

TURBINES_{SERIES}

HIGH-SPEED ROTATION & HIGH PRECISION

ABT Series

Standard air bearing turbine spindles

- Max. speed: 160,000 min⁻¹

Xpeed Series

Ultimate air bearing turbine spindle

- Max. speed: 120,000 min⁻¹

HTS Series

Air turbine spindle for small-diameter end milling

- Max. speed: 150,000 min⁻¹

PLANET Series

Air turbine spindles for high-speed jig grinding

- Max. speed: 65,000 min⁻¹



E4000

E3000

E2000

ISpeed3

Air-Speed

HES

TURBINES

ACCESSORIES

Index

ABT SERIES Standard air bearing turbine spindles



ABT-1000 p. 7-5
Max. speed 100,000 min⁻¹



ABT-1600 p. 7-5
Max. speed 160,000 min⁻¹

Xpeed SERIES Ultimate air bearing turbine spindle



Xpeed1200 p. 7-7
Max. speed 120,000 min⁻¹

HTS SERIES Air turbine spindle for small-diameter end milling



HTS1500ZZ-M2040
Max. speed 150,000 min⁻¹
Straight shank
HTS1500ZZ-M2040 p. 7-9

PLANET SERIES Air turbine spindles for high-speed jig grinding



PLANET600
Max. speed 65,000 min⁻¹
Straight shank
PL600-M2040 p. 7-11
PL600-H3440 p. 7-11

Standard model of air bearing turbine spindles for high-precision machining with small-diameter tools

- Precision-machined shafts and bearings reduce core shake and vibration, resulting in high rotational accuracy
- The air-driven mechanism that floats and rotates the shaft achieves a longer product life than ball bearings

ABT SERIES

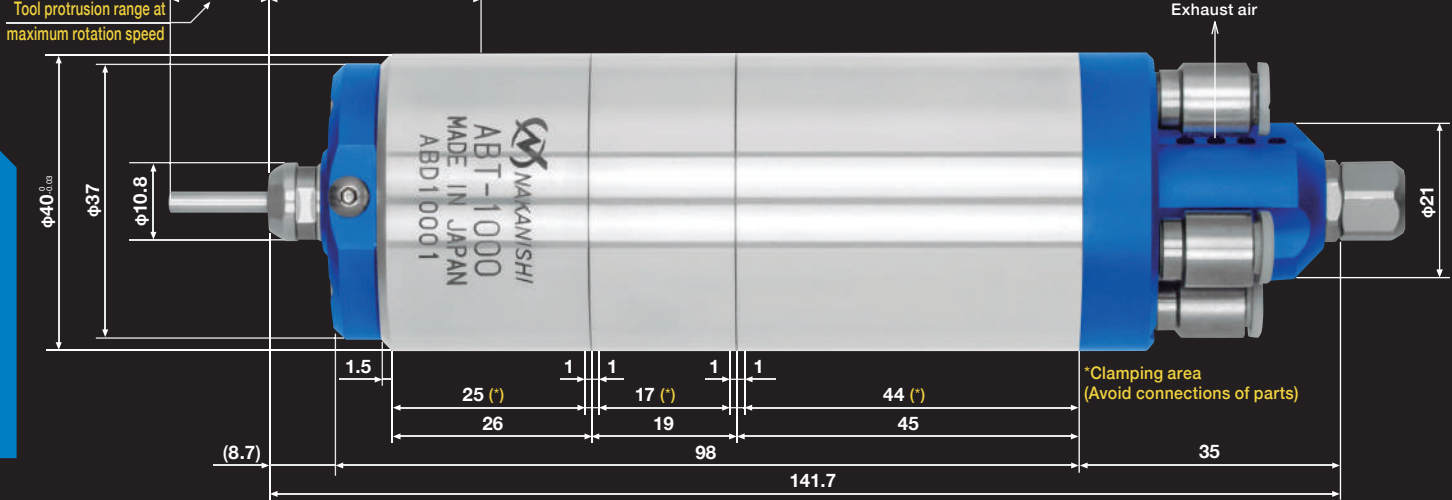
Standard air bearing turbine spindles

ABT-1000

Clamp system

Tool mounting depth

Tool protrusion range at maximum rotation speed



Caution

- Air bearing spindles require clean dry air for proper operation.
- Never rotate the spindle, change cutting tools or collet without supplying clean, dry air to the bearing surfaces.
- Always supply clean, dry air to the bearing surfaces even when the spindle is not being rotated.
- Do not start work process until after stable rotation has been established and verified.

When using the Rotation speed detection sensor

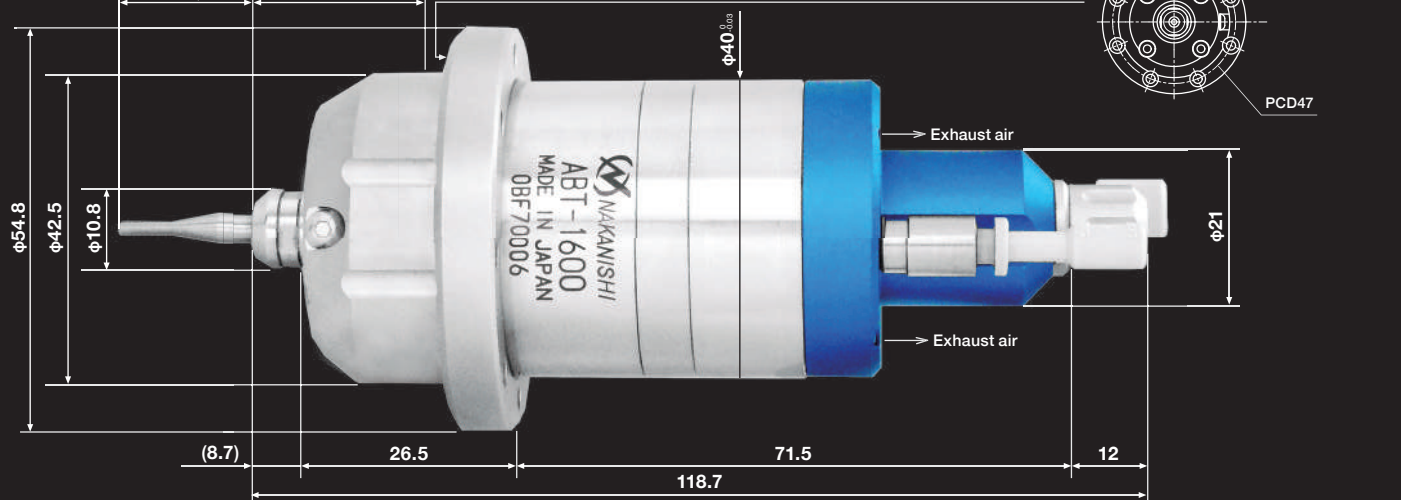
Wiring cable length: 5 m

ABT-1600

Flange system

Tool mounting depth

Tool protrusion range at maximum rotation speed



Caution

- Air bearing spindles require clean dry air for proper operation.
- Never rotate the spindle, change cutting tools or collet without supplying clean, dry air to the bearing surfaces.
- Always supply clean, dry air to the bearing surfaces even when the spindle is not being rotated.
- Do not start work process until after stable rotation has been established and verified.

When using the Rotation speed detection sensor

Wiring cable length: 5 m

Collet

Spindle

Air line kit

Spindle Guide

CHA AA

ABT-1000

ABT-1600

AL-A0611

AL-A1205

Specifications

CAD drawings

CAD drawings (DXF/STEP) are available on our website

Order by Code No.

