

FKL ROTOR CLEARANCE GUIDELINES

Dimensions are in millimeters (inches)

| Non-Galling Stainless Steel Rotors |                                    |                                    |                                    |                                    |                                    |                                    |
|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Standard Rotor Clearances          |                                    |                                    |                                    | High Temperature Rotor Clearances  |                                    |                                    |
| Model                              | Back Face                          | Front Face                         | Radial                             | Back Face                          | Front Face                         | Radial                             |
| 15                                 | 0.04 - 0.10<br>(0.0015" - 0.0040") | 0.05 - 0.19<br>(0.0020" - 0.0075") | 0.03 - 0.11<br>(0.0010" - 0.0045") | 0.10 - 0.15<br>(0.0040" - 0.0060") | 0.09 - 0.25<br>(0.0035" - 0.0100") | 0.06 - 0.14<br>(0.0025" - 0.0055") |
| 20                                 | 0.04 - 0.10<br>(0.0015" - 0.0040") | 0.05 - 0.19<br>(0.0020" - 0.0075") | 0.03 - 0.11<br>(0.0010" - 0.0045") | 0.10 - 0.15<br>(0.0040" - 0.0060") | 0.09 - 0.25<br>(0.0035" - 0.0100") | 0.06 - 0.14<br>(0.0025" - 0.0055") |
| 25                                 | 0.04 - 0.10<br>(0.0015" - 0.0040") | 0.05 - 0.19<br>(0.0020" - 0.0075") | 0.03 - 0.11<br>(0.0010" - 0.0045") | 0.10 - 0.15<br>(0.0040" - 0.0060") | 0.09 - 0.25<br>(0.0035" - 0.0100") | 0.06 - 0.14<br>(0.0025" - 0.0055") |
| 50                                 | 0.05 - 0.13<br>(0.0020" - 0.0050") | 0.06 - 0.22<br>(0.0025" - 0.0085") | 0.03 - 0.13<br>(0.0010" - 0.0050") | 0.11 - 0.18<br>(0.0045" - 0.0070") | 0.11 - 0.29<br>(0.0045" - 0.0115") | 0.07 - 0.17<br>(0.0030" - 0.0065") |
| 75                                 | 0.06 - 0.14<br>(0.0025" - 0.0055") | 0.08 - 0.24<br>(0.0030" - 0.0095") | 0.05 - 0.15<br>(0.0020" - 0.0060") | 0.12 - 0.19<br>(0.0045" - 0.0075") | 0.14 - 0.32<br>(0.0055" - 0.0125") | 0.10 - 0.20<br>(0.0040" - 0.0080") |
| 150                                | 0.06 - 0.14<br>(0.0025" - 0.0055") | 0.11 - 0.27<br>(0.0045" - 0.0105") | 0.06 - 0.16<br>(0.0025" - 0.0065") | 0.12 - 0.19<br>(0.0045" - 0.0075") | 0.19 - 0.37<br>(0.0075" - 0.0145") | 0.11 - 0.21<br>(0.0045" - 0.0085") |
| 205                                | 0.07 - 0.15<br>(0.0030" - 0.0060") | 0.14 - 0.30<br>(0.0055" - 0.0120") | 0.09 - 0.19<br>(0.0035" - 0.0075") | 0.13 - 0.20<br>(0.0050" - 0.0080") | 0.24 - 0.42<br>(0.0095" - 0.0165") | 0.16 - 0.26<br>(0.0065" - 0.0100") |
| 250                                | 0.07 - 0.15<br>(0.0030" - 0.0060") | 0.14 - 0.30<br>(0.0055" - 0.0120") | 0.09 - 0.19<br>(0.0035" - 0.0075") | 0.13 - 0.20<br>(0.0050" - 0.0080") | 0.24 - 0.42<br>(0.0095" - 0.0165") | 0.16 - 0.26<br>(0.0065" - 0.0100") |
| 400                                | 0.08 - 0.16<br>(0.0030" - 0.0065") | 0.14 - 0.32<br>(0.0055" - 0.0125") | 0.10 - 0.20<br>(0.0040" - 0.0080") | 0.14 - 0.21<br>(0.0055" - 0.0085") | 0.25 - 0.45<br>(0.0100" - 0.0175") | 0.18 - 0.28<br>(0.0070" - 0.0110") |
| 500                                | 0.08 - 0.16<br>(0.0030" - 0.0065") | 0.14 - 0.32<br>(0.0055" - 0.0125") | 0.10 - 0.20<br>(0.0040" - 0.0080") | 0.14 - 0.21<br>(0.0055" - 0.0085") | 0.25 - 0.45<br>(0.0100" - 0.0175") | 0.18 - 0.28<br>(0.0070" - 0.0110") |
| 580                                | 0.09 - 0.18<br>(0.0035" - 0.0070") | 0.15 - 0.34<br>(0.0060" - 0.0135") | 0.12 - 0.21<br>(0.0045" - 0.0085") | 0.16 - 0.24<br>(0.0065" - 0.0095") | 0.28 - 0.46<br>(0.0110" - 0.0180") | 0.20 - 0.30<br>(0.0080" - 0.0120") |

| 316L, 17-4 PH®, Hastelloy®, or AL-6XN® Rotors |                                    |                                    |                                    |                                    |                                    |                                    |
|-----------------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Standard Rotor Clearances                     |                                    |                                    |                                    | High Temperature Rotor Clearances  |                                    |                                    |
| Model                                         | Back Face                          | Front Face                         | Radial                             | Back Face                          | Front Face                         | Radial                             |
| 15                                            | 0.12 - 0.18<br>(0.0045" - 0.0070") | 0.11 - 0.27<br>(0.0045" - 0.0105") | 0.09 - 0.17<br>(0.0035" - 0.0065") | 0.17 - 0.23<br>(0.0065" - 0.0090") | 0.16 - 0.32<br>(0.0065" - 0.0125") | 0.13 - 0.21<br>(0.0050" - 0.0085") |
| 20                                            | 0.12 - 0.18<br>(0.0045" - 0.0070") | 0.11 - 0.27<br>(0.0045" - 0.0105") | 0.09 - 0.17<br>(0.0035" - 0.0065") | 0.17 - 0.23<br>(0.0065" - 0.0090") | 0.16 - 0.32<br>(0.0065" - 0.0125") | 0.13 - 0.21<br>(0.0050" - 0.0085") |
| 25                                            | 0.12 - 0.18<br>(0.0045" - 0.0070") | 0.11 - 0.27<br>(0.0045" - 0.0105") | 0.09 - 0.17<br>(0.0035" - 0.0065") | 0.17 - 0.23<br>(0.0065" - 0.0090") | 0.16 - 0.32<br>(0.0065" - 0.0125") | 0.13 - 0.21<br>(0.0050" - 0.0085") |
| 50                                            | 0.13 - 0.21<br>(0.0050" - 0.0085") | 0.13 - 0.31<br>(0.0050" - 0.0120") | 0.10 - 0.19<br>(0.0040" - 0.0075") | 0.18 - 0.26<br>(0.0070" - 0.0100") | 0.19 - 0.36<br>(0.0075" - 0.0140") | 0.13 - 0.22<br>(0.0050" - 0.0085") |
| 75                                            | 0.14 - 0.22<br>(0.0055" - 0.0085") | 0.16 - 0.34<br>(0.0065" - 0.0135") | 0.13 - 0.22<br>(0.0050" - 0.0085") | 0.19 - 0.27<br>(0.0075" - 0.0105") | 0.23 - 0.41<br>(0.0090" - 0.0160") | 0.18 - 0.27<br>(0.0070" - 0.0105") |
| 150                                           | 0.14 - 0.22<br>(0.0055" - 0.0085") | 0.21 - 0.39<br>(0.0085" - 0.0155") | 0.14 - 0.23<br>(0.0055" - 0.0090") | 0.19 - 0.27<br>(0.0075" - 0.0105") | 0.30 - 0.48<br>(0.0120" - 0.0190") | 0.19 - 0.28<br>(0.0075" - 0.0110") |
| 205                                           | 0.15 - 0.23<br>(0.0060" - 0.0090") | 0.26 - 0.44<br>(0.0100" - 0.0175") | 0.18 - 0.29<br>(0.0070" - 0.0115") | 0.20 - 0.28<br>(0.0080" - 0.0110") | 0.36 - 0.53<br>(0.0140" - 0.0210") | 0.23 - 0.33<br>(0.0090" - 0.0130") |
| 250                                           | 0.15 - 0.23<br>(0.0060" - 0.0090") | 0.26 - 0.44<br>(0.0100" - 0.0175") | 0.18 - 0.29<br>(0.0070" - 0.0115") | 0.20 - 0.28<br>(0.0080" - 0.0110") | 0.36 - 0.53<br>(0.0140" - 0.0210") | 0.23 - 0.33<br>(0.0090" - 0.0130") |
| 400                                           | 0.16 - 0.24<br>(0.0065" - 0.0095") | 0.28 - 0.47<br>(0.0110" - 0.0185") | 0.21 - 0.31<br>(0.0085" - 0.0120") | 0.21 - 0.29<br>(0.0085" - 0.0115") | 0.38 - 0.57<br>(0.0150" - 0.0225") | 0.25 - 0.35<br>(0.0100" - 0.0140") |
| 500                                           | N/A                                | N/A                                | N/A                                | N/A                                | N/A                                | N/A                                |
| 580                                           | 0.26 - 0.33<br>(0.0100" - 0.0130") | 0.48 - 0.63<br>(0.0185" - 0.0250") | 0.39 - 0.45<br>(0.0155" - 0.0175") | N/A                                | N/A                                | N/A                                |

