CAN STACK STEP MOTORS

35L SERIES

FASTEST, MOST FLEXIBLE DESIGN RESPONSE

GENERAL SPECIFICATIONS

Step Angle	7.5° / 15° / 18°
Step Accuracy	± 0.5° / ± 1° / ± 1.2°
Operating Temperature	100°C Max
Ambient Temperature Range	-20°C ~ +70°C
Insulation Resistance at 500Vdc	100MΩ
Dielectric Withstanding Voltage	650 ± 50 VRMS, 2 sec

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TECHNICAL SPECIFICATIONS

	UNIPOLAR					
Part Number	35L020B1U-N	35L020B2U-N	35L024B1U-N	35L024B2U-N	35L048B1U-N	35L048B2U-N
DC Op. Voltage	5	12	5	12	5	12
Resistance per Winding (ohms)	11	64	11	64	11	64
Inductance per Winding (mH)	6.4	35	7.4	38	7.8	40
Holding Torque* (mNm/oz-in)	18.3 / 2.6	18.3 / 2.6	20 / 2.8	20 / 2.8	25 / 3.5	25 / 3.5
Rotor Moment of Inertia ($g.m^2$)	4×10^{-4}	4×10^{-4}	4×10^{-4}	4×10^{-4}	4×10^{-4}	4×10^{-4}
Detent Torque (mNm/oz-in)	4.2 / 0.60	4.2 / 0.60	4.2 / 0.60	4.2 / 0.60	4.2 / 0.60	4.2 / 0.60
Step Angle	18°	18°	15°	15°	7.5°	7.5°
Step Angle Tolerance*	± 1.2°	± 1.2°	± 1°	± 1°	± 0.5°	± 0.5°
Steps per Rev.*	20	20	24	24	48	48
Max. Operating Temp.	100°C	100°C	100°C	100°C	100°C	100°C
Ambient Temp. Range						
Operating	-20°C to 70°C	-20°C to 70°C	-20°C to 70°C	-20°C to 70°C	-20°C to 70°C	-20°C to 70°C
Storage	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Bearing Type	Sintered bronze sleeve	Sintered bronze sleeve	Sintered bronze sleeve	Sintered bronze sleeve	Sintered bronze sleeve	Sintered bronze sleeve
Insulation Resistance at 500Vdc	100 megohms	100 megohms	100 megohms	100 megohms	100 megohms	100 megohms
Dielectric Withstanding Voltage	650 ± 50 VRMS, 2 sec	650 ± 50 VRMS, 2 sec	650 ± 50 VRMS, 2 sec	650 ± 50 VRMS, 2 sec	650 ± 50 VRMS, 2 sec	650 ± 50 VRMS, 2 sec
Weight (g/oz)	88 / 3.1	88 / 3.1	88 / 3.1	88 / 3.1	88 / 3.1	88 / 3.1
Leadwires	26 AWG, UL Style 1430	26 AWG, UL Style 1430	26 AWG, UL Style 1430	26 AWG, UL Style 1430	26 AWG, UL Style 1430	26 AWG, UL Style 1430

