

NAKANISHI SPINDLE iSpeed3

iSpeed3



Headquarters • Factory
700 Shimohinata, Kanuma, Tochigi 322-8666, Japan
TEL +81-289-64-3520 FAX +81-289-62-1135

www.nakanishi-inc.com
NAKANISHI INC. 2019

Specifications and design are subject to change without notice.

PR-K312E Ver.5 '19.11.02.㊞

Nature of Tochigi, Japan
Kinunuma in Spring

SERIES **iSpeed3**
ULTRA-HIGH-SPEED & SUPER-PRECISION

The Finger Tips

You can arrange this finger spindle as you wish and realize a magical machining

Max. power 140w, Max. rpm 80,000min⁻¹

Max. power 150w, Max. rpm 60,000min⁻¹

✓ Spindle runout within 1μm

- Optimum for high-precision machining
- Longer tool life

✓ Ceramic Bearing

- Longer bearing life
- Higher rigidity for heavy cutting

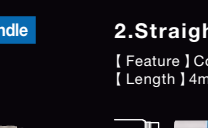
✓ Brushless motor

- Maintenance free
- Longer product life thanks to no dust from carbon brushes to the bearing



Index

Flange type motor spindle

BM-319F With 50cm joint cord Max.rpm 80,000min ⁻¹		p.7
BM-320F With 50cm joint cord Max.rpm 80,000min ⁻¹		p.7
BM-322FL With 50cm joint cord Max.rpm 60,000min ⁻¹		p.9
BM-322FR With 50cm joint cord Max.rpm 60,000min ⁻¹		p.9
BMF-319 Max.rpm 80,000min ⁻¹		p.11
BMF-320 Max.rpm 80,000min ⁻¹		p.11
BMF-322 Max.rpm 60,000min ⁻¹		p.13
BMF-325 Max.rpm 60,000min ⁻¹		p.13

Motor cord

1.Joint type For Motor and Motor spindle [Feature] Connection possible out of the machine [Length] 3m, 5m, 7m 	2.Straight type For Motor and Motor spindle [Feature] Connection at the body end [Length] 4m, 6m, 8m 	3.Angle type For Motor and Motor spindle [Feature] Connection at the body end into 90° degrees [Length] 4m, 6m, 8m 
EMCD-BM3 Joint type motor cord p.26	EMCD-BM3S Straight type motor cord p.26	EMCD-BM3A Angle type motor cord p.26

Controller

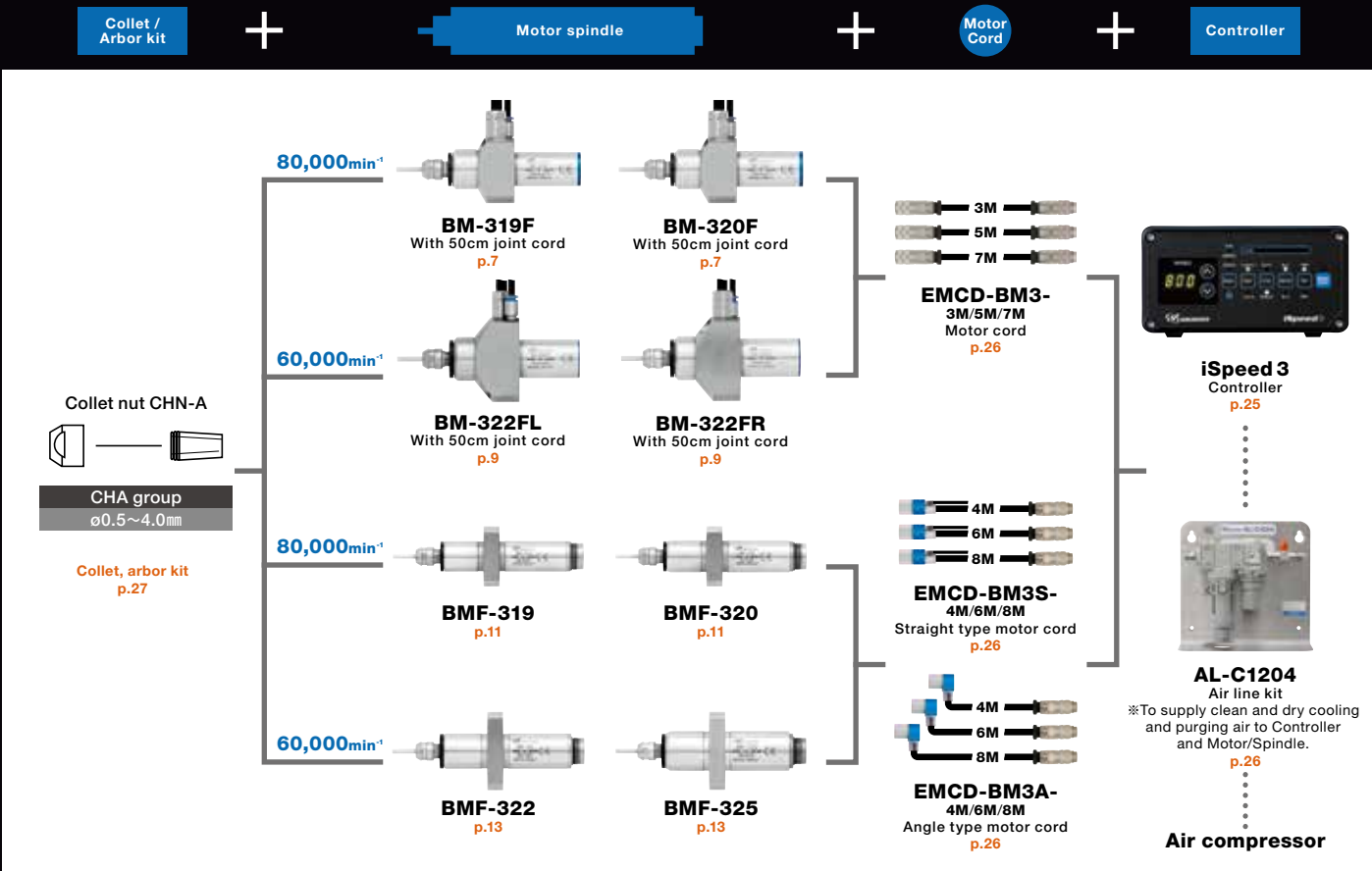
 iSpeed3 Controller Controller p.25

Accessories

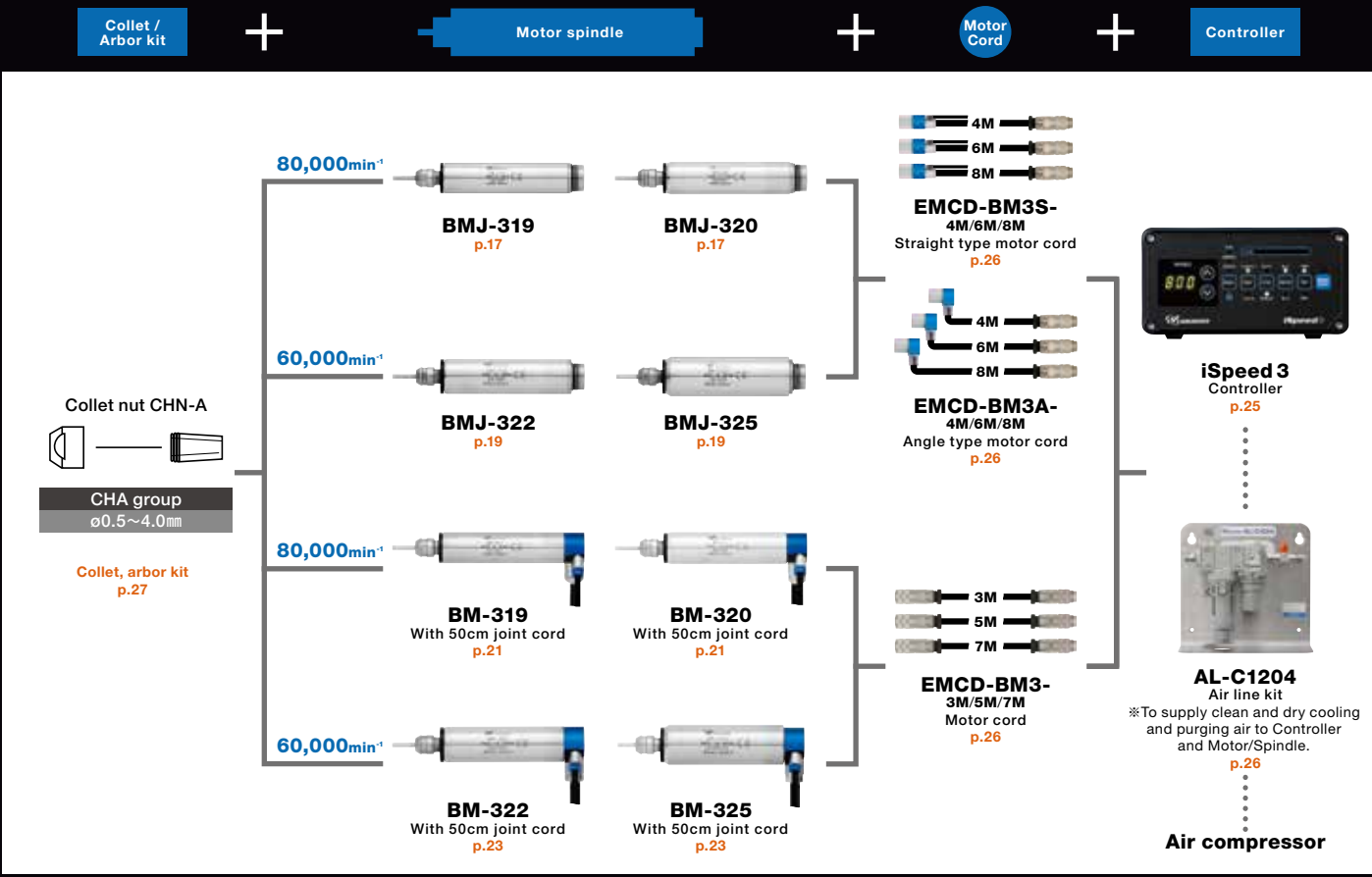
 AL-C1204 Air line kit p.26	 CHA / CHN-A Collet / Collet nut p.27
--	---

