
3	8 x 6 - 14A	A90	306 (680)	406 (16)	368 (14½)	203.2 (8)	114.3 (4½)	860 (33¾)	476 (18¾)	22 (7⁄8)	152 (6)
	10x8-14	A100	408 (899)	457 (18)							
	6x4-16		291 (641)	406 (16)							
	8x6-16A	A110	377 (832)	457 (18)							
	10x8-16	A120	416 (917)	483 (19)							
	10x8-16H	A120	450 (992)	483 (19)							

	Maximum Motor Frame	Baseplate Number	Weight kg (lb)	HA mm (in)	HB mm (in)	*HD ₁ mm (in)	*HD ₂ mm (in)	HE mm (in)	HF mm (in)	HG mm (in)	HH mm (in)
1	184T	139	50 (111)	381 (15)	991 (39)	229 (9)	273 (10¾)	114 (4½)	927 (36½)	95 (3¾)	19 (¾)
	215T	148	74 (163)	457 (18)	1219 (48)	241 (9½)	283 (11¼)	152 (6)	1156 (45½)	105 (4¼)	
	256T					267 (10½)					
	286T					302 (11¾)					
	326TS	153	96 (212)	533 (21)	1346 (53)	327 (12¾)	327 (12¾)	191 (7½)	1283 (50½)	121 (4¾)	
2	184T	245	59 (129)	381 (15)	1143 (45)	305 (12)	349 (13¾)	114 (4½)	1080 (42½)	95 (¾)	25 (1)
	215T	252	80 (177)	457 (18)	1321 (52)	319 (12½)	359 (14¼)	152 (6)	1257 (49½)	105 (4¼)	
	286T	258	106 (234)	533 (21)	1473 (58)	330 (13)	375 (14¾)	191 (7½)	1410 (55½)	121 (4¾)	
	326T	264	149 (328)	559 (22)	1626 (64)	330 (13)	375 (14¾)		1562 (61½)		
	365T					352 (13¾)			1664 (65½)		
	405TS	268	186 (409)	660 (26)	1727 (68)	378 (14¾)	378 (14¾)	1969 (77½)	308 (12¾)		
	449TS	280	218 (481)		2032 (80)	403 (15¾)	403 (15¾)	1969 (77½)		232 (9¼)	
3	286T	368	213 (470)	660 (26)	1727 (68)	489 (19¼)	241 (9½)	1664 (65½)	308 (12¾)		
	405T	380	273 (601)		2032 (80)			1969 (77½)	232 (9¼)		
	449T	398	338 (746)		2489 (98)			2426 (95½)	206 (8¼)		

* Group 1 – HD₂ applies to 3 x 1½ - 8 only.

Group 2 – HD₁ applies to 3 x 2 - 8, 4 x 3 - 8, 2 x 1 - 10A, 3 x 1½ - 10A, 3 x 2 - 10A, and 4 x 3 - 10.

HD₂ applies to 4 x 3 - 10H, 6 x 4 - 10, 6 x 4 - 10H, 3 x 1½ - 13, 3 x 2 - 13, 4 x 3 - 13, 4 x 3 - 13HH, and 6 x 4 - 13A.

3500 Series

Model 3560 Options

The Aurora Model 3560 has a broad range of engineered options and upgrades that will support a variety of process requirements and meet most any fluid processing application.