* Measured with 2 phases energized

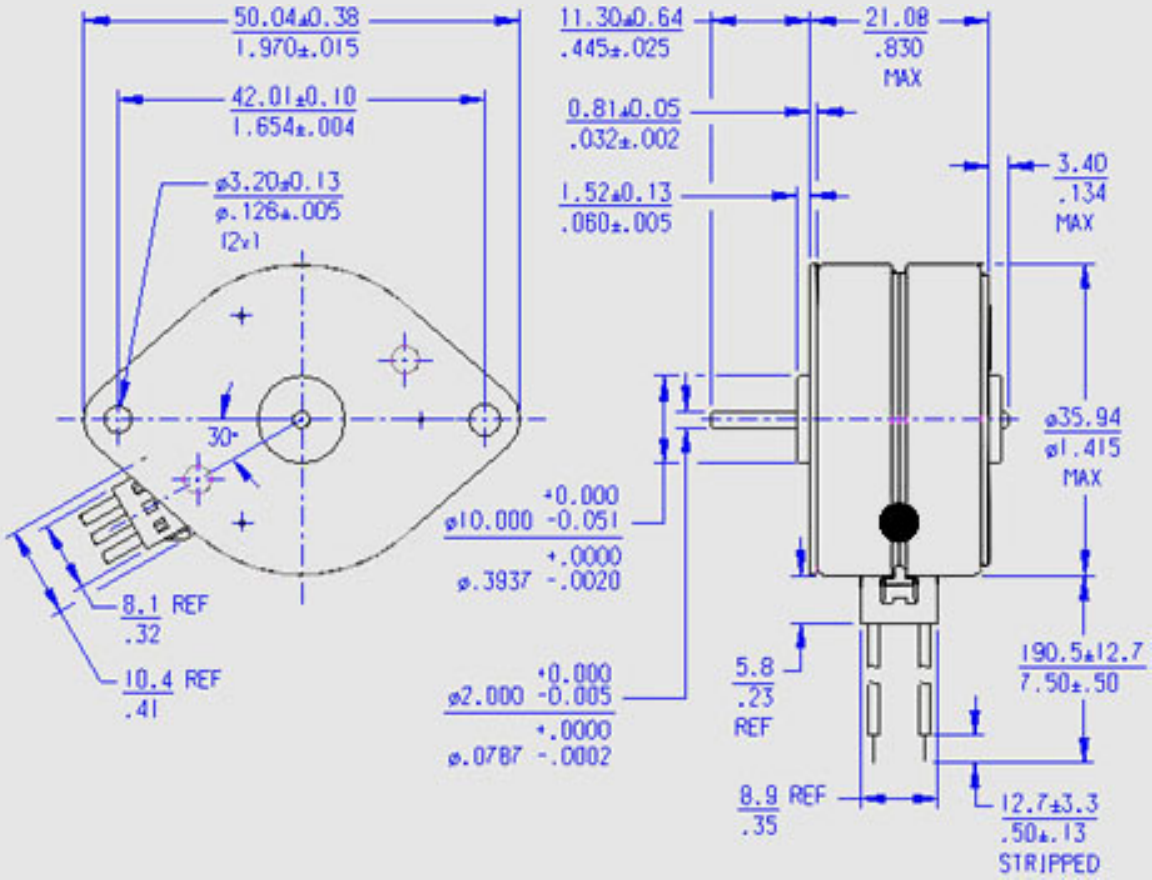
TECHNICAL SPECIFICATIONS

	BIPOLAR					
Part Number	35L020B1B-N	35L020B2B-N	35L024B1B-N	35L024B2B-N	35L048B1B-N	35L048B2B-N
DC Op. Voltage	5	12	5	12	5	12
Resistance per Winding (ohms)	11	64	11	64	11	64
Inductance per Winding (mH)	13.2	60	14.2	65	15	72
Holding Torque* (mNm/oz-in)	21.8 / 3.3	21.8 / 3.3	25 / 3.5	25 / 3.5	28 / 4.0	28 / 4.0
Rotor Moment of Inertia ($g.m^2$)	4×10^{-4}	4×10^{-4}	4×10^{-4}	4×10^{-4}	4×10^{-4}	4×10^{-4}
Detent Torque (mNm/oz-in)	4.2 / 0.60	4.2 / 0.60	4.2 / 0.60	4.2 / 0.60	4.2 / 0.60	4.2 / 0.60
Step Angle	18°	18°	15°	15°	7.5°	7.5°
Step Angle Tolerance*	± 1.2°	± 1.2°	± 1°	± 1°	± 0.5°	± 0.5°
Steps per Rev.*	20	20	24	24	48	48
Max. Operating Temp.	100°C	100°C	100°C	100°C	100°C	100°C
Ambient Temp. Range						
Operating	-20°C to 70°C	-20°C to 70°C	-20°C to 70°C	-20°C to 70°C	-20°C to 70°C	-20°C to 70°C
Storage	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
Bearing Type	Sintered bronze sleeve	Sintered bronze sleeve	Sintered bronze sleeve	Sintered bronze sleeve	Sintered bronze sleeve	Sintered bronze sleeve
Insulation Resistance at 500Vdc	100 megohms	100 megohms	100 megohms	100 megohms	100 megohms	100 megohms
Dielectric Withstanding Voltage	650 ± 50 VRMS, 2 sec	650 ± 50 VRMS, 2 sec	650 ± 50 VRMS, 2 sec	650 ± 50 VRMS, 2 sec	650 ± 50 VRMS, 2 sec	650 ± 50 VRMS, 2 sec
Weight (g/oz)	88 / 3.1	88 / 3.1	88 / 3.1	88 / 3.1	88 / 3.1	88 / 3.1
Leadwires	26 AWG, UL Style 1430	26 AWG, UL Style 1430	26 AWG, UL Style 1430	26 AWG, UL Style 1430	26 AWG, UL Style 1430	26 AWG, UL Style 1430

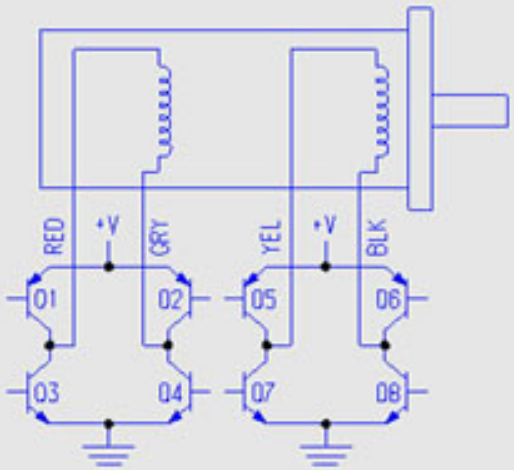
* Measured with 2 phases energized

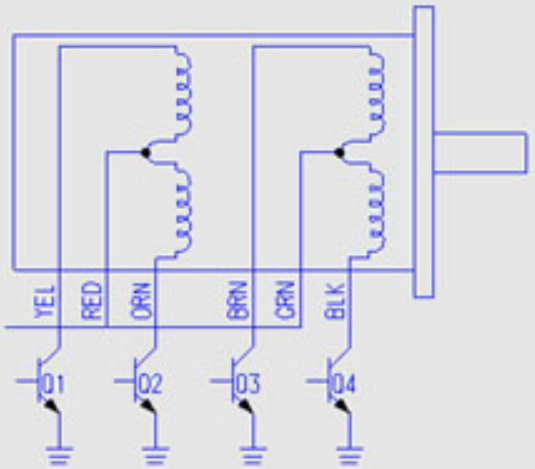
MECHANICAL DIMENSIONS

UNITS = MM / INCHES



WIRING DIAGRAM





BIPOLAR

STEP	01-04	02-03	05-08	06-07
1	ON	OFF	ON	OFF
2	ON	OFF	OFF	ON
3	OFF	ON	OFF	ON
4	OFF	ON	ON	OFF
1	ON	OFF	ON	OFF

CW ROTATION

CCW ROTATION

UNIPOLAR

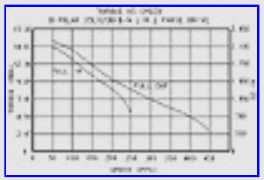
STEP	01	02	03	04
1	ON	OFF	ON	OFF
2	ON	OFF	OFF	ON
3	OFF	ON	OFF	ON
4	OFF	ON	ON	OFF
1	ON	OFF	ON	OFF