ABT-1000



Detection of rotation speed

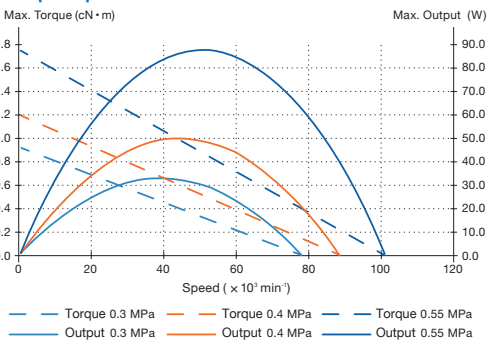
Built-in magnetic sensor (output signal: 1 pulse/rev)

Air piping

Intake hose (Turbine): $\phi 6$ mm $\times$ 2 parts
Intake hose (Air bearing): $\phi 6$ mm

Code No. 1856 Model ABT-1000

Torque & power curve



O.D.	Speed	Spindle accuracy	Max. power	Collet	Net weight
φ40 mm	100,000 min ⁻¹	Within 1 μm	88 w	CHA Group AA (φ3.0, φ3.175, φ4.0 mm)	820 g
Air bearing required air pressure		Air turbine operating air pressure		Bearing load capacity	
0.55 MPa (Air consumption: 50 NL/min)		0.55 MPa (Air consumption: 135 NL/min)		Radial: 20 N or more / Thrust: 35 N or more	
Standard equipment and accessories	Collet: φ3.0 mm (CHA-3.0AA) / Collet nut (CHN-3A) / Rotation speed detection sensor cable: 1 pc. / Wrench (10 × 10): 1 pc. / Bar wrench (K-277): 1 pc. / Hexagon wrench (2 mm): 1 pc. / Protective cover: 1 pc. / Cap: 1 pc. / Test bur (φ3 × 40 L): 1 pc.				
	Options				
	Collet (CHA Group high precision type AA): φ3.0, φ3.175, φ4.0 mm p. 8-5				

*Intake hose is sold separately.

ABT-1600



Do not exceed 17 mm of Tool the protrusion depth range at Depth for mounted grindstones and cutting tools when using at the Maximum Rotation Speed (160,000 min⁻¹ (rpm)). If a total length of a grindstones and cutting tools are longer than 40 mm, cut off a grindstones and cutting tools before use. If the overhang must exceed 17 mm, reduce the Air turbine speed.

Detection of rotation speed

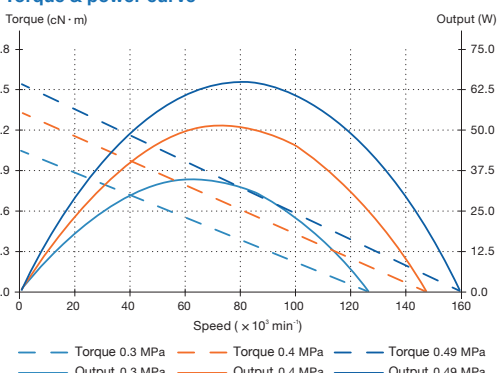
Built-in magnetic sensor (output signal: 2 pulse/rev)

Air piping

Intake hose (Turbine): $\phi 6$ mm
Intake hose (Air bearing): $\phi 4$ mm

Code No. 1857 Model ABT-1600

Torque & power curve



O.D.	Speed	Spindle accuracy	Max. power	Collet	Net weight
φ40 mm	160,000 min ⁻¹	Within 1 μm	63 w	CHA Group AA (φ3.0, φ3.175, φ4.0 mm)	570 g
Air bearing required air pressure		Air turbine operating air pressure		Bearing load capacity	
0.5 MPa (Air consumption: 35 NL/min)		0.5 MPa (Air consumption: 150 NL/min)		Radial: 10 N or more / Thrust: 20 N or more	
Standard equipment and accessories	Collet: φ4.0 mm (CHA-4.0AA) / Collet nut (CHN-3A) / Rotation speed detection sensor cable: 1 pc. / Wrench (10 × 10): 1 pc.				
	Bar wrench (K-277): 1 pc. / Hexagon wrench (2 mm): 1 pc. / Intake hose (φ6 × 1.5 m): 1 pc. / Intake hose (φ4 × 1.5 m): 1 pc.				
	Air plug (φ4), (φ6): 1 pc. each / Protective cover: 1 pc. / Cap: 1 pc. / Stepped test bur (φ2 × φ4 × 34 L): 1 pc.				
Options	Collet (CHA Group high precision type AA): φ3.0, φ3.175, φ4.0 mm p. 8-5				

E4000

E3000

E2000

Speed3

Air-Speed

HES

TURBINES

ACCESSORIES

p. 7-6

p. 7-5

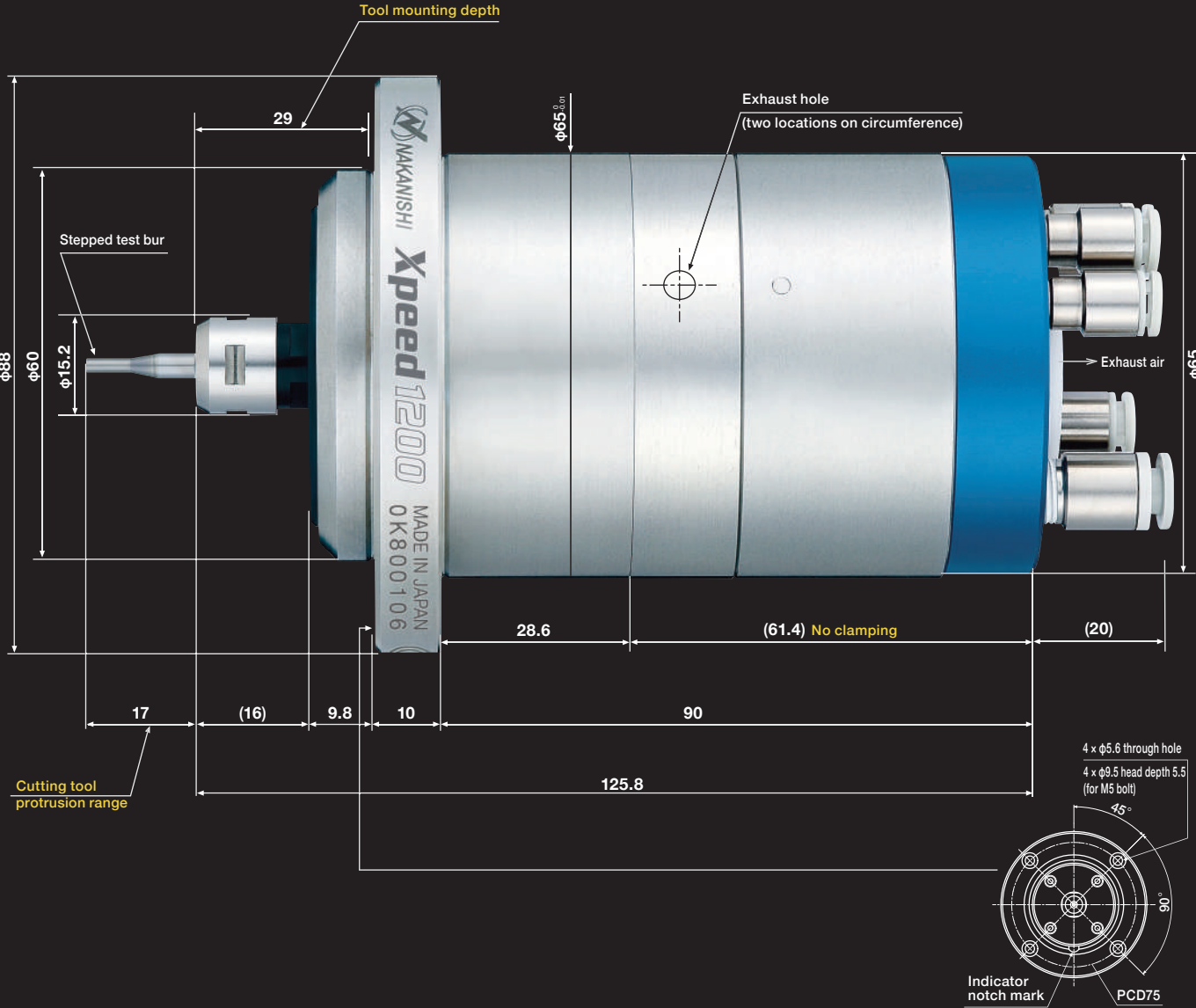
The ultimate model of air bearing turbine spindle for ultra-precision machining with micro small-diameter tools

- Precision-machined shafts and bearings reduce core shake and vibration, resulting in high rotational accuracy
- The air-driven mechanism that floats and rotates the shaft achieves a longer product life than ball bearings

Xpeed SERIES

Ultimate air bearing turbine spindle

Xpeed1200



Caution

- Air bearing spindles require clean dry air for proper operation.
- Never rotate the spindle, change cutting tools or collet without supplying clean, dry air to the bearing surfaces.
- Always supply clean, dry air to the bearing surfaces even when the spindle is not being rotated.
- Do not start work process until after stable rotation has been established and verified.