System Chart

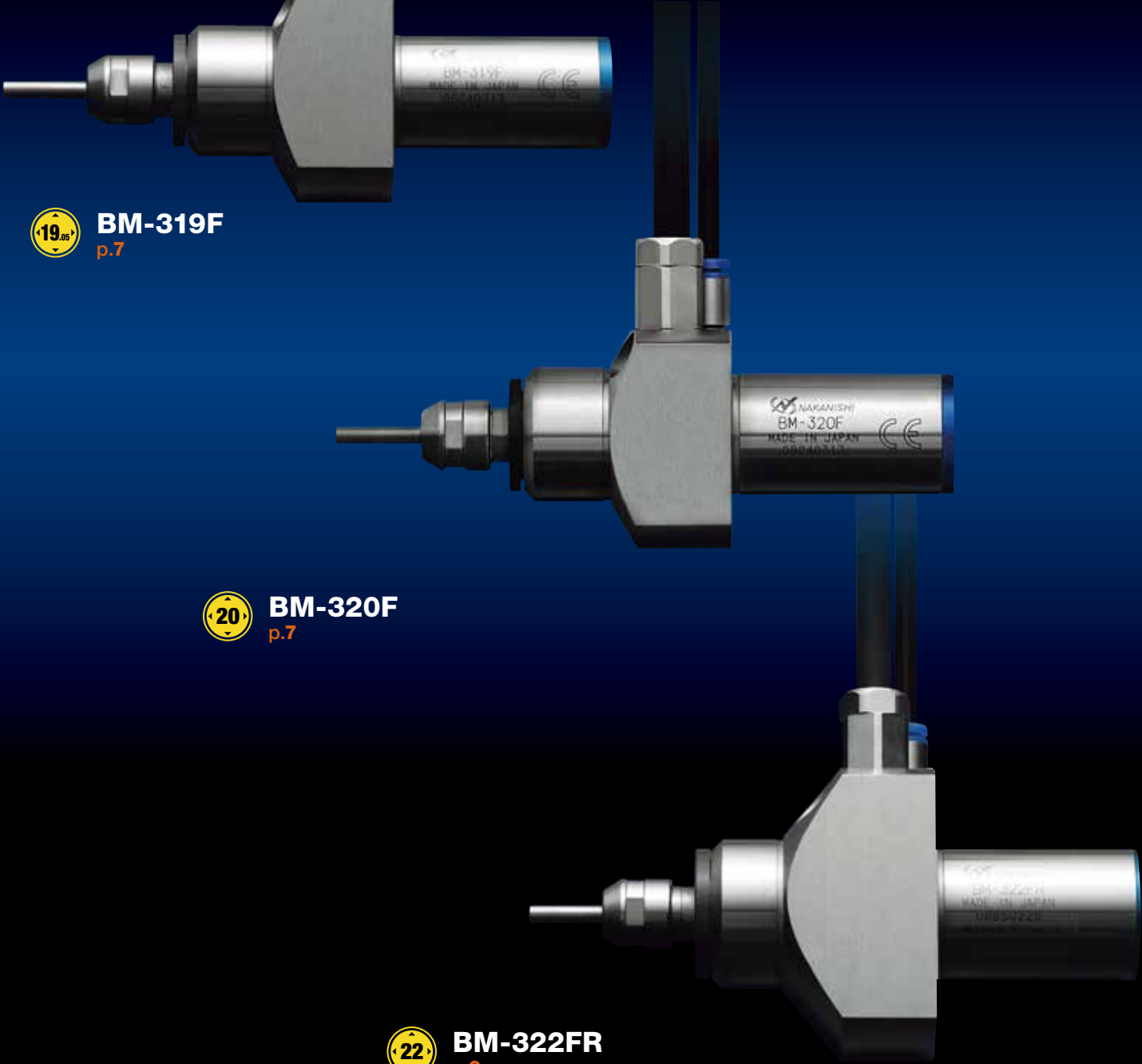
Flange type motor spindle



Straight type motor spindle



Flange type motor spindle



BM-319F
p.7

BM-320F
p.7

BM-322FR
p.9

BM-322FL
p.9



BMF-319
p.11



BMF-320
p.11

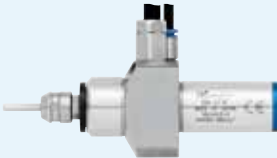


BMF-322
p.13

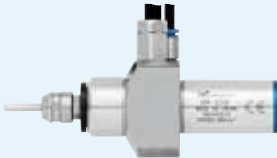


BMF-325
p.13





BM-319F



BM-320F



EMCD-BM3
p.26



iSpeed3
p.25



AL-C1204
p.26

iSpeed3 SERIES

Shown In Actual Size

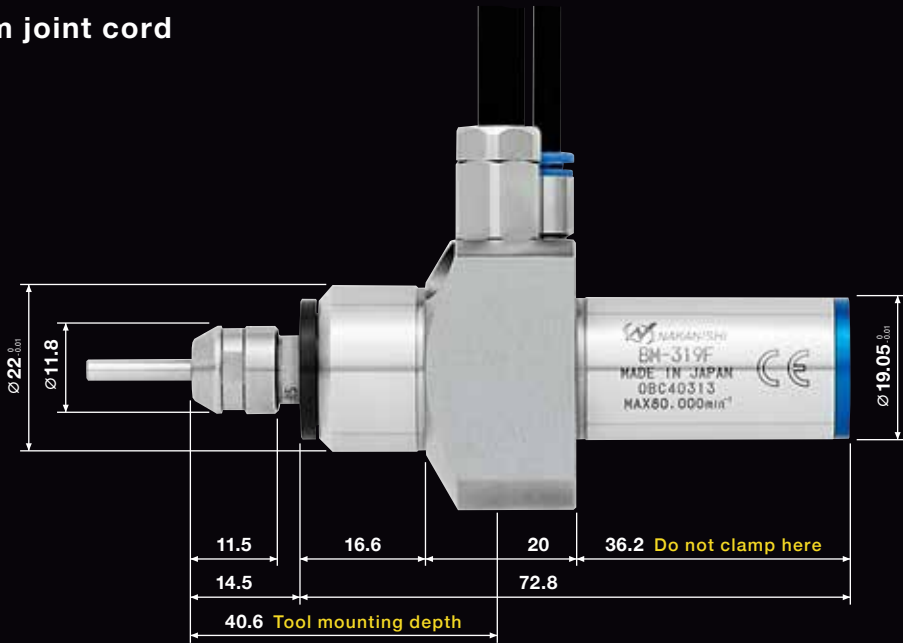
Flange type motor spindle

BM-319F

With 50cm joint cord



O.D. ϕ 19.05mm

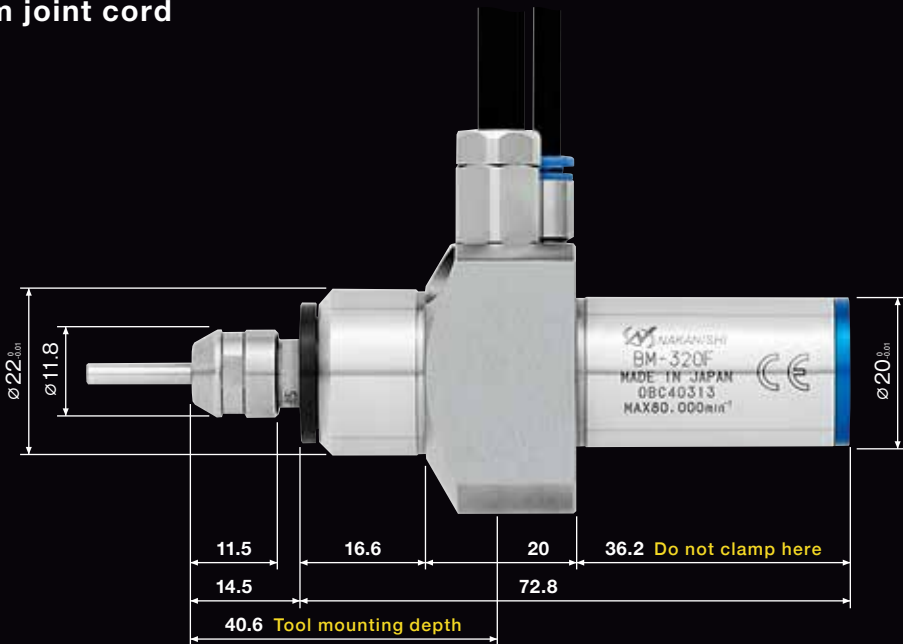


BM-320F

With 50cm joint cord



O.D. ϕ 20mm



Specifications

Order by Code No.

