



Engineering Bulletin

Trane Rental Services

Temporary Cooling Pumps



SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.



Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

- ⚠ WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- ⚠ CAUTION** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.
- NOTICE** Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury. All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in **NEC** and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury. Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labeling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING**Follow EHS Policies!**

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

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Revision History

Corrected Multi-speed pump curve in 200 Ton ACSA (F0-F1) Integral Pumps chapter.



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General Information

Trane Rental Services (TRS) offers a wide variety of pumps to lease for temporary cooling needs. The pumps used were designed not to exceed 150 psi due to flexible hose and chiller limitations. Care should be taken to not exceed 150 psi in any application using Trane Rental Services equipment without prior approval.

Stand-alone pumps should not exceed the maximum 175 psi operating pressure and 200°F temperature. Consult with TRS engineering if the an application has higher operating pressures greater than 150 psi.

System pump(s) are typically designed for a specific head pressure and flow rate. It is desirable to use the system pump(s) if possible and use TRS temporary pump(s) as booster pump(s).

All pumps come complete on forklift compatible bases, with fused disconnects, and inlet and discharge valves. These pumps do not contain variable frequency drives (VFD). Certain pumps may be fitted with a VFD. Contact TRS engineering for assistance on this topic. Every effort has been taken to have the particular horsepower pump cover a wide range of operating conditions as temporary cooling jobs often present unknowns. It is crucial the temporary cooling solution designer take precautions to ensure they understand the pumping needs of the job so the correct pump is initially ordered.

The following information is provided as a quick reference for each of Trane Rental Services pumps to aid in determining which pump is needed to meet the job requirements. If the application is sensitive, call TRS engineering for assistance in selecting a specific pumping system. Net Positive Suction Head Required (NPSHr) performance is available for Armstrong pump models upon request from TRS engineering.

Note: *All pumps should be installed per the National Electric Code (NEC) and/or applicable local codes.*



Model Number Descriptions

The following information designates the significance of the assigned equipment numbers.

Digit 1, 2, 3 — Trane Rental Services Pump

None

Digit 4 — Vendor

C = Armstrong

Digit 5, 6, 7, 8,— Horsepower

0010 = 10 HP

0015 = 15 HP

0025 = 25 HP

0030 = 30 HP

0040 = 40 HP

0060 = 60 HP

0125 = 125 HP

Digit 9 — Voltage

F = 460/60/3

Digit 10 — Pump Family Type

0 = Close Coupled

1 = Horizontal Split Case

2 = Split Coupled Inline Vertical

Digit 11, 12 — Incremental Designator

AA = Incremental Designator



Application Considerations

Newer Armstrong pump sizes 10 HP through 30 HP have across the line starters and 40 HP through 125 HP typically have Wye-Delta starters, but this is not standard for all Trane Rental pump models. TRS Engineering recommends using Split Coupled Inline Vertical (F2) pump models that have premium efficiency motors for applications that require VFDs.

All stand-alone Close Coupled (F0) and Horizontal Split Case (F1) pumps ship to each jobsite with 50 foot long whips with pig-tail connections, and the cable sizes vary depending on what capacity size pump you are using. The pigtail sizing chart below shows the minimum cable sizes recommended by Trane Rental Services to be used with each horse power pump size.

All Split Coupled Inline Vertical (F2) pump models ship with series 16 cam-type connections only and do not come with their cable. Rental cable can be provided for these pumps, refer to CHS-PRB005*-EN for more information on the rental cable.

Table 1. Pig-tail cable size chart

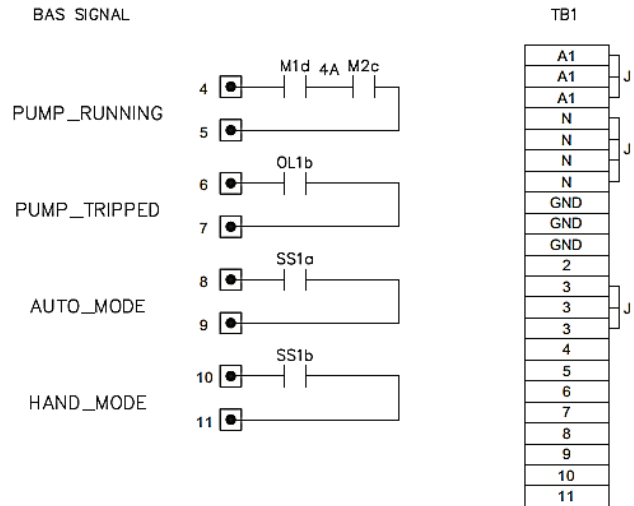
Pump	MCA	Cable Size
		Type-W
10 hp	18	12 awg
15 hp	25	12 awg
25 to 30 hp	43	8 awg
40 hp	65	6 awg
50 hp	75	6 awg
60 hp	90	4 awg
100 hp	144	1 awg
125 hp	184	1/0 awg

Two Forms of Overcurrent Protection

Each TRS pump model has overload relays that are provided for pump motor overcurrent protection in conjunction with circuit breakers or fused disconnects depending on the series of pump model. Standalone Closed Coupled (F0) and Horizontal Split Case (F1) pump models will either have fused disconnects or circuit breakers, and all Split Coupled Vertical Inline (F2) pump models will have circuit breakers. Integral chiller pumps utilize the chiller's circuit breaker along with an overload relay for over current protection.

Split Coupled Inline Vertical (F2) Model Pump Features

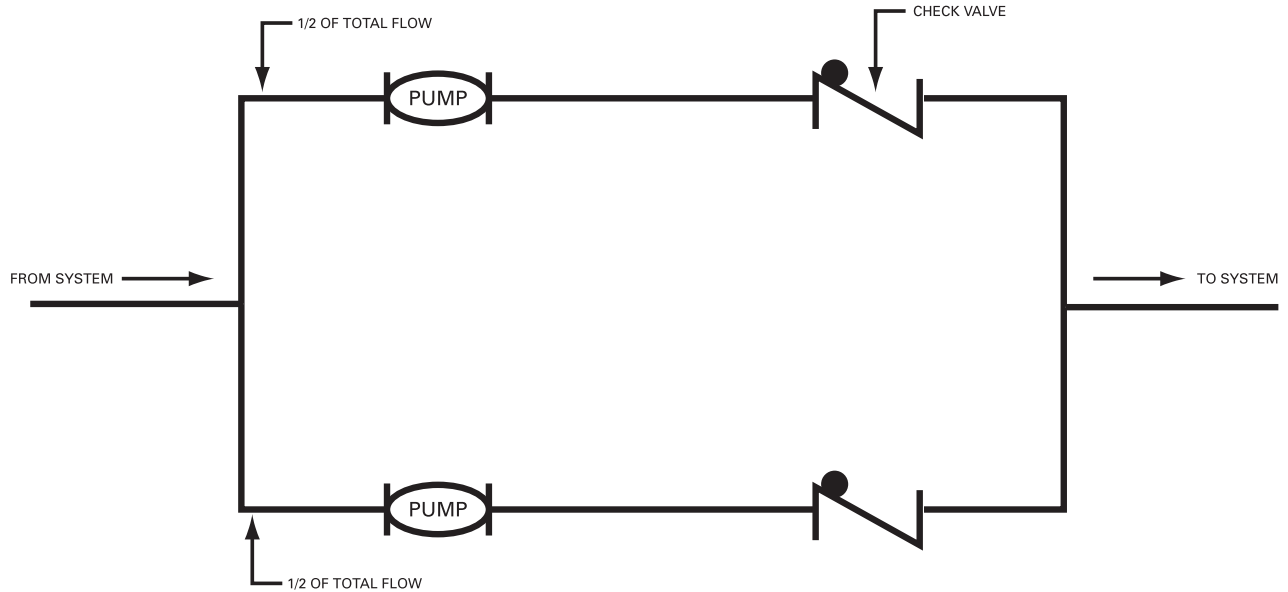
- Totally Enclosed Fan Cooled (TEFC) premium efficient motors
- Cam-lock supply voltage cable connections
- Differential pressure gauges
- Circuit Breakers for overcurrent protection
- Can accommodate VFDs
- Suction guides with strainers
- Suction and discharge butterfly isolation valves
- Starter panels have NEMA 4 rated enclosures
- All vertical (F2) pump models are capable of accommodating the following Building Automation System control and alarm signals.



Parallel and Series Pumps

As an increase to versatility the pumps may be placed in parallel or series. All installations of pumps in parallel or series will be with identical pumps.

Placing the pumps in parallel will effectively double the pumping volume while the head remains unchanged. Below is a typical installation diagram.



Placing the pumps in series will effectively double the pumping head while the volume remains unchanged. Below is a typical installation diagram.



Armstrong

10 Horsepower

CSPC0010F0 (AA through AH)

Table 2. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	5 x 4 x 10
Impeller Diameter	8.2 in.
Suction Size	4 in. Victaulic
Discharge Size	4 in. Victaulic

Table 3. Motor data

Labels	Values
Type	TEFC
Horsepower	10
RPM	1800
Voltage	460
FLA	13.6 A

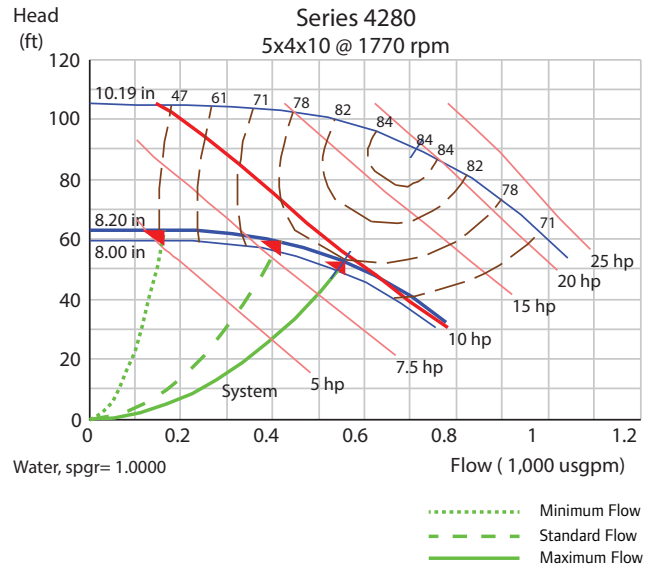
Table 4. Performance data

Labels	Values
Minimum	165 gpm @ 62.7 ft
Maximum	560 gpm @ 52.4 ft

Table 5. Physical dimensions

Labels	Values
Height	4 ft– 4 in.
Width	2 ft – 10 in.
Length	5 ft – 10 in.
Weight	1260 lbs*

Notes: Confirm the following with the TRS turnkey facility:
 1. Fork pocket dimensions.
 2. Actual weight and physical dimensions may vary.





Armstrong

CSPC0010F0 (AL through AO)

Table 6. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	3 x 1.5 x 6
Impeller Diameter	6.18 in.
Suction Size	4 in. Victaulic
Discharge Size	4 in. Victaulic

Table 7. Motor data

Labels	Values
Type	TEFC
Horsepower	10
RPM	3600
Voltage	460
FLA	12 A

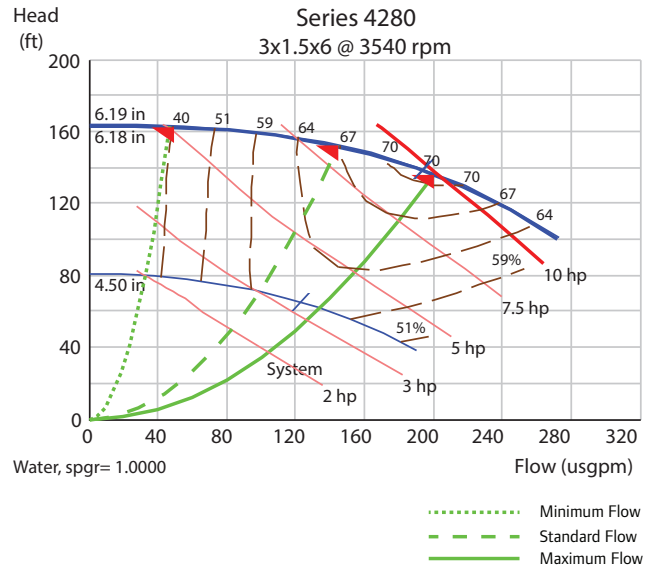
Table 8. Performance data

Labels	Values
Minimum	47 gpm @ 162.5 ft
Maximum	200 gpm @ 136.1 ft

Table 9. Physical dimensions

Labels	Values
Height	4 ft– 6 in.
Width	2 ft – 10 in.
Length	5 ft – 11 in.
Weight	1248 lbs
Fork Pockets	5.5 x 9.5 x 34 in.
Center-to-Center Distance	25 in.