Spindle Guide

CHK AA

Xpeed1200

AL-A0611

Specifications

CAD drawings

CAD drawings (DXF/STEP) are available on our website

Order by Code No.

Xpeed1200

Code No. 1854 Model Xpeed1200



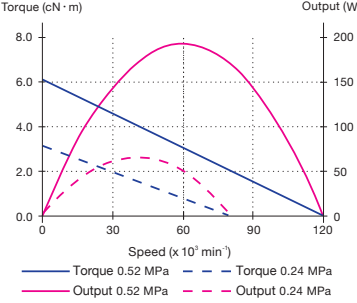
Detection of rotation speed

Fiber sensor mounting holes available
Reflective mark on rotary axis
(output signal: 1 pulse/rev)

Air piping

Intake hose (Turbine): $\phi 6$ mm x 2 parts
Intake hose (Air bearing): $\phi 6$ mm x 2 parts
Intake hose (Brake): $\phi 6$ mm x 2 parts

Torque & power curve



O.D.	Speed	Spindle accuracy	Max. power	Collet	Net weight
φ65 mm	120,000 min ⁻¹	Within 1 μm	192 w	CHK Group AA (φ3.0–φ6.35 mm)	2,300 g
Air bearing required air pressure		Air bearing required air pressure		Bearing load capacity	
0.6 MPa (Air consumption: 60 NL/min)		0.5 MPa (Air consumption: 315 NL/min)		Radial: 25 N or more / Thrust: 70 N or more	
Standard equipment and accessories	Collet: φ4.0 mm (CHK-4.0AA) / Collet nut (K-265A) / Wrench (12 × 14): 1 pc. / Torque wrench (14 mm): 1 pc.				
	Intake hose φ6 × 1.5 m, (clear: 1 pc., light blue: 1 pc.) / Fitting for piping plug (φ6): 6 pcs.				
	Protective cover: 1 pc. / Protective cap: 1 pc. / Stepped test bur (φ2 × φ4 × 34 L): 1 pc.				
Options	Collet (CHK Group high precision type AA): φ3.0, φ3.175, φ4.0, φ6.0, φ6.35 mm p. 8-5				

High speed rotation enables significant improvement in productivity

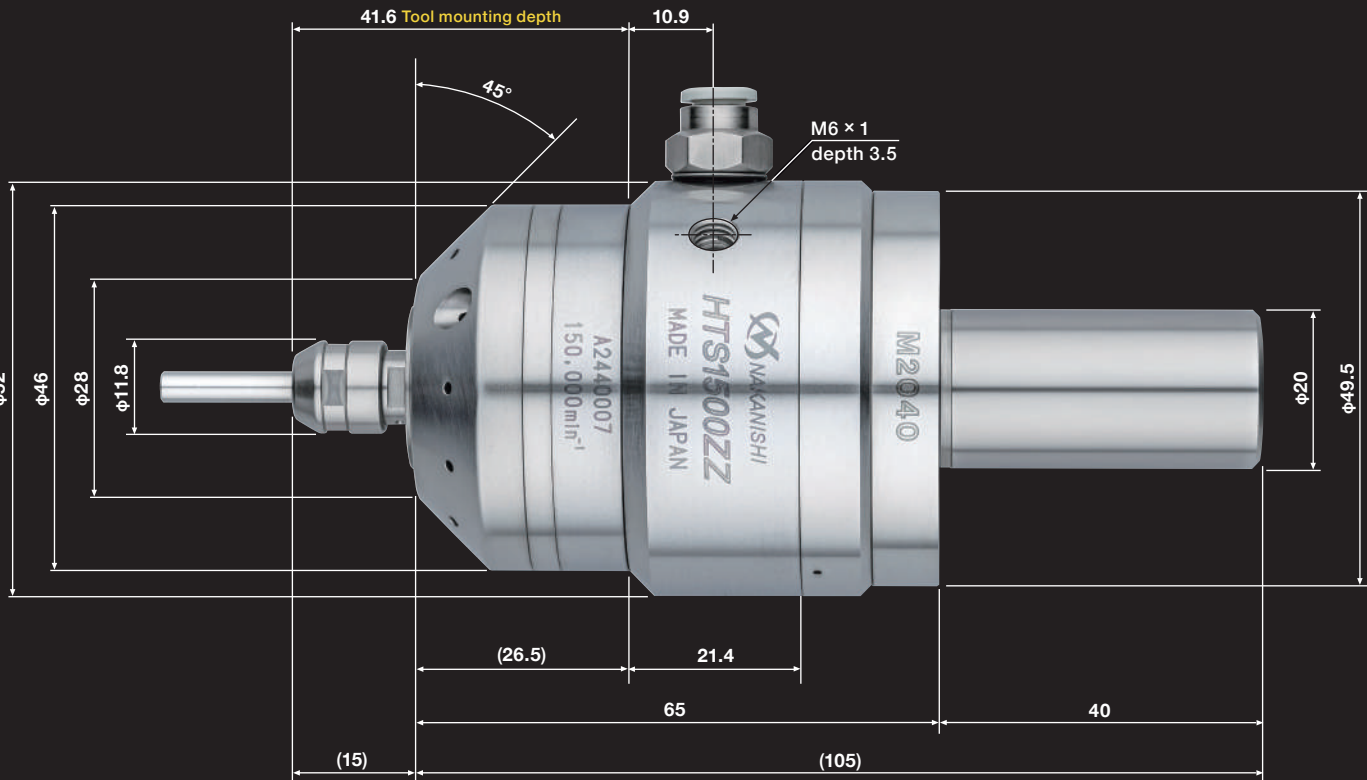
- High-speed rotation delivers outstanding performance in ball-end milling with a peripheral speed of 0.5 mm or less
- Being air-driven, the cooling effect reduces heat generation, and Z displacement (axial extension) stabilizes quickly to prevent machining steps to occur

HTS SERIES

Air turbine spindle for small-diameter end milling

HTS1500ZZ-M2040

Straight shank



Specifications

CAD drawings

CAD drawings (DXF/STEP) are available on our website

Order by Code No.

HTS1500ZZ-M2040

Code No.

