

Submittal Data

| PROJECT: | | UNIT TAG: | UNIT TAG: | | |
|-----------------|--|------------------|-----------|-------|--|
| | | TYPE OF SERVICE: | | | |
| REPRESENTATIVE: | | SUBMITTED BY: | | DATE: | |
| ENGINEER: | | APPROVED BY: | | DATE: | |
| CONTRACTOR: | | ORDER NO.: | | DATE: | |

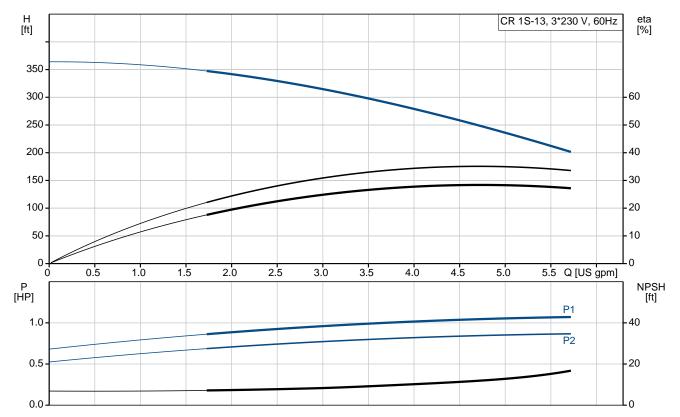


CR 1S-13 A-B-A-V-HQQV

Vertical, multistage centrifugal pump with suction and discharge ports on the same level. The pump head and base are in cast iron. All other wetted parts are in stainless steel (EN 1.4301)(AISI 304)

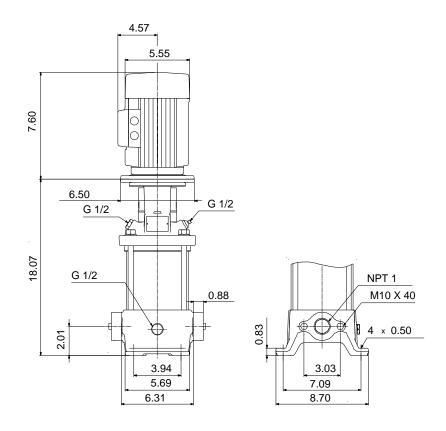
Product photo could vary from the actual product

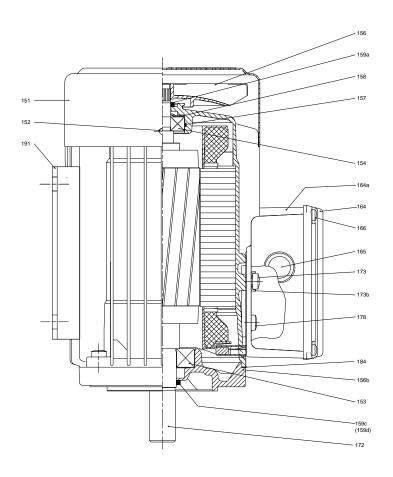
| Conditions of Service | | Pump Data Motor Da | | Data | |
|-----------------------|-------|-------------------------------------|------------------|-------------------|------------------|
| Flow: | | Max pressure at stated temperature: | 232 psi / 194 °F | Rated power - P2: | 1 HP |
| Head: | | Liquid temperature range: | -4 194 °F | Rated voltage: | 208-230YY/460Y V |
| Efficiency: | | Maximum ambient temperature: | 140 °F | Main frequency: | 60 Hz |
| Liquid: | Water | Approvals: | CURUS | Enclosure class: | 55 Dust/Jetting |
| Temperature: | 68 °F | Shaft seal: | HQQV | Insulation class: | F |
| NPSH required: | ft | Product number: | 96080968 | Motor protection: | NONE |
| Viscosity: | | | | Motor type: | 71BB |
| Specific Gravity: | 1.000 | | | Motor_efficiency: | 80.0 % |



Submittal Data







| Materials: |
|------------|
| Base: |

Impeller:

