

**SF Series**

VARIOUS PATENTS APPLY

**Solids Handling Electric Motor Driven  
Submersible Pump  
Models  
SF4B & SF4B-X  
Size 4"**

The Gorman-Rupp SF Series® channel pumps provide superior pumping efficiency while maintaining a 3-inch (76,2 mm) spherical solids passage.

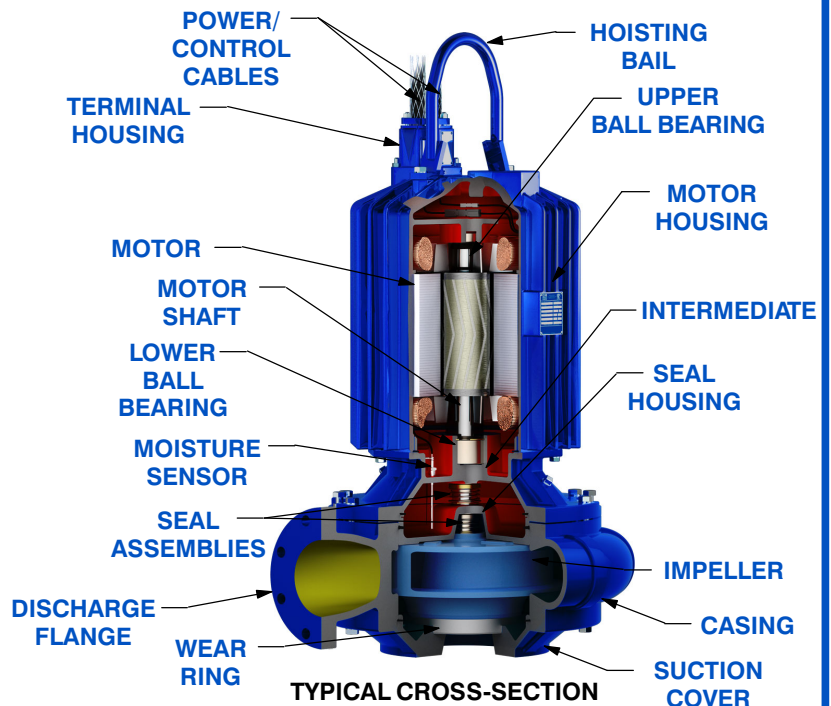
**Key Features:**

- NEMA premium efficiency motors
- Externally adjustable face clearance
- Press-fit motor with finned motor housing provides superior motor cooling, even in a submersed state, resulting in increased motor life
- NEMA Class H motor insulation
- Direct wired power cable leads
- Standard moisture detection in both the seal and motor chambers
- CSA-C/US and Factory Mutual (FM) Approved for Class I, Division I, Group C and D Haz Loc Applications (X-Proof Model)



**Optional Accessories:**

- G-R Hard Iron Impeller
- Control Panel (Consult [SF Series Motor Data Reference](#) for Customer-Supplied Control Panel)
- Submersible Transducer or Ball Type Float Switches
- Slide Rail Installation Components
  - Guide shoe <sup>w</sup>/Rubber Seal
  - Base Elbow and Rail Brackets
- Trash Stand Installation Components
  - Trash Stand
  - Discharge Elbow