| Rotors for Chocolate (All Materials) |                                    |                                    |                                    |
|--------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Model                                | Back Face                          | Front Face                         | Radial                             |
| 15                                   | 0.26 - 0.38<br>(0.0100" - 0.0150") | 0.21 - 0.49<br>(0.0085" - 0.0195") | 0.22 - 0.30<br>(0.0085" - 0.0120") |
| 20                                   | 0.26 - 0.38<br>(0.0100" - 0.0150") | 0.21 - 0.49<br>(0.0085" - 0.0195") | 0.22 - 0.30<br>(0.0085" - 0.0120") |
| 25                                   | 0.26 - 0.38<br>(0.0100" - 0.0150") | 0.21 - 0.49<br>(0.0085" - 0.0195") | 0.22 - 0.30<br>(0.0085" - 0.0120") |
| 50                                   | 0.27 - 0.41<br>(0.0105" - 0.0160") | 0.22 - 0.52<br>(0.0085" - 0.0205") | 0.25 - 0.33<br>(0.0100" - 0.0130") |
| 75                                   | 0.28 - 0.42<br>(0.0110" - 0.0165") | 0.23 - 0.53<br>(0.0090" - 0.0210") | 0.28 - 0.36<br>(0.0110" - 0.0140") |
| 150                                  | 0.28 - 0.42<br>(0.0110" - 0.0165") | 0.23 - 0.53<br>(0.0090" - 0.0210") | 0.29 - 0.37<br>(0.0115" - 0.0145") |
| 205                                  | 0.29 - 0.43<br>(0.0115" - 0.0170") | 0.27 - 0.57<br>(0.0105" - 0.0225") | 0.37 - 0.46<br>(0.0145" - 0.0180") |
| 250                                  | 0.29 - 0.43<br>(0.0115" - 0.0170") | 0.27 - 0.57<br>(0.0105" - 0.0225") | 0.37 - 0.46<br>(0.0145" - 0.0180") |
| 400                                  | 0.30 - 0.44<br>(0.0120" - 0.0175") | 0.30 - 0.62<br>(0.0120" - 0.0245") | 0.44 - 0.53<br>(0.0175" - 0.0210") |
| 500                                  | N/A                                | N/A                                | N/A                                |
| 580                                  | N/A                                | N/A                                | N/A                                |

**Note:** These clearances are provided solely as guidelines for rebuilding a pump. Clearances of new pumps or pumps rebuilt by Fristam are based on more comprehensive component measurements and validated through flow rate testing.

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