CW ROTATION

CCW ROTATION

MOTOR DYNAMICS

CLICK ON A THUMBNAIL TO MAGNIFY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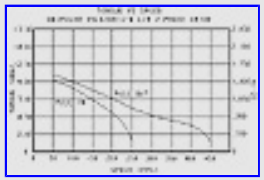
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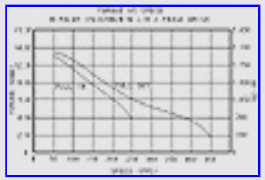
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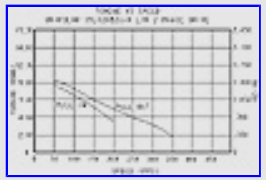
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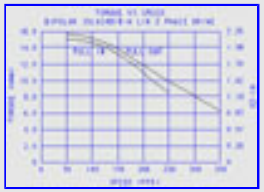
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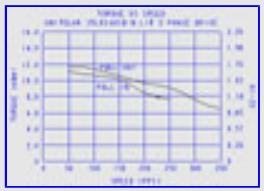
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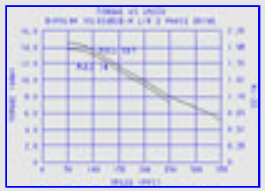
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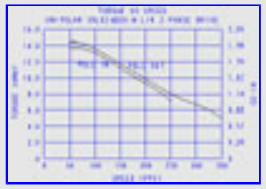
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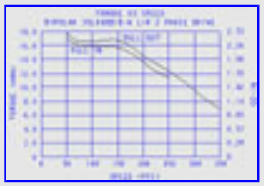
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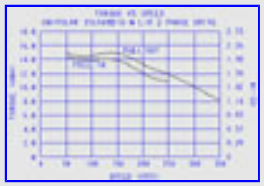
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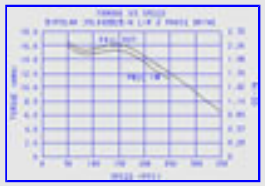
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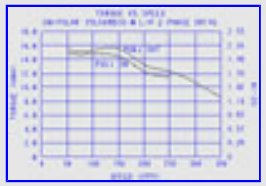
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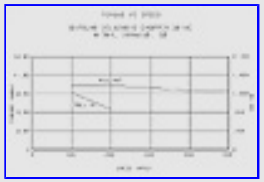
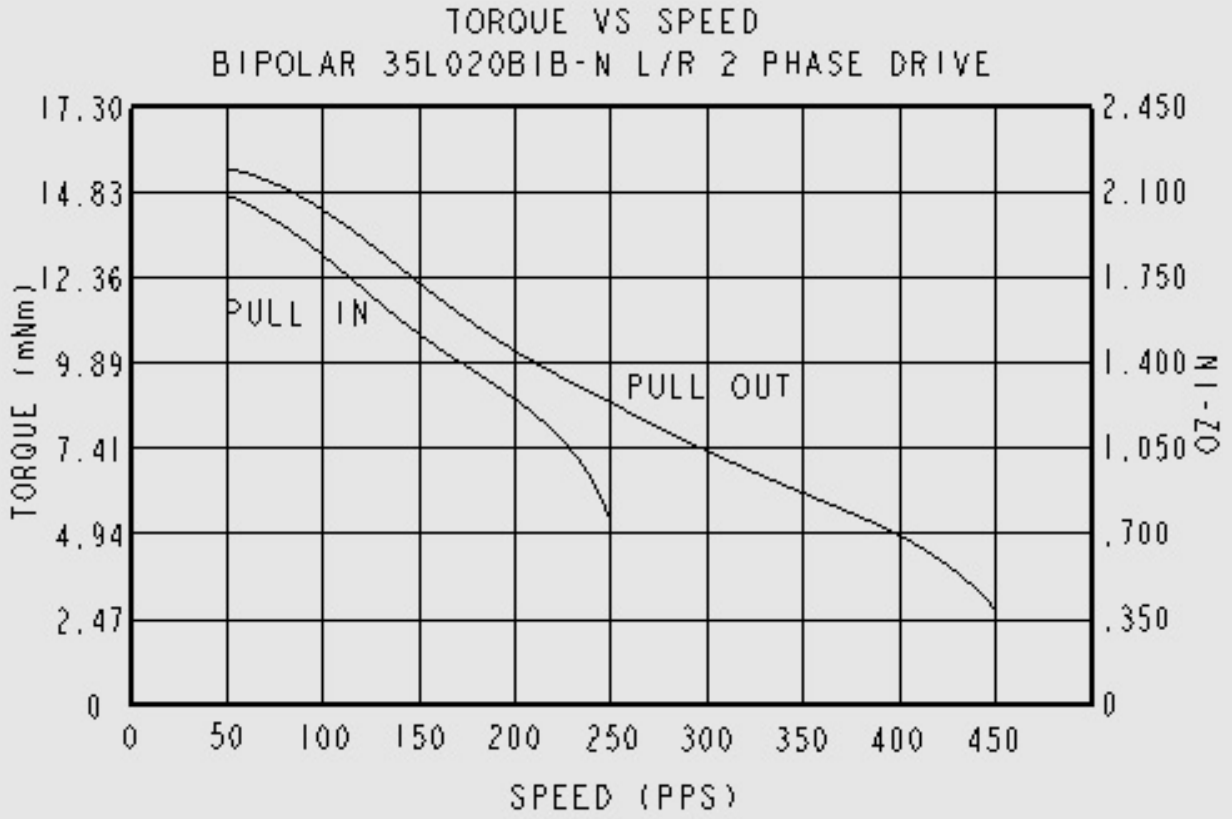