**GORMAN-RUPP PUMPS**

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## PUMP DETAILS

|   |   |                                       |
|---|---|---------------------------------------|
| Pump Model  | SF4B & SF4B-X   |                                       |
| Agency Approvals                                      | Consult Factory   |                                       |
| Discharge Flange                                      | 4" ANSI w/ Flat Face  |                                       |
| Impeller Type / Material                              | Two Vane Enclosed / Ductile Iron                                |                                       |
| Wear Ring   | Ductile Iron  |                                       |
| Spherical Solids Handling                             | 3" (76 mm) Non-Deformable Diameter                              |                                       |
| Motor Housing (Including Seal Plate and Intermediate) | Gray Iron 30  |                                       |
| Pump Casing   | Ductile Iron  |                                       |
| Motor Shaft/Shaft Sleeve                              | 17-4 PH Stainless Steel   |                                       |
| O-Rings   | Buna-N and Fluorocarbon (DuPont Viton® or Equivalent)           |                                       |
| Bearings:   | Upper   | Single Row Ball/Permanent Lubrication |
| Type/Lubrication                                      | Lower   | Double Row Ball/Permanent Lubrication |
| External Hardware                                     | 303/304 Stainless Steel   |                                       |
| External Surface Protection                           | Epoxy Paint   |                                       |
| Seal Type   | Tandem, Mechanical, Oil Lubricated Upper, Self-Lubricated Lower |                                       |
| Sealing Faces:  | Upper   | Carbon/Ceramic                        |
| Rotating/Stationary                                   | Lower   | Silicon Carbide/Silicon Carbide       |
| Seal Elastomers                                       | Buna-N Upper, Fluorocarbon (DuPont Viton® or Equivalent) Lower  |                                       |
| Max. Liquid Temperature                               | 104°F (40°C)  |                                       |

## MOTOR DETAILS

|                                 |   |                                  |
|---------------------------------|---|----------------------------------|
| Speed                           | 60 Hz, 1750 RPM   |                                  |
| Motor Design                    | Inverter-Duty Rated, Air-Filled Enclosure, Squirrel Cage, Induction Start |                                  |
| Motor Efficiency Rating         | NEMA Premium Efficiency (IEC IE3)   |                                  |
| Insulation                      | Class H, Rated 356°F (180°C)  |                                  |
| Max. Submergence                | 65 Feet (20 Meters)   |                                  |
| Min. Submergence                | 1/2 Motor Covered   |                                  |
| Max. Starts per Hour            | 10  |                                  |
| Max. Rated Output Power         | 30.0HP (22,4 Kw)  | 30.0HP (22,4 kW)                 |
| Amp Draw @<br>Max. Rated Power: |   |                                  |
| Full Load/<br>Locked Rotor      | 230V/3P<br>460V/3P<br>575V/3P   | 73.2/123<br>36.6/246<br>29.3/197 |
| NEMA Motor Code                 | A   | H                                |
| Service Factor                  | 1.15  | 1.15                             |
| Efficiency: 100%/75%/50% Load   | 90%/91%/90%   | 90%/91%/90%                      |
| Power Factor: 100%/75%/50% Load | 0.83/0.78/0.67  | 0.83/0.78/0.67                   |
| Field Connection                | Across-the-Line   |                                  |
| Moisture Sensor                 | Single Probe Monitoring Both Seal and Motor Chambers                      |                                  |
| Thermal Overload                | One Thermostat per Phase, Self-Resetting                                  |                                  |

## CABLE DETAILS

|                           |  |                                   |
|---------------------------|--|-----------------------------------|
| Voltage                   | 230/460V   | 575V                              |
| No. Cables/Conductors per | 1/6  | 1/6                               |
| Gauge                     | (3) 4 AWG PWR & (3) 8 AWG GND/GC                           | (3) 8 AWG PWR & (3) 10 AWG GND/GC |
| Type/Material             | GGC/CPE  | GGC/CPE                           |
| Nominal Cable O.D.        | 1.19" (30,2mm)   | 0.91" (23,1 mm)                   |
| No. Cables/Conductors per | 1/4  |                                   |
| Gauge                     | 14 AWG   |                                   |
| Type/Material             | SOOW/CPE   |                                   |
| Nominal Cable O.D.        | 0.61" (15,5 mm)  |                                   |
| Length                    | 32 Feet (10 Meters) Standard, 164 Feet (50 Meters) Maximum |                                   |



