

# Submittal

split-coupled vertical in-line pump

**Model:** Series 4300 - 4x4x11.5 - 4p - 20 hp - PD (Factory Choice Motor)

<b>Project name:</b> undefined	<b>Representative:</b>
<b>Location:</b>	<b>Phone number:</b>
<b>Date submitted:</b>	<b>e-mail:</b>
<b>Engineer:</b>	<b>Submitted by:</b>

## 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:	420 USgpm	Duty flow per pump:	420 USgpm
System head:	90 ft	Viscosity:	31 SSU
Total dissolved solids:	0 ppm	Specific gravity:	1.0000
NPSHR:	9.88 ft	Absorbed Power/BHP:	13.54 hp
%Mtr Safety*:	38.26%	Efficiency at Design:	70.5 %
Outlet velocity:	10.59 ft/s	Impeller diameter:	10.84 in
PEIvI:	0.46	ERvI:	54
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: 4 in, Outlet: 4 in	Flush line:	Braided Stainless Steel
Casing (volute):	Cast Iron, E-coated	Casing gasket:	Confined Non-Asbestos Fiber

## Mechanical seal data

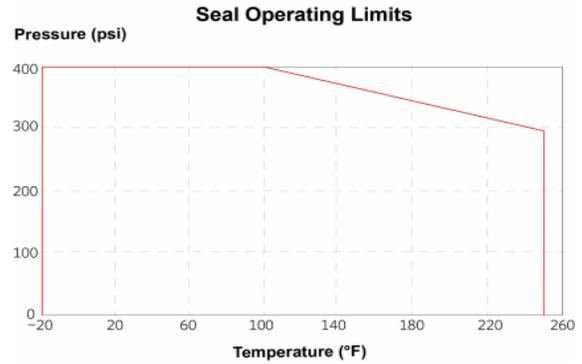
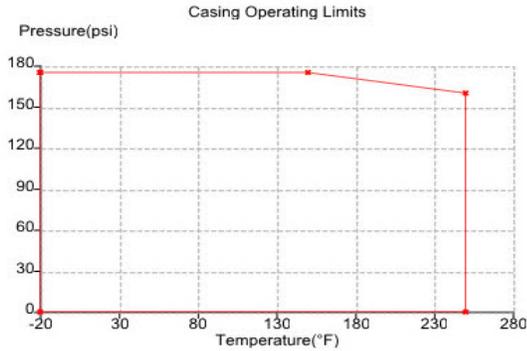
Seal type:	Outside Balanced	Rotating face:	Resin Bonded Carbon
Manufacturer code:	C-SSC AB2	Stationary seat:	Sintered Silicon Carbide
Springs:	Stainless Steel	Secondary seal:	Viton
Rotating hardware:	Stainless Steel	Maximum total dissolved solids (TDS)*:	2000 PPM

\*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:	256TC	Motor type:	Inverter Duty
Speed:	1666 rpm	Size:	20 hp
Enclosure:	ODP	Efficiency:	NEMA Premium 12.12
Power supply:	460/3/60		

