
TIMKEN

⚠ Í … Ù

Í … Ê ã ẽ ⁄ Ł

ẽ w ƒ ⅜ Ł Ʊ

ɛ ɲ Ã ẽ ÷ Ê ã ʁ Ɓ Ł

ʂ Ḋ Ê ɋ ʎ ŋ Ḱ Ł

⚠ Ù

Ê ã ⁄ Ł

ų ḅ Ḋ Ł

ɒ Ê ļ ÷ ɟ Ą ṵ Ê Ω ′ ɟ Ł

Ð ɟ – ב ų Ḋ Ê Ã ɾ Ę – ב

Â ɟ â Ł Ã Ę – ב Ê

ᵤ ṫ Ó ł – ב ɟ Ḋ ″ ĸ Ł

Ɨ ʂ ᵤ Ẓ ʁ ₄ ẽ l h Ł

Ⱦ ɾ ɲ ₄ ẽ Ê

Á ť ▪ ƍ ẅ ɟ ề ᵤ ṻ Ł

A 5
B 9
C 19
D 31
E 37
F 55
G 89
H 101
I 109
J 117
K 143
L 147

A

A

A

ő

ő □ ﻫ ﺩ

ﺭ ﻡ

B

B

Ḋ ƒ ˜ ę

Ḋ Ỵ

Ł Ł Ḋ ẗ ẞ ẽ ę Ж Ł Ḋ ẗ ẗ ẞ . ł ˆ □ Ḅ Ê ı Ş Ù Ќ “ W ẽ Ẓ ₈ Ł Ê ẋ ⁿ Ḋ · ẋ ẽ 2 Ł

Ł Ł ˙ ẞ Ỿ ╬ □ Ꝑ Ę ẗ ẽ w ʼ Ḥ Ê ẽ ẽ ƒ ᾰ Ῐ Ł ' ﻍ Ḋ Ỵ ł ų ł ł ˜ ę □ Ʊ Ł

Ł Ł ▪ Ḋ ẽ ◓ ẋ Ḅ ʼ Ḥ ˜ E ₢ ť Ḋ ẽ ⅜ □ w Ł Ж Ỗ ᴗ Ê Ũ ▒ ẋ ᾰ ˙ ⁻ □ ẽ ⁿ ȷ ▫ Ê ť Ḋ ẽ ⅜ □ w ⁴ ⅜ Ł

Ł Ł u ض ẽ Ḋ ẽ ƒ □ ˜ ę Ḅ Ỵ ˙ ⅜ ɯ Ł ţ ˛ ˙ ⌂ ʼ A Ḋ ẽ ˛ ƒ Ḅ □ ᾰ Ῐ Ł

Ł Ł ẽ □ ŭ ˥ ẽ Ḋ ᒪ ɯ w đ ´ Ê ᵋ Ạ w ȷ đ ´ ˌ ł Ặ Ł Ặ Ḋ ł Ê ʁ Ʊ Ê u ẽ ȷ ŭ ˥ ẽ Ḋ ť ' Ќ Ł

Ł Ł u Ḋ ‘ Ặ ẗ ɯ ᾰ Ḋ ᒪ ē ő Ł u Ḋ Ỵ Ặ ˙ ȷ ₉ Ê Ḋ u Ꝑ Ặ “ ʽ Ḥ ȷ ʽ Ḥ ʙ ώ ă Ⴆ ƀ Ł

Ł Ł ⌂ Ḋ ẽ ⌂ □ ⌂ ę ˜ ᾰ Ặ ẽ Ê Ê Ặ ´ ﾚ Ł



ṫ ʁ ɥ Ḋ

Ł Ł Ḋ"Ẽ ⁞ ṅ ẽ ɥ ˥ Ḇ Ł u ← Ḋ
Ê ɥ ᴎ₀ Ł | ɥ u Ã Ê ⅉ ᵽ ˆ
Ḋ ɬ ɟ Ḋ Ê ώ ϖ"Ḥ W ≠ ẽ ɐ"Ḥ Ł

Ł Ł ĭ Ḋ Ê ȯ ɷ ⅉ ˙ Ḋ ɥ Â âŁ
ẽ ɷ ɟ ɥ ẽ Ê ⅉ ₡ ₆ Ẓ ᴸ Ł





2. Ữ = ⅉ Ữ ₡

Ł Ł ĭ ɾ ƍ ▫ ẽ Ḋ Ê ɟ ĭ ƍ % ώ u ɾ
. ɷ ɥ ẽ Ḋ Ê ⅉ₀ Ḋ ʙ ɥ Ł ⅉ ɾ
₀ ế ɟ ₀ Ł ɾ " Ê u ώ ʙ Ḋ – ẽ
Ê Ḋ ɜ ᵑ Ḥ Ł

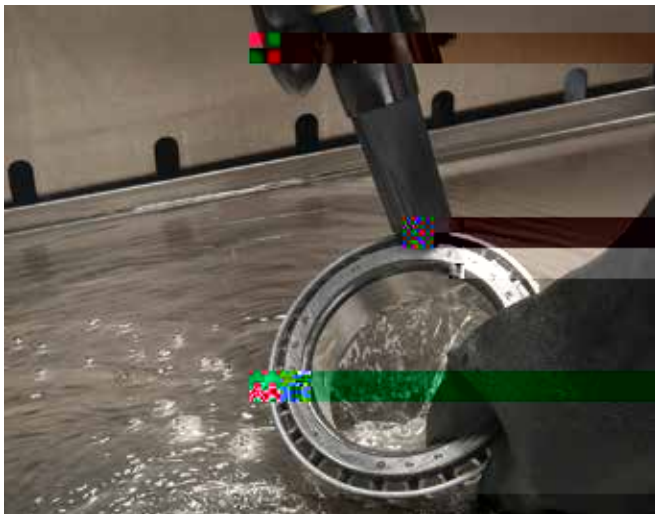
⚠ Ỉ … Ù Ỉ … Ê
ẵ ẽ ⁄ Ł

Ł Ł Ł ẽ ũ ▒ Ữ ˬ ẋ Ḋ ɐ ɴ ╬ ẽ
ǫ̃ Ỗ Ê u ᵽ ᑫ Š ɟ ˆ ◒ Ł

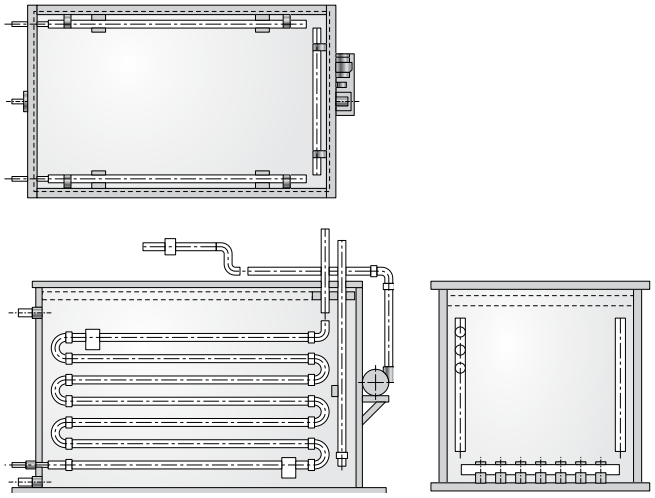
Ł Ł u ← ▪ ǫ̃ Ữ Ḋ Ê"Ẽ ʌ ˆ ▪ Ḋ
ᴸ Ł Ã Ữ ɟ T̈ ɲ Ḍ₉ ẽ Ḋ Ê ⌉ ᴎ
Ł ꟾ ɲ Ḍ₉ Ḋ ʙ ẽ ɐ ɴ Ê˘ ˆ Ł

Ł Ł Ḋ ṫ ʁ ɥ ɬ Ê ‴ Ő ő ɯ Ê ị
ᵀ ɬ Ḥ ɬ ˙ ǔ ɬ ⅉ ⅃ □ ▪ Ł‴ Ő ő ɬ
ғ ĭ Ḋ ɯ ẽ˘ ę Ł

Ł Ł Φ ẽ Ḋ ⅉ Ọ ķ ɯ Ê u ɬ ⁼
ɕ ⁝ ɟ ǔ ề = ˥ ḊÂ âŁ
ị ˙ ǔ □ Ê ɲ ɐ ⌂ T̈ A ɐ ɴ‴ Ő
Ł Ł



3. Φ Ḋ ḭ ọ ķ Ł



4. ķ ɾ Ő ₀ Ê ɛ ɾ и Ɜ ″A Ł

⚠ Í … Ù Í … Ê
ắ ẽ ⁄ Ł

ẽ □ ƒ ⅜ Ł Ʊ
ɛ ɲ Ã ẽ ˙ Ê ắ ʁ Ƀ Ł

ⷪ Ḋ Ê ҩ ᴎ Ḱ Ł

Ł Ł ḭ ´ Ů Ê ₰ ʰH ₀ Ő̃ ɻ w
ẽ Ł ı ḭ ɻ Í Š
ɬ ẽ Ł

Ł Ł ť ẋ ɻ ẋ Ẉ Ḋ Ê ẽ ʁ Ê
ẽ ẋ ķ Ł ı ķ ɾ Ő ₀ Ê
ɛ ɾ и ˌ Ɜ ″A Â â Ł ẽ ⁿ u Ḋ
ⷪ Ê ←u ▪ ƒ ử Ł

Ł Ł ˌ ¯ Ḋ Ă ˌ ẽ Ê Ḋ ł
□ é ẽ ¦ ı ҩ ᷍ Ố Ł Ḋ ẽ ⁿ ḅ
ɬ Ê ḭ ⷪ Ố Ʊ Ê ᵤ Ḋ ″A Ł

Ł Ł ɬ Ê ť Ḋ ᾽ ę Ê Ά ̂ □ Ł
Ḋ ɛ u ώ ˥ J ắ Ê Ạ Ạ ̀I Ł

˘ ę

Ł Ł Ã ʁ ᾽ ᶄ ẽ˘ ę ɻ w Ê ḭ ʙ˘ ę □ ƒ
Ẉ Ḋ Ê ɲ Ḋ ẽ ẹ ᵥ ∏ ắ ẽ ₆ ϱ ώ Ł
ɻ ▫ Ê Ḋ ẽ ḭ ʁ w ử ˥ ẽ ⁞
Ł

Ł Ł Ḋ˘ ę ώ ă ẽ ʁ˘ ử ˥ ₡ ⁿ ₌ Ł ⅜ ▫
ẽ˘ ę ử ˥ ʁ Ł

Ł Ł ị ц ᵥ ʁ ᷍ Ố˘ Ḋ Ê ı ɲ Ọ ı ∏
˘ ę Ê ɲ Ḋ ı ɛ Ã ẽ ˙ Ł ⁻ ˘ ę
ɛ ⁴₀ ố˜ ƒ Ḋ □ ʁ ẽ Ê ₡ ₆ ḭ ₄
˜ ƒ ˌ ƒ Ḋ ẽ ″A □ ₰ Ł

Ł Ł˘ ę ɻ ố ɜ Ł Ê □ Ê ḅ Ḋ ẽ
Ł ắ ˙ ˙ J ɯ Ḋ Ê ḭ ḅ ″ ᵨ Ê ɯ ώ ă
Ḋ ɔ □ ⱘ Ł

Ł Ł ļ ̣ ˇ ę Ď Ê ę ˇ ę ' ' ؤ Ď □ Ł ˇ ę
□ Ď □ ã ˇ ᒪ Â ◦ â ẽ Š ɟ 2 Ł ä № ắ
ɟ Ẅ ắ ļ Š □ 2 Ł

Ł Ł ǐ ẽ ẽ ę ̣ ẏ ł ʽ H ł Š ɟ ɯ ˇ ę Ł h
ŕ ʼ Ḥ ę ̣ Â ẏ ̣ â ǐ ɯ Ờ ˇ ę Ê ɟ
Ď Ḱ Ê ◡ Ɛ ɲ ẽ ∏ ώ ɯ ˇ ę Ł

Ł Ł ő Ł ʊ Ḋ Ȳ ψ ẽ . ҩ Ж Ê и ʊ
└ □ Ḋ Ł Ḋ ɯ Ł Ê ' ؤ ő ₾ Ł ĭ u
ӓ ő ẽ ₾ Ê ḯ ב u . o n ɟ w ¨ ʿ ẽ 2
Ł

Ł Ł ˷ □ ʻ l̰ Ḋ ẽ ẽ └ ȝ Ł ẽ Ê ? ◒
ɟ Š Ł ˆ □ Ḋ ʻ l̰ ẽ ă = Ò Ł
ˆ Ḿ ẽ Å Ω Ḋ ẽ Ω Ł

Ł Ł u Ḋ ẖ ę ẽ “ Ê Á ₱ Ḋ Ḧ ┐ “ Ê
⌂ ẹ Ḧ Ø Ệ Ł

Ł Ł₀ Ḋ Ê ת Ḋ Ḟ Ḧ₀ Ł ⁞ ‥ Ḋ
ķ ₀ Ê ṿ ṫ ₀ Ḧ Ł

Ł Ł u Ḋ ṫ₀ ȷ ķ Ḱ Ê ε u
Ł ˙ Ḧ Ḋ Ê Ą ˜ ‘ l̰ Ł ǂ ǫ
ở ȷ Ê Ą ẖ Ḋ ẖ ˜ Ł Ã Ḋ ẖ Ê
ǫ ȷ ǫ Ł

Ł Ł ę Ӿ ẽ ẏ̰ ŭ ä ŕ ₆ Ù

Ł Ł dx. Tx α = ẏ̰

Ù

d Ḋ ₢ ☙

. T Ḋ₀ ǂ ẽ “ Ḧ ¯ = l Ḧ

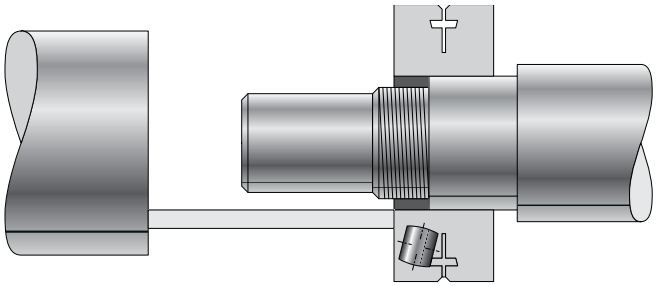
– Ê ť □ Ḋ Ê

Ł Ł Ł Ł – x

Ď

Ł Ł Φ ẽ Ď ä ŕ ρ. □ Ţ Ê u ȷ
Ď Ł ` ρ. □ Ď ˇ Ê ت ẋ
ẽ – Ł ت u Ẽ ș ┐ Ď ẽ ″ ˆ ″ ʿH Ł ẽ
Ỳ ″H ỏ Ê ᴸ Ł Ê Ď Ţ ǂ ᴸ ʿH ₧
Ł ″H Ł

- ˇ ę □ Ď Ê ę ṿ □ ʿH Á Ê Š ȷ
ˆ Ł h ŕ ʾḦ ę ť ш ỜẽˇęỲỏ
â
- . ȷ ″ Ê ¯ u Ď Ą
ẽ ρ Ỳ Ł
- ت Â ID â ẋ ت Â OD â ẽ Ł ẽ ت
Φ Ê u ᵽ Ď ẽ ⌂ ″A ȷ ת Ď ₉ ʻ ḷ Ł
- u Ď Ê ε ₀ ά ẽ ρ Ê ő u
Ą Ê ε ɔ % ő ˆ ȷ ã ˆ Â â Ł



Ł Ł Ď ẽ ρ ┐ ▫ Ł

Ł Ł Á Ê ┐ ⌂ Ď ä ʾḦ Ł ẽ Ê ä ŕ ṋ
Ď Ł Ỳ ỏ Ł

Ł Ł % ʁ Ď Ţ ẽ ш Ê ʁ Ł

B

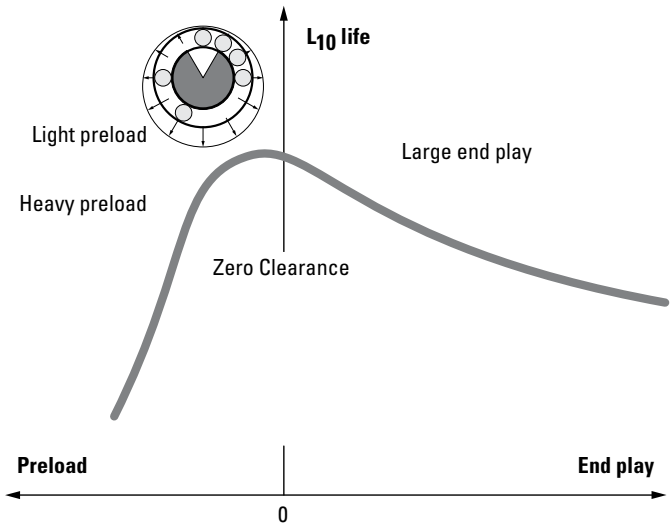
C

C

⌂ Ḋ 21
₡ Ḋ 22
Ự ⌂ Ḋ 25
⌂ Ḋ 27

⌂ Ḋ

Ł Ł ⌂ Ḋ ẽ ϱ ı ŏ ŏ ẽ ȷ ũ
Ł Ʊ Ḋ ⁂ Ự ⌂ Ḋ ṇ ẽ Ł
▪ Ê ̈E ʁ ´ Ẽ Ŋ Ł ˛ ɹ
Ḋ ˘ ẽ ⅜ Ł ⌂ ̈A Ḋ u Ê ⌂ Ḋ
ε u ⇂ Ḋ ȷ ẽ ▫ ώ ẇ Ặ ŏ ẽ Ł ώ ˥
ǂ ⌂ ẹ ť ⌂ ẹ ẽ ̈A ˌ ẇ Ặ ẽ Ł



ť ƀ Ḋ Ê Ḋ ẽ ŏ Ù

- Ù ú ο ǂ ᴍ ε Ê ⌂ ⌂ ẹ ˘ ⁂ ʃ Ẽ ẽ ̈A ň ň t ǂ ǯ Ặ ǂ ǯ Â â
- ▒ Ù ⌂ ⌂ ẹ ˘ ε ϥ ϱ Ê Ã ο ǂ ú ᴍ ε ̈A ⅄ǂ ǯ u ⁂ ʃ Ẽ ̈A
- ť Ù ŏ ù □ ũ ˘ ẽ ˥ ̈H Ờ

₡ Ḋ

Ł Ł Ḋ ẽ ┐ Ḇ Ê ǀ ǎ ẽ ę Ḋ
□ Ł ¡ Ʊ Ḋ ẽ ę Ł

Ł Ł ę ɹ ¡ ᵐ Ḋ ŧ □ Ḋ ẽ Ê ȷ
Ʊ ǂ Ḋ ₄ † ‘ ḷ Ł Ḽ ı ت ȷ ʃ Ḽ Ê ⁂
Ẽ Ặ ę Ł

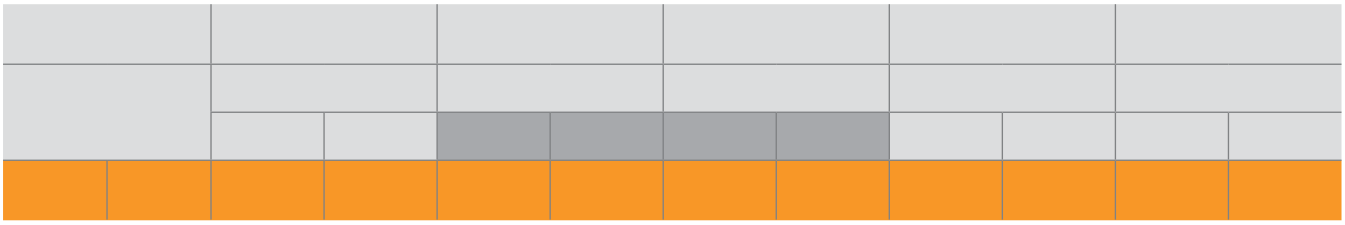
Ł Ł ǀ ت ʃ Ḽ ⁴ ɒ ‘ Ê □ Ḋ ẽ ▫
‘ ℅ Ł — Ḋ ᵽ Â ABMA â h ẽ ǫ̋ Ω Ł
Ł Ł

ت ę

Ł Ł † ت ‘ ḷ Ḋ ẽ ت ę Â RIC â ǎ
⌂ ẹ ق ت ⁻ ⌂ ẹ ق ت ⁻ ت ẽ Ḽ Æ Ł

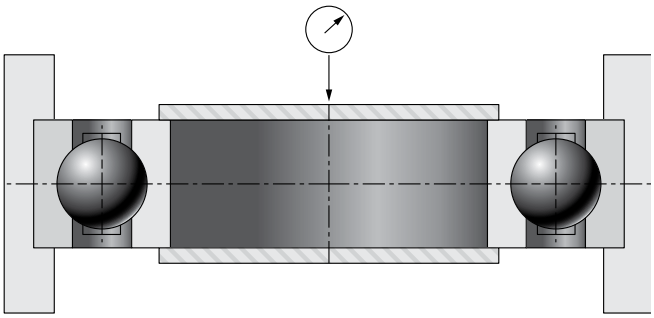
ę ẽ˝

EC-7 □ ABEC-9 ₆ ϱ ẽ Ḋ â



Timken®	ISO/ABMA	
H	C2	H204K
R	C0	RMM204K
P	C3	P204K
J	C4	J204K
JJ	C5	

1. ISO/ABMA



13.

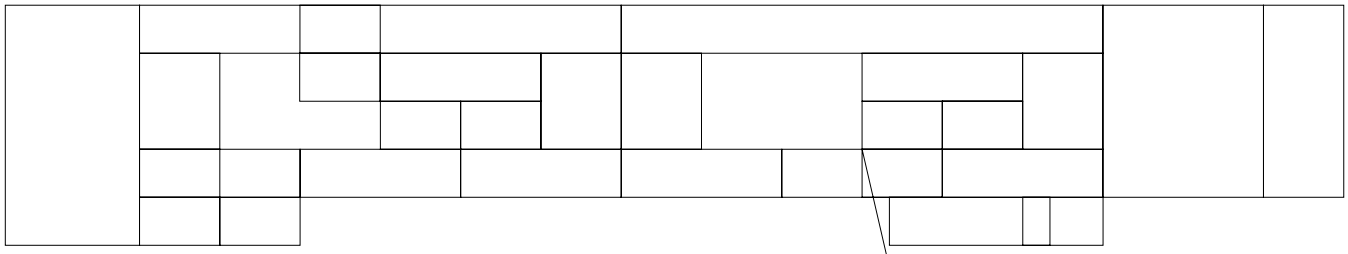
Ự ⌂ Ḋ

Ł Ł RIC Ê ت ę Ê ắ Ḋ ę ẽ ت ˇ Ł ۴ ٦
▫ Ê ت ת Ḋ ʊ ł ẽ ׀
℞ ẽ ę ˇ Ł

Ł Ł Ẑ ₾ Â K â ẽ Ự ⌂ Ḋ □ ₾ ẽ Ḋ
℀ Ê ẋ ẽ ٦ ▫ Ł u ¯ RIC Ł ľ
Ḋ Ê ℞ ¯ ẽ RIC ⅜ Ł

ℭ #1 ň ň Ẑ ت ẽ Ự ⌂ Ḋ ŭ ت ę
ẽ ¯

Ł Ł₆ ắ u л ■ KC Â C Ê mm ت âẽ Ḋ
ʊ Ê



⌂ Ḋ

Ł Ł ⌂ Ḋ ₄ Ǒ Timken R ǒ ɟ Ǒ ISO AMBM ⁝ ʻH Ê Ḋ ẽ □ ▫ Ł ẋ ȯ ẽ ȷ ▫ ɾ ǀ ɟ C C ǒ Ł ₄ ẽ Ḋ Ł ˡ ت ę Ɛ Ł ˛ ώ Ê Φ ẋ ẽ ᵽ ¯ Ḋ ẽ Ḋ Ê ₀ ⌂ ت ę ṿ ت ˥ ᴸ Ł ˥ ȷ ▫ ₲ ẽ ẽ ẋ ũ ▒ Ê ₽ Ę Ḋ ẽ Ł

ISO/ABMA ت ę

mm in.		C2		C0		C3		C4		C5	
		mm									

˥ Ḱ ˛ Ƀ RIC ẽ ώ Ł ᵡ ẽ ɟ ▫ ȷ Ê
ä ₲ ₆ ⁿ Ḇ Ł

mm in.		C2		C0		C3		C4		C5	
		mm in.		mm in.		mm in.		mm in.		mm in.	
180 7.0866	200 7.8740	0.090 0.0035	0.035 0.0014	0.145 0.0057	0.090 0.0035	0.195 0.0077	0.140 0.0055	0.250 0.0098	0.195 0.0077	0.330 0.0130	0.275 0.0108
200 7.8740	225 8.8583	0.105 0.0041	0.045 0.0018	0.165 0.0065	0.105 0.0041	0.220 0.0087	0.160 0.0063	0.280 0.0110	0.220 0.0087	0.365 0.0144	0.305 0.0120
225 8.8583	250 9.8425	0.110 0.0043	0.045 0.0018	0.175 0.0069	0.110 0.0043	0.235 0.0093	0.170 0.0067	0.300 0.0118	0.235 0.0093	0.395 0.0156	0.330 0.0130
250 9.8425	280 11.0236	0.125 0.0049	0.055 0.0022	0.195 0.0077	0.125 0.0049	0.260 0.0102	0.190 0.0075	0.330 0.0130	0.260 0.0102	0.440 0.0173	0.370 0.0146
280 11.0236	315 12.4016	0.130 0.0051	0.055 0.0022	0.205 0.0081	0.130 0.0051	0.275 0.0108	0.200 0.0079	0.350 0.0138	0.275 0.0108	0.485 0.0191	0.410 0.0161
315 12.4016	355 13.9764	0.145 0.0057	0.065 0.0026	0.225 0.0089	0.145 0.0057	0.305 0.0120	0.225 0.0089	0.385 0.0152	0.305 0.0120	0.535 0.0211	0.455 0.0179
355 13.9764	400 15.7480	0.190 0.0075	0.100 0.0039	0.280 0.0110	0.190 0.0075	0.370 0.0146	0.280 0.0110	0.460 0.0181	0.370 0.0146	0.600 0.0236	0.510 0.0201
400 15.7480	450 17.7165	0.210 0.0083	0.110 0.0043	0.310 0.0122	0.210 0.0083	0.410 0.0161	0.310 0.0122	0.510 0.0201	0.410 0.0161	0.665 0.0262	0.565 0.0222
450 17.7165	500 19.6850	0.220 0.0087	0.110 0.0043	0.330 0.0130	0.220 0.0087	0.440 0.0173	0.330 0.0130	0.550 0.0217	0.440 0.0173	0.735 0.0289	0.625 0.0246
500 19.6850	560 22.0472	0.240 0.00945	0.120 0.00472	0.360 0.01417	0.240 0.00945	0.480 0.0189	0.360 0.01417	0.600 0.02362	0.480 0.0189	0.810 0.03189	0.690 0.02717
560 22.0472	630 24.8031	0.260 0.01024	0.140 0.00551	0.380 0.01496	0.260 0.01024	0.500 0.01969	0.380 0.01496	0.620 0.02441	0.500 0.01969	0.900 0.03543	0.780 0.03071
630 24.8031	710 27.9528	0.285 0.01122	0.145 0.00571	0.425 0.01673	0.285 0.01122	0.565 0.02224	0.425 0.01673	0.705 0.02776	0.565 0.02224	1.005 0.03957	0.865 0.03406
710 27.9528	800 31.4961	0.310 0.0122	0.150 0.00591	0.470 0.0185	0.310 0.0122	0.630 0.0248	0.470 0.0185	0.790 0.0311	0.630 0.0248	1.135 0.04469	0.975 0.03839
800 31.4961	900 35.4331	0.350 0.01378	0.180 0.00709	0.520 0.02047	0.350 0.01378	0.690 0.02717	0.520 0.02047	0.860 0.03386	0.690 0.02717	1.265 0.0498	1.095 0.04311
900 35.4331	1000 39.3701	0.390 0.01535	0.200 0.00787	0.580 0.02283	0.390 0.01535	0.770 0.03031	0.580 0.02283	0.960 0.0378	0.770 0.03031	1.405 0.05531	1.215 0.04783

□ Ḋ ë ť

D

□ Ḋ ë ť 33
12 ờ ƒ ɣ ậ ễ ῼ ᵦ 33

D

ד

D

12 Ờ ʃ ɲ̈ ᴸ

1⁄2

1⁄2

ₒ ɋ ώ Ù

	0	45	90	135		
A					A =	
B					B =	
C					C =	

ت ẹ̣ ẏ € Ù ⍉ Φ AÊBÊC ت ڜ □ h ₆ ɋ ΉÂ â € Ù ⍉ Φ Ω Ή ʃ ɲ̈ □ ǐ ʃ ɲ̈

ˇ ẹ̣ ẏ Ł ڜ “ ɹ Ę̂ h ẽ ˇ Ê Ł ⍉ Φ ẋ h ₆ ɋ Ẑ ẽ | Ê ẏ u

ᵩ Ν ت ˢ Ḱ ∏ ώ Ł Ή ˢ ɋ Ł

Ή Â â € Ù

ǐ ẽ ڜ ẽ ɋ ˌ ἄ Ή Ê Ù

A =		B =		A =	
– B =		– C =		– C =	
=		=		=	

ɋ ˢ ˥ ∏ ἄ ₆ ɋ Ẑ ώ | Ê ẏ ˥ ẋ Ή Ł

ᴸ Ţ g, Ή

ẽ Ţ g, Ή

ت ẏ Ù ẋ Ţ g, Ή μmR_a

ت ẏ Ù ẽ ẋ Ţ g, Ή μmR_a

Ẑ Ή ẽ ẋ Ţ g, Ή μmR_a

Ḋ ẽ Ţ g, Ή Ù

ڜ Ή ΄A Ù ẋ μmR_a

ڜ u Ή ΄A Ù ẋ μmR_a

ꞗ

Ł Ł YMW W C Ḋ ”A Ł
P Ḋ ₆ ƍ ề ắ ŁP Ḋ ت ╪ ╪
╪ Ł

Ł Ł̃ Ḋ ڤ ت Ά ╪ □ ╪
̃ Ł ‘Ḥ □ ‘Ḥ ẽ̃ ę ₆ƍ̌ ώ ẽ | Ê
ǔ Ù

10.2343 in.
– 10.2331 in.
.0012 in. maximum limit

.0012 in.
2 = .0006 in.