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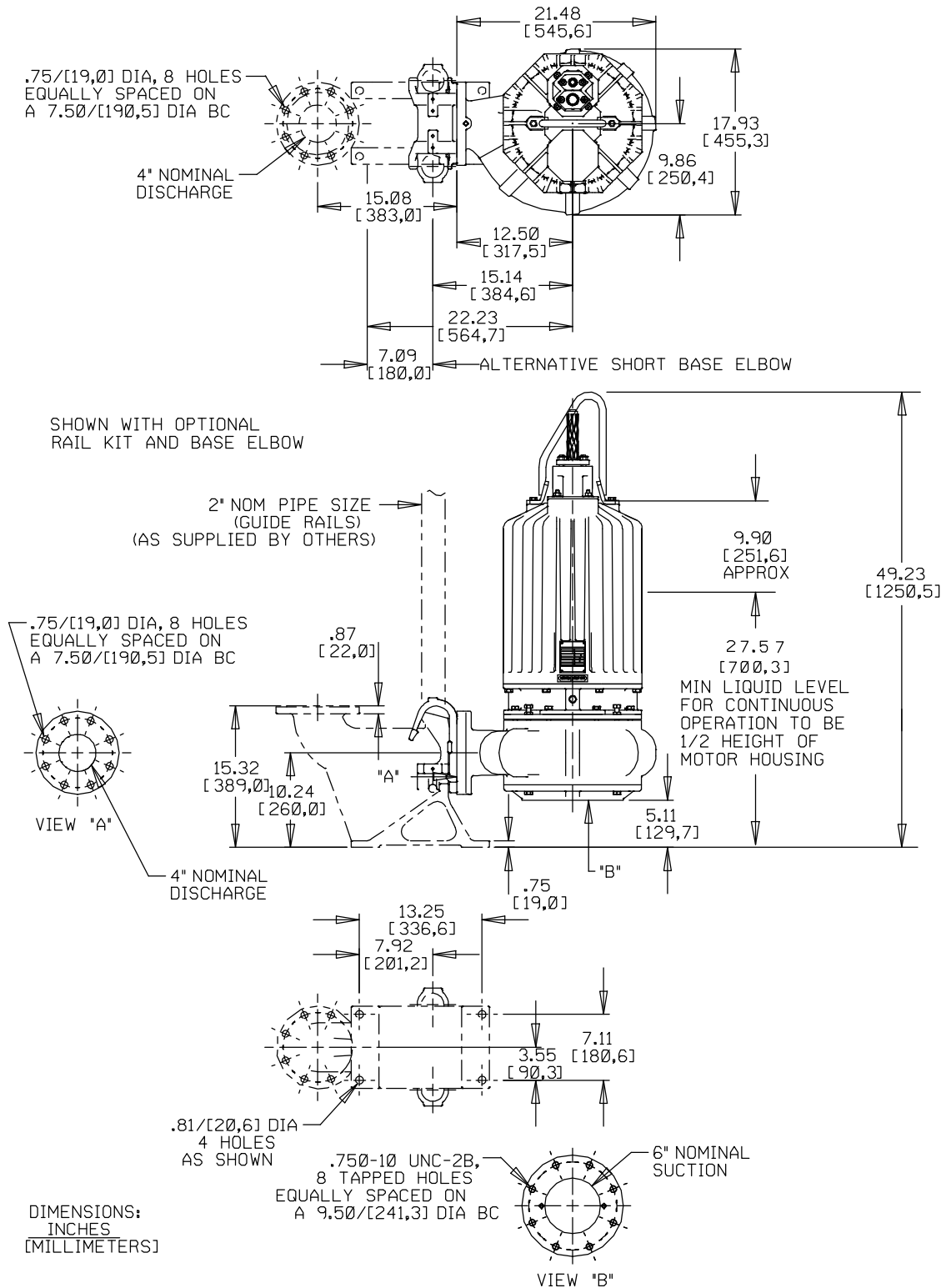
**Specification Data**

