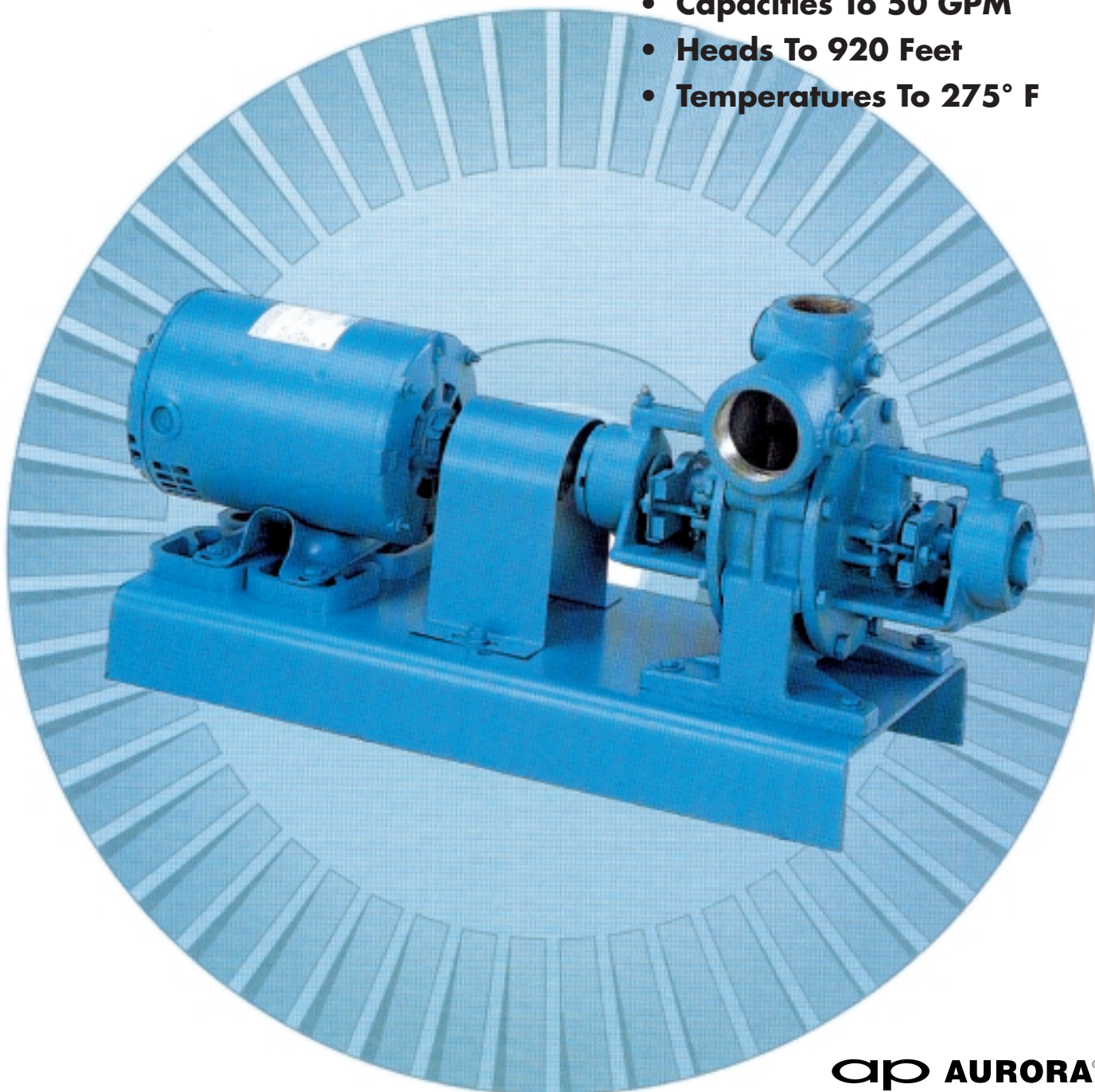


120B Series "APCO" One & Two Stage Turbine Type Pumps

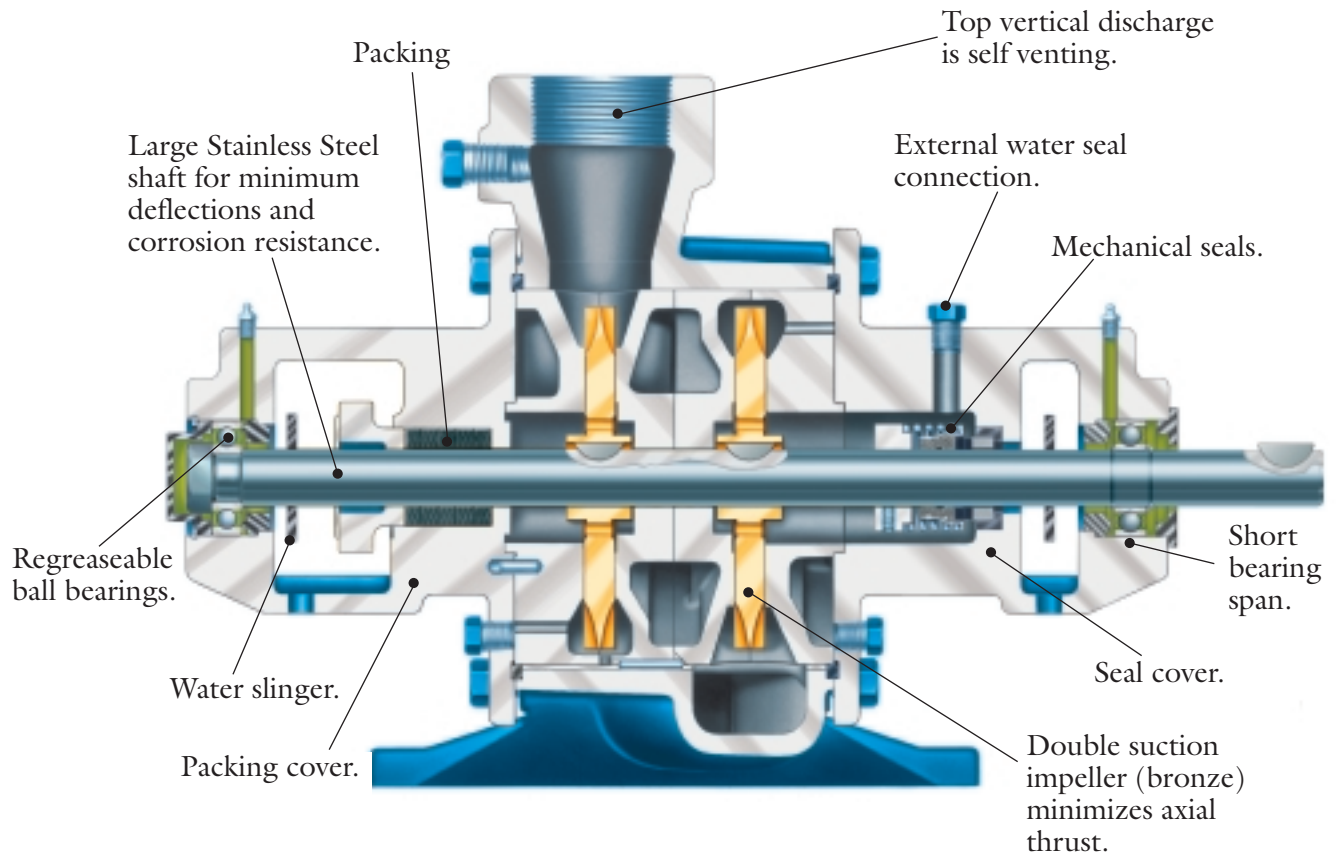
- Capacities To 50 GPM
- Heads To 920 Feet
- Temperatures To 275° F



ap AURORA®

PENTAIR PUMP GROUP

120B Series Pumps



Typical Two-Stage Unit Shown

Applications

- Boiler Feed
- Condensate Return
- Cooling Systems
- High Pressure Spray
- Booster Systems
- Jockey Pumps
- Chlorine Injection
- Chemical Feed Systems
- Laundry and Dry Cleaning Systems
- Laser Cooling
- Electrostatic Discharge Machines
- TV Tube and CRT Manufacturing
- Car Washes