Note: Actual weight and physical dimensions may vary.



15 Horsepower

CSPC0015F0 (AA through AL)

Table 10. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	4 x 3 x 11.5
Impeller Diameter	10.9 in.
Suction Size	4 in. Victaulic
Discharge Size	4 in. Victaulic

Table 11. Motor data

Labels	Values
Type	TEFC
Horsepower	15
RPM	1800
Voltage	460
FLA	19.6 A

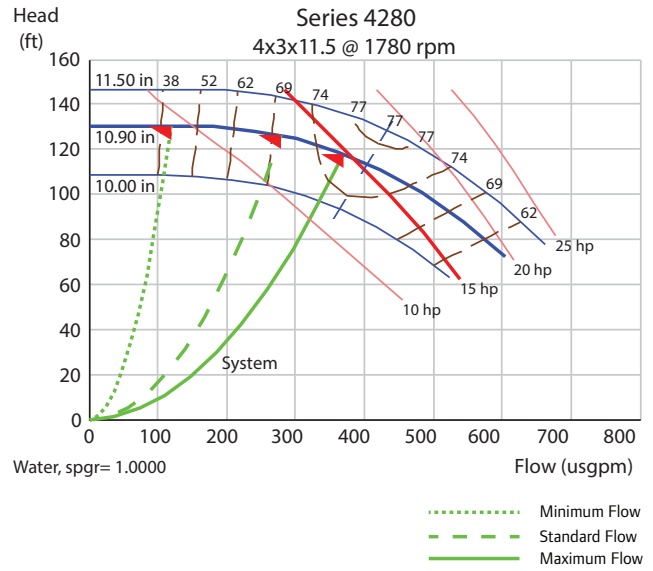
Table 12. Performance data

Labels	Values
Minimum	119.1 gpm @ 130.3 ft
Maximum	370 gpm @ 118 ft

Table 13. Physical dimensions

Labels	Values
Height	4 ft- 2 in.
Width	2 ft - 10 in.
Length	5 ft - 10 in.
Weight	1500 lbs
Fork Pockets	7 x 2 x 36 in.
Center-to-Center Distance	25 in.

Note: Actual weight and physical dimensions may vary.





Armstrong

CSPC0015F0 (AM through AR)

Table 14. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	3 x 2 x 13
Impeller Diameter	11.65 in.
Suction Size	4 in. Victaulic
Discharge Size	4 in. Victaulic

Table 15. Motor data

Labels	Values
Type	TEFC
Horsepower	15
RPM	1800
Voltage	460
FLA	19.6 A

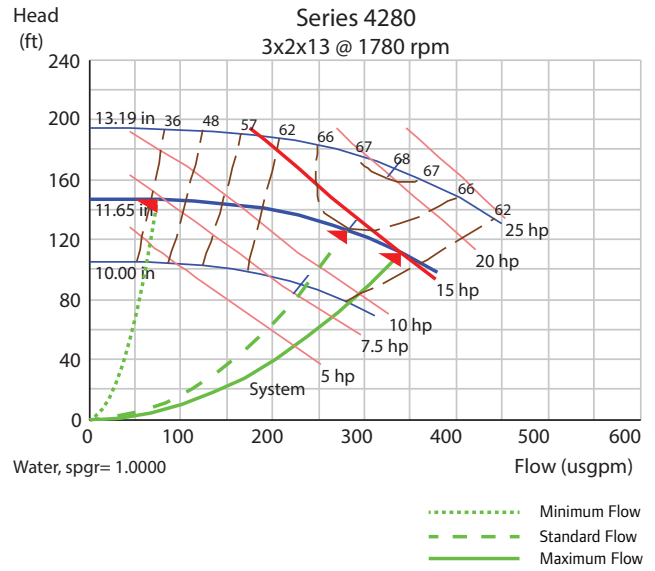
Table 16. Performance data

Labels	Values
Minimum	75 gpm @ 146.5 ft
Maximum	340 gpm @ 111.3 ft

Table 17. Physical dimensions

Labels	Values
Height	4 ft– 6 in.
Width	2 ft – 10 in.
Length	5 ft – 11 in.
Weight	1576 lbs
Fork Pockets	5.5 x 9.5 x 34 in.
Center-to-Center Distance	25 in.

Note: Actual weight and physical dimensions may vary.



25 Horsepower

CSPC0025F0

Table 18. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	5 x 4 x 11.5
Impeller Diameter	11.25 in.
Suction Size	6 in. Victaulic
Discharge Size	6 in. Victaulic

Table 19. Motor data

Labels	Values
Type	TEFC
Horsepower	25
RPM	1800
Voltage	460
FLA	34 A

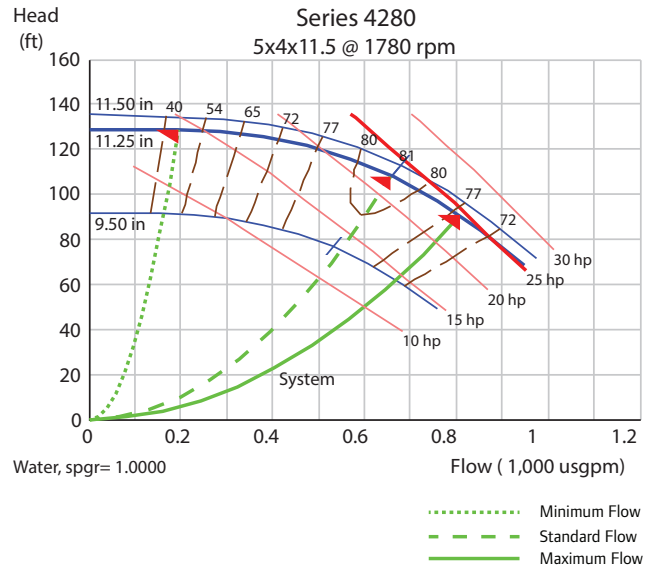
Table 20. Performance data

Labels	Values
Minimum	193.8 gpm @ 128.6 ft
Maximum	808.1 gpm @ 90.5 ft

Table 21. Physical dimensions

Labels	Values
Height	5 ft- 0 in.
Width	3 ft - 8 in.
Length	7 ft - 2 in.
Weight	2030 lbs
Fork Pockets	5.5 x 9.5 x 44 in.
Center-to-Center Distance	25 in.

Note: Actual weight and physical dimensions may vary.





Armstrong

30 Horsepower

CSPC0030F0

Table 22. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	4 x 3 x 13
Impeller Diameter	12.2 in.
Suction Size	6 in. Victaulic
Discharge Size	6 in. Victaulic

Table 23. Motor data

Labels	Values
Type	TEFC
Horsepower	30
RPM	1800
Voltage	460
FLA	38 A

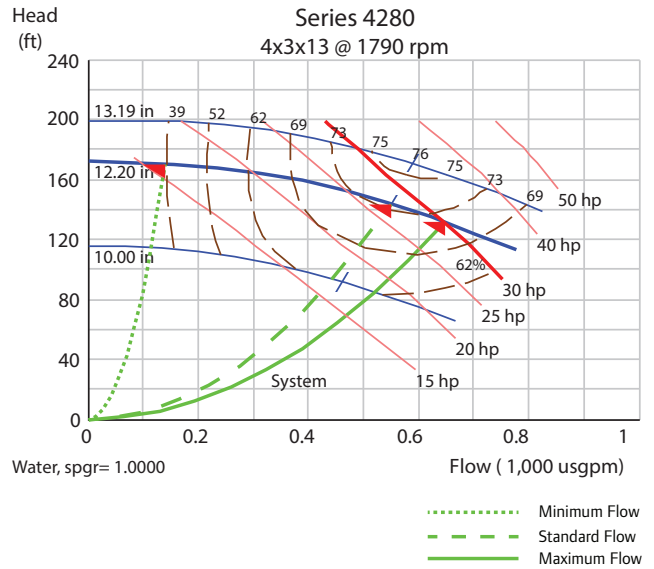
Table 24. Performance data

Labels	Values
Minimum	140 gpm @ 170.2 ft
Maximum	647 gpm @ 131.4 ft

Table 25. Physical dimensions

Labels	Values
Height	5 ft- 0 in.
Width	3 ft - 8 in.
Length	7 ft - 2 in.
Weight	2220 lbs
Fork Pockets	5.5 x 9.5 x 44 in.
Center-to-Center Distance	25 in.

Note: Actual weight and physical dimensions may vary.



RSPC0030F2AB and RSPC0030F2AC

Table 26. Pump data

Labels	Values
Model Number	4300
Type	Split Coupled Vertical Inline
Size	5 x 5 x 11.5
Impeller Diameter	11.26 in.
Suction Size	6 in. Victaulic
Discharge Size	6 in. Victaulic