SECTION 133, PAGE 210.2

**MODEL SF4B & SF4B-X  
SLIDE RAIL VERSION  
APPROXIMATE  
DIMENSIONS and WEIGHTS**

**NET WT:** (pump only)  
(comb. cable wt. per meter [3.2 ft.])  
**SHIPPING WT:** (pump only)  
**CRATE SIZE:**

**647 LBS. [293,5 KG.]**  
**3.5 LBS. [1,6 KG.]**  
**677 LBS. [307,1 KG.]**  
**15.6 CU. FT. [0,44 CU. M.]**



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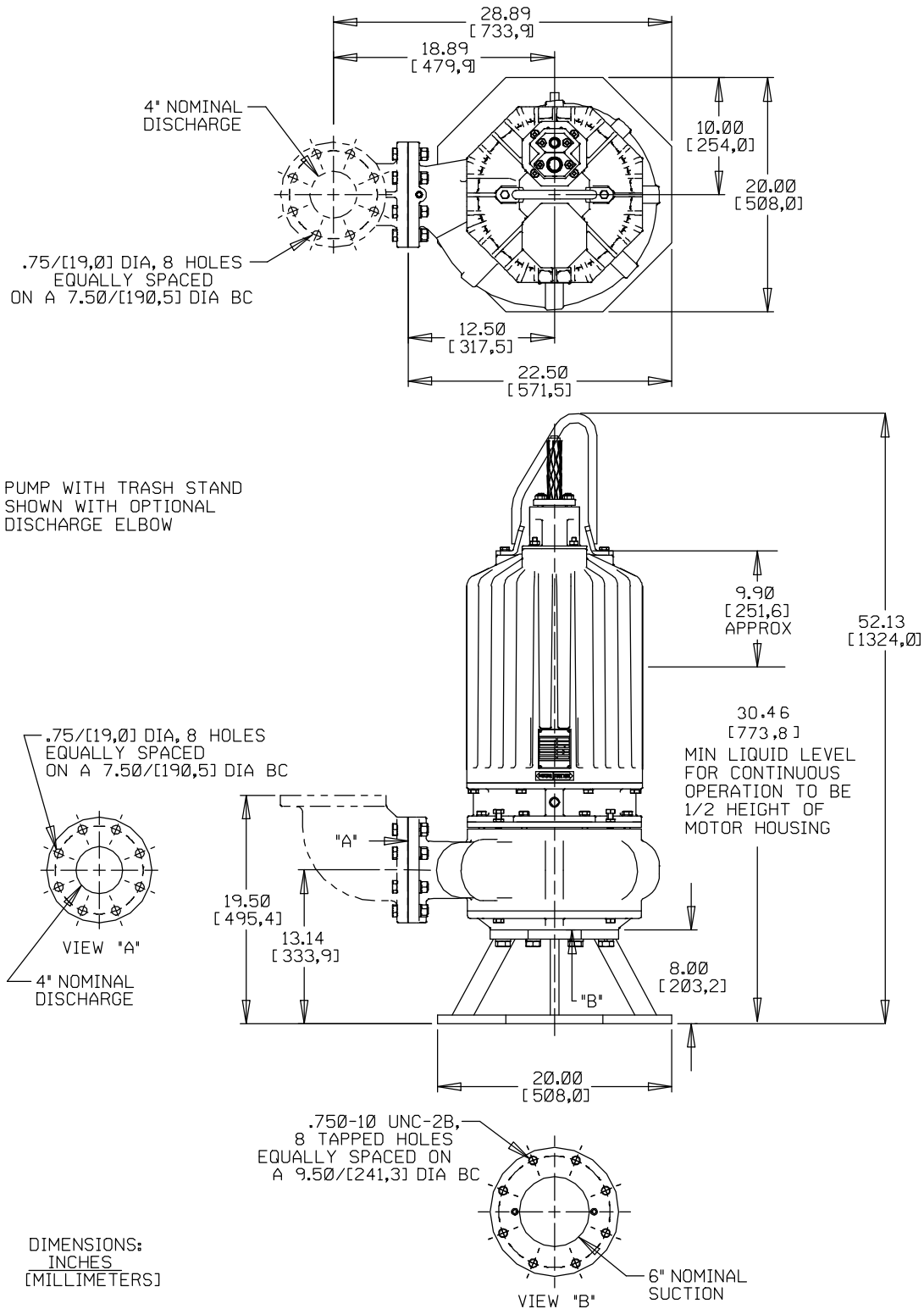
**Specification Data**