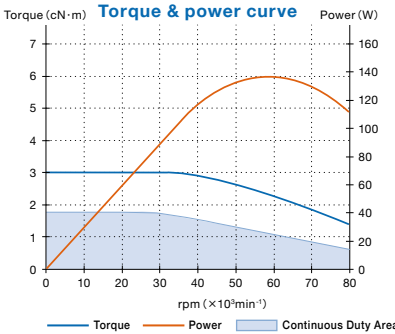
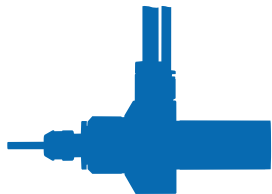
BM-319F

Code No.

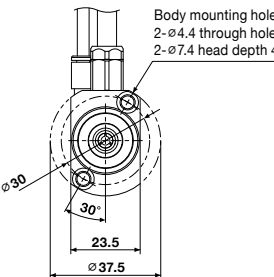
8511

Model

BM-319F



Dimensions of the holes on the flange



Cord length L=0.5m

O.D.	Max. rpm	Max. power	Spindle runout	Weight
ϕ 19.05mm	80,000min ⁻¹	140w	Within1 μ m	260g
Standard Accessories	Collet : ϕ 3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc. / Bolt : 2pcs. (M4×L25)			
Options	Collet (CHA group) : ϕ 0.5~ ϕ 4.0mm p.27 Motor cord : Length 3m (9261) , 5m (9262) , 7m (9263)			

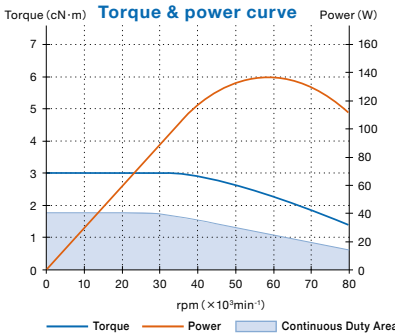
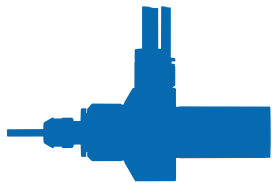
BM-320F

Code No.

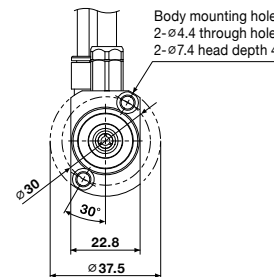
8513

Model

BM-320F



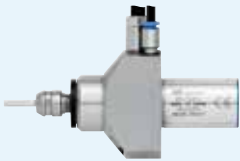
Dimensions of the holes on the flange



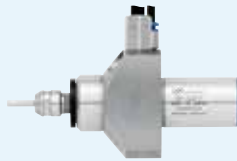
Cord length L=0.5m

O.D.	Max. rpm	Max. power	Spindle runout	Weight
ϕ 20mm	80,000min ⁻¹	140w	Within1 μ m	270g
Standard Accessories	Collet : ϕ 3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc. / Bolt : 2pcs. (M4×L25)			
Options	Collet (CHA group) : ϕ 0.5~ ϕ 4.0mm p.27 Motor cord : Length 3m (9261) , 5m (9262) , 7m (9263)			

Spindle
Guide



BM-322FL



BM-322FR



EMCD-BM3
p.26



iSpeed3
p.25



AL-C1204
p.26

iSpeed3 SERIES

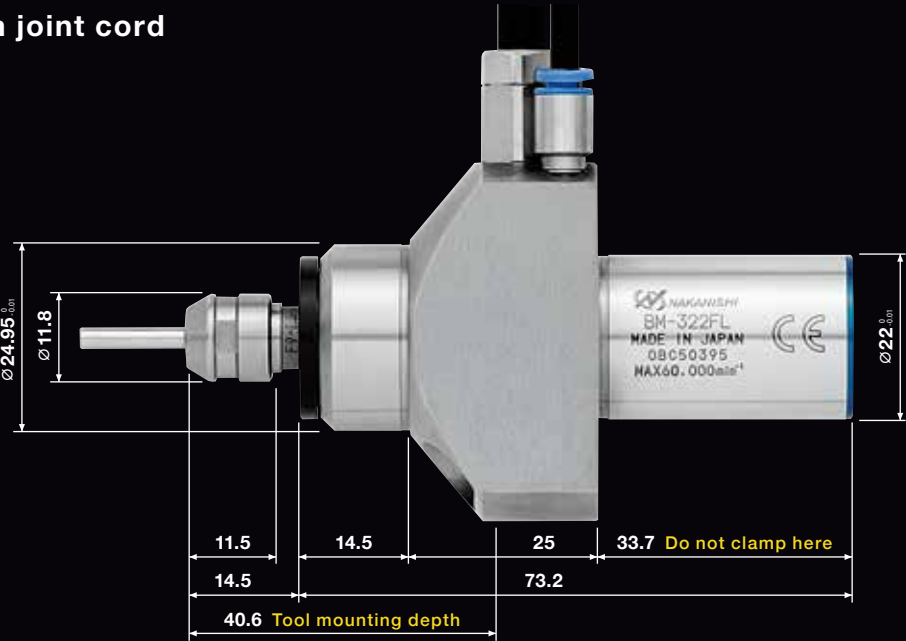
Shown In Actual Size

Flange type motor spindle

BM-322FL
With 50cm joint cord



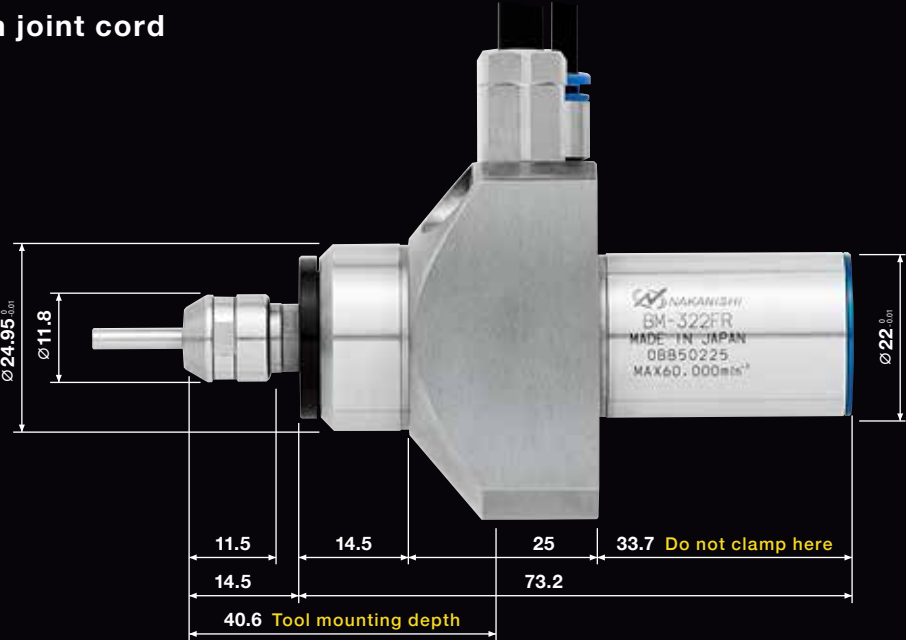
O.D. $\varnothing$ 22mm



BM-322FR
With 50cm joint cord



O.D. $\varnothing$ 22mm



Specifications

Order by Code No.

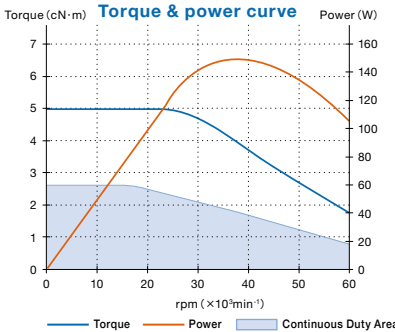
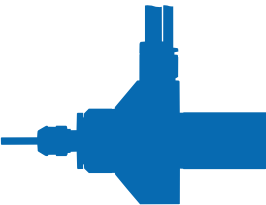
BM-322FL

Code No.