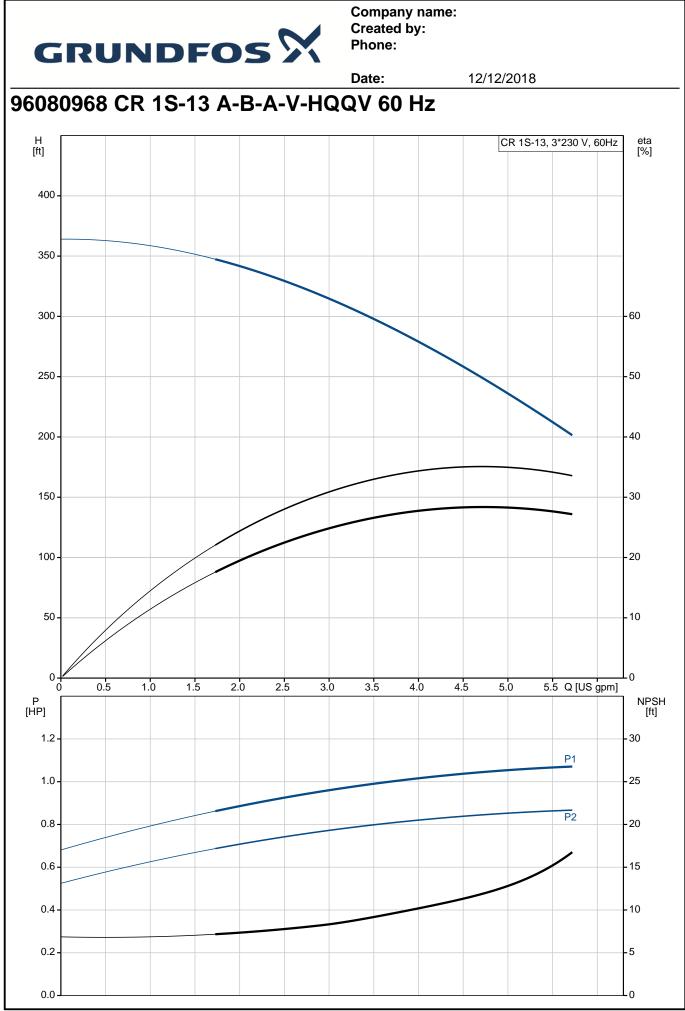
Material code: A Code for rubber: V

Cast iron EN 1561 EN-GJL-200 ASTM A48-25B Stainless steel AISI 304 EN 1.4301 A

| C | GRUNDFO | sX | Company nan Created by: Phone: | ne: | | | | |
|-------|---|---|--------------------------------------|------------|--|--|--|--|
| | | | Date: | 12/12/2018 | | | | |
| Count | Description | | | | | | | |
| 1 | CR 1S-13 A-B-A-V-HQQV | | | | | | | |
| | | | | | | | | |
| | Product No.: 96080968 Vertical, non-self-priming, multis centrifugal pump for installation | | | | | | | |
| | and mounting on a foundation. The pump has the following characteristics: - Impellers and intermediate chambers are made of - The shaft seal has assembly length according to EN 12756. - Power transmission is via cast iron split coupling. | | | | | | | |
| | The motor is a 3-phase AC mot | or. | | | | | | |
| | Controls: Frequency converter: | NONE | | | | | | |
| | Liquid: Pumped liquid: Liquid temperature range: Liquid temperature during opera Density: | | | | | | | |
| | Technical: Rated pump speed: Rated flow: Rated head: Pump orientation: Shaft seal arrangement: Code for shaft seal: Approvals on nameplate: Curve tolerance: | 3484 rpm 4.84 US gpm 243.8 ft Vertical Single HQQV CURUS ISO9906:2012 3E | 3 | | | | | |
| | | | | | | | | |
| | Materials: Base: | Cast iron EN 1561 EN-GJL ASTM A48-25B | -200 | | | | | |
| | Impeller: | Stainless steel EN 1.4301 AISI 304 | | | | | | |
| | Bearing: | SIC | | | | | | |
| | Installation: Maximum ambient temperature: Maximum operating pressure: Max pressure at stated tempera | 232 psi iture: 232 psi / 19 | | | | | | |
| | Type of connection: | 232 psi / -4 Oval / NPT(F) | ۳F | | | | | |



