Submittal

split-coupled vertical in-line pump

Model: Series 4300 - 6x6x13 - 4p - 40 hp - PD (Factory Choice Motor)

Project name:	undefined	**Representative:**	
Location:		**Phone number:**	
Date submitted:		**e-mail:**	
Engineer:		**Submitted by:**	

Application design data

Tag number:		Piping configuration:	Single
Service:		Suction pressure:	0 ft
Equipment Location:		Fluid:	Non-Potable Fluid - Water
Qty:	1	Operating temperature:	60 ˚F
Total system flow:	1200 USgpm	Duty flow per pump:	1200 USgpm
System head:	90 ft	Viscosity:	31 SSU
Total dissolved solids:	0 ppm	Specific gravity:	1.0000
NPSHR:	11.87 ft	Absorbed Power/BHP:	35.98 hp
%Mtr Safety*:	10.48%	Efficiency at Design:	75.79 %
Outlet velocity:	13.33 ft/s	Impeller diameter:	11.67 in
PEIvl:	0.48	ERvl:	52
Standby qty:	0	Pump/motor run qty:	1
Load Profile Location:	NA	Building Type:	NA
Climate Zone Type:	NA	Time Period:	8760 (1 Year)

*Motor safety factor above duty point.

Materials of construction

Construction:	Bronze Fitted	Impeller:	Bronze
Rating:	ANSI-125	Pump shaft:	416 Stainless Steel
Connections:	Inlet: 6 in, Outlet: 6 in	Flush line:	Braided Stainless Steel
Casing (volute):	Cast Iron	Casing gasket:	Confined Non-Asbestos Fiber

Mechanical seal data

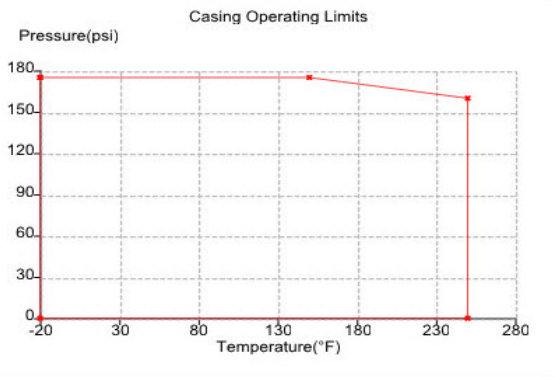
Seal type:	Outside Balanced	Rotating face:	Resin Bonded Carbon
Manufacturer code:	C-SSC AB2	Stationary seat:	Sintered Silicon Carbide
Springs:	Stainless Steel	Secondary seal:	Viton
Rotating hardware:	Stainless Steel	Maximum total dissolved solids (TDS)*:	2000 PPM

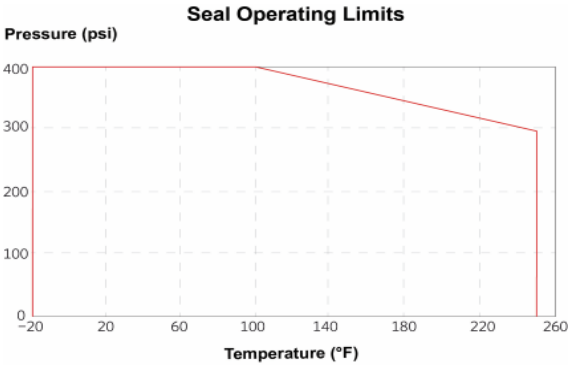
*Note: Please ensure proper seal is selected by inputting Total Dissolved Solids (TDS) in PPM in ADEPT if water quality is poor at site. Also select Flush Line Filter or Cyclone Separator if there are other contaminants in the fluid.