7919

Model

HTS1500ZZ-M2040



Air piping

Intake hose: φ6 mm

Max. power	Speed	Spindle accuracy	Air consumption	Net weight	Corresponding tool		
54 w	150,000 min ⁻¹	Within 1 μm	175 NL/min	860 g	Square end mill φ1.0 mm or less	Ball end mill R0.5 mm or less	Grindstone φ4.0 mm or less
Standard equipment and accessories	Collet: φ4.0 mm (CHA-4.0) / Collet nut (CHN-AA) / Wrench (8 × 5) · (9 × 11): 1 pc. each						
	Hose φ6.0 × 4 m (K-247) with Filter joint (FJ-01)						
Options	Collet (CHA Group): φ0.5–φ4.0 mm p. 8-5						

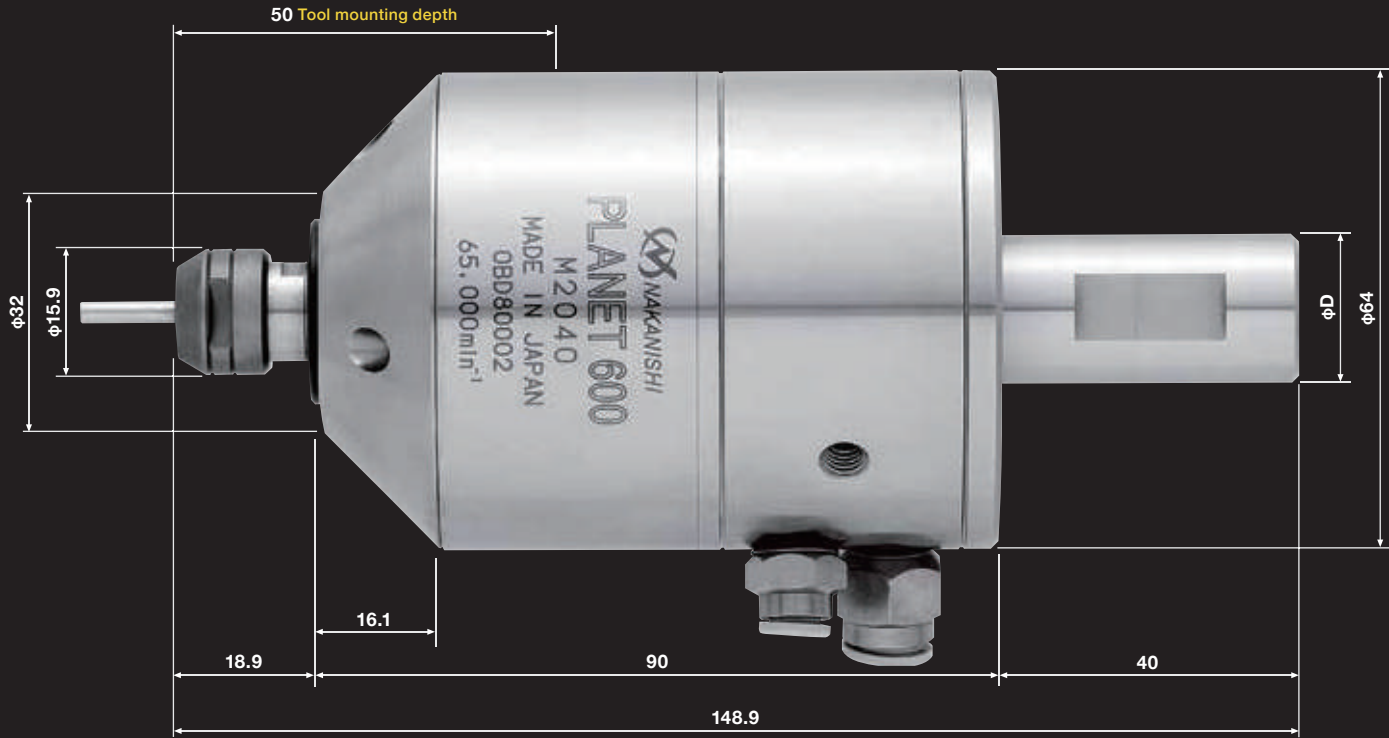
PLANET can be used as the main axis of a jig grinding machine or an inner surface grinding machine

- By combining a boring head and PLANET, a milling machine can be converted into a jig grinding machine
- A desktop lathe can be converted into an inner surface grinding machine with the PLANET

PLANET SERIES

Air turbine spindles for high-speed jig grinding

PLANET600



Features



- By combining a boring head and PLANET, a milling machine can be converted into a jig grinding machine.
- A desktop lathe can be converted into an inner surface grinding machine with the PLANET.
- PLANET can be used as the main axis of an internal surface grinding device.

Since the PLANET can be used simply by attaching to your existing standard machine tool, there is no need to purchase a new expensive, high-spec machine. In addition, since it can be used only when required, it contributes to the effective utilization of equipment and the avoidance of unwanted idle time.

With a rotation speed of 65,000 min⁻¹ and a spindle accuracy within 1 μm, PLANET achieves high-precision machining such as jig grinding and mold machining.

Spindle Guide



PL600



AL-M1202



AL-M1201BL



AL-M1203BS2

Specifications

CAD drawings

CAD drawings (DXF/STEP) are available on our website

Order by Code No.

PL600-M2040 / PL600-H3440



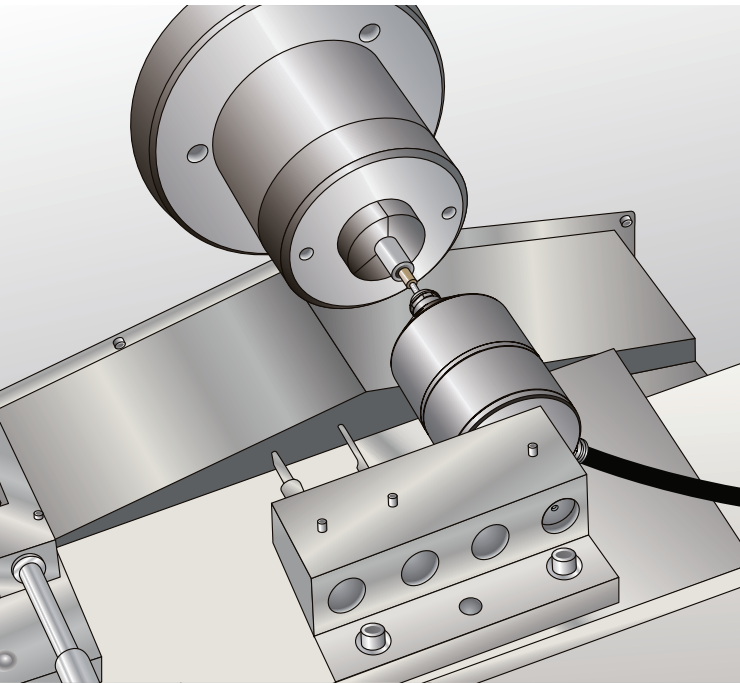
Code No.	7355	Model	PL600-M2040
Code No.	7356	Model	PL600-H3440

Air piping

Intake hose: φ6 mm
Exhaust hose: φ8 mm

O.D.	Speed	Spindle accuracy	Collet	Net weight
φ64 mm	65,000 min ⁻¹	Within 1 μm	CHK Group (φ0.5–φ6.35 mm)	PL600-M2040: 1,740 g PL600-H3440: 1,735 g
Shank O.D. (φD)		Air turbine operating air pressure		
PL600-M2040: φ20 mm PL600-H3440: φ19.05 mm		0.4 MPa (Air consumption: 175 NL/min)		
Standard equipment and accessories		Collet nut (K-265): 1 pc. / Wrench (12 × 14): 2 pcs. / Hose φ6 × 2 m (K-254) with Filter joint (FJ-01) Silencer: 1 pc. / Anti-rotation bar: 1 set		
Options		Collet (CHK Group): φ0.5–φ6.35 mm p. 8-5		

In case mounted on a lathe



ACCESSORIES

Air line kit	p. 8-3-4
Collet	p. 8-5-7
Collet nut	p. 8-8
Grip ring / Spacer / Bush	p. 8-9-10
Collet holder / Preset adapter	p. 8-11
COMBOX-NET.EIP, etc.	p. 8-12-14

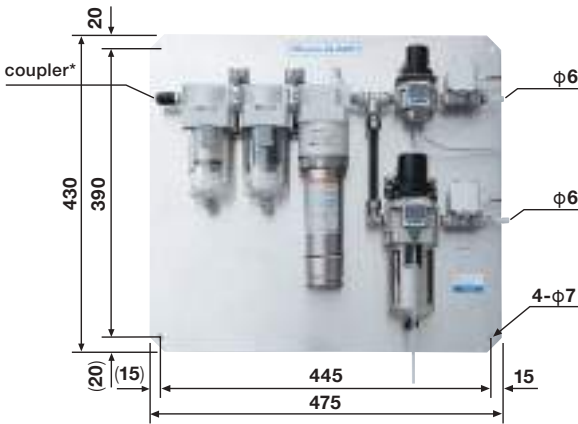


Air line kit

Order by Code No.