35L020B1B, Bipolar, Chopper Drive


35L024B1B, Bipolar, Chopper Drive


35L048B1B, Bipolar, Chopper Drive

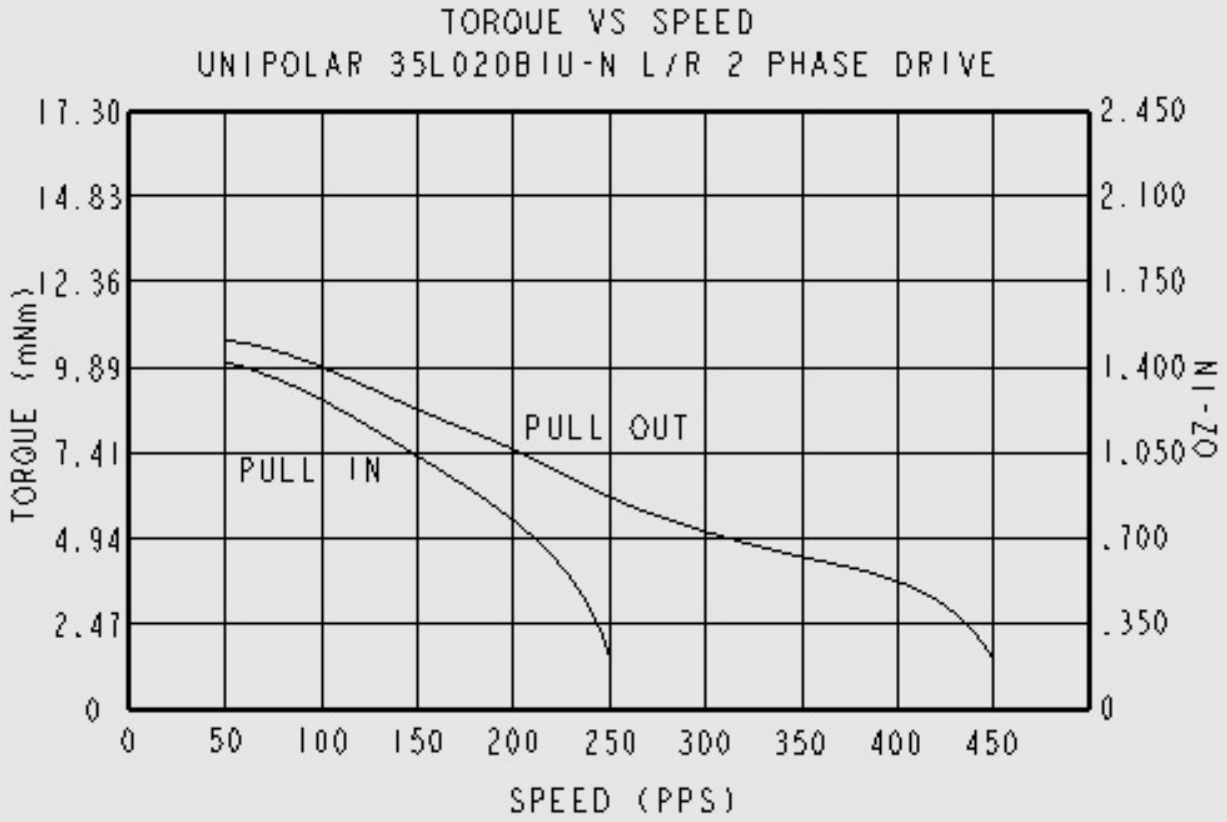
MOTOR DYNAMICS

CHART INDEX



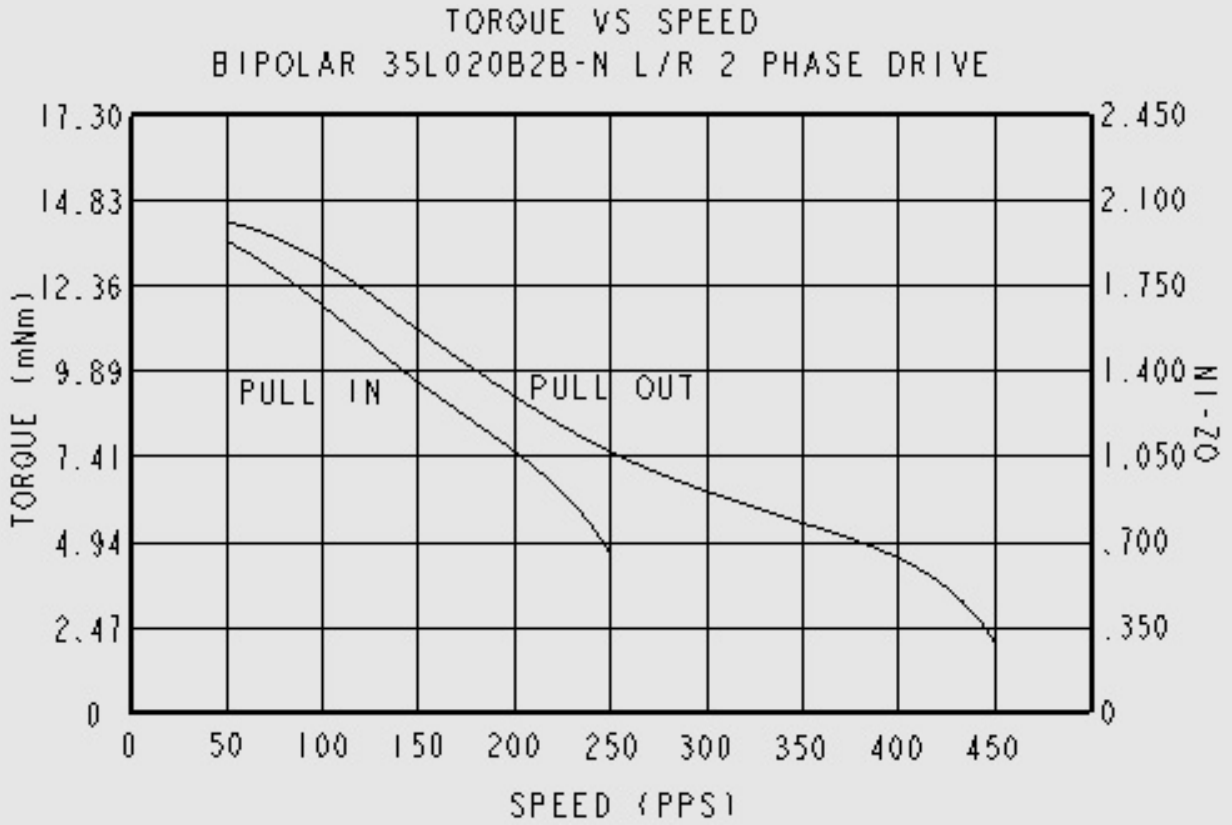