Table 27. Motor data

Labels	Values
Type	TEFC
Horsepower	30
RPM	1800
Voltage	460
FLA	35.1 A

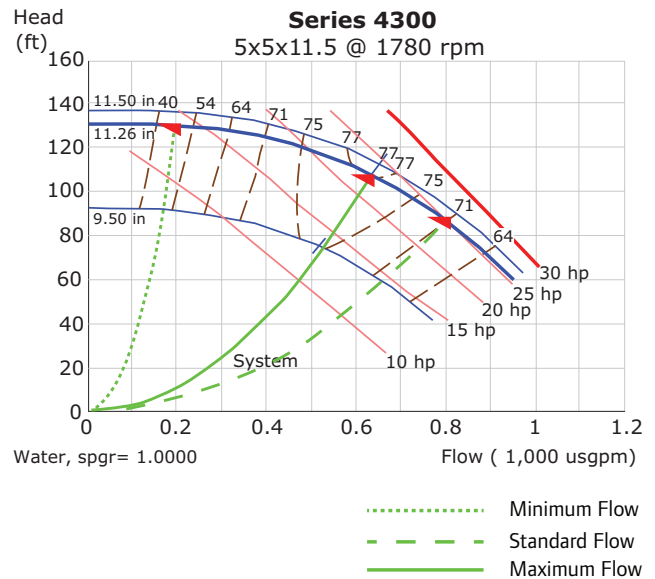
Table 28. Performance data

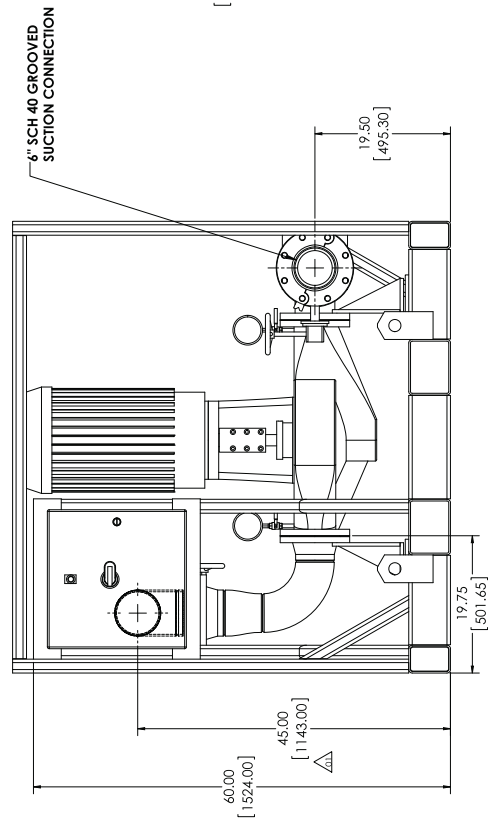
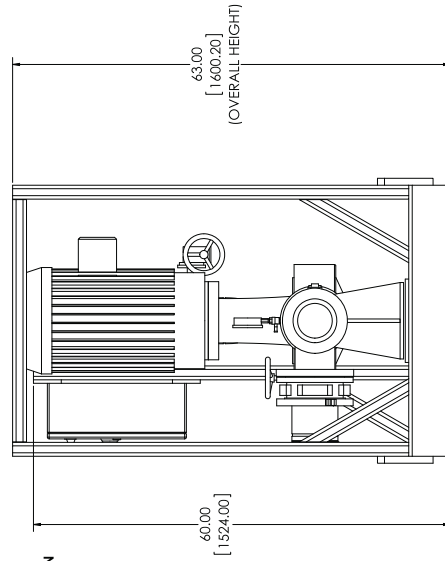
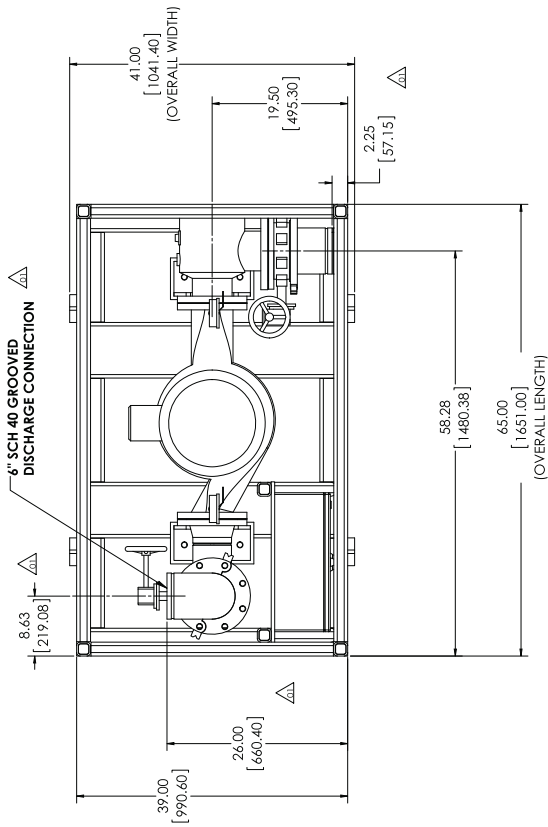
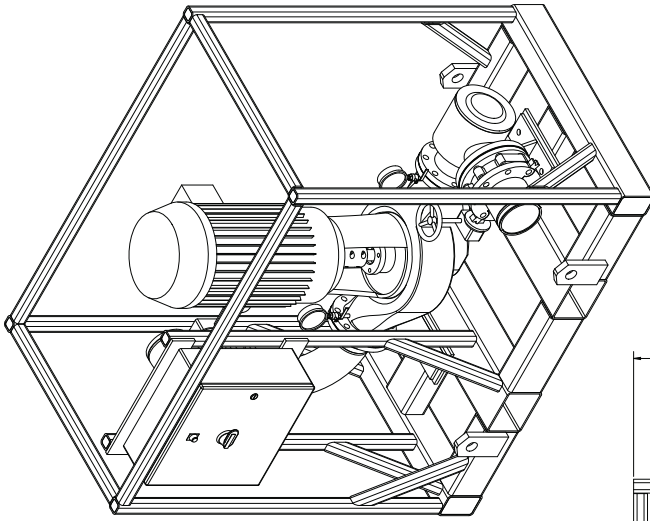
Labels	Values
Minimum	190 gpm @ 130.5 ft
Maximum	793 gpm @ 87.9 ft

Table 29. Physical dimensions

Labels	Values
Height	5 ft- 3 in.
Width	3 ft - 5 in.
Length	5 ft - 5 in.
Weight	4000 lbs
Fork Pockets	7.5 x 5.5 x 39 in.
Center-to-Center Distance	25 in.

Note: Actual weight and physical dimensions may vary.





RSPC0030F2

Table 30. Pump data

Labels	Values
Model Number	4300
Type	Split Coupled Vertical Inline
Size	5 x 5 x 13
Impeller Diameter	11.35 in.
Suction Size	6 in. Victaulic
Discharge Size	6 in. Victaulic

Table 31. Motor data

Labels	Values
Type	TEFC
Horsepower	30
RPM	1800
Voltage	460
FLA	40 A

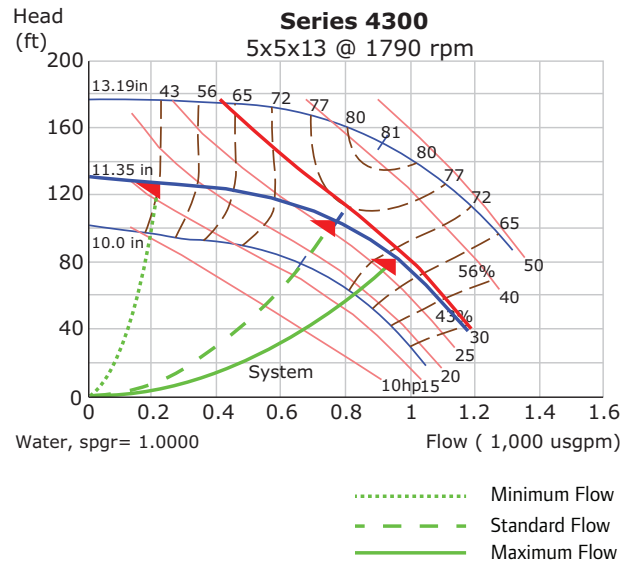
Table 32. Performance data

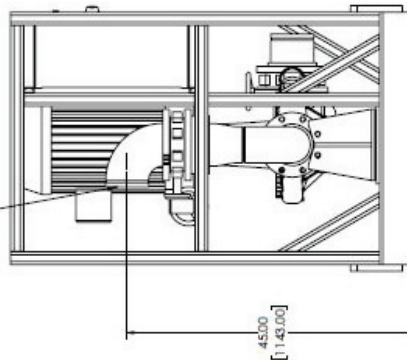
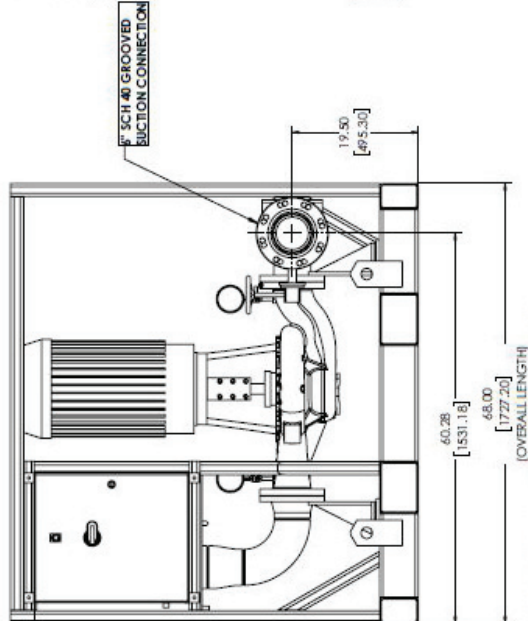
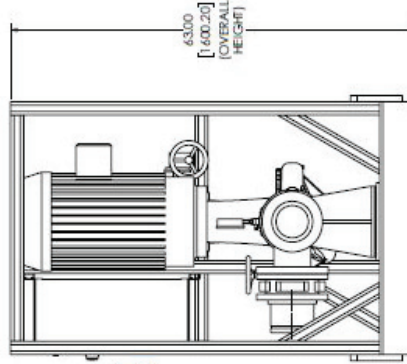
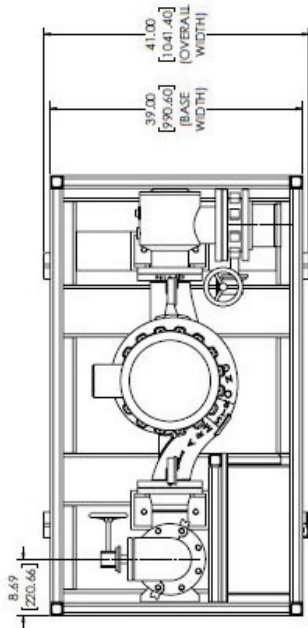
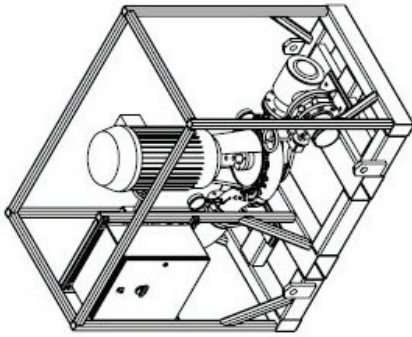
Labels	Values
Minimum	231 gpm @ 125.9 ft
Maximum	964 gpm @ 81.5 ft

Table 33. Physical dimensions

Labels	Values
Height	5 ft- 3 in.
Width	3 ft - 5 in.
Length	5 ft - 8 in.
Weight	2690 lbs
Fork Pockets	7.5 x 5.5 x 39 in.
Center-to-Center Distance	25 in.

Note: Actual weight and physical dimensions may vary.





40 Horsepower

CSPC0040F0

Table 34. Pump data

Labels	Values
Model Number	4280
Type	Closed Coupled
Size	6 x 5 x 11.5
Impeller Diameter	11.47 in.
Suction Size	6 in. Victaulic
Discharge Size	6 in. Victaulic

Table 35. Motor data

Labels	Values
Type	TEFC
Horsepower	40
RPM	1800
Voltage	460
FLA	50 A

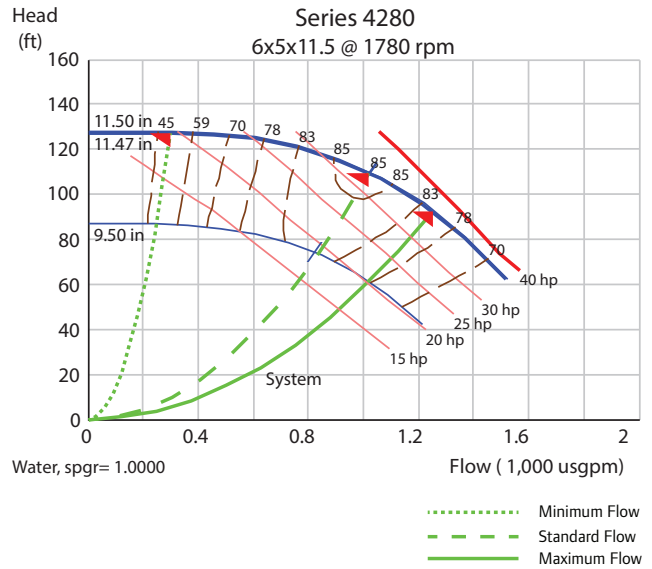
Table 36. Performance data

Labels	Values
Minimum	300.9 gpm @ 127.1 ft
Maximum	1253.6 gpm @ 92.1 ft

Table 37. Physical dimensions

Labels	Values
Height	3 ft– 10 in.
Width	3 ft – 11 in.
Length	5 ft – 0 in.
Weight	1610 lbs

Notes: Confirm the following with the TRS turnkey facility:
 1. Fork pocket dimensions.
 2. Actual weight and physical dimensions may vary.





