

LAMPIRAN

Jenis pelumas yang digunakan pada penelitian ini adalah

| Merek | Volume | JENIS | Deskripsi |
|--------------------------|---------------|---------------|-----------------------------------|
| <i>Yamalube Sport</i> | 1 L | Semi Syntetic | EAN CODE: YM LUBE-SPO-4T-10W40-1L |
| <i>Castrol Power 1 R</i> | 1 L | Full Syntetic | SAE 10W-40 –API SL- JASO MA 2 |
| <i>Enduro 4 T Racing</i> | 1 L | Syntetic | SAE 10W-40 – JASO MA2 – API SL/SJ |
| <i>Eneos</i> | 1 L | Semi Syntetic | SN 10W-40 |

Tabel Konduktivitas Termal Sampel Pelumas

| <i>Yamalube sport</i> | | | | | | | | | | | Debit air : 1 LPM | | |
|-----------------------|---------|---------|---------|-----------------|--------------------|-----------------|------------|-----------|-----------|---------------------------------|----------------------------------|---------------------------|---------------------------------|
| No | Variasi | T1 (°C) | T2 (°C) | Tegangan (Volt) | Kuat Arus (Ampere) | Daya, Qe (Watt) | T1-T2 (°C) | Qi (Watt) | Qc (Watt) | Radial Clearance (Δr) | Luas Permukaan (m ²) | Temperatur rata-rata (°C) | Konduktivitas Termal, K (W/m.K) |
| 1 | 1 | 26.9 | 26.5 | 34 | 0.059 | 2.006 | 0.4 | 0.02374 | 1.98226 | 0.00034 | 0.0133 | 26.7 | 0.126685789 |
| | 2 | 30.1 | 27.9 | 74 | 0.144 | 10.656 | 2.2 | 0.28942 | 10.36658 | 0.00034 | 0.0133 | 29 | 0.120459234 |
| | 3 | 33.9 | 28.7 | 120 | 0.235 | 28.2 | 5.2 | 0.73222 | 27.46778 | 0.00034 | 0.0133 | 31.3 | 0.135035356 |
| | 4 | 39.1 | 29.7 | 160 | 0.302 | 48.32 | 9.4 | 1.35214 | 46.96786 | 0.00034 | 0.0133 | 34.4 | 0.127732142 |
| | 5 | 45.7 | 30.8 | 201 | 0.361 | 72.561 | 14.9 | 2.16394 | 70.39706 | 0.00034 | 0.0133 | 38.25 | 0.12078014 |
| 2 | 1 | 28.6 | 28.2 | 37 | 0.059 | 2.183 | 0.4 | 0.02374 | 2.15926 | 0.00034 | 0.0133 | 28.4 | 0.13799782 |
| | 2 | 30.1 | 28.6 | 67 | 0.13 | 8.71 | 1.5 | 0.1861 | 8.5239 | 0.00034 | 0.0133 | 29.35 | 0.145269474 |
| | 3 | 34.7 | 29.3 | 122 | 0.238 | 29.036 | 5.4 | 0.76174 | 28.27426 | 0.00034 | 0.0133 | 32 | 0.133851969 |
| | 4 | 40.1 | 30.2 | 165 | 0.312 | 51.48 | 9.9 | 1.42594 | 50.05406 | 0.00034 | 0.0133 | 35.15 | 0.12925025 |
| | 5 | 45.8 | 31.1 | 200 | 0.362 | 72.4 | 14.7 | 2.13442 | 70.26558 | 0.00034 | 0.0133 | 38.45 | 0.122194758 |
| 3 | 1 | 28.8 | 28.4 | 32 | 0.062 | 1.984 | 0.4 | 0.02374 | 1.96026 | 0.00034 | 0.0133 | 28.6 | 0.125279774 |
| | 2 | 30.6 | 28.7 | 72 | 0.143 | 10.296 | 1.9 | 0.24514 | 10.05086 | 0.00034 | 0.0133 | 29.65 | 0.135231199 |
| | 3 | 35.1 | 29.3 | 123 | 0.242 | 29.766 | 5.8 | 0.82078 | 28.94522 | 0.00034 | 0.0133 | 32.2 | 0.127578102 |
| | 4 | 41.1 | 30.3 | 171 | 0.323 | 55.233 | 10.8 | 1.55878 | 53.67422 | 0.00034 | 0.0133 | 35.7 | 0.127048418 |
| | 5 | 44.6 | 30 | 201 | 0.367 | 73.767 | 14.6 | 2.11966 | 71.64734 | 0.00034 | 0.0133 | 37.3 | 0.125451105 |