Ł Ł ‘Ḥ ẽ̃ Ê ₹ ⍉ Φ ⌈ ắ ẽ ⌇ ʃ ɻ̈ ẽ ƍ ᾰ̃
ỗ Ê ƍ ᵤ Ẽ ˢ ┐ ╪ Ł

Ł Ł ‘Ḥ̃ Ê ⍉ Φ ⌇ ẽ ڤ ت ƍ Ê ƍ ᵤ Ẽ ˢ
┐ ╪ Ł

ڗ ẽ

Ł Ł ẽ ┐□ ∏ ώ Ê ⁂ ẋ ẋ ˡ ⌂ ”A Ḋ ẽ
Ê ꞁ Ù

- ת ʊ ┐ Ḇ ẽ ⁿ = ǀ Ł
- ɥ □ ʊ Ḋ ┐ Ḇ ɥ ɬ ˬ Ê ▫ ẽ ⁿ ꞁ □
- ₔ ϰ ť̋ ▪ ę̂ ṿ □ đ́ ñ ▫ ⁿ ꞁ ẽ

D

E

Ḋ ₆ ϙ Ê ABMAÂ — Ḋ Ṗ â ˡ 7

₡ ₶ Ụ ₶ ⌂ Ḋ □
₆ ᴗ ẽ ⌂ Ḋ 39

₆ ϙ 40

Ḋ ₆ ϙ 46

Ḋ
6

Ḋ 6 ƍ Ê ABMA

			g6			h6			h5			j5		
		0.000 mm 0.0000 in.												
mm		mm in.	mm in.			mm in.			mm in.			mm in.		
3	6	-0.008 -0.0003	-0.004 -0.0002	-0.012 -0.0005	0.012L 0.004T 0.0005L 0.0001T	0.000 0.0000	-0.008 -0.0003	0.008L 0.008T 0.0003L 0.0003T	0.000 0.0000	-0.005 -0.0002	0.005L 0.008T 0.0002L 0.0003T	+0.003 +0.0001	-0.002 -0.0001	0.002L 0.011T 0.0001L 0.0004T
6	10	-0.008 -0.0003	-0.005 -0.0002	-0.014 -0.0006((-0.012)T--0.014)Tj -1.26- -1.44297 -7 Td (-0.0006031 -7.00078 Td (0.004T)Tj /R70 6.5 Tf -1.26094 -7 Td (0.0005L)Tj -0.182031 -7 Td (0.0001T)0003)Tj /R4 Tf											

j6			k5			k6			m5		
mm in.			mm in.			mm in.			mm in.		
+0.006 +0.0002	-0.002 -0.0001	0.002L 0.014T 0.0001L 0.0005T	+0.006 +0.0002	+0.001 +0.0000	0.001T 0.014T 0.0000T 0.0005T				+0.009 +0.0004	+0.004 +0.0002	0.004T 0.017T 0.0002T 0.0007T
+0.007 +0.003	-0.002 -0.0001	0.002L 0.015T 0.0001L 0.0006T	+0.007 +0.0003	+0.001 +0.0000	0.001T 0.015T 0.0000T 0.0006T				+0.012 +0.0005	+0.006 +0.0002	0.006T 0.020T 0.0002T 0.0008T
+0.008 +0.0003	-0.003 -0.0001	0.003L 0.016T 0.0001L 0.0006T	+0.009 +0.0004	+0.001 +0.0000	0.001T 0.017T 0.0000T 0.0007T				+0.015 +0.0006	+0.007 +0.0003	0.007T 0.023T 0.0003T 0.0009T
+0.009 +0.004	-0.004 -0.0002	0.004L 0.019T 0.0002L 0.0008T	+0.011 +0.0004	+0.002 +0.0001	0.002T 0.021T 0.0001T 0.0008T				+0.017 +0.0007	+0.008 +0.0003	0.008T 0.027T 0.0003T 0.0011T
+0.011 +0.0004	-0.005 -0.0002	0.005L 0.023T 0.0002L 0.00085T	+0.013 +0.0005	+0.002 +0.0001	0.002T 0.021T 0.0001T 0.0008T	+0.018 +0.0007	+0.002 +0.0001	0.002T 0.030T 0.0001T 0.00115T	+0.020 +0.0008	+0.009 +0.0004	0.009T 0.032T 0.0004T 0.00125T
+0.012 +0.0005	-0.007 -0.0003	0.007L 0.027T 0.0003L 0.0011T	+0.15 +0.0006	+0.002 +0.0001	0.002T 0.030T 0.0001T 0.0012T	+0.021 +0.0008	+0.002 +0.0001	0.002T 0.036T 0.0001T 0.0014T	+0.024 +0.0009	+0.011 +0.0004	0.011T 0.039T 0.0004T 0.0015T
+0.013 +0.005	-0.009 -0.0004	0.009L 0.033T 0.0004L 0.0013T	+0.018 +0.0007	+0.003 +0.0001	0.003T 0.038T 0.0001T 0.0015T	+0.025 +0.0010	+0.003 +0.0001	0.003T 0.045T 0.0001T 0.0018T	+0.028 +0.0011	+0.013 +0.0005	0.013T 0.048T 0.0005T 0.0019T
+0.014 +0.0006	-0.011 -0.004	0.011L 0.039T 0.0004L 0.0016T	+0.021 +0.0008	+0.003 +0.0001	0.003T 0.046T 0.0001T 0.0018T	+0.028 +0.0011	+0.003 +0.0001	0.003T 0.053T 0.0001T 0.0021T	+0.033 +0.0013	+0.015 +0.0006	0.015T 0.058T 0.0006T 0.0023T
+0.016 +.00006	-0.013 -0.0005	0.013L 0.046T 0.0005L 0.0018T	+0.024 +0.0009	+0.004 +0.0002	0.003T 0.046T 0.0001T 0.0018T				+0.037 +0.0015	+0.017 +0.0007	0.017T 0.067T 0.0007T 0.0027T
+0.016 +.00006	-0.013 -0.0005	0.013L 0.046T 0.0005L 0.0018T	+0.024 +0.0009	+0.004 +0.0002	0.003T 0.046T 0.0001T 0.0018T				+0.037 +0.0015	+0.017 +0.0007	0.017T 0.067T 0.0007T 0.0027T
+0.016 +.00006	-0.013 -0.0005	0.013L 0.046T 0.0005L 0.0018T	+0.024 +0.0009	+0.004 +0.0002	0.003T 0.046T 0.0001T 0.0018T				+0.037 +0.0015	+0.017 +0.0007	0.017T 0.067T 0.0007T 0.0027T
+0.016 +.00006	-0.016 -0.0006	0.016L 0.051T 0.0006L 0.0020T	+0.027 +0.0011	+0.004 +0.0002	0.004T 0.062T 0.0002T 0.0025T				+0.043 +0.0017	+0.020 +0.0008	0.020T 0.078T 0.0008T 0.0031T
+0.016 +.00006	-0.016 -0.0006	0.016L 0.051T 0.0006L 0.0020T	+0.027 +0.0011	+0.004 +0.0002	0.004T 0.062T 0.0002T 0.0025T				+0.043 +0.0017	+0.020 +0.0008	0.020T 0.078T 0.0008T 0.0031T

E

			g6			h6			j5		
		0.000 mm 0.0000 in.									
mm		mm in.	mm in.			mm in.			mm in.		
315	355	-0.040 -0.0016	-0.018 -0.0007	-0.054 -0.0021	0.054L 0.022T 0.0021L 0.0009T	0.000 0.0000	-0.036 -0.0014	0.036L 0.040T 0.0014L 0.0016T	+0.007 +0.0003	-0.018 -0.0007	0.018L 0.047T 0.0007L 0.0019T
355	400	-0.040 -0.0016	-0.018 -0.0007	-0.054 -0.0021	0.054L 0.022T 0.0021L 0.0009T	0.000 0.0000	-0.036 -0.0014	0.036L 0.040T 0.0014L 0.0016T	+0.007 +0.0003	-0.018 -0.0007	0.018L 0.047T 0.0007L 0.0019T
400	450	-0.045 -0.0018	-0.020 -0.0008	-0.060 -0.0024	0.060L 0.025T 0.0024L 0.0010T	0.000 0.0000	-0.040 -0.0016	0.040L 0.045T 0.0016L 0.0018T	+0.007 +0.0003	-0.020 -0.0008	0.020L 0.052T 0.0008L 0.0021T
450	500	-0.045 -0.0018	-0.020 -0.0008	-0.060 -0.0024	0.060L 0.025T 0.0024L 0.0010T	0.000 0.0000	-0.040 -0.0016	0.040L 0.045T 0.0016L 0.0018T	+0.007 +0.0003	-0.020 -0.0008	0.020L 0.065T 0.0008L 0.0021T
500	560	-0.050 -0.0020	-0.022 -0.0009	-0.066 -0.0026	0.066L 0.028T 0.0026L 0.0011T	0.000 0.0000	-0.044 -0.0017	0.044L 0.050T 0.0017L 0.0020T	+0.008 +0.0003	-0.022 -0.0009	0.022L 0.058T 0.0009L 0.0023T
560	630	-0.050 -0.0020	-0.022 -0.0009	-0.066 -0.0026	0.066L 0.028T 0.0026L 0.0011T	0.000 0.0000	-0.044 -0.0017	0.044L 0.050T 0.0017L 0.0020T	+0.008 +0.0003	-0.022 -0.0009	0.022L 0.058T 0.0009L 0.0023T
630	710	-0.075 -0.0030	-0.024 -0.0009	-0.074 -0.0029	0.074L 0.051T 0.0029L 0.0021T	0.000 0.0000	-0.050 -0.0020	0.050L 0.075T 0.0020L 0.0030T	+0.010 +0.0004	-0.025 -0.0010	0.25L 0.85T 0.0010L 0.0034T
710	800	-0.075 -0.0030	-0.024 -0.0009	-0.074 -0.0029	0.074L 0.051T 0.0029L 0.0021T	0.000 0.0000	-0.050 -0.0020	0.050L 0.075T 0.0020L 0.0030T	+0.010 +0.0004	-0.025 -0.0010	0.025L 0.085T 0.0010L 0.0034T
800	900	-0.100 -0.0039	-0.026 -0.0010	-0.082 -0.0032	0.082L 0.074T 0.0032L 0.0029T	0.000 0.0000	-0.056 -0.0022	0.056L 0.100T 0.0022L 0.0039T	+0.012 +0.0005	-0.028 -0.0011	0.028L 0.112T 0.0011L 0.0044T

j6			k5			m5		
mm in.			mm in.			mm in.		
+0.018 +0.0007	-0.018 -0.0007	0.018L 0.058T 0.0007L 0.0023T	+0.029 +0.0011	+0.046 +0.0002	0.004T 0.009T 0.0002T 0.0027T	+0.046 +0.0018	+0.021 +0.0008	0.021T 0.086T 0.0008T 0.0034T
+0.018 +0.0007	-0.018 -0.0007	0.018L 0.058T 0.0007L 0.0023T	+0.029 +0.0011	+0.004 +0.0002	0.004T 0.009T 0.0002T 0.0027T	+0.046 +0.0018	+0.021 +0.0008	0.021T 0.086T 0.0008T 0.0034T
+0.020 +0.0008	-0.020 -0.0008	0.020L 0.065T 0.0008L 0.0026T	+0.032 +0.0013	+0.005 +0.0002	0.005T 0.077T 0.0002T 0.0031T	+0.050 +0.0020	+0.023 +0.0009	0.021T 0.086T 0.0009T 0.0038T
+0.020 +0.0008	-0.020 -0.0008	0.020L 0.065T 0.0008L 0.0026T	+0.032 +0.0013	+0.005 +0.0002	0.005T 0.077T 0.0002T 0.0031T	+0.050 +0.0020	+0.023 +0.0009	0.021T 0.086T 0.0009T 0.0038T
+0.022 +0.0009	-0.022 -0.0009	0.022L 0.072T 0.0009L 0.0029T	+0.030 +0.0012	0.000 0.0000	0.000T 0.080T 0.0000T 0.0032T	+0.056 +0.0022	+0.026 +0.0010	0.026T 0.106T 0.0010T 0.0042T
+0.022 +0.0009	-0.022 -0.0009	0.022L 0.072T 0.0009L 0.0029T	+0.030 +0.0012	0.000 0.0000	0.000T 0.080T 0.0000T 0.0032T	+0.056 +0.0022	+0.026 +0.0010	0.026T 0.106T 0.0010T 0.0042T
+0.025 +0.0010	-0.025 -0.0010	0.025L 0.100T 0.0010L 0.0040T	+0.035 +0.0014	0.000 0.0000	0.000T 0.110T 0.0000T 0.0044T	+0.028 +0.0026	+0.013 +0.0012	0.030T 0.140T 0.0012T 0.0056T
+0.025 +0.0010	-0.025 -0.0010	0.025L 0.100T 0.0010L 0.0040T	+0.035 +0.0014	0.000 0.0000	0.000T 0.110T 0.0000T 0.0044T	+0.028 +0.0026	+0.013 +0.0012	0.030T 0.140T 0.0012T 0.0056T
+0.025 +0.0010	-0.025 -0.0010	0.025L 0.100T 0.0010L 0.0040T	+0.035 +0.0014	0.000 0.0000	0.000T 0.110T 0.0000T 0.0044T	+0.028 +0.0026	+0.013 +0.0012	0.030T 0.140T 0.0012T 0.0056T
+0.028 +0.0011	-0.028 -0.0011	0.028L 0.128T 0.00170 6.5 T0582 (0.0040T)Tj /R42 6.5 Tf 44.4854 14.0012 Td (+0.030)Tj /R70 6.5 Tf -1.44297 -7 Td (+0.0024)Tj /R42 6.5 Tf 45.3895 7 Td (0.000)Tj /R70 6.5 Tf -1.442 0.0027T	+0.004 17430T 0.140T0.0009T 0.0081T			-0.028 -0.0011		

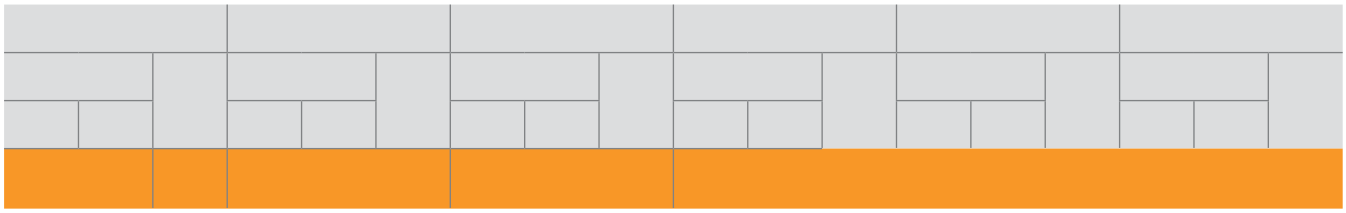
0.00170 6.5 T4682031 -7 Td (0.100T)Tj /R70 6.5 Tf -103 14.0008 Td (0.025L)Tj -7 -72031 -7 Td (0.0040T)Tj

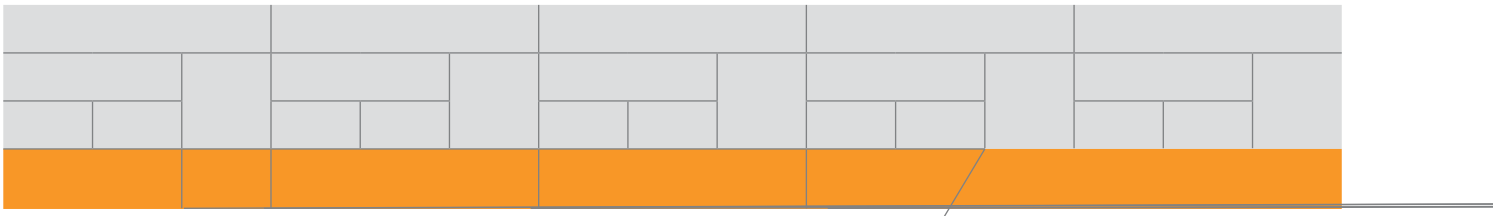
0.086T +0.004 +0.0009

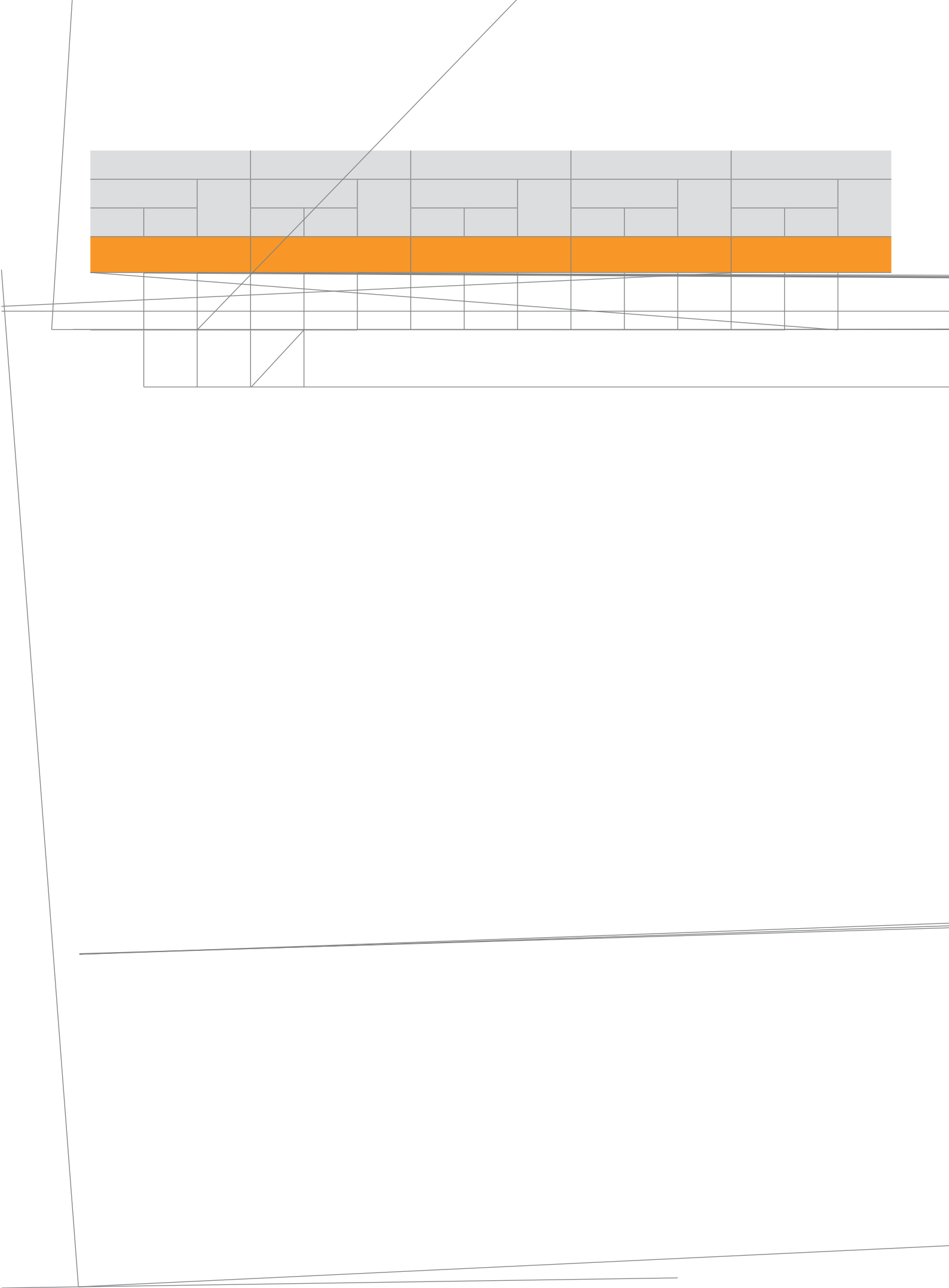
0.0044T +0.013

+0.0026 +0.0012

+0.0016.05T7 42 6.5 Tf 44.699 14.086T



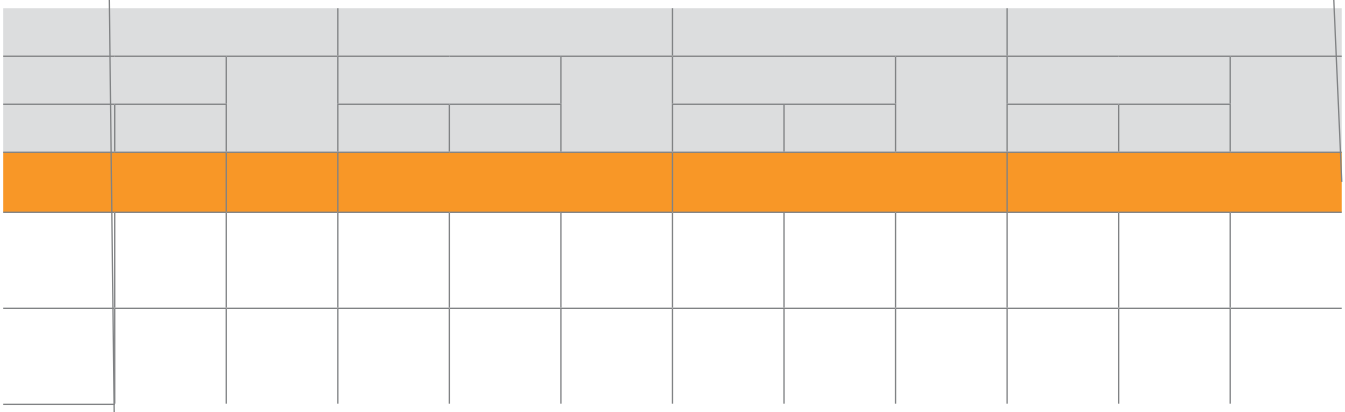




Ď ₆ ϱ Ù ₡ ŧ Ự □ ⌂ Ď Ł Ł Ł Ł Ł Ł Ł Ł Ł Ł Ł Ł Ł Ł Ł Ł Ł Ł

			F7			G7			H8			H7		
		0.000 mm 0.0000 in.												
mm		mm in.	mm in.			mm in.			mm in.			mm in.		
315	400	-0.040 -0.0016	+0.119 +0.0047	+0.062 +0.0024	0.063L 0.159L 0.0024L 0.0062L	+0.075 +0.0030	+0.018 +0.0007	0.018L 0.115L 0.0007L 0.0046L	+0.089 +0.0035	0.000 0.0000	0.000L 0.129L 0.0000L 0.0051L	+0.057 +0.0022	0.000 0.0000	0.000L 0.097L 0.0000L 0.0038L
400	500	-0.045 -0.0018	+0.131 +0.0052	+0.068 +0.0027	0.068L 0.176L 0.0027L 0.0070L	+0.083 +0.0033	+0.020 +0.0008	0.020L 0.128L 0.0008L 0.0051L	+0.097 +0.0038	0.000 0.0000	0.000L 0.142L 0.0000L 0.0056L	+0.063 +0.0025	0.000 0.0000	0.000L 0.108L 0.0000L 0.0043L
500	630	-0.050 -0.0020	+0.146 +0.0057	+0.076 +0.0030	0.076L 0.196L 0.0030L 0.0077L	+0.092 +0.0036	+0.022 +0.0009	0.022L 0.142L 0.0009L 0.0056L	+0.110 +0.0043	0.000 0.0000	0.000L 0.160L 0.0000L 0.0063L	+0.070 +0.0028	0.000 0.0000	0.000L 0.120L 0.0000L 0.0048L
630	800	-0.075 -0.0030	+0.160 +0.0063	+0.080 +0.0031	0.080L 0.235L 0.0031L 0.0093L	+0.104 +0.0041	+0.024 +0.0009	0.024L 0.179L 0.0009L 0.0007L	+0.125 +0.0049	0.000 0.0000	0.000L 0.200L 0.0000L 0.0079L	+0.080 +0.0031	0.000 0.0000	0.000L 0.155L 0.0000L 0.0061L
800	1000	-0.100 -0.0039	+0.179 +0.0069	+0.086 +0.0034	0.086L 0.276L 0.0034L 0.0108L	+0.116 +0.0046	+0.026 +0.0010	0.026L 0.216L 0.0010L 0.0085L	+0.140 +0.0055	0.000 0.0000	0.000L 0.240L 0.0000L 0.0094L	+0.090 +0.0035	0.000 0.0000	0.000L 0.190L 0.0000L 0.0074L
1000	1250	-0.125 -0.0049	+0.203 +0.0080	+0.098 +0.0039	0.098L 0.328L 0.0039L 0.0129L	+0.133 +0.0052	+0.028 +0.0011	0.028L 0.258L 0.0011L 0.0101L	+0.165 +0.0065	0.000 0.0000	0.000L 0.290L 0.0000L 0.0114L	+0.105 +0.0041	0.000 0.0000	0.000L 0.230L 0.0000L 0.0090L
1250	1600	-0.160 -0.0063	+0.155 +0.0061	+0.030 +0.0012	0.110L 0.395L 0.0043L 0.0156L	+0.155 +0.0061	+0.030 +0.0012	0.030L 0.315L 0.0012L 0.0124L	+0.195 +0.0077	0.000 0.0000	0.000L 0.355L 0.0000L 0.0140L	+0.125 +0.0049	0.000 0.0000	0.000L 0.355L 0.0000L 0.0140L
1600	2000	-0.106 -0.0047	+0.270 +0.0106	+0.120 +0.0047	0.120L 0.470L 0.0047L 0.0185L	+0.182 +0.0072	+0.032 +0.0013	0.032L 0.382L 0.0013L 0.0151L	+0.230 +0.0091	0.000 0.0000	0.000L 0.430L 0.0000L 0.0170L	+0.150 +0.0059	0.000 0.0000	0.000L 0.350L 0.0000L 0.0138L
2000	2500	-0.250 -0.0098	+0.305 +0.0120	+0.130 +0.0051	0.130L 0.555L 0.0051L 0.0218L	+0.209 +0.0082	+0.034 +0.0013	0.034L 0.459L 0.0013L 0.0180L	+0.280 +0.0110	0.000 0.0000	0.000L 0.530L 0.0000L 0.0208L	+0.175 +0.0069	0.000 0.0000	0.000L 0.425L 0.0000L 0.0167L