Armstrong

RSPC0040F2

Table 38. Pump data

Labels	Values
Model Number	4300
Type	Split Coupled Vertical Inline
Size	6 x 6 x 13
Impeller Diameter	11.76 in.
Suction Size	6 in. Victaulic
Discharge Size	6 in. Victaulic

Table 39. Motor data

Labels	Values
Type	TEFC
Horsepower	40
RPM	1800
Voltage	460
FLA	52 A

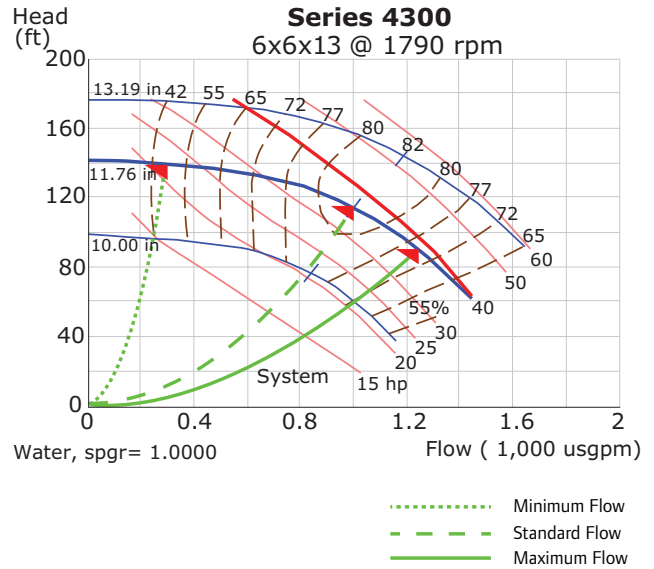
Table 40. Performance data

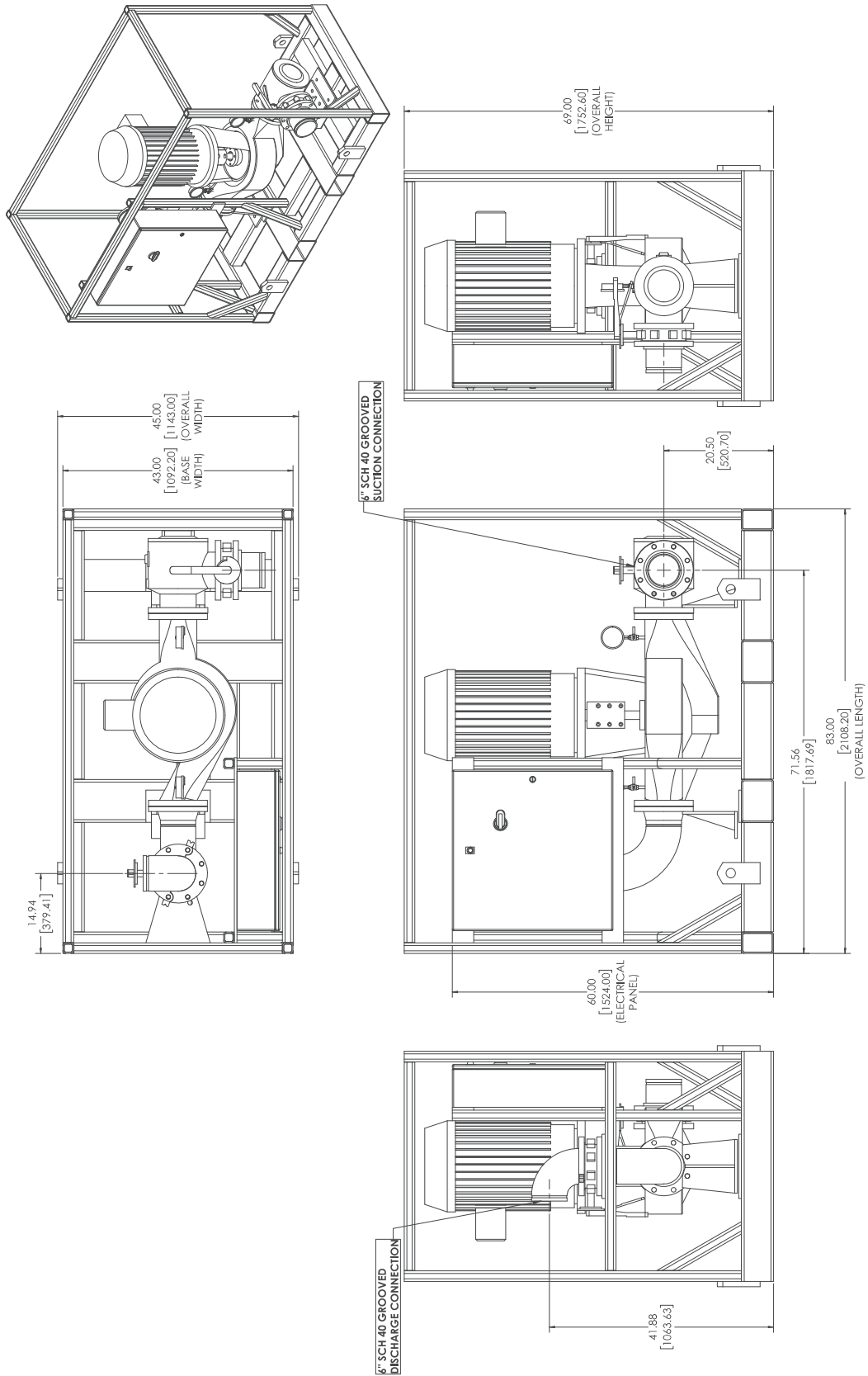
Labels	Values
Minimum	300 gpm @ 138.9 ft
Maximum	1249 gpm @ 89.4 ft

Table 41. Physical dimensions

Labels	Values
Height	5 ft– 9 in.
Width	3 ft – 9 in.
Length	6 ft – 11 in.
Weight	3355 lbs
Fork Pockets	7.5 x 5.5 x 43 in.
Center-to-Center Distance	28 in.

Note: Actual weight and physical dimensions may vary.







Armstrong

50 Horsepower

CSPC0050F0

Table 42. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	6 x 4 x 13
Impeller Diameter	13.17 in.
Suction Size	6 in. Victaulic
Discharge Size	6 in. Victaulic

Table 43. Motor data

Labels	Values
Type	TEFC
Horsepower	50
RPM	1800
Voltage	460
FLA	60 A

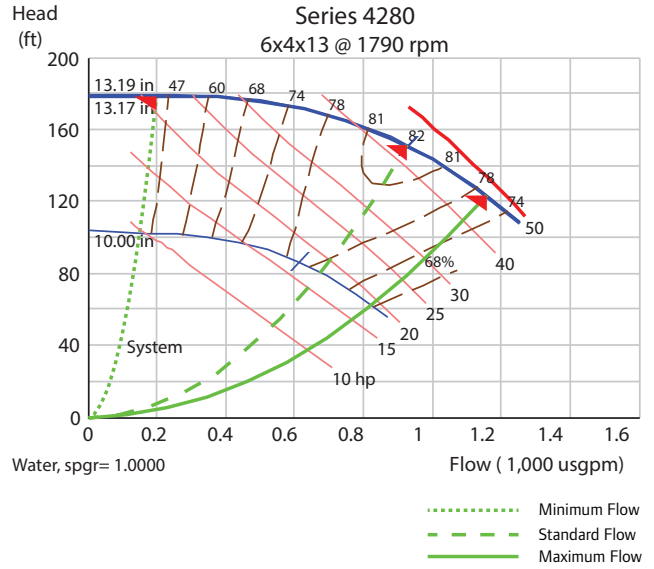
Table 44. Performance data

Labels	Values
Minimum	200 gpm @ 178.1 ft
Maximum	1159 gpm @ 122.9 ft

Table 45. Physical dimensions

Labels	Values
Height	5 ft- 0 in.
Width	3 ft - 8 in.
Length	7 ft - 2 in.
Weight	2493 lbs
Fork Pockets	5.5 x 9.5 x 44 in.
Center-to-Center Distance	25 in.

Note: Actual weight and physical dimensions may vary.



RSPC0050F2

Table 46. Pump data

Labels	Values
Model Number	4300
Type	Split Coupled Vertical Inline
Size	8 x 8 x 10
Impeller Diameter	10.09 in.
Suction Size	6 in. Victaulic
Discharge Size	6 in. Victaulic