| Enduro 4T Racing | | | | | | | | | | | Debit air : 1 LPM | | |
|-------------------------|---------|---------|---------|-----------------|--------------------|-----------------|------------|-----------|-----------|---------------------------------|----------------------------------|---------------------------|---------------------------------|
| No | Variasi | T1 (°C) | T2 (°C) | Tegangan (Volt) | Kuat Arus (Ampere) | Daya, Qe (Watt) | T1-T2 (°C) | Qi (Watt) | Qc (Watt) | Radial Clearance (Δr) | Luas Permukaan (m ²) | Temperatur rata-rata (°C) | Konduktivitas Termal, K (W/m.K) |
| 1 | 1 | 27.4 | 27 | 35 | 0.062 | 2.17 | 0.4 | 0.02374 | 2.14626 | 0.00034 | 0.0133 | 27.2 | 0.137166992 |
| | 2 | 29.6 | 27.3 | 80 | 0.161 | 12.88 | 2.3 | 0.30418 | 12.57582 | 0.00034 | 0.0133 | 28.45 | 0.139777012 |
| | 3 | 32.7 | 27.9 | 119 | 0.234 | 27.846 | 4.8 | 0.67318 | 27.17282 | 0.00034 | 0.0133 | 30.3 | 0.1447174 |
| | 4 | 38.8 | 29.1 | 165 | 0.311 | 51.315 | 9.7 | 1.39642 | 49.91858 | 0.00034 | 0.0133 | 33.95 | 0.131558152 |
| | 5 | 44.1 | 30.1 | 200 | 0.356 | 71.2 | 14 | 2.0311 | 69.1689 | 0.00034 | 0.0133 | 37.1 | 0.126301966 |
| 2 | 1 | 27.9 | 27.5 | 35 | 0.062 | 2.17 | 0.4 | 0.02374 | 2.14626 | 0.00034 | 0.0133 | 27.7 | 0.137166992 |
| | 2 | 29.8 | 27.4 | 79 | 0.159 | 12.561 | 2.4 | 0.31894 | 12.24206 | 0.00034 | 0.0133 | 28.6 | 0.130397882 |
| | 3 | 33.3 | 28.1 | 120 | 0.235 | 28.2 | 5.2 | 0.73222 | 27.46778 | 0.00034 | 0.0133 | 30.7 | 0.135035356 |
| | 4 | 38.6 | 29 | 164 | 0.308 | 50.512 | 9.6 | 1.38166 | 49.13034 | 0.00034 | 0.0133 | 33.8 | 0.130829539 |
| | 5 | 44.6 | 30.1 | 202 | 0.357 | 72.114 | 14.5 | 2.1049 | 70.0091 | 0.00034 | 0.0133 | 37.35 | 0.123428022 |
| 3 | 1 | 27.6 | 27.2 | 36 | 0.064 | 2.304 | 0.4 | 0.02374 | 2.28026 | 0.00034 | 0.0133 | 27.4 | 0.145730902 |
| | 2 | 29.3 | 27.2 | 73 | 0.148 | 10.804 | 2.1 | 0.27466 | 10.52934 | 0.00034 | 0.0133 | 28.25 | 0.128176713 |
| | 3 | 32.7 | 27.9 | 118 | 0.231 | 27.258 | 4.8 | 0.67318 | 26.58482 | 0.00034 | 0.0133 | 30.3 | 0.141585821 |
| | 4 | 37.7 | 28.8 | 158 | 0.298 | 47.084 | 8.9 | 1.27834 | 45.80566 | 0.00034 | 0.0133 | 33.25 | 0.131569861 |
| | 5 | 44.2 | 30 | 202 | 0.357 | 72.114 | 14.2 | 2.06062 | 70.05338 | 0.00034 | 0.0133 | 37.1 | 0.126115372 |

| Castrol Power 1 | | | | | | | | | | | Debit air : 1 LPM | | |
|------------------------|---------|---------|---------|-----------------|--------------------|-----------------|------------|-----------|-----------|-----------------------|----------------------------------|---------------------------|---------------------------------|
| No | Variasi | T1 (°C) | T2 (°C) | Tegangan (Volt) | Kuat Arus (Ampere) | Daya, Qe (Watt) | T1-T2 (°C) | Qi (Watt) | Qc (Watt) | Radial Clearance (Δr) | Luas Permukaan (m ²) | Temperatur rata-rata (°C) | Konduktivitas Termal, K (W/m.K) |
| 1 | 1 | 27.1 | 26.5 | 40 | 0.072 | 2.88 | 0.6 | 0.05326 | 2.82674 | 0.00034 | 0.0133 | 26.8 | 0.120437544 |
| | 2 | 29.5 | 27.2 | 80 | 0.16 | 12.8 | 2.3 | 0.30418 | 12.49582 | 0.00034 | 0.0133 | 28.35 | 0.138887833 |
| | 3 | 32.8 | 27.7 | 118 | 0.233 | 27.494 | 5.1 | 0.71746 | 26.77654 | 0.00034 | 0.0133 | 30.25 | 0.134218246 |
| | 4 | 37 | 28.6 | 160 | 0.303 | 48.48 | 8.4 | 1.20454 | 47.27546 | 0.00034 | 0.0133 | 32.8 | 0.143874475 |
| | 5 | 44.9 | 29.8 | 202 | 0.366 | 73.932 | 15.1 | 2.19346 | 71.73854 | 0.00034 | 0.0133 | 37.35 | 0.121451494 |
| 2 | 1 | 27.2 | 26.7 | 36 | 0.063 | 2.268 | 0.5 | 0.0385 | 2.2295 | 0.00034 | 0.0133 | 26.95 | 0.113989474 |
| | 2 | 29.5 | 27.2 | 76 | 0.152 | 11.552 | 2.3 | 0.30418 | 11.24782 | 0.00034 | 0.0133 | 28.35 | 0.125016633 |
| | 3 | 32.7 | 27.8 | 116 | 0.229 | 26.564 | 4.9 | 0.68794 | 25.87606 | 0.00034 | 0.0133 | 30.25 | 0.134998625 |
| | 4 | 38.8 | 28.9 | 163 | 0.311 | 50.693 | 9.9 | 1.42594 | 49.26706 | 0.00034 | 0.0133 | 33.85 | 0.127218048 |
| | 5 | 45.2 | 30.1 | 206 | 0.368 | 75.808 | 15.1 | 2.19346 | 73.61454 | 0.00034 | 0.0133 | 37.65 | 0.124627514 |
| 3 | 1 | 26.9 | 26.4 | 40 | 0.071 | 2.84 | 0.5 | 0.0385 | 2.8015 | 0.00034 | 0.0133 | 26.65 | 0.143234586 |
| | 2 | 29.6 | 26.9 | 84 | 0.166 | 13.944 | 2.7 | 0.36322 | 13.58078 | 0.00034 | 0.0133 | 28.25 | 0.128584383 |
| | 3 | 33.1 | 27.8 | 119 | 0.235 | 27.965 | 5.3 | 0.74698 | 27.21802 | 0.00034 | 0.0133 | 30.45 | 0.131282832 |
| | 4 | 37.1 | 28.7 | 164 | 0.311 | 51.004 | 8.4 | 1.20454 | 49.79946 | 0.00034 | 0.0133 | 32.9 | 0.151555822 |
| | 5 | 44.6 | 30 | 201 | 0.367 | 73.767 | 14.6 | 2.11966 | 71.64734 | 0.00034 | 0.0133 | 37.3 | 0.125451105 |

