



F04 / F07 / F15 / F30

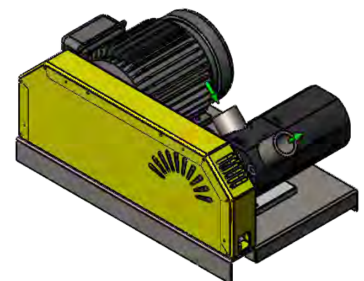
F-Series Legacy System Manual

Horizontal direct-drive and belt-driven systems

TECHNICAL MANUAL

Rev B | 2026.09.18

Document BCP-FL-SM



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SCOPE

Existing F04, F07, F15 and F30 horizontal direct-drive and belt-driven systems. Legacy describes these system arrangements. Use the F-Series Pump Manual, Rev A, for common pump parts, internal service, pump dimensions and curves.

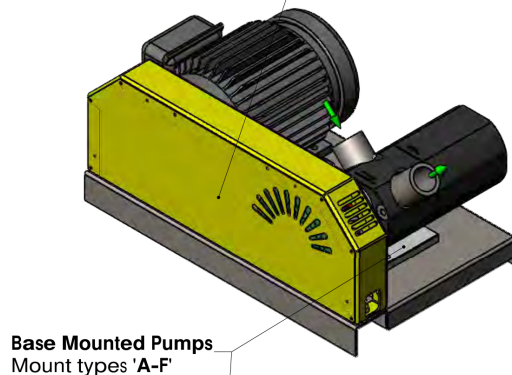
1 Existing systems and new equipment

Use this manual with the F-Series Pump Manual, Rev A.

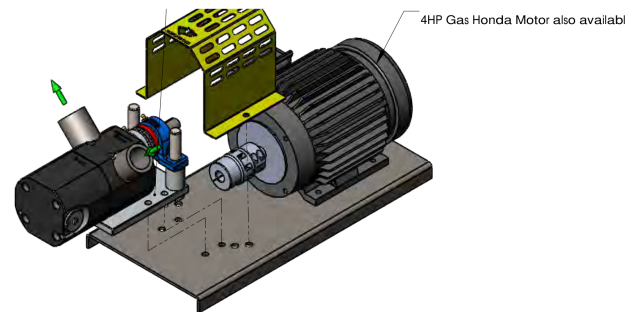
FOR NEW EQUIPMENT, START WITH VERTICAL

BearCat focuses new F-series equipment designs on vertical systems. Their geometry retains liquid at the pump, gives air a path toward discharge and keeps the primary seal wetted. Use the VP System Manual when designing a new system.

Base Type = BD



BELT DRIVE



Base Mounted Pumps

HORIZONTAL DIRECT DRIVE

Maintain the installed arrangement

Record the pump model, motor, drive type and pulley ratio where fitted. Identify the actual base, coupling, guards, screenbox and metering equipment before ordering parts or making changes.

A drive change alone does not create the retained-liquid geometry of a vertical system. A conversion needs the correct support, seal arrangement, motor interface and piping.

[New vertical installations: VP System Manual, page 5](#)

[Common pump identification and parts: F-Series Pump Manual, page 5](#)

2 Installation and drive maintenance

Apply these requirements to the existing horizontal or belt-driven system.

Only qualified personnel may install, wire or service the system. Stop and isolate the drive, prevent restart, relieve trapped pressure and verify zero hazardous energy before opening equipment or removing guards. Cool hot equipment and contain product.

Any pump that is heated or pumping hot liquid should be operated with Safety Blankets properly installed. Keep belt, pulley, coupling and shaft guards installed while operating.

Support and alignment

Support the pump, motor and piping so piping loads do not move the pump or disturb alignment. Check foundations, mounting hardware and guards. Correct mounting or pipe strain before adjusting alignment.

Horizontal direct drive

Verify shaft/coupling alignment and coupling-element condition using the installed coupling specification. Isolate the drive and verify zero motion before adjustment. Refit the complete guard before starting.

Belt drive

Inspect belts and pulleys for wear and contamination. Set pulley alignment and belt tension using the installed drive specification. Excess tension adds shaft load; insufficient tension can slip. Do not apply a generic tension value to an unidentified belt set.