N7			P6			P7		
mm in.			mm in.			mm in.		
-0.005 -0.0002	-0.023 -0.0009	0.023T 0.003L 0.0009T 0.0001L	-0.015 -0.0006	-0.026 -0.0010	0.026T 0.007T 0.0010T 0.0003T	-0.011 -0.0004	-0.029 -0.0011	0.029T 0.003T 0.0011T 0.0001T
-0.007 -0.0003	-0.028 -0.0011	0.028T 0.002L 0.0011T 0.0005L	-0.018 -0.0007	-0.031 -0.0012	0.031T 0.009T 0.0012T 0.0035T	-0.014 -0.0006	-0.035 -0.0014	0.035T 0.005T 0.0014T 0.0025T
-0.008 -0.0003	-0.033 -0.0013	0.033T 0.003L 0.0013T 0.0015L	-0.021 -0.0008	-0.037 -0.0015	0.037T 0.010T 0.0015T 0.0035T	-0.017 -0.0007	-0.042 -0.0017	0.042T 0.006T 0.0017T 0.0025T
-0.009 -0.0004	-0.039 -0.0015	0.039T 0.004L 0.0015T 0.0001L	-0.026 -0.0010	-0.045 -0.0018	0.045T 0.013T 0.0018T 0.0005T	-0.021 -0.0008	-0.051 -0.0020	0.051T 0.008T 0.0020T 0.0003T
-0.010 -0.0004	-0.045 -0.0018	0.045T 0.005L 0.0018T 0.0002L	-0.030 -0.0012	-0.052 -0.0020	0.052T 0.015T 0.0020T 0.0006T	-0.024		

N7			P6			P7		
mm in.			mm in.			mm in.		
-0.016 -0.0006	-0.073 -0.0029	0.073T 0.024L 0.0029T 0.0010L	-0.051 -0.0020	-0.087 -0.0034	0.087T 0.011T 0.0034T 0.0004T	-0.041 -0.0016	-0.098 -0.0039	0.098T 0.001T 0.0039T 0.0000T
-0.017 -0.0007	-0.080 -0.0031	0.080T 0.028L 0.0031T 0.0011L	-0.055 -0.0022	-0.095 -0.0037	0.095T 0.010T 0.0037T 0.0004T	-0.045 -0.0018	-0.108 -0.0043	0.108T 0.000T 0.0043T 0.0000T
-0.044 -0.0017	-0.114 -0.0045	0.114T 0.006L 0.0045T 0.0003L	-0.078 -0.0031	-0.122 -0.0048	0.122T 0.028T 0.0048T 0.0011T	-0.078 -0.0031	-0.148 -0.0058	0.148T 0.028T 0.0058T 0.0011T
-0.050 -0.0020	-0.130 -0.0051	0.130T 0.025L 0.0051T 0.0010L	-0.088 -0.0035	-0.138 -0.0054	0.138T 0.013T 0.0054T 0.0005T	-0.088 -0.0035	-0.168 -0.0066	0.168T 0.013T 0.0066T 0.0005T
-0.056 -0.0022	-0.146 -0.0057	0.146T 0.044L 0.0057T 0.0017L	-0.100 -0.0039	-0.156 -0.0061	0.156T 0.000T 0.0061T 0.0000T	-0.100 -0.0039	-0.190 -0.0075	0.190T 0.000T 0.0075T 0.0000T
-0.066 -0.0026	-0.171 -0.0067	0.171T 0.059L 0.0067T 0.0023L	-0.120 -0.0047	-0.186 -0.0073	0.186T 0.005L 0.0073T 0.0002L	-0.120 -0.0047	-0.225 -0.0089	0.225T 0.005T 0.0089T 0.0002T
-0.078 -0.0031	-0.203 -0.0080	0.203T 0.082L 0.0080T 0.0023L	-0.140 -0.0055	-0.218 -0.0086	0.218T 0.020L 0.0086T 0.0008L	-0.140 -0.0055	-0.265 -0.0104	0.265T 0.020L 0.0104T 0.0008L
-0.092 -0.0036	-0.242 -0.0095	0.242T 0.108L 0.0095T 0.0043L	-0.170 -0.0067	-0.262 -0.0103	0.262T 0.030L 0.0103T 0.0012L	-0.170 -0.0067	-0.320 -0.0126	0.320T 0.030L 0.0126T 0.0012L
-0.110 -0.0043	-0.285 -0.0112	0.285T 0.140L 0.0112T 0.0055L	-0.195 -0.0077	-0.305 -0.0120	0.305T 0.055L 0.0120T 0.0021L	-0.195 -0.0077	-0.370 -0.0146	0.370T 0.055L 0.0146T 0.0021L

E

⌂ Ḋ

Ł Ł ⍨ ⁶ ⁴ ȸ ẽ ⌂ Ḋ ᑫ Ł
⌂ Ḋ ' ╕ ĭ ᵑ⁄ Ꭻ ẽ ᵡ Ù ŧ ŧ ⌂ Â ⌂
Ȁ â ắ ⱺ Ḍ⁹ Ł ⌂ Ḋ Ḋ Ȁ ẽ ▒ □
ت ▒ Ê ١ Ù

- ŕ ب ⌂ Ḋ Ù ⁸ ţ ẽ ŧ ⇔ ᾔ ẽ
  Ḋ Ê ׀ ƀ ť ʊ Ł ʁ Ê ŕ ب Ḋ ɒ Ự
  ɯ Ặ ẽ Â â ȷ Ũ ▒ ẽ Ê
  ẇ Ặ Ŋ Ł
- ب ⌂ Ḋ Ù ب ⌂ Ḋ ⍺ ŕ ب ١ ⁴ ”
  ẽ Ḋ م Ł
- ب ⌂ Ḋ Ù u ⌂ Ḋ ẽ % ” Ḋ م ŧ
  ⊠ت م □ ⊠ȸ ʊ ề† ⊠▫ ᵢ Ê



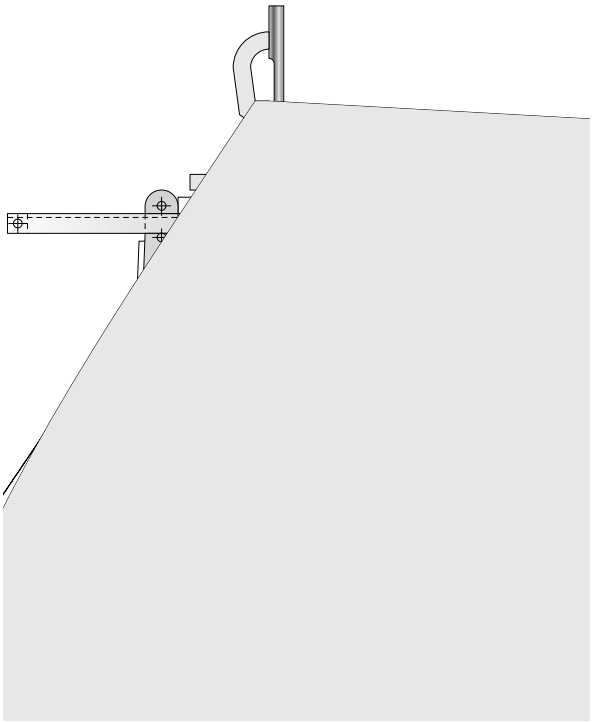
Ł Ų ƒ

Ł Ł ⅜ Ḋ ƒ ẽ . ∏ ά Ê ɓ ţ ş ẽ Ḱ . Ḋ ƒ ˜ ę ŕ ɯ Ł

Ł Ł ẽ Timken Ḋ ˥ Ą Ą ᵘ ẽ ˈ Ω ẽ Ł Ḋ ẽ Ą ů ẽ ˙ ů ỽ ẽ Ê ɜ ẽ Ḋ Ł ˳ Ą Ḋ Ą Ê ʁ ╬ ʊ Ê ᵤ ļ Ḋ ˈ Ê ᵤ ᵤ Ḱ ẽ Ḋ Ą ő ˙ ɟ ⁿ Ł

Ł Ł Ḋ Ų Ļ Ḧ □ Ḧ Ã Ê ˈ ẽ Timken ˈ ȯ ⅄ ɯ w Ḋ Ł ▪ Ļ Ų ⁴ Ь Ê ɟ ˇ ″ Ḧ Ḧ ɟ Ḧ ₌ Ḱ Ê ₢ ₆ Ẓ ᴸ Ł ɟ ₱ ˆ Ê ɯ ώ ″ Ḧ ˙ ɟ





˘ ę

Ł Ł ˛ Ḋ ł Ḋ □ ǂ Ê ɲ ˛ Ḿ Ỳ ╬ ẽ Ê ť Ḋ Ỵ ɯ € ˛ ă Ḋ Ȧ ̈ Ʊ ɟ ɯ ⁴ fl Ł Ù

- ɔ ɗ
- ˥ ᴮ
-
- ɲ Ḍ⁹ ˆ
-

Ł Ł u Ḱ ẽ Ḋ ώ ˥ Ê ǂ Ê Ḋ ˳ ẽ ă ᵽ ẋ ″ Ł

Ł Ł ώ ˥ Â ⁄ âÊ ⌂ Ḋ ẽ ę Ѫ̆E ȝ ɯ › ˘ ę Ł ẽ ⁄ ت □ ẽ ت̆E ɯ ˘ ę Ê ˛ ˛ Ȧ Ỵ ҙ ◒ ɟ Š Ê Ã Ʊ ę Ѫ Ê ᵽ Ą ʌ ▫ Ỵ Ł

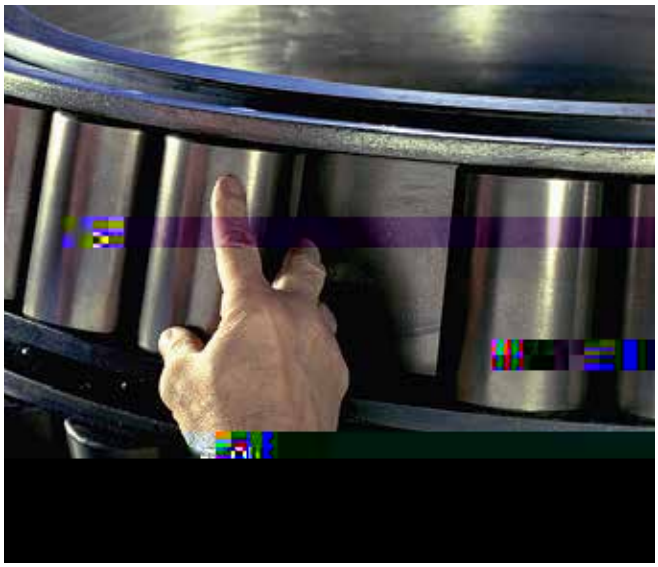
Ł Ł ẽ ⌂ ẹ ɯ ˘ ę Ê ˛ ˛ u ˦ ẽ Ł ⌂ ẹ ҙ ◒ □ Ł ẽ ˳ ᵽ Ů ˡ Ê ă ʁ ɔ Ł

Ł Ł ť ⅄ ⌂ ẽ ᴸ ɯ ˘ ę Ê ˛ ˛ Ȧ u ˦ □ ɟ ɔ Ł

Ł Ł ť ⌂ ẹ Ê ˘ ę ẋ ã Ψ ŧ ɟ ᴮ Ł ã Ψ ť ɲ Ḍ Ḋ Ã ◒ ẋ Ł ' ˘ ę ẽ ⌂ ẹ Ł

Ł Ł ⏐ Φ ẽ Ḋ Ê ⌂ □ ɲ Ḍ⁹ Ą ʌ ˛ Ḷ ⌂ ẹ ˳ Ê ̈ 2 ″H ˛ ⌂ ẹ Ȧ Ê ҙ ◒ ɟ ɔ Ł ̈ ″H ƀ ᵒ ẽ ɾ Ł u ŧ ɲ Ḍ⁹ ẽ ″H ̇ Ê ⌂ ẹ ǂ Ȧ Ê ş ⁿ ˦ ̈ ˦ ᴮ ɳ ố Ѭ ɔ □ ҙ ◒ Ł

Ł Ł Φ ẋ ẽ Ḋ ˥ ˘ ę ⌂ Ê ð ̈ ų ẽ % ă ◌ Ê ˥ ᵋ u ⫩ ʻ ◌ ẽ Ł u ƣ ◌ ̈ u ˥ Ḱ Ł u □ ⌂ Ê ◌ ̈ ť ⌂ ẹ ɯ ⁴₀ ˝ Ő ẽ ˘ ę Ł ƀ ˘ ę ǂ Ê u ş ˘ ę ⌂ Ê ƣ ᵋ ƣ Ł



20. ώ ɾ ɜ ˘ ę Ḋ

Ѭ

Ł Ł ⏐ Ѭ □ ω ˙ Ê ˘ ę ẽ ɟ ˳ Ê ˛ ẽ Ѭ ᵽ ɟ ɯ Ḍ Ł ẋ ȯ ˛ Ê ų ˘ ę Ḍ Ê Ѭ ⁴ fl Ł ˘ ę ẽ Ѭ ʻ ˩ ᴸ Ê ɲ ᴸ Ḿ Ỳ ╬ ẽ □ ⁿ Ł ◚ ⁶ ⁴ ◡ ẽ ⁿ Ѭ Ł ⅋ ⁴ ȯ ẽ ˊ ◚ ⁶ Ẓ ᴸ Ê ȯ Ł

Ḋ

Ł Ł ⏐ ƒ ɟ Ỵ Ḷ ǒ ̆ u Ã Ê Ḍ ᵽ ˆ Ł Á ă ᴮ ɾ ˛ ẽ ẃ Ê Ḍ ᵽ ˦ ẽ ώ ˆ Ł ˛ ᵽ ⁴ ȯ Ê ̈ ę Ŕ ˛ Ḍ ƒ ˘ ę ŕ ɯ Ł ş Ê ◚ ⁶ ' ˩ ȯ ę Ê ˙ Ḥ Ḍ ˆ Ê ̈ È ◚ ⁶ ⅋ ę ˊ Ê ̈ ɳ ◚ ⁶ ⅋ Ḱ ˋ ˊ ⅋ ˦ Ỵ Ḍ ˆ ض ẽ Ł ȯ ◚ ⁶ Ẓ ᴸ ˊ ⅋ Ḱ ˋ ˊ Ł

Ł Ł Ḍ Ḱ ώ ẽ ɪ ŧ ă ẽ ◒ □ ɔ Ê ˦ ̈ ɯ ᵋ ᵋ u ώ ˩ ẽ Ł Ḍ ⌂ ẹ ẽ ẋ ◭ ɔ ⌂ Ѭ Ḍ ũ ▒ Ê ę Ḥ Ȧ ₧ ᵋ Ẓ Ł ˢ ˩ ⌂ ẹ ˗ Ḥ ˊ ẽ ɔ ˦ u ̈ ů ẽ Ł

Ł Ł ₆ ⁴ Ď Ů Ę Ê⁸ › Ɒ Ê ę ơ ẇ
˙ mm Â ỵ â ȷ ⁴ ẋ ẽ Ď Ł ⁴ fl Ď Ê
ę Ǫ Q ę ⊦ ɯ ȯ ẇ ẽ Ḧ Ł ˛ ₚ ⁴ ȯ ₆
Ď ę Ę Ê ₆ Ẓ ᴸ Ẽ ȯ Ł

Ʊ

Ł Ł ˛ ₚ ⁴ ȯ ⌂ Ä Ď ẽ Ʊ ǐ ´ Ê ɓ Ŕ ˛
Ď ƒ ˜ ę ŕ ɯ Ł

Ł Ł ʁ Ʊ Ď Ê ᵤ u ṫ ' Ḱ Ł '
ɲ w Ł

Ł Ł u Ď Ʊ ˆ ȷ ˛ ẽ Ď ȷ Ł

Ł Ł ę Ã ŕ ę ˆ ˛ ẽ ¦ Ď ₆ Ł ẽ
ę ę ŕ 2 Ḿ ę Ê ᵋ u ɯ Ṩ ₒ ⁿ Ê ẇ Ą̇
ẽ ẹ ̂ ỵ Ł

Ł Ł | ŕ ẽ ᵤ ˥ ▫ Ê ę ŕ ǐ ┤ □ Ṩ
Ê ẇ Ą̇ Ł

Ď ▫

Ł Ł ŕ ẽ ▫ Ǫ Ǟ Ʊ ⌂ Ď ę ɲ
Ł ¦ Ê ẽ Ď ŕ ˥ ▫ ɯ Ʊ Ê ˜
▫ ȿ ẽ ȷ Ď Ê и ˋ Ḧ Ä Ḧ Ł

Ł Ł = ɲ ¦ ŕ ˥ ▫ ɯ Ʊ Ê ᵋ ŕ Ã ẽ ⁿ
Â ⚡ â u Ł Ã u Ê Ã
Λ Ł ' ɲ ɲ Ɒ ₉ u ˆ Ł ɲ Ɒ ₉ ǐ Φ Ű
Ê ⁿ ˆ Ł

Ł Ł Ã ŕ ˥ ▫ Ʊ Ê ŕ ˜ ˙ ẽ ⁿ ȯ u
Ď Ł ⁿ ‘ ỵ ˆ Ḧ Â ⚡ â Ł

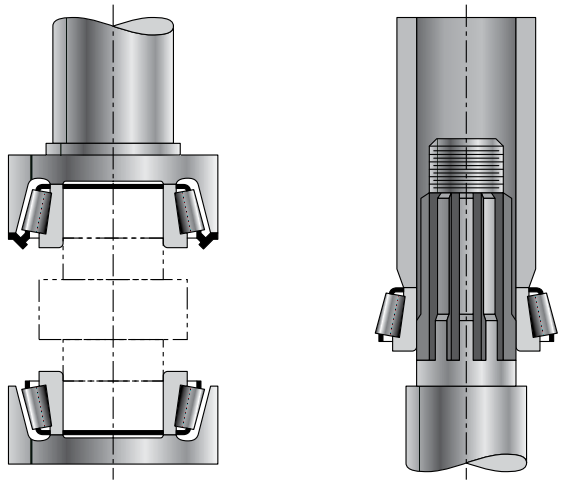
Ł Ł ˥ ▫ ẽ ȷ ▫ Ê u Ď ₀
ę ᴮ Ʊ Ď Ł ˛ ₚ ⁴ ȯ ▪ u Ď ₀ ᵋ u
Ʊ ɲ ẽ Ǫ Ǟ Ê ɓ Ţ ş ẽ Ŕ ˛ Ď ƒ ˜ ę ŕ
ɯ Ł

Ł Ł Ã u Ʊ Ď Ê ơ
Æ ẽ ˥ ỴŁ Ď ẽ ˥ Ỵ ơ ẽ
˙ Æ Ł

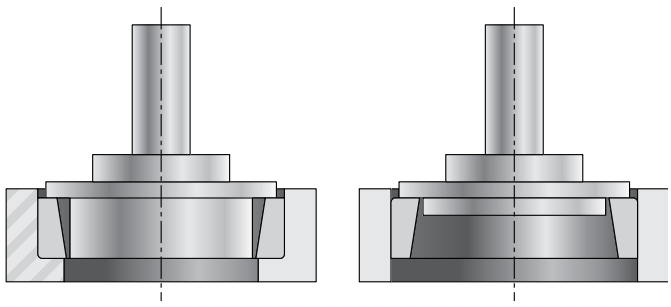
Ł Ł ! Ď ẽ ▫ Ê ę ẽ ! Ḧ è ă Ł ỵ
˛ ẽ ▫ □ Ď ǐ Ʊ Ê ẽ ! Ḧ Ê ỵ
Ď ę Ḧ ă ã ˆ ǐ ẽ ò Ḧ Ë ⅜
ẽ Ł | ɓ ˢ Ḱ ˛ ₆ ₽ ώ Ê ę Ä Ỵ u ñ ▫
Ł

Ł Ł . Ď ẽ ▫ Ê ę ⅜ Ď ẽ ض Ł

Ł Ł Ď Ʊ Ê ⅜ □ Ď ẽ ˘ ę ʁ Ǫ ẽ
. ´ Ê ɓ Ỵ Ţ ş ẽ Ŕ □ Ď ŕ ɯ Ł



21. ŕ Ã ẽ ⁿ Ê ʁ Ą̇



22. ŕ ˜ ˙ ẽ ⁿ Ê ę Ď

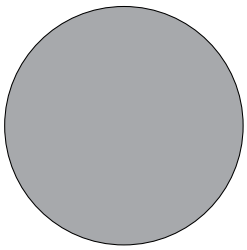
F



⌂ Ḋ Ự ɯ ỉ̆

Ŀ Ŀ Timken ⌂ Ḋ ẽ † Ờ ẽ˘ ắ
ậ Ự ɯ ẽ Ê ắ ɻ ▫ Ώ ה Ḱ ⁴ ╬ ẽ Ł
ɻ ▫ Ũ ▒ Ê ώ ɻ ▫ Ł
Ũ ▒ ɹ ẽ ɣ̈ ₲ ắ ẽ ɻ ▫ Ł

Ŀ Ŀ ẽ Ḋ˘ ắ ₲ ȯ Ê '
ﻭ Ḋ □ ẽ - ŧ ˚ ŧ ꞮH ŧ ề ề Ł



24. ʃ ɣ ˜ ẽ

Ł Ł ŕ ˜ ¸ Â ˙ □ ˛ â ن ﻉ ‘ Ë Ą ˜ ή Ł
ȝ Ê ﻉ u ˜ fl ’ ũ ▒ م] ũ ▒ Ł · Ê
ﻉ ⁶ Ẓ ˪ Ẽ ن Ł



25. ˡ ˜ ·

Ở ⁿ ⏐

Ł Ł Ş ⁿ ⏐ ẋ Ự ʁ ò Ự ɯ Ď ẽ ˷ Ê ắ ở ẽ Ự Ł ĭ ẋ ȯ ʁ Ê ˜ ſ ẽ ⁿ ⏐ ɨ̈ ˘ ę ′ Ď ″H ẽ Ɏ Ⱡ Ł u ẹ ṿ † ⁿ ⏐Â ⚡ âʃ Ẽ ẽ ῶ ɷ Φ Ł ẹ ṿ ˘ ẽ ɋ ɨ̈ ắ ˛ ở ẽ Ự Ê ᵋ ɟ̈ Ş ȷ ▫ ẽ ȷ Ũ ▒ Ự Ł

ắ / ⍼ ″H Ê TDO

Ł Ł ȷ ▫ Ⅵ† ˘ † / Ê Ď Ự Ł ẽ ن ʃ Ự Ď Â TDO â ẽ / ⍼ ″H ẽ ˜ ˡ ᾇ ῼ Ł ᾇ ῼ ʃ Ự Ḱ ẹ ṿ Ǒ B ǒ ẽ Ê ` ắ / ẽ ₆ Ạ ⍼ ″H Ł

Ł Ł ṿ ʃ Ự Ê Ɛ ⚡ Ê ᵩ ɤ ẽ ″H Ǒ A ǒ □ Ǒ C ǒ ẽ ˈ Ł ˛ ế ʃ Ự Ṿ Ê ẽ u Ǒ A ǒ ẽ Ǒ A ǒ ɾ Ɓ C ǒ ẽ Ǒ C ǒ ɾ Ł

Ł Ł ǔ Ǒ B ǒ ẹ ṿ ẽ ₆ Ù

B = (AB + CB) – AC

Ł Ł Ù

B ″H ˘ ẽ Ɏ Ⱡ

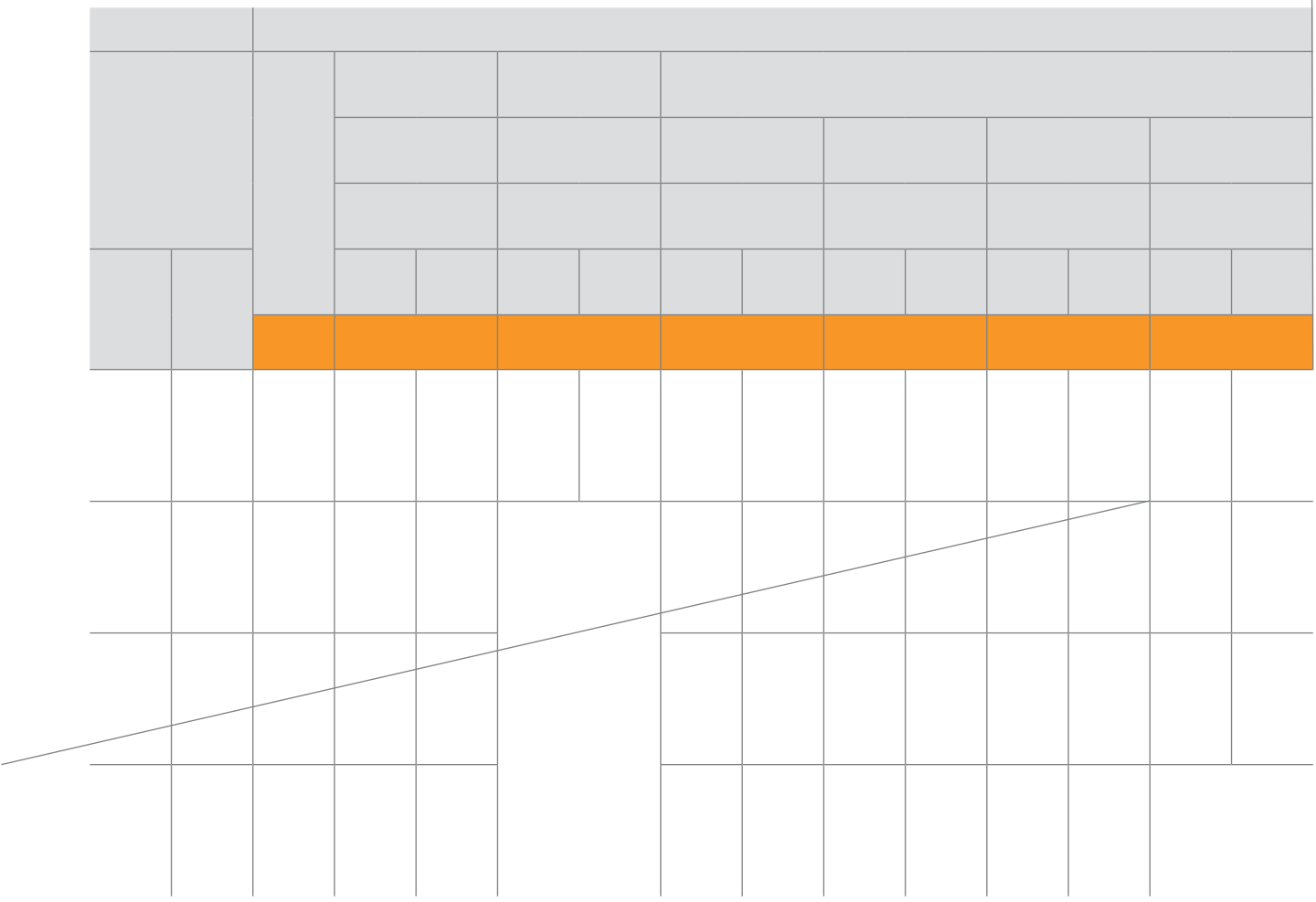
AB C ″H □ A ˘ ẽ Ɏ Ⱡ

CB A ″H □ C ˘ ẽ Ɏ Ⱡ

AC ⍼ ″H

β

Ł Ł u Ǒ C ǒ ′ Â ẋ ″H â ᾏ Ê u Ǒ C ǒ ᾏ Â ⚡



(mm/in.)		(mm/in.)								