Benefits

- Reliability
- Years of Field-Proven Service
- Reduce Energy Consumption
- Trouble-free Operation
- High Performance
- Save Space
- Versatility
- Complete Technical Support
- Low Flow/High Head Capabilities

Introduction

Apco regenerative turbine pumps are field-proven throughout the world. Apco pumps are ideal for handling: (1) high head/low flow requirements, (2) liquids entrained with gases and vapors (up to 20%), and (3) constant flows.

You are assured of reliable pumping service because every Apco is tested to insure consistent performance.

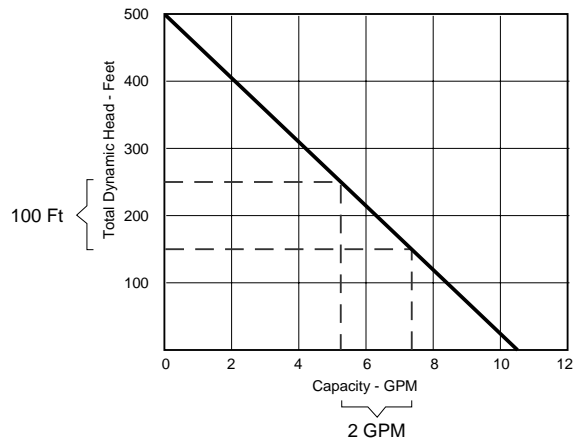
Apco pumps are designed for those special applications where high head and low flow are required by the system. Boiler feed systems, for example, require high pressure to get low flows of water into the pressurized steam boiler.

Conventional centrifugal pumps, in contrast, must operate close to shut off or operate at high speed to meet these high head/low flow requirements. These mis-applications can cause high vibration, mechanical damage, frequent maintenance, and excessive energy use.

Apco pumps thrive in high head/low flow applications so you save on operating costs (less maintenance, downtime and energy costs).

Increase System Reliability with Constant Flow

Apco pumps assure constant flow when you need it. The steep performance curve allows for minimal changes in the capacity even with large pressure variations.



The curve above shows that with a 100 foot change in head, the capacity varies only 2 gallons per minute. You get a virtually constant flow over wide pressure variations to ensure reliable system operation.

The constant flow characteristics make the Apco ideal for cooling systems where it is vital that sufficient flow is maintained to dissipate heat despite changes in pressure.

Pressure variations occur for a number of reasons. The most common designed-in variations are caused by automatic pop-off valves and similar control devices.

With Apco pumps, you can always depend on the same capacity despite variations in head pressure and achieve increased system reliability.

The Apco pump line has the highest performance and broadest hydraulic coverage available.

Apco pumps provide capacities over 50 GPM and can produce up to 920 feet Total Dynamic Head. Apco case working pressure is up to 400 PSI.

With the Apco, you get greater performance to meet more applications in more demanding situations.

You save space with the compact Apco turbine pump. With the Apco, the bearing frame is integral to the pump.

To give you additional versatility, the Apco is available in all-iron construction.

You can match the right material for the media being pumped to ensure long, efficient pump life.

Aurora Pump provides complete technical application and installation support, complete warranty service, and ongoing engineering assistance for the life of the pump.

You can get Aurora Pumps and parts through a worldwide network of experienced distributors and branch offices, all backed by the factory for fast delivery.