Drivers

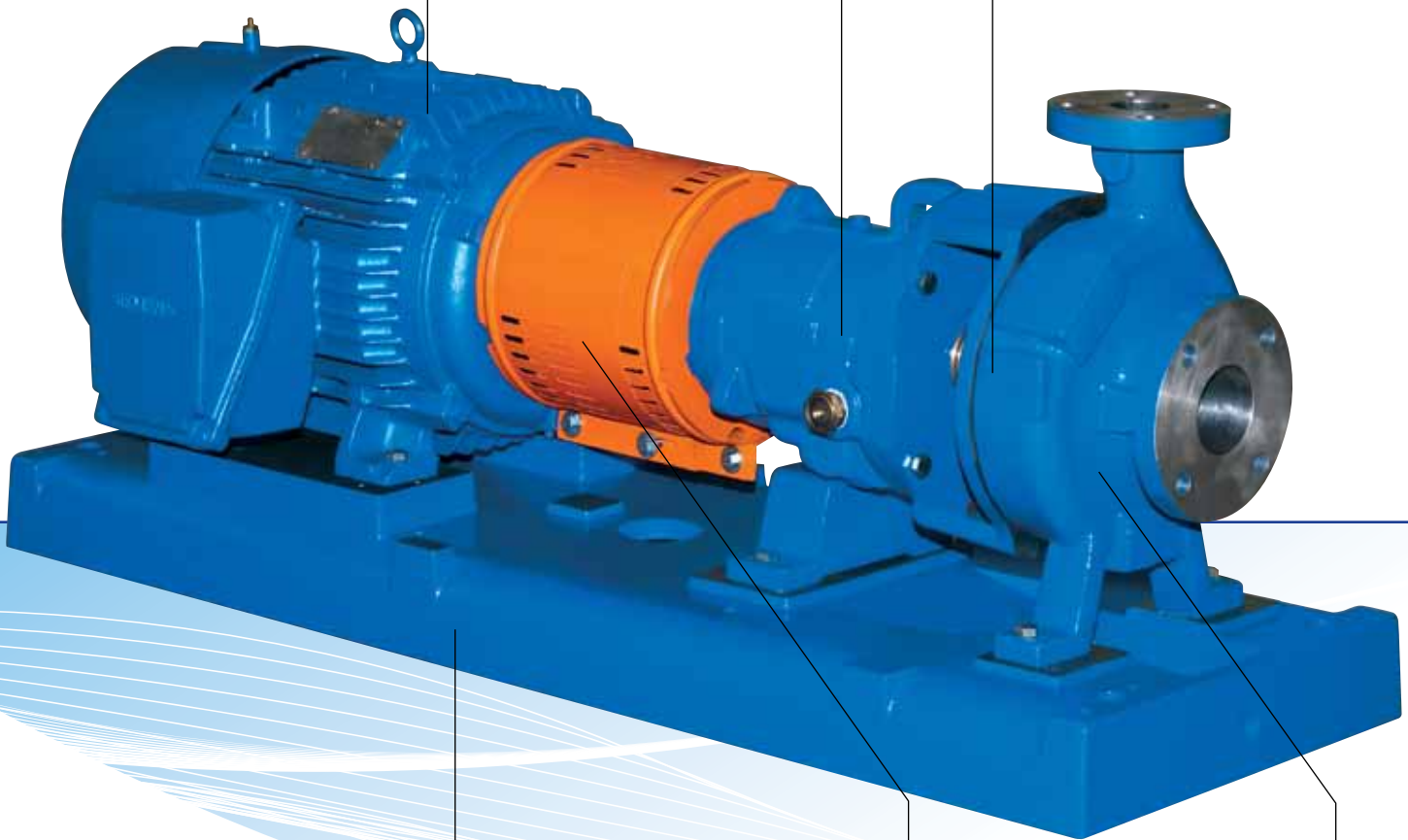
- Electric Motors
ODP / TEFC / XP
- Variable Frequency Drives

Oil Temperature Control

- Bearing Frame Cooling Coil

Seal Flush / Cooling

- Most ASME/ANSI B73.1M seal
flush and cooling plans available



Mounting Baseplates

- Fabricated Steel per
ASME/ANSI B73.1M
- Cast Iron in compliance with PIP
- Heavy-duty epoxy resin based
polymer composite to
ASME/ANSI B73.1M