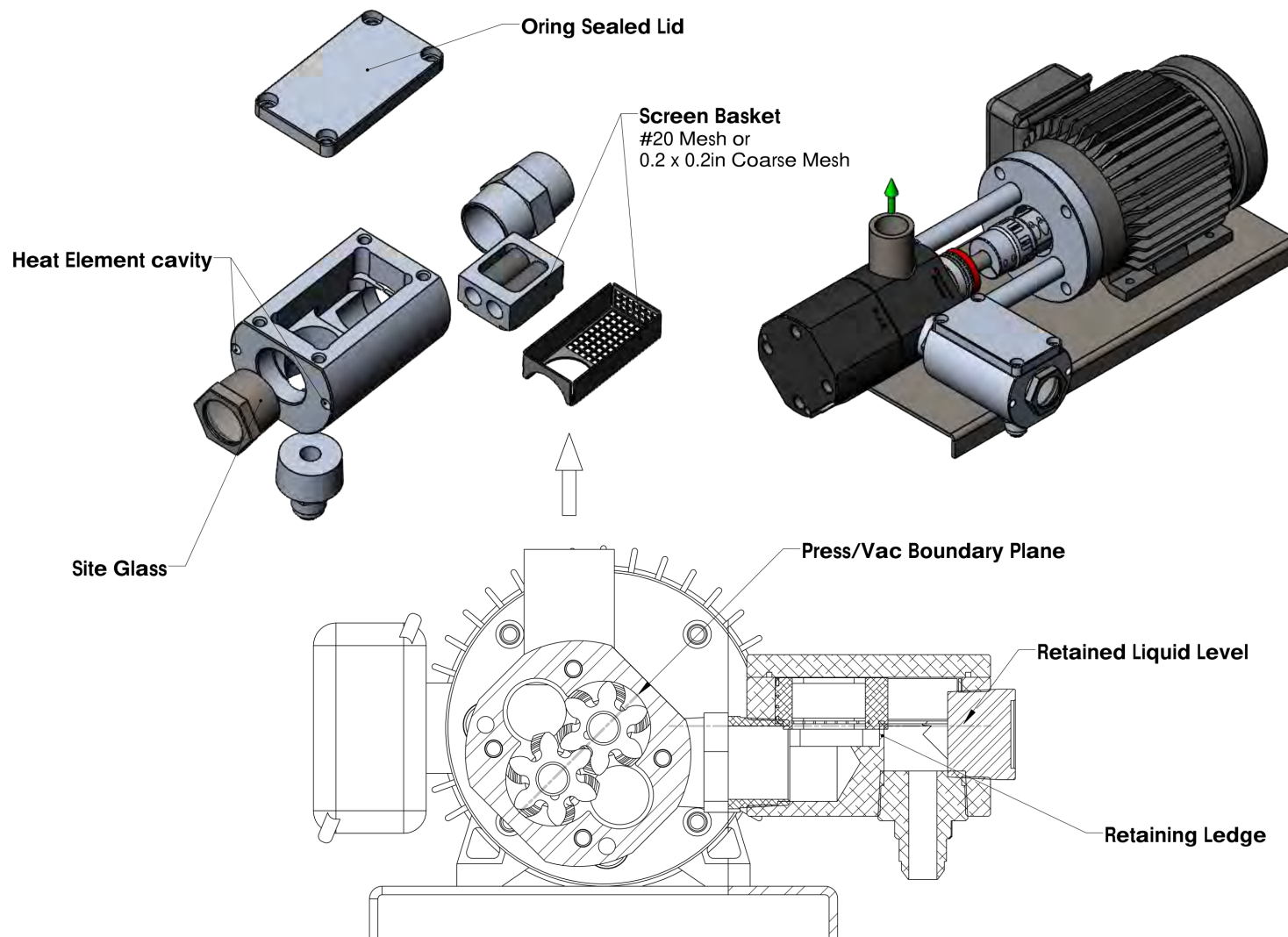
VERIFY PUMP SPEED AFTER DRIVE CHANGES

For a simple two-pulley drive, pump RPM is approximately motor RPM x motor-pulley pitch diameter / pump-pulley pitch diameter. Include any additional reduction. Keep actual pump speed at or below **1,200 RPM**.

[Pump safety, pressure protection and start-up: F-Series Pump Manual, page 4](#)