Standard

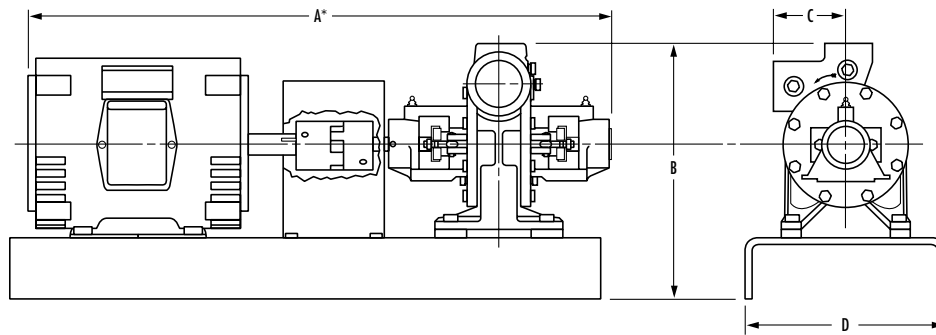
- Bronze fitted construction
- Hydraulically balanced bronze impeller
- Right or left hand rotation
- Regreaseable ball bearings
- Short bearing span
- 400# case working pressure
- Mechanical seals or graphite impregnated acrylic packing
- 416 hardened stainless steel shaft
- Floating impellers
- Removable channel rings
- VIP Test – Every pump is given a hydrostatic test at 1-1/2 times rated pressure along with a running test for head/capacity performance check.

Optional

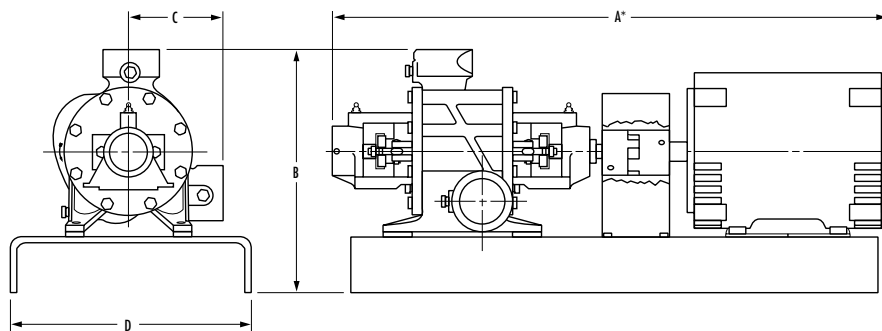
- All iron
- 316 stainless steel or monel shaft
- External sealing line to stuffing box
- Lantern ring
- Formed steel or drip-rim bases
- Bypass with manual shut-off valves
- Bypass with relief valve
- Self-priming features
- Certified performance test data can be supplied consisting of head, capacity and horsepower readings taken over the full operating range of the pump.

Dimensions

Single Stage



Two Stage



*May vary with motor manufacturer.

Single Stage Pump

MOTOR FRAME	A	B	C	D
56	26 ^{11/16}	12	4	9
143T	24 ^{11/16}	12	4	9
145T	25 ^{11/16}	12	4	9
182T	26 ^{13/16}	12 ^{1/2}	4	10
184T	27 ^{13/16}	12 ^{1/2}	4	10
213T	29 ^{15/16}	13 ^{3/8}	4	12
215T	31 ^{15/16}	13 ^{3/8}	4	12
254T	35 ^{3/16}	15 ^{3/8}	4	13
256T	37 ^{3/16}	15 ^{3/8}	4	13

Two Stage Pump

MOTOR FRAME	A	B	C	D
143T	26 ^{11/16}	12 ^{1/8}	5	10
145T	27 ^{11/16}	12 ^{1/8}	5	10
182T	28 ^{13/16}	12 ^{7/8}	5	12
184T	29 ^{13/16}	12 ^{7/8}	5	12
213T	31 ^{15/16}	13 ^{3/8}	5	12
215T	33 ^{15/16}	13 ^{3/8}	5	12
254T	37 ^{3/16}	15 ^{3/8}	5	13
256T	39 ^{3/16}	15 ^{3/8}	5	13