Couplings and Guards

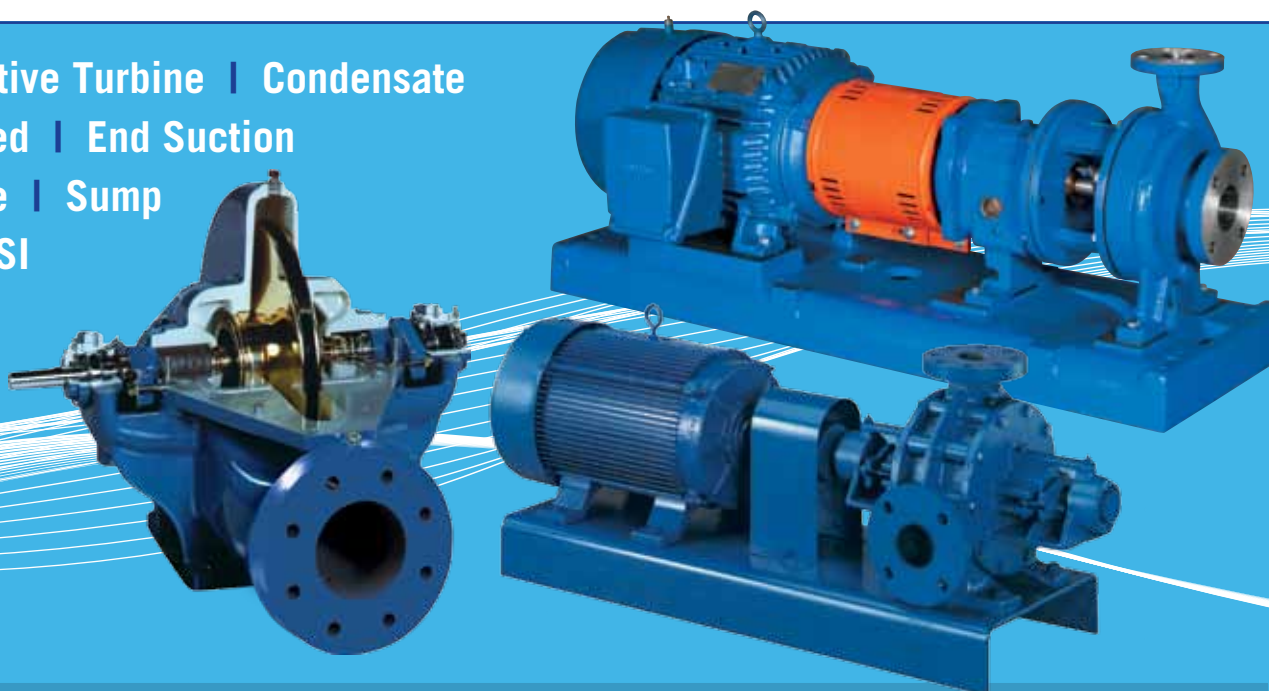
- OSHA approved coupling guards
- Various coupling options

Process Temperature Control

- Jacketed Casings
- Jacketed Seal Chamber

The AURORA family of pumps has the right pump for your industrial application

Regenerative Turbine | Condensate
Boiler Feed | End Suction
Split Case | Sump
ASME/ANSI



Product Performance Ranges		Maximum Capacity Range*	
PUMP CATEGORY	Flow – GPM/M ³ /hr. (meters cubed/hr.)	Head – ft./m.	Temp. – °F/°C
ASME/ANSI	4200 / 953.4	725 / 220.9	-100–650 / -73–343
Regenerative Turbine	50–150 / 11.4–34.1	700–1,200 / 213–366	212–500 / 100–260
Condensate	150–180 / 34.1–40.9	170–270 / 52–82	190–200 / 88–93
Boiler Feed	100 / 22.7	575 / 175	210 / 99
End Suction	140–4,500 / 31.8–1,022.1	55–790 / 17–41	225–300 / 107–149
Split Case	400–15,000 / 90.8–3,406.9	500–1,000 / 152–305	275–300 / 135–149
Sump	100–1,200 / 22.7–272.5	40–180 / 12–55	180 / 82

* Capacity range indicates multiple series in one pump category. See product sheets for complete specifications.

Since its founding in 1919, Aurora has become a leading supplier devoted to manufacturing a wide variety of pumps and systems for an ever-expanding variety of markets and applications. Prime examples of our industrial applications include process water supply, spray booth, cooling water supply, transfer and recirculation pumping equipment.

Aurora's commitment to excellence goes beyond the product line, as we're dedicated to keeping customers up-to-date on the latest developments in flow technology. From Aurora's broad selection of pumps and related products, Aurora's design engineering programs assist with selecting the best pumps and systems along with providing pump drawings and specifications. These programs save valuable time in the selection and evaluation of pumps and systems.

Contact your authorized Pentair Industrial Pumps distributor for more information on our entire industrial pump offering.

NOTE: Aurora Pump reserves the right to make revisions to its products and their specifications, and to this bulletin and related information, without notice.



motralec

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