⌂ Ď

è ǎ Ù 3 ǎ □ 0 (1) ǎ

(mm/in.)		(mm/in.)					
		mm in.	mm in.			mm in.	
0.000 0.0000	304.800 12.0000	0.000 +0.013 0.0000 +0.0005	+0.030 +0.018 +0.0012 +0.0007	0.030T 0.005T 0.0012T 0.0002T	Use Minimum Tight Cone Fit of 0.00025 mm/mm (0.00025 in./in.) of Cone Bore	+0.030 +0.018 +0.0012 +0.0007	0.030T 0.005T 0.0012T 0.0002T
304.800 12.0000	609.600 24.0000	0.000 +0.025 0.0000 +0.0010	+0.064 +0.038 +0.0025 +0.0015	0.064T 0.013T 0.0025T 0.0005T		+0.064 +0.038 +0.0025 +0.0015	0.064T 0.013T 0.0025T 0.0005T
609.600 24.0000	914.400 36.0000	0.000 +0.038 0.0000 +0.0015	+0.102 +0.064 +0.0040 +0.0025	0.102T 0.026T 0.0040T 0.0010T		+0.102 +0.064 +0.0040 +0.0025	0.102T 0.025T 0.0040T 0.0010T

ǎ ч ẽ ẋ ᴑ mmÂ · in âŁ

ê ă Ù 3 ă □ 0 (1) ă

(mm/in.)		(mm/in.)											
		mm in.	mm in.		mm in.		mm in.		mm in.		mm in.	
0.000 0.0000	152.400 6.0000	+0.013 0.000 +0.0005 0.0000	+0.025 +0.038 +0.0010 +0.0015	0.012L 0.038L 0.0005L 0.0015L	+0.013 +0.025 +0.0005 +0.0010	0.000 0.025L 0.0000 0.0010L	0.000 +0.013 0.0000 +0.0005	0.013T 0.013L 0.0005T 0.0005L	-0.013 0.000 -0.0005 0.0000	0.026T 0.000 0.0010T 0.0000	-0.025 -0.013 -0.0010 -0.0005	0.038T 0.013T 0.0015T 0.0005T
152.400 6.0000	304.800 12.0000	+0.013 0.000 +0.0005 0.0000	+0.025 +0.038 +0.0010 +0.0015	0.012L 0.038L 0.0005L 0.0015L	+0.013 +0.025 +0.0005 +0.0010	0.000 0.025L 0.0000 0.0010L	0.000 +0.025 0.0000 +0.0010	0.013T 0.025L 0.0005T 0.0010L	-0.025 0.000 -0.001 0.0000	0.038T 0.000 0.0015T 0.0000	-0.038 -0.013 -0.0015 -0.0005	0.051T 0.013T 0.0020T 0.0005T
304.800 12.0000	609.600 24.0000	+0.025 0.000 +0.0010 0.0000	+0.038 +0.064 +0.0015 +0.0025	0.013L 0.064L 0.0005L 0.0025L	+0.025 +0.051 +0.0010 +0.0020	0.000 0.051L 0.0000 0.0020L	0.000 +0.025 0.0000 +0.0010	0.025T 0.025L 0.0010T 0.0010L	-0.025 0.000 -0.001 0.0000	0.050T 0.000 0.0020T 0.0000	-0.038 -0.013 -0.0015 -0.0005	0.063T 0.013T 0.0025T 0.0005T
609.600 24.0000	914.400 36.0000	+0.038 0.000 +0.0015 0.0000	+0.051 +0.089 +0.0020 +0.0035	0.013L 0.089L 0.0005L 0.0035L	+0.038 +0.076 +0.0015 +0.0030	0.000 0.076L 0.0000 0.0030L	0.000 +0.038 0.0000 +0.0015	0.038T 0.038L 0.0015T 0.0015L	-0.038 0.000 -0.0015 0.0000	0.076T 0.000 0.0030T 0.0000	-0.051 -0.013 -0.0020 -0.0005	0.089T 0.013T 0.0035T 0.0005T

(1) ă ч ẽ ẋ ᵕ ˑ mm Â in âŁ

F

ề ắ Ù 00 ắ □ 000 ắ

(mm/in.)		(mm/in.)				
		mm in.	mm in.		mm in.	
0.000 0.0000	315.000 12.4016	0.000 +0.008 0.0000 +0.0003	+0.020 +0.013 +0.0008 +0.0005	0.020T 0.005T 0.0008T 0.0002T	+0.020 +0.013 +0.0008 +0.0005	0.020T 0.005T 0.0008T 0.0002T

ề ắ Ù 00 ắ □ 000 ắ

Cup O.D.												
(mm/in.)		(mm/in.)										
		mm in.	mm in.		mm in.		mm in.		mm in.		mm in.	
0.000 0.0000	315.000 12.4016	+0.008 0.000 +0.0003 0.0000	+0.015 +0.023 +0.0006 +0.0009	0.007L 0.023L 0.0003L 0.0009L	+0.008 +0.015 +0.0003 +0.0006	0.000 0.015L 0.0000 0.0006L	0.000 +0.008 0.0000 +0.0003	0.008T 0.008L 0.0003T 0.0003L	-0.008 0.000 -0.0003 0.0000	0.016T 0.000 0.0006T 0.0000	-0.015 -0.008 -0.0006 -0.0003	0.023T 0.008T 0.0009T 0.0003T

ề ắ ỦK ắ □ N ắ

(mm/in.)		(mm/in.)									
		mm in.	mm in.			mm in.			mm in.		
10.000 0.3937	18.000 0.7087	-0.012 0.000 -0.0005 0.0000	+0.018 +0.007 +0.0007 +0.0003	0.030T 0.007T 0.0012T 0.0003T	m6	+0.023 +0.013 +0.0009 +0.0005	0.035T 0.013T 0.0014T 0.0005T	n6	0.000 -0.010 0.0000 -0.0004	0.012T 0.010L 0.0005T 0.0004L	h6
18.000 0.7087	30.000 1.1811	-0.012 0.000 -0.0005 0.0000	+0.021 +0.008 +0.0008 +0.0003	0.033T 0.008T 0.0013T 0.0003T	m6	+0.028 +0.015 +0.0011 +0.0006	0.040T 0.015T 0.0016T 0.0006T	n6	0.000 -0.013 0.0000 -0.0005	0.012T 0.013L 0.0005T 0.0005L	h6
30.000 1.1811	50.000 1.9685	-0.012 0.000 -0.0005 0.0000	+0.025 +0.009 +0.0010 +0.0004	0.037T 0.009T 0.0015T 0.0004T	m6	+0.033 +0.017 +0.0013 +0.0007	0.045T 0.017T 0.0018T 0.0007T	n6	0.000 -0.016 0.0000 -0.0006	0.012T 0.016L 0.0005T 0.0006L	h6
50.000 1.9685	80.000 3.1496	-0.015 0.000 -0.0006 0.0000	+0.030 +0.011 +0.0012 +0.0005	0.045T 0.011T 0.0018T 0.0005T	m6	+0.039 +0.020 +0.0015 +0.0008	0.053T 0.020T 0.0021T 0.0008T	n6	0.000 -0.019 0.0000 -0.0007	0.015T 0.019L 0.0006T 0.0007L	h6
80.000 3.1496	120.000 4.7244	-0.020 0.000 -0.0008 0.0000	+0.035 +0.013 +0.0014 +0.0005	0.055T 0.013T 0.0022T 0.0005T	m6	+0.045 +0.023 +0.0019 +0.0010	0.065T 0.023T 0.0027T 0.0010T	n6	0.000 -0.022 0.0000 -0.0009	0.020T 0.022L 0.0008T 0.0009L	h6
120.000 4.7244	180.000 7.0866	-0.025 0.000 -0.0010 0.0000	+0.052 +0.027 +0.0022 +0.0012	0.077T 0.027T 0.0032T 0.0012T	n6	+0.068 +0.043 +0.0028 +0.0018	0.093T 0.043T 0.0038T 0.0018T	p6	0.000 -0.025 0.0000 -0.0010	0.025T 0.025L 0.0010T 0.0010L	h6
180.000 7.0866	200.000 7.8740	-0.030 0.000 -0.0012 0.0000	+0.060 +0.031 +0.0026 +0.0014	0.090T 0.031T 0.0038T 0.0014T	n6	+0.106 +0.077 +0.0042 +0.0030	0.136T 0.077T 0.0054T 0.0030T	r6	0.000 -0.029 0.0000 -0.0012	0.030T 0.029L 0.0012T 0.0012L	h6
200.000 7.8740	225.000 8.8583					+0.109 +0.080 +0.0043 +0.0031	0.139T 0.080T 0.0055T 0.0031T				
225.000 8.8583	250.000 9.8425					+0.113 +0.084 +0.0044 +0.0033	0.143T 0.084T 0.0056T 0.0033T				

F

ě ř Ů K ř □ N ř

(mm/in.)		(mm/in.)									
		mm in.	mm in.			mm in.			mm in.		
250.000 9.8425	280.000 11.0236	-0.035 0.000 -0.0014 0.0000	+0.066 +0.034 +0.0026 +0.0014	0.101T 0.034T 0.0040T 0.0014T	n6	+0.146 +0.094 +0.0057 +0.0037	0.181T 0.094T 0.0071T 0.0037T	r7	0.000 -0.032 0.0000 -0.0012	0.035T 0.032L 0.0014T 0.0012L	h6
280.000 11.0236	315.000 12.4016					+0.150 +0.098 +0.0059 +0.0039	0.185T 0.098T 0.0073T 0.0039T				
315.000 12.4016	355.000 13.9764	-0.040 0.000 -0.0016 0.0000	+0.073 +0.037 +0.0030 +0.0016	0.113T 0.037T 0.0046T 0.0016T	n6	+0.165 +0.108 +0.0065 +0.0043	0.205T 0.108T 0.0081T 0.0043T	r7	0.000 -0.036 0.0000 -0.0014	0.040T 0.036L 0.0016T 0.0014L	h6
355.000 13.9764	400.000 15.7480					+0.171 +0.114 +0.0067 +0.0045	0.211T 0.114T 0.0083T 0.0045T				
400.000 15.7480	450.000 17.7165	-0.045 0.000 -0.0018 0.0000	+0.080 +0.040 +0.0034 +0.0018	0.0125T 0.040T 0.0052T 0.0018T	n6	+0.189 +0.126 +0.0074 +0.0050	0.234T 0.126T 0.0092T 0.0050T	r7	0.000 -0.040 0.0000 -0.0016	0.045T 0.040L 0.0018T 0.0016L	h6
450.000 17.7165	500.000 19.6850					+0.195 +0.132 +0.0077 +0.0052	0.240T 0.132T 0.0094T 0.0052T				
500.000 19.6850	630.000 24.8032	-0.050 0.000 -0.0020 0.0000	+0.100 +0.050 +0.0039 +0.0020	0.150T 0.050T 0.0059T 0.0020T	–	+0.200 +0.125 +0.0079 +0.0050	0.250T 0.125T 0.0099T 0.0050T	–	0.000 -0.050 0.0000 -0.0020	0.050T 0.050L 0.0020T 0.0020L	–
630.000 24.8032	800.000 31.4961	-0.080 0.000 -0.0031 0.0000	+0.125 +0.050 +0.0049 +0.0020	0.205T 0.050T 0.0080T 0.0020T	–	+0.225 +0.150 +0.0089 +0.0059	0.305T 0.150T 0.0120T 0.0059T	–	0.000 -0.075 0.0000 -0.0030	0.080T 0.075L 0.0031T 0.0030L	–
800.000 31.4961	1000.000 39.3701	-0.100 0.000 -0.0039 0.0000	+0.150 +0.050 +0.0059 +0.0020	0.250T 0.050T 0.0098T 0.0020T	–	+0.275 +0.175 +0.0108 +0.0069	0.375T 0.175T 0.0147T 0.0069T	–	0.000 -0.100 0.0000 -0.0039	0.100T 0.100L 0.0039T 0.0039L	–

mm in.			mm in.			mm in.		
-0.017 -0.049 -0.0007 -0.0019	0.018T 0.049L 0.0007T 0.0019L	g6	-0.017 -0.049 -0.0007 -0.0019	0.018T 0.049L 0.0007T 0.0019L	g6	-0.056 -0.088 -0.0022 -0.0034	0.021L 0.088L 0.0008L 0.0034L	f6
-0.018 -0.075 -0.0007 -0.0029	0.022T 0.075L 0.0009T 0.0029L	g7	-0.018 -0.075 -0.0007 -0.0029	0.022T 0.075L 0.0009T 0.0029L	g7	–	–	–
-0.020 -0.083 -0.0008 -0.0033	0.025T 0.083L 0.0010T 0.0033L	g7	-0.020 -0.083 -0.0008 -0.0033	0.025T 0.083L 0.0010T 0.0033L	g7	–	–	–
-0.050 -0.100 -0.0020 -0.0039	0.000 0.100L 0.0000 0.0039L	–	-0.050 -0.100 -0.0020 -0.0039	0.000 0.100L 0.0000 0.0039L	–	–	–	–
-0.080 -0.150 -0.0031 -0.0059	0.000 0.150L 0.0000 0.0059L	–	-0.080 -0.150 -0.0031 -0.0059	0.000 0.150L 0.0000 0.0059L	–	–	–	–
-0.100 -0.200 -0.0039 -0.0079	0.000 0.200L 0.0000 0.0079L	–	-0.100 -0.200 -0.0039 -0.0079	0.000 0.200L 0.0000 0.0079L	–	–	–	–

ề ắ ỦK ắ □ N ắ

(mm/in.)		(mm/in.)												
		mm in.	mm in.			mm in.			mm in.			mm in.		
18.000 0.7087	30.000 1.1811	0.000 -0.012 0.0000 -0.0005	+0.007 +0.028 +0.0003 +0.0011	0.007L 0.040L 0.0003L 0.0016L	G7	-0.009 +0.012 -0.0003 +0.0005	0.009T 0.024L 0.0003T 0.0010L	J7	-0.035 -0.014 -0.0013 -0.0005	0.035T 0.002T 0.0013T 0.0000	P7	-0.041 -0.020 -0.0017 -0.0009	0.041T 0.008T 0.0017T 0.0004T	R7
30.000 1.1811	50.000 1.9685	0.000 -0.014 0.0000 -0.0006	+0.009 +0.034 +0.0004 +0.0014	0.009L 0.048L 0.0004L 0.0020L	G7	-0.011 +0.014 -0.0004 +0.0006	0.011T 0.028L 0.0004T 0.0011L	J7	-0.042 -0.017 -0.0016 -0.0006	0.042T 0.003T 0.0016T 0.0000	P7	-0.050 -0.025 -0.0020 -0.0010	0.050T 0.011T 0.0020T 0.0004T	R7
50.000 1.9685	65.000 2.5591	0.000 -0.016 0.0000 -0.0006	+0.010 +0.040 +0.0004 +0.0016	0.010L 0.056L 0.0004L 0.0022L	G7	-0.012 +0.018 -0.0004 +0.0008	0.012T 0.034L 0.0004T 0.0014L	J7	-0.051 -0.021 -0.0021 -0.0009	0.051T 0.005T 0.0021T 0.0003T	P7	-0.060 -0.030 -0.0024 -0.0012	0.060T 0.014T 0.0024T 0.0006T	R7
65.000 2.5591	80.000 3.1496											-0.062 -0.032 -0.0024 -0.0013	0.062T 0.016T 0.0024T 0.0006T	
80.000 3.1496	100.000 3.9370	0.000 -0.018 0.0000 -0.0007	+0.012 +0.047 +0.0005 +0.0019	0.012L 0.065L 0.0005L 0.0026L	G7	-0.013 +0.022 -0.0005 +0.0009	0.013T 0.040L 0.0005T 0.0016L	J7	-0.059 -0.024 -0.0025 -0.0011	0.059T 0.006T 0.0025T 0.0004T	P7	-0.073 -0.038 -0.0029 -0.0015	0.073T 0.020T 0.0029T 0.0008T	R7
100.000 3.9370	120.000 4.7244											-0.076 -0.041 -0.0030 -0.0016	0.076T 0.023T -0.0030 -0.0009	
120.000 4.7244	150.000 5.9055	0.000 -0.020 0.0000 -0.0008	+0.014 +0.054 +0.0006 +0.0022	0.014L 0.074L 0.0006L 0.0030L	G7	-0.014 +0.026 -0.0006 +0.0010	0.014T 0.046L 0.0006T 0.0018L	J7	-0.068 -0.028 -0.0028 -0.0012	0.068T 0.008T 0.0028T 0.0004T	P7	-0.089 -0.048 -0.0035 -0.0019	0.089T 0.028T 0.0035T 0.0011T	–
150.000 5.9055	180.000 7.0866	0.000 -0.025 0.0000 -0.0010	+0.014 +0.054 +0.0006 +0.0022	0.014L 0.079L 0.0006L 0.0032L	G7	-0.014 +0.026 -0.0006 +0.0010	0.014T 0.051L 0.0006T 0.0020L	J7	-0.068 -0.028 -0.0028 -0.0012	0.068T 0.008T 0.0028T 0.0002T	P7	-0.089 -0.048 -0.0035 -0.0019	0.089T 0.023T 0.0035T 0.0009T	–
180.000 7.0866	200.000 7.8740	0.000 -0.030 0.0000 -0.0012	+0.015 +0.061 +0.0006 +0.0024	0.015L 0.091L 0.0006L 0.0036L	G7	-0.016 +0.030 -0.0007 +0.0011	0.016T 0.060L 0.0007T 0.0023L	J7	-0.079 -0.033 -0.0032 -0.0014	0.079T 0.003T 0.0032T 0.0002T	P7	-0.106 -0.060 -0.0042 -0.0024	0.106T 0.030T 0.0042T 0.0012T	R7
200.000 7.8740	225.000 8.8583											-0.109 -0.063 -0.0043 -0.0025	0.109T 0.033T 0.0043T 0.0013T	
225.000 8.8583	250.000 9.8425											-0.113 -0.067 -0.0044 -0.0026	0.113T 0.037T 0.0044T 0.0015T	

F

(mm/in.)		(mm/in.)									
		mm in.	mm in.			mm in.			mm in.		
10.000 0.3937	18.000 0.7087	-0.007 0.000 -0.0003 0.0000	+0.009 +0.001 +0.0004 +0.0001	0.016T 0.001T 0.0007T 0.0001T	k5	+0.018 +0.007 +0.0007 +0.0003	0.025T 0.007T 0.0010T 0.0003T	m6	+0.009 +0.001 +0.0004 +0.0001	0.016T 0.001T 0.0007T 0.0001T	k5
18.000 0.7087	30.000 1.1811	-0.008 0.000 -0.0003 0.0000	+0.011 +0.002 +0.0005 +0.0001	0.019T 0.002T 0.0008T 0.0001T	k5	+0.017 +0.008 +0.0007 +0.0003	0.025T 0.008T 0.0010T 0.0003T	m5	+0.011 +0.002 +0.0005 +0.0001	0.019T 0.002T 0.0008T 0.0001T	k5
30.000 1.1811	50.000 1.9685	-0.010 0.000 -0.0004 0.0000	+0.013 +0.002 +0.0005 +0.0001	0.023T 0.002T 0.0009T 0.0001T	k5	+0.020 +0.009 +0.0008 +0.0004	0.030T 0.009T 0.0012T 0.0004T	m5	+0.013 +0.002 +0.0005 +0.0001	0.023T 0.002T 0.0009T 0.0001T	k5
50.000 1.9685	80.000 3.1496	-0.012 0.000 -0.0005 0.0000	+0.015 +0.002 +0.0006 +0.0001	0.027T 0.002T 0.0011T 0.0001T	k5	+0.033 +0.020 +0.0013 +0.0008	0.045T 0.020T 0.0018T 0.0008T	n5	+0.015 +0.002 +0.0006 +0.0001	0.027T 0.002T 0.0011T 0.0001T	k5
80.000 3.1496	120.000 4.7244	-0.015 0.000 -0.0006 0.0000	+0.018 +0.003 +0.0007 +0.0001	0.033T 0.003T 0.0013T 0.0001T	k5	+0.038 +0.023 +0.0016 +0.0010	0.053T 0.023T 0.0022T 0.0010T	n5	+0.018 +0.003 +0.0007 +0.0001	0.033T 0.003T 0.0013T 0.0001T	k5
120.000 4.7244	180.000 .000Tj /R70 -7 Tm70 6.5 Tf 1.44297 -7 Td (.000Tj /R70 1.44297 -7 TdTj 9.37 l S 4549.61 5031.87 m 4549.61 547.39 el S 4549.61226.87 l S 1 06)Tj 7 TL (+0.0003).006.87 l S 1 06 1 06 +1 7 TL (+0.0* TL (+0.d (+0.0007)Tj 7 T5 (+0.0008)4 Td (.000Tj /R70 -7 Tm70 60.4977 Td (008)' (+0.0004)1)' /R70 6.5 Tf -1.44236 -7 Td (0.0022T)73.5 Tf 37.447.39 el S 4549.61226.87 l S 1 06)Tj3f +1 7 TL (+0.0* TL (+0.d1.86416 Td (0.09 1.44297 -704)Tj (+0.0001)' /R42 6.5 T6 Td (0.03361.44297 -7)' /R70 6.5 Tf -1.44208j /R70 6.5 Tf -113.5 Tf 37.7 (0.0001T)' 48.4832 10.4973 Td (k0.007441.44297										

(mm/in.)		(mm/in.)										
		mm in.	mm in.			mm in.			mm in.			
250.000 9.8425	280.000 11.0236	-0.022 0.000 -0.0009 0.0000	+0.027 +0.004 +0.0011 +0.0002	0.049T 0.004T 0.0020T 0.0002T	k5	-0.126 -0.074 -0.0050 -0.0029	0.126T 0.039T 0.0050T 0.0015T	r5	+0.027 +0.004 +0.0011 +0.0002	0.049T 0.004T 0.0020T 0.0002T	k5
280.000 11.0236	315.000 12.4016					-0.130 -0.078 -0.0051 -0.0031	0.130T 0.043T 0.0051T 0.0017T				
315.000 12.4016	355.000 13.9764	-0.025 0.000 -0.0010 0.0000	+0.029 +0.004 +0.0012 +0.0002	0.054T 0.004T 0.0022T 0.0002T	k5	-0.144 -0.087 -0.0057 -0.0034	0.144T 0.047T 0.0057T 0.0019T	r5	+0.029 +0.004 +0.0012 +0.0002	0.054T 0.004T 0.0022T 0.0002T	k5
355.000 13.9764	400.000 15.7480					-0.150 -0.093 -0.0059 -0.0037	0.150T 0.053T 0.0059T 0.0021T				
400.000 15.7480	450.000 17.7165	-0.025 0.000 -0.0010 0.0000	+0.032 +0.005 +0.0012 +0.0002	0.057T 0.005T 0.0022T 0.0002T	k5	-0.166 -0.103 -0.0065 -0.0041	0.166T 0.058T 0.0065T 0.0023T	r5	+0.032 +0.005 +0.0012 +0.0002	0.057T 0.005T 0.0022T 0.0002T	k5
450.000 17.7165	500.000 19.6850					-0.172 -0.109 -0.0068 -0.0043	0.172T 0.064T 0.0068T 0.0025T				
500.000 19.6850	630.000 24.8032	-0.030 0.000 -0.0012 0.0000	+0.040 +0.010 +0.0016 +0.0004	0.070T 0.010T 0.0028T 0.0004T	–	+0.185 +0.150 +0.0073 +0.0059	0.216T 0.150T 0.0085T 0.0059T	–	+0.040 +0.010 +0.0016 +0.0004	0.070T 0.010T 0.0028T 0.0004T	–
630.000 24.8032	800.000 31.4961	-0.040 0.000 -0.0016 0.0000	+0.055 +0.015 +0.0022 +0.0006	0.095T 0.015T 0.0038T 0.0006T	–	+0.220 +0.175 +0.0087 +0.0069	0.260T 0.175T 0.0103T 0.0069T	–	+0.055 +0.015 +0.0022 +0.0006	0.095T 0.015T 0.0038T 0.0006T	–
800.000 31.4961	1000.000 39.3701	-0.050 0.000 -0.0020 0.0000	+0.065 +0.015 +0.0026 +0.0006	0.115T 0.015T 0.0046T 0.0006T	–	+0.255 +0.200 +0.0100 +0.0079	0.305T 0.200T 0.0120T 0.0079T	–	+0.065 +0.015 +0.0026 +0.0006	0.115T 0.015T 0.0046T 0.0006T	–

è ă ÙC ă

è ǎ Ù B ǎ

(mm/in.)		(mm/in.)									
		mm in.	mm in.			mm in.			mm in.		
10.000 0.3937	18.000 0.7087	-0.005 0.000 -0.0002 0.0000	+0.009 +0.001 +0.0004 +0.0001	0.014T 0.001T 0.0006T 0.0001T	k5	+0.015 +0.007 +0.0006 +0.0003	0.020T 0.007T 0.0008T 0.0003T	m5	+0.009 +0.001 +0.0004 +0.0001	0.014T 0.001T 0.0006T 0.0001T	k5
18.000 0.7087	30.000 1.1811	-0.006 0.000 -0.0002 0.0000	+0.011 +0.002 +0.0005 +0.0001	0.017T 0.002T 0.0007T 0.0001T	k5	+0.017 +0.008 +0.0007 +0.0003	0.023T 0.008T 0.0009T 0.0003T	m5	+0.011 +0.002 +0.0005 +0.0001	0.017T 0.002T 0.0007T 0.0001T	k5
30.000 1.1811	50.000 1.9685	-0.008 0.000 -0.0003 0.0000	+0.013 +0.002 +0.0005 +0.0001	0.021T 0.002T 0.0008T 0.0001T	k5	+0.020 +0.009 +0.0008 +0.0004	0.028T 0.009T 0.0011T 0.0004T	m5	+0.013 +0.002 +0.0005 +0.0001	0.021T 0.002T 0.0008T 0.0001T	k5
50.000 1.9685	80.000 3.1496	-0.009 0.000 -0.0004 0.0000	+0.015 +0.002 +0.0006 +0.0001	0.024T 0.002T 0.0010T 0.0001T	k5	+0.033 +0.020 +0.0013 +0.0008	0.042T 0.020T 0.0017T 0.0008T	n5	+0.015 +0.002 +0.0006 +0.0001	0.024T 0.002T 0.0010T 0.0001T	k5
80.000 3.1496	120.000 4.7244	-0.010 0.000 -0.0004 0.0000	+0.018 +0.003 +0.0007 +0.0001	0.028T 0.003T 0.0011T 0.0001T	k5	+0.033 +0.023 +0.0014 +0.0010	0.043T 0.023T 0.0018T 0.0010T	n4	+0.018 +0.003 +0.0007 +0.0001	0.028T 0.003T 0.0011T 0.0001T	k5
120.000 4.7244	180.000 7.0866	-0.013 0.000 -0.0005 0.0000	+0.021 +0.003 +0.0008 +0.0001	0.034T 0.003T 0.0013T 0.0001T	k5	+0.055 +0.043 +0.0023 +0.0018	0.068T 0.043T 0.0028T 0.0018T	p4	+0.021 +0.003 +0.0008 +0.0001	0.034T 0.003T 0.0013T 0.0001T	k5
180.000 7.0866	200.000 7.8740	-0.015 0.000 -0.0006 0.0000	+0.024 +0.004 +0.0010 +0.0002	0.039T 0.004T 0.0016T 0.0002T	k5	+0.091 +0.077 +0.0036 +0.0030	0.113T 0.077T +0.0044 +0.0030	r4	+0.024 +0.004 +0.0010 +0.0002	0.039T 0.004T 0.0016T 0.0002T	k5
200.000 7.8740	225.000 8.8583					+0.094 +0.080 +0.0037 +0.0031	0.116T 0.084T +0.0046 +0.0031				
225.000 8.8583	250.000 9.8425					+0.098 +0.084 +0.0039 +0.0033	0.120T 0.084T +0.0047 +0.0033				
250.000 9.8425	280.000 11.0236	- 0.018 0.000 -0.0007 0.0000	+0.027 +0.004 +0.0011 +0.0002	0.045T 0.004T 0.0018T 0.0002T	k5	-0.126 -0.074 -0.0050 -0.0029	0.126T 0.039T 0.0050T 0.0015T	r4	+0.027 +0.004 +0.0011 +0.0002	0.045T 0.004T 0.0018T 0.0002T	k5
280.000 11.0236	315.000 12.4016					-0.130 -0.078 -0.0051 -0.0031	0.130T 0.043T 0.0051T 0.0017T				