Electrical data

Supplier:	Factory Choice	Insulation class:	Class F Insulation
Frame size:	324TC	Motor type:	Inverter Duty
Speed:	1779 rpm	Size:	40 hp
Enclosure:	ODP	Efficiency:	NEMA Premium 12.12
Power supply:	460/3/60		

Operating limits (temperature - pressure)



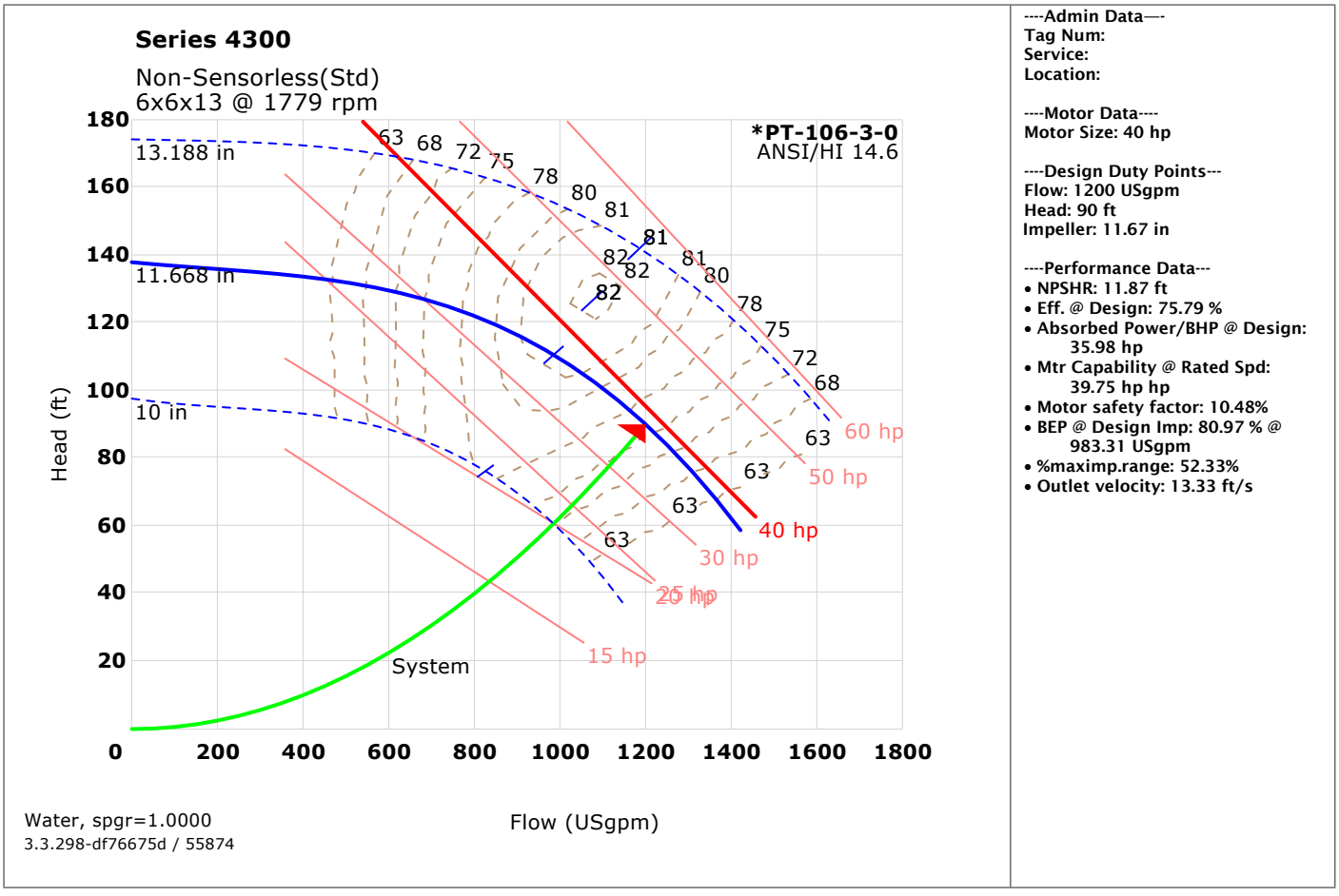


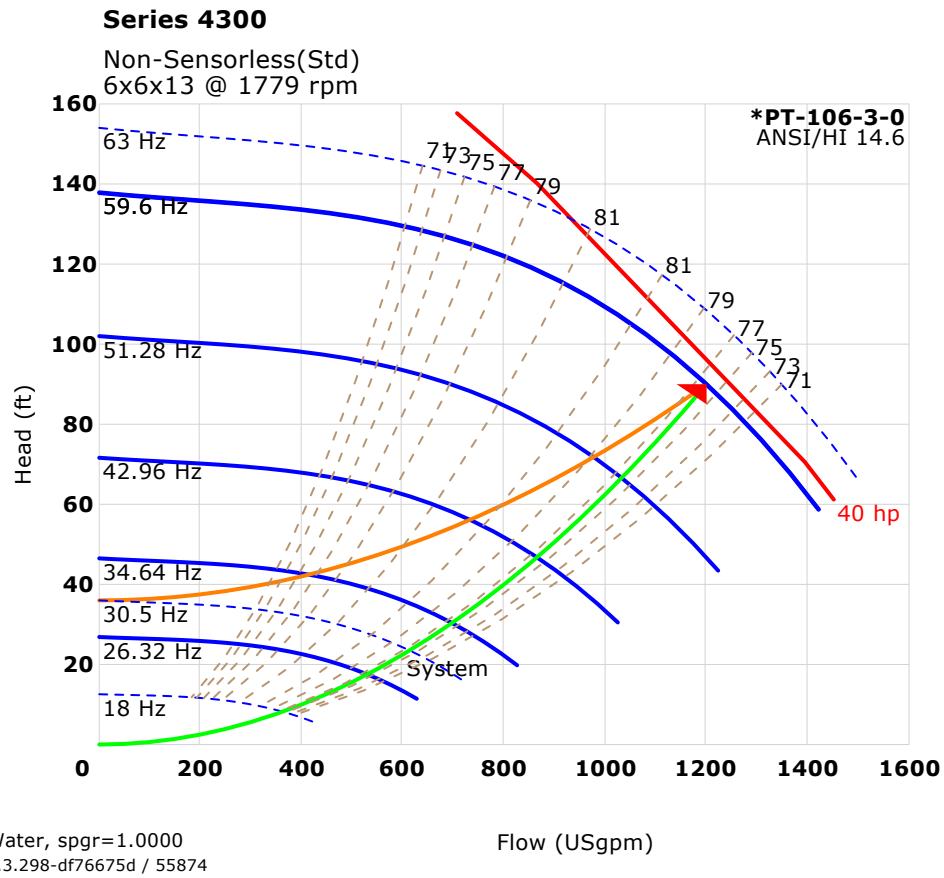
Maximum pressure: 175 psi

Maximum temperature: 250 F

All Pump casings are hydrostatically tested to requirements of ANSI/HI 14.6 standard.

Performance curve





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--Control Data—