3 Screenbox and priming chamber

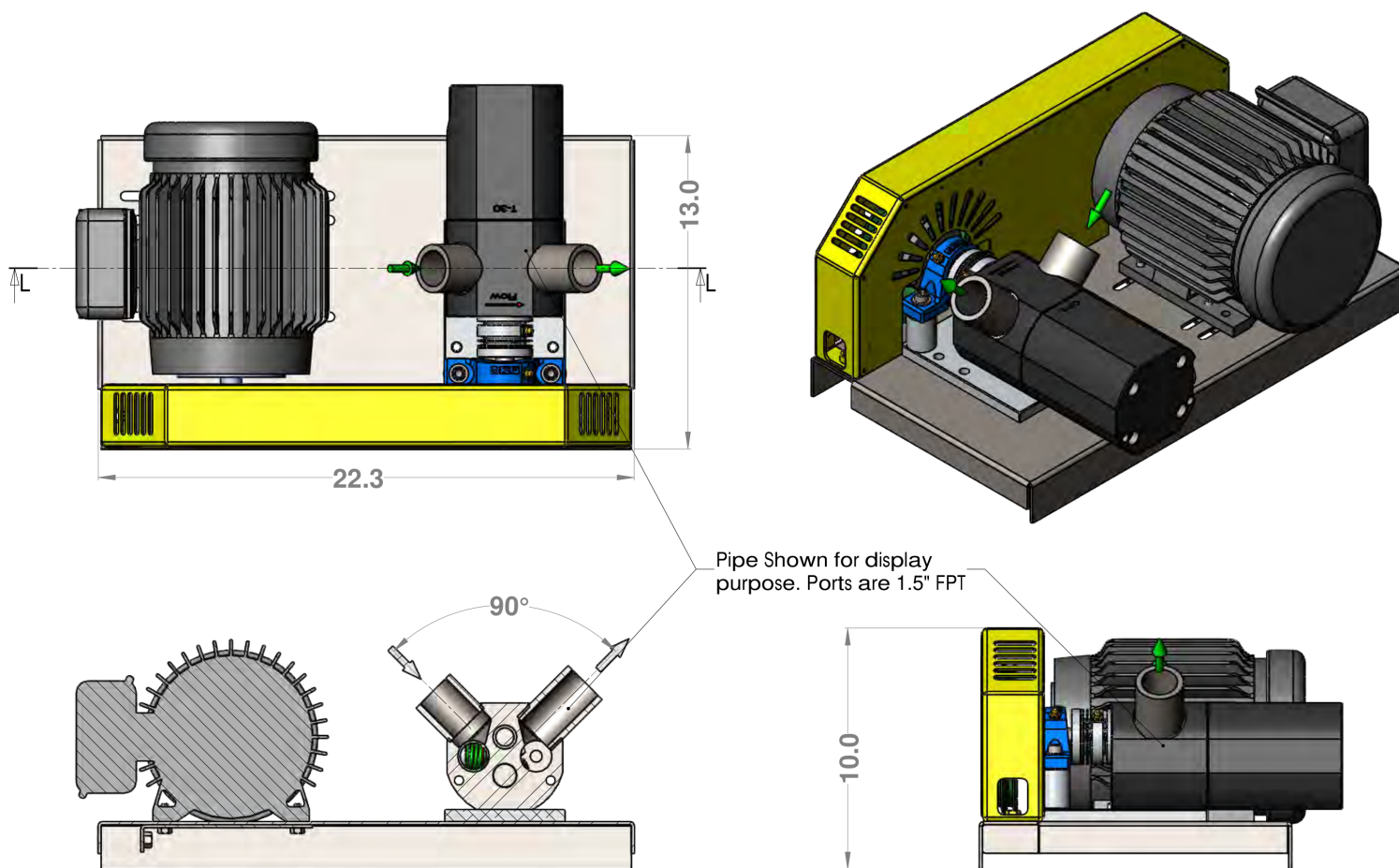
Original system arrangement for an existing horizontal installation.



Stop, isolate and depressurize before removing the lid. Clean the correct basket, inspect the O-ring and sealing faces, and restore compatible priming liquid if the pump has drained.