(mm/in.)		(mm/in.)									
		mm in.	mm in.			mm in.			mm in.		
10.000 0.3937	18.000 0.7087	-0.005 0.000 -0.0002 0.0000	+0.013 +0.005 +0.0005 +0.0002	0.018T 0.005T 0.0007T 0.0002T	–	–	–	–	+0.013 +0.005 +0.0005 +0.0002	0.018T 0.005T 0.0007T 0.0002T	–
18.000 0.7087	30.000 1.1811	-0.006 0.000 -0.0002 0.0000	+0.013 +0.005 +0.0005 +0.0002	0.019T 0.005T 0.0007T 0.0002T	–	–	–	–	+0.013 +0.005 +0.0005 +0.0002	0.019T 0.005T 0.0007T 0.0002T	–
30.000 1.1811	315.000 12.4016	-0.008 0.000 -0.0003 0.0000	+0.013 +0.005 +0.0005 +0.0002	0.021T 0.005T 0.0008T 0.0002T	–	–	–	–	+0.013 +0.005 +0.0005 +0.0002	0.021T 0.005T 0.0008T 0.0002T	–

ề ắ Ù A ắ □ AA ắ

(mm/in.)		(mm/in.)															
		mm in.	mm in.			mm in.			mm in.			mm in.			mm in.		
0.000 0.0000	315.000 12.4016	0.000 -0.008 0.0000 -0.0003	+0.008 +0.016 +0.0003 +0.0006	0.008L 0.024L 0.0003L 0.0009L	–	0.000 +0.008 0.0000 +0.0003	0.000 0.016L 0.0000 0.0006L	–	-0.008 0.000 -0.0003 0.0000	0.008T 0.008L 0.0003T 0.0003L	–	-0.016 -0.008 -0.0006 -0.0003	0.016T 0.000 0.0006T 0.0000	–	-0.024 -0.016 -0.0009 -0.0006	0.024T 0.008T 0.0009T 0.0003T	–

F

F

G

G Ự ⌂ Ď

Ự ⌂ Ď 91
Ļ Ṿ ƒ 92
s4 ▫ 94
Ʊ Ḅ 94
SAF Ẑ Ď ƀ 97

G

Ụ ⌂ Ḋ

Ł Ł Timken Ụ ⌂ Ḋ Ḋ “ ت ▒ Ê ă ʙ ť ę ẹ Ù · mm ت ă

u Ã ŧ ˙ u ₨ ŧ ŧ ˇ ”H ȷ ˇ “ م Ẹ ẽ = ȷ ▫ Ù ‘ □ ŧ Ω Ŏ ŧ ŧ ⊮ ⁻ ŧ ă ´ ŧ ă م Ω Ŏ ŧ é ṃ ”A ă . ề ⁿ ȷ ▫ Ł

ẽ ⌂ ƀ Ł ı ' ؤ ť ض Ù Ù ă u ť א ɱ Ọ “ ▒ م Ê Ḋ ⁴ ˪ Ł ſ ŭ ˜ ˧ ˳ Ḋ ƒ ŧ ʊ □ w Ł

- EM / YM ⌂ ă ɾ ɱ Ọ₉
- EMB/YMB ă ɾ ɱ Ọ₉
- YMD ă Ɣ ɾ ɱ Ọ₉
- EJ ă – ɱ Ọ₉ ù ب †
- YP – ɱ Ọ₉



Ļ V ƒ

Ł Ł % Ḋ ƒ ẽ Ê ɓ Ţ Ş ẽ Ŕ . Ḋ ƒ
˜ ę ŕ ɯ Ł

Ł Ł ẽ Timken Ḋ ȷ ' Ω ẽ Ê Ą
□ Ḧ ẽ Ł Ḋ ẽ Ą Ṻ ẽ ˙ Ṻ
ṽ ẽ Ê ȝ ẽ Ḋ Ł ¨ Ą Ḋ Ą
Ê ʁ ╬ ʊ Ê u u Ḋ ŧ ' Ḱ Ê u u
Ḋ Ḧ Ą ő ˙ ȷ n Ł

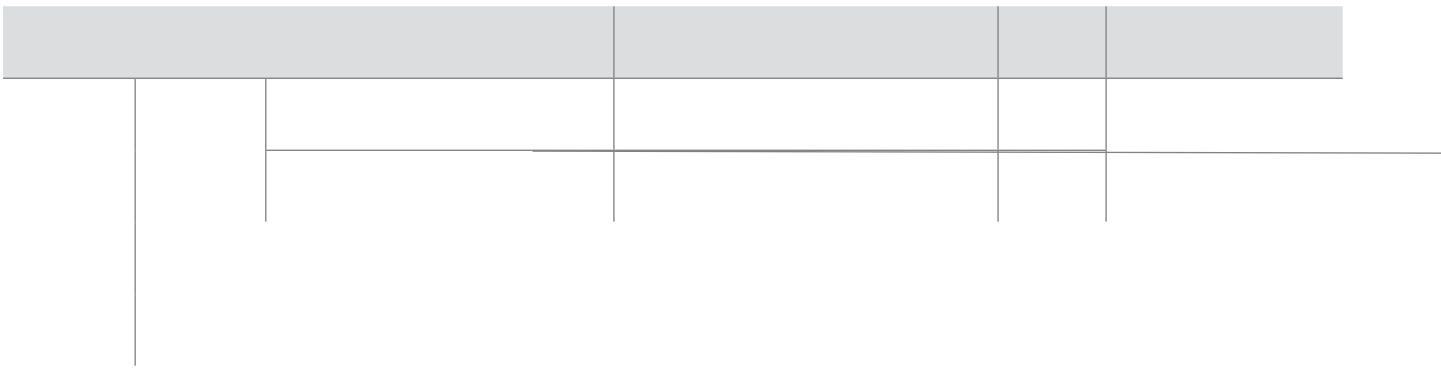
Ł Ł ắ ˇ ẽ ƒ ȷ u Ḋ ử Ą ő ƿ ƀ
Ê ẋ ẋ Ḧ Ḋ Ł

Ł Ł L u Ӿ Ự ⌂ Ḋ ẽ –
ẽ ▫ Ł ɓ ồ · ẽ Ł

			mm in.		(1)	
			94		s4	94
					g6	
					h6	
	P ≤ 0.07C (2)		Over 18 0.7086 100 3.9370	Incl. 100 3.9370 200 7.8740	k6 m6	k5 m5 k6 m6
	P > 0.07C (2) ≤ 0.25C (2)		18 0.7086 65 2.5590 100 3.9370 140 5.5118 280 11.0236 500 19.6850	65 2.5590 100 3.9370 140 5.5118 280 11.0236 500 19.6850 and up	m5 m6 n6 p6 r6 r7	
	P > 0.25C (2)		18 0.7086 65 2.5590 100 3.9370 140 5.5118 200 7.8740	65 2.5590 100 3.9370 140 5.5118 200 7.8740 500 19.6850	m6 n6 p6 r6 r7	
						97 RIC

Ḋ

Ł Ł Ł u Ƞ Ự ⌂ Ḋ ẽ Ḋ ẽ ▫ Ł



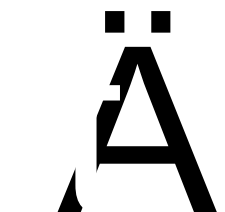
Ţ ę Ď

ǫ̃Ĩ Ω

- ẋ ę Ĩ Ḥ ŕ ˩ ▫
- ˩ º Ď Ḟ Ĩ Ḥ Ê ˙ ’A Ê ˜ ˡ Ţ
- ˡ ŕ Ɩ ı º ǫ̃Ĩ Ω Ù
- º
- º

º

- º ˩ º ” Ờ ẽ º Ď ˛ ƀ ẽ
- u s ˩ ϟ Ⓐ ϟ · F



- ă ę ⌂ Ê ⌂ □ ⌂ ę ˇ Ă ę Ł ⁴ ♯ ẽ ę ŭ ˙ Ḇ Ê Ą̆ ę ʒ u ш
- ł ˥ ẽ ę ♯ Ĥ ă̋ ʊ ẽ ت ę Â â
- ɣ ɔ ɔ ẽ ˌ ب ˚ Ê ẏ ʊ Ḇ
- ˚ Ă Ḋ Ê ╬
- Ą ẽ ę % Ê ˥ ▫ ▯ ₀ Ê ă
- ă ʃ Ų̇ ت ę ẽ ˉ Ų̇
- Ḍ ` Ḇ Ê ´ Ẽ Ã ẽ ˉ Ų̇ Ł u ˢ Ḱ h ẽ ˉ Ų̇
- ł ˇ ę ɯ ẽ ت ę ề ɹ ˢ ˥ ẽ ʊ
- ʊ ˇ Ê ₀ ⌂ Ḿ ˇ ęRIC Ê | Ő ę Ê ɯ ⌂ ɾ ᵋ ɔ % ő ⌂ ę ẽ ɾ Â â
- Ã ẇ Ą̇ h ẽ RIC ˉ Ų̇ Ê Ḋ ب Ẽ Ą̣ Ã ẽ ▫
- u Ą̇ ở ẽ Ą̇ ɯ Ą̇ ķ ɹ ᵻ ę % ę ˙ ˌ ḃ ʊ Ḇ

ك #1 ň ň ŭ ₾ Ự ⌂ Ḋ RIC ˉ Ų̇

Ł Ł₆ Ù Ḋ K C Â mm ẽ ₾ ÊC â ɾ ƀ ʊ Ł ˥ ę ʃ Ų̇ Ê ă í ẽ RIC ň ň

RIC ⁀ mm ⁀ in

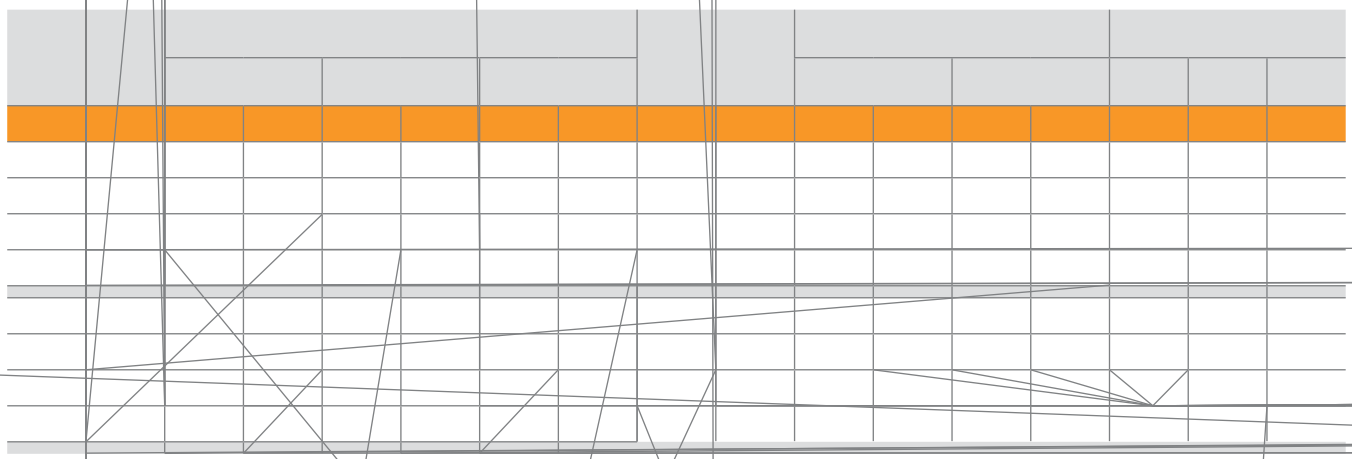
Ł Ł h RIC ʊ ˉ Ų̇ ˙ mmÂ in ˙ in âÊ ɓ Ɣ ồ ⁀ ˩ Ł

ŭ ʊ ł ň ň

⁀ mm ⁀ mm mm ɹ

⁀ in in in

Ł Ł Ù ك Ê ⁀ mm Â in â ˥ ồ ⁀



Ł Ł ₹ Ʊ Ư ⌂ Ḋ Ê ʼH ¯ Ḋ ت ₹ Ạ □ ȷ ˇ ẽ ĭ Ł Ʊ Ḅ ᵤ Ã ⅱ ă Ω Ê ш ώ Ø Ệ Ḋ ẽ Ł

Ł Ł ẋ ẽ ₒ ▒ ẽ ℵ Ê ȷ ⁝ ẽ ă ȷ ˥ ▫ Ê ₾ Ʊ ⅱ Ŋ ẽ Ł . ₀ ⁿ Ã ▫ Ư ẽ ` □ † ₾ Ḋ Ł

Ł Ł Timken ₾ Ẑ Ḋ ϟ ϟ ϟ □ ϟ ϟ ب Ł ⅝ ϧ ت Ê ϐ ồ ˑ Ł

Ł Ł ĭ ă “ ₣ ₅ ł ʼA ł ᵤ ◙ ▒ ȷ ᵤ ⁞ ℵ ẽ Ê ẽ ₾ ₆ Ẓ ᴸ Ł

% ă ʼH □ ʽH ʼA ʼH Ẑ Ḋ

Ł Ł ▪ ẽ Timken Ẑ Ḋ ʼE ₨ Ʊ ẽ ʽH ʼA ʼH ȷ % ă ʼH Ł ĭ % ă ʼH Ê Ḋ ẽ □ Ḋ ã ˜ ₀ ˛ † ă = Ư ő ă ε Ạ ʼA Ł

Ł Ł Ḋ Ḋ Ł ẇ Ặ † Ê ⅱ ă ₦ Ư ˩ ʽH ẽ ă = Ł

Ł Ł ẋ ȯ Timken Ẑ Ḋ ʼE Ỹ ă = Ł Ấ ʽH ʼA ʼH Ê ᵤ Ê Ḋ ˑ mm Â ‾ ˑ in â ẽ ώ ʼA Ê Ư ᵢ ᵐ ẽ ȷ Ł

ʼQ v ʼH Ʊ

Ł Ł Ê ʼH Ư ă Ẑ Ḋ ẽ Ł ĭ ǔ Ê ɔ % ẽ ʼH ῶ ⅱ Ư / ⅱ Ê ת ˙ Ǔ Ł

Ł Ł Timken ʼH ' ﴿ O ʼQ ת ʼQ Ł Ʊ ת ʼH ᵤ ‘ ʅ ʼH ῶ Ł h ẋ Ê ʼH □ ʼH ῶ ˜ ' mm Â ˑ in â ẽ ˜ Ł

Ł Ł Timken ᵑ ş ᴸ › ẽ Ǒ Y ǒ ę ṿ ∏ ă ˛ ⅱ Ẑ Ḋ ẽ ẋ ⅱ ᴸ Ł ʼH ῶ Ê ⅱ Ẑ Ḋ ḅ л ■ ₀ Ǒ CL ⅱ ʼH ʼQ v â ˛ Ẽ Ặ л ■ Ł

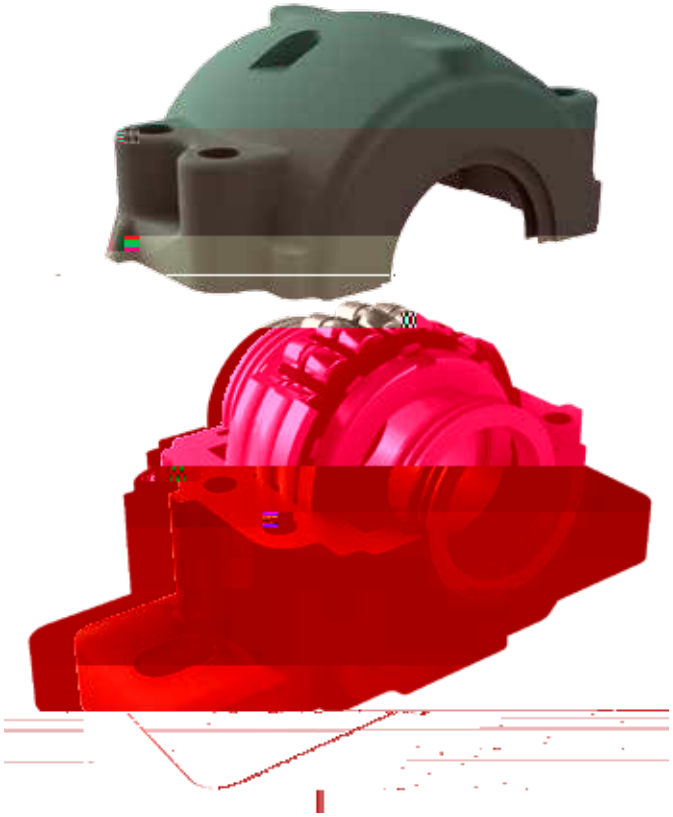
₾ Ư ⌂ Ḋ SAF ḅ ẽ Ʊ

Ł Ł u ₾ Ư ⌂ Ḋ Ʊ SAF ḅ Ê Ù

- † Ḋ ẽ ʼH ῶ □ ⁸ † ℵ₀ ⁿ ώ ḅ ẽ Ł ᵤ Ẽ ℵ ѵ fl ę ℵ
- ת ╬ ł ˙ † LER ʼQ = Ł ⅱ ת Ḋ ʼQ Ẽ Ã Ê Ạ ˩ ʽH
- ₹ Ł ł Ạ Ǔ ת w ẽ 2 ᴸ
- | Ḅ Ê Ὸ ɔ ẽ ₹ ˇ ѵ ʼ ῶ □ Ḋ
- ת Š ł ₹ ◒ ȷ Ê ę ṿ ▫

Ł Ł Ɛ Ḅ Ê u ₾ Ư ⌂ Ḋ Ʊ SAF ḅ Ù

- u ɾ ʼQ Ʊ
- u Ʊ Ê Ł u ˋ ◘ Ạ Ʊ Ḋ ẽ ɸ
- u Ḋ Ʊ Ê ε ă Ł ĭ ₾ Ḋ Ê Ɛ ồ ẽ Ê u Ḋ Ʊ Ặ Ł ת ɾ ʼQ Ʊ
- ⅱ Ê ş ᵤ Ʊ ϱ ở Ł ° ˛ ʼA ˛ ϱ ϱ Ê ʼH ʃ Ặ RIC Ê RIC ¯ Ặ Ặ Ł ϐ Ặ ţ ş C ę ʼH Â ồ ‾ âê RIC ¯ Ặ
- ϱ Ê u ϱ ở ϱ Ḋ Ê ę ă ᵘ Ḋ ε ₥ ẽ ķ Ł Ặ ‘ ɸ ϱ ķ ẽ ở ẽ Ạ Ê ₅ Ê u ķ ẽ ب
- u ɾ ʼQ Ʊ Ł ɾ ʼQ Ḋ ẽ ķ ژ ĭ
- u ʼH Ḋ ĭ ᴸ ẽ ṿ ȷ Š ļ Ê ʁ ╬ Ḋ Ê ł ˩ Ḋ ₾ ˙
- u ╬ Ḋ ẽ Ạ Ẑ Ḋ ẽ ⁸ Ł ת ʼQ Ḋ ķ ژ ĭ
- Ʊ ᴸ u Ḋ ϱ Ł ת Ḋ ╬ Ḋ ₾



- ť %ă˝Hẽ Ḍ Ê ɜ ᵢ Ẽ Ụ ẽ Ê ⱡ Ê ᵢ u ă = ʒ Ḍ □ ϱ ɾ ẽ Ḍ ã˝ ˘
- u ⟊ Ḍ Ụ ⁸ ẽ Ł % ‟ ˛ ▫ ▪ u Ḍ Ą̃ Ą̃ ⁸ ẽ Ê ₠ ⁶ Ẓ ᴸ Ł ɲ Ḍ % ă ⟊ Ẑ Ḍ Ê ώ ⟊ Â ɻ ť⟊ â Ḍ ⱡ ˝A Ł Ḱ ő
- ₀ ˙ ɻ ˙ Ł ˛ ᵽ ⁴ ȯ Ê ϐ ϒ ţ ş ⅜ ˙ ˝Ǫ ẽ ɯ
- u ˝Ḥ Ḍ ť ᴸ ẽ ʏ ɻ Š ļ Ê ʁ ╬ Ḍ õ ǂ⟊ Ḍ ₠ ˙ Ê u Ḍ õ Ą̃ Ę̃ Ê õ Ą̃
- ⁸ Ê ť ă Ł | Ḍ õ ˝Ǫ õ Ê ᵤ Ẽ ă Ł | ť ă Ỉ Ê ᵢ u Ḍ õ ᵒ Ł ɲ ₀ ⁿ ẽ ˝Ḥ Ḍ ẽ ˝Ɣ ᵩ ˝Ḥ ᵤ ᵠ ᵢ ⱡ
- Ą̃ Ê ˝Ḥ Ḍ ẽ ᵩ Ψ ˝Ɣ ˝Ǫ ϐ Ł ᵤ ˥ ˝Ɣ Ê ˝Ǫ ϐ ᵽ ɯ Ḍ Ê ẵ ▫ ᵤ Ã̃
- ₄ ẽ □ ở u Ḍ õ ʊ ⁸ Ł ϱ ⟊ ẇ Ą̃ ∏ ă ˡ ‴ Ê ɲ ▒ ˝Ḥ Ẽ Ã̃

G

G

H

H ⌂ Ḋ

⌂ Ḋ 103
Ḷ Ẏ ƒ 104
ʊ ⓔ Ḋ 104

⌂ Ḋ

Ł Ł ⌂ Ḋ ǂ □ ǂ ł ǂ ⌂ ɱ Ḍ
₉ □ ¦ ˡ ẽ ⌂ ƀ Ł ⧄ ⌂ Ḋ ض
Ê Timken Ḋ Ḋ ⁴ ‟ ẽ ت ▒ Ł ⁸ Ṭ
ض ẽ ⌂ Ḋ ⁂ ǂ ض Ù

- ŀ ب Ḋ Ù Ł ˽E ١
  Á u Ê u ẽ
- ب Ḋ Ù ⁂↑ ˇ ₄ǂ ˡ Ű Â ب
  ١ ч âŁ ب Ḋ ⧄ ɱ ẽ ŀ ب ١
  ⁴ ‟ ẽ ت Ũ م
- ب Ḋ Ù ١ ˇ ‟ ẽ ت Ũ م Ê Á u ١ ʁ م
  Ũ م Ł ẋ ȯ ₂ 2 ẽ ≥ ¦

ę ẏ Ù 15 mm – 2000 mm (0.591 in. to 78.740 in.) 140 mm - 2000 mm (5.512 in. to 78.740 in.)

*

ȷ ▫ Ù ʿ □ ŧ Ω Ő ŧ ŧ ŕ ⁼ ŧ ă ´ ŧ ă م Ω Ő
. ŧ é ɱ ˝A ă . ề ⁿ ȷ ▫ Ł

Ű Ù ⁂ ⁂ Ḥ ⁞ ẽ Ḋ Ł

Ù ‟ ت Ũ م ᴸ ˛ Ḋ Ê ¯ ˛ w ˇ
□ w ƀ Ṭ Ł



Ļ Ṿ ƒ

Ł Ł ℅ Ḋ ƒ ẽ ˛ ∏ ά Ê ɓ Ŕ ˛ Ḋ ƒ ˜
ę ŕ ш Ł

Ł Ł ẽ

- ʒ ת Ḍ Ḍ Ⱡ ▪ ʾ ҽ ‟ Ê ‟ ⠿ ᵽ ┐ Ḥ ₀
  Ḍ Ê ă ⌂ ẹ Ḥ Ø Ę
- ꞁ ′ ₀ Ḍ Ⱡ ╬ Ʊ Ḥ Ä ⣿

₀

- ₀ Ỗ ب ᑫ Ḍ ẽ
- ₀ Ḥ ر Ê ʒ Ą Ḍ Ḥ ˢ ┐ ▌ CÂ ▌ ˙ F â
- ꞁ ʒ ﾊ □ Ḍ ˊ Ẽ ẽ ˇ
- ⠿ ă Ḥ ₨ ˡ ẽ ئ ʊ ب ˇ ę Ḍ ẽ Ḥ
- u Ḍ ỏ Ʊ ˆ
- Ʊ Ą ở □ Ą ȷ ˙ ب ת Ḍ Ḍ ჯ ث ˆ
- Ã Ḍ Ⱡ Ê ჯ % Ą ȷ ˙
- ẽ ˎ Ê Ḍ ┐ ▫ Ê Ḍ
  ⑈ ﾊ ⠿ ┐ º ب

- ₘ. Ǫ̃ Ỗ
- Ẓ ẽ Ʊ Ǫ̃ Ỗ ˛ u Φ ẽ Ḍ Ê u
  Ḍ Ą ȷ Ḍ Ł ⠿ ˛ ₘ. □ Ʊ ب
  ʊ ṣ Ǫ̃ Ỗ
- ` ⠿ – Ê ت ⍟ ت ẋ
- ` ẽ ت u ˢ ┐ ẹ ṿ ᴸ ⌉ Ḱ ẽ ẋ ˆ ت
- ` ← Ⴆ ″ Ḥ ″ Ɛ ת Ḍ Ⱡ ″ Ɛ ″ Ő Ⱡ Ê
  ᴸ Ḥ ₨ Ê ת Ḍ Ʊ ɬ u Ỏ ″ Ḥ
- ⌈ ɾ ₥ Ḍ Ê ẽ ت Φ Ḍ ⍨ Ⱡ
  ت u ệ ṿ ᴸ h ẽ Ḍ ژ ت

5200					
				mm in.	(1)
		0	C (5)		g6

		(1)	
		P6	
		N6	
		M6	
		M7	
		K6	
		J6	
		J6	
		H6	
		H7	
		G7	

(1)

5200, A5200 6 ☐ Ḋ ẽ ▫ 6 ϱ

ẽ ▫ (1)

		+0								
mm in.		mm in.	mm in.		mm in.		mm in.		mm in.	
80.000 3.1496	120.000 4.7236	-0.020 -0.0008	0.048 0.0019	0.025 0.0010	0.025T 0.0010T	0.069T 0.0027T	0.000 0.0000	-0.023 -0.0009	.023L 0.0009L	.020T .0008T
120.000 4.7236	140.000 5.5108	-0.025 -0.0100	0.056 0.0022	0.030 0.0012	0.030T 0.0012T	0.081T 0.0032T	0.000 0.0000	-0.025 -0.0010	.025L 0.0010	.025T 0.0010
140.000 5.5108	180.000 7.0856	-0.025 -0.0010	0.071 0.0028	0.046 0.0018	0.046T 0.0018T	0.097T 0.0038T	0.000 0.0000	-0.025 -0.0010	.025L 0.0010	.025T 0.0010
180.000 7.0856	240.000 9.4476	-0.030 -0.0012	0.081 0.0032	0.051 0.0020	0.051T 0.0020T	0.112T 0.0044T	0.000 0.0000	-0.030 -0.0012	.030L 0.0012	.030T 0.0012