1. Hmax @ 59.63 Hz:
NPSHR: 11.87 ft
Intersection Pt: 1200 usgpm @ 90 ft
bhp=35.98 hp, eff=75.79 %%, %bepq=122 %%

2. Control (QPC) @ 53.8 Hz:
NPSHR: 9.65 ft
Intersection Pt: 1050 USgpm @ 77.34 ft
bhp=26.42 hp, eff=77.61%, %bepq=117.92%

3. Control (QPC) @ 47.97 Hz:
NPSHR: 7.64 ft
Intersection Pt: 888 USgpm @ 65.57 ft
bhp=18.49 hp, eff=79.54%, %bepq=111.8%

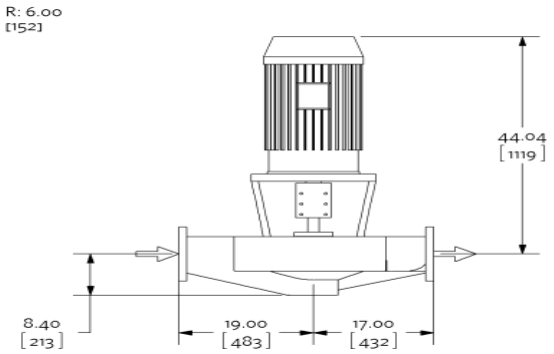
4. Control (QPC) @ 42.13 Hz:
NPSHR: 5.87 ft
Intersection Pt: 708 USgpm @ 54.8 ft
bhp=12.11 hp, eff=80.92%, %bepq=101.66%

