



## Series 1580 Vertical In-Line Fire Pump



### Pump Specifications

#### A. Manufacturer

Contractor shall furnish and install an A-C Fire Pump system or approved equal – UL-listed single stage, close-coupled 1580 Series Vertical In-Line Pump for fire suppression. The pump(s) shall conform to the standards of NFPA 20 latest edition for the installation of centrifugal fire pumps.

#### B. Single-stage, Close-coupled, Vertical In-Line Pump

1. The pump will provide a rated capacity of \_\_\_\_\_ GPM and a differential pressure of \_\_\_\_\_ PSI. At 150 percent of rated capacity, the pump shall develop at least 65 percent of its rated head and shall not exceed 140 percent of the rated head at zero capacity. The pump shall be tested at the factory and a test curve shall be submitted showing the performance and horsepower requirements based on this test before final acceptance.

2. The pump shall be a single-stage, close-coupled, vertical in-line design, in cast iron bronze fitted construction with packing bearing directly on a stainless steel or a bronze shaft sleeve. The pump internals shall be capable of being serviced without disturbing piping connections.

3. The pump casing shall be made of cast iron ASTM A278, Class 30 or 35, or ductile iron ASTM A536, Grade 65, with the suction and discharge flanges located on a common centerline, 180 degrees apart, for mounting in the pipeline. The standard pipe flanges shall be drilled for 125# per ANSI B16.1 standard.

4. The pump shall be rated for a minimum of 175 psi working pressure and a maximum of 370 psi (H6x6x11) with 250# discharge flanges and ductile iron casing.

5. The impeller will be of a cast bronze ASTM B584 – Alloy 875, enclosed type, balanced, keyed to the shaft and secured by a cap screw and lockwasher.

6. The casing wear rings shall be made of bronze and can be easily replaced.

7. The pump shall be direct coupled to the motor shaft for easy maintenance, to minimize impeller run out and reduce noise.

8. The pump shall have a vertical back pullout design that makes servicing simple and fast. The rotating element is easily removed without disturbing the piping.

9. The pump shall have split bronze packing glands for easy packing replacement.

10. The stuffing box shall be furnished with impregnated yarn packing, lantern ring and a catch basin for piping leakage to drain.

11. The pump shall have gauge tappings at the suction and discharge nozzles and vent and drain tappings at the top and bottom.

12. A rubber slinger will be installed on the shaft before the motor to prevent the passage of liquid to the motor.

13. The motor will be the JP frame type.

14. Nameplates and other data plates shall be all corrosion resistant and suitably secured to the pump.

15. Pump manufacturer shall be ISO 9001 certified.

#### C. Accessories

1. 1580 Series Vertical In-Line Fire Pump shall be furnished with the following fittings as standard:

- 3 1/2" dial suction and discharge gauges.
- 3/4" casing relief valve.

2. Other fittings and accessories may include the following, based on the specification:

- Eccentric suction reducer (if required).
- Concentric discharge increaser (if required).
- Hose valve test header.  
( \_\_\_ ) hose valve with 2 1/2" NST  
( \_\_\_ ) caps and chains for the above hose valves
- Main relief valve.
- Closed waste cone.
- Flowmeter.
- Suction control valve.

### Series 1580 Vertical In-Line Fire Pump

Designed for commercial, industrial and institutional applications, the Vertical In-Line Fire Pump features:

- Compact design.
- Easy installation.
- Superior performance.
- Wide range of sizes.
- Quality construction.