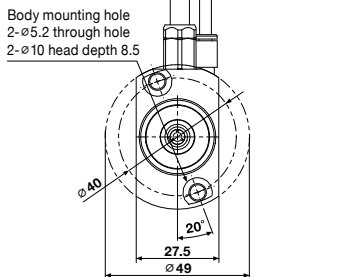
8519

Model

BM-322FL



Dimensions of the holes on the flange



Cord length L=0.5m

O.D.	Max. rpm	Max. power	Spindle runout	Weight
$\varnothing$ 22mm	60,000min ⁻¹	150w	Within1 μ m	360g
Standard Accessories	Collet : $\varnothing$ 3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc. / Bolt : 2pcs. (M5×L25)			
Options	Collet (CHA group) : $\varnothing$ 0.5~ $\varnothing$ 4.0mm p.27 Motor cord : Length 3m (9261) , 5m (9262) , 7m (9263)			

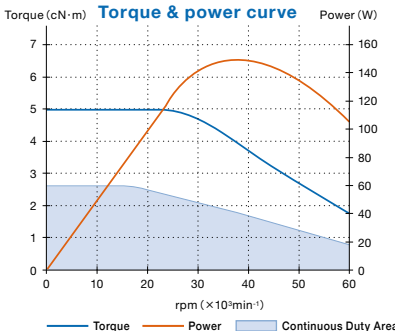
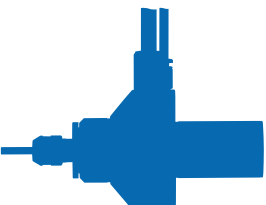
BM-322FR

Code No.

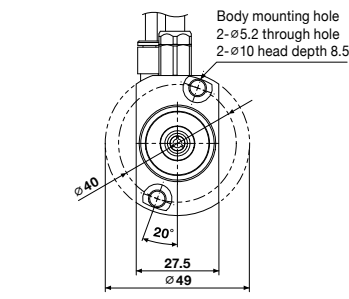
8521

Model

BM-322FR

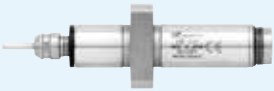


Dimensions of the holes on the flange

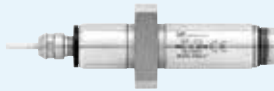


Cord length L=0.5m

O.D.	Max. rpm	Max. power	Spindle runout	Weight
$\varnothing$ 22mm	60,000min ⁻¹	150w	Within1 μ m	360g
Standard Accessories	Collet : $\varnothing$ 3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc. / Bolt : 2pcs. (M5×L25)			
Options	Collet (CHA group) : $\varnothing$ 0.5~ $\varnothing$ 4.0mm p.27 Motor cord : Length 3m (9261) , 5m (9262) , 7m (9263)			



BMF-319



BMF-320

EMCD-BM3S
p.26

EMCD-BM3A
p.26

iSpeed3
p.25

AL-C1204
p.26

iSpeed3 SERIES

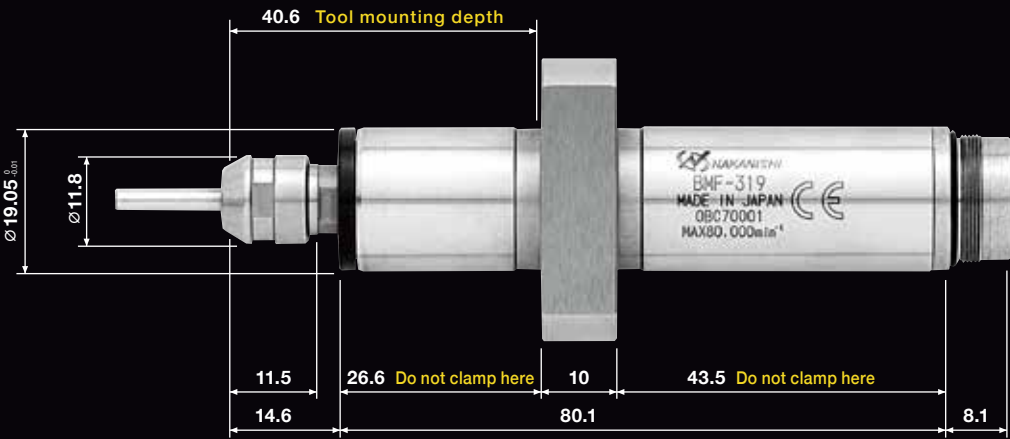
Shown In Actual Size

Flange type motor spindle

BMF-319

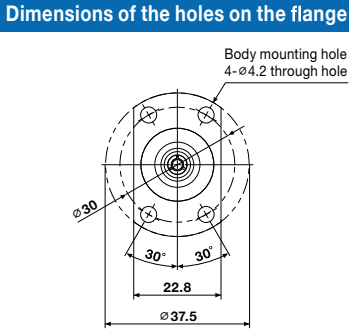
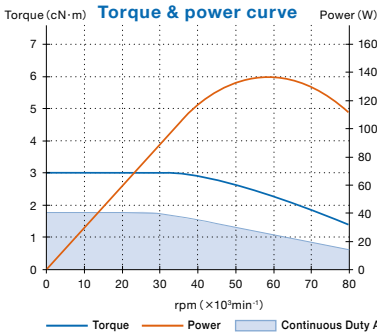


O.D. $\varnothing$ 19.05mm



BMF-319

Code No. **8529** Model **BMF-319**

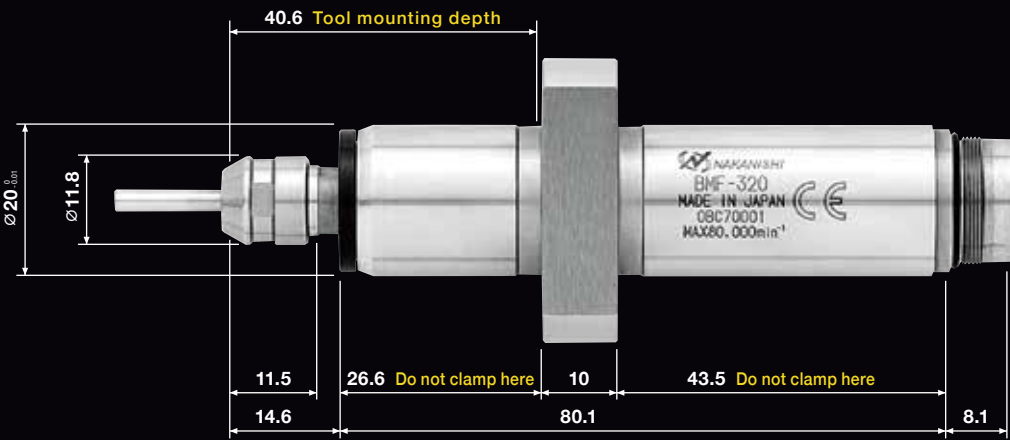


O.D.	Max. rpm	Max. power	Spindle runout	Weight
$\varnothing$ 19.05mm	80,000min ⁻¹	140w	Within1 μ m	180g
Standard Accessories	Collet : $\varnothing$ 3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc. / Bolt : 2pcs. (M4×L16)			
Options	Collet (CHA group) : $\varnothing$ 0.5~ $\varnothing$ 4.0mm p.27 Motor cord (Straight) : Length 4m (9264) , 6m (9265) , 8m (9266) Motor cord (Angle) : Length 4m (9267) , 6m (9268) , 8m (9269)			

BMF-320

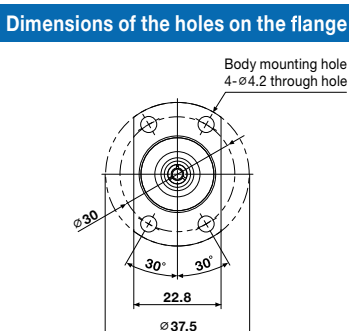
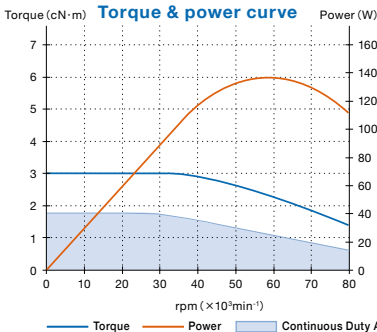


O.D. $\varnothing$ 20mm

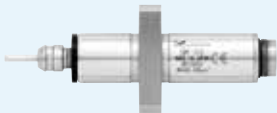


BMF-320

Code No. **8530** Model **BMF-320**



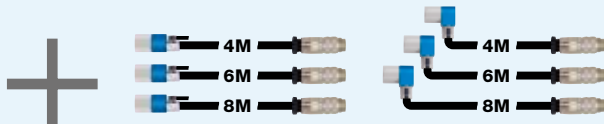
O.D.	Max. rpm	Max. power	Spindle runout	Weight
$\varnothing$ 20mm	80,000min ⁻¹	140w	Within1 μ m	195g
Standard Accessories	Collet : $\varnothing$ 3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc. / Bolt : 2pcs. (M4×L16)			
Options	Collet (CHA group) : $\varnothing$ 0.5~ $\varnothing$ 4.0mm p.27 Motor cord (Straight) : Length 4m (9264) , 6m (9265) , 8m (9266) Motor cord (Angle) : Length 4m (9267) , 6m (9268) , 8m (9269)			