| Eneos Touring | | | | | | | | | | | Debit air : 1 LPM | | |
|----------------------|---------|---------|---------|-----------------|--------------------|-----------------|------------|-----------|-----------|---------------------------------|----------------------------------|---------------------------|---------------------------------|
| No | Variasi | T1 (°C) | T2 (°C) | Tegangan (Volt) | Kuat Arus (Ampere) | Daya, Qe (Watt) | T1-T2 (°C) | Qi (Watt) | Qc (Watt) | Radial Clearance (Δr) | Luas Permukaan (m ²) | Temperatur rata-rata (°C) | Konduktivitas Termal, K (W/m.K) |
| 1 | 1 | 26.8 | 26.4 | 36 | 0.064 | 2.304 | 0.4 | 0.02374 | 2.28026 | 0.00034 | 0.0133 | 26.6 | 0.145730902 |
| | 2 | 28.7 | 27 | 70 | 0.14 | 9.8 | 1.7 | 0.21562 | 9.58438 | 0.00034 | 0.0133 | 27.85 | 0.144126015 |
| | 3 | 31.5 | 27.5 | 105 | 0.208 | 21.84 | 4 | 0.5551 | 21.2849 | 0.00034 | 0.0133 | 29.5 | 0.136031316 |
| | 4 | 36.6 | 28.5 | 151 | 0.286 | 43.186 | 8.1 | 1.16026 | 42.02574 | 0.00034 | 0.0133 | 32.55 | 0.132634843 |
| | 5 | 43.4 | 29.7 | 195 | 0.351 | 68.445 | 13.7 | 1.98682 | 66.45818 | 0.00034 | 0.0133 | 36.55 | 0.124009556 |
| 2 | 1 | 27.5 | 27.1 | 47 | 0.042 | 1.974 | 0.4 | 0.02374 | 1.95026 | 0.00034 | 0.0133 | 27.3 | 0.124640677 |
| | 2 | 29.2 | 27.6 | 67 | 0.13 | 8.71 | 1.6 | 0.20086 | 8.50914 | 0.00034 | 0.0133 | 28.4 | 0.135954305 |
| | 3 | 33.1 | 28.2 | 116 | 0.226 | 26.216 | 4.9 | 0.68794 | 25.52806 | 0.00034 | 0.0133 | 30.65 | 0.133183066 |
| | 4 | 37.7 | 29.1 | 157 | 0.297 | 46.629 | 8.6 | 1.23406 | 45.39494 | 0.00034 | 0.0133 | 33.4 | 0.134938622 |
| | 5 | 43.9 | 30.3 | 195 | 0.352 | 68.64 | 13.6 | 1.97206 | 66.66794 | 0.00034 | 0.0133 | 37.1 | 0.125315677 |
| 3 | 1 | 27.2 | 26.6 | 40 | 0.072 | 2.88 | 0.6 | 0.05326 | 2.82674 | 0.00034 | 0.0133 | 26.9 | 0.120437544 |
| | 2 | 29.4 | 27.3 | 74 | 0.145 | 10.73 | 2.1 | 0.27466 | 10.45534 | 0.00034 | 0.0133 | 28.35 | 0.12727589 |
| | 3 | 32.4 | 28.1 | 109 | 0.215 | 23.435 | 4.3 | 0.59938 | 22.83562 | 0.00034 | 0.0133 | 30.25 | 0.135759937 |
| | 4 | 37.2 | 29.2 | 150 | 0.284 | 42.6 | 8 | 1.1455 | 41.4545 | 0.00034 | 0.0133 | 33.2 | 0.132467387 |
| | 5 | 43.5 | 30.4 | 197 | 0.354 | 69.738 | 13.1 | 1.89826 | 67.83974 | 0.00034 | 0.0133 | 36.95 | 0.132385419 |

Tabel Hasil Pengujian Viskositas Sampel Pelumas

| Percobaan 1 | | | | | | | |
|-------------|----------------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Yamalube Sport Suhu Kamar | 1 | 3 | 4.7 | 27.5 | 94 | 69.45 |
| | | 1 | 6 | 11.3 | 28.3 | 113 | |
| | | 1 | 12 | 29.3 | 27.9 | 146.5 | |
| | | 1 | 30 | 72.5 | 27.7 | 145.5 | |
| | | 1 | 60 | | | | |
| 2 | Yamalube Sport Suhu ± 30°C | 1 | 3 | 4.2 | 31.4 | 84 | |
| | | 1 | 6 | 9.5 | 31.4 | 95 | |
| | | 1 | 12 | 22.4 | 31 | 112 | |
| | | 1 | 30 | 57.4 | 31.4 | 114.3 | |
| | | 1 | 60 | | | | |
| 3 | Yamalube Sport Suhu ± 40°C | 1 | 3 | 2.1 | 40 | 42 | |
| | | 1 | 6 | 5.6 | 40.6 | 56 | |
| | | 1 | 12 | 12.5 | 40.6 | 62.5 | |
| | | 1 | 30 | 35.2 | 40.5 | 70.4 | |
| | | 1 | 60 | 71.7 | 40.1 | 71.7 | |
| 4 | Yamalube Sport Suhu ± 50°C | 1 | 3 | 1.5 | 51 | 30 | |
| | | 1 | 6 | 4.4 | 51 | 44 | |
| | | 1 | 12 | 9.2 | 50.8 | 46 | |
| | | 1 | 30 | 27.8 | 50.8 | 56.6 | |
| | | 1 | 60 | 55.8 | 50.5 | 55.8 | |
| 5 | Yamalube Sport Suhu ± 60°C | 1 | 3 | 1.2 | 60.8 | 24 | |
| | | 1 | 6 | 3.2 | 60.8 | 32 | |
| | | 1 | 12 | 5.4 | 60.7 | 27 | |
| | | 1 | 30 | 18.5 | 60.5 | 37 | |
| | | 1 | 60 | 38 | 60.4 | 38 | |

| Percobaan 2 | | | | | | | |
|-------------|--|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Yamalube Sport Suhu Kamar | 1 | 3 | 6 | 27.5 | 120 | 71.33 |
| | | 1 | 6 | 12.1 | 27.9 | 121 | |
| | | 1 | 12 | 28.2 | 28 | 141 | |
| | | 1 | 30 | 72.6 | 27.7 | 145.2 | |
| | | 1 | 60 | | 28 | | |
| 2 | Yamalube Sport Suhu $\pm 30^{\circ}\text{C}$ | 1 | 3 | 4.8 | 31.4 | 96 | |
| | | 1 | 6 | 9.3 | 31.3 | 93 | |
| | | 1 | 12 | 22.4 | 31.3 | 112 | |
| | | 1 | 30 | 57.6 | 31.4 | 115.2 | |
| | | 1 | 60 | | 31 | | |
| 3 | Yamalube Sport Suhu $\pm 40^{\circ}\text{C}$ | 1 | 3 | 2 | 40.8 | 40 | |
| | | 1 | 6 | 5.1 | 40.8 | 51 | |
| | | 1 | 12 | 12.7 | 40.8 | 63.5 | |
| | | 1 | 30 | 35.6 | 40.4 | 71.2 | |
| | | 1 | 60 | 72.4 | 40.1 | 72.4 | |
| 4 | Yamalube Sport Suhu $\pm 50^{\circ}\text{C}$ | 1 | 3 | 1.8 | 50.9 | 36 | |
| | | 1 | 6 | 4.4 | 51 | 44 | |
| | | 1 | 12 | 9.5 | 50.7 | 47.5 | |
| | | 1 | 30 | 28.4 | 50.7 | 56.8 | |
| | | 1 | 60 | 56.7 | 50.5 | 56.7 | |
| 5 | Yamalube Sport Suhu $\pm 60^{\circ}\text{C}$ | 1 | 3 | 0.8 | 60.7 | 16 | |
| | | 1 | 6 | 3.2 | 60.8 | 32 | |
| | | 1 | 12 | 6.3 | 60.7 | 31.5 | |
| | | 1 | 30 | 19.2 | 60.5 | 38.4 | |
| | | 1 | 60 | 40.3 | 60.5 | 40.3 | |