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A-C Fire Pump



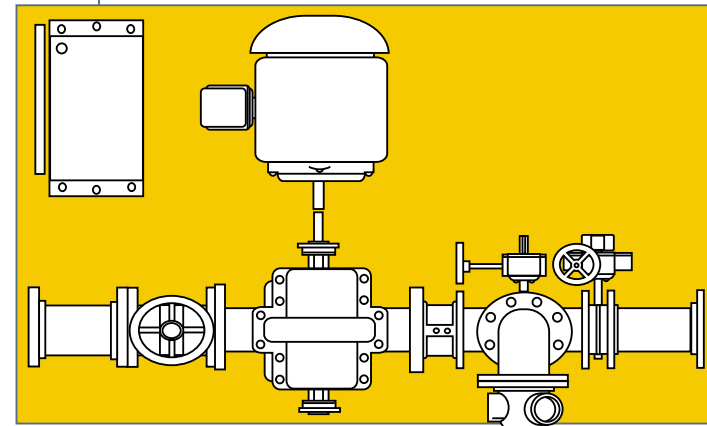
A-C Fire Pump



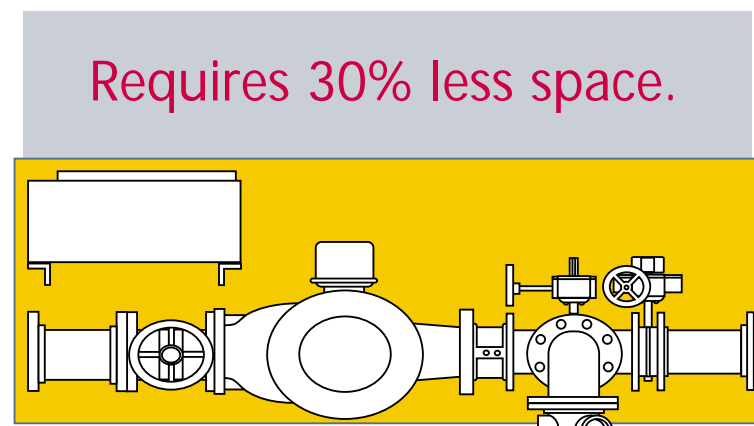
# Space-saving design.

Compact, self-contained design requires 30 percent less space.

When it comes to space-saving efficiency, nothing beats the Vertical In-Line Pump from A-C Fire Pump. It allows you more flexibility to fit it into smaller spaces than similar horizontal split-case pumps.



Horizontal split-case pump



Vertical In-Line Pump from A-C Fire Pump

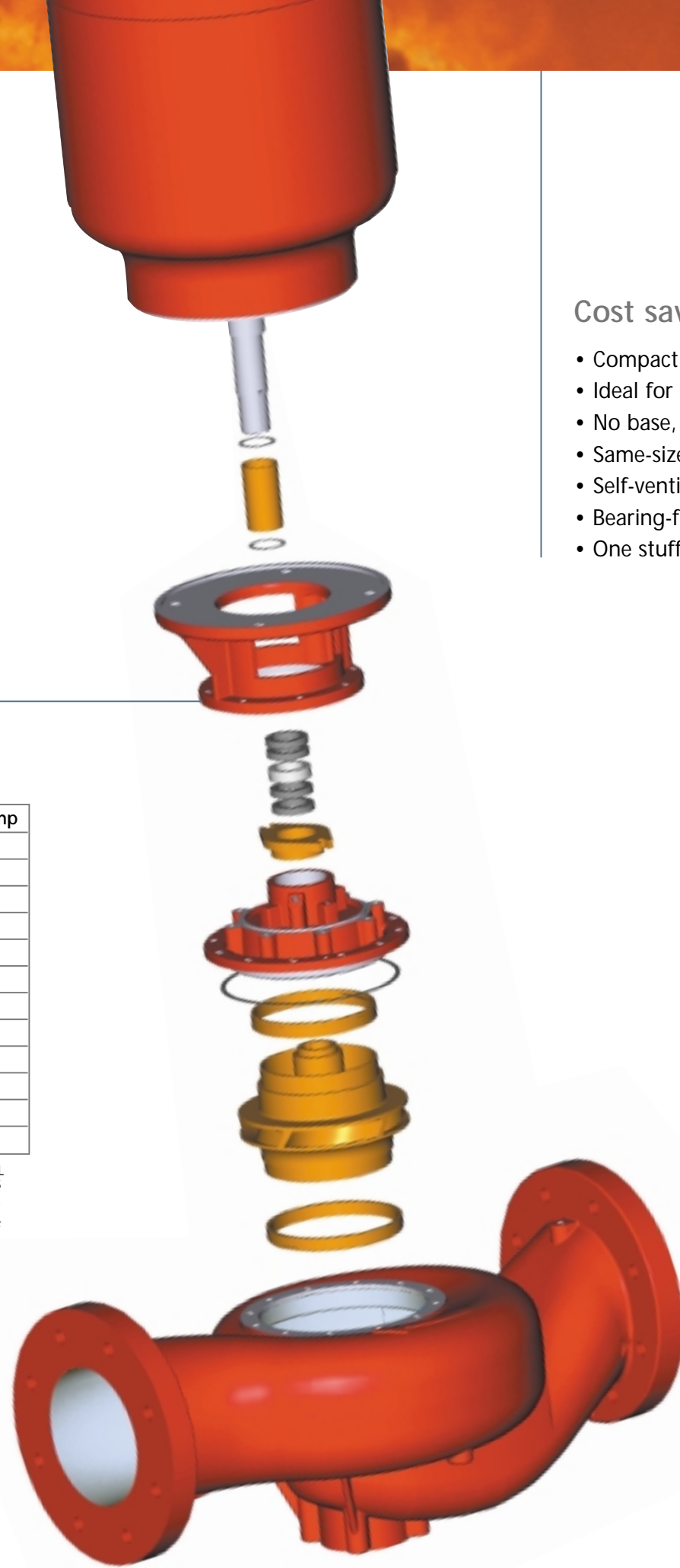
## Easy to install.