Table 47. Motor data

Labels	Values
Type	TEFC
Horsepower	50
RPM	1800
Voltage	460
FLA	65 A

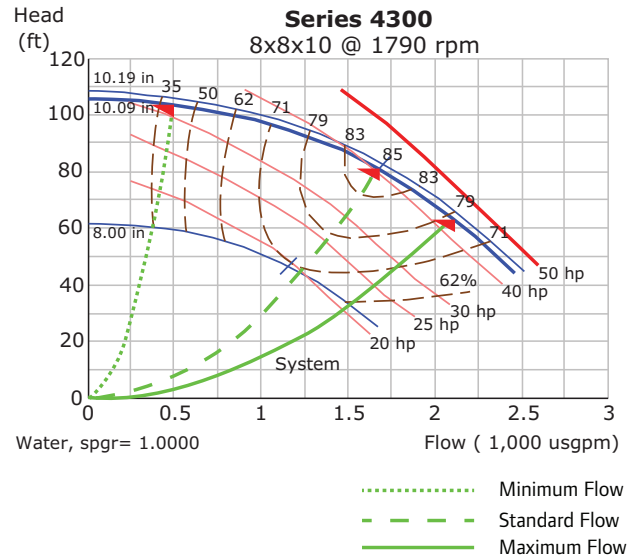
Table 48. Performance data

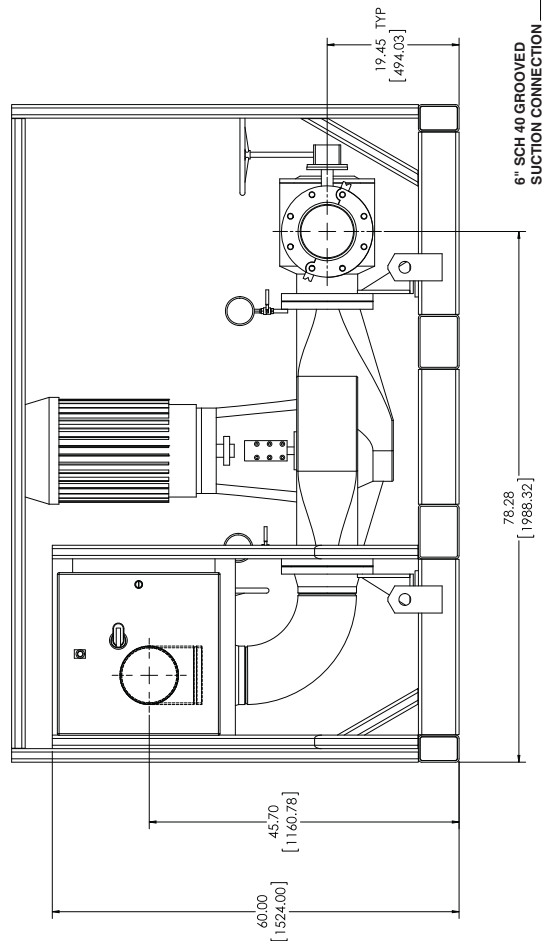
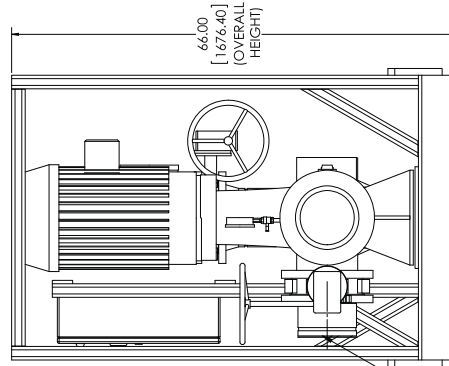
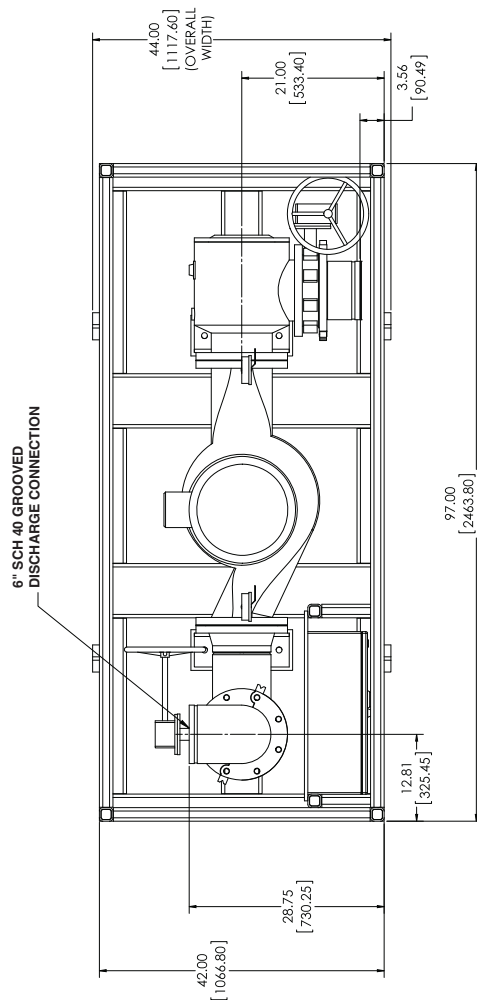
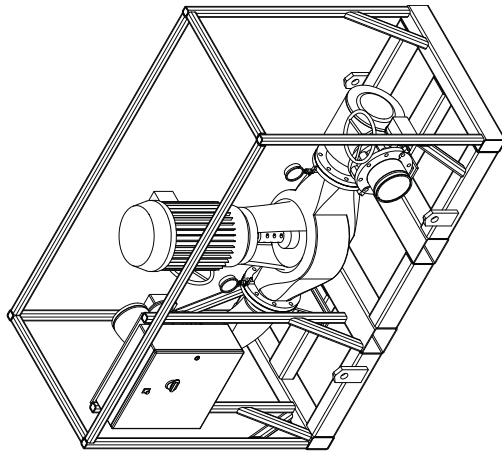
Labels	Values
Minimum	504 gpm @ 103.6 ft
Maximum	2101 gpm @ 63.7 ft

Table 49. Physical dimensions

Labels	Values
Height	5 ft– 6 in.
Width	3 ft – 8 in.
Length	8 ft – 1 in.
Weight	4000 lbs
Fork Pockets	7.5 x 5.5 x 42 in.
Center-to-Center Distance	28 in.

Note: Actual weight and physical dimensions may vary.





60 Horsepower

CSPC0060F0 (AA through AL)

Table 50. Pump data

Labels	Values
Model Number	4030
Type	Close Coupled
Size	8 x 6 x 13
Impeller Diameter	11.00 in.
Suction Size	10 in. Victaulic
Discharge Size	10 in. Victaulic

Table 51. Motor data

Labels	Values
Type	TEFC
Horsepower	60
RPM	1800
Voltage	460
FLA	72 A

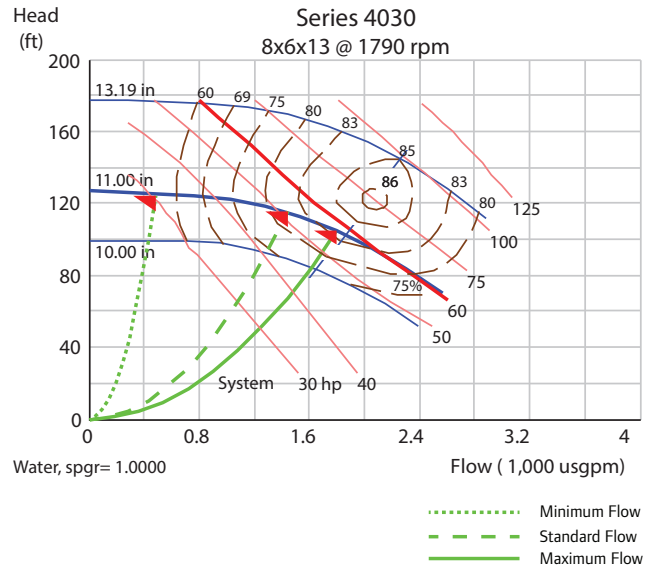
Table 52. Performance data

Labels	Values
Minimum	484.1 gpm @ 123.8 ft
Maximum	1800 gpm @ 104.8 ft

Table 53. Physical dimensions

Labels	Values
Height	4 ft- 4 in.
Width	5 ft - 6 in.
Length	6 ft - 0 in.
Weight	2375 lbs

Notes: Confirm the following with the TRS turnkey facility:
 1. Fork pocket dimensions.
 2. Actual weight and physical dimensions may vary.





Armstrong

CSPC0060F0 (AM through AU)

Table 54. Pump data

Labels	Values
Model Number	4030
Type	Close Coupled
Size	8 x 6 x 13
Impeller Diameter	11.47 in.
Suction Size	10 in. Victaulic
Discharge Size	10 in. Victaulic

Table 55. Motor data

Labels	Values
Type	TEFC
Horsepower	60
RPM	1800
Voltage	460
FLA	72 A

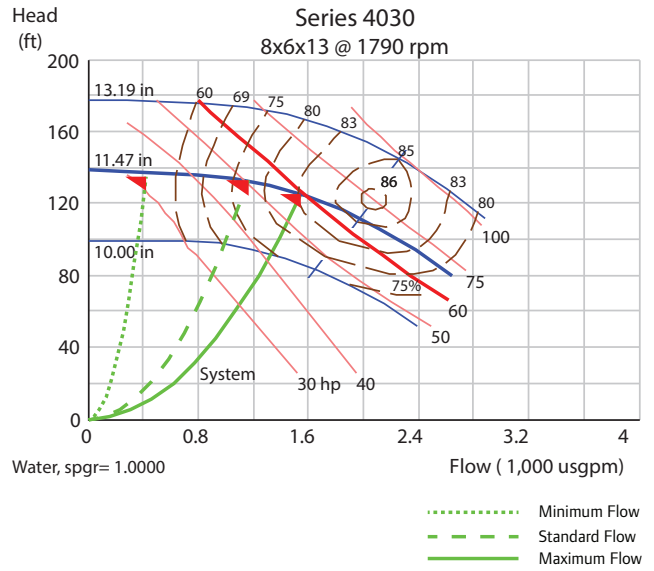
Table 56. Performance data

Labels	Values
Minimum	425 gpm @ 135.2 ft
Maximum	1550 gpm @ 124.9 ft

Table 57. Physical dimensions

Labels	Values
Height	6 ft– 10 in.
Width	5 ft – 7 in.
Length	7 ft – 8 in.
Weight	4300 lbs
Fork Pockets	5.5 x 9.5 x 67 in.
Center-to-Center Distance	53.5 in.

Note: Actual weight and physical dimensions may vary.



CSPC0060F1

Table 58. Pump data

Labels	Values
Model Number	4600
Type	Horizontal Split Case
Size	6 x 5 x 15L
Impeller Diameter	13.02 in.
Suction Size	6 in. Victaulic
Discharge Size	6 in. Victaulic

Table 59. Motor data

Labels	Values
Type	TEFC
Horsepower	60
RPM	1800
Voltage	460
FLA	72 A

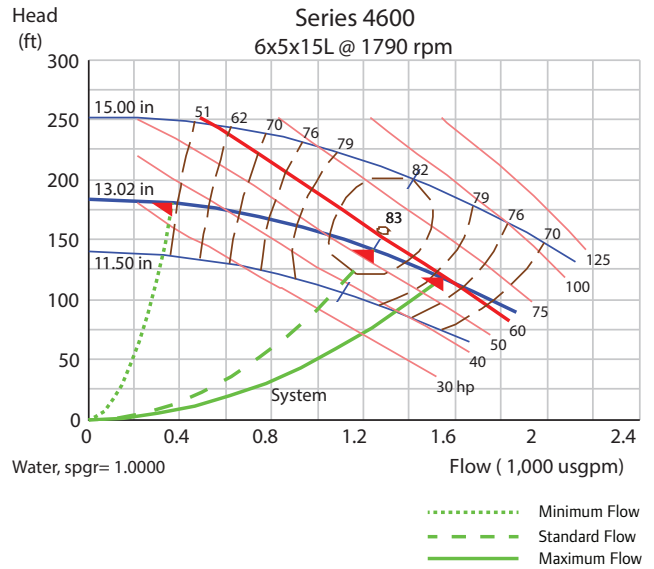
Table 60. Performance data

Labels	Values
Minimum	370.8 gpm @ 180.3 ft
Maximum	1544.9 gpm @ 118.6 ft

Table 61. Physical dimensions

Labels	Values
Height	5 ft- 4 in.
Width	5 ft – 7 in.
Length	5 ft – 3 in.
Weight	3400 lbs

Notes: Confirm the following with the TRS turnkey facility:
 1. Fork pocket dimensions.
 2. Actual weight and physical dimensions may vary.





Armstrong

CSPC0060F2

Table 62. Pump data

Labels	Values
Model Number	4300
Type	Split Coupled Vertical Inline
Size	8 x 8 x 11.5
Impeller Diameter	10.85 in.
Suction Size	8 in. Victaulic
Discharge Size	8 in. Victaulic