PUMP SIZE	MAXIMUM DIFFERENTIAL PRES. P.S.I.	MAXIMUM H.P.	
		3500 R.P.M.	1750 R.P.M.
EX4	300	25	7 ^{1/2}
EX4T	400		
FX4	300		
FX4T	400		
GX4	300		
GX4T	325		
HX4	225		
HX4T	300		
IX4	175		
IX4T	190		

MOTOR FRAME	HORSEPOWER		MOTOR WEIGHT IN LBS.
	3500 RPM	1750 RPM	
56	—	1/2	50
56	—	3/4	50
143T	1 1/2	1	30
145T	2	1 1/2	35
145T	3	2	35
182T	5	3	45
184T	7 1/2	5	50
213T	10	7 1/2	120
215T	15	—	144
254T	20	—	217
256T	25	—	246

Engineering Specifications

The contractor shall furnish (and install as shown on the plans) an Apco regenerative turbine type pump model.....size..... (Bronze Fitted) (All Iron). Each pump shall have a capacity of..... G.P.M. when operating at a total head of.....feet at the specified temperature, viscosity, specific gravity, and NPSH. The speed of the pump shall not exceed..... R.P.M. The pump is to be furnished with (packing) (mechanical seals). The pump shall be of vertically split case design with removable bearing housings and the channel rings shall be replaceable without replacing the bearing housings. The suction and discharge connections shall be cast integral with the casing. The discharge shall be in a vertical position and the pump shall be self-venting. The casing and bearing housings shall be cast of 30,000 pound tensile strength cast iron. The impeller(s) shall be located on the stainless steel shaft between grease lubricated ball bearings. The impeller shall be hydraulically self-centering and no external adjustment shall be necessary. Each pump shall be tested prior to shipment. The pump shall be mounted on a (steel) baseplate and flexibly coupled to a.....HP..... phase..... Hertz.....voltage..... R.P.M., horizontal (drip-proof) (totally enclosed) (explosion proof) motor. The motor shall be sized to prevent overloading at the highest head condition listed in the specifications.

NOTES:

1. Dimensions and weights are approximate.
2. All dimensions are in inches and may vary $\pm 1/8"$.
3. Frame sizes and motor weight are for open drip-proof motors only.
4. Conduit box is shown in approximate position. Dimensions are not specified as they vary with each motor manufacturer.
5. Not for construction purposes unless certified.

Design Detail

AREA	DIMENSIONS	120 SERIES PUMP MODEL	
		EX4 THRU IX4	EX4T THRU IX4T
STUFFING BOX	PACKING RINGS PER BOX	7	8
	PACKING SIZE (SQUARE)	1/4"	1/4"
SHAFT	OUTSIDE DIA. OF SHAFT	.787	.787
BALL BEARINGS	INBOARD RADIAL	204K	204K
	OUTBOARD THRUST	303K	303K

Description	Material of Construction
Retainer	Nylon
Bearing Covers	Cast Iron — ASTM A48
Casing	Cast Iron — ASTM A48
Channel Rings	Cast Iron — ASTM A48
Glands	Cast Iron — ASTM A48
Impellers	Bronze — ASTM B62
Packing	Graphited Teflon Fiber
Shaft	Stainless Steel — AISI 416

Limitations

Max. hydrostatic test pressure 600 P.S.I.
 Max. case working pressure 400 P.S.I.
 Max. suction pressure 175 P.S.I.
 Max. recommended packing box pressure 100 P.S.I.
 Max. recommended mechanical seal chamber pressure 250 P.S.I.
 Box or seal chamber pressure equals – single stage: suction pressure plus 60% differential pressure. Two stage: 1st stage equals – suction pressure plus 30% differential, 2nd stage equals – suction pressure plus 80% differential.
 Max. temperatures
 *Packing 275° F
 Std. mechanical seal 225° F
 Hi-temp mechanical seal 275° F
 *Packing Suction lift requires lantern ring.

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

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 EMAIL: aurora_info@pentairpump.com

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