| Percobaan 3 | | | | | | | |
|-------------|----------------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Yamalube Sport Suhu Kamar | 1 | 3 | 5.6 | 27.5 | 112 | 71.73 |
| | | 1 | 6 | 11.9 | 27.9 | 119 | |
| | | 1 | 12 | 28.3 | 27.8 | 141.5 | |
| | | 1 | 30 | 72.6 | 27.8 | 145.2 | |
| | | 1 | 60 | | 28.1 | | |
| 2 | Yamalube Sport Suhu ± 30°C | 1 | 3 | 5.1 | 31.3 | 102 | |
| | | 1 | 6 | 9.1 | 31.3 | 91 | |
| | | 1 | 12 | 21.9 | 31.3 | 109.5 | |
| | | 1 | 30 | 57.8 | 31.4 | 115.6 | |
| | | 1 | 60 | | 30.8 | | |
| 3 | Yamalube Sport Suhu ± 40°C | 1 | 3 | 1.9 | 40.8 | 38 | |
| | | 1 | 6 | 4.9 | 40.8 | 49 | |
| | | 1 | 12 | 12.9 | 40.7 | 64.5 | |
| | | 1 | 30 | 35.9 | 40.4 | 71.8 | |
| | | 1 | 60 | 73 | 40.1 | 73 | |
| 4 | Yamalube Sport Suhu ± 50°C | 1 | 3 | 1.6 | 50.9 | 32 | |
| | | 1 | 6 | 5 | 51 | 50 | |
| | | 1 | 12 | 9.7 | 50.7 | 48.5 | |
| | | 1 | 30 | 29 | 50.6 | 58.2 | |
| | | 1 | 60 | 57.7 | 50.5 | 57.7 | |
| 5 | Yamalube Sport Suhu ± 60°C | 1 | 3 | 0.9 | 60.8 | 18 | |
| | | 1 | 6 | 3.8 | 60.8 | 38 | |
| | | 1 | 12 | 6.9 | 60.7 | 34.5 | |
| | | 1 | 30 | 19.8 | 60.5 | 39.6 | |
| | | 1 | 60 | 41.3 | 60.5 | 41.3 | |

| Percobaan 1 | | | | | | | |
|-------------|-----------------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Castrol Power 1 Suhu Kamar | 1 | 3 | 4.4 | 26.1 | 166 | 79.74 |
| | | 1 | 6 | 10.3 | 26 | 158 | |
| | | 1 | 12 | 21.6 | 26 | 156 | |
| | | 1 | 30 | 53.7 | 26.1 | 155 | |
| | | 1 | 60 | | 26.1 | | |
| 2 | Castrol Power 1 Suhu ± 30°C | 1 | 3 | 2.5 | 30.1 | 108 | |
| | | 1 | 6 | 5.5 | 30.1 | 102 | |
| | | 1 | 12 | 14.1 | 30.2 | 104.5 | |
| | | 1 | 30 | 13.8 | 30.1 | 107 | |
| | | 1 | 60 | 78.5 | 30.1 | | |
| 3 | Castrol Power 1 Suhu ± 40°C | 1 | 3 | 1.9 | 40.4 | 66 | |
| | | 1 | 6 | 5.5 | 40.5 | 71 | |
| | | 1 | 12 | 11.8 | 40.7 | 68 | |
| | | 1 | 30 | 32.7 | 40.7 | 70.2 | |
| | | 1 | 60 | 66 | 40.8 | 71.5 | |
| 4 | Castrol Power 1 Suhu ± 50°C | 1 | 3 | 1.4 | 50.4 | 46 | |
| | | 1 | 6 | 4.4 | 50.8 | 57 | |
| | | 1 | 12 | 9 | 50.7 | 49.5 | |
| | | 1 | 30 | 26.9 | 50.8 | 48.4 | |
| | | 1 | 60 | 53.7 | 50.7 | 50.1 | |
| 5 | Castrol Power 1 Suhu ± 60°C | 1 | 3 | 0.8 | 60 | 40 | |
| | | 1 | 6 | 3.7 | 60.1 | 36 | |
| | | 1 | 12 | 6.6 | 60.3 | 33 | |
| | | 1 | 30 | 20.2 | 60.3 | 34.8 | |
| | | 1 | 60 | 41.3 | 60.4 | 36.1 | |