AL-A0611

Filtration: 0.01 μm

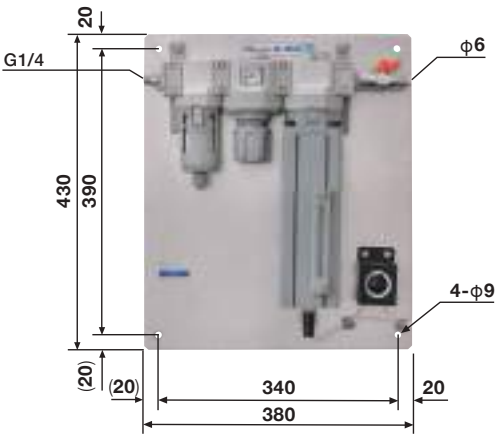


Code No.	1548	Model	AL-A0611
■ Air piping Inlet: Coupler (Model: KK13P-02M made by SMC Corporation) Outlet: φ6.0 mm × 2 parts ■ Net weight: 8.2 kg			
Standard accessories	Spacer: 4 pcs.		
Standard equipment	Mist separator / Micro-mist separator Membrane air dryer / Air regulator Regulator with Micro-mist separator Digital pressure switch: 2 pcs. / Solenoid valve: 2 pcs.		
Compatible model	E3000 (NRAF-5080) · ABT series Xspeed series		

*If you do not use our air line kit, please prepare a micro mist separator with 0.01 μm filtration.

AL-M1201BL

Filtration: 0.3 μm

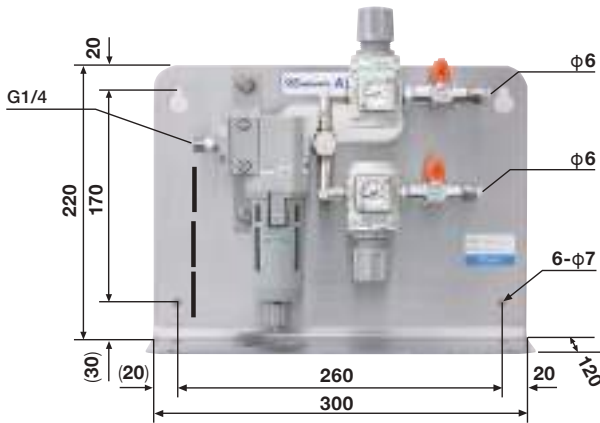


Code No.	4501	Model	AL-M1201BL
■ Air piping Inlet: G1/4 male thread for connection hose Outlet: φ6.0 mm ■ Net weight: 5.2 kg			
Standard accessories	Hose pipe (K-275): 2 m / Connection joint: 1 pc. φ6 mm Air hose: 1 pc. / Spacer: 4 pcs. Lubricating oil (K-202) 1 L: 1 pc. Bolt (M8 × 20 L): 4 pcs.		
Standard equipment	Air filter / Air regulator / Lubricator ON-OFF valve / Alarm buzzer		
Compatible model	E3000 (RG-3004M) · HTS series PLANET series		

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

AL-A1205

Filtration: 0.3 μm

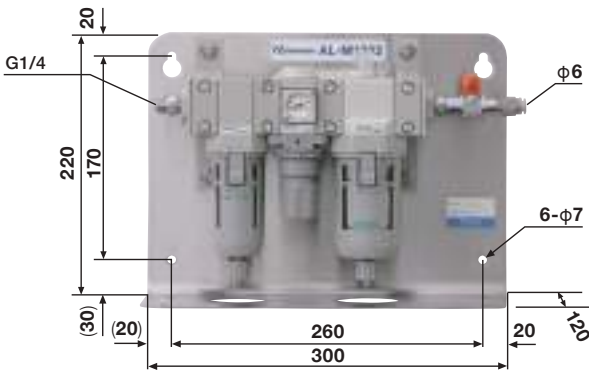


Code No.	4505	Model	AL-A1205
■ Air piping Inlet: G1/4 male thread for connection hose Outlet: φ6.0 mm × 2 parts ■ Net weight: 2.4 kg			
Standard accessories	Hose pipe (K-275): 2 m Mounting screw (M6 × 20): 4 pcs. Washer: 4 pcs. / Rubber pad: 4 pcs.		
Standard equipment	Oil mist filter / Air regulator: 2 pcs. ON-OFF valve: 2 pcs.		
Compatible model	E3000 (NRAF-5080) · ABT series		

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

AL-M1202

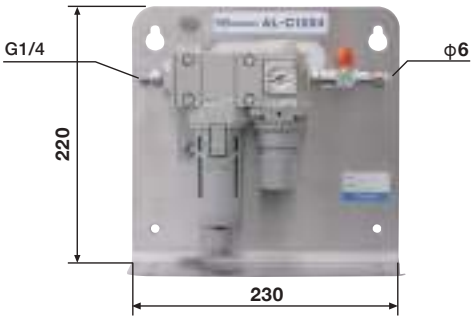
Filtration: 0.3 μm



Code No.	4502	Model	AL-M1202
■ Air piping Inlet: G1/4 male thread for connection hose Outlet: φ6.0 mm ■ Net weight: 2.8 kg			
Standard accessories	Hose pipe (K-275): 2 m / Hose band: 1 pc. Lubricating oil (K-211) 70 cc: 1 pc. Mounting screw (M6 × 20): 4 pcs. Washer: 4 pcs. / Rubber pad: 4 pcs.		
Standard equipment	Air filter / Air regulator / Lubricator ON-OFF valve		
Compatible model	Air-Speed series · HTS series · PLANET series		

AL-C1204

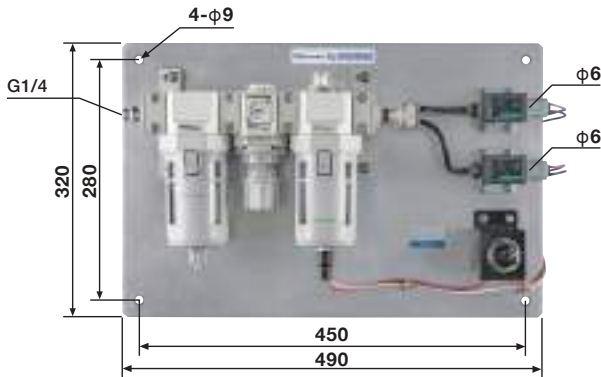
Filtration: 0.3 μm



Code No.	4504	Model	AL-C1204
■ Air piping Inlet: G1/4 male thread for connection hose Outlet: φ6.0 mm ■ Net weight: 1.9 kg			
Standard accessories	Hose pipe (K-275): 2 m / Rubber pad: 4 pcs. Mounting screw (M6 × 20): 4 pcs. Washer: 4 pcs. / Hose band: 1 pc.		
Standard equipment	Air filter / Air regulator / Air pressure gauge ON-OFF valve		
Compatible model	E4000 series · E3000 series · E2000 series iSpeed3 series · HES series		

AL-M1203BS2

Filtration: 0.3 μm

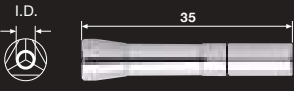


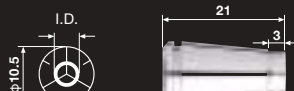
Code No.	4503	Model	AL-M1203BS2
■ Air piping Inlet: G1/4 male thread for connection hose Outlet: φ6.0 mm × 2 parts ■ Net weight: 3.9 kg			
Standard accessories	Hose pipe (K-275): 2 m Lubricating oil (K-202) 1 L: 1 pc. Bolt (M8 × 20 L): 4 pcs. / Spacer: 4 pcs.		
Standard equipment	Air filter / Air regulator / Lubricator Solenoid valve: 2 pcs. / Alarm buzzer		
Compatible model	Air-Speed series		

Collet

Order by Code No.

CHA Group		Fit nuts: CHN-A, CHN-AA, CHN-CTA, CHN-3A				
		Code No.	Model	I.D. (mm)	Compatible model	
 φ1.0 and over		91494	CHA-3.0AA	φ3.0AA*	CTS-2630 / 2620A (Type AA only) CTS-3030 EM20-S6000 · EM25-S6000 EMS-3060A · NR-3080S MSS-19 · MSS-20 · MSS-22 PMS-3020A QC3-A (NRR3060-QC / NR3060-AQC) ABT-1000 / 1600 Xpeed1600 (Type AA only) HES810 series HTS series iSpeed3 series	
		91496	CHA-3.175AA	φ3.175AA*		
		91495	CHA-4.0AA	φ4.0AA*		
		91492	CHA-2.35	φ2.35		
		91430	CHA-3.0	φ3.0		
 φ0.5-φ0.9		91493	CHA-3.175	φ3.175		
		91440	CHA-4.0	φ4.0		
	914 □□	CHA-□□	φ0.5, φ0.6, φ0.7, φ0.8, φ0.9			
			φ1.0, φ1.5, φ2.0, φ2.5, φ3.5			
			φ1.1, φ1.2, φ1.3, φ1.4, φ1.6, φ1.7, φ1.8, φ1.9			
φ2.1, φ2.2, φ2.3, φ2.4, φ2.6, φ2.7, φ2.8, φ2.9						
φ3.1, φ3.2, φ3.3, φ3.4, φ3.6, φ3.7, φ3.8, φ3.9						

CHB Group									
		Code No.	Model	I.D. (mm)	Compatible model				
		92820	CHB-2.0	φ2.0	NR33-6000ATC-ESD NR40-5100 ATC · NRR-3060				
		92830	CHB-3.0	φ3.0					
		92893	CHB-3.175	φ3.175					
		92835	CHB-3.5	φ3.5					
		92840	CHB-4.0	φ4.0					

CHK Group				Fit nuts: K-265, K-265A	
		Code No.	Model	I.D. (mm)	Compatible model
		91597	CHK-3.0AA	φ3.0AA*	EM30-S6000 · EMA-3020K · EMR-3008K EMS-3060K · NR-2551 · NR-3060 NR-3060S · NR-403E · NR-453E NRAF-5080 · NRF-3060S · RAS-151E RAX-71E · RAX-271E MSS-25 · MSST-23 · PMA-3013K PMR-3005K · PMS-3020K NR-303 · NR-311 · NR-2351 · RAS-101 QC5-K (NRR4040-QC / NR4040-AQC) QC3-K (NRR3060-QC / NR3060-AQC) Xpeed1200 (Type AA only) HES510 series PLANET series
		91598	CHK-3.175AA	φ3.175AA*	
		91599	CHK-4.0AA	φ4.0AA*	
		91600	CHK-6.0AA	φ6.0AA*	
		91601	CHK-6.35AA	φ6.35AA*	
		91592	CHK-2.35	φ2.35	
		91530	CHK-3.0	φ3.0	
		91593	CHK-3.175	φ3.175	
		91540	CHK-4.0	φ4.0	
		91594	CHK-4.76	φ4.76	
		91560	CHK-6.0	φ6.0	
		91596	CHK-6.35	φ6.35	
		915 □□	CHK-□□	φ0.5, φ0.6, φ0.7, φ0.8, φ0.9	
				φ1.0, φ1.5, φ2.0, φ2.5, φ3.5, φ4.5, φ5.0, φ5.5	
				φ1.1, φ1.2, φ1.3, φ1.4, φ1.6, φ1.7, φ1.8, φ1.9	
				φ2.1, φ2.2, φ2.3, φ2.4, φ2.6, φ2.7, φ2.8, φ2.9	
φ3.1, φ3.2, φ3.3, φ3.4, φ3.6, φ3.7, φ3.8, φ3.9					
φ4.1, φ4.2, φ4.3, φ4.4, φ4.6, φ4.7, φ4.8, φ4.9					
φ5.1, φ5.2, φ5.3, φ5.4, φ5.6, φ5.7, φ5.8, φ5.9					
*High precision type AA (Run-out accuracy within 2 μm)					

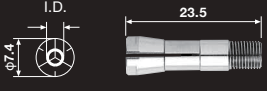
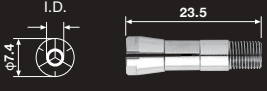
CHK-OH Group					Fit nut: K-265				
		Code No.	Model	I.D. (mm)	Compatible model				
		93630	CHK-OH-3.0	φ3.0	CTM-4020 BMS-4020-MQL-CHK / 2M BMS-4040-MQL-CHK / 2M				
		93631	CHK-OH-3.175	φ3.175					
		93640	CHK-OH-4.0	φ4.0					
		93650	CHK-OH-5.0	φ5.0					
		93660	CHK-OH-6.0	φ6.0					
		93663	CHK-OH-6.35	φ6.35					

CHM Group									
		Code No.	Model	I.D. (mm)	Compatible model				
		90910	CHM-1.0	φ1.0	AMH-301 · NR-601				
		90916	CHM-1.6	φ1.6					
		90920	CHM-2.0	φ2.0					
		90992	CHM-2.35	φ2.35					
		90930	CHM-3.0	φ3.0					
		90993	CHM-3.175	φ3.175					

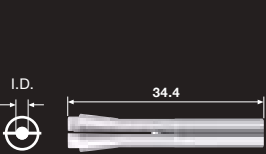
CHR Group									
		Code No.	Model	I.D. (mm)	Compatible model				
		91920	CHR-2.0	φ2.0	NR50-5100 ATC				
		91930	CHR-3.0	φ3.0					
		91993	CHR-3.175	φ3.175					
		91940	CHR-4.0	φ4.0					
		91960	CHR-6.0	φ6.0					
		91996	CHR-6.35	φ6.35					

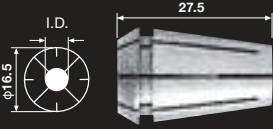
CHR RS Group									
		Code No.	Model	I.D. (mm)	Compatible model				
		93201	CHR-3.0RS	φ3.0	NR50-5100 ATC NR50-5100 ATC RS · NR50-6000ATC-RS				
		93202	CHR-3.175RS	φ3.175					
		93203	CHR-4.0RS	φ4.0					
		93204	CHR-6.0RS	φ6.0					
		93205	CHR-6.35RS	φ6.35					

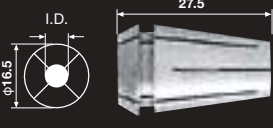
CHS Group				
	Code No.	Model	I.D. (mm)	Compatible model
	90516	CHS-1.6	φ1.6	RA-200 · RA-271E
	90592	CHS-2.35	φ2.35	
	90530	CHS-3.0	φ3.0	
	90593	CHS-3.175	φ3.175	
	905□□	CHS-□□	φ0.8, φ0.9	
			φ1.0, φ2.0, φ2.5	
φ1.1, φ1.2, φ1.3, φ1.4, φ1.5, φ1.7, φ1.8, φ1.9				
φ2.1, φ2.2, φ2.3, φ2.4, φ2.6, φ2.7, φ2.8, φ2.9				

CHSS Group									
		Code No.	Model	I.D. (mm)	Compatible model				
		93010	CHSS-1.0	φ1.0	EMA-3020S · PMA-3013S QC3-SS (NRR3060-QC / NR3060-AQC)				
		93015	CHSS-1.5	φ1.5					
		93020	CHSS-2.0	φ2.0					
		93025	CHSS-2.5	φ2.5					
		93092	CHSS-2.35	φ2.35					
		93030	CHSS-3.0	φ3.0					
		93093	CHSS-3.175	φ3.175					

Collet

CH8 Group				
	Code No.	Model	I.D. (mm)	Compatible model
	91092	CH8-2.35	φ2.35	RA-100 · RA-151E
	91030	CH8-3.0	φ3.0	
	91093	CH8-3.175	φ3.175	
	910 □□	CH8-□□	φ0.8, φ0.9	
			φ1.0, φ1.5, φ2.0, φ2.5	
			φ1.1, φ1.2, φ1.3, φ1.4, φ1.6, φ1.7, φ1.8, φ1.9	
			φ2.1, φ2.2, φ2.3, φ2.4, φ2.6, φ2.7, φ2.8, φ2.9	

CH16 Group					Fit nut: CHN-16
 *CH16-10.0 Length 24.5	Code No.	Model	I.D. (mm)	Compatible model	
	93130	CH16-3.0	φ3.0	BMS-4020 / 2M · BMS-4020RA BMS-4040 / 2M BMS-4040-RGD-03M / 2M BMS-4040RA-RGD-03M / 2M BMS-4040RA · NR-4040 QC5-16 (NRR4040-QC / NR4040-AQC)	
	93193	CH16-3.175	φ3.175		
	93140	CH16-4.0	φ4.0		
	93160	CH16-6.0	φ6.0		
	93196	CH16-6.35	φ6.35		
	93180	CH16-8.0	φ8.0		
	93100	CH16-10.0	φ10.0		

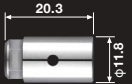
CH16OH Group					Fit nut: CHN-16
 *CH16OH-9.0, 10.0 Length 24.5	Code No.	Model	I.D. (mm)	Compatible model	
	93330	CH16OH-3.0	φ3.0	BMS-4020-MQL / 2M BMS-4040-MQL / 2M	
	93331	CH16OH-3.175	φ3.175		
	93340	CH16OH-4.0	φ4.0		
	93350	CH16OH-5.0	φ5.0		
	93360	CH16OH-6.0	φ6.0		
	93363	CH16OH-6.35	φ6.35		
	93370	CH16OH-7.0	φ7.0		
	93380	CH16OH-8.0	φ8.0		
	93390	CH16OH-9.0	φ9.0		
	93400	CH16OH-10.0	φ10.0		

Collet nut

Order by Code No.

CHN-A					Fit collet: CHA Group
	Code No.	Model	Description	Compatible model	
	2102	CHN-A	Collet nut for CHA collet	QC3-A (NRR3060-QC / NR3060-AQC) EM20-S6000 · EM25-S6000 EMS-3060A · NR-3080S MSS-19 · MSS-20 · MSS-22 PMS-3020A HES810 series iSpeed3 series	

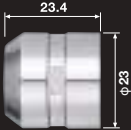
CHN-AA					Fit collet: CHA Group
	Code No.	Model	Description	Compatible model	
	2159	CHN-AA	Collet nut for CHA collet	HTS series	

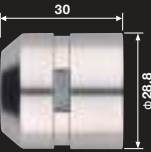
CHN-CTA					Fit collet: CHA Group
	Code No.	Model	Description	Compatible model	
	7798	CHN-CTA-3.0	Collet nut for CHA collet	CTS-2630 / 2620A / 3030	
	7799	CHN-CTA-3.175			
	7800	CHN-CTA-4.0			

CHN-3A					Fit collet: CHA Group
	Code No.	Model	Description	Compatible model	
	2160	CHN-3A	Collet nut for CHA collet	ABT series · Xpeed1600	

K-265					Fit collets: CHK Group, CHK-OH Group
	Code No.	Model	Description	Compatible model	
	2129	K-265	Collet nut for CHK collet	CTM-4020 BMS-4020-MQL-CHK / 2M BMS-4040-MQL-CHK / 2M QC5-K (NRR4040-QC / NR4040-AQC) QC3-K (NRR3060-QC / NR3060-AQC) EM30-S6000 · EMA-3020K · EMR-3008K EMS-3060K · NR-403E · NR-453E NR-2551 · NR-3060 · NR-3060S NRF-3060S · RAS-151E · RAX-71E RAX-271E MSS-25 · MSST-23 NR-303 · NR-311 · NR-2351 · RAS-101 PMA-3013K · PMR-3005K · PMS-3020K HES510 series PLANET series	

K-265A					Fit collet: CHK Group
	Code No.	Model	Description	Compatible model	
	2158	K-265A	Collet nut for CHK collet	NRAF-5080 Xpeed1200	

CHN-16					Fit collets: CH16 Group, CH16OH Group
	Code No.	Model	Description	Compatible model	
	2161	CHN-16	Collet nut for CH16 collet	BMS-4020 / 2M · BMS-4020-MQL / 2M BMS-4020RA · BMS-4040 / 2M BMS-4040-MQL / 2M · BMS-4040RA BMS-4040RA-RGD-03M / 2M BMS-4040-RGD-03M / 2M · NR-4040 QC5-16 (NRR4040-QC / NR4040-AQC)	

CHN-20					Recommended : REGO-FIX ER20/ER20UP
	Code No.	Model	Description	Compatible model	
	7914	CHN-20	Collet nut for BMS-5010 collet	BMS-5010 / RA	

Grip ring

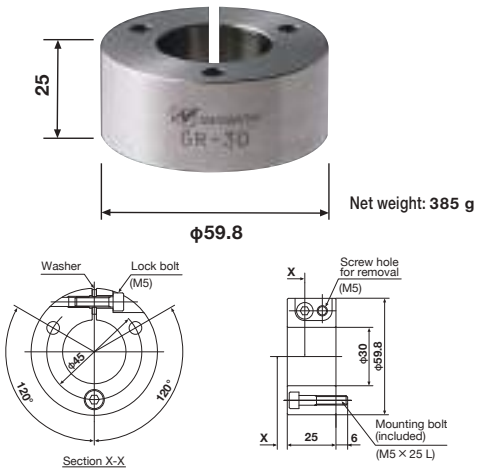
GR-22.8



Code No.	1888	Model	GR-22.8
Standard accessories	Mounting bolt (M5 × 25 L): 3 pcs.		
Compatible model	φ22.8 mm Spindle		

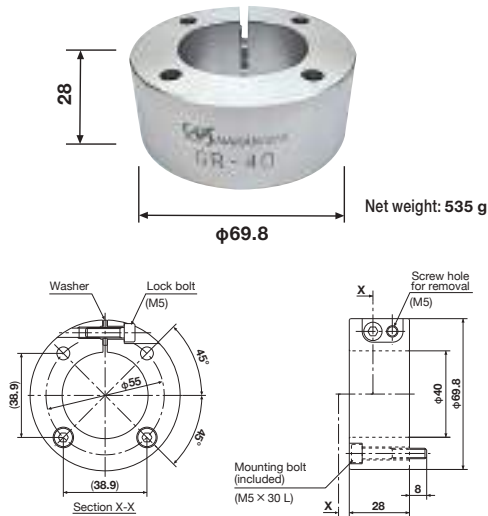
*GR-22.8 cannot be used with NR-311.

GR-30



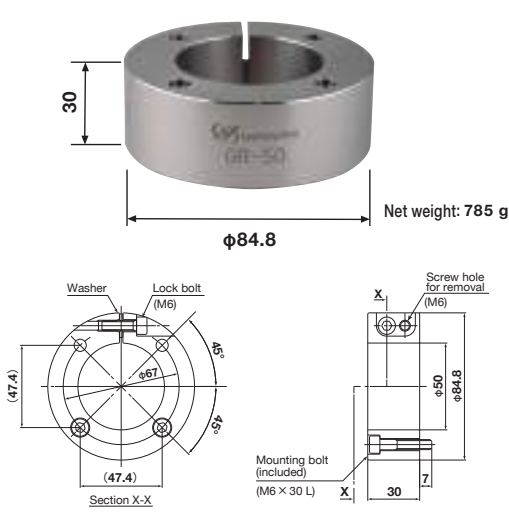
Code No.	1885	Model	GR-30
Standard accessories	Mounting bolt (M5 × 25 L): 3 pcs.		
Compatible model	φ30 mm Spindle		

GR-40



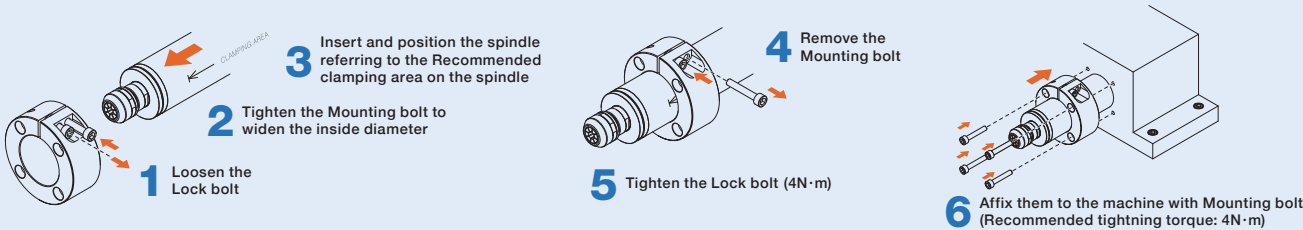
Code No.	1886	Model	GR-40
Standard accessories	Mounting bolt (M5 × 30 L): 4 pcs.		
Compatible model	φ40 mm Spindle		

GR-50



Code No.	1889	Model	GR-50
Standard accessories	Mounting bolt (M6 × 30 L): 4 pcs.		
Compatible model	φ50 mm Spindle		

How to mount to a machine tool



*The above figure shows GR-40 and GR-50, while GR-22.8 and GR-30 require three mounting bolts.

Spacer

Spacer	Code No.	Model	Description / Description (I.D. × T)	Compatible model
	1882	SP-22 × 10 L	Spacer (φ22 × 10 mm)	BM-322FL · BM-322FR

Bush

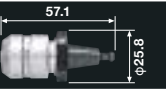
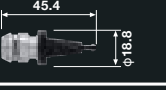
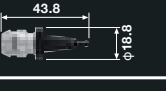
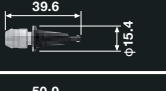
Bushings to allow smaller diameter spindles to be mounted in larger diameter holders

Bush	Code No.	Model	Description / Dimensions (I.D. × O.D. × L)	Compatible model
	1887	RB-19.05 × 25.4 × 36 L	φ25.4 Bush (φ19.05 × φ25.4 × 36 mm)	BM-319 · BM-319F · BMF-319 · BMJ-319 MSS-1902R / RA · MSS-1908R / RA MSS-1930R / RA
	1877	RB-20 × 22	φ22 Bush (φ20 × φ22 × 40 mm)	BM-320 · BMF-320 · BMJ-320 · EM20-S6000 MSS-2002R / RA · MSS-2008R / RA MSS-2030R / RA
	1876	RB-20 × 22.8	φ22.8 Bush (φ20 × φ22.8 × 40 mm)	BM-320 · BMF-320 · BMJ-320 · EM20-S6000 MSS-2002R / RA · MSS-2008R / RA MSS-2030R / RA
	1875	RB-20 × 23	φ23 Bush (φ20 × φ23 × 40 mm)	BM-320 · BMF-320 · BMJ-320 · EM20-S6000 MSS-2002R / RA · MSS-2008R / RA MSS-2030R / RA
	1878	RB-20 × 25	φ25 Bush (φ20 × φ25 × 40 mm)	BM-320 · BMF-320 · BMJ-320 · EM20-S6000 MSS-2002R / RA · MSS-2008R / RA MSS-2030R / RA
	1879	RB-20 × 25.4	φ25.4 Bush (φ20 × φ25.4 × 40 mm)	BM-320 · BMF-320 · BMJ-320 · EM20-S6000 MSS-2002R / RA · MSS-2008R / RA MSS-2030R / RA
	1883	RB-22 × 25 × 34 L	φ25 Bush (φ22 × φ25 × 33.5 mm)	BM-322 · BM-322FL · BM-322FR BM-322FS · BMF-322 · BMJ-322
	1884	RB-22 × 25.4 × 34 L	φ25.4 Bush (φ22 × φ25.4 × 33.5 mm)	BM-322 · BM-322FL · BM-322FR BM-322FS · BMF-322 · BMJ-322
	1872	RBS-22.8 × 25	φ25 Bush (φ22.8 × φ25 × 25 mm)	AMH-301 · NR-303 · NR-311 · NR-2351 RA-200 · RAS-101
	1871	RB-22.8 × 25	φ25 Bush (φ22.8 × φ25 × 44 mm)	RA-100
	1874	RBS-22.8 × 25.4	φ25.4 Bush (φ22.8 × φ25.4 × 25 mm)	AMH-301 · NR-303 · NR-311 · NR-2351 RA-200 · RAS-101
	1873	RB-22.8 × 25.4	φ25.4 Bush (φ22.8 × φ25.4 × 44 mm)	RA-100
	1880	RB-30 × 32	φ32 Bush (φ30 × φ32 × 45 mm)	NR-3060 · NR-3060S · NR-403E
	1881	RB-30 × 36	φ36 Bush (φ30 × φ36 × 45 mm)	NR-3060 · NR-3060S · NR-403E

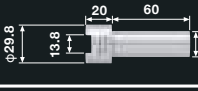
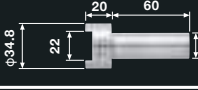
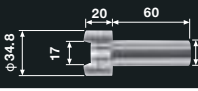
Adjuster bolt

Adjuster bolt	Code No.	Model	Description	Compatible model
	7739	ADJUSTER BOLT	Adjuster bolt	BMS-4020-MQL-CHK / 2M BMS-4040-MQL-CHK / 2M

Collet holder

Collet holder	Code No.	Model	Description	Compatible model
	9216	QC5-16	Collet holder for CH16 *with CHN-16	NR4040-AQC · NRR4040-QC
	9225	QC5-16-R		
	9215	QC5-K	Collet holder for CHK *with K-265	
	9224	QC5-K-R		
	9210	QC3-K	Collet holder for CHK *with K-265	NR3060-AQC · NRR3060-QC
	9223	QC3-K-R		
	9209	QC3-A	Collet holder for CHA *with CHN-A	
	9222	QC3-A-R		
	7794	QC3-SS	Collet holder for CHSS	

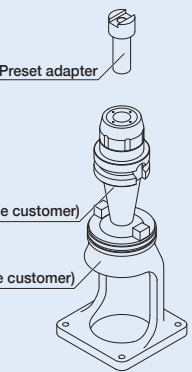
Preset adapter

Preset adapter	Code No.	Model	Description	Compatible collet holder
	9211	QC3-ADP	Preset adapter for QC3	QC3-A · QC3-K · QC3-SS
	9218	QC5-16 ADP	Preset adapter for QC5-16	QC5-16
	9217	QC5-K ADP	Preset adapter for QC5-K	QC5-K

Set-up outside machines

1

In case using a milling holder

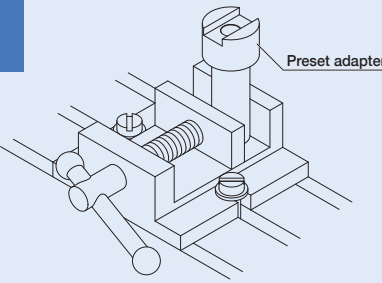


Preset adapter

Milling holder
(arrangement by the customer)

Setup stand
(arrangement by the customer)