Table 63. Motor data

Labels	Values
Type	TEFC
Horsepower	60
RPM	1800
Voltage	460
FLA	77 A

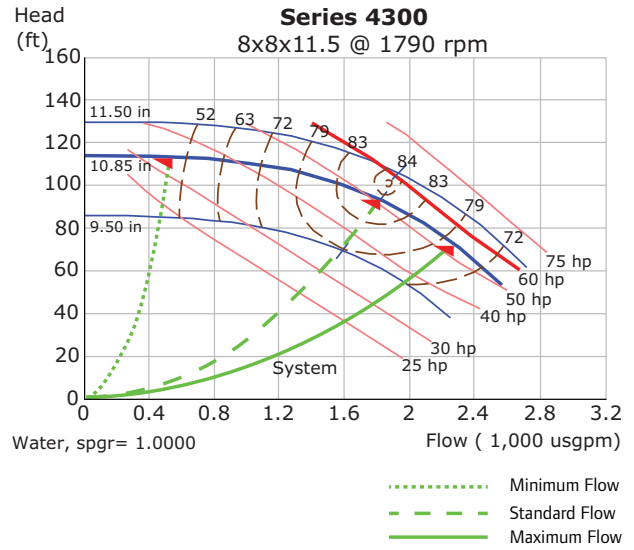
Table 64. Performance data

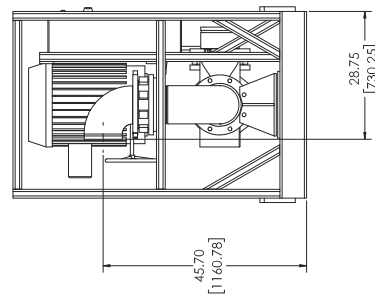
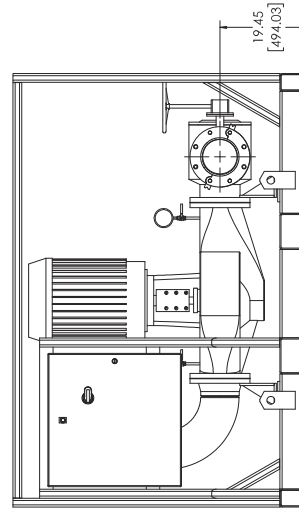
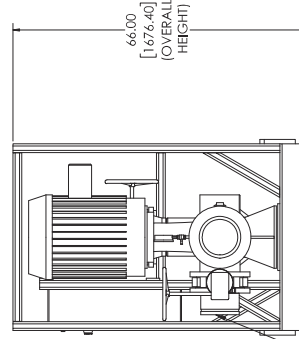
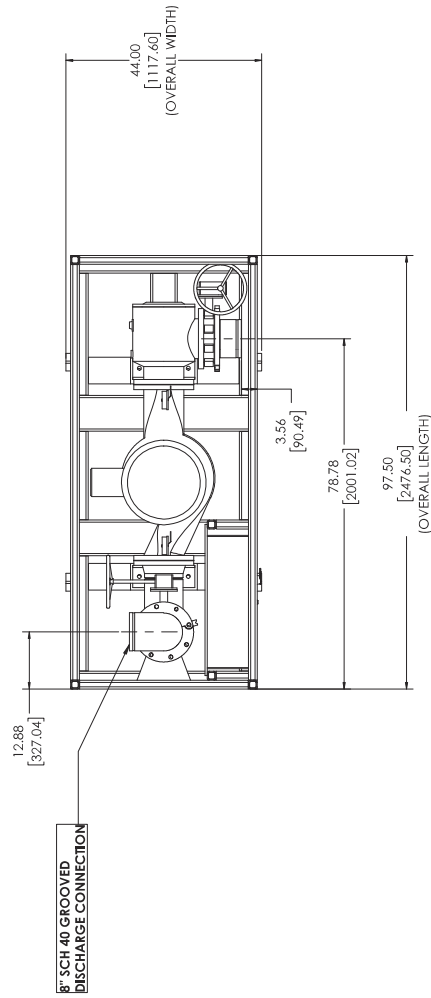
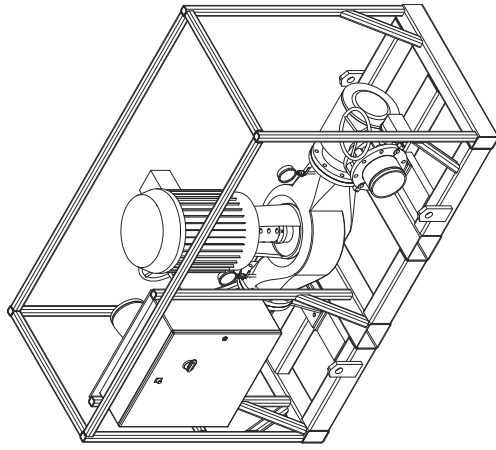
Labels	Values
Minimum	545 gpm @ 113.3 ft
Maximum	2272 gpm @ 72.4 ft

Table 65. Physical dimensions

Labels	Values
Height	5 ft– 6 in.
Width	3 ft – 8 in.
Length	8 ft – 1.5 in.
Weight	5000 lbs
Fork Pockets	7.5 x 5.5 x 42 in.
Center-to-Center Distance	28 in.

Note: Actual weight and physical dimensions may vary.







Armstrong

100 Horsepower

CSPC0100F0

Table 66. Pump data

Labels	Values
Model Number	4030
Type	Close Coupled
Size	10 x 8 x 13
Impeller Diameter	11.59 in.
Suction Size	10 in. Victaulic
Discharge Size	10 in. Victaulic

Note: Triple duty valve mounted on discharge side.

Table 67. Motor data

Labels	Values
Type	TEFC
Horsepower	100
RPM	1800
Voltage	460
FLA	115 A

Table 68. Performance data

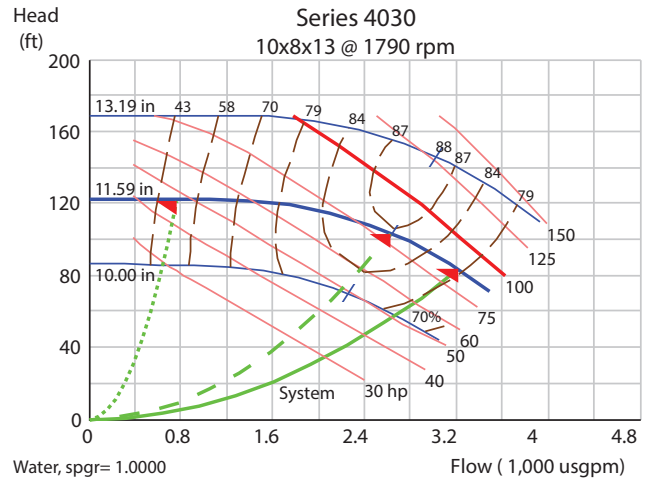
Labels	Values
Minimum	772.1 gpm @ 121.7 ft
Maximum	3217.1 gpm @ 83.4 ft

Table 69. Physical dimensions

Labels	Values
Height	6 ft- 7 in.
Width	5 ft - 4 in.
Length	8 ft - 7 in.
Weight	4993 lbs

Notes: Confirm the following with the TRS turnkey facility:

1. Fork pocket dimensions.
2. Actual weight and physical dimensions may vary.
3. Estimated weight for models 100F0AC and 100F0AD between 7200 - 7500 lbs.



..... Minimum Flow
- - - - Standard Flow
———— Maximum Flow

125 Horsepower

CSPC0125F1 (AA through AF)

Table 70. Pump data

Labels	Values
Model Number	4600
Type	Horizontal Split Case
Size	12 x 10 x 12.5
Impeller Diameter	11.2 in.
Suction Size	10 in. Victaulic
Discharge Size	10 in. Victaulic

Notes:

1. These pump models do not come with inlet suction guides and strainers.
2. Triple duty valve mounted on discharge side.

Table 71. Motor data

Labels	Values
Type	TEFC
Horsepower	125
RPM	1800
Voltage	460
FLA	147 A

Table 72. Performance data

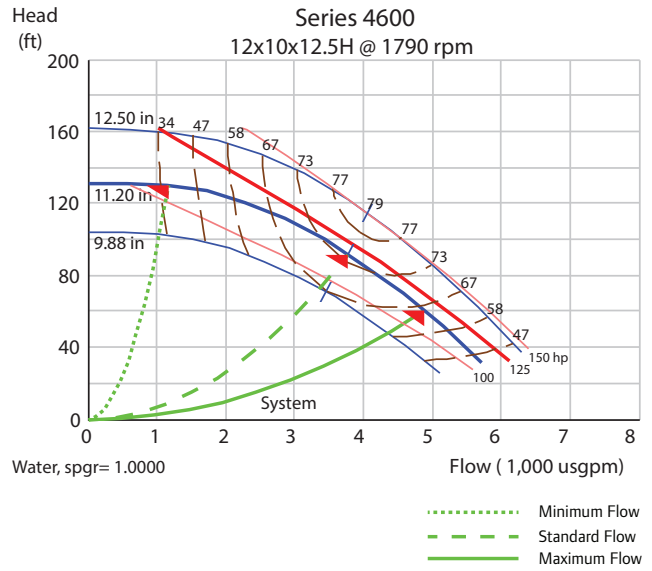
Labels	Values
Minimum	1172.3 gpm @ 130.1 ft
Maximum	4884.4 gpm @ 60 ft

Table 73. Physical dimensions

Labels	Values
Height	5 ft– 4 in.
Width	7 ft – 4 in.
Length	6 ft – 7 in.
Weight	4300 lbs

Notes: Confirm the following with the TRS turnkey facility:

1. Fork pocket dimensions.
2. Actual weight and physical dimensions may vary.





Armstrong

CSPC0125F1 (AG through AQ)

Table 74. Pump data

Labels	Values
Model Number	4600
Type	Horizontal Split Case
Size	12 x 10 x 15H
Impeller Diameter	11.2 in.
Suction Size	10 in. Victaulic
Discharge Size	10 in. Victaulic

Note: Triple duty valve mounted on discharge side.

Table 75. Motor data

Labels	Values
Type	TEFC
Horsepower	125
RPM	1800
Voltage	460
FLA	147 A

Table 76. Performance data

Labels	Values
Minimum	1172.3 gpm @ 134.9 ft
Maximum	3100 gpm ^(a) @ 105 ft

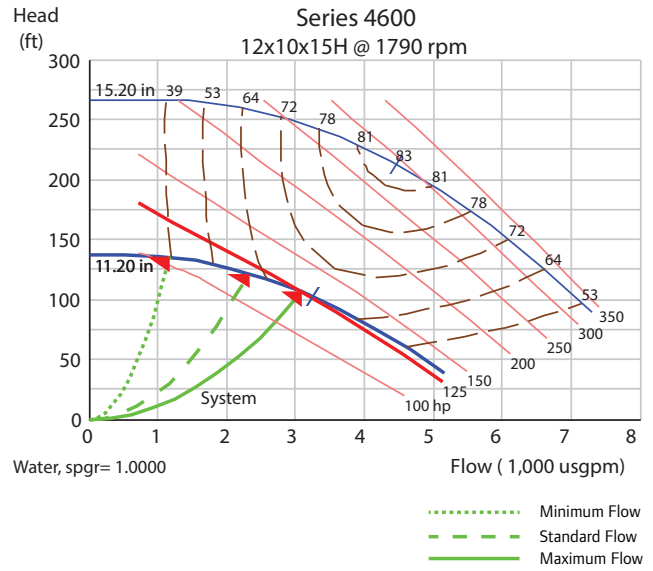
(a) Extended operation at this gpm may affect life of motor

Table 77. Physical dimensions

Labels	Values
Height	6 ft– 10 in.
Width	10 ft – 0 in.
Length	7 ft – 10 in.
Weight	7900 lbs

Notes: Confirm the following with the TRS turnkey facility:

1. Fork pocket dimensions.
2. Actual weight and physical dimensions may vary.



RSPC0125F2

Table 78. Pump data

Labels	Values
Model Number	4300
Type	Split Coupled Vertical Inline
Size	12 x 12 x 13
Impeller Diameter	11.08 in.
Suction Size	10 in. Victaulic
Discharge Size	10 in. Victaulic

Note: Triple duty valve mounted on discharge side.