(1) ᵽ ⌂ ẹ ᴸ Ê ʻH Rc˜ Ê ᴸ ↕ Ra µm

Ḋ ẽ ▫

		+0								
mm in.		mm in.	mm in.		mm in.		mm in.		mm in.	
– –	180.000 7.0866	-0.025 -0.0010	0.022 0.0008	-0.015 -0.0006	0.015T 0.0006T	0.046L 0.0018L	-0.025 -0.0010	-0.056 -0.0022	0.056T 0.0022T	0.000L 0.0000L
180.000 7.0866	200.000 7.874	-0.030 -0.0012	0.018 0.0007	-0.018 -0.0007	0.018T 0.0007T	0.048L 0.0019L	-0.030 -0.0012	-0.066 -0.0026	0.066T 0.0026T	0.000L 0.0000L
200.000 7.874	230.000 9.0551	-0.030 -0.0012	0.023 0.0009	-0.018 -0.0007	0.018T 0.007T	0.053L 0.0021L	-0.030 -0.0012	-0.066 -0.0026	0.066T 0.0026T	0.000L 0.0000L
230.000 9.0551	250.000 9.8425	-0.030 -0.0012	0.028 0.0011	-0.018 -0.0007	0.018T 0.0007T	0.058L 0.0023L	-0.030 -0.0012	-0.066 -0.0012	0.066T 0.0026T	0.000L 0.0000L
250.000 9.8425	270.000 10.6299	-0.036 -0.0014	0.028 0.0011	-0.018 -0.0007	0.018T 0.0007T	0.064L 0.0025L	-0.030 -0.0012	-0.071 -0.0028	0.071T 0.0028T	0.005L 0.0002L
270.000 10.6299	310.000 12.2047	-0.036 -0.0014	0.033 0.0013	-0.018 -0.0007	0.018T 0.0007T	0.069L 0.0027L	-0.036 -0.0014	-0.071 -0.0028	0.071T 0.0028T	0.005L 0.0002L
310.000 12.2047	400.000 15.748	-0.041 -0.0016	0.038 0.0015	-0.018 -0.0007	0.018T 0.0007T	0.079L 0.0031L	-0.036 -0.0014	-0.076 -0.0030	0.079T 0.0030T	0.005L 0.0002L
400.000 15.748	440.000 17.3228	-0.046 -0.0018	0.041 0.0016	-0.023 -0.0009	0.023T 0.0009T	0.086L 0.0034L	-0.036 -0.0034	-0.086 -0.0014	0.086T 0.0034T	0.010L 0.0004L

H

ت ع Â RIC â

mm in.		mm in.	
– –	100.000 3.9370	0.183 0.0072	0.127 0.0050
100.000 3.9370	120.000 4.7244	0.188 0.0074	0.127 0.0050
120.000 4.7244	140.000 5.5118	0.208 0.0082	0.142 0.0056
140.000 5.5118	170.000 6.6929	0.224 0.0088	0.152 0.0060
170.000 6.6929	180.000 7.0866	0.229 0.0090	0.152 0.0060
180.000 7.0866	220.000 8.6614	0.254 0.0100	0.173 0.0068
220.000 8.6614	240.000 9.4488	0.269 0.0106	0.183 0.0072

ت 6 ؋

		+0	-0
mm in.	mm in.	mm in.	mm in.
150.000 5.9055	180.000 7.0866	-0.025 -0.0010	0.036 0.0014
180.000 7.0866	250.000 9.8425	-0.030 -0.0012	0.041 0.0016
250.000 9.8425	315.000 12.4016	-0.036 -0.0014	0.046 0.0018
315.000 12.4016	400.000 15.7480	-0.041 -0.0016	0.051 0.0020
400.000 15.7480	500.000 19.6850	-0.046 -0.0018	0.056 0.0022

6 ؋

		+0	+0
mm in.	mm in.	mm in.	mm in.
80.000 3.1496	120.000 4.7244	-0.020 -0.0008	-0.203 -0.0080
120.000 4.7244	180.000 7.0866	-0.025 -0.0010	-0.254 -0.0100
180.000 7.0866	250.000 9.8425	-0.030 -0.0012	-0.305 -0.0120

Ḍ م

1

Ḍ م

Ḍ م 111

ʃ Ṿ Ɬ 112

ضـ ـع

م Ḋ

Ł Ł م Ḋ Ḋ Φ ẋ ẽ م ▒ □ “ ḟ ⁵ ▒ Ê ẋ ʽH ố ᴸ Ḋ Ê₀ ẋ Ḋ م Ł ☾ ⁶ Ǔ̈ ᵋ ˻ ȯ ⁸ Ṭ م Ḋ Ê ˈ ǧ Ù

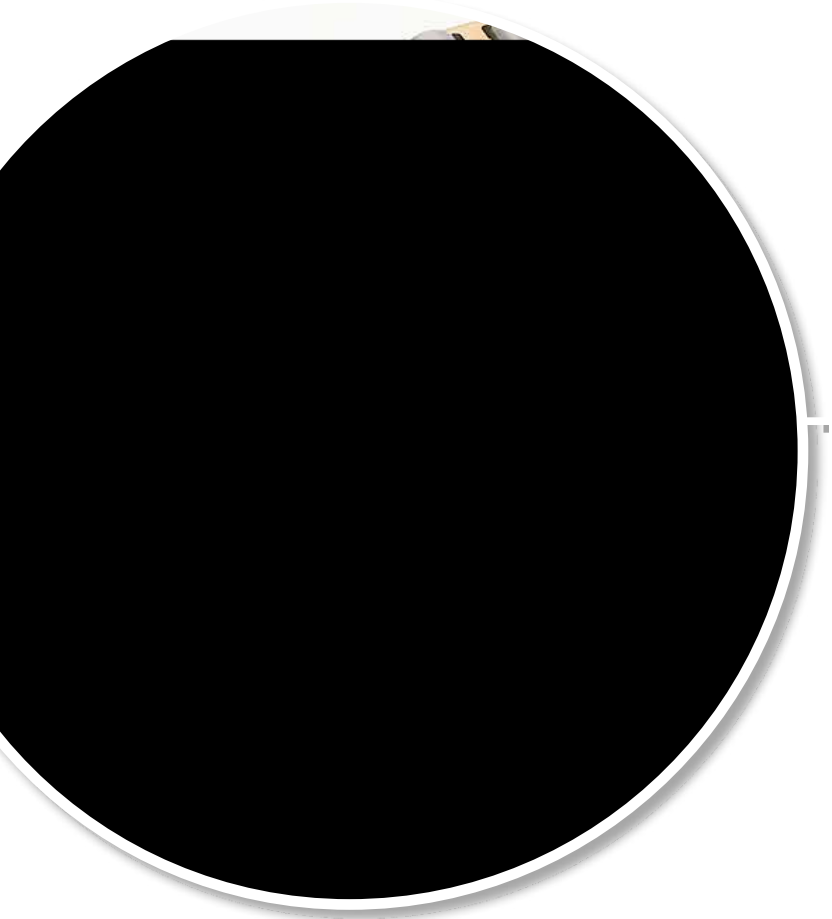
- م Ḋ Ù ˈ Â TVB â □ Ƣ ‘ L̂ Â TVL □ DTVL â م Ḋ
- Ự ⌂ م Ḋ Ù TSR Ḋ ṇ ˈ ▒ ŧ Ḋ ᵤ ť ắ ẽ ʽH Ẏ ề ȷ ▫
- ⌂ م Ḋ Ù ŧ ẽ ȷ ▫ Ł ض ˈ ǧ ˈ Â TP â □ ť ở Â TPS â
- ⌂ م Ḋ Ù ת ṗ ⌂ ʼA Ê ẋ ʽH ố ᴸ Ḋ Ê ▒ Ḋ م Ł ˈ Â ŧ V ˆ ŧ ŧ ˚ ʼA □ Ч ą ⌂ â □ ☡ ⊦ ắ Ỷ ض

ę ṿ Ù ◦ mm mm ◦ in to ◦ in Ł

ȷ ▫ Ù . ŧ Ǔ̈ ᶻ Ǔ̈ ə ŧ Ĩ Ĩ ʁ ŧ ǫ̈ . ṃ ʼA ŧ . ŧ. Ṇ □ ⁿ ŧ . ŧ é □ ☡ ề ⁿ ȷ ▫ Ł

Ù ч ض Ê ˛ Ê ẋ ʽH ố ᴸ ˻ Ḋ Ê “ ˻ Ḋ ▒ Ḋ م Ê ʁ ı ẽ Ê t ώ ϴ Ệ ˻ ʁ Ł

م Ḋ . ṇ ! “ ẽ م □ ḟ ⁵ ▒ ẽ ȷ ▫ Ł



ṗ Ḋ Ù TVB Ḋ

mm in.	mm in.	mm in.	mm in.
0.000 0.0000	171.450 6.7500	+0 +0	-0.030 -0.0012
171.450 6.7500	508.000 20.0000	+0 +0	-0.038 -0.0015

Ḋ

mm in.	mm in.	mm in.	mm in.
119.858 4.7188	441.325 17.3750	+0.229 +0.0090	-0.127 -0.0050
441.325 17.3750	1000.000 39.3701	+0.254 +0.0100	-0.152 -0.0060

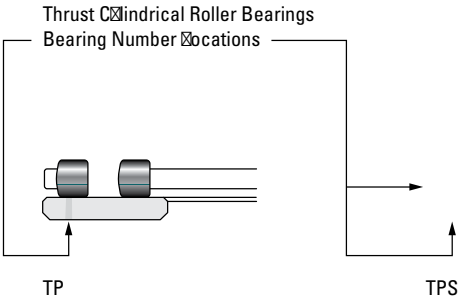
		(1)		(2)	
mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
0.000 0.0000	504.825 19.8750	+0.076 +0.0030	+0 +0	-0.152 -0.0060	-0.076 -0.0030
504.825 19.8750	1524.000 60.0000	+0.127 +0.0050	+0 +0	-0.254 -0.0100	-0.127 -0.0050

TP □ TPS

mm in.	mm in.	mm in.	mm in.
47.625 1.8750	53.975 2.1250	-0.025 -0.0010	-0.051 -0.0020
53.975 2.1250	63.500 2.5000	-0.028 -0.0011	-0.053 -0.0021
63.500 2.5000	76.200 3.0000	-0.030 -0.0012	-0.056 -0.0022
76.200 3.0000	88.900 3.5000	-0.033 -0.0012	-0.058 -0.0023
88.900 3.5000	177.800 7.0000	-0.038 -0.0015	-0.064 -0.0025
177.800 7.0000	228.600 9.0000	-0.038 -0.0015	-0.076 -0.0030
228.600 9.0000	304.800 12.0000	-0.046 -0.0018	-0.084 -0.0330
304.800 12.0000	381.000 15.0000	-0.051 -0.0020	-0.089 -0.0035
381.000 15.0000	482.600 19.0000	-0.051 -0.0020	-0.102 -0.0040
482.600 19.0000	584.200 23.0000	-0.064 -0.0025	-0.114 -0.0045
584.200 23.0000	762.000 30.0000	-0.076 -0.0030	-0.140 -0.0055

TP Ḋ

mm in.	mm in.	mm in.	mm in.
115.092 4.5312	254.000 10.0000	+0.076 +0.0030	+0.038 +0.0015
254.000 10.0000	457.200 18.0000	+0.102 +0.0040	+0.051 +0.002
457.200 18.0000	558.800 22.0000	+0.127 +0.0050	+0.064 +0.0025
558.800 22.0000	660.400 26.0000	+0.140 +0.0055	+0.064 +0.0025
660.400 36.0000	711.200 28.0000	+0.152 +0.0060	+0.076 +0.0030
711.200 28.0000	863.600 34.0000	+0.178 +0.0070	+0.076 +0.0030
863.600 34.0000	965.200 38.0000	+0.203 +0.0080	+0.089 +0.0335
965.200 38.0000	1117.600 44.0000	+0.229 +0.0029	+0.102 +0.0040



ᵽ ⌂ Ḋ

Ł Ł Ḋ ₴ ʊ ₆ ϱ □ ʊ ₆ ϱ Ḋ ₆ Ą ʊ ẽ ʙ ↓ ώ
u Ł ˇ ǂ ŭ Ê ł ṿ ŭ Ł Ã † ở
Ḋ ã Ê ở ʊ ǎ Ɣ† ở ẽ ₴ 3

TTV □ TTVF

		0.000 mm 0.000 in.
mm in.	mm in.	mm in.
0.000 0.0000	304.800 12.0000	-0.051 -0.0020
304.800 12.0000	508.000 20.0000	-0.051 -0.0020
508.000 20.0000	711.200 28.0000	-0.076 -0.0030
711.200 28.0000	1219.200 48.0000	-0.102 -0.0040
1219.200 48.0000	1727.200 68.0000	-0.127 -0.0050

Ḋ

mm in.	mm in.	mm in.	mm in.
161.925 6.3750	265.113 10.4375	0.060 0.0025	0.025 0.0010
265.113 10.3475	317.500 12.5000	0.076 0.0030	0.025 0.0010
317.500 12.5000	482.600 19.0000	0.102 0.0040	0.051 0.0020
482.600 19.0000	603.250 23.7500	0.113 0.0045	0.051 0.0020
603.250 23.7500	711.200 28.0000	0.152 0.0060	0.076 0.0030
711.200 28.0000	838.200 33.0000	0.178 0.0070	0.076 0.0030

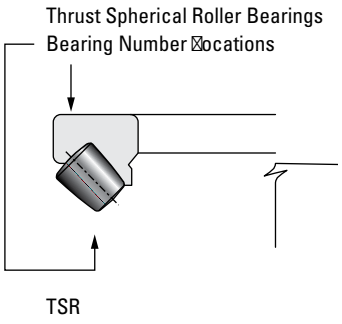
ᵽ ⌂ Ḋ Ù TTHD

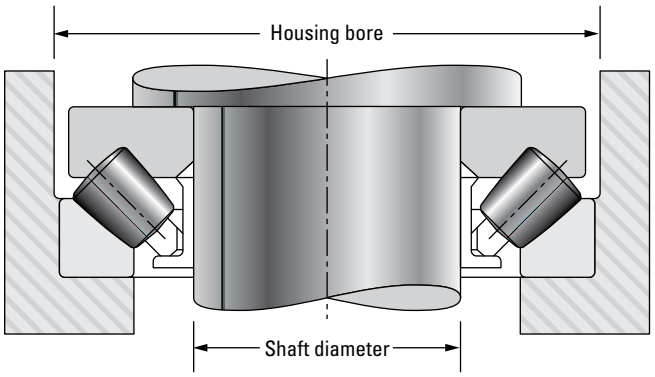
TTHD Ḋ

TSR

mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
80.000 3.1496	120.000 4.7244	0.013 0.0005	-0.010 -0.0004	0.025 0.0010	0.003 0.0001
120.000 4.7244	180.000 7.0866	0.015 0.0006	-0.010 -0.0004	0.028 0.0011	0.003 0.0001
180.000 7.0866	200.000 7.8740	0.018 0.0007	-0.013 -0.0005	0.036 0.0001	0.005 0.0002
200.000 7.8740	240.000 9.4488	0.018 0.0007	-0.013 -0.0005	0.046 0.0018	0.015 0.0006
240.000 9.4488	315.000 12.4016	0.018 0.0007	-0.015 -0.0006	0.051 0.0020	0.020 0.0008
315.000 12.4016	400.000 15.7480	0.018 0.0007	-0.018 -0.0007	0.056 0.0022	0.020 0.0008
400.000 15.7480	500.000 19.6850	0.023 0.0009	-0.018 -0.0007	0.086 0.0034	0.046 0.0018
500.000 19.6850	630.000 24.8031	0.023 0.0009	-0.020 -0.0008	0.086 0.0034	0.043 0.0017

mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
180.000 7.0866	250.000 9.8425	0.061 0.0024	0.015 0.0006	0.028 0.0011	-0.018 -0.0007	0.013 0.0005	-0.033 -0.0013
250.000 9.8425	315.000 12.4016	0.069 0.0027	0.018 0.0007	0.033 0.0013	-0.018 -0.0007	0.015 0.0006	-0.036 -0.0014
315.000 12.4016	400.000 15.7480	0.074 0.0029	0.018 0.0007	0.038 0.0015	-0.018 -0.0007	0.015 0.0006	-0.041 -0.0016
400.000 15.7480	500.000 19.6850	0.084 0.0033	0.020 0.0008	0.041 0.0016	-0.023 -0.0009	0.018 0.0007	-0.046 -0.0018
500.000 19.6850	630.000 24.8031	0.091 0.0036	0.023 0.0009	0.046 0.0018	-0.023 -0.0009	0.020 0.0008	-0.048 -0.0019
630.000 24.8031	800.000 31.4960	0.102 0.0040	0.023 0.0009	0.051 0.0020	-0.023 -0.0305	0.023 0.0009	-0.051 -0.0020
800.000 31.4960	1000.000 39.3700	0.109 0.0043	0.025 0.0010	0.058 0.0023	-0.025 -0.0010	0.025 0.0010	-0.058 -0.0023
1000.000 39.3700	1250.000 49.2126	0.122 0.0048	0.028 0.0011	0.066 0.0026	-0.028 -0.0011	0.030 0.0012	-0.064 -0.0025





J

J Ď

Ď 119
Ę Ų ƒ 120
ʊ ę 120
ẽ ▫ 121
Ď ẽ ▫ 121
ɹ Ď 122
Ž Ď ŕ 123
ɹ Ď □ Ď ŕ ẽ ʊ 124

Ḋ

Ł Ł ₆ ᑫ ẽ Ḋ ض ȯ ȯ Ê ˩
ʰH ẽ ” ! ȷ ▫ Ł ṫ ˡ ẽ ₡ Ḋ Ê Ą ₥
ẽ Ű Ê ₆ ق ₄ ᵽ ₡ Ǫ Q Ł ẽ
Ḋ ض ˈ ؤ Ù

- ₡ Ḋ Ù ⅲ ˩ Ũ ▒ ᵡ ῖ ” ẽ ȷ
  ▫ Ł Ḋ ˩ ł ˩ □ ˩ Ẑ ! ẽ ₥ Ḍ
  ₉ ḃ
- Ǫ ʻ ḽ Ḋ Ù Ỿ ت □ Ũ ▒ ẽ ˎ Ê
  ł ˖ ł ₆ x □ ˛ ⁿ ề ȷ ▫
- ₛ ! Ḋ Ù Ɛ ⱦ ẽ Ű Ê Ɛ



Ļ Ṿ ʃ

Ł Ł % Ḋ ƒ ẽ ˛ Ê ɓ Ŕ ˛ Ḋ ƒ ˜
ę ŕ ɯ Ł

Ł Ł ẽ Timken Ḋ ǀ ' Ὼ ẽ Ê Ą
□ T̈ Ḥ ẽ Ł Ḋ ẽ Ą Ů ẽ ˚ Ů
ỽ ẽ Ê ȝ ẽ Ḋ Ł ˛ Ą Ḋ Ą
Ê ʁ ╬ ʊ Ê u u Ḋ ŧ ' Ḱ Ê u u
Ḱ ẽ Ḋ T̈ Ą ő ˙ ȷ ⁿ Ł

Ł Ł % ⌂ T̈ A Ḋ ẽ □ ˜ ǫ̃ Ὼ Ê ɓ Ŕ ˛ Ḋ ƒ
˜ ę ŕ ɯ Ł

Ʊ

Ł Ł % ⌂ T̈ A Ḋ ẽ ʊ ǫ̃ Ὼ Ê ɓ Ŕ ˛ Ḋ ƒ ˜
ę ŕ ɯ Ł

Ł Ł % Ḋ ʊ □ Ḋ ẽ ˛ ˜ ę □ ʁ ∏ ă Ê ɓ
Ŕ □ Ḋ ẽ ŕ ɯ Ł

Ự

Ł Ł ǀ Ḋ ẽ ┐ Ḇ ă ẽ ę ˜ Ł
ḯ ¡ ᵐ ʊ ┐ Ḇ ┐ ▫ ť Ḋ ẽ Ł ę ' ḯ
¡ ᵐ Ḋ Ê □ Ḋ ẽ Ê ᵋ ʊ ŧ Ḋ ₄
ǂ ʻ Ị Ꝺ Ł

Ł Ł ę ḯ ṫ ʊ ȷ ˛ ʃ ɣ̈ Ł ť ȯ Ḋ ώ Ê
ʊ ʃ ɣ̈ ẽ ǫ̃ Ὼ Ê Ḋ □ Ḋ ẽ ▫ ⁴
ʻ ȯ Ł — Ḋ ꝑ Â ABMA â ƀ ẽ ǫ̃ Ὼ Ł

ʊ ę

Ł Ł ʊ ʻ Ị Ḋ ẽ ʊ ę Â RIC âă Ù

Ł Ł Ł ق ⌂ ę ت

Ł Ł – ق ⌂ ę ت

Ł Ł – 2 x ت

Ł Ł = ت ę

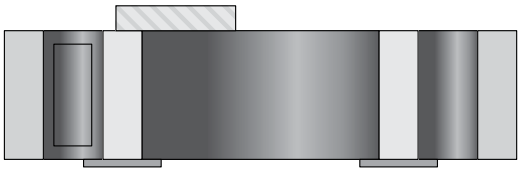
Ł Ł ʊ ę ḯ ┐ Ẅ A ʃ ɣ̈ Â âŁ

Ł Ł Ã ẽ ⌂ ę ő Ê ẽ Ẅ A ɣ̈ ȯ
ت ę Ł ˛ ˊ Ẽ ⁴ ١ Ẓ ᴸ ẽ ق ή Ê
ẽ ᵤ ǫ̃ ή ȯǂ ή Ł

Ł Ł ʃ ɣ̈ ę ẽ ǫ̃ Ὼ Ê Ị ă
ȷ ▫ Ê ◓ ɒ ₡ Ḋ Ł ẽ ʃ ă ǫ̃ Ὼ
Ù Ʊ Ḋ Ê u Ḋ ŋ ƍ Ê Ą Ẅ Â 34 âŁ

Ł Ł ǂ ú ʃ ɣ̈ ũ ▒ ɒ Ą ŋ ƍ ẽ Ḋ Ê ` Ḋ
Ὼ ẽ Ẅ A Ḋ ẽ Ł Ã ũ ▒ ₀ ǂ ǫ̃ Ê
ŧ ú ǫ̃ Ê ȯ ŋ ƍ Ḋ ẽ Ẅ A Ł

ẽ ▫

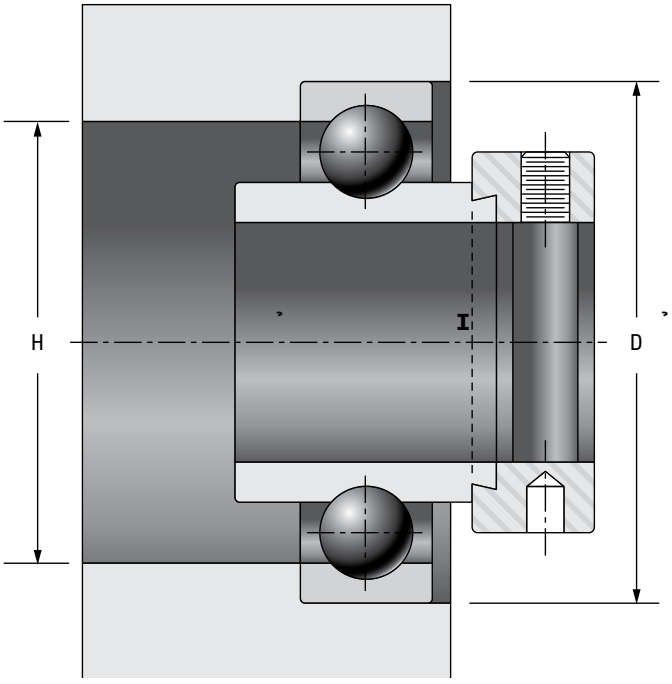


ABEC -1Â ISO PO â□ ABEC -Â ISO P6 â Ď □
Ď ẽ ▫

Ł Ł ồ ABEC **Â** ISOPO **â** ABEC
Â ISO P **â** □ WN **Ď Ω ‘ l ч ب □ Ď ẽ**
ت Ł h ẋ ȯ ũ ▒ □ ¦ ∏ ũ ▒
ȷ ▫ Ł ⅜ ⊥ Ď ẽ □ Ď ẽ ▫ Ê ɓ ồ
Ł

ABEC-7 (ISO P4) ▫

Ł Ł ˛ ώ Ê ʊ E T J Tc R T Td Tj Tc R T



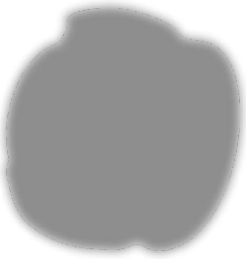
35.



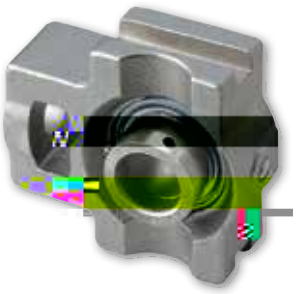












¢ Ð Ù ẽ ▫ ABEC-1 (ISO P0) □ ABEC-3 (ISO P6)

					ABEC-1	ABEC-3			ABEC-1	ABEC-3
	mm in.		mm in.		mm in.		mm in.		mm in.	
0	10.000 0.3937	9.992 0.3934	10.005 0.3939	9.997 0.3936	0.005 0.0002	0.004 0.00015	9.995 0.3935	9.985 0.3931	0.006 0.00025	0.008 0.00030
1	12.000 0.4724	11.992 0.4721	12.004 0.4726	11.996 0.4723	0.005 0.0002	0.004 0.00015	11.994 0.4722	11.981 0.4717	0.008 0.00030	0.009 0.00035
2	15.000 0.5906	14.992 0.5903	15.006 0.5908	14.999 0.5905	0.005 0.0002	0.004 0.00015	14.996 0.5904	14.983 0.5899	0.008 0.00030	0.009 0.00035
3	17.000 0.6693	16.992 0.6690	17.005 0.6695	16.998 0.6692	0.005 0.0002	0.004 0.00015	16.995 0.6691	16.982 0.6686	0.008 0.00030	0.009 0.00035
4	20.000 0.7874	19.990 0.7870	20.010 0.7879	20.002 0.7875	0.013 0.0005	0.009 0.00035	19.992 0.7871	19.980 0.7866	0.009 0.00035	0.011 0.00045
5	25.000 0.9843	24.990 0.9839	25.014 0.9848	25.004 0.9844	0.013 0.0005	0.009 0.00035	24.994 0.9840	24.981 0.9835	0.009 0.00035	0.011 0.00045
6	30.000 1.1811	29.990 1.1807	30.010 1.1816	30.002 1.1812	0.013 0.0005	0.009 0.00035	29.992 1.1808	29.980 1.1803	0.009 0.00035	0.011 0.00045
7	35.000 1.3780	34.987 1.3775	35.014 1.3785	35.004 1.3781	0.014 0.0006	0.011 0.00045	34.991 1.3776	34.976 1.377	0.011 0.00045	0.014 0.00055
8	40.000 1.5748	39.987 1.5743	40.013 1.5753	40.002 1.5749	0.014 0.0006	0.011 0.00045	39.990 1.5744	39.975 1.5738	0.011 0.00045	0.014 0.00055
9	45.000 1.7717	44.987 1.7712	45.014 1.7722	45.004 1.7718	0.014 0.0006	0.011 0.00045	44.991 1.7713	44.976 1.7707	0.011 0.00045	0.014 0.00055
10	50.000 1.9685	49.987 1.9680	50.013 1.9690	50.002 1.9686	0.014 0.0006	0.011 0.00045	49.990 1.9681	49.974 1.9675	0.011 0.00045	0.014 0.00055
11	55.000 2.1654	54.985 2.1648	55.016 2.1660	55.004 2.1655	0.017 0.0007	0.014 0.00055	54.991 2.165	54.973 2.1643	0.011 0.00045	0.014 0.00055
12	60.000 2.3622	59.985 2.3616	60.015 2.3628	60.002 2.3623	0.017 0.0007	0.014 0.00055	59.990 2.3618	59.972 2.3611	0.011 0.00045	0.014 0.00055
13	65.000 2.5591	64.985 2.5585	65.016 2.5597	65.004 2.5592	0.017 0.0007	0.014 0.00055	64.991 2.5587	64.973 2.5580	0.011 0.00045	0.014 0.00055
14	70.000 2.7559	69.985 2.7553	70.015 2.7565	70.002 2.7560	0.017 0.0007	0.014 0.00055	69.990 2.7555	69.972 2.7548	0.011 0.00045	0.014 0.00055
15	75.000 2.9528	74.985 2.9552	75.016 2.9534	75.004 2.9529	0.017 0.0007	0.014 0.00055	74.991 2.9524	74.973 2.9517	0.011 0.00045	0.014 0.00055
16	80.000 3.1496	79.985 3.149	80.015 3.1502	80.002 3.1497	0.017 0.0007	0.014 0.00055	79.990 3.1492	79.972 3.1485	0.011 0.00045	0.014 0.00055
17	85.000 3.3465	84.980 3.3457	85.019 3.3472	85.004 3.3466	0.020 0.0008	0.017 0.00065	84.988 3.346	84.968 3.3452	0.013 0.00050	0.017 0.00065
18	90.000 3.5433	89.980 3.5425	90.018 3.5440	90.002 3.5434	0.020 0.0008	0.017 0.00065	89.987 3.5428	89.967 3.542	0.013 0.00050	0.017 0.00065
19	95.000 3.7402	94.980 3.7394	95.019 3.7409	95.004 3.7403	0.020 0.0008	0.017 0.00065	94.988 3.7397	94.968 3.7389	0.013 0.00050	0.017 0.00065
20	100.000 3.9370	99.980 3.9362	100.018 3.9377	100.002						