Plenty of design features make this in-line pump easy to install. Its self-venting design requires no automatic air release valve. Suction and discharge flanges are on a common centerline, 180 degrees apart, and equally sized to simplify installation. The pump requires no base, coupling or guard, keeping material and installation costs lower. In-line mounting eliminates the need for special pads or foundations in most cases. Plus, you can rotate the motor position on the pump for better accessibility to the junction box.



## Trouble-free maintenance.

Designed for easy maintenance, the motor and pump rotating assembly pull out easily from the top without removing the pump casing from the piping. Since the impeller is mounted on the motor shaft, there is no need for field alignment. The bearing-free pump design operates efficiently with fewer maintenance and servicing problems. With only one stuffing box, leakage is reduced by 50 percent.



## Cost saving design.

- Compact, self-contained design fits in smaller spaces.
- Ideal for retrofit applications with limited space for a pump room.
- No base, coupling or guard reduces material and installation costs.
- Same-size suction and discharge simplifies piping and installation.
- Self-venting design eliminates need for an automatic air-release valve.
- Bearing-free pump design means fewer maintenance and servicing problems.
- One stuffing box reduces maintenance and leakage by 50 percent.

## AC Vertical In-Line Pump Materials of Construction

Description	Basic Construction – Bronze-Fitted Pump
Motor/Pump shaft	Alloy steel
Casing	Cast iron ASTM A159
Impeller	Cast bronze ASTM B584 - Alloy 875
Shaft sleeve*	304 Stainless steel
Impeller key	304 Stainless steel
Impeller washer	Brass
Impeller lock washer	304 Stainless steel
Impeller capscrew	304 Stainless steel
Packed type, internal	
Packing	Impregnated braided yarn
Gland	Bronze
Lantern ring	Glass-filled TFE

\*Note: Shaft sleeve material is bronze (ASTM B505 alloy C93200) for sizes: 6 x 6 x 9.5 F-L  
6 x 6 x 11 F-S  
6 x 6 x 11 F-L  
8 x 8 x 9.5 F  
8 x 8 x 13.5 F  
8 x 8 x 18 F

## Vertical In-Line Pump Ranges

Pump Size	UL Rated Capacity (GPM)	Pressure Range (PSI)	RPM
1.5 x 1.5 x 7F	35	40-70	3500
	50	40-70	
	75	50-65	
2.5 x 2.5 x 9.5F	50	90-164	3500
	100	90-164	
	150	90-165	
	200	90-160	
2.5 x 2.5 x 7F	250	85-160	3500
	100	40-85	
3 x 3 x 7F	150	40-85	3500
	200	40-85	
3 x 3 x 9.5F	250	40-85	3500
	300	40-80	
	300	85-160	
4 x 4 x 7F*	500	40-70	3550
4 x 4 x 9.5F*	500	75-134	3550
4 x 4 x 7F*	500	40-49	2960
4 x 4 x 9.5F*	500	81-88	2960
6 x 6 x 9.5F-L*	750	55-130	3500
6 x 6 x 11F-S*	750	40-50	1780
6 x 6 x 11F-L*	750	135-160	3550
8 x 8 x 9.5F*	1000	50-120	3550
	1250	44-53	1450
	1250	60-73	1775
8 x 8 x 13.5F*	1500	66-80	1775
	1250	54-86	1450
	1250	84-131	1775
8 x 8 x 18F*	1500	81-124	1775

\* FM approved.