MOTOR DYNAMICS

CHART INDEX



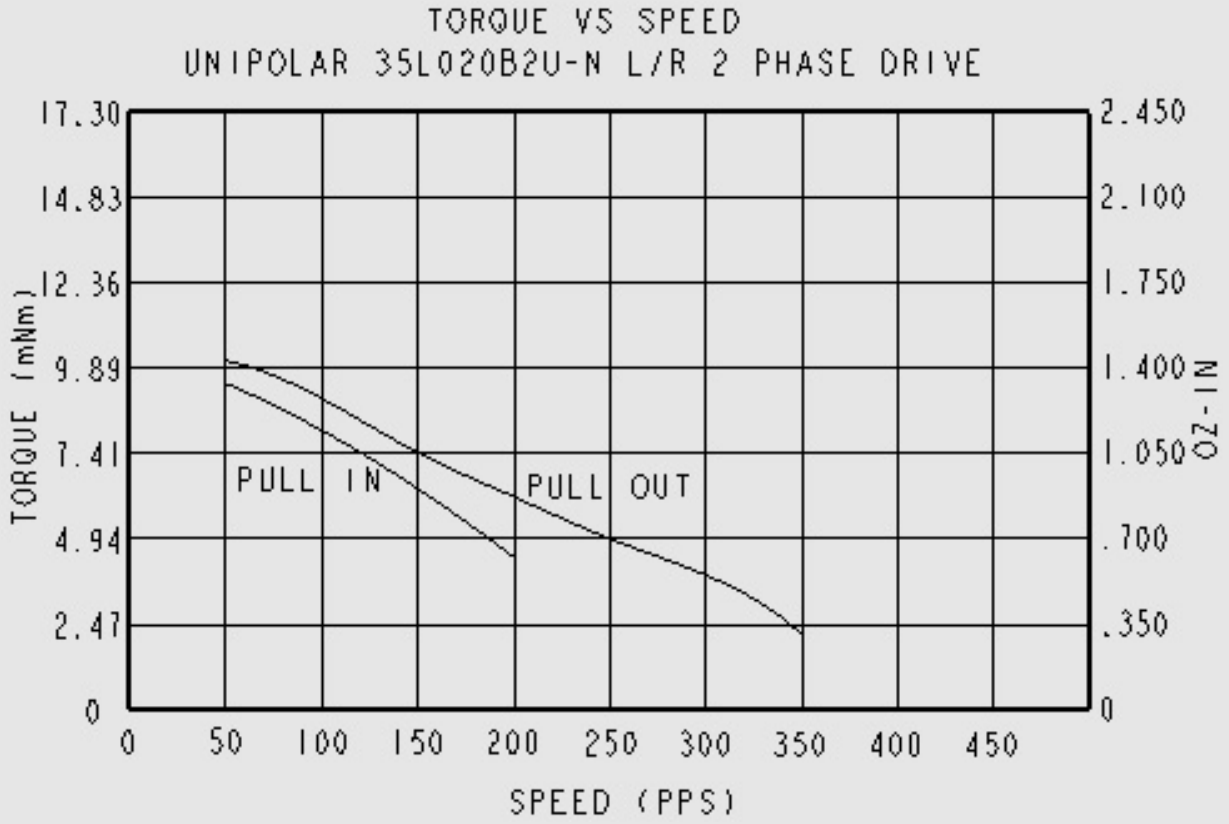
MOTOR DYNAMICS

CHART INDEX



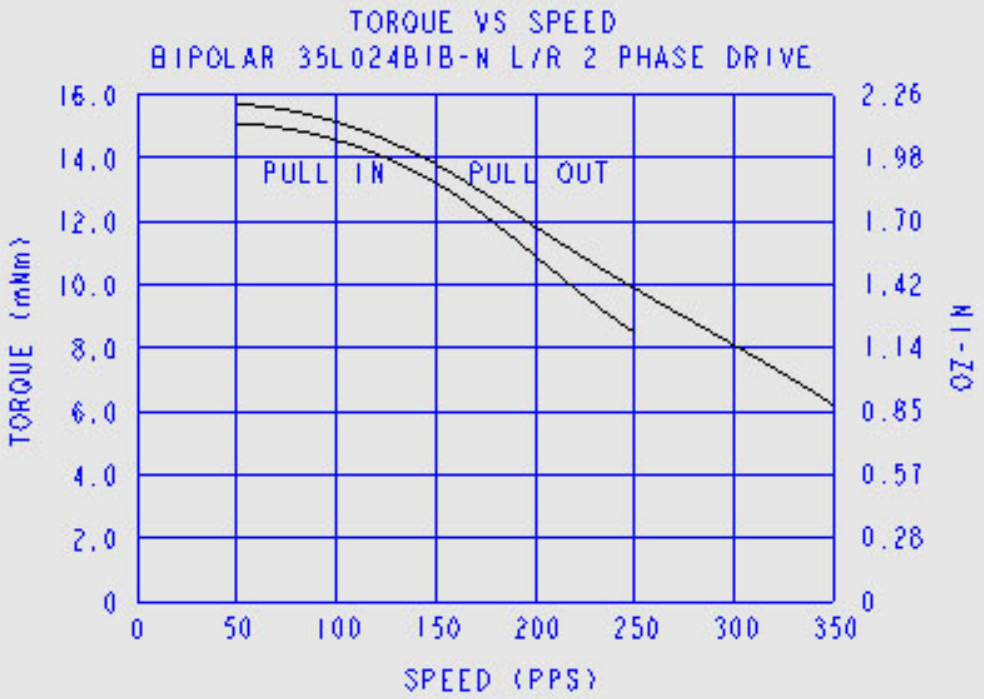
MOTOR DYNAMICS

CHART INDEX



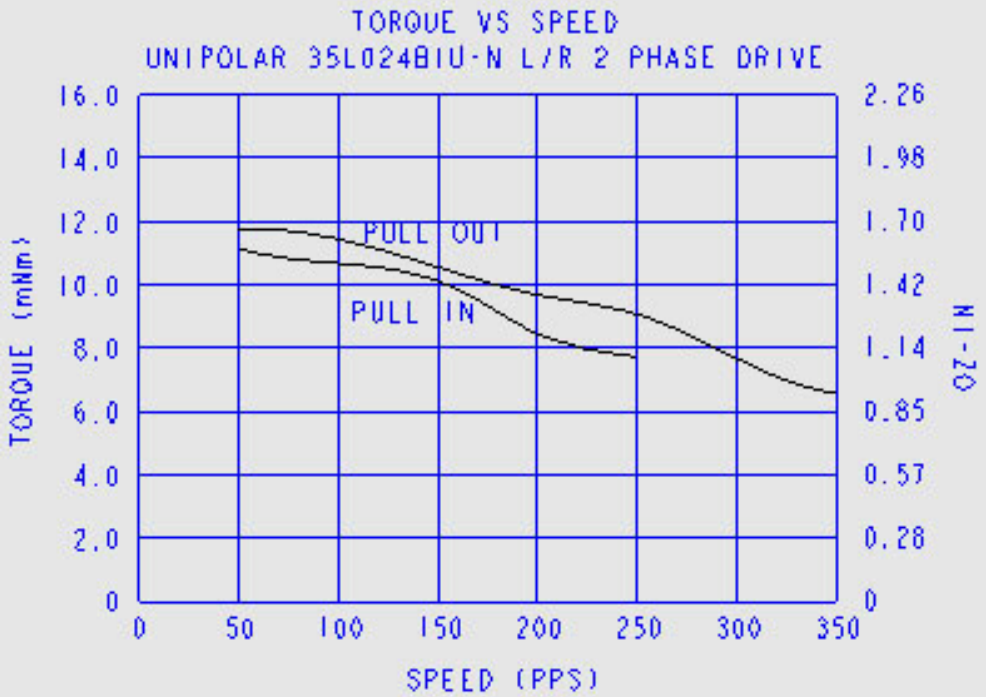