BMF-322



BMF-325



EMCD-BM3S
p.26

EMCD-BM3A
p.26



iSpeed3
p.25



AL-C1204
p.26

iSpeed3 SERIES

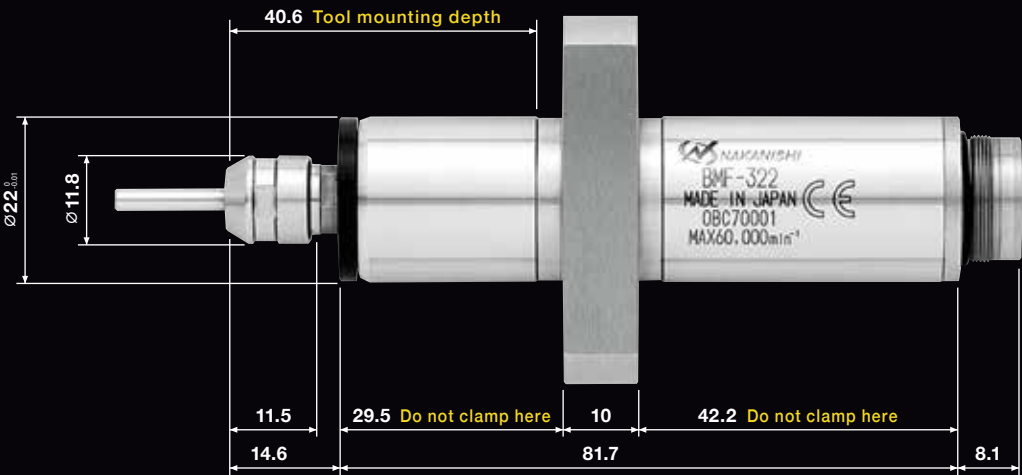
Shown In Actual Size

Flange type motor spindle

BMF-322



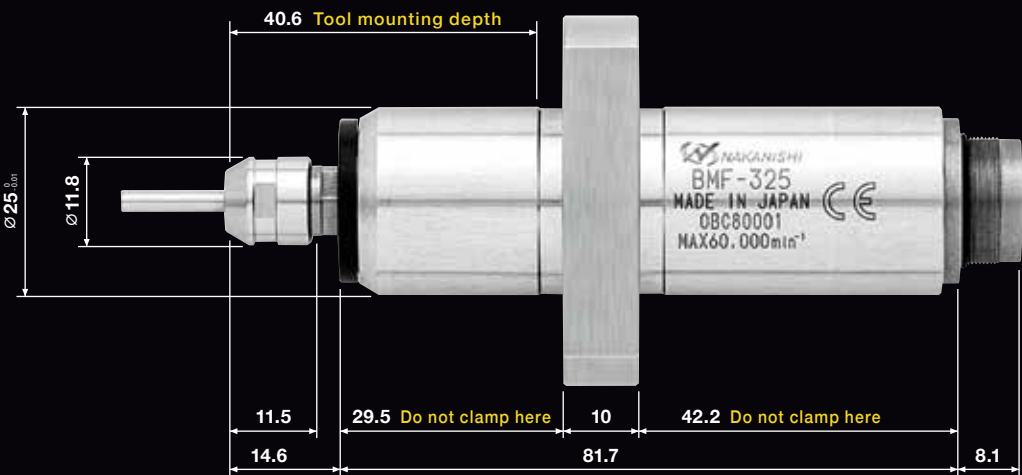
O.D. $\varnothing$ 22mm



BMF-325



O.D. $\varnothing$ 25mm



Specifications

Order by Code No.

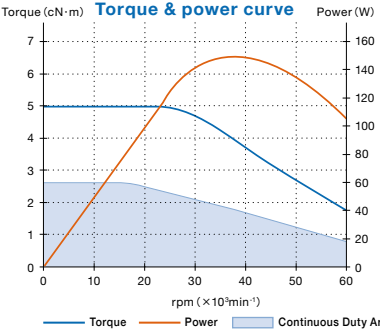
BMF-322

Code No.

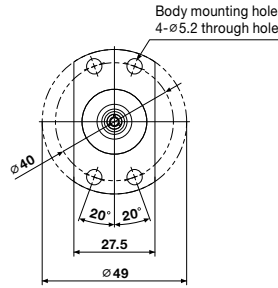
8531

Model

BMF-322



Dimensions of the holes on the flange



O.D.	Max. rpm	Max. power	Spindle runout	Weight
$\varnothing$ 22mm	60,000min ⁻¹	150w	Within1 μ m	250g
Standard Accessories	Collet : $\varnothing$ 3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc. / Bolt : 2pcs. (M5×L16)			
Options	Collet (CHA group) : $\varnothing$ 0.5~ $\varnothing$ 4.0mm p.27 Motor cord (Straight) : Length 4m (9264) , 6m (9265) , 8m (9266) Motor cord (Angle) : Length 4m (9267) , 6m (9268) , 8m (9269)			

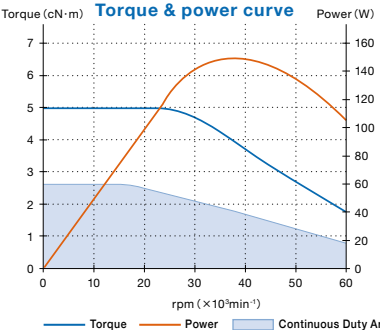
BMF-325

Code No.

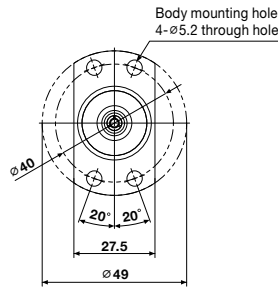
8532

Model

BMF-325



Dimensions of the holes on the flange



O.D.	Max. rpm	Max. power	Spindle runout	Weight
$\varnothing$ 25mm	60,000min ⁻¹	150w	Within1 μ m	305g
Standard Accessories	Collet : $\varnothing$ 3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc. / Bolt : 2pcs. (M5×L16)			
Options	Collet (CHA group) : $\varnothing$ 0.5~ $\varnothing$ 4.0mm p.27 Motor cord (Straight) : Length 4m (9264) , 6m (9265) , 8m (9266) Motor cord (Angle) : Length 4m (9267) , 6m (9268) , 8m (9269)			

