

# SFI Series Pump - NEMA 12 | Submittal Data

Submittal No: 301-S571 | Model: SFI2009D | RPM: 3500 | HP: 20HP | TEFC | Effective: August 23, 2021 | Supersedes: NEW

JOB: \_\_\_\_\_

REPRESENTATIVE: \_\_\_\_\_

ENGINEER: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

## PRODUCT DATA

ITEM NO. \_\_\_\_\_

DOE BASIC MODEL NO. \_\_\_\_\_ SFI2009D-A-2P-PD

MODEL NO. \_\_\_\_\_ VOLTAGE \_\_\_\_\_

PEI<sub>VL</sub> \_\_\_\_\_ 0.46 \_\_\_\_\_ HI ENERGY RATING \_\_\_\_\_ 54

IMPELLER DIA. \_\_\_\_\_ WEIGHT \_\_\_\_\_

GPM \_\_\_\_\_ PUMP/MOTOR \_\_\_\_\_

HEAD/FT \_\_\_\_\_ FREQUENCY \_\_\_\_\_

RPM \_\_\_\_\_ 3500 \_\_\_\_\_ HP \_\_\_\_\_ 20 \_\_\_\_\_ PHASE \_\_\_\_\_

NSF 61 CERTIFIED YES NO

## DIMENSIONS

Model No. | 2009D

Flange Size (Suction x Discharge) | 2 ½ x 2 (64 x 51)

| HORSEPOWER |                                   | 20          |
|------------|-----------------------------------|-------------|
| TEFC       | MOTOR FRAME                       | 256T        |
|            | G MAX                             | 23.41 (594) |
|            | MAXIMUM ASSEMBLY WEIGHT LBS. (KG) | 674 (306)   |
| A          | ANSI Class 125: 4.60 (117)        |             |
|            | ANSI Class 250: 4.91 (125)        |             |
| B          | ANSI Class 125: 9.75 (248)        |             |
|            | ANSI Class 250: 10 (254)          |             |
| C          | 19.18 (487)                       |             |
| D          | 50.0 (1270)                       |             |
| E          | ANSI Class 125: 1.37 (35)         |             |
|            | ANSI Class 250: 1.06 (27)         |             |
| F          | 11.28 (287)                       |             |
| J          | ANSI Class 125: 23.29 (592)       |             |
|            | ANSI Class 250: 23.6 (599)        |             |
| K          | 17.68 (449)                       |             |
| N          | 2.00 (51)                         |             |
| P          | 46.0 (1168)                       |             |

(Dimensions are for NEMA TEFC)

50 Cycle Performance Curves attached when applicable

English dimensions are in inches. Metric dimensions are in millimeters.

Metric data is presented in ( ).

Do not use for construction purposes unless certified.

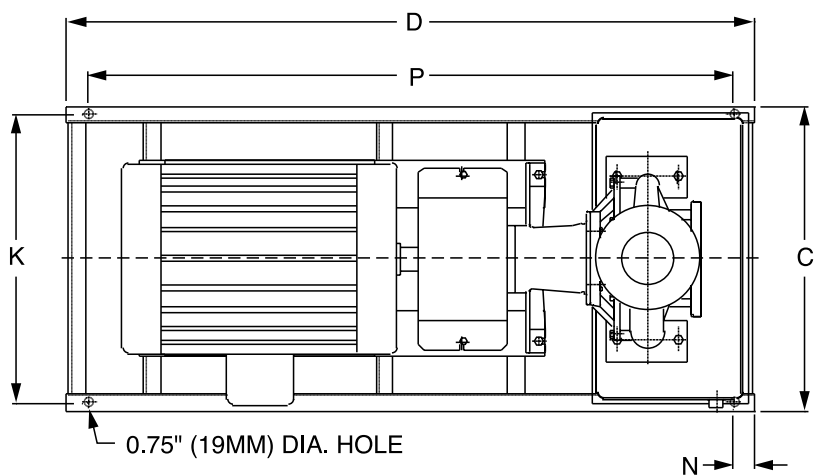
## OPERATING SPECIFICATIONS

|          | FLANGE         | PRESSURE              | TEMPERATURE   |
|----------|----------------|-----------------------|---------------|
| STANDARD | ANSI Class 125 | 175 PSIG* (1210 KPA)  | 250°F (120°C) |
| OPTIONAL | ANSI Class 250 | 300 PSIG** (2070 KPA) | 250°F (120°C) |

Motors: All NEMA Standard (T Frame)