SECTION 133, PAGE 210.3

**MODEL SF4B & SF4B-X  
TRASH VERSION  
APPROXIMATE  
DIMENSIONS and WEIGHTS**

**NET WT:** (pump only)  
(comb. cable wt. per meter [3.2 ft.])  
**SHIPPING WT:** (pump only)  
**CRATE SIZE:**

**670 LBS. [303,9 KG.]**  
**3.5 LBS. [1,6 KG.]**  
**700 LBS. [317,5 KG.]**  
**17.5 CU. FT. [0,50 CU. M.]**



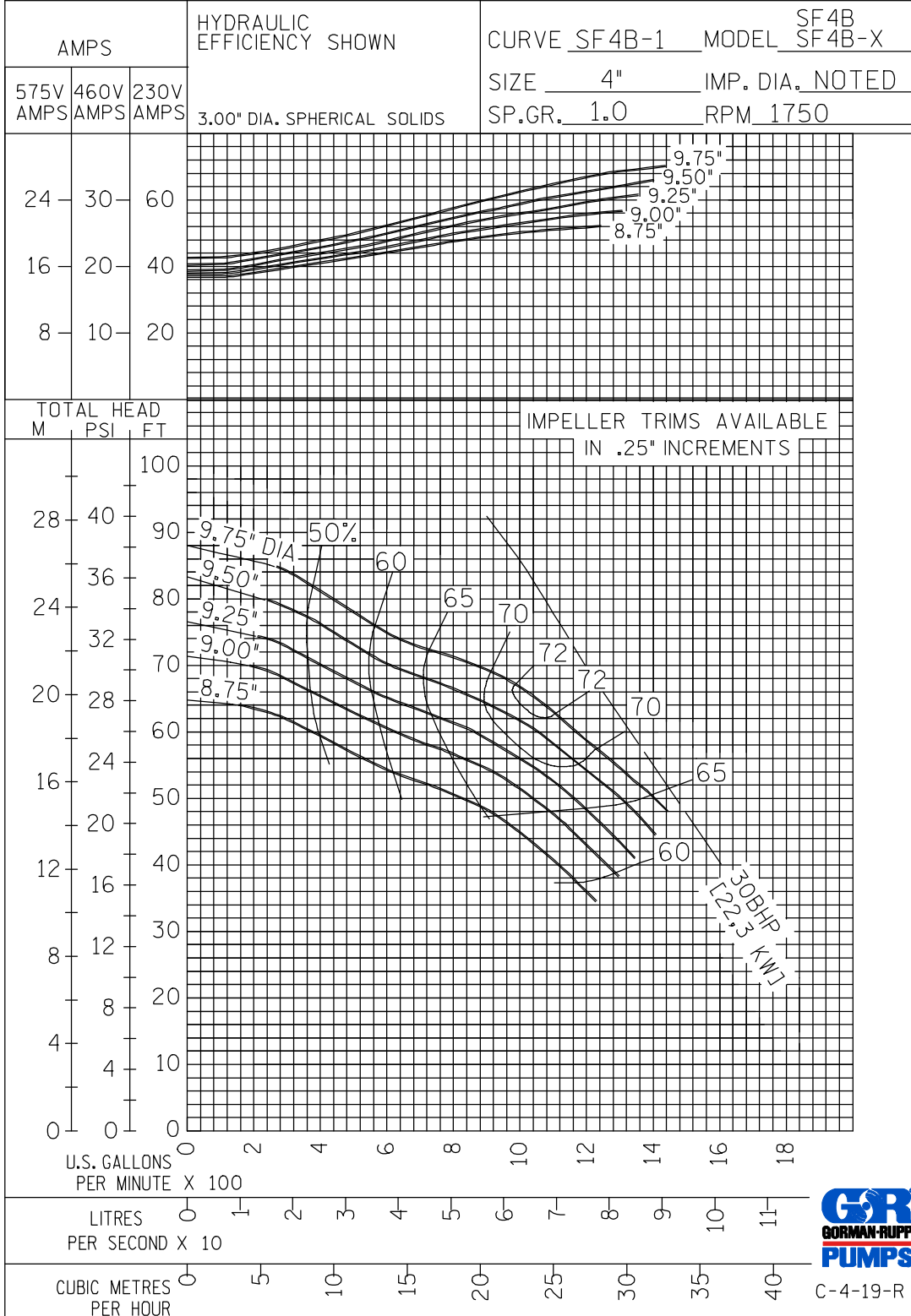
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# PERFORMANCE CURVE



C-4-19-R



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