| 1 | | Date: | 12/12/2018 |
|---|----------------------------------|-------------------------|------------|
| + | Description | | |
| | Size of suction port: | 1 inch | |
| | Size of outlet port: | 1 inch | |
| | Pressure rating for pipe connect | | |
| | Flange size for motor: | 56C | |
| | Electrical data: | | |
| | Motor standard: | NEMA | |
| | Motor type: | 71BB | |
| | IE Efficiency class: | NEMA Premium / IE3 60Hz | |
| | Rated power - P2: | 1 HP | |
| | Power (P2) required by pump: | 1 HP | |
| | Main frequency: | 60 Hz | |
| | Rated voltage: | 3 x 208-230YY/460Y V | |
| | Service factor: | | |
| L | | 1.25 | |
| | Rated current: | 3,25-3,35/1,68 A | |
| | Starting current: | 590-650 % | |
| | Cos phi - power factor: | 0.81-0.72 | |
| | Rated speed: | 3430-3460 rpm | |
| | IE efficiency: | IE3 77,0% | |
| | Motor efficiency at full load: | 80.0 % | |
| | Motor efficiency at 3/4 load: | 79.5 % | |
| | Motor efficiency at 1/2 load: | 75.0 % | |
| | Number of poles: | 2 | |
| | Enclosure class (IEC 34-5): | 55 Dust/Jetting | |
| | Insulation class (IEC 85): | F | |
| | Others: | | |
| | Net weight: | 55.5 lb | |
| | | | |
| | Gross weight: | 66.5 lb | |
| | Shipping volume: | 6.11 ft ³ | |
| | Country of origin: | US | |
| | Custom tariff no .: | 8413.70.2040 | |
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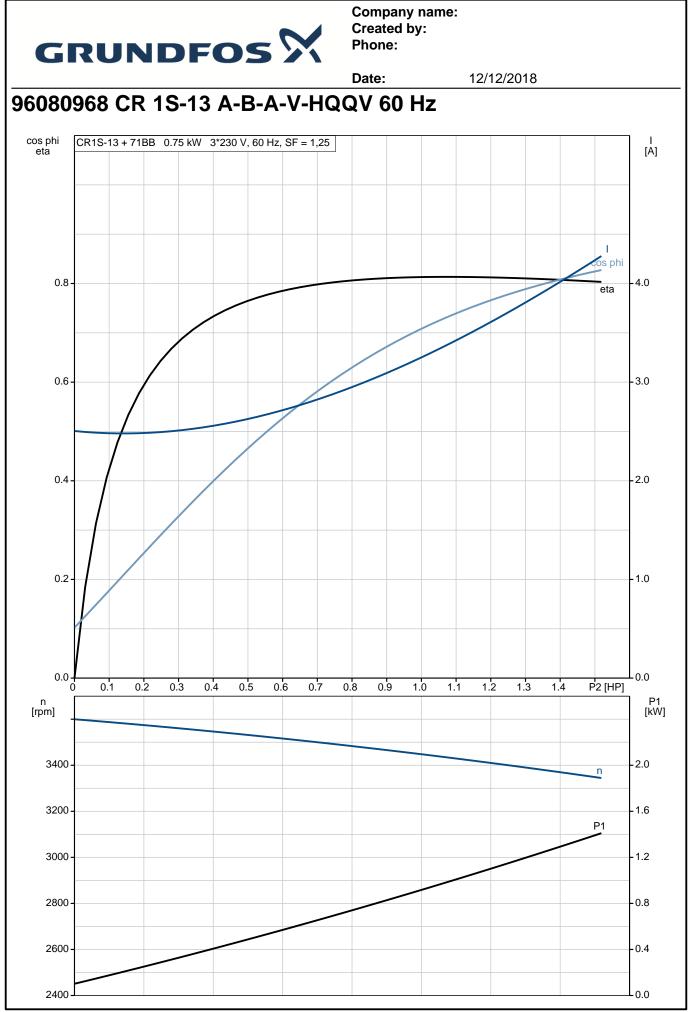
Printed from Grundfos Product Center [2018.08.000]