MOTOR DYNAMICS

CHART INDEX



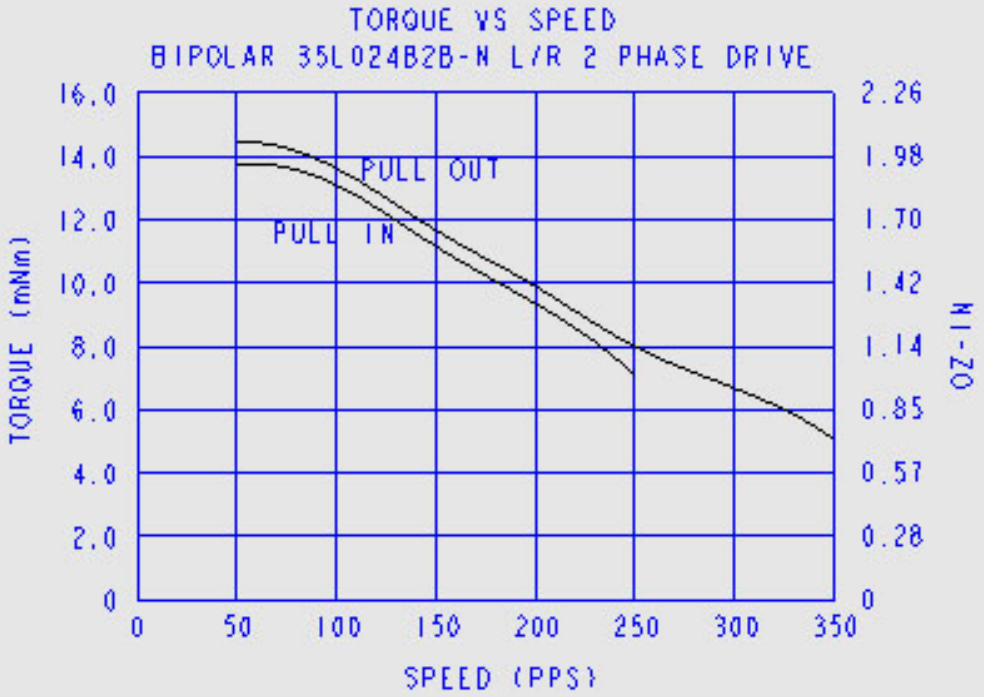
MOTOR DYNAMICS

CHART INDEX



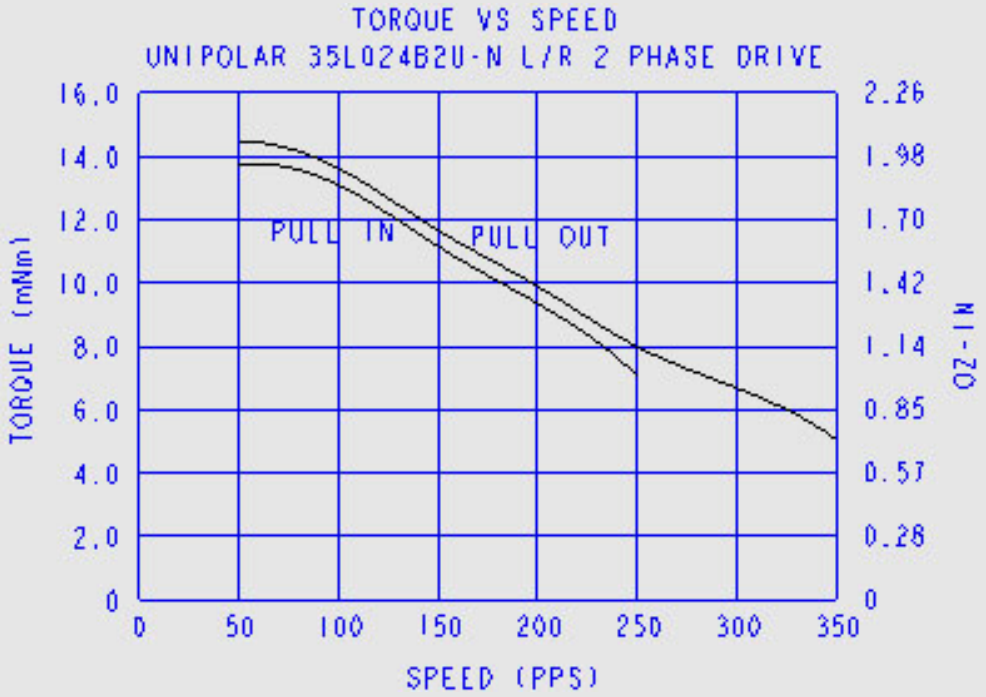
MOTOR DYNAMICS

CHART INDEX



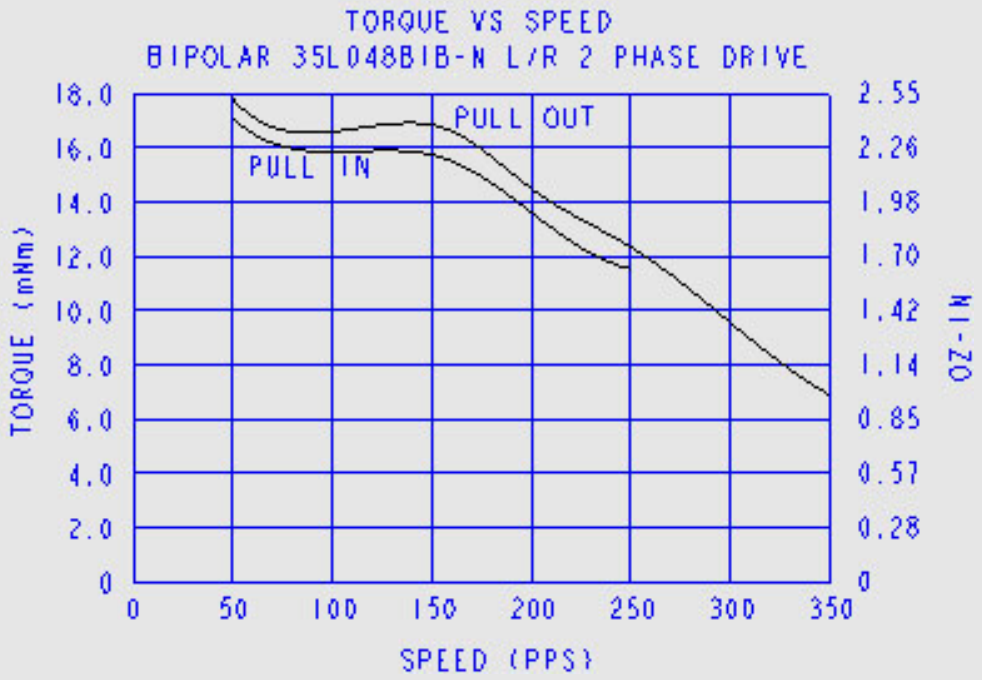
