

HIGH-TORQUE BRUSHLESS MOTOR SPINDLE "ASTRO-E 6040"

- High-speed rotation, high-precision and high-power brushless DC motor/spindle of 2,000~40,000 min⁻¹.
- High-power 600W brushless DC motor spindle with an external diameter of ø60 mm.
- Maximum cutting tool shank diameter of ø6 mm can be used.
- Ideal for use on special purpose machines, NC lathes, robots, etc. for small diameter end milling, drilling, slitting, chamfering, grinding, etc.
- EMS-6040K has a great flexibility of motor cord which is suited for robot attachment.

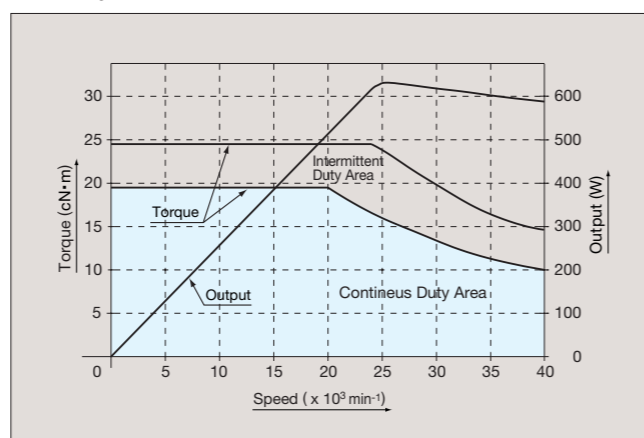
ASTRO-E 6040 System Chart



Features of ASTRO-E 6040

- 2,000~40,000 min⁻¹, 500 min⁻¹ (for centering rotation)
- Rated output 400W (Max. output 600W)
- Spindle accuracy 1 μm or less.
- Achieved continuous run of over 5,000 hours. (NSK's factory test without load at 40,000 min⁻¹)
- Motor weight 2.9 kg
- Proper coolant air pressure 0.5MPa
- Coolant air consumption 130NL /min.
- Extremely low vibration brushless DC motor.
- Utilizes a double pair of ultra-precision ceramic bearings to obtain high rigidity in both radial and thrust directions incorporates 2 ceramic bearings on the front side and 2 on the rear side.
- External housing made of precision ground stainless steel SUS-416.

Torque Characteristics of ASTRO-E 6040



ASTRO-E 6040 Combination Example 40,000 min⁻¹



Unit Specifications

Model	NE123
Power Source	AC 115V/230V, 50-60Hz
Power Consumption	750W
Weight	15.0 kg
Dimensions	W430 x D487 x H177 mm

Motor Spindle

Motor Spindle	EMS-6040K
Speed	2,000~40,000 min ⁻¹ , 500 min ⁻¹
Weight	2.9 kg
Dimensions	ø60 x L176.5 mm

ASTRO-E 6040, EMS-6040K Combination Example

CAT. No.	Model	Product
9064	NE123	Control Unit
9061	EMS-6040K	Motor Spindle

High Precision and High-Performance Control Unit

● High-Performance Electric Circuit

'High grade feedback loop to maintain constant spindle speed even if load is varied', and 'Gentle start/Quick stop functions' are provided.

● Warning/Error Function

Motor/Spindle is stopped safety, Warning/Error LED is lit, and Warning/Error Signal is output to external when there is something wrong with the motor/spindle, or any breakage is detected.

- Warning : ● Air shortage ● Overload operation
 ● Sensor Extraordinary ● Control Unit Overheat
- Error : ● Internal Circuit Error ● Voltage/Electric currency Error
 ● Overheat/Overload operation ● Operation Error
 ● Air shortage

● Selector Function

Max. 4 motor can be controlled sequentially. 4 motors can not be run simultaneously.

● External Input-Output Connector

Motor/Spindle can be controlled and monitored by external input-output connector. Control : Start/Stop, Motor Speed Control, FWD./REV. Rotation and etc. Monitor : While Rotating, Rotation Pulse, Unit Power Source Detection, AUTO Mode, Motor Speed Voltage and etc. And Error Output can be reversed by the parameter setting.

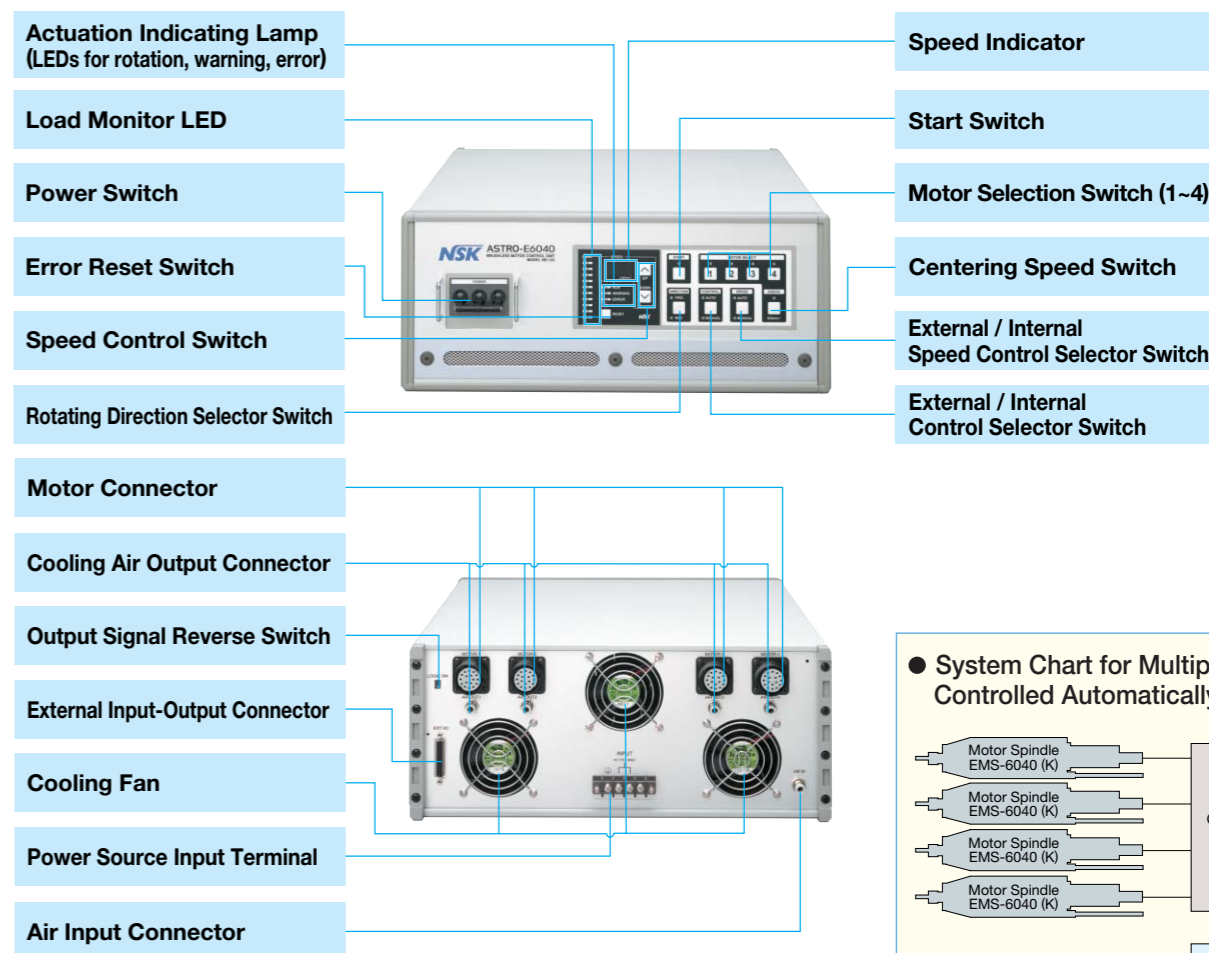
● Motor Speed Display

Motor speed is displayed precisely and digitally.

● LOAD Monitor LED

Motor load is displayed by 10 LED's to mean load level.

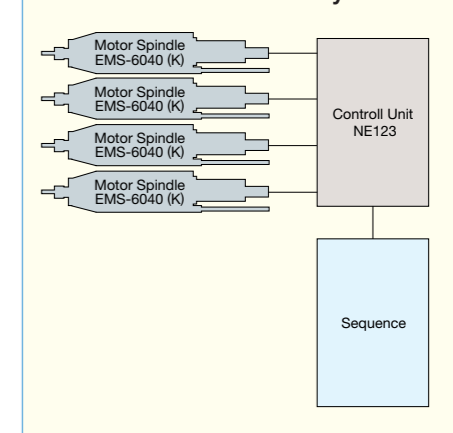
CAT. No. 9064 ASTRO-E 6040 CONTROL UNIT NE123 40,000 min⁻¹



ASTRO-E 6040 Control Unit

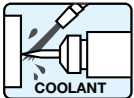
CAT. No.	Model	Standard Equipment · Accessories
9064	NE123	● Power Cord : 4 m ● Air Hose with filter (K-251) : ø6 mm x 2 m

● System Chart for Multiple Motors Controlled Automatically



“ASTRO-E 6040” BRUSHLESS MOTOR SPINDLE

1
E-max
ROTUS
ESPERT
VIVA-MATE 3
PNEU-SONIC
IMPULSE
PRESTO MIRACLE
SHEENUS
SONIC CUTTER

 ASTRO-E 6040 can be used in conjunction with water or oil based coolants.

CAT. No. 9063 BRUSHLESS MOTOR SPINDLE EMS-6040 40,000 min⁻¹



- Allowable Motor Speed 2,000~40,000 min⁻¹
- Spindle Accuracy Within 1 µm
- Max. Output Power 600W
- Rated Output Power 400W
- Cord Length 5 m
- Air Coolant Hose Length 5 m
- Standard Size Collet Chuck (CHK-6.0) ø6.0 mm
- Chuck Nut (CHN-B) For Collet Chuck (CHK)
- Weight 2.9 kg
- Min. Bending Cord Radius R90 mm

Brushless Motor Spindle

CAT. No.	Model	Standard Equipment - Accessories
9063	EMS-6040	<ul style="list-style-type: none"> • Motor Cord (EMCD-6040) • Inlet Air Hose (K-247) : ø6 mm x 4 m (K-250) : ø6 mm x 5 m • Collet Chuck ø6.0 mm (CHK-6.0) • Chuck Nut (CHN-B) : 1 pc. • Spanner (12 x 14), (16 x 18) : 1 pc. each

< Optional >

- Collet Chuck (CHK-□□) ø0.5 mm~ø6.0 mm in 0.1 mm increments and ø2.35, ø3.175, ø6.35 mm
- Metal Saw Axis (KCH-03) For ø6 (I.D.) x ø30 mm (O.D.)
- Drill Chuck Axis (DCH-J0K) For Jacob's Taper No. 0
- Grindstone Axis (AGM-03) For grinding wheel with I.D. of ø5 mm

CAT. No. 9061 BRUSHLESS MOTOR SPINDLE EMS-6040K 40,000 min⁻¹



- Allowable Motor Speed 2,000~40,000 min⁻¹
- Spindle Accuracy Within 1 µm
- Max. Output Power 600W
- Rated Output Power 400W
- Cord Length 5 m
- Air Coolant Hose Length 5 m
- Standard Size Collet Chuck (CHK-6.0) ø6.0 mm
- Chuck Nut (CHN-B) For Collet Chuck (CHK)
- Weight 2.9 kg
- Min. Bending Cord Radius R50 mm

Brushless Motor Spindle

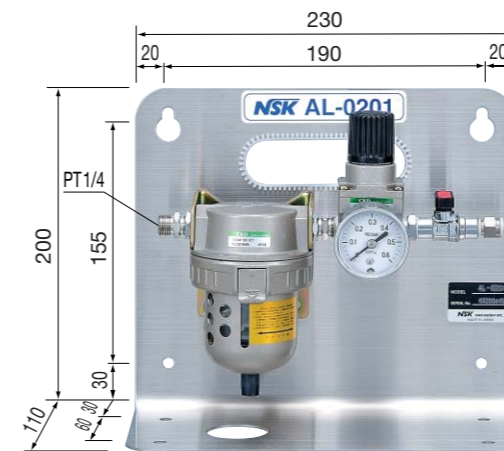
CAT. No.	Model	Standard Equipment - Accessories
9061	EMS-6040K	<ul style="list-style-type: none"> • Motor Cord (EMCD-6040K) • Inlet Air Hose (K-247) : ø6 mm x 4 m (K-250) : ø6 mm x 5 m • Collet Chuck ø6.0 mm (CHK-6.0) • Chuck Nut (CHN-B) : 1 pc. • Spanner (12 x 14), (16 x 18) : 1 pc. each

< Optional >

- Collet Chuck (CHK-□□) ø0.5 mm~ø6.0 mm in 0.1 mm increments and ø2.35, ø3.175, ø6.35 mm
- Metal Saw Axis (KCH-03) For ø6 (I.D.) x ø30 mm (O.D.)
- Drill Chuck Axis (DCH-J0K) For Jacob's Taper No. 0
- Grindstone Axis (AGM-03) For grinding wheel with I.D. of ø5 mm

“ASTRO-E 6040” AIR LINE KIT & MOTOR CORD

CAT. No. 1541 AIR LINE KIT AL-0201



- The AL-0201 is **Clean air** supply unit for ASTRO-E 6040 control unit. The dust and moisture in the compressed air are eliminated by the filter in the first stage and the regulator provides accurate and stable air to the control unit.

Air Line Kit (For ø6 mm Hose · Filter Mesh 0.3 µm)

CAT. No.	Model	Standard Equipment - Accessories
1541	AL-0201	<ul style="list-style-type: none"> • Air Filter • Air Regulator • Air Pressure Gauge • Air ON-OFF Valve • Hose for Piping (K-260) : 2 m

CAT. No. 9036 MOTOR CORD EMCD-6040



Motor Cord

CAT. No.	Model	Fit to
9036	EMCD-6040	• EMS-6040

CAT. No. 9082 MOTOR CORD EMCD-6040K



Motor Cord

CAT. No.	Model	Fit to
9082	EMCD-6040K	• EMS-6040K