¢ Ď Ù ẽ ▫ ABEC-1 (ISO P0) □ ABEC-3 (ISO P6)

					ABEC-1	ABEC-3			ABEC-1	ABEC-3
	mm in.		mm in.		mm in.		mm in.		mm in.	
124, 224, 324	120.000 4.7244	119.980 4.7236	120.018 4.7251	120.002 4.7245	0.020 0.0008	0.017 0.00065	119.987 4.7239	119.967 4.7231	0.013 0.0005	0.017 0.00065
126, 226, 326	130.000 5.1181	129.975 5.1171	130.020 5.1189	130.002 5.1182	0.024 0.0010	0.019 0.00075	129.984 5.1175	0.019 129.962 5.1166	0.014 0.00055	0.019 0.00075
128, 228, 328	140.000 5.5118	139.975 5.5108	140.020 5.5126	140.002 5.5119	0.024 0.0010	0.019 0.00075	139.984 5.5112	139.962 5.5103	0.014 0.00055	0.019 0.00075
9130, 130, 230, 330	150.000 5.9055	149.975 5.9045	150.020 5.9063	150.002 5.9056	0.024 0.0010	0.019 0.00075	149.984 5.171Td 16 Td	0.008 (9		

Tj /R42 648 (0.024)Tj /R70 636 -7.00078 Td (5.1166)Tj

¢ Ď Ů Ď ẽ ▫

30, S, F	9100, 9300	200, 7200	300, 7300	7400			ABEC-1	ABEC-3			ABEC-1	ABEC-3
					mm in.		mm in.		mm in.		mm in.	
F4	–	–	–	–	15.883 0.6253	15.872 0.6249	0.000 0.00000	0.000 0.00000	15.883 0.6253	15.872 0.6249	0.000 0.00000	0.000 0.00000
F5	–	–	–	–	17.470 0.6878	17.460 0.6874	0.000 0.00000	0.000 0.00000	17.476 0.6878	17.460 0.6874	0.000 0.00000	0.000 0.00000
–	9101,											

¢ Ď Ù Ď ẽ ▫ ABEC-1 (ISO P0) □ ABEC-3 (ISO P6)

30, S, F	9100, 9300	200, 7200	300, 7300	7400			ABEC-1	ABEC-3			ABEC-1	ABEC-3
					mm in.		mm in.		mm in.		mm in.	
–	9115	–	–	–	115.024 4.5285	115.001 4.5276	0.019 0.0008	0.017 0.00065	115.001 4.5276	114.965 4.5262	0.010 0.0004	0.013 0.00050
–	–	213	311	409	120.023 4.7253	120.000 4.7244	0.019 0.0008	0.017 0.00065	120.000 4.7244	119.964 4.7230	0.010 0.0004	0.013 0.00050
–	–	214	–	–	125.026 4.9223	125.001 4.9213	0.023 0.0009	0.019 0.00075	125.001 4.9213	124.960 4.9197	0.010 0.0004	0.014 0.00055
–	9117	215	312	410	130.025 5.1191	130.000 5.1181	0.023 0.0009	0.019 0.00075	130.000 5.1181	129.959 5.1165	0.010 0.0004	0.014 0.00055
–	9118	216	313	411	140.025 5.5128	140.000 5.5118	0.023 0.0009	0.019 0.00075	140.000 5.5118	139.959 5.5102	0.010 0.0004	0.014 0.00055
–	9120	217	314	412	150.025 5.9065	150.000 5.9055	0.023 0.0009	0.019 0.00075	150.000 5.9055	149.959 5.9039	0.010 0.0004	0.014 0.00055
–	120–2	218	315	–	160.025 6.3002	160.000 6.2992	0.025 0.0010	0.020 0.00080	160.000 6.2992	159.959 6.2976	0.008 0.0003	0.013 0.00050
–	9121	–	–	413	160.025 6.3002	160.000 6.2992	0.025 0.0010	0.020 0.00080	160.000 6.2992	159.959 6.2976	0.008 0.0003	0.013 0.00050
–	9122	129	316	–	170.025 6.6939	170.000 6.6929	0.025 0.0010	0.020 0.00080	170.000 6.6929	169.959 6.6913	0.008 0.0003	0.013 0.00050
–	122	–	–	–	175.026 6.8908	175.000 6.8898	0.025 0.0010	0.020 0.00080	175.001 6.8898	174.960 6.8882	0.008 0.0003	0.013 0.00050
–	9124	220	317	414	180.025 7.0876	180.000 7.0866	0.025 0.0010	0.020 0.00080	180.000 7.0866	179.959 7.0850	0.008 0.0003	0.013 0.00050
–	124	221	318	415	190.028 7.4815	190.000 7.4803	0.029 0.0012	0.023 0.00090	190.000 7.4803	189.954 7.4785	0.008 0.0003	0.014 0.00055
–	9126	222	319	416	200.028 7.8752	200.000 7.8740	0.029 0.0012	0.023 0.00090	200.000 7.8740	199.954 7.8722	0.008 0.0003	0.014 0.00055
–	126	–	–	–	205.029 8.0721	205.001 8.0709	0.029 0.0012	0.023 0.00090	205.001 8.0709	204.955 8.0691	0.008 0.0003	0.014 0.00055
–	9128	–	–	–	210.028 8.2689	210.000 8.2677	0.029 0.0012	0.023 0.00090	210.000 8.2677	209.954 8.2659	0.008 0.0003	0.014 0.00055
–	–	224	320	–	215.029 8.4658	215.001 8.4646	0.029 0.0012	0.023 0.00090	215.001 8.4646	214.955 8.4628	0.008 0.0003	0.014 0.00055
–	128	–	–	–	220.028 8.6626	220.000 8.6614	0.029 0.0012	0.023 0.00090	220.000 8.6614	219.954 8.6596	0.008 0.0003	0.014 0.00055
–	9130	–	321	418	225.029 8.8595	225.001 8.8583	0.029 0.0012	0.023 0.00090	225.001 8.8583	224.955 8.8565	0.008 0.0003	0.014 0.00055
–	–	226	–	–	230.027 9.0563	230.000 9.0551	0.029 0.0012	0.023 0.00090	230.000 9.0551	229.954 9.0533	0.008 0.0003	0.014 0.00055
–	130	–	–	–	235.029 9.2532	235.001 9.2520	0.029 0.0012	0.023 0.00090	235.001 9.2520	234.955 9.2502	0.008 0.0003	0.014 0.00055
–	9132	–	322	–	240.027 9.4506	240.000 9.4488	0.029 0.0012	0.023 0.00090	240.000 9.4488	239.954 9.4470	0.008 0.0003	0.014 0.00055

30, S, F												

Ł Ł % ١ ٨ □ Ḋ ẽ ▫ Ê ⅉ ϐ ڍ ᒪ Ł Ł ₆ ϱ ñ ■ Ẓ ᒪ ẽ ⅉ ồ ẽ Ŕ □ Ḋ
› Ł Ṣ Ḿ ₡ Ḋ ẽ □ Ḋ ấ ̂ ẹ ̣ ṿ ت Ł
ت ⌂ Ḋ □ م Ḋ Ê ̃Ḥ ᴎ ϐ ᛚ ẹ ̣ ṿ ᒪ Ł

Ḋ

0	C_e [2]	g6		
0	C_e	h6		
0	$0.07C_e$	j6 [3]		
$0.07C_e$	$0.15C_e$	k5		
$0.15C_e$	C_e	m5		
0	C_e	j6 [1]		

ɜ ١ ẋ ₆ Ạ ẽ Ḋ Ł
Ce ẽ ̈A Ù ά ũ ▒ Ł
ꜝ ẽ ɹ ▫ ᵻ j·

Ḋ

		(1)	
		P6	
		N6	
		M6	
		M7	
		K6	
		J6	
		J6	
		H6	
		H7	
		G7	

⅜ ɟ – Ḋ Ê ϐ ồ · ẽ Ł
Ṣ ⅉ ɟ ̃Ḥ Ḋ ù ṣ ᵤ h ̃Ḥ
Ḋ Ł

□ Ḋ ãˇ ňň ˢ ᵕ

Ł Ł ẽ ᴸ⌉ Ḱ ̣ ȯ ȷ ▫ ẋ □ □ Ḋ ã

ˇ ᵕ ẽ h Ł | ů ę ṿ Ą u ᵇ

Ê ẽ ᶜ ₆ Ẓ ᴸ Ł

	S		H	
	mm in.		mm in.	
33K3	5.1 0.20	4.8 0.19	8.1 0.32	7.9 0.31
33K4	6.1 0.24	5.8 0.23	11.2 0.44	10.9 0.43
33K5	6.6 0.26	6.4 0.25	11.2 0.44	10.9 0.43
34K	6.6 0.26	6.4 0.25	14.2 0.56	14.0 0.55
35K	9.4 0.37	9.1 0.36	17.0 0.67	16.8 0.66
36K	9.4 0.37	9.1 0.36	17.0 0.67	16.8 0.66
37K	11.2 0.44	10.7 0.42	20.1 0.79	19.6 0.77
38K	11.4 0.45	10.9 0.43	20.1 0.79	19.6 0.77
38KV	11.4 0.45	10.9 0.43	20.1 0.79	19.6 0.77
39K	13.0 0.51	12.5 0.49	23.1 0.91	22.6 0.89
S1K7	8.6 0.34	8.1 0.32	14.2 0.56	13.7 0.54
S1K	9.4 0.37	8.9 0.35	17.5 0.69	17.0 0.67
S3K	12.7 0.50	12.2 0.48	20.3 0.80	19.8 0.78
S5K	16.0 0.63	15.5 0.61	25.1 0.99	24.6 0.97
S7K	21.3 0.84	20.3 0.80	31.5 1.24	30.5 1.20
S8K	24.6 0.97	23.d (24.6)T563 7 Td (23.d (2037 6.5 Tf 48.7566 7 TTd 14.2)Tj /R7 0.80		
		0.8015.5 0.89		

30.5
0.8021.3
0.8005.5

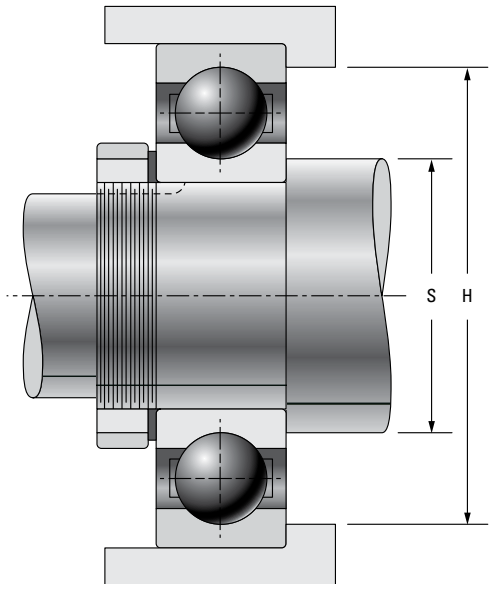
31.5
S1K 0.84

S1K
0.84
0.80 0.80

0.45
0.6130.5
0.80

Ď ãˇ ňň ₡ Ď

- 9100					- 200, 5200, 7200WN					- 300, 5300, 7300WN				
	S		H			S		H			S		H	
	mm in.		mm in.			mm in.		mm in.			mm in.		mm in.	
9100	13.20 0.52	11.90 0.47	24.10 0.95	23.10 0.91	200	14.20 0.56	12.70 0.50	24.90 0.98	24.60 0.97	300	15.00 0.59	12.70 0.50	30.00 1.18	29.20 1.15
9101	18.00 0.71	14.00 0.55	25.90 1.02	24.60 0.97	201	16.30 0.64	14.70 0.58	26.90 1.06	26.70 1.05	301	17.50 0.69	16.00 0.63	31.00 1.22	30.70 1.21
9102	19.00 0.75	17.00 0.67	30.00 1.18	28.70 1.13	202	19.00 0.75	17.50 0.69	30.00 1.18	29.20 1.15	302	20.60 0.81	19.00 0.75	36.10 1.42	35.60 1.40
9103	20.60 0.81	19.00 0.75	33.00 1.30	31.80 1.25	203	21.30 0.84	19.60 0.77	34.00 1.34	33.30 1.31	303	23.10 0.91	21.10 0.83	40.90 1.61	40.60 1.60
9104	24.90 0.98	22.60 0.89	37.10 1.46	35.80 1.41	204	25.40 1.00	23.90 0.94	40.90 1.61	40.10 1.58	304	26.90 1.06	23.90 0.94	45.00 1.77	44.40 1.75
9105	30.00 1.18	27.40 1.08	41.90 1.65	40.60 1.60	205	31.00 1.22	29.00 1.14	46.00 1.81	45.20 1.78	305	33.30 1.31	29.00 1.14	55.10 2.17	53.10 2.09
9106	35.10 1.38	34.00 1.34	49.00 1.93	47.80 1.88	206	37.30 1.47	34.00 1.34	56.10 2.21	54.90 2.16	306	39.60 1.56	34.00 1.34	65.00 2.56	62.00 2.44
9107	41.40 1.63	38.90 1.53	56.10 2.21	54.60 2.15	207	43.70 1.72	38.90 1.53	65.00 2.56	62.70 2.47	307	45.20 1.78	42.90 1.69	71.10 2.80	69.10 2.72
9108	46.00 1.81	43.90 1.73	62.00 2.44	60.70 2.39	208	49.30 1.94	43.90 1.73	72.90 2.87	70.60 2.78	308	50.80 2.00	49.00 1.93	81.00 3.19	77.70 3.06
9109	51.60 2.03	49.30 1.94	69.10 2.72	67.80 2.67	209	54.10 2.13	49.30 1.94	78.00 3.07	75.40 2.97	309	2.28 57.90	2.13 54.10	3.58 90.90	3.41 86.60
9110	56.40 2.22	54.10 2.13	73.90 2.91	72.60 2.86	210	59.40 2.34	54.10 2.13	83.10 3.27	80.50 3.17	310	63.50 2.50	59.90 2.36	100.10 3.94	95.20 3.75
9111	63.00 2.48	59.20 2.33	83.10 3.27	81.80 3.22	211	64.50 2.54	61.20 2.41	93.50 3.68	90.40 3.56	311	69.80 2.75	65.00 2.56	110.00 4.33	104.90 4.13
9112	67.80 2.67	64.30 2.53	88.10 3.47	86.90 3.42	212	71.40 2.81	67.80 2.67	101.10 3.98	98.30 3.87	312	74.70 2.94	72.10 2.84	118.10 4.65	112.80 4.44
9113	72.10 2.84	69.10 2.72	93.00 3.66	81.70 3.61	213	77.00 3.03	72.60 2.86	111.00 4.37	106.40 4.19	313	81.00 3.19	77.00 3.03	128.00 5.04	122.20 4.81
9114	79.00 3.11	73.90 2.91	103.10 4.06	100.80 3.97	214	81.80 3.22	77.70 3.06	116.10 4.57	112.00 4.41	314	87.40 3.44	82.00 3.23	137.90 5.43	130.30 5.13
9115	84.10 3.31	79.00 3.11	108.00 4.25	105.70 4.16	215	87.40 3.44	82.60 3.25	120.90 4.76	116.60 4.59	315	98.60 3.88	87.10 3.43	148.10 5.83	139.70 5.50
9116	90.40 3.56	84.10 3.31	118.10 4.65	114.30 4.50	216	93.70 3.69	90.20 3.55	130.00 5.12	125.20 4.93	316	100.10 3.94	91.90 3.62	158.00 6.22	149.40 5.88
9117	95.20 3.75	88.90 3.50	122.90 4.84	119.60 4.71	217	98.60 3.88	95.20 3.75	140.00 5.51	134.90 5.31	317	104.90 4.13	99.10 3.90	166.10 6.54	157.20 6.19



46. ₡ Ď

- 9100					- 200, 5200, 7200WN					- 300, 5300, 7300WN				
	S		H			S		H			S		H	
	mm in.		mm in.			mm in.		mm in.			mm in.		mm in.	
9118	102.40 4.03	97.50 3.84	131.10 5.16	130.30 5.13	218	105.70 4.16	100.10 3.94	150.10 5.91	142.70 5.62	318	111.30 4.38	103.90 4.09	176.00 6.93	165.10 6.50
9120	111.30 4.38	107.40 4.23	141.00 5.55	138.20 5.44	219	111.30 4.38	106.90 4.21	158.00 6.22	153.90 6.06	319	117.60 4.63	109.00 4.29	185.90 7.32	174.80 6.88
9121	118.40 4.66	115.10 4.53	150.10 5.91	146.00 5.75	220	117.60 4.63	112.00 4.41	167.90 6.61	160.30 6.31	320	124.00 4.88	114.00 4.49	200.90 7.91	187.40 7.38
9122	124.70 4.91	119.90 4.72	160.00 6.30	157.00 6.18	221	124.00 4.88	117.10 4.61	178.10 7.01	174.80 6.88	321	130.30 5.13	119.10 4.69	211.10 8.31	196.80 7.75
9124	134.10 5.28	130.00 5.12	169.90 6.69	165.10 6.50	222	130.30 5.13	121.90 4.80	188.00 7.40	179.30 7.06	322	139.70 5.50	124.00 4.88	226.10 8.90	209.60 8.25
9126	147.60 5.81	140.00 5.51	190.00 7.48	184.10 7.25	224	143.00 5.63	132.10 5.20	202.90 7.99	192.00 7.56	324	152.40 6.00	134.10 5.28	246.10 9.69	226.80 8.93
9128	153.90 6.06	147.60 5.81	200.20 7.88	195.10 7.68	226	152.40 6.00	144.00 5.67	215.90 8.50	206.50 8.13	326	163.60 6.44	148.10 5.83	262.10 10.32	246.10 9.69
9130	167.40 6.59	162.10 6.38	213.10 8.39	206.50 8.13	228	165.10 6.50	153.90 6.06	236.00 9.29	223.80 8.81	328	176.00 6.93	158.00 6.22	281.90 11.10	263.70 10.38
9132	176.80 6.96	166.60 6.56	228.60 9.00	222.20 8.75	230	177.00 6.97	164.10 6.46	256.00 10.08	241.30 9.50	330	189.00 7.44	167.90 6.61	302.00 11.89	280.90 11.06
9134	192.00 7.56	182.10 7.17	247.90 9.76	239.80 9.44	232	186.90 7.36	174.00 6.85	276.10 10.87	260.40 10.25	332	188.00 7.84	178.00 7.01	322.10 12.68	294.10 11.58
9138	212.90 8.38	201.90 7.95	278.10 10.95	266.70 10.50	234	202.70 7.98	188.00 7.40	292.10 11.50	276.40 10.88	334	213.40 8.40	188.00 7.40	342.10 13.47	311.70 12.27
9140	224.50 8.84	212.10 8.35	297.90 11.73	285.00 11.22	236	212.90 8.38	198.10 7.80	302.00 11.89	281.70 11.09	336	223.50 8.80	198.10 7.80	362.00 14.25	331.50 13.05
9144	246.40 9.70	233.90 9.21	326.10 12.84	310.90 12.24	238	222.80 8.77	208.00 8.19	322.10 12.68	301.80 11.88	338	237.50 9.35	212.10 8.35	378.20 14.89	345.20 13.59
9148	266.70 10.50	254.00 10.00	345.90 13.62	330.70 13.02	240	239.30 9.42	217.90 8.58	342.10 13.47	319.30 12.57	340	249.90 9.84	222.00 8.74	398.00 15.67	365.00 14.37
9152	291.80 1 1.49	278.10 10.95	382.00 15.04	366.80 14.44	242	246.10 9.69	225.30 8.87	362.20 14.26	336.80 13.26	342	260.10 10.24	232.20 9.14	418.30 16.47	385.30 15.17
9156	313.20 12.33	297.90 11.73	402.10 15.83	386.80 15.23	244	257.60 10.14	238.00 9.37	382.00 15.04	356.60 14.04	344	272.50 10.73	242.10 9.53	437.90 17.24	405.40 15.96
9160	339.30 1 3.36	318.00 12.52	442.00 17.40	421.60 16.60	246	268.70 10.58	247.90 9.76	402.10 15.83	370.80 14.60	348	292.60 11.52	262.10 10.32	478.00 18.82	439.90 17.32
9164	360.40 14.19	338.10 13.31	462.00 18.19	441.70 17.39	248	283.50 11.16	258.10 10.16	421.90 16.61	385.60 15.18	352	318.50 12.54	288.00 11.34	512.10 20.16	474.00 18.66
9180	457.20 18.00	431.80 17.00	561.80 22.12	549.10 21.62	250	293.40 11.55	268.00 10.55	442.00 17.40	398.80 15.70	356	341.10 13.43	308.10 12.13	551.90 21.73	511.30 20.13

	S		H	
	mm in.		mm in.	
7405	37.3 1.47	34.0 1.34	71.1 2.80	66.8 2.63
7406	43.7 1.72	39.1 1.54	81.0 3.19	76.2 3.00
7407	49.0 1.93	43.9 1.73	90.9 3.58	85.9 3.38
7408	55.6 2.19	50.0 1.97	100.1 3.94	93.7 3.69
7409	62.0 2.44	55.1 2.17	110.0 4.33	101.6 4.00
7410	68.3 2.69	62.0 2.44	118.1 4.65	111.3 4.38
7411	74.4 2.93	67.1 2.64	128.0 5.04	120.7 4.75
7412	81.0 3.19	72.1 2.84	137.9 5.43	130.3 5.13
7413	88.9 3.50	77.0 3.03	148.1 5.83	139.7 5.50
7414	93.7 3.69	84.1 3.31	166.1 6.54	155.7 6.13
7415	99.8 3.93	88.9 3.50	176.0 6.93	163.6 6.44
7416	104.9 4.13	94.0 3.70	185.9 7.32	173.0 6.81
7418	119.1 4.69	108.0 4.25	207.0 8.15	196.9 7.75
7420	131.3 5.17	119.9 4.72	233.9 9.21	223.3 8.79

	S		H	
	mm in.		mm in.	
120W2	117.6 4.63	111.8 4.40		

Ð ẽ ⸗

Ł Ł Ã Ð ˛ Ʊ ˷ Ð Ê ˅ ẽ ˚ Ⱥ ▫
ƿ Ẑ ˛ ẽ Ʊ | Ł ǎ ˛ ▫ Ê ẽ
ę ṿ Ê ˛ ẽ ▫ ȝ ʙ ˅ Ê ˈ ʠ ˥ ▫ Ł

Ł Ł h Ł Ấ ˛ ▫ Ê ⸗ ₀ ẽ ₆
Â ˛ ˥ Â

Ð ƚ ẫ ̋ □ ẽ ę ṿ

							(1)			H	
KRR	G-KRR	RA-RR	GRA-RR	GYA-RR (2)			D				
					mm in.		mm in.	mm in.	mm in.	mm in.	mm in.
1008KRR		RA008RR	GRA008RR	GYA0008RR	1⁄2	203	40.015 1.5754	40.000 1.5748	0.013 0.0005	34.8 1.37	34.0 1.34
		RA009RR	GRA009RR	GYA009RR	9⁄16						
1010KRR(KR)	G1010KRR	RA010RR	GRA010RR	GYA010RR	5⁄8						
1011KRR	G1011KRR				11⁄16						
E17KRR	GE17KRR	RAE17RR	GRAE17RR	GYAE17RR	17						
1012KRR(KR)	G1012KRR	RA012RR	GRA012RR	GYA012RR	3⁄4	204	47.015 1.8510	47.000 1.8504	0.013 0.0005	40.9 1.61	40.6 1.60
E20KRR	GE20KRR	RAE20RR	GRAE20RR	GYAE20RR	20						
1013KRR		RA013RR	GRA013RR	GYA013RR	13⁄16	205	52.017 2.0479	51.999 2.0472	0.015 0.0006	46.0 1.81	45.7 1.80
1014KRR	G1014KRR	RA014RR	GRA014RR	GYA014RR	7⁄8						
1015KRR(KR)	G1015KRR	RA015RR	GRA015RR	GYA015RR	15⁄16						
1100KRR(KR)	G1100KRR	RA100RR	GRA100RR	GYA100RR	1						
E25KRR	GE25KRR	RAE25RR	GRAE25RR	GYAE25RR	25						
	G1101KRR	RA101RR	GRA101RR	GYA101RR	1 1⁄16	206	62.017 2.4416	61.999 2.4409	0.015 0.0006	56.1 2.21	54.9 2.16
1102KRR(KR)	G1102KRR	RA102RR	GRA102RR	GYA102RR	1 1⁄8						
1103KRR(KR)	G1103KRR	RA103RR	GRA103RR	GYA103RR	1 3⁄16						
				GYA103RR2	1 1⁄4						
E30KRR	GE30KRR	RAE30RR	GRAE30RR	GYAE30RR	30						

Ă Ð ƚ Ê ð ẽ Ð ʊ ę ṿ Ê ₆ ƍ Ð Ƨ | ʊ ƚ ˛
ᴗ ẽ ˈ ᴗ ʊ Ð Ł

˛ ⸗ ₄ u ⸗ ˚ Â ǒ G ǒâŁ

Ḋ ŧãʺ □ ẽẹẏ

KRR	G-KRR	RA-RR	GRA-RR	GYA-RR [2]			(1) D		H	
					mm in.		mm in.	mm in.	mm in.	mm in.
1104KRR(KR)	G1104KRR	RA104RR	GRA104RR	GYA104RR	1 1/4	207	72.017 2.8353	71.999 2.8346	0.015 0.0006	56.1 2.56	54.9 2.47
1105KRR		RA105RR	GRA105RR	GYA105RR	1 5/16						
1106KRR	G1106KRR	RA106RR	GRA106RR	GYA106RR	1 3/8						
1107KRR(KR)	G1107KR	RRA107RR	GRA107RR	GYA107RR	1 7/16						
E35KRR	GE35KRR	RAE35RR	GRAE35RR	GYAE35RR	35						
1108KRR(KR)	G1108KRR	RA108RR	GRA108RR	GYA108RR	1 1/2	208	80.018 3.1503	80.000 3.1496	0.020 0.0006	78.0 2.87	75.4 2.78
		RA106RR	GRA109RR	GYA109RR	1 9/16						
			GRAE40RR	GYAE40RR	40						
1110KRR	G1110KRR	RA110RR	GRA110RR	GYA110RR	1 5/8	209	85.024 3.3474	85.001 3.3465	0.020 0.0008	78.0 3.07	75.4 2.97
1111KRR(KR)	G1111KRR	RA111RR	GRA111RR	GYA111RR	1 11/16						
1112KRR(KR)	G1112KRR	RA112RR	GRA112RR	GYA112RR	1 3/4						
E45KRR			GRAE45RR	GYAE45RR	45						
		RA113RR	GRA113RR	GYA113RR	1 13/16	210	90.023 3.5442	90.000 3.5433	0.020 0.0008	83.1 3.27	81.0 3.19
1114KRR		RA114RR	GRA114RR	GYA114RR	1 7/8						
1115KRR(KR)	G1115KRR	RA115RR	GRA115RR	GYA115RR	1 15/16						
			GRA115RR2		2						
E50KRR	GE50KRR	RAE50RR	GRAE50RR	GYAE50RR	50						
1200KRR(KR)	G1200KRR	RA200RR	GRA200RR	GYA200RR	2	211	100.023 3.9379	100.000 3.9370	0.020 0.0008	90.9 3.58	90.4 3.56
		RA201RR	GRA201RR	GYA201RR	2 1/16						
1202KRR		RA202RR	GRA202RR	GYA202RR	2 1/8						
1203KRR(KR)	G1203KRR	RA203RR	GRA203RR	GYA203RR	2 3/16						
E55KRR	GE55KRR	RAE55RR	GRAE55RR	GYAE55RR	55						
1204KRR					2 1/4	212	110.02 4.3316	110.000 4.3307	0.020 0.0008	101.1 3.98	98.3 3.87
1207KRR(KR)	G1207KRR				2 7/16						
E60KRR	GE60KRR				60						
1215KRR					2 15/16	215	130.025 5.1191	130.000 5.1181	0.023 0.0009	120.9 4.76	116.6 4.59
E75KRR					75						