Straight type motor spindle

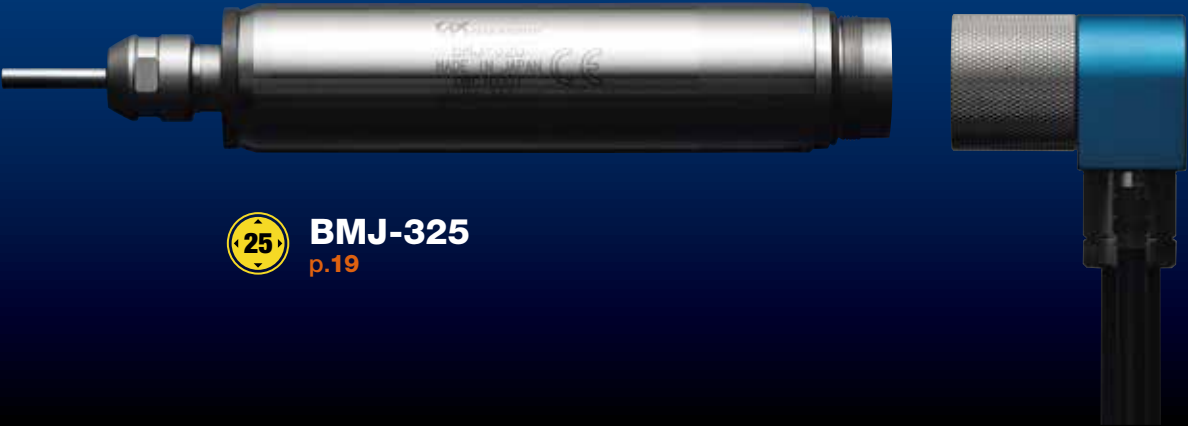


BMJ-319
p.17



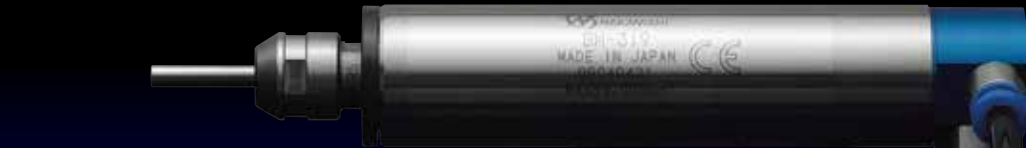
BMJ-320
p.17

BMJ-322
p.19



BMJ-325
p.19

BM-319
p.21



BM-320
p.21



BM-322
p.23



BM-325
p.23



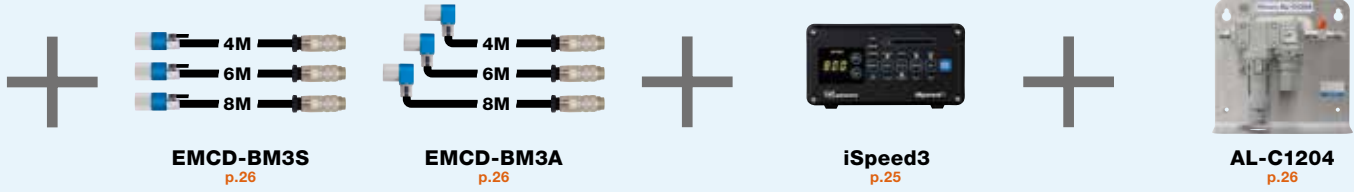
Spindle
Guide



BMJ-319



BMJ-320



iSpeed3 SERIES

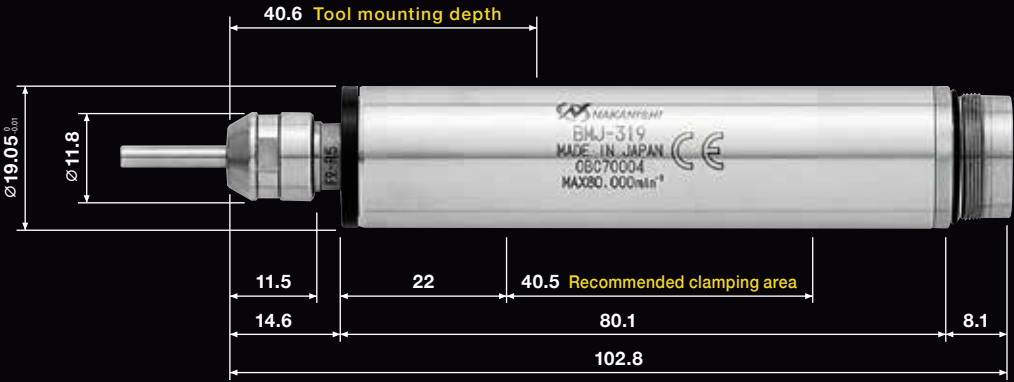
Shown In Actual Size

Straight type motor spindle

BMJ-319



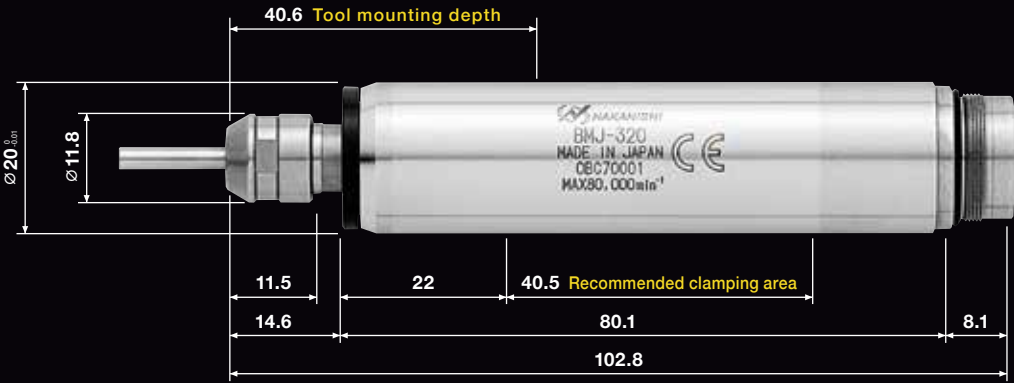
O.D. $\varnothing$ 19.05mm



BMJ-320



O.D. $\varnothing$ 20mm

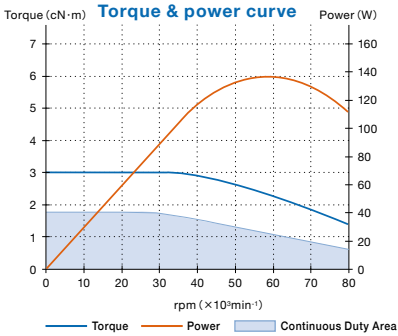


Specifications

Order by Code No.

BMJ-319

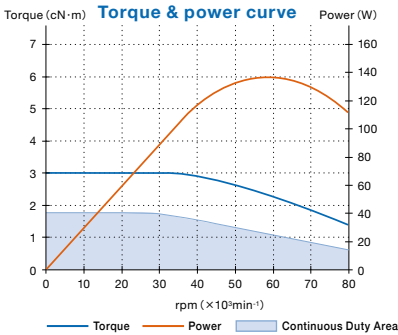
Code No.	8525	Model	BMJ-319
----------	------	-------	---------



O.D.	Max. rpm	Max. power	Spindle runout	Weight
$\varnothing$ 19.05mm	80,000min ⁻¹	140w	Within1 μ m	145g
Standard Accessories	Collet: $\varnothing$ 3.0mm (CHA-3.0) / Collet nut (CHN-A) / Spanner (8×5) · (9×11) : 1pc.			
Options	Collet (CHA group) : $\varnothing$ 0.5~ $\varnothing$ 4.0mm p.27			
	Motor cord (Straight) : Length 4m (9264) , 6m (9265) , 8m (9266)			
	Motor cord (Angle) : Length 4m (9267) , 6m (9268) , 8m (9269)			

BMJ-320

Code No.	8526	Model	BMJ-320
----------	------	-------	---------



O.D.	Max. rpm	Max. power	Spindle runout	Weight
$\varnothing$ 20mm	80,000min ⁻¹	140w	Within1 μ m	160g
Standard Accessories	Collet: $\varnothing$ 3.0mm (CHA-3.0) / Collet nut (CHN-A) / Spanner (8×5) · (9×11) : 1pc.			
Options	Collet (CHA group) : $\varnothing$ 0.5~ $\varnothing$ 4.0mm p.27			
	Motor cord (Straight) : Length 4m (9264) , 6m (9265) , 8m (9266)			
	Motor cord (Angle) : Length 4m (9267) , 6m (9268) , 8m (9269)			

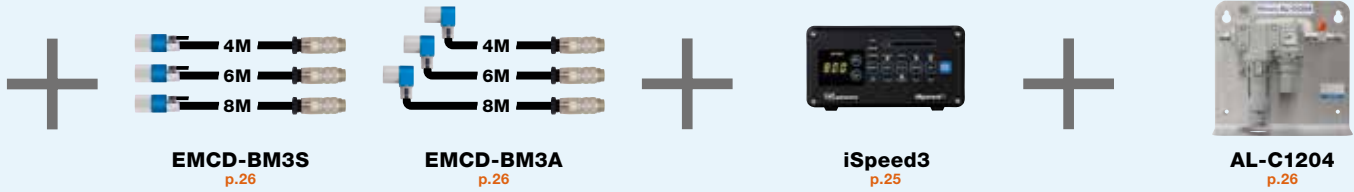
Spindle
Guide



BMJ-322



BMJ-325



iSpeed3 SERIES

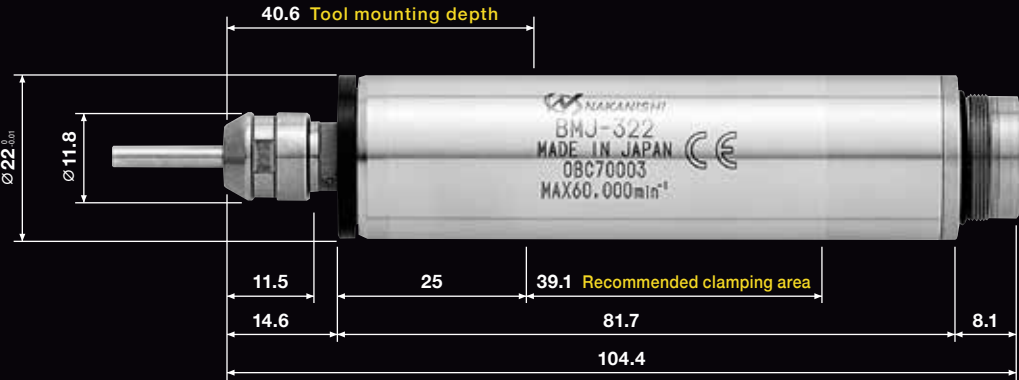
Shown In Actual Size

Straight type motor spindle

BMJ-322



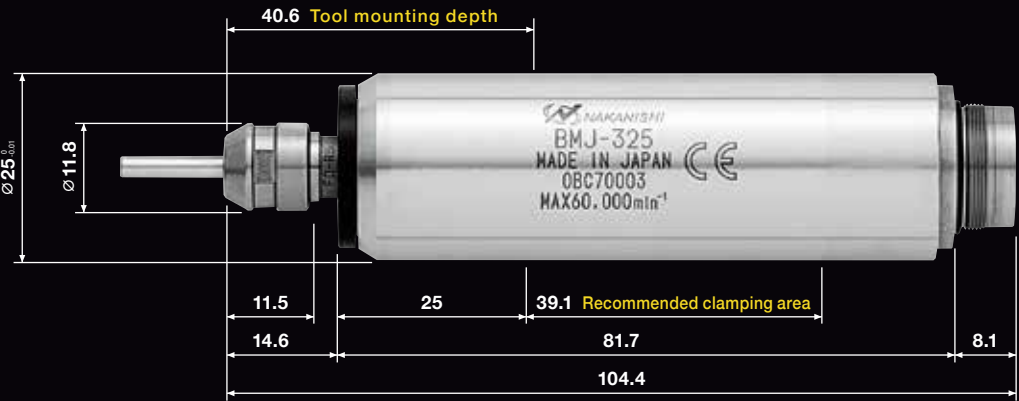
O.D. $\varnothing$ 22mm



BMJ-325



O.D. $\varnothing$ 25mm

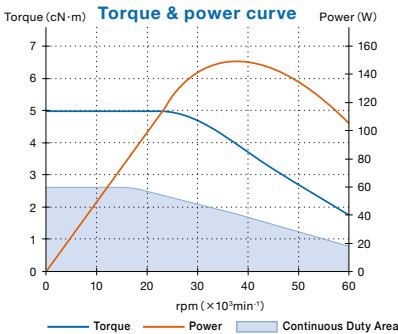


Specifications

Order by Code No.