\* In accordance with ANSI Standard B16.1 Class 125

\*\* In accordance with ANSI Standard B16.1 Class 250



| MATERIALS OF CONSTRUCTION |               |              | CASING                                    | COVER                                | IMPELLER                                | WEAR RING                   | SHAFT                                  | SHAFT SLEEVE                       | MECHANICAL SEAL                              | SEAL FLUSH LINE ASSEMBLY |
|---------------------------|---------------|--------------|-------------------------------------------|--------------------------------------|-----------------------------------------|-----------------------------|----------------------------------------|------------------------------------|----------------------------------------------|--------------------------|
| STANDARD CONSTRUCTION     | BRONZE FITTED | 125# FLANGE  | Cast Iron ASTM A48/A48M-03 Class 30A      | Cast Iron ASTM A48/A48M-03 Class 30A | Bronze ASTM B584 ALLOY C83600 or C84400 | N/A                         | Stainless Steel TYPE 416" T ASTM A582  | Bronze ASTM B584-98A C92200        | Ceramic/EPT                                  | N/A                      |
|                           |               | 250# FLANGE  | Ductile Iron ASTM A536-84 Grade 65-45-12  | Cast Iron ASTM A48/A48M-03 Class 30A | Bronze ASTM B584 ALLOY C83600 or C84400 | N/A                         | Stainless Steel TYPE 416" T ASTM A582  | Bronze ASTM B584-98A C92200        | Ceramic/EPT                                  | N/A                      |
| OPTIONAL                  |               | 125# OR 250# | N/A                                       | N/A                                  | Stainless Steel ASTM A351/A 351M-08     | Bronze ASTM B584-98A C92200 | N/A                                    | Stainless Steel TYPE 303 ASTM A276 | Tyngsten Carbide /EPT or Silicon-Carbide/EPT | Copper & Brass C3600     |
| STANDARD CONSTRUCTION     | NSF 61        | 125# FLANGE  | Cast Iron ASTM A48/A48M-03 Class 30A      | Cast Iron ASTM A48/A48M-03 Class 30A | Stainless Steel ASTM A351/A 351M-08     | N/A                         | Stainless Steel TYPE 416" T" ASTM A582 | Bronze ASTM B584-98A C92200        | Ceramic/EPT                                  | Copper & Brass C3600     |
|                           |               | 250# FLANGE  | Ductile Iron ASTM A536-84 Grade: 65-45-12 | Cast Iron ASTM A48/A48M-03 Class 30A | Stainless Steel ASTM A351/A 351M-08     | N/A                         | Stainless Steel TYPE 416" T" ASTM A582 | Bronze ASTM B584-98A C92200        | Ceramic/EPT                                  | Copper & Brass C3600     |
| OPTIONAL                  |               | 125# OR 250# | N/A                                       | N/A                                  | N/A                                     | Bronze ASTM B584-98A C92200 | N/A                                    | N/A                                | N/A                                          | N/A                      |