Table 79. Motor data

Labels	Values
Type	TEFC
Horsepower	125
RPM	1800
Voltage	460
FLA	156 A

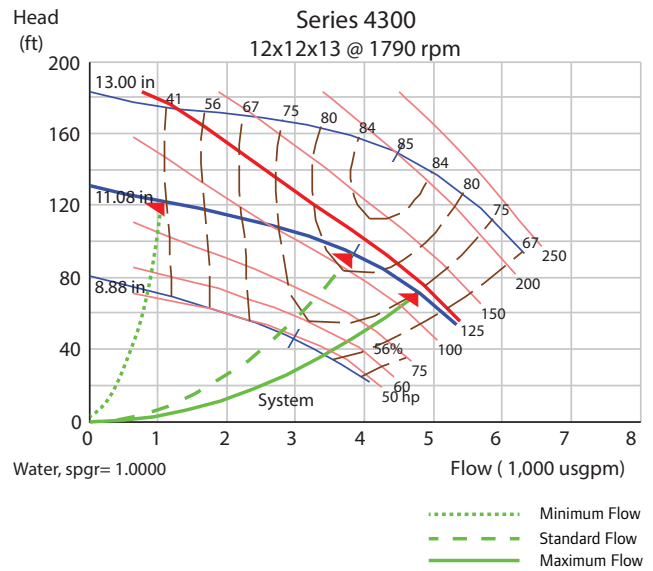
Table 80. Performance data

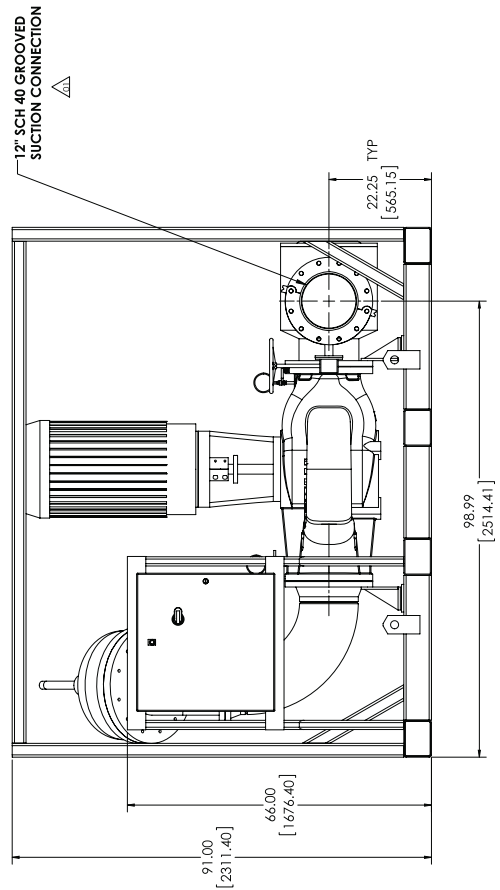
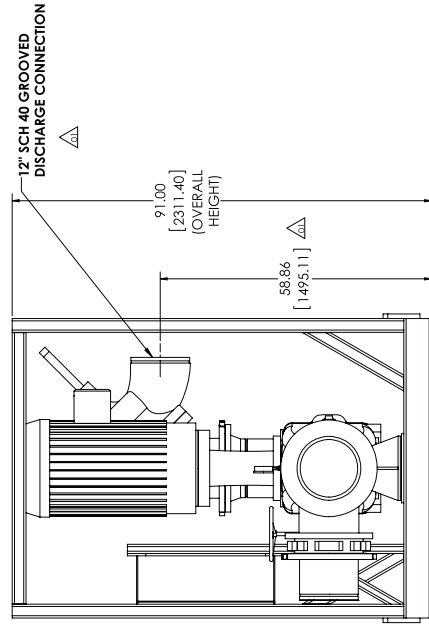
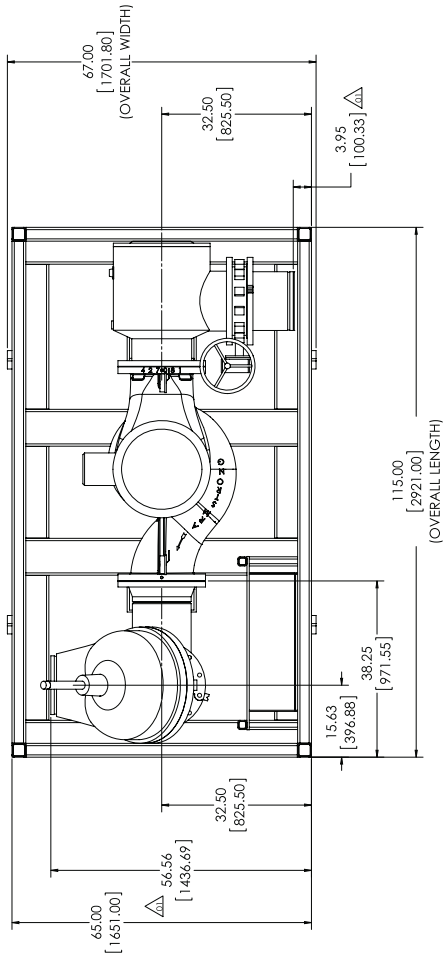
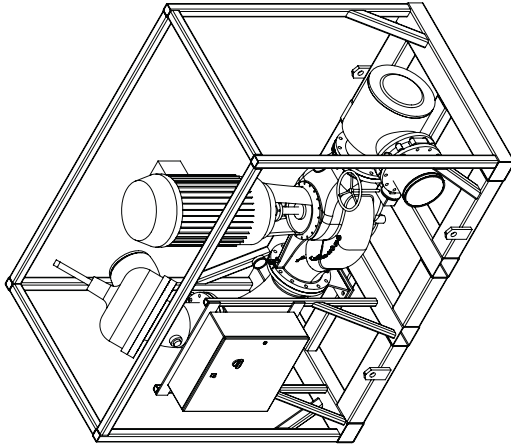
Labels	Values
Minimum	1150 gpm @ 121.2 ft
Maximum	4790 gpm @ 71.2 ft

Table 81. Physical dimensions

Labels	Values
Height	7 ft– 8 in.
Width	5 ft – 7 in.
Length	9 ft – 7 in.
Weight	9760 lbs
Fork Pockets	7.5 x 5.5 x 65 in.
Center-to-Center Distance	28 in.

Note: Actual weight and physical dimensions may vary.





Integral Pumps

25 Ton CGAM

Table 82. Pump data

Labels	Values
Model Number	4270
Type	Close Coupled
Size	2 x 1.5 x 5.5 ^(a)
Impeller Diameter	5.44 in.

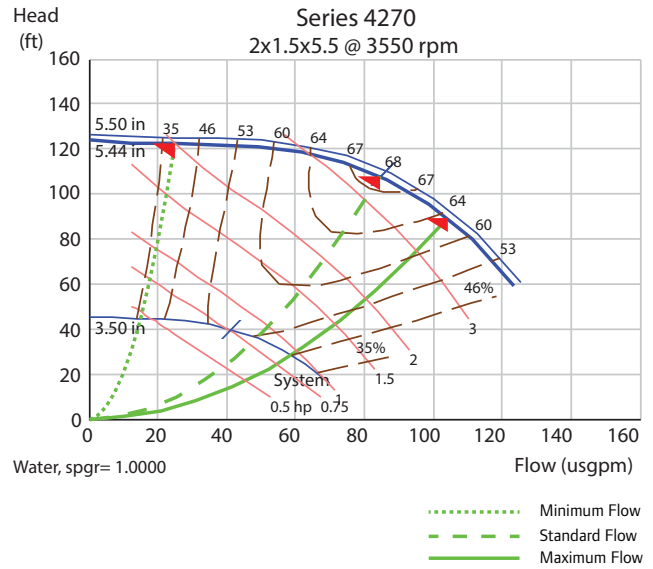
(a) Chiller inlet/outlet connections = 2.5 in. Victaulic

Table 83. Motor data

Labels	Values
Type	TEFC
Horsepower	5
RPM	3600
Voltage	460
FLA	6.2 A

Table 84. Performance data

Labels	Values
Minimum	25 gpm @ 122.2 ft
Nominal Flow	84.5 gpm @ 107.9 ft
Maximum	104 gpm @ 89.3 ft





Integral Pumps

40 to 60 Ton CGAM

Table 85. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	3 x 1.5 x 5.6 ^(a) (b)
Impeller Diameter	5.72 in.

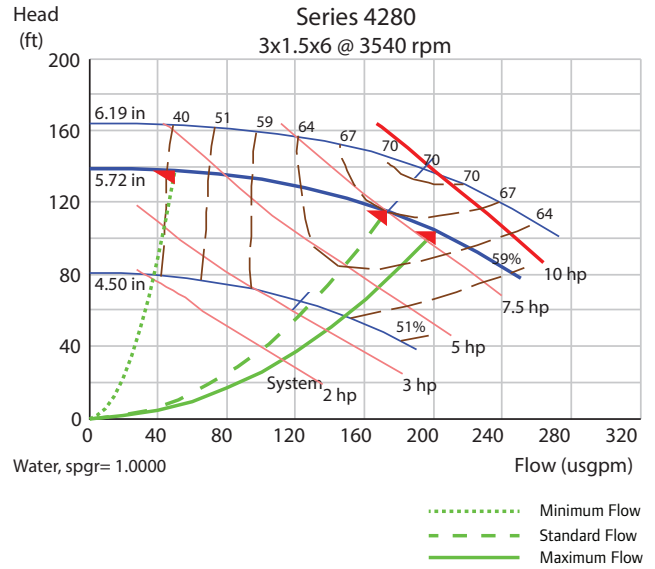
- (a) Chiller inlet/outlet connections (40 ton) = 2.5 in. Victaulic
 (b) Chiller inlet/outlet connections (60 ton) = 4.0 in. Victaulic

Table 86. Motor data

Labels	Values
Type	TEFC
Horsepower	10
RPM	3600
Voltage	460
FLA	11.9 A

Table 87. Performance data

Labels	Values
Minimum	50 gpm @ 137.7 ft
Nominal Flow	173.4 gpm @ 115 ft
Maximum	201.6 gpm @ 104.1 ft



80 to 120 Ton CGAM

Table 88. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	3 x 2 x 13 ^(a) (b)
Impeller Diameter	12.35 in.

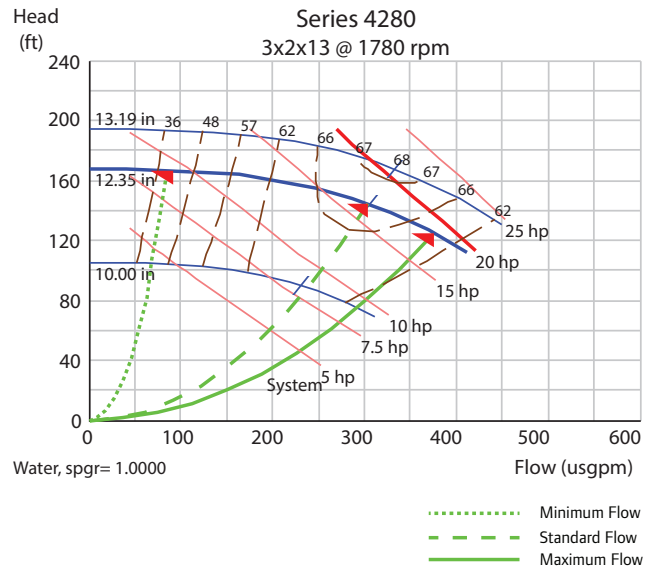
(a) Chiller inlet/outlet connections (80/100 ton) = 4.0 in. Victaulic
 (b) Chiller inlet/outlet connections (120 ton) = 6.0 in. Victaulic

Table 89. Motor data

Labels	Values
Type	TEFC
Horsepower	20
RPM	1800
Voltage	460
FLA	25 A

Table 90. Performance data

Labels	Values
Minimum	91 gpm @ 162.9 ft
Nominal Flow	304.4 gpm @ 144.2 ft
Maximum	376 gpm @ 124.5 ft





Integral Pumps

155/170/200 Ton RTAC (F0)

Table 91. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	5 x 4 x 11.5 ^(a)
Impeller Diameter	11.3 in.

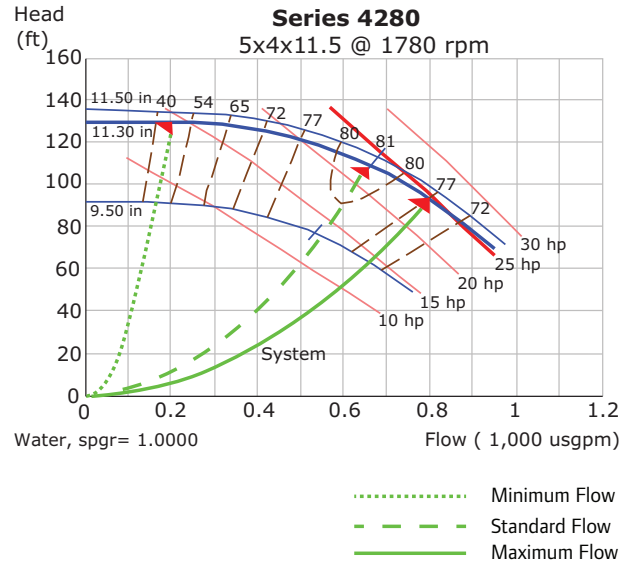
(a) Chiller inlet/outlet connections = 6 in. Victaulic

Table 92. Motor data

Labels	Values
Type	TEFC
Horsepower	25
RPM	1800
Voltage	460
FLA	38 A

Table 93. Performance data

Labels	Values
Minimum	199 gpm @ 129.7 ft
Nominal Flow	677 gpm @ 112.9 ft
Maximum	800 gpm @ 93.1 ft



155/170/200 Ton RTAC (F2-F3)

Table 94. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	4 x 3 x 13L ^(a)
Impeller Diameter	11.87 in.