5. Control (QPC) @ 36.3 Hz:
NPSHR: 4.34 ft
Intersection Pt: 492 USgpm @ 45.08 ft
bhp=7.13 hp, eff=78.6%, %bepq=82.11%

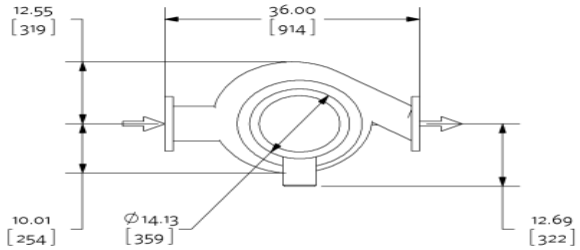
6. Hmin: 36 ft 30.47 Hz:
NPSHR: 3.06 ft
Intersection Pt: 0 USgpm @ 36 ft
(Head Q Min) Setting= 40% Hmax

Dimensional data (not for construction)

Side view



Top view



Inverter motor type: Inverter duty

Weight: 978 lb [443.61 kg], Units of measure: inches [millimeters]

- Not to scale
- R = minimum lifting clearance required above motor
- Coupling guard and flush line (not shown) are supplied
- Tolerance of ± 0.125 inch (± 3 mm) should be used
- For certified dimensions, please contact your Armstrong representative
- Pump equipped drain plug and ¼ inch NPT suction with casing and discharge gauge ports

Connection details

Connection	Size	Rating	OD	Bolt quantity*	BCD	Bolt size
Inlet	6	ANSI-125	11.00	8	9.50	0.75
Outlet	6	ANSI-125	11.00	8	9.50	0.75

*Equally spaced straddling centreline

Special instructions

Reference Motor Specification AES 05007.
The program has defaulted to a NEMA Premium Efficiency motor supplied with NEMA MG-1 Part 31.4.4.2 insulation standards for inverter-fed polyphase motors.

Impeller Balancing: Standard (Grade G6.3)
Pump Primer: Armstrong Standard Primer

Selected options

Testing: No Test Certification Required
Seal Environment Accessories: None
Pre-Wired Control Bridge: No
Space Heater: No
Motor Thermistor: No Thermistors
Wye-Delta Starting: No

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Engineer:		**Submitted by:**	

Application design data

Tag number:		Quantity:	1
Service:		Horsepower:	40 hp
Location:			

Standard features

User interface - multifunction keypad with the following: · Graphical display (shows bars and graphs) · Quick setup menu · 2 Level password protection · Intuitive help functionality	Energy conservation: · Automatic energy optimizer (AEO) for accurate load matching · Energy monitoring for measuring kWh consumption · Flow compensation for locally mounted DP sensor(s)
Power isolation: · Optional Integrated fused disconnect switch	Motor protection: · Automatic current limiting and fault protection
Pump protection: · Preventative maintenance scheduling · Dry running and end of curve protection	Condensation protection: · Motor pre-heat function to prevent condensation build-up