## Operating limits (temperature - pressure)

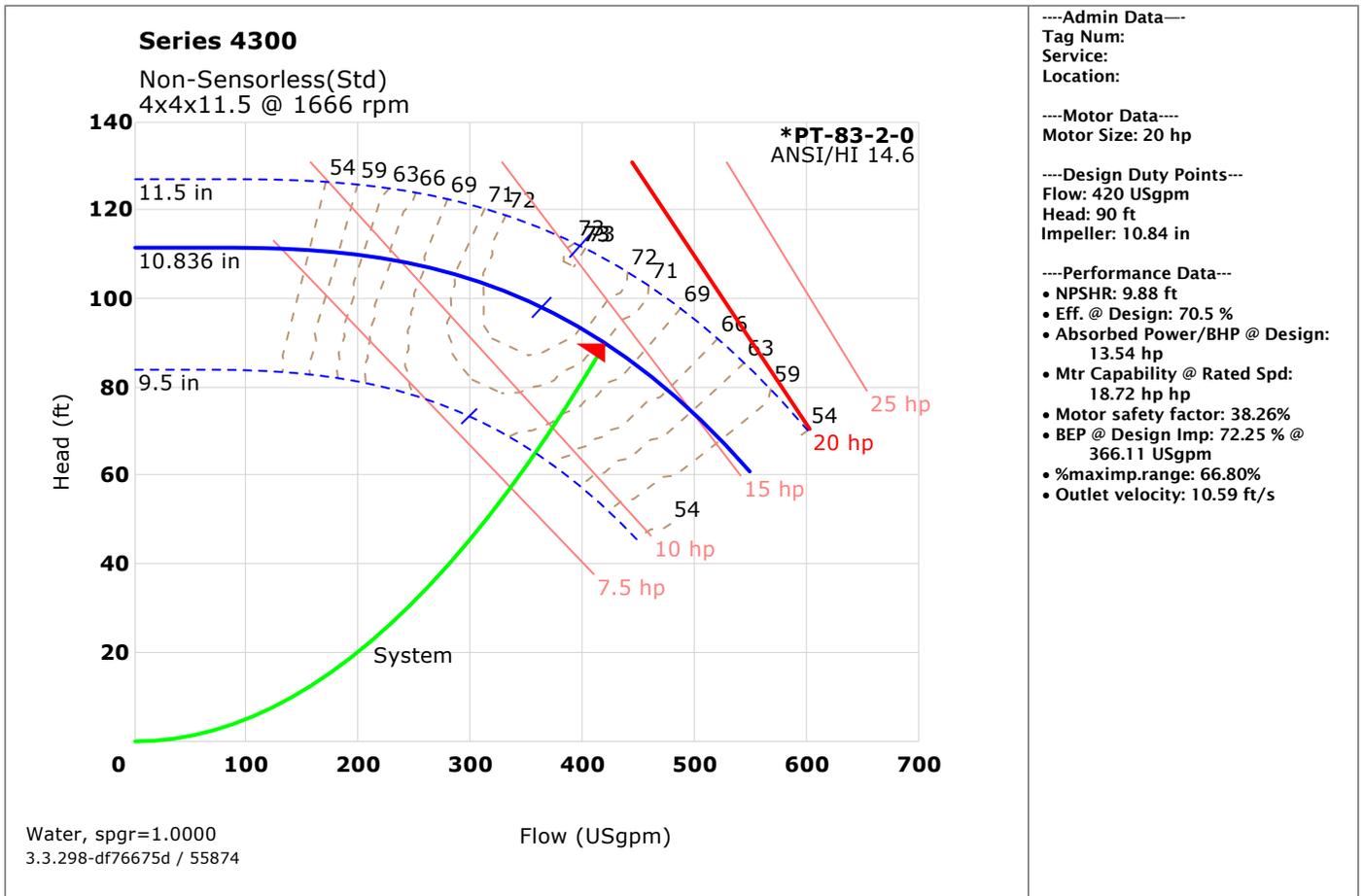


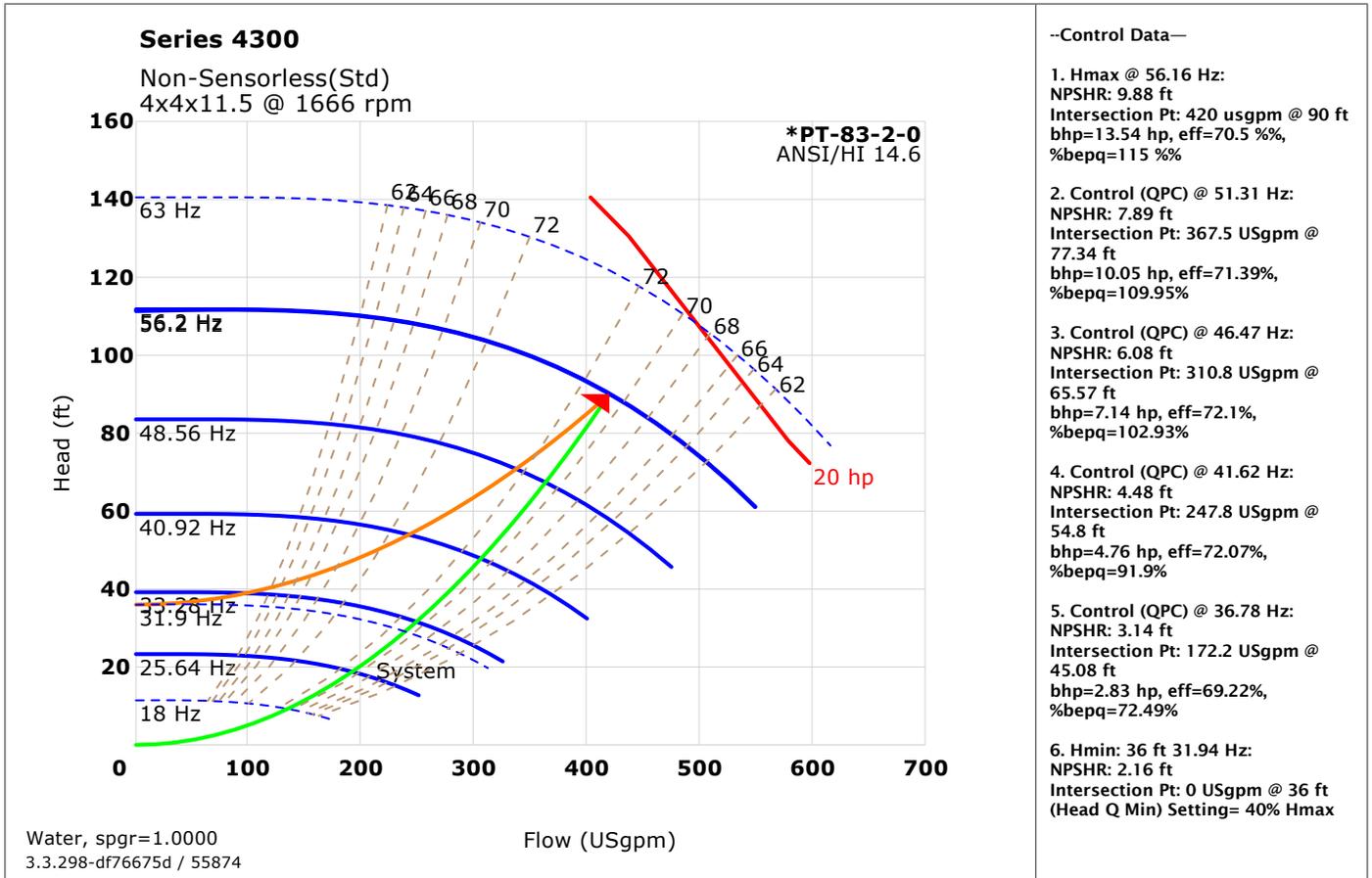
Maximum pressure: 175 psi

Maximum temperature: 250 F

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

## Performance curve



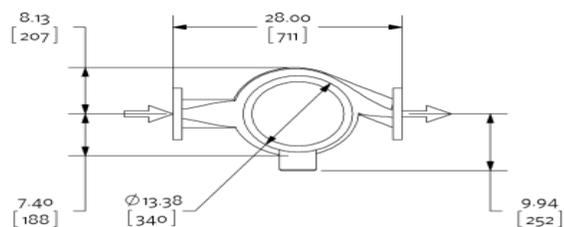
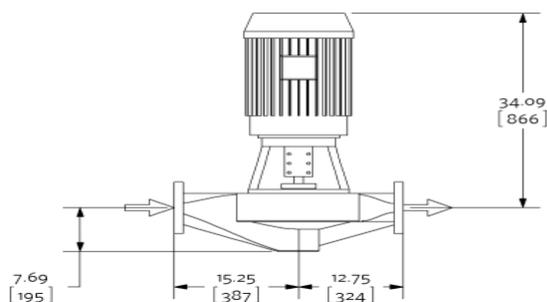


**Dimensional data (not for construction)**

Side view

Top view

R: 5.00  
[127]



Inverter motor type: Inverter duty

Weight: 685 lb [310.71 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  $\pm 0.125$  inch ( $\pm 3$  mm) should be used
- For certified dimensions, please contact your Armstrong representative
- Pump equipped drain plug and  $\frac{1}{4}$  inch NPT suction with casing and discharge gauge ports

### Connection details

Connection	Size	Rating	OD	Bolt quantity*	BCD	Bolt size
Inlet	4	ANSI-125	9.00	8	7.50	0.625
Outlet	4	ANSI-125	9.00	8	7.50	0.625

\*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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<b>Engineer:</b>	<b>Submitted by:</b>

## Application design data

Tag number:	Quantity:	1
Service:	Horsepower:	20 hp
Location:		

## Standard features

User interface - multifunction keypad with the following: <ul style="list-style-type: none"> <li>· Graphical display (shows bars and graphs)</li> <li>· Quick setup menu</li> <li>· 2 Level password protection</li> <li>· Intuitive help functionality</li> </ul>	Energy conservation: <ul style="list-style-type: none"> <li>· Automatic energy optimizer (AEO) for accurate load matching</li> <li>· Energy monitoring for measuring kWh consumption</li> <li>· Flow compensation for locally mounted DP sensor(s)</li> </ul>