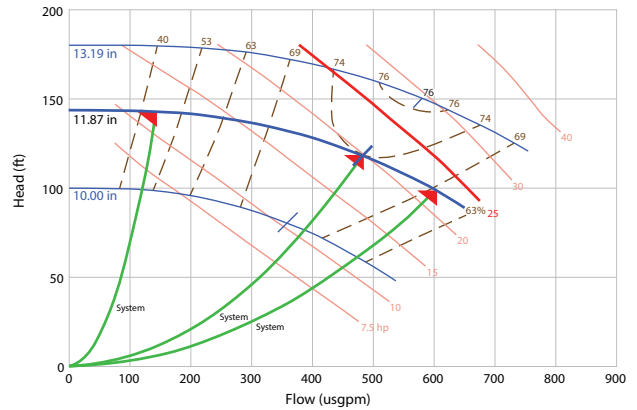
(a) Chiller inlet/outlet connections = 6 in. Victaulic

Table 95. Motor data

Labels	Values
Type	TEFC
Horsepower	25
RPM	1800
Voltage	460
FLA	38 A

Table 96. Performance data

Labels	Values
Minimum	146 gpm @ 143 ft
Nominal Flow	485 gpm @ 119 ft
Maximum	606 gpm @ 99 ft



250 Ton RTAC (F0)

Table 100. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	6 x 5 x 11.5 ^(a)
Impeller Diameter	11.01 in.

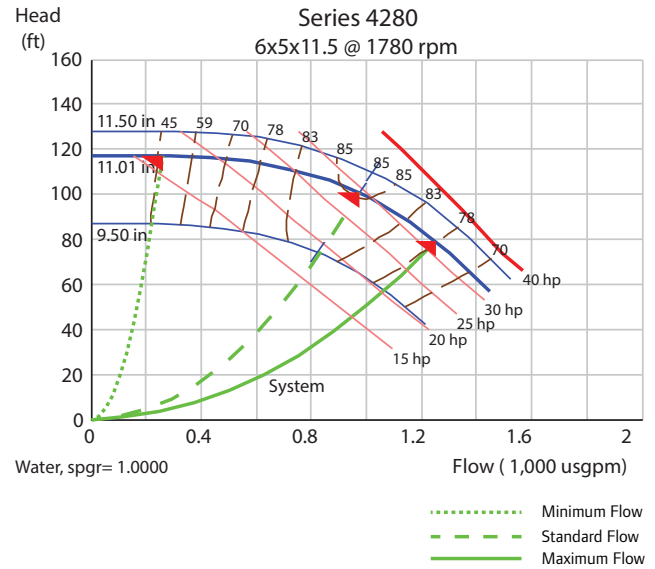
(a) Chiller inlet/outlet connections = 6 in. Victaulic

Table 101. Motor data

Labels	Values
Type	TEFC
Horsepower	40
RPM	1780
Voltage	460
FLA	53 A

Table 102. Performance data

Labels	Values
Minimum	259 gpm @ 116.9 ft
Nominal Flow	972.1 gpm @ 100.6 ft
Maximum	1253.6 gpm @ 82.7 ft





Integral Pumps

250 Ton RTAC (F2-F3)

Table 103. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	6 x 4 x 3 ^(a)
Impeller Diameter	10.95 in.

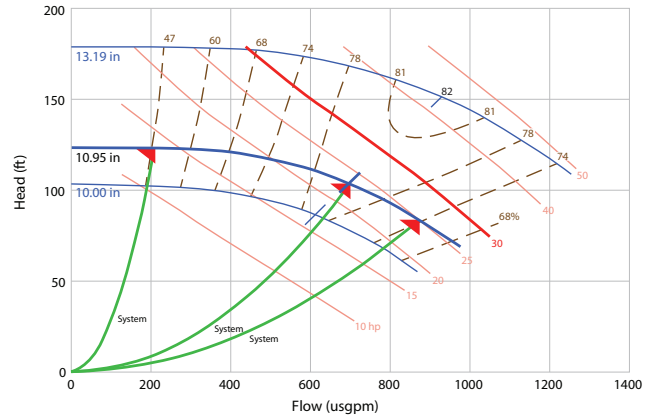
(a) Chiller inlet/outlet connections = 6 in. Victaulic

Table 104. Motor data

Labels	Values
Type	TEFC
Horsepower	30
RPM	1780
Voltage	460
FLA	53 A

Table 105. Performance data

Labels	Values
Minimum	210 gpm @ 123 ft
Nominal Flow	699 gpm @ 104 ft
Maximum	874 gpm @ 84 ft



400 Ton RTAA and 300/400 Ton RTAC (F0)

Table 106. Pump data

Labels	Values
Model Number	4600
Type	Horizontal Split Case
Size	6 x 5 x 12H ^(a)
Impeller Diameter	11.75 in.

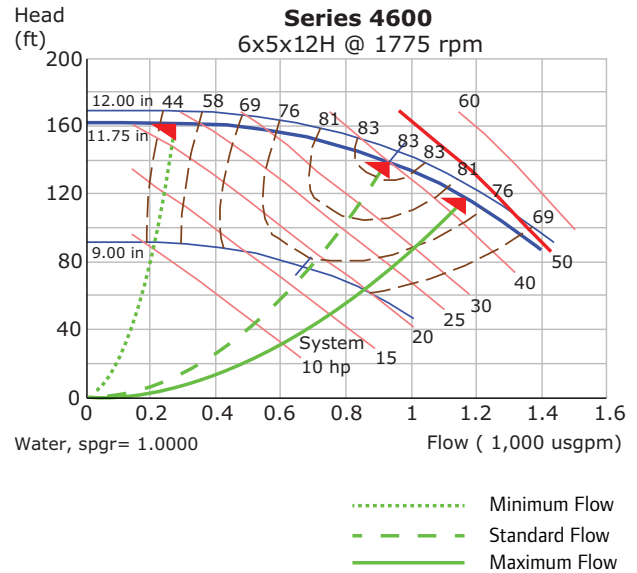
(a) Chiller inlet/outlet connections = 6 in. Victaulic

Table 107. Motor data

Labels	Values
Type	TEFC
Horsepower	50
RPM	1800
Voltage	460
FLA	62 A

Table 108. Performance data

Labels	Values
Minimum	280 gpm @ 161 ft
Nominal Flow	934 gpm @ 138.3 ft
Maximum	1167.5 gpm @ 117 ft





Integral Pumps

300/400 Ton RTAC (F2-F3)

Table 109. Pump data

Labels	Values
Model Number	4280
Type	Close Coupled
Size	6 x 5 x 13 ^(a)
Impeller Diameter	12.04 in.

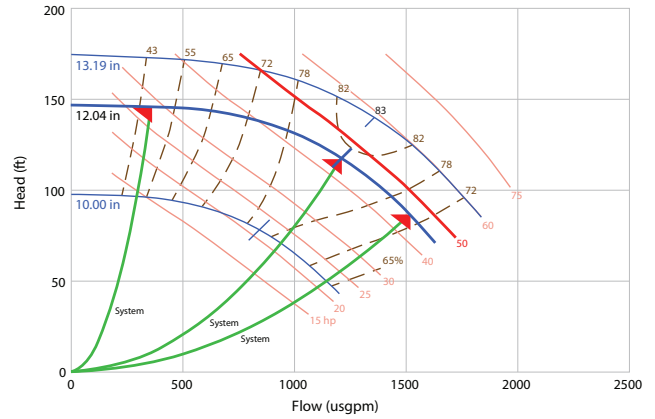
(a) Chiller inlet/outlet connections = 6 in. Victaulic

Table 110. Motor data

Labels	Values
Type	TEFC
Horsepower	50
RPM	1800
Voltage	460
FLA	62 A

Table 111. Performance data

Labels	Values
Minimum	357 gpm @ 142 ft
Nominal Flow	1190 gpm @ 114 ft
Maximum	1488 gpm @ 84 ft



500 Ton RTAC (F0)

Table 112. Pump data

Labels	Values
Model Number	4600
Type	Horizontal Split Case
Size	8 x 6 x 12.5M ^(a)
Impeller Diameter	11.65 in.

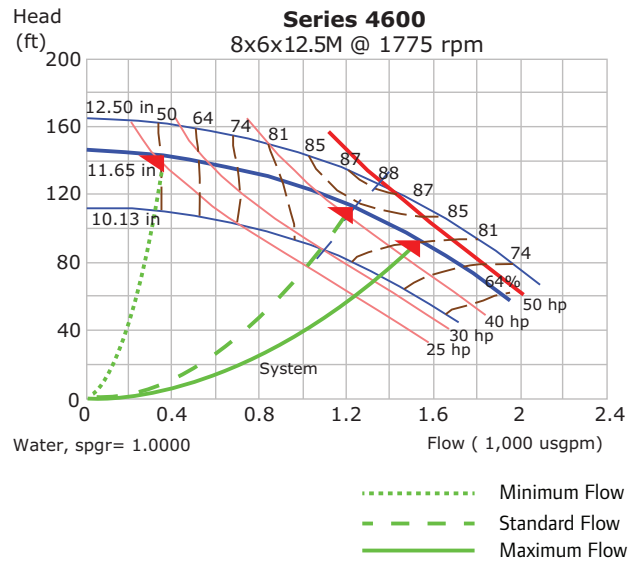
(a) Chiller inlet/outlet connections = 6 in. Victaulic

Table 113. Motor data

Labels	Values
Type	TEFC
Horsepower	50
RPM	1800
Voltage	460
FLA	62 A

Table 114. Performance data

Labels	Values
Minimum	370 gpm @ 142.5 ft
Nominal Flow	1234 gpm @ 112.8 ft
Maximum	1543 gpm @ 93.1 ft





Integral Pumps

500 Ton RTAC (F2-F4)

Table 115. Pump data

Labels	Values
Model Number	4280
Type	End Suction
Size	6 x 5 x 13 ^(a)
Impeller Diameter	12.21 in.

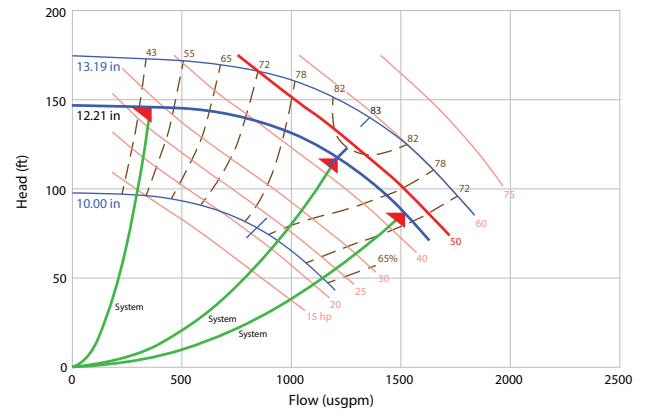
(a) Chiller inlet/outlet connections = 6 in. Victaulic

Table 116. Motor data

Labels	Values
Type	TEFC
Horsepower	50
RPM	1800
Voltage	460
FLA	62 A

Table 117. Performance data

Labels	Values
Minimum	365 gpm @ 146 ft
Nominal Flow	1217 gpm @ 117 ft
Maximum	1521 gpm @ 87 ft



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