BMJ-322

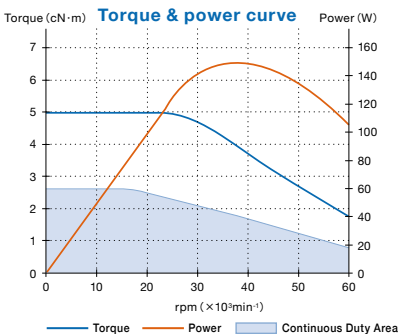
Code No.	8527	Model	BMJ-322
----------	------	-------	---------



O.D.	Max. rpm	Max. power	Spindle runout	Weight
$\varnothing$ 22mm	60,000min ⁻¹	150w	Within1 μ m	190g
Standard Accessories	Collet: $\varnothing$ 3.0mm (CHA-3.0) / Collet nut (CHN-A) / Spanner (8×5) · (9×11) : 1pc.			
Options	Collet (CHA group) : $\varnothing$ 0.5~ $\varnothing$ 4.0mm p.27			
	Motor cord (Straight) : Length 4m (9264) , 6m (9265) , 8m (9266)			
	Motor cord (Angle) : Length 4m (9267) , 6m (9268) , 8m (9269)			

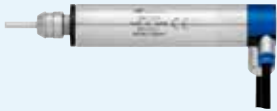
BMJ-325

Code No.	8528	Model	BMJ-325
----------	------	-------	---------

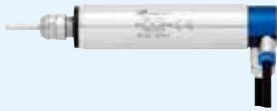


O.D.	Max. rpm	Max. power	Spindle runout	Weight
$\varnothing$ 25mm	60,000min ⁻¹	150w	Within1 μ m	255g
Standard Accessories	Collet: $\varnothing$ 3.0mm (CHA-3.0) / Collet nut (CHN-A) / Spanner (8×5) · (9×11) : 1pc.			
Options	Collet (CHA group) : $\varnothing$ 0.5~ $\varnothing$ 4.0mm p.27			
	Motor cord (Straight) : Length 4m (9264) , 6m (9265) , 8m (9266)			
	Motor cord (Angle) : Length 4m (9267) , 6m (9268) , 8m (9269)			

Spindle
Guide



BM-319



BM-320



EMCD-BM3
p.26



iSpeed3
p.25



AL-C1204
p.26

iSpeed3 SERIES

Shown In Actual Size

Straight type motor spindle

BM-319
With 50cm joint cord



O.D. ø19.05mm



BM-320
With 50cm joint cord



O.D. ø20mm

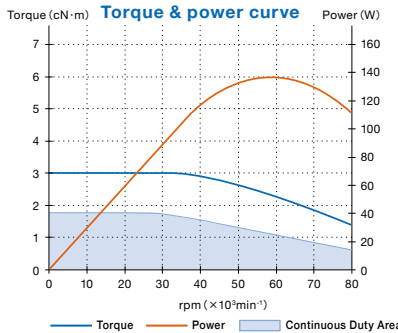


Specifications

Order by Code No.

BM-319

Code No.	8507	Model	BM-319
----------	------	-------	--------

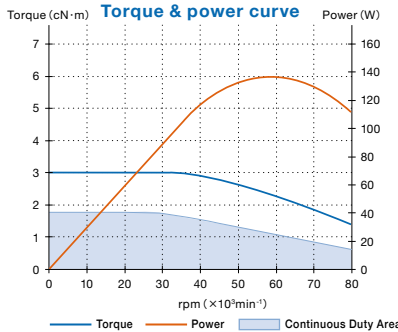


Cord length L=0.5m

O.D.	Max. rpm	Max. power	Spindle runout	Weight
ø19.05mm	80,000min ⁻¹	140w	Within1μm	210g
Standard Accessories	Collet: ø3.0mm (CHA-3.0) / Collet nut (CHN-A) / Spanner (8×5) · (9×11) : 1pc.			
Options	Collet (CHA group) : ø0.5~ø4.0mm p.27 Motor cord : Length 3m (9261) , 5m (9262) , 7m (9263)			

BM-320

Code No.	8509	Model	BM-320
----------	------	-------	--------



Cord length L=0.5m

O.D.	Max. rpm	Max. power	Spindle runout	Weight
ø20mm	80,000min ⁻¹	140w	Within1μm	230g
Standard Accessories	Collet: ø3.0mm (CHA-3.0) / Collet nut (CHN-A) / Spanner (8×5) · (9×11) : 1pc.			
Options	Collet (CHA group) : ø0.5~ø4.0mm p.27 Motor cord : Length 3m (9261) , 5m (9262) , 7m (9263)			

Spindle
Guide



BM-322



BM-325



EMCD-BM3
p.26



iSpeed3
p.25



AL-C1204
p.26

iSpeed3 SERIES

Shown In Actual Size

Straight type motor spindle

BM-322
With 50cm joint cord



O.D. 22mm



BM-325
With 50cm joint cord



O.D. 25mm

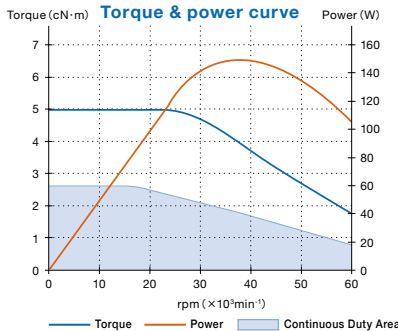


Specifications

Order by Code No.

BM-322

Code No.	8515	Model	BM-322
----------	------	-------	--------

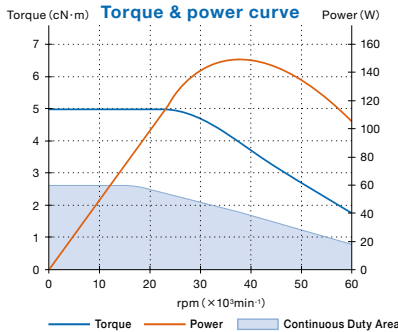


Cord length L=0.5m

O.D.	Max. rpm	Max. power	Spindle runout	Weight
Ø22mm	60,000min ⁻¹	150w	Within1μm	250g
Standard Accessories	Collet: ø3.0mm (CHA-3.0) / Collet nut (CHN-A) / Spanner (8×5) · (9×11) : 1pc.			
Options	Collet (CHA group) : ø0.5~ø4.0mm p.27 Motor cord : Length 3m (9261) , 5m (9262) , 7m (9263)			

BM-325

Code No.	8517	Model	BM-325
----------	------	-------	--------

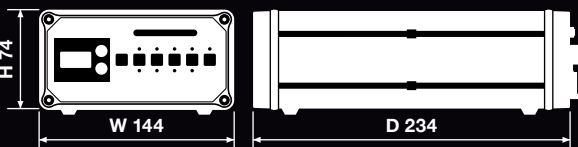


Cord length L=0.5m

O.D.	Max. rpm	Max. power	Spindle runout	Weight
Ø25mm	60,000min ⁻¹	150w	Within1μm	320g
Standard Accessories	Collet: ø3.0mm (CHA-3.0) / Collet nut (CHN-A) / Spanner (8×5) · (9×11) : 1pc.			
Options	Collet (CHA group) : ø0.5~ø4.0mm p.27 Motor cord : Length 3m (9261) , 5m (9262) , 7m (9263)			

iSpeed3 Controller

iSpeed3 Controller
Controller



External Input /
Output Control Signal Operation

- External Input
Motor Rotating / Stopped, Error Released, Rotating Direction, Motor Speed Setting and etc.
 - External Monitor
Motor Current, Error, Warning, Rotating pulse and etc.
 - Parameter Setting
Maximum motor speed setting, Fix the motor speed
- ※For more information, please refer to the operation manual on our website.

Plug type	Code No.	
200V (C Type)	8479	

※ 8477 (100V), 8478 (120V), 8480 (230V) are available.

Plug type	Area	Product
100V (A Type)	Japan	
120V (B Type)	USA Canada	
200V (C Type)	Without plug	
230V (D Type)	Europe	

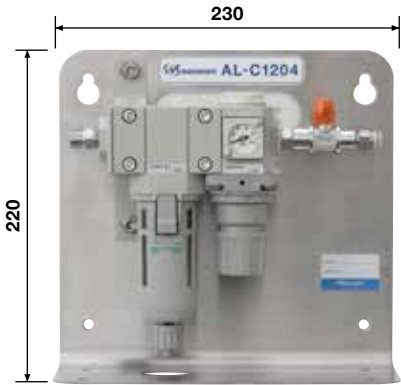
※ Please select Voltage for purchasing.