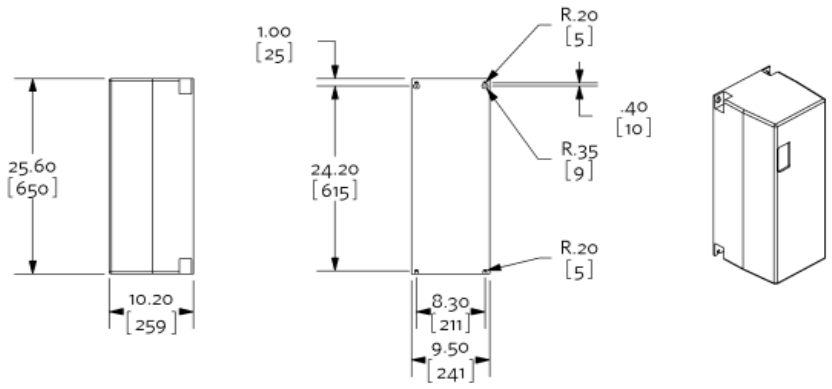
IVS controller data

Sensorless control:	No	Communication port:	RS 485
Communication protocol:	BACnet Native	Analog inputs:	2 (current or voltage)
Enclosure:	UL Type 12/IP55	Analog outputs:	1 (current)
Fused disconnect switch:	None	Digital inputs:	4 (programmable)
Expansion card:	None	Digital outputs:	2 (programmable)
Chassis size:	B2	Cooling:	Fan cooled through back channel
Harmonic suppression:	Integrated DC link reactor**	Ambient temperature:	14˚F to 104˚F (up to 3280 ft elevation)
Meets ASHRAE 90.1:	IVS ashre	EMI/RFI control:	Integrated fliter to meet EN61800-3
Power supply:	460/3/60		

** The IVS control is a low harmonic control with a built-in DC link reactor equivalent in performance to a 5% AC line reactor. This does not guarantee performance to any system wide harmonic specification or the costs to meet a system wide specification. If supplied with the system electrical details, Armstrong will run a computer simulation of the system wide harmonics. If system harmonic levels are exceeded, Armstrong can also recommend additional harmonic mitigation and the cost for such mitigation.

Dimensional data (not for construction)

Side view | Back view | Isometric



Weight: 79 lb [35.83 kg], Units of measure: inches [millimeters]

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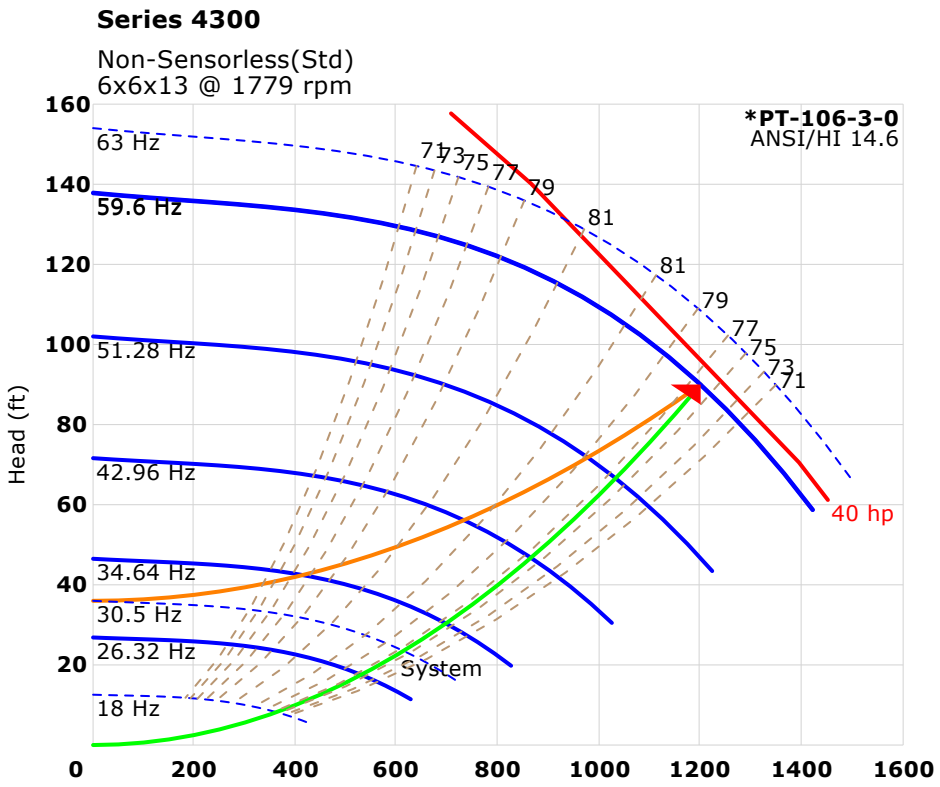
- Tolerance of +/- 0.125 inch (+/- 3mm) should be used
- For certified dimensions, please contact your Armstrong representative

Single Curve



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