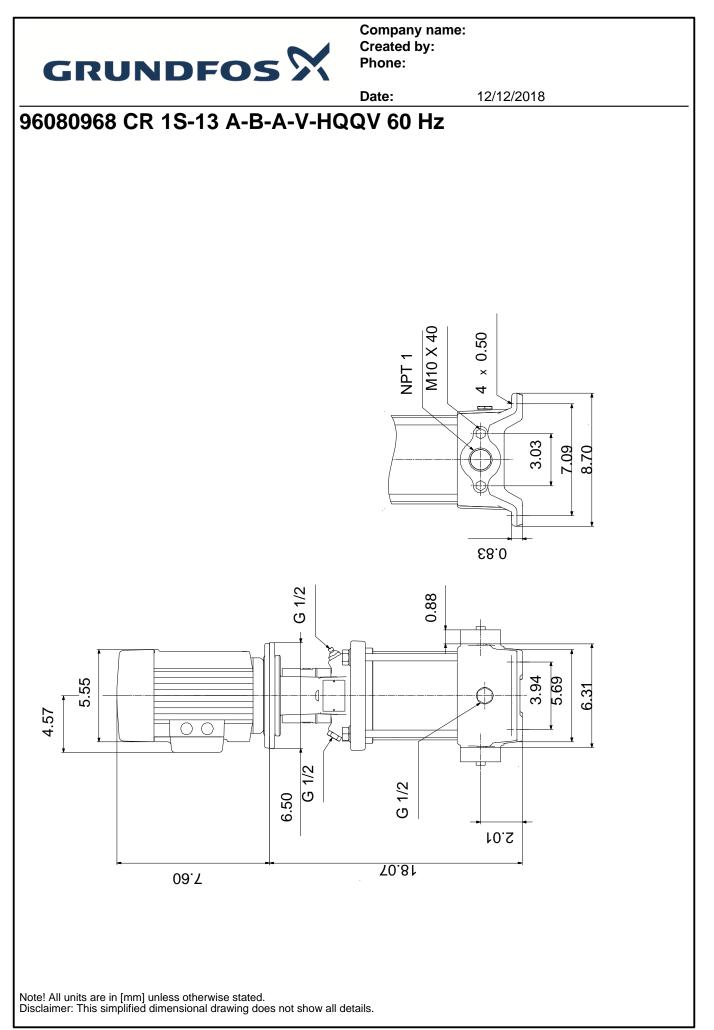


| | | Date: | 12/12 | 12/12/2018 | | |
|---------------------------------------|--------------------------|----------------------|--|-----------------|--------------|----------------|
| Description | Value | H [ft] | | CR 1S-13, 3 | *230 V, 60Hz | eta [%] |
| General information: | | 400 - | | | | |
| Product name: | CR 1S-13 A-B-A-V-HQQV | 400 | | | | 1 |
| Product No.: | 96080968 | - | | | | |
| EAN: | 5700395154269 | 350 - | | | | 1 |
| Technical: | 5700555154205 | - | | | | |
| | 2404 | 300 - | | | | - 60 |
| Rated pump speed: | 3484 rpm | _ | | | | |
| Rated flow: | 4.84 US gpm | 250 - | | | | - 50 |
| Rated head: | 243.8 ft | _ | | | | |
| Head max: | 365.5 ft | 200 - | | | | 40 |
| Stages: | 13 | 200- | | | | Γ40 |
| Impellers: | 13 | | | | | |
| Number of reduced-diameter impellers: | 0 | 150 - | | | | - 30 |
| Low NPSH: | No | 100 - | | | | 20 |
| Pump orientation: | Vertical | - | | | | |
| Shaft seal arrangement: | Single | 50 - | | | | 10 |
| Code for shaft seal: | HQQV | - ~1 // | | | | - 10 |
| | | _ | | | | |
| Approvals on nameplate: | CURUS | 0 | 1.0 1.5 2.0 2.5 | 3.0 3.5 4.0 4.5 | Q [US gpm] | L ₀ |
| Curve tolerance: | ISO9906:2012 3B | P [HP] | | | - 120 abin] | NPSH |
| Pump version: | A | [HP] | | | | [ft] |
| Model: | A | | | | P1 | |
| Cooling: | TEFC | 1.0 - | | | | - 25 |
| Materials: | | 0.8 - | | | P2 | - 20 |
| Base: | Cast iron | 0.0 | | | | 20 |
| | EN 1561 EN-GJL-200 | 0.6 | | | | - 15 |
| | ASTM A48-25B | 0.4 | | | | - 10 |
| Impeller: | Stainless steel | 0.4 | | | | Γ |
| | EN 1.4301 | 0.2 - | | | | -5 |
| | | | | | | |
| | AISI 304 | 0.0 | | | | -0 |
| Material code: | A | | 4.57 | | | |
| Code for rubber: | V | | 5.55 | | | |
| Bearing: | SIC | _ | | | | |
| Installation: | | 2.60 | | | | |
| Maximum ambient temperature: | 140 °F | ~ | <u> </u> | | | |
| Maximum operating pressure: | 232 psi | | | | | |
| Max pressure at stated temperature: | 232 psi / 194 °F | 6.50 | G 1/2 | | | |
| | 232 psi / -4 °F | - <u>G 1</u> | | | | |
| Type of connection: | Oval / NPT(F) | - · | THE R | · · | | |
| Size of suction port: | 1 inch | 6. 8 <u>G 1/2</u> | | NPT 1 | _ | |
| Size of outlet port: | 1 inch | - | | M10 X | 40 | |
| Pressure rating for pipe connection: | PN 16 | 5.01 | tt \ | | 50 | |
| | | ~ | 3.94 | 3.03 | | |
| Flange size for motor: | 56C | | <u>5.69</u> 6.31 | 7.09 | | |
| Connect code: | В | | 1 4 -4 | + 0.10 | | |
| Liquid: | | | | | | |
| Pumped liquid: | Water | _ | | | | |
| Liquid temperature range: | -4 194 °F | | | | | |
| Liquid temperature during operation: | 68 °F | | WARNING | | | |
| Density: | 62.29 lb/ft ³ | MOTOR MUST BE | GROUNDED IN ACCORDANCE VAL ELECTRICAL CODE AND | | | |
| Electrical data: | | LOCAL CODES B | VAL ELECTRICAL CODE AND / TRAINED PERSONNEL TO JS ELECTRICAL SHOCKS. | | | |
| Motor standard: | NEMA | TO SERVICE MO | OR. DISCONNECT POWER | | | |
| Motor type: | 71BB | SOURCE FROM N | IOTOR AND ANY ACCESSORY LOW MOTOR TO COME TO A | | | |
| | NEMA Premium / IE3 60Hz | LOW VOLTA | HIGH VOLTAGE | | | |
| IE Efficiency class: | | 60Hz. 208-23 | | | | |
| Rated power - P2: | 1 HP | 98 99 | 7 | | | |
| Power (P2) required by pump: | 1 HP | 3♥ 2♥ | 1● 3● 2● 1● | R | | |
| Main frequency: | 60 Hz | L3 L2 | L1 L3 L2 L1 | 3653 | | |
| Rated voltage: | 3 x 208-230YY/460Y V | | INTERCHANGE ANY TWO LINE | _ | | |
| Service factor: | 1.25 | | THERMOSTAT LEADS | <u>.</u> | | |
| Rated current: | 3,25-3,35/1,68 A | | | | | |