Ă Ḋ ť Ê ồ ẽ Ḋ ʊẹẏÊ ₆ ϱ Ḋ Ϙ|ʊ ť

ʊẽ Ĭ ʊʊ Ḋ Ł

ä ₄ u ä ˙ Â ŎG ŏâŁ

w n l

K

K w n l

w n l 145
ʊ n l 145

50. [illegible]

f 5 n l

Ł Ł f 5 n l u Ď ẽ ę Ж Ţ ȷ
ų Ê ȷ u Ď ȷ ť Ќ Ł n l ẽ
đ u ĵ □ Ď ƀ ẓ ◒ ȷ ˆ Ł ą̈ n l đ ' ؤ
'H Φ ẽ 2 ȷ ɨ f 5 ẽ ´ Ł

Ł Ł f 5 n l u Ẋ ώ Ò ‘ ‘ l̨ ȷ
Ď Ł

Ł Ł ᴮ ŋ Ţ ȷ ų ę Ď Ł ˛ ч
м ą̈ ẓ Ê ⁝ ő u Ď ă Ł ⁴ ╬ ő
ẓ Ď ę ẽ ¯ Ê ᵋ $ Ų̇ ʌ ˆ Ď ȷ ę
Ж Ł

ؤ ˛

Ł Ł ĵ 'A ẽ □ ẽ ؤ ˛ ą̈ ₄ Â 51 □ 52 â Ê
ą̈ ؤ ˛ Ď ŧ ‘ ŧ é ŧ ن ȷ ˥ ▫ ẽ n
Ж Ł ؤ ˛ ◙ 'A ؤ ˛ ł ⁴ ẋ ẽ м Ų̇ Ł

Ł Ł Ɛ 'A □ ẽ ؤ ˛ Ù

- ↑ ˇ ض ∏ › □ Ù ă м ▫ ẽ ؤ ˛
- ת ؤ ˛ ẽ Ù ă м “ Ű ẽ ẋ ؤ ˛ м
- ת ؤ ˛ ẽ ĵ ĵ ę ذ % ő % ă n Ж
- β 0 м
- 'A ؤ ˛ ؤ ˛ u Ò



51. ؤ ˛



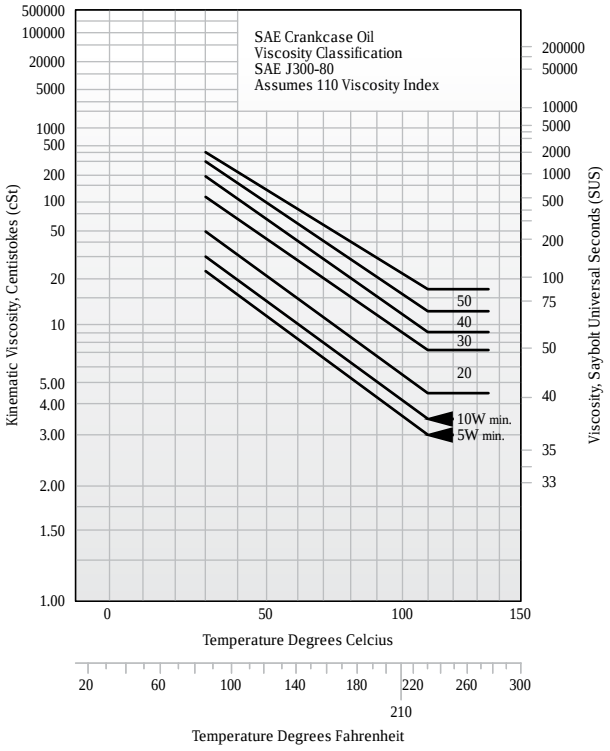
52. ؤ ˛

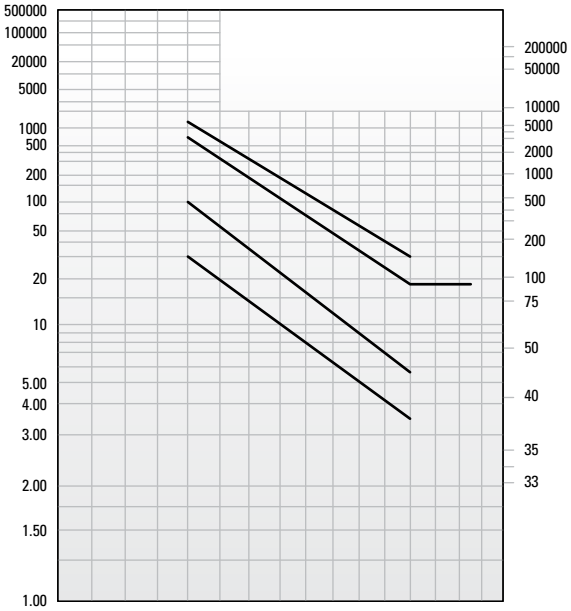
L

L ـ ّ

ـ 149
ـ 149
ـ 151
ـ ẽ 153
ـ 154
ّ 158
ɪ ỗ ّ 159

L


SAE Crankcase Oil
Viscosity Classification
SAE J300-80
Assumes 110 Viscosity Index
Kinematic Viscosity, Centistokes (cSt)
Viscosity, Saybolt Universal Seconds (SUS)
500000
100000
20000
5000
1000
500
200
100
50
20
10
5.00
4.00
3.00
2.00
1.50
1.00
200000
50000
10000
5000
2000
1000
500
200
100
75
50
40
35
33
50
40
30
20
10W min.
5W min.
0
50
100
150
Temperature Degrees Celcius
20
60
100
140
180
220
260
300
210
Temperature Degrees Fahrenheit


500000
100000
20000
5000
1000
500
200
100
50
20
10
5.00
4.00
3.00
2.00
1.50
1.00
200000
50000
10000
5000
2000
1000
500
200
100
75
50
40
35
33

NLGI	
000	445 - 475
00	400 - 430
0	355 - 385
1	310 - 340
2	265 - 295
3	220 - 250
4	175 - 205
5	130 - 160
6	85 - 115

Ł 5. NLGI ŋ ẽ ă Vs ŋ Ĥ

Ł Ł ŋ ĥ Ĥ ε u % ă u ᴮ ẽ Ł Ã Đ ˇ ɟo n Ê ŋ
ł ƿ ᴮ Ẽ ⁴ Ł ŋ Ê ƿ ᴮ ĥ Ê “ Ă
ƿ ᴮ ẋ Ł Ê Ă ˝ ƿ Ḱ Ł Ĥ ◓ Ê Ă Φ
ẽ ₢ u ẖ Ł ſ Ж Ê ⊬ ₨
Ê ſ ẽ ŋ Ł

Ł Ł | ſ Ĥ ώ Φ ⇔ Ê ▫ ƀ ŋ ł
Ł ₢ 6 ₢ 6 ₄ ẽ ŋ ₨ ˇ Ê ẽ Ĥ
Â ẋ ẖ Ê C F â ₄ ˇ Ê ẽ Ă □ ˝ Ł
ɟ ▫ Ê ض ŋ ă ẽ ŋ Ł

		(1)	
	ᴮC F	ᴮC F	
	260 + 500 +	121 250	
	193 380	104 220	
	238 460	149 300	
	260 + 500 +	163 325	

ŋ ẽ ẖ ă ẋ ₹ ˛ u ẽ ẋ ł ĥ Ŏ □ ₀ Ŏ ώ ч
Ă ẋ ẽ ƿ Ł
ˇ Ŏ ẽ ɹ Ł ↑ ˇ ă ˛ Ê ˇ ẖ ᴮ ⁺ Ł Ŝ ŋ ǂ Ê
ˇ ẋ ẋ Ł

Ł 6. u ĥ Ŏ ẽ Ĥ

Ĥ ŋ

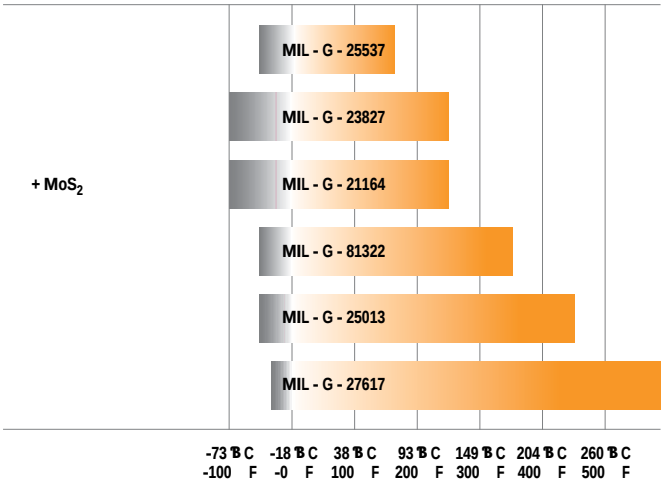
Ł Ł ŋ ẽ ă ĥ Ĥ Đ Ĥ ĕÂ Ł â
Ɗ ŋ ώ ɹ n ẽ Ĥ Ł Φ “ Ĥ ẽ ſ ˝ Ĥ ˇ
/ ẖ u ƿ ч ▪ ŋ Ł Ĥ n ẖ
ƿ Ø Ę ŋ Ê ă Ɗ ┐ Ł

Ł Ł Ã Ą ẇ ệ Ờ Ê ŋ ƿ ᴮ ƀ Ê u ł Ã ẽ ŋ
Ł ŋ ł ẖ Ê Ĥ Ę ệ Ờ ǂ Ʊ Ŏ Ł
ώ u Ł ŋ ẽ ệ Ờ ` ◓ ẽ
“ Ĥ “ Ḱ CÂ F âŁ

Ł Ł ŋ ẽ “ ˇ ł ŋ Ŏ □ ɹ ˬ ẽ ă
ă ˬ Ŏ ẽ ẽ ▫ Ł Ł

Ł Ł ˇ “ Ĥ ẽ n Ж Ê ẖ ▫ ƀ ŋ Â ⁻ âŁ

Ł Ł Ĥ ƿ ƀ J ˬ ƍ Ê ŧ ώ Ɗ ẽ
Ł ł Ĥ “ Ê ŋ ˬ ẽ Ĥ ɹ Ł ɾ ᴸ Ù
Ĥ “ CÂ F âĘ ŋ ẽ u ˝ Ĥ | Ł ₹ Ê
| ŋ CÂ F â ẽ Ê Ã
Ĥ CÂ F â Ê ẋ Ø Ł
ă Ê u Ĥ Ø Ę CÂ F â Ê ẖ ẇ
Ł



57. ﺍﻟﻤﺤﻮ

ﺍﻟﻤﻌﺎﻟﺠﺔ

ﻳﺘﻢ ﺗﻨﻈﻴﻒ ﺍﻟﺴﻄﺢ ﺍﻟﻤﺮﺍﺩ ﻣﻌﺎﻟﺠﺘﻪ ﺑﺎﻟﺮﻣﻞ ﺍﻟﻨﺎﻋﻢ ﺃﻭ ﺑﺎﻟﺘﻔﺮﻳﺶ ﺍﻟﺮﻣﻠﻲ ﻟﺘﻨﻈﻴﻒ ﺍﻟﺴﻄﺢ ﻣﻦ ﺍﻟﺸﻮﺍﺋﺐ ﺍﻟﻐﺮﻳﺒﺔ.

ﻳﺘﻢ ﺗﻄﺒﻴﻖ ﻃﺒﻘﺔ ﺍﻟﺘﺜﺒﻴﺖ ﺍﻟﻔﻮﺳﻔﺎﺗﻲ ﺍﻟﻤﺎﻧﻐﻨﻴﺰﻱ ﺍﻟﻤﺨﺘﺎﺭﺓ ﻋﻠﻰ ﺍﻟﺴﻄﺢ ﺍﻟﻤﻌﺪﻧﻲ ﺍﻟﻤﻨﻈﻒ ﻭﺍﻟﺠﺎﻑ ﺑﺎﺳﺘﺨﺪﺍﻡ ﻓﺮﺷﺎﺓ ﺃﻭ ﺑﺨﺎﺥ ﺍﻟﺮﺵ ﺍﻟﻤﻨﺎﺳﺐ ﻭﻓﻘًﺎ ﻟﻠﺘﻌﻠﻴﻤﺎﺕ ﺍﻟﻤﻮﺻﻰ ﺑﻬﺎ ﻣﻦ ﺍﻟﺸﺮﻛﺔ ﺍﻟﻤﺼﻨﻌﺔ.

ﺍﻟﺘﺠﻔﻴﻒ

ﻳﺘﻢ ﺗﺠﻔﻴﻒ ﻃﺒﻘﺔ ﺍﻟﺘﺜﺒﻴﺖ ﺍﻟﻤﻄﺒﻘﺔ ﺑﺎﻟﻬﻮﺍﺀ ﺍﻟﺴﺎﺧﻦ ﻋﻨﺪ ﺩﺭﺟﺔ ﺣﺮﺍﺭﺓ ﻻ ﺗﻘﻞ ﻋﻦ ٦٠ ﺩﺭﺟﺔ ﻣﺌﻮﻳﺔ ﻟﻤﺪﺓ ﻻ ﺗﻘﻞ ﻋﻦ ٦٠ ﺩﻗﻴﻘﺔ ﺑﺎﺳﺘﺨﺪﺍﻡ ﻣﺠﻔﻒ ﺍﻟﺸﻌﺮ ﺃﻭ ﻣﺼﺪﺭ ﺁﺧﺮ ﻟﻠﻬﻮﺍﺀ ﺍﻟﺴﺎﺧﻦ ﻣﻊ ﺍﻟﺘﺄﻛﺪ ﻣﻦ ﺃﻥ ﺍﻟﻄﺒﻘﺔ ﺍﻟﻤﻄﺒﻘﺔ ﺟﺎﻓﺔ ﺗﻤﺎﻣًﺎ ﻗﺒﻞ ﺍﻟﺘﺸﻐﻴﻞ.

58. ﺍﻟﻤﻌﺎﻟﺠﺔ ﺑﺎﻟﺮﻣﻞ ﺍﻟﻨﺎﻋﻢ

59. ﺍﻟﻄﺒﻘﺔ ﺍﻟﻤﻄﺒﻘﺔ

ﺍﻟﺘﺸﻐﻴﻞ

ﻳﺠﺐ ﺍﻟﺘﺄﻛﺪ ﻣﻦ ﺍﻟﺘﺸﻐﻴﻞ ﺍﻟﺘﺠﺮﻳﺒﻲ ﻟﻠﻤﻜﻮﻥ ﺍﻟﻤﻄﺒﻖ ﻟﻠﻄﺒﻘﺔ ﻗﺒﻞ ﺍﻟﺘﺸﻐﻴﻞ ﺍﻟﻔﻌﻠﻲ ﻟﻠﻤﻜﻮﻥ ﻓﻲ ﺍﻟﺘﻄﺒﻴﻖ ﺍﻟﻨﻬﺎﺋﻲ.

ﻳﺠﺐ ﺍﻟﺘﺄﻛﺪ ﻣﻦ ﺍﻟﺘﺸﻐﻴﻞ ﺍﻟﺘﺠﺮﻳﺒﻲ ﻟﻠﻤﻜﻮﻥ ﺍﻟﻤﻄﺒﻖ ﻟﻠﻄﺒﻘﺔ ﻗﺒﻞ ﺍﻟﺘﺸﻐﻴﻞ ﺍﻟﻔﻌﻠﻲ ﻟﻠﻤﻜﻮﻥ ﻓﻲ ﺍﻟﺘﻄﺒﻴﻖ ﺍﻟﻨﻬﺎﺋﻲ. ﻳﺠﺐ ﺍﻟﺘﺄﻛﺪ ﻣﻦ ﺍﻟﺘﺸﻐﻴﻞ ﺍﻟﺘﺠﺮﻳﺒﻲ ﻟﻠﻤﻜﻮﻥ ﺍﻟﻤﻄﺒﻖ ﻟﻠﻄﺒﻘﺔ ﻗﺒﻞ ﺍﻟﺘﺸﻐﻴﻞ ﺍﻟﻔﻌﻠﻲ ﻟﻠﻤﻜﻮﻥ ﻓﻲ ﺍﻟﺘﻄﺒﻴﻖ ﺍﻟﻨﻬﺎﺋﻲ.

ﺍﻟﺘﺸﻐﻴﻞ

ﻳﺠﺐ ﺍﻟﺘﺄﻛﺪ ﻣﻦ ﺍﻟﺘﺸﻐﻴﻞ ﺍﻟﺘﺠﺮﻳﺒﻲ ﻟﻠﻤﻜﻮﻥ ﺍﻟﻤﻄﺒﻖ ﻟﻠﻄﺒﻘﺔ ﻗﺒﻞ ﺍﻟﺘﺸﻐﻴﻞ ﺍﻟﻔﻌﻠﻲ ﻟﻠﻤﻜﻮﻥ ﻓﻲ ﺍﻟﺘﻄﺒﻴﻖ ﺍﻟﻨﻬﺎﺋﻲ.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.

Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate velit esse quam nihil molestiae consequatur, vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?

Ut enim ad minim veniam

Quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

- Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo.
- Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.
- Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem.
- Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur?
- Quis autem vel eum iure reprehenderit qui in ea voluptate velit esse quam nihil molestiae consequatur, vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.

Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate velit esse quam nihil molestiae consequatur, vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?

Timken®
Timken®
Timken®
Timken®
Timken®
Timken®
Timken®

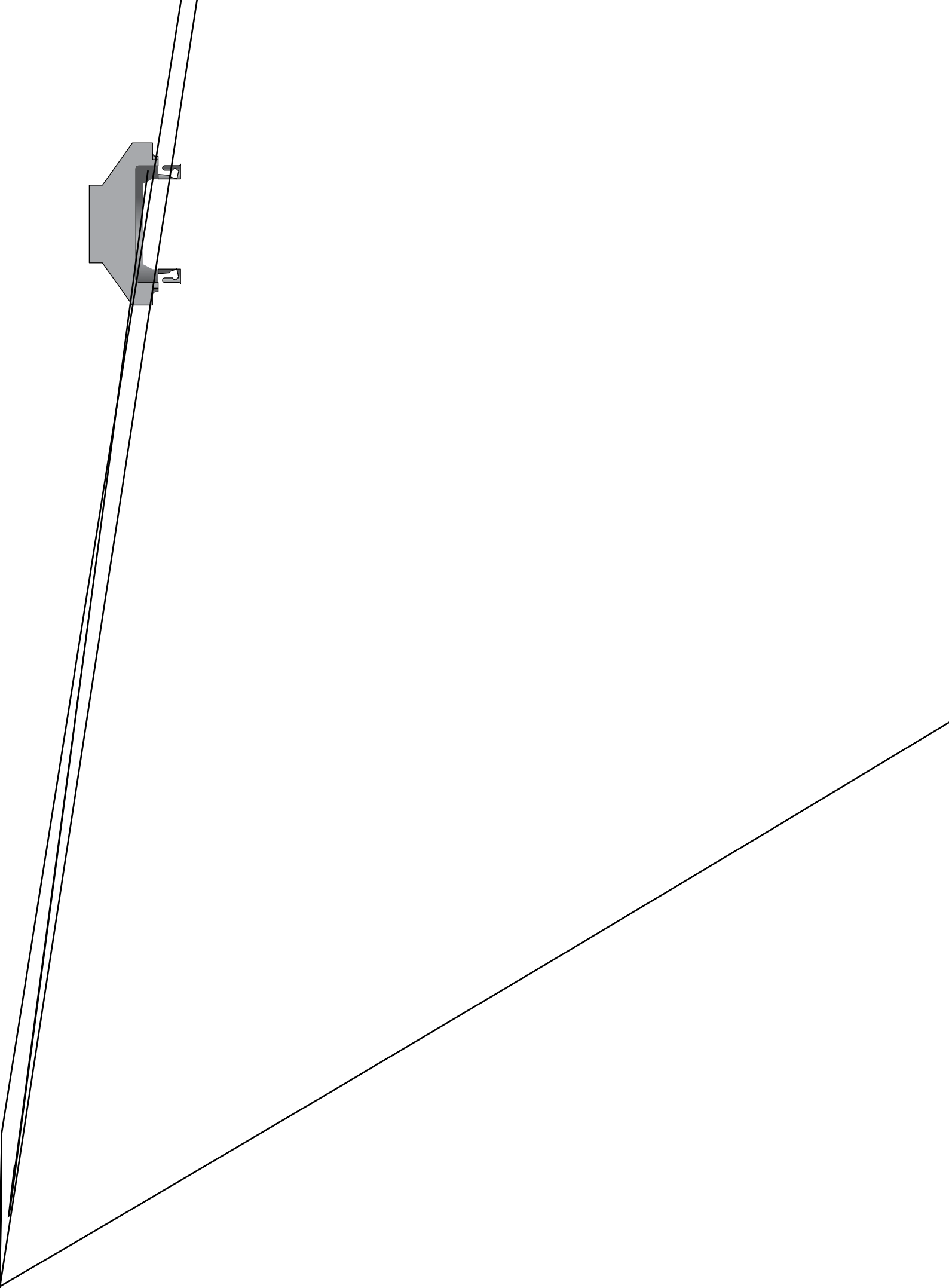
Timken

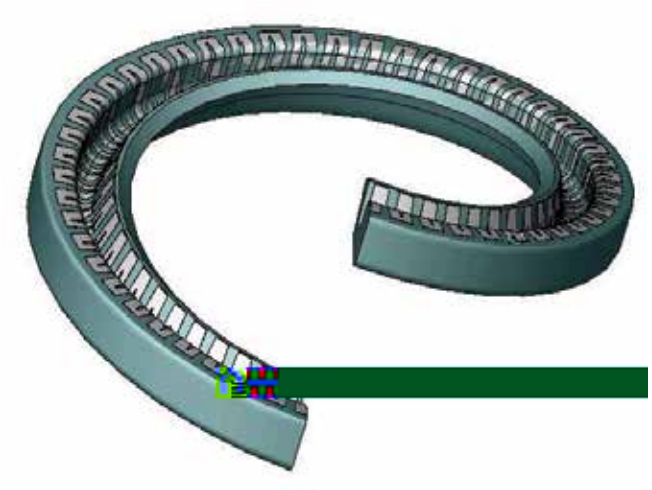
Timken®	Timken®	Timken®
Castrol 4020/220-2™	Castrol Moly 860-2ES™	Citgo Polyurea MP2™
Castrol 8060/220-2™	Castrol Contractor Grease 2™	Conoco Polyurea 2™
Chevron Delo® EP 2	Conoco Superlube M EP™	Exxon Polyrex® EM
Chevron RPM Automotive	D.A. Stuart Molyplex EP 2™	Exxon Unirex N™
LC Grease EP-2™	Exxon Centaur Moly™	Mobilgrease® AW2
Citgo Lithoplex MP2™	Exxon Ronex Extra Duty Moly™	Shell Alvania RL3™
Citgo Premium	Fuchs Moreplex 2™	SKF LGHP2™
Lithium EP 2™	Lubriplate® 3000	Unocal 76 Unolife
Conoco Super-STA® 2	Mobilgrease® Moly 52	Grease™
Exxon Ronex MP™	Mystik® Tetrimoly® Extreme	
Exxon Unirex EP 2™	Pennzoil® Multipurpose EP 302	
FAG LOAD220™	Pennzoil® Premium	
Fuchs (Century) Uniwrl 2™	Lithium Complex 2 with Moly	
Lubrication Engineers	Petro-Canada	
Almagard® 3752	Precision Moly EP 2™	
Lubriplate® 1552	Schaeffer Moly Ultra	
Mobilgrease® XHP 222	Supreme 238™	
Pennzoil® Pennlith® EP 712	Shell Retinax CMX 2™	
Pennzoil® Premium	Texaco Starplex® Moly MPGM2	
Lithium Complex 2	Unical 76 Megaplex™	
Petro-Canada		
Multipurpose EP 2™		
Royal Purple®		
Ultra-Performance® 2		
Shell Albida® LC 2		
Shell Retinax® LC 2		
SKF LGWA2™		
SKF LGEP2™		
Texaco Starplex® 2		
Unical 76 Multiplex Red™		

Timken®
Conoco Polyurea 2™
Chevron SRI™
Citgo Polyurea 2™
Lubriplate® EM
Petro-Canada EMB™
Shell Dolium® BRB

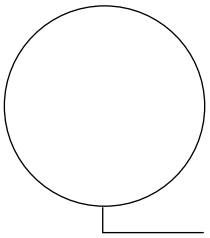
L

Timken®





63. u ˜Ω ˜ǫ ˛



64. ˜Ω Ќ Ď ˪

˜Ӈ ˜Ω ẽ ʊ

/

- ˜Ω ṕ □ ɣɔɔẽ ˆ ŏ
- u ˜Ω ˜ǫ ˛Ê ł ˜Ω ˜Ą Â â ť ˛ʐ˜H ˛ Êu ˜Ω ɯ Ď ₾Ł ˜Ω ˛ʐ˜H ѵ ʻ ˩
- ѧ Êu ˜Ω Ď ₾Ê Ą Ő ę
- ˜Ω ʊ Ď ₾ł Ê ƿ ť Ď ˪ Ќ mm Â ˗in âÊ Ł mm ẽ Ќ ę ˜Ӈ ɜ ɒ ŭ ˜Ω ẽ ˫˜HŁ Ď ₾ ˜H ₒ ₙ ˈ ă ẽ ˜Ω ˫˜H

˜ ę

˪Ł ʊ b ł Ê˜ ę ˜Ω Ά Ê и ˜Ω ṕ □ ت Ł ɱ ˜Ω ṕ u Ḿ ẽ ˜Ω ẽ ķ Ł

/ Ⱡ ẽ ʊ

˪Ł ʊ / Ê ˜ ę ʁ Ł i ˛ . ẽ Ŏ Ê ε ˈ ʊ Ƀ ɯ Ê Ą ʊ ˥ Ƀ b ┼ ɟ ʁ ˛ Ł

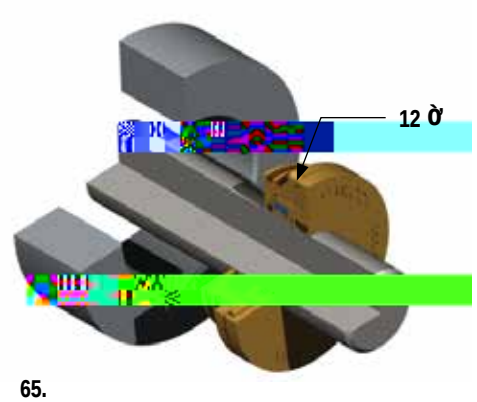
˪Ł Ś Ê˜ ę □ ₾ ˪ Ł ẽ ˪ Ḿ ₾ µm Â µin âÊ ˈ ă Ê Ấ u ˪ ↕ Ł ₾ ˪ ˗ µm Â ˗ µin âŁ □ ₾˜E Å Ƣ Ê Ą O ˘ Ł

˪Ł Ś Ê˜ ę □ ₾ ɟ ŗ Ł Ỽ ˜E Š ł ↑ ◒ ł ɀ □ Ł ị ẽ Ł ȯ ˻ Ê ẽ ˜Ω ⅋ ƿ ķ Ł ɱ ˜Ω ṕ ẽ O u ẽ ˜Ω ẽ ķ Ł

˪Ł ł Ê | ɱ˜Ą ɱ Ỿ ķ ɟ ω Ỿ Ỵ Ê ɜ ʊ ˘ ῶ Ł ⊬ Ψ ˆ ẽ ʊ ˥ ˈ Ê ˚ ʊ Ẑ ł ψ ˆ ẽ ˥ ở ɟ ˛ ɯ ˘ ῶ Ł

/ Ь ẽ ʙ n

Ł Ł ɕ 6 ч ẽ 2 J ṅ 2 ẽ Ḋ / Ь ḅ 4



ẽ ■

65.