| Percobaan 2 | | | | | | | |
|-------------|-----------------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Castrol Power 1 Suhu Kamar | 1 | 3 | 4.3 | 26 | 86 | 59.02 |
| | | 1 | 6 | 10.1 | 26 | 101 | |
| | | 1 | 12 | 21.5 | 26 | 107.5 | |
| | | 1 | 30 | 53.7 | 26 | 107.4 | |
| | | 1 | 60 | | | | |
| 2 | Castrol Power 1 Suhu ± 30°C | 1 | 3 | 2.4 | 30.2 | 48 | |
| | | 1 | 6 | 7 | 30.1 | 70 | |
| | | 1 | 12 | 14 | 30.3 | 70 | |
| | | 1 | 30 | 13.6 | 30.1 | 68 | |
| | | 1 | 60 | 79.1 | 30 | 79.1 | |
| 3 | Castrol Power 1 Suhu ± 40°C | 1 | 3 | 1.9 | 40.3 | 38 | |
| | | 1 | 6 | 5 | 40.5 | 50 | |
| | | 1 | 12 | 12.1 | 40.7 | 60.5 | |
| | | 1 | 30 | 33 | 40.7 | 66 | |
| | | 1 | 60 | 66.7 | 40.8 | 66.7 | |
| 4 | Castrol Power 1 Suhu ± 50°C | 1 | 3 | 1.4 | 50.4 | 28 | |
| | | 1 | 6 | 4.4 | 50.5 | 44 | |
| | | 1 | 12 | 9.3 | 50.7 | 46.5 | |
| | | 1 | 30 | 27.4 | 50.7 | 54.8 | |
| | | 1 | 60 | 54.5 | 50.7 | 54.5 | |
| 5 | Castrol Power 1 Suhu ± 60°C | 1 | 3 | 0.8 | 60 | 16 | |
| | | 1 | 6 | 3.7 | 60 | 37 | |
| | | 1 | 12 | 6.8 | 60.3 | 34 | |
| | | 1 | 30 | 20.7 | 60.3 | 41.4 | |
| | | 1 | 60 | 42.1 | 60.4 | 42.1 | |

| Percobaan 3 | | | | | | | |
|-------------|-----------------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Castrol Power 1 Suhu Kamar | 1 | 3 | 4.5 | 26.1 | 90 | 60.07 |
| | | 1 | 6 | 9.8 | 26 | 98 | |
| | | 1 | 12 | 21.2 | 26.2 | 106 | |
| | | 1 | 30 | 53.7 | 26.2 | 107.4 | |
| | | 1 | 60 | | 26 | | |
| 2 | Castrol Power 1 Suhu ± 30°C | 1 | 3 | 3.1 | 30.2 | 62 | |
| | | 1 | 6 | 5.9 | 30.1 | 59 | |
| | | 1 | 12 | 14.4 | 30.3 | 72 | |
| | | 1 | 30 | 13.7 | 30.1 | 68.5 | |
| | | 1 | 60 | 79.6 | 30 | 79.6 | |
| 3 | Castrol Power 1 Suhu ± 40°C | 1 | 3 | 1.9 | 40.2 | 38 | |
| | | 1 | 6 | 5.8 | 40.4 | 58 | |
| | | 1 | 12 | 12 | 40.5 | 60 | |
| | | 1 | 30 | 33.4 | 40.7 | 66.8 | |
| | | 1 | 60 | 67.3 | 40.8 | 67.3 | |
| 4 | Castrol Power 1 Suhu ± 50°C | 1 | 3 | 1.4 | 50.1 | 28 | |
| | | 1 | 6 | 4.6 | 50.5 | 46 | |
| | | 1 | 12 | 9.6 | 50.7 | 48 | |
| | | 1 | 30 | 27.9 | 50.7 | 55.8 | |
| | | 1 | 60 | 55.3 | 50.7 | 55.3 | |
| 5 | Castrol Power 1 Suhu ± 60°C | 1 | 3 | 0.8 | 60 | 16 | |
| | | 1 | 6 | 4 | 60 | 40 | |
| | | 1 | 12 | 7 | 60.2 | 35 | |
| | | 1 | 30 | 21.2 | 60.3 | 42.4 | |
| | | 1 | 60 | 42.6 | 60.3 | 42.6 | |

| Percobaan 1 | | | | | | | |
|-------------|------------------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Enduro 4T Racing Suhu Kamar | 1 | 3 | 4.3 | 29.1 | 86 | 66.10 |
| | | 1 | 6 | 11.7 | 29.2 | 117 | |
| | | 1 | 12 | 29.5 | 29.2 | 147.5 | |
| | | 1 | 30 | 73.6 | 29.3 | 147.2 | |
| | | 1 | 60 | | 29.3 | | |
| 2 | Enduro 4T Racing Suhu ± 30°C | 1 | 3 | 2.6 | 30.1 | 52 | |
| | | 1 | 6 | 7 | 30.4 | 70 | |
| | | 1 | 12 | 16.8 | 30.6 | 84 | |
| | | 1 | 30 | 45.1 | 30.8 | 90.2 | |
| | | 1 | 60 | 93.2 | 30.9 | 93.2 | |
| 3 | Enduro 4T Racing Suhu ± 40°C | 1 | 3 | 1.4 | 40.3 | 28 | |
| | | 1 | 6 | 5 | 40.6 | 50 | |
| | | 1 | 12 | 13.6 | 40.6 | 68 | |
| | | 1 | 30 | 37.7 | 40.7 | 75.4 | |
| | | 1 | 60 | 78.3 | 40.8 | 78.3 | |
| 4 | Enduro 4T Racing Suhu ± 50°C | 1 | 3 | 0 | 50.5 | 0 | |
| | | 1 | 6 | 6 | 50.5 | 60 | |
| | | 1 | 12 | 11.2 | 50.7 | 56 | |
| | | 1 | 30 | 10.8 | 50.8 | 54 | |
| | | 1 | 60 | 62.6 | 50.9 | 62.6 | |
| 5 | Enduro 4T Racing Suhu ± 60°C | 1 | 3 | 0 | 60.4 | 0 | |
| | | 1 | 6 | 3.2 | 60.4 | 32 | |
| | | 1 | 12 | 8.2 | 60.7 | 41 | |
| | | 1 | 30 | 9.1 | 60.7 | 45.5 | |
| | | 1 | 60 | 24.2 | 60.7 | 48.5 | |