N/A - Not Available

DRIVE DATA

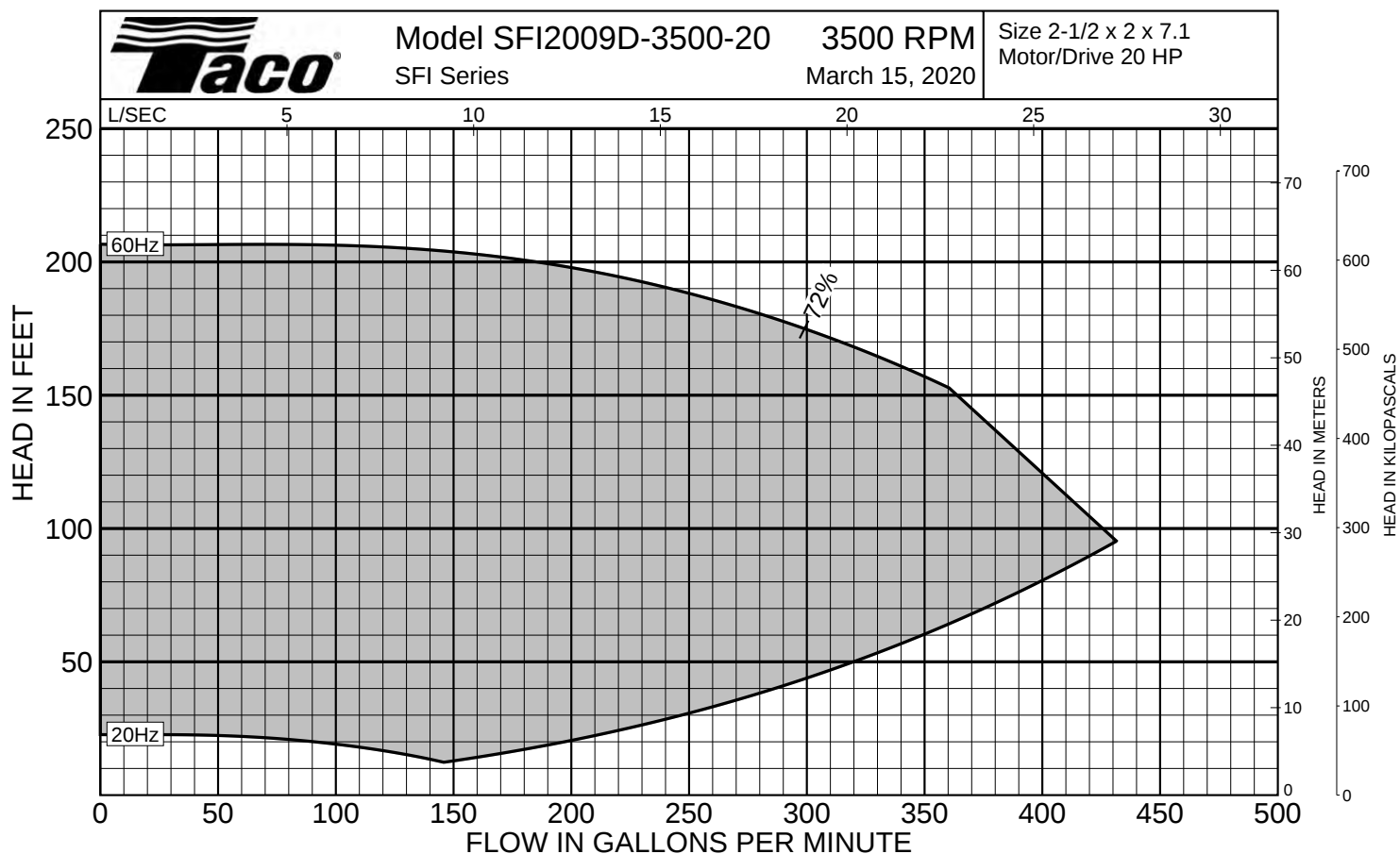
|                            |                                                                                                                                                                                                                                                                                                                                    |                     |            |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------|
| PROTOCOLS (Standard)       | BACnet, Modbus RTU, N2 Metasys, FLN Apogee, FC Protocol                                                                                                                                                                                                                                                                            |                     |            |
| PROTOCOLS (Optional)       | LonWorks®                                                                                                                                                                                                                                                                                                                          | DeviceNet           | Profibus   |
| ENCLOSURE                  | NEMA Type 12 / IP55                                                                                                                                                                                                                                                                                                                |                     |            |
| I/O (Standard)             | 6 Digital Inputs / 2 Digital Outputs<br>1 Analog Current Output / 2 Analog Inputs<br>2 Pulse Inputs<br>2 Form C Relays                                                                                                                                                                                                             |                     |            |
| ADDITIONAL CONTROL OPTIONS | None                                                                                                                                                                                                                                                                                                                               | General Purpose I/O | Relay Card |
| ELECTRICAL CONFIGURATION   | Basic (no disconnect)    Mechanical disconnect    Fused disconnect<br>2 Contactor Bypass - Drive Fusing & Main Disconnect (5kA SCCR)<br>2 Contactor Bypass - Main Fusing & Disconnect (100kA SCCR)<br>3 Contactor Bypass - Drive Fusing & Main Disconnect (5kA SCCR)<br>3 Contactor Bypass - Main Fusing & Disconnect (100kA SCCR) |                     |            |
|                            | None    General Purpose I/O    Relay Card<br>24VDC Supply    Analog I/O                                                                                                                                                                                                                                                            |                     |            |
| EMC/RFI CONTROL            | Intergated filter designed to meet EN61800-3                                                                                                                                                                                                                                                                                       |                     |            |
| HARMONIC SUPPRESSION       | Dual DC-link chokes (Equivalent: 5% AC line reactor) Supporting IEEE 519-1992 requirements                                                                                                                                                                                                                                         |                     |            |
| COOLING                    | Fan-cooled through back channel                                                                                                                                                                                                                                                                                                    |                     |            |
| AMBIENT TEMPERATURE        | -10°C to 45°C up to 1000 meters above sea level<br>-14°F to 113°F up to 3300 feet above sea level                                                                                                                                                                                                                                  |                     |            |

DRIVE DIMENSIONS

| HP RANGE            |                      |      | FRAME               | DIMENSIONS - IN (MM) |            |            |
|---------------------|----------------------|------|---------------------|----------------------|------------|------------|
| 208V                | 460V                 | 575V |                     | T                    | U          | V          |
| 1.5 (1.1) - 5 (4)   | 1.5 (1.1) - 10 (7.5) |      | WITHOUT BYPASS (A5) | 16.5 (420)           | 9.5 (242)  | 9.6 (243)  |
|                     |                      |      | WITH BYPASS (A5)    | 18.9 (478)           | 19.3 (487) | 10.3 (262) |
| 7.5 (5.5) - 15 (11) | 15 (11) - 25 (18)    |      | WITHOUT BYPASS (B1) | 18.9 (480)           | 9.5 (242)  | 12.1 (308) |
|                     |                      |      | WITH BYPASS (B1)    | 21.5 (546)           | 19.1 (485) | 12.9 (327) |
| 20 (15) - 20 (15)   | 30 (22) - 40 (30)    |      | WITHOUT BYPASS (B2) | 25.6 (650)           | 9.5 (242)  | 12.1 (308) |
|                     |                      |      | WITH BYPASS (B2)    | 28.2 (716)           | 19.1 (485) | 12.9 (327) |



COMMENTS



Curves based on Clear Water @ 60F with a Specific Gravity of 1.0