4 Belt-drive skid dimensions

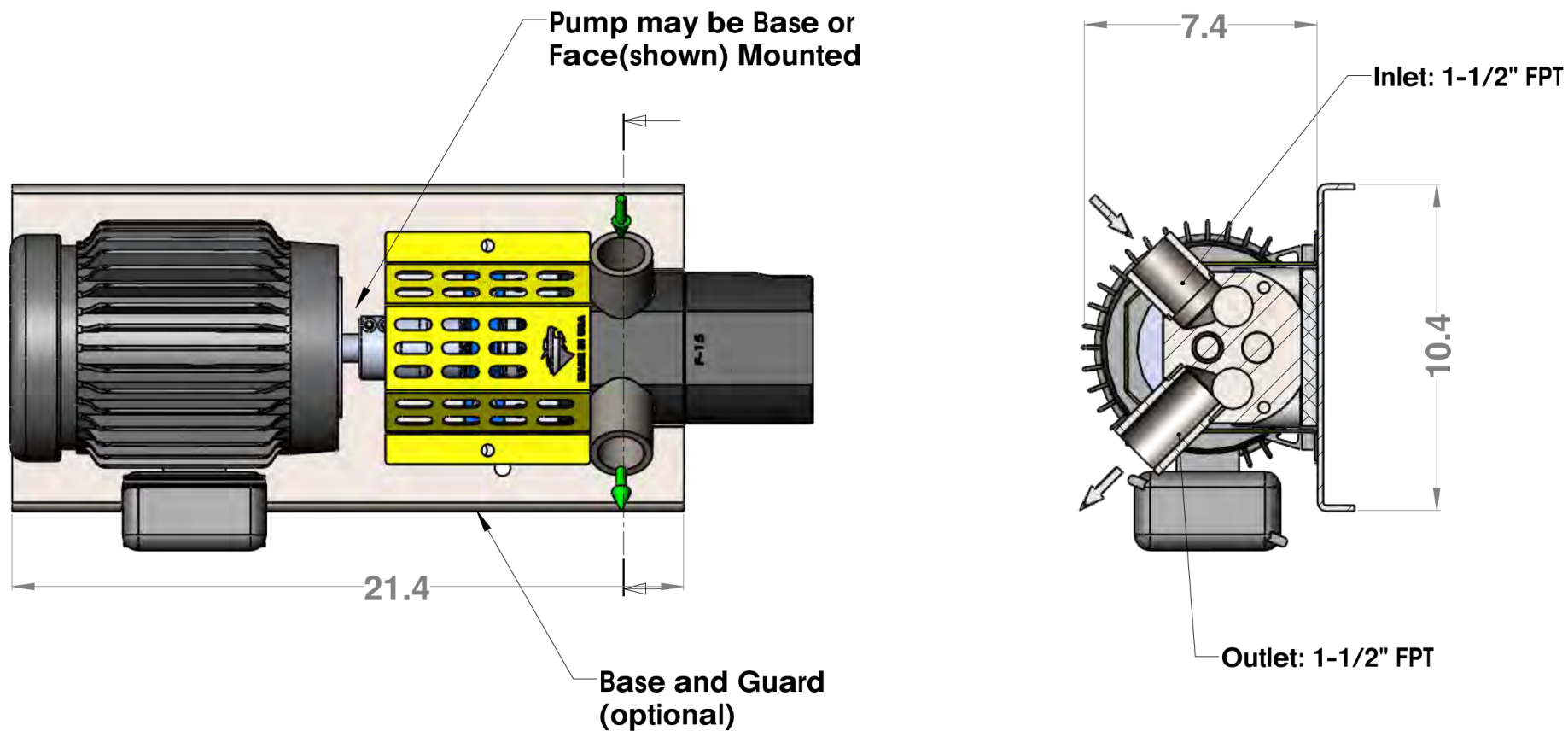
Existing belt-drive skid reference; dimensions in inches.



Confirm the installed pump, motor, pulley ratio and guarding before modifying a skid. Use the F-Series Pump Manual, pages 12-13, for the separate pump mounting dimensions.

5 Direct-coupled skid dimensions

Existing horizontal direct-coupled skid reference; dimensions in inches.



The illustrated system uses a face-mounted pump on a base. Confirm the actual mounting and supplied assembly drawing before fabricating or modifying the installation.

6 System operation and service support

Common pump service is in the F-Series Pump Manual.

Before starting

Confirm supply, valve positions, an open discharge path and suitable pressure protection. Verify the installed system is primed, the drive is aligned and all guards are in place. Apply the pump start-up checks, then start slowly and check leakage and delivery.

[Pump safety and start-up - F-Series Pump Manual, page 4](#)

Shutdown and maintenance

Stop through the installed control sequence. Isolate the drive and product supply, prevent restart, relieve pressure and contain product before service. Maintain coupling alignment or belt condition/tension as described on page 4. Use the installed meter and control instructions for their service.

[Pump parts and internal service - F-Series Pump Manual, pages 5-11](#)

[Pump dimensions and curves - F-Series Pump Manual, pages 12-16](#)

SEND PHOTOS BEFORE CALLING

Send wide, well-lit, high-resolution photos from several angles: the complete pump, drive, piping, valve positions, controls and surrounding installation. Close-ups may supplement the wide views. BearCat can zoom in; it cannot zoom out.

Include model and serial numbers, product and temperature, operating readings, when the issue occurs, what still works, and recent work or replacements. For controlled systems, include HMI/PLC versions and drive indicators.

Rev B - 2026.09.18. Retitles the former F-Series Legacy Pump Manual as the Legacy System Manual. Moves common pump parts, seals, rebuild methods, pump dimensions and curves to the F-Series Pump Manual, Rev A. Retains existing drive/skid information and the direction toward vertical systems for new equipment.