| Percobaan 2 | | | | | | | |
|-------------|------------------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Enduro 4T Racing Suhu Kamar | 1 | 3 | 6.5 | 29.1 | 130 | 71.68 |
| | | 1 | 6 | 11.9 | 29.1 | 119 | |
| | | 1 | 12 | 29.1 | 29.1 | 145.5 | |
| | | 1 | 30 | 73.7 | 29.1 | 147.4 | |
| | | 1 | 60 | | 29.2 | | |
| 2 | Enduro 4T Racing Suhu ± 30°C | 1 | 3 | 3.4 | 30.1 | 68 | |
| | | 1 | 6 | 8.9 | 30.3 | 89 | |
| | | 1 | 12 | 16.9 | 30.5 | 84.5 | |
| | | 1 | 30 | 45.6 | 30.7 | 91.2 | |
| | | 1 | 60 | 94 | 30.9 | 94 | |
| 3 | Enduro 4T Racing Suhu ± 40°C | 1 | 3 | 1.5 | 40.4 | 30 | |
| | | 1 | 6 | 5.1 | 40.5 | 51 | |
| | | 1 | 12 | 13.9 | 40.6 | 69.5 | |
| | | 1 | 30 | 38.3 | 40.7 | 76.6 | |
| | | 1 | 60 | 79.3 | 40.7 | 79.3 | |
| 4 | Enduro 4T Racing Suhu ± 50°C | 1 | 3 | 0 | 50.3 | 0 | |
| | | 1 | 6 | 6.8 | 50.6 | 68 | |
| | | 1 | 12 | 11.8 | 50.7 | 54 | |
| | | 1 | 30 | 11.4 | 50.8 | 57 | |
| | | 1 | 60 | 63.4 | 50.7 | 63.4 | |
| 5 | Enduro 4T Racing Suhu ± 60°C | 1 | 3 | 1 | 60.4 | 20 | |
| | | 1 | 6 | 4.6 | 60.4 | 46 | |
| | | 1 | 12 | 8.5 | 60.7 | 42.5 | |
| | | 1 | 30 | 8.9 | 60.6 | 44.5 | |
| | | 1 | 60 | 25 | 60.7 | 50 | |

| Percobaan 3 | | | | | | | |
|-------------|------------------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Enduro 4T Racing Suhu Kamar | 1 | 3 | 5.9 | 29.1 | 118 | 77.19 |
| | | 1 | 6 | 11.4 | 29.1 | 134 | |
| | | 1 | 12 | 28.8 | 29.1 | 144 | |
| | | 1 | 30 | 73.7 | 29.1 | 147.4 | |
| | | 1 | 60 | | 29.1 | | |
| 2 | Enduro 4T Racing Suhu ± 30°C | 1 | 3 | 3.9 | 30.2 | 78 | |
| | | 1 | 6 | 9.3 | 30.2 | 93 | |
| | | 1 | 12 | 16.7 | 30.4 | 83.5 | |
| | | 1 | 30 | 46 | 30.7 | 92 | |
| | | 1 | 60 | 94.7 | 30.9 | 94.7 | |
| 3 | Enduro 4T Racing Suhu ± 40°C | 1 | 3 | 3.6 | 40.5 | 72 | |
| | | 1 | 6 | 5 | 40.4 | 50 | |
| | | 1 | 12 | 13.4 | 40.6 | 67 | |
| | | 1 | 30 | 38.8 | 40.7 | 77.6 | |
| | | 1 | 60 | 80.1 | 40.7 | 80.1 | |
| 4 | Enduro 4T Racing Suhu ± 50°C | 1 | 3 | 2.7 | 50.3 | 54 | |
| | | 1 | 6 | 7.1 | 50.5 | 71 | |
| | | 1 | 12 | 11.5 | 50.7 | 57.5 | |
| | | 1 | 30 | 11 | 50.8 | 55 | |
| | | 1 | 60 | 64.1 | 50.8 | 64.1 | |
| 5 | Enduro 4T Racing Suhu ± 60°C | 1 | 3 | 1 | 60.4 | 20 | |
| | | 1 | 6 | 5.9 | 60.4 | 59 | |
| | | 1 | 12 | 8.6 | 60.6 | 43 | |
| | | 1 | 30 | 9.3 | 60.7 | 46.5 | |
| | | 1 | 60 | 25.6 | 60.6 | 51.2 | |

| Percobaan 1 | | | | | | | |
|-------------|-------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Eneos Suhu Kamar | 1 | 3 | 4 | 29.3 | 80 | 54.50 |
| | | 1 | 6 | 11.6 | 29.4 | 116 | |
| | | 1 | 12 | 27.1 | 29.3 | 135.5 | |
| | | 1 | 30 | 68.7 | 29.7 | 137.4 | |
| | | 1 | 60 | | 29.8 | | |
| 2 | Eneos Suhu ± 30°C | 1 | 3 | 1.3 | 30.3 | 26 | |
| | | 1 | 6 | 5.8 | 30.6 | 58 | |
| | | 1 | 12 | 11.3 | 30.6 | 56.5 | |
| | | 1 | 30 | 31.6 | 30.6 | 63.2 | |
| | | 1 | 60 | 32.2 | 30.7 | 64.2 | |
| 3 | Eneos Suhu ± 40°C | 1 | 3 | 1.1 | 40.4 | 22 | |
| | | 1 | 6 | 3.7 | 40.5 | 37 | |
| | | 1 | 12 | 9.3 | 40.6 | 46.5 | |
| | | 1 | 30 | 27 | 40.6 | 54 | |
| | | 1 | 60 | 54.8 | 40.8 | 54.8 | |
| 4 | Eneos Suhu ± 50°C | 1 | 3 | 8.9 | 50.4 | 18 | |
| | | 1 | 6 | 4.4 | 50.6 | 44 | |
| | | 1 | 12 | 8.1 | 50.7 | 40.5 | |
| | | 1 | 30 | 22.9 | 50.7 | 45.8 | |
| | | 1 | 60 | 45.5 | 50.8 | 45.5 | |
| 5 | Eneos Suhu ± 60°C | 1 | 3 | 0.9 | 60.3 | 18 | |
| | | 1 | 6 | 4.1 | 60.5 | 41 | |
| | | 1 | 12 | 6.2 | 60.6 | 31 | |
| | | 1 | 30 | 17.5 | 60.8 | 36.3 | |
| | | 1 | 60 | 36.7 | 60.8 | 36.7 | |

| Percobaan 2 | | | | | | | |
|-------------|-------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Eneos Suhu Kamar | 1 | 3 | 5.2 | 29.3 | 104 | 55.51 |
| | | 1 | 6 | 12.4 | 29.4 | 124 | |
| | | 1 | 12 | 27 | 29.2 | 135 | |
| | | 1 | 30 | 68.6 | 29.5 | 137.2 | |
| | | 1 | 60 | | 29.8 | | |
| 2 | Eneos Suhu ± 30°C | 1 | 3 | 1.2 | 30.4 | 24 | |
| | | 1 | 6 | 5.5 | 30.5 | 55 | |
| | | 1 | 12 | 11.4 | 30.6 | 57 | |
| | | 1 | 30 | 31.6 | 30.6 | 63.2 | |
| | | 1 | 60 | 32.1 | 30.7 | 64.2 | |
| 3 | Eneos Suhu ± 40°C | 1 | 3 | 1.1 | 40.4 | 22 | |
| | | 1 | 6 | 5.2 | 40.5 | 52 | |
| | | 1 | 12 | 9.6 | 40.6 | 48 | |
| | | 1 | 30 | 27.6 | 40.6 | 55.2 | |
| | | 1 | 60 | 54.8 | 40.8 | 54.8 | |
| 4 | Eneos Suhu ± 50°C | 1 | 3 | 0.8 | 50.4 | 16 | |
| | | 1 | 6 | 4.1 | 50.6 | 41 | |
| | | 1 | 12 | 8.1 | 50.7 | 40.5 | |
| | | 1 | 30 | 22.4 | 50.7 | 44.8 | |
| | | 1 | 60 | 46.5 | 50.8 | 46.5 | |
| 5 | Eneos Suhu ± 60°C | 1 | 3 | 0 | 60.3 | 0 | |
| | | 1 | 6 | 4.2 | 60.5 | 42 | |
| | | 1 | 12 | 6.4 | 60.6 | 32 | |
| | | 1 | 30 | 18.2 | 60.8 | 36.4 | |
| | | 1 | 60 | 37.4 | 60.8 | 37.4 | |

| Percobaan 3 | | | | | | | |
|-------------|-------------------|-------|-------------|-------------|-----------------|--------------------|----------------------|
| No | Fluida | Rotor | Speed (RPM) | Percent (%) | Temperatur (°C) | Viskositas (Mpa.s) | Rata-rata Viskositas |
| 1 | Eneos Suhu Kamar | 1 | 3 | 6.5 | 29.3 | 130 | 57.41 |
| | | 1 | 6 | 12.2 | 29.4 | 122 | |
| | | 1 | 12 | 26.9 | 29.1 | 134.5 | |
| | | 1 | 30 | 68.8 | 29.5 | 137.2 | |
| | | 1 | 60 | | 29.8 | | |
| 2 | Eneos Suhu ± 30°C | 1 | 3 | 1.3 | 30.3 | 26 | |
| | | 1 | 6 | 5.7 | 30.5 | 57 | |
| | | 1 | 12 | 11.4 | 30.5 | 57 | |
| | | 1 | 30 | 31.6 | 30.6 | 63.2 | |
| | | 1 | 60 | 32.1 | 30.7 | 64.2 | |
| 3 | Eneos Suhu ± 40°C | 1 | 3 | 1.1 | 40.4 | 22 | |
| | | 1 | 6 | 5.2 | 40.5 | 52 | |
| | | 1 | 12 | 9.6 | 40.6 | 48 | |
| | | 1 | 30 | 27 | 40.6 | 54 | |
| | | 1 | 60 | 55.5 | 40.6 | 55.5 | |
| 4 | Eneos Suhu ± 50°C | 1 | 3 | 0.8 | 50.4 | 16 | |
| | | 1 | 6 | 4.3 | 50.6 | 43 | |
| | | 1 | 12 | 7.8 | 50.7 | 39 | |
| | | 1 | 30 | 22.9 | 50.7 | 45.8 | |
| | | 1 | 60 | 45.5 | 50.8 | 45.5 | |
| 5 | Eneos Suhu ± 60°C | 1 | 3 | 0.8 | 60.1 | 16 | |
| | | 1 | 6 | 4.4 | 60.4 | 44 | |
| | | 1 | 12 | 6.6 | 60.5 | 33 | |
| | | 1 | 30 | 17.5 | 60.6 | 36.3 | |
| | | 1 | 60 | 36.7 | 60.8 | 36.7 | |

Tabel Konsumsi Bahan Bakar di Stadion Sultan Agung Bantul

| Sampel Oli | Jarak tempuh (km) | Konsumsi BBM (km/liter) | Rata-rata konsumsi BBM | Temperatur (°C) | Rata-rata temperatur |
|----------------------|-------------------|-------------------------|------------------------|-----------------|----------------------|
| Oli Yamalube Sport | 4 | 43.01 | 44.066 | 84.7 | 82.08 |
| | 4 | 44.943 | | 81.2 | |
| | 4 | 43.956 | | 79.7 | |
| | 4 | 43.478 | | 84.7 | |
| | 4 | 44.943 | | 80.1 | |
| Oli Castrol Power 1 | 4 | 48.192 | 45.837 | 73.5 | 77.7 |
| | 4 | 43.478 | | 84,5 | |
| | 4 | 44.444 | | 82,9 | |
| | 4 | 45.454 | | 75,7 | |
| | 4 | 47.619 | | 71.9 | |
| Oli Enduro 4T Racing | 4 | 50 | 52.56 | 75.5 | 78.6 |
| | 4 | 55.555 | | 79,1 | |
| | 4 | 52.631 | | 80.2 | |
| | 4 | 51.282 | | 75.5 | |
| | 4 | 53.333 | | 82.7 | |
| Oli Eneos Touring | 4 | 43.956 | 46.779 | 80.7 | 80.92 |
| | 4 | 46.511 | | 79.2 | |
| | 4 | 47.619 | | 83.5 | |
| | 4 | 48.192 | | 75.5 | |
| | 4 | 47.619 | | 85.7 | |

Temperatur Saat Pengujian *Dynotest*

| Yamalube Sport | | | | | | Rata-Rata |
|-----------------------|------|-------|------|-------|-------|---------------|
| Percobaan ke | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | |
| Oli | 64.2 | 65.3 | 66.1 | 67.4 | 70.3 | 66.66 |
| Mesin | 74.5 | 84.2 | 85.1 | 90.7 | 93.4 | 85.58 |
| Exhaust | 235 | 235.7 | 240 | 220.9 | 215.5 | 229.42 |
| Intake | | | | | | |

| Castrol Power 1 | | | | | | |
|------------------------|-------|------|-------|-------|-------|---------------|
| | 1 | 2 | 3 | 4 | 5 | |
| Oli | 65.3 | 66.4 | 65.1 | 67.7 | 73.4 | |
| Mesin | 79.7 | 82.8 | 84.7 | 89.6 | 92.3 | 85.82 |
| Exhaust | 237.2 | 240 | 243.3 | 227.5 | 220.6 | 233.72 |
| Intake | | | | | | |

| Enduro 4T Racing | | | | | | |
|-------------------------|-------|-------|-------|-------|-------|---------------|
| | 1 | 2 | 3 | 4 | 5 | |
| Oli | 59.9 | 61.6 | 63.2 | 65.6 | 70.2 | |
| Mesin | 77.5 | 80.1 | 82.3 | 85.9 | 90.4 | 83.24 |
| Exhaust | 230.3 | 237.2 | 239.5 | 225.7 | 215.6 | 229.66 |
| Intake | | | | | | |

| Eneos Touring | | | | | | |
|----------------------|-------|-------|-------|-------|-------|--------|
| | 1 | 2 | 3 | 4 | 5 | |
| Oli | 50.5 | 62.3 | 59.8 | 64.3 | 69.6 | |
| Mesin | 69.8 | 79.7 | 80.4 | 89.1 | 85.2 | 80.84 |
| Exhaust | 240.7 | 242.3 | 252.3 | 235.3 | 232.5 | 240.62 |
| Intake | 28.9 | 37.5 | 36.2 | 40.1 | 39.7 | 36.48 |

Data Konsumsi Bahan Bakar Saat Percobaan Dynotest

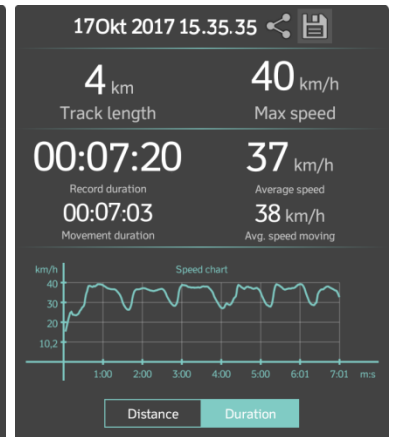
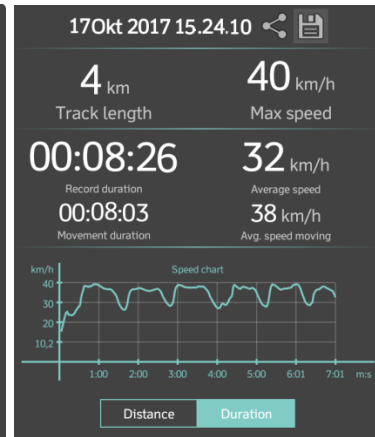
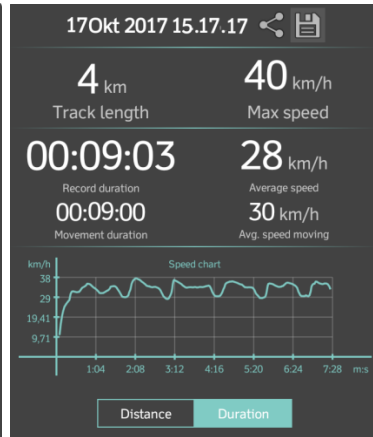
| <i>Yamalube Sport</i> | |
|-----------------------|------|
| Percobaan-1 | 6.1 |
| Percobaan-2 | 6.4 |
| Percobaan-3 | 6.3 |
| Percobaan-4 | 6.2 |
| Percobaan-5 | 5.3 |
| Rata-Rata | 6.06 |

| <i>Castrol Power 1</i> | |
|------------------------|------|
| Percobaan-1 | 5.5 |
| Percobaan-2 | 6.2 |
| Percobaan-3 | 5.9 |
| Percobaan-4 | 5.1 |
| Percobaan-5 | 6.2 |
| Rata-Rata | 5.78 |

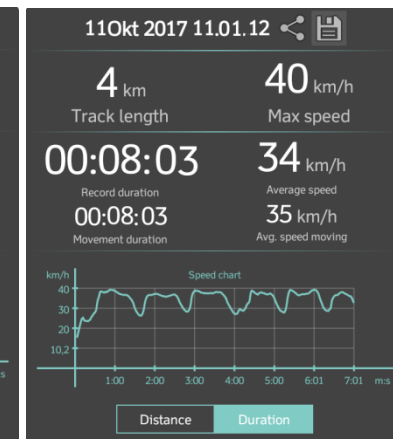
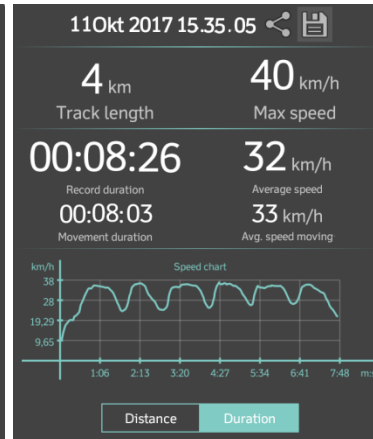
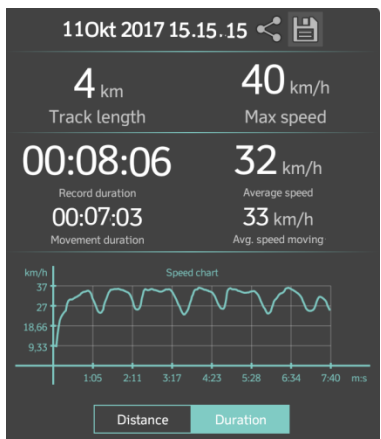
| <i>Enduro 4T Racing</i> | |
|-------------------------|------|
| Percobaan-1 | 6.1 |
| Percobaan-2 | 5.4 |
| Percobaan-3 | 5.7 |
| Percobaan-4 | 5.9 |
| Percobaan-5 | 6.2 |
| Rata-Rata | 5.86 |

| <i>Eneos Touring</i> | |
|----------------------|------|
| Percobaan-1 | 6.2 |
| Percobaan-2 | 5.5 |
| Percobaan-3 | 5.3 |
| Percobaan-4 | 5.7 |
| Percobaan-5 | 6 |
| Rata-Rata | 5.74 |

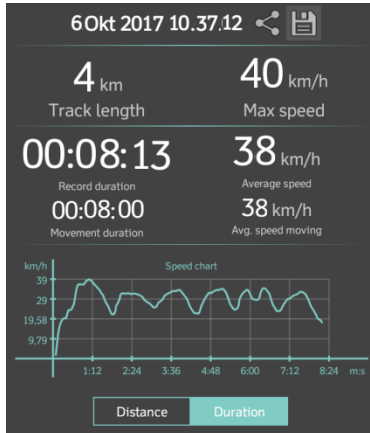
Eneos Touring



Enduro Racing



Castrol Power 1



Yamalube Sport