Power isolation: <ul style="list-style-type: none"> <li>· Optional Integrated fused disconnect switch</li> </ul>	Motor protection: <ul style="list-style-type: none"> <li>· Automatic current limiting and fault protection</li> </ul>
Pump protection: <ul style="list-style-type: none"> <li>· Preventative maintenance scheduling</li> <li>· Dry running and end of curve protection</li> </ul>	Condensation protection: <ul style="list-style-type: none"> <li>· Motor pre-heat function to prevent condensation build-up</li> </ul>

## 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:	B1	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		

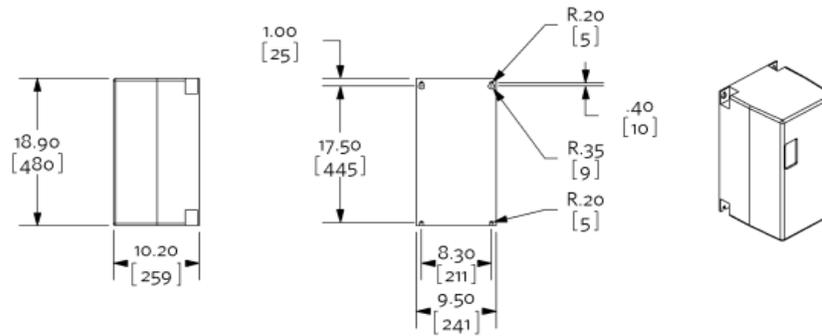
\*\* The IVS control is a low harmonic control with a built-in DC link reactor equivalent in performance to a 5% AC line reactor. This does not guarantee performance to any system wide harmonic specification or the costs to meet a system wide specification. If supplied with the system electrical details, 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: 67 lb [30.39 kg], Units of measure: inches [millimeters]

- Not to scale
- Tolerance of +/- 0.125 inch (+/- 3mm) should be used
- For certified dimensions, please contact your Armstrong representative

Single Curve