Date: 12/12/2018 Description Value Starting current: 590-650 % Load current: 4,0-3,9/1,95 A Cos phi - power factor: 0.81-0.72 Rated speed: 3430-3460 rpm IE efficiency: IE3 77,0% Motor efficiency at full load: 80.0 % Motor efficiency at 3/4 load: 79.5 % Motor efficiency at 1/2 load: 75.0 % Number of poles: 2 Enclosure class (IEC 34-5): 55 Dust/Jetting Insulation class (IEC 85): F Motor protection: NONE Motor Number: 85900703 Controls: NONE Frequency converter: Others: Net weight: 55.5 lb Gross weight: 66.5 lb Shipping volume: 6.11 ft³ Country of origin: US Custom tariff no .: 8413.70.2040







Date: 12/12/2018 96080968 CR 1S-13 A-B-A-V-HQQV 60 Hz WARNING \bigwedge MOTOR MUST BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES BY TRAINED PERSONNEL TO PREVENT SERIOUS ELECTRICAL SHOCKS. TO SERVICE MOTOR, DISCONNECT POWER SOURCE FROM MOTOR AND ANY ACCESSORY DEVICES AND ALLOW MOTOR TO COME TO A COMPLETE STAND STILL. **HIGH VOLTAGE** LOW VOLTAGE 60Hz: 460V 60Hz. 208-230V 50Hz: 400V 5 6 4 5⊜ 6⊜ 4⊜ 9 8⊜ 7⊜ 9 7⊜ 8 2 3⊜ 1⊜ 3⊜ 2⊜ 1⊜ 96553852 L1 L2 L3 L3 L2 L1 INTERCHANGE ANY TWO LINE WIRES TO REVERSE ROTATION THERMOSTAT LEADS 🖨 J 🌒 J (WHEN PROVIDED)