MOTOR DYNAMICS

CHART INDEX



MOTOR DYNAMICS

CHART INDEX



MOTOR DYNAMICS

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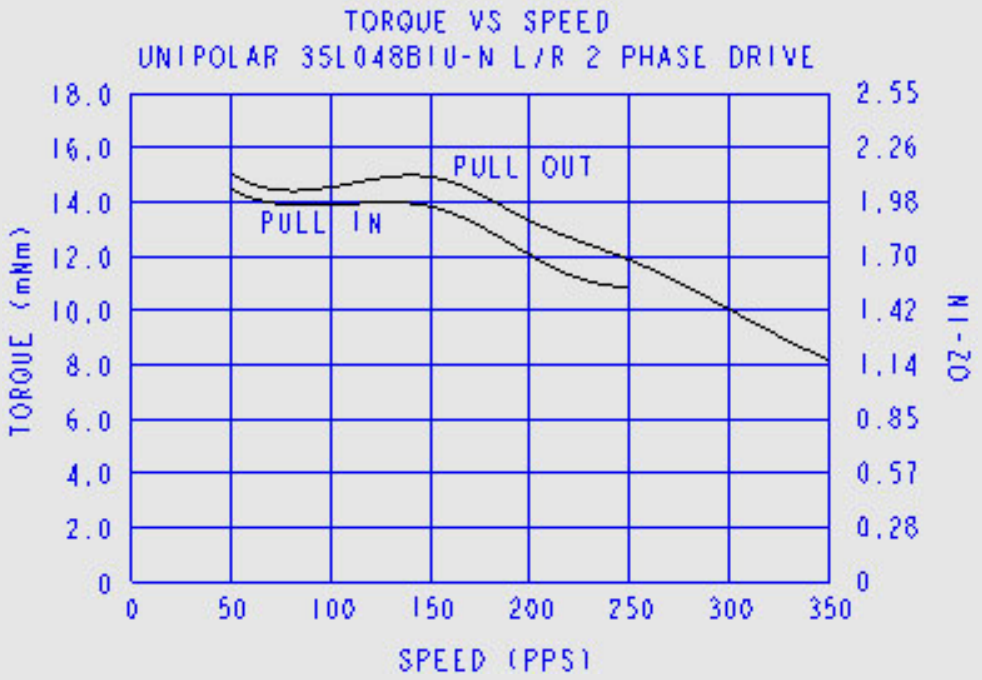
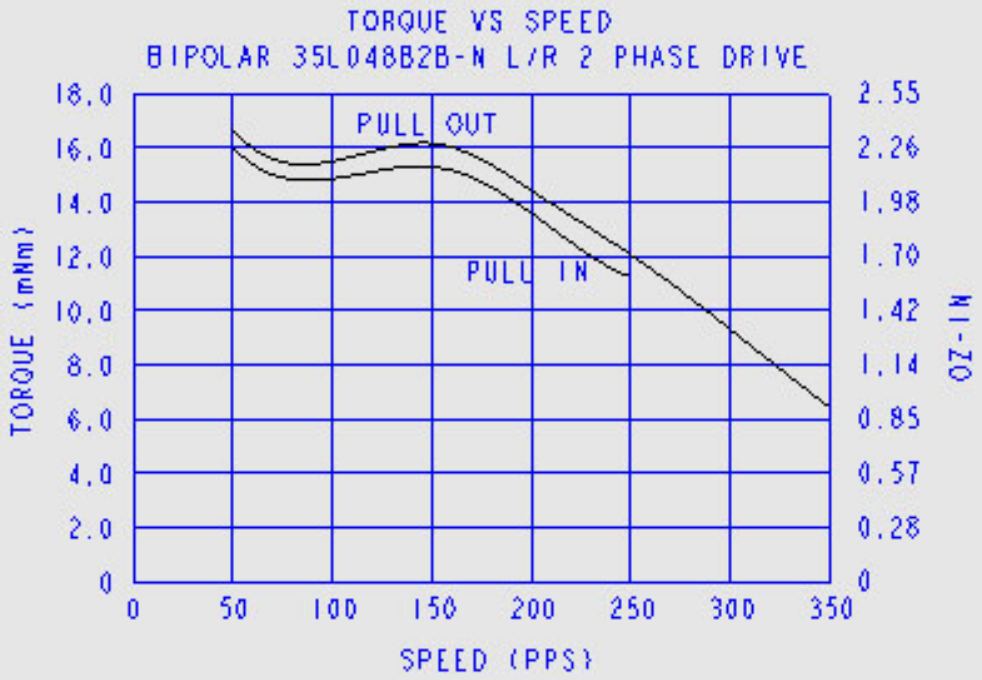


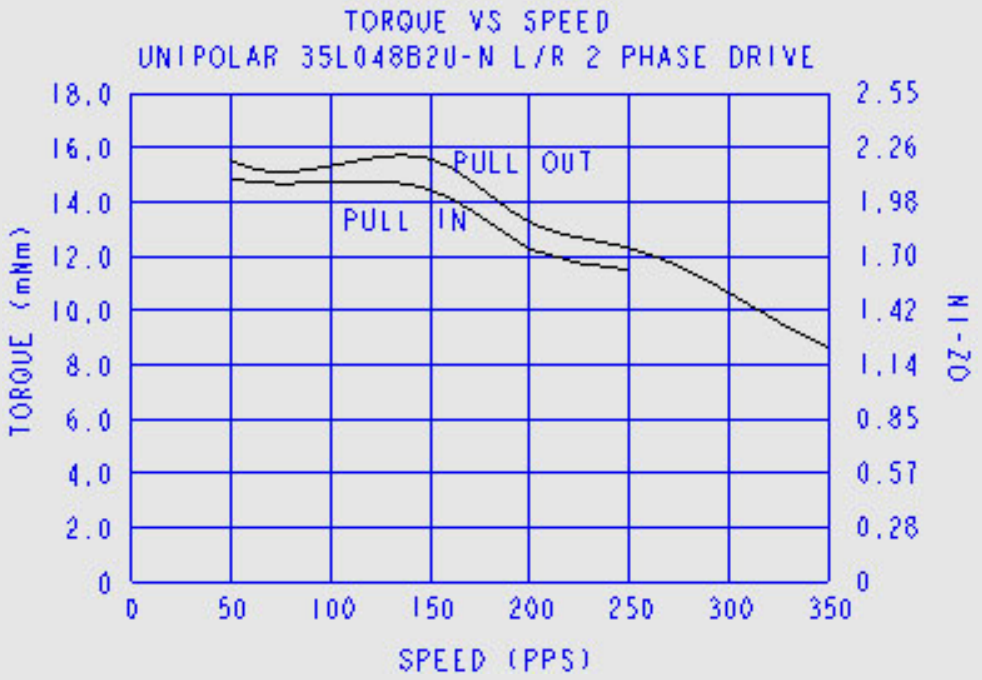
MOTOR DYNAMICS

CHART INDEX



MOTOR DYNAMICS

CHART INDEX

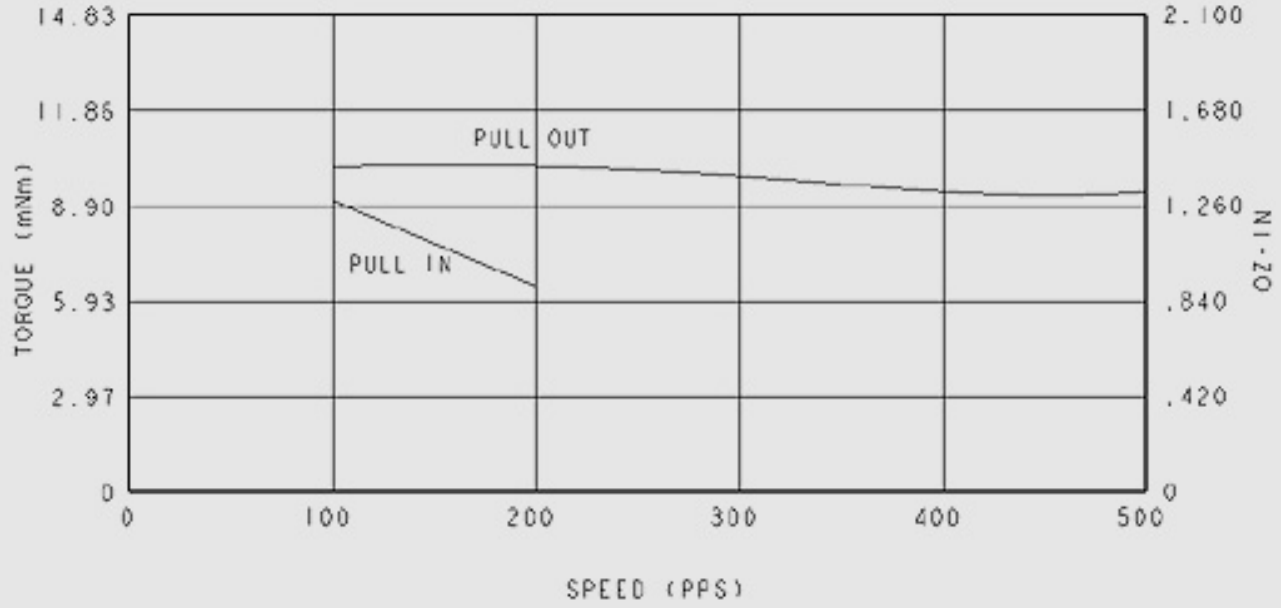


MOTOR DYNAMICS

CHART INDEX

TORQUE VS SPEED

BIPOLAR 35L020B1B CHOPPER DRIVE
@ 36V, 300mA/Ø, 2Ø



MOTOR DYNAMICS

CHART INDEX

TORQUE VS SPEED

BIPOLAR 35L024BIB CHOPPER DRIVE
@ 36V, 300mA/Ø, 2Ø

MOTOR DYNAMICS

CHART INDEX

TORQUE VS SPEED

BIPOLAR 35L048B1B CHOPPER DRIVE
@ 36V, 300mA/Ø, 2Ø