Motor output	Speed Range	Max. power	Power consumption	Air consumption	Weight
2 Motor spindles (Can't be operated simultaneously.)	1,000~80,000min ⁻¹	150w	0.65A (200V)	1 spindle : 30Nℓ/min (0.25MPa) 2 spindles : 60Nℓ/min (0.25MPa)	3.5kg
Standard Accessories	Power cord : 2m / Air hose with filter : 2m / Motor connector cap : 2pcs. Bracket : 2pcs. / Plate nut : 4pcs. / M3 bolt : 4pcs. / Fuse : 2pcs.				

Accessories

AL-C1204
Air line kit



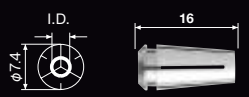
※Recommendation of nominal filtration rating: 0.3μm, Pressure range: 0.1-1.0Mpa
Recommendation of air filter: M2000-WS (CKD)

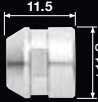
Code No.	4504	Model	AL-C1204
Standard Accessories	Hose pipe (K-275) : 2m		

Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
 Straight type	9264	EMCD-BM3S-4M	4m	Air hose Connector cap (Included)	BMF-319 · BMF-320 BMF-322 · BMF-325 BMJ-319 · BMJ-320 BMJ-322 · BMJ-325
	9265	EMCD-BM3S-6M	6m		
	9266	EMCD-BM3S-8M	8m		
 Angle type	9267	EMCD-BM3A-4M	4m	Air hose Connector cap (Included)	BMF-319 · BMF-320 BMF-322 · BMF-325 BMJ-319 · BMJ-320 BMJ-322 · BMJ-325
	9268	EMCD-BM3A-6M	6m		
	9269	EMCD-BM3A-8M	8m		

Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
 Joint type	9261	EMCD-BM3-3M	3m	Air hose Connector cap (Included)	BM-319F · BM-320F BM-322FL · BM-322FR BM-319 · BM-320 BM-322 · BM-325
	9262	EMCD-BM3-5M	5m		
	9263	EMCD-BM3-7M	7m		

Accessories (Collet,etc.)

Collet	Code No.	Model	I.D.	Compatible model
 15.5 3 7.4 I.D. φ1.0 and over  16 7.4 I.D. φ0.5~φ0.9 Collet CHA Group	91494	CHA-3.0AA	ø3.0AA※	BMF-319・BMF-320 BMF-322・BMF-325 BMJ-319・BMJ-320 BMJ-322・BMJ-325 BM-319F・BM-320F BM-322FL・BM-322FR BM-319・BM-320 BM-322・BM-325
	91496	CHA-3.175AA	ø3.175AA※	
	91495	CHA-4.0AA	ø4.0AA※	
	91492	CHA-2.35	ø2.35	
	91430	CHA-3.0	ø3.0	
	91493	CHA-3.175	ø3.175	
	91440	CHA-4.0	ø4.0	
	—	CHA-□□	ø0.5, ø0.6, ø0.7, ø0.8, ø0.9	
			ø1.1, ø1.2, ø1.3, ø1.4, ø1.7, ø1.8, ø1.9 ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9 ø3.1, ø3.2, ø3.3, ø3.4, ø3.6, ø3.7, ø3.8, ø3.9	
			ø1.0, ø1.5, ø2.0, ø2.5, ø3.5	
ø1.6				

Collet nut	Code No.	Model	Description	Compatible model
	2102	CHN-A	Collet nut for CHA collet	BMF-319・BMF-320・BMF-322 BMF-325・BMJ-319・BMJ-320 BMJ-322・BMJ-325・BM-319F BM-320F・BM-322FL BM-322FR・BM-319・BM-320 BM-322・BM-325

Spacer・Bush	Code No.	Model	Description	Compatible model
	1882	SP-22×10L	Spacer (for BM-322FL / BM-322FR) Dimensions : ø22 (I.D.) ×10mm	BM-322FL・BM-322FR
	1875	RB-20×23	ø23 Bush Dimensions : ø20 (I.D.) ×ø23 (O.D.) ×ø40mm	BMJ-320・BM-320 BMF-320
	1876	RB-20×22.8	ø22.8 Bush Dimensions : ø20 (I.D.) ×ø22.8 (O.D.) ×ø40mm	BMJ-320・BM-320 BMF-320
	1877	RB-20×22	ø22 Bush Dimensions : ø20 (I.D.) ×ø22 (O.D.) ×ø40mm	BMJ-320・BM-320 BMF-320
	1878	RB-20×25	ø25 Bush Dimensions : ø20 (I.D.) ×ø25 (O.D.) ×ø40mm	BMJ-320・BM-320 BMF-320
	1879	RB-20×25.4	ø25.4 Bush Dimensions : ø20 (I.D.) ×ø25.4 (O.D.) ×ø40mm	BMJ-320・BM-320 BMF-320
	1883	RB-22×25×34L	ø25 Bush Dimensions : ø22 (I.D.) ×ø25 (O.D.) ×ø33.5mm	BM-322FL・BM-322FR BMF-322・BMJ-322・BM-322
	1884	RB-22×25.4×34L	ø25.4 Bush Dimensions : ø22 (I.D.) ×ø25.4 (O.D.) ×ø33.5mm	BM-322FL・BM-322FR BMF-322・BMJ-322・BM-322
	1887	RB-19.05×25.4×36L	ø25.4 Bush Dimensions : ø19.05 (I.D.) ×ø25.4 (O.D.) ×ø36mm	BM-319F・BMJ-319 BM-319・BMF-319

Interchangeable head	Code No.	Description	Usage	Compatible model
	KT-698	Interchangeable head (8D×8mm)	CHA Spindle	BM・BMF・BMJ series
	KT-701	Interchangeable head (8D×11mm)	CHA Collet nut	

* Appropriate torque clamping : 6.0N・m(ø3～ø4mm. For other sizes, please refer to Q&A on our website.)
* Please use Interchangeable head with 8D size Torque wrench from Tohnichi Manufacturing Co., Ltd.

NAKANISHI Solutions LINE UP

Electric spindle

Electric Motors & Spindles

Brushless Motors & Spindles

Spindle

+

Motor

+

Controller

←

AC

Application for CNC lathes / Special purpose machines

E4000 SERIES

1,000~40,000min⁻¹ Max.1,200W
[ø40mm]



■ World's highest power in this class
■ Max. power: 1,200W, Max. torque: 1.0N・m

E2000 SERIES

1,000~50,000min⁻¹ Max.200W
[ø22.8/25mm]



■ Small size spindle allows multi-axis installation in limited space

E3000 SERIES

1,000~80,000min⁻¹ Max.350W
[ø30/25/20mm]



■ The largest product lines for various processing
■ Space-saving solution for small CNC lathe

iSpeed3 SERIES

1,000~80,000min⁻¹ Max.150W
[ø19.05/20/22/25mm]



■ Super short motor spindle
■ High efficiency brushless motor

Application for machining centers and milling machines

HES SERIES

Max.80,000min⁻¹
[For small diameter endmills and drills only]



[HES810]
■ The most cost effective solution to add high-speed machining capability
■ 80,000min⁻¹, 6.0cN・m
■ BT,NT,HSK A63,ST shanks are available
■ Driven by E3000 Controller

[HESS10]

■ 50,000min⁻¹, 8.75cN・m
■ BT,NT,CAT,IT,HSK A,ST shanks are available
■ Driven by E3000 Controller



Air spindle

Air Motors & Spindles

Spindle

+

Motor

+

Air line kit

←

Air compressor

Application for CNC lathes / Special purpose machines

AM SERIES One-piece type

1,000~60,000min⁻¹ Max.350W
[ø30/25/20mm]



■ Short body enables the spindle to mount in a limited space on a small NC/CNC lathe or on a special purpose machine

AM SERIES Modular type

5,000~30,000min⁻¹ Max.125W
[ø22.8mm]



■ Separate motor and spindle for flexible application changes
■ Adjustable to various application through changing spindles

SMS SERIES

40,000min⁻¹
[For small diameter endmills and drills only]



■ Ceramic bearings for higher rigidity and precision
■ Straight and BT,NT shanks are available

Application for machining centers and milling machines

Air Turbine Spindles

Air Turbine Spindles

+

Air line kit

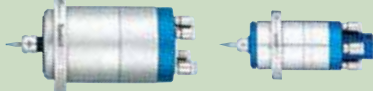
←

Air compressor

Application for CNC lathes / Special purpose machines

Xpeed SERIES

Max.160,000min⁻¹
[ø65/40mm]



■ Extreme accuracy:Runout 1μm
■ For high precision small diameter drilling, internal grinding of ceramics
■ Long life of spindle thanks to contactless rotation mechanism

PLANET SERIES

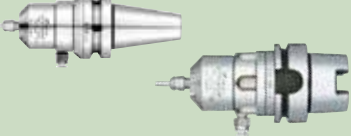
Max.65,000min⁻¹



■ A milling machine turns into a jig grinder
■ For high precision internal grinding

HTS SERIES

150,000min⁻¹
[For small diameter endmills and drills only]



■ No thermal expansion on Z axis thanks to air turbine generating little heat
■ Ultra high speed 150,000min⁻¹ with higher rigidity thanks to ceramic bearings
■ BT,HSK E and straight (M2040)shanks are available

p.27