PLETTENBERG

Test Bench Measurement

Motor type: **HP 875-50-A8 S P30**

Date: 17.02.2021

Bearing type: RS

Controller: MST 400-133

Measuring Parameter

Voltage: **250.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 7,816.1 [RPM] Io: 3.4 [A] kV: 31.7 [RPM/V] kn: -35.03 [RPM/A] kT: 36.55 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
250.1	5.0	7,884.2	1,250.5	763.7	92.5	61.07
250.1	6.0	7,832.7	1,500.6	1,016.3	123.9	67.72
250.1	7.0	7,782.0	1,750.7	1,268.0	155.6	72.43
250.1	8.0	7,732.2	2,000.8	1,519.0	187.6	75.92
250.1	9.0	7,683.2	2,250.9	1,769.3	219.9	78.60
250.1	10.0	7,635.0	2,501.0	2,018.0	252.4	80.69
250.1	11.0	7,587.5	2,751.1	2,266.9	285.3	82.40
250.1	12.0	7,540.9	3,001.2	2,514.3	318.4	83.78
250.1	13.0	7,495.0	3,251.3	2,761.2	351.8	84.93
250.1	14.0	7,449.9	3,501.4	3,006.7	385.4	85.87
250.0	15.0	7,405.5	3,750.0	3,251.7	419.3	86.71
250.0	16.0	7,361.9	4,000.0	3,495.4	453.4	87.39
250.0	17.0	7,319.1	4,250.0	3,738.8	487.8	87.97
250.0	18.0	7,276.9	4,500.0	3,980.9	522.4	88.46
250.0	19.0	7,235.5	4,750.0	4,222.7	557.3	88.90
250.0	20.0	7,194.8	5,000.0	4,463.4	592.4	89.27
250.0	21.0	7,154.8	5,250.0	4,703.0	627.7	89.58
250.0	22.0	7,115.4	5,500.0	4,941.7	663.2	89.85
250.0	23.0	7,076.8	5,750.0	5,179.4	698.9	90.08
250.0	24.0	7,038.8	6,000.0	5,416.2	734.8	90.27
250.0	25.0	7,001.5	6,250.0	5,652.2	770.9	90.44
250.0	26.0	6,964.8	6,500.0	5,887.3	807.2	90.57
250.0	27.0	6,928.8	6,750.0	6,121.0	843.6	90.68
250.0	28.0	6,893.4	7,000.0	6,354.7	880.3	90.78
250.0	29.0	6,858.6	7,250.0	6,586.9	917.1	90.85
250.0	30.0	6,824.5	7,500.0	6,818.6	954.1	90.91

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
250.0	32.0	6,758.0	8,000.0	7,278.7	1,028.5	90.98
250.0	33.0	6,725.6	8,250.0	7,507.9	1,066.0	91.00
250.0	34.0	6,693.8	8,500.0	7,735.9	1,103.6	91.01
250.0	35.0	6,662.6	8,750.0	7,962.9	1,141.3	91.00
249.9	36.0	6,631.9	8,996.4	8,188.7	1,179.1	91.02
249.9	37.0	6,601.8	9,246.3	8,414.3	1,217.1	91.00
249.9	38.0	6,572.2	9,496.2	8,638.8	1,255.2	90.97
249.9	39.0	6,543.2	9,746.1	8,862.4	1,293.4	90.93
249.9	40.0	6,514.7	9,996.0	9,085.1	1,331.7	90.89
249.9	41.0	6,486.7	10,245.9	9,306.9	1,370.1	90.84
249.9	42.0	6,459.1	10,495.8	9,527.7	1,408.6	90.78
249.9	43.0	6,432.1	10,745.7	9,747.9	1,447.2	90.71
249.9	44.0	6,405.6	10,995.6	9,967.3	1,485.9	90.65
249.9	45.0	6,379.5	11,245.5	10,185.2	1,524.6	90.57
249.9	46.0	6,353.9	11,495.4	10,402.5	1,563.4	90.49
249.9	47.0	6,328.8	11,745.3	10,619.2	1,602.3	90.41
249.9	48.0	6,304.1	11,995.2	10,834.6	1,641.2	90.32
249.9	49.0	6,279.8	12,245.1	11,049.3	1,680.2	90.23
249.9	50.0	6,256.0	12,495.0	11,262.9	1,719.2	90.14
249.9	51.0	6,232.6	12,744.9	11,476.0	1,758.3	90.04
249.9	52.0	6,209.6	12,994.8	11,687.9	1,797.4	89.94
249.9	53.0	6,186.9	13,244.7	11,898.5	1,836.5	89.84
249.9	54.0	6,164.7	13,494.6	12,108.9	1,875.7	89.73
249.9	55.0	6,142.9	13,744.5	12,318.2	1,914.9	89.62
249.9	56.0	6,121.4	13,994.4	12,526.4	1,954.1	89.51
249.8	57.0	6,100.3	14,238.6	12,733.0	1,993.2	89.43
249.8	58.0	6,079.5	14,488.4	12,939.1	2,032.4	89.31
249.8	59.0	6,059.1	14,738.2	13,144.5	2,071.6	89.19
249.8	60.0	6,039.0	14,988.0	13,348.8	2,110.8	89.06
249.8	61.0	6,019.3	15,237.8	13,551.7	2,149.9	88.93
249.8	62.0	5,999.8	15,487.6	13,753.4	2,189.0	88.80
249.8	63.0	5,980.7	15,737.4	13,954.5	2,228.1	88.67
249.8	64.0	5,961.8	15,987.2	14,154.5	2,267.2	88.54
249.8	65.0	5,943.3	16,237.0	14,353.3	2,306.2	88.40
249.8	66.0	5,925.0	16,486.8	14,550.5	2,345.1	88.26
249.8	67.0	5,907.0	16,736.6	14,746.9	2,384.0	88.11
249.8	68.0	5,889.2	16,986.4	14,942.4	2,422.9	87.97
249.8	69.0	5,871.7	17,236.2	15,136.0	2,461.6	87.81
249.8	70.0	5,854.5	17,486.0	15,328.9	2,500.3	87.66

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
249.8	72.0	5,820.6	17,985.6	15,710.7	2,577.5	87.35
249.8	73.0	5,804.0	18,235.4	15,899.3	2,615.9	87.19
249.8	74.0	5,787.6	18,485.2	16,087.1	2,654.3	87.03
249.8	75.0	5,771.4	18,735.0	16,272.9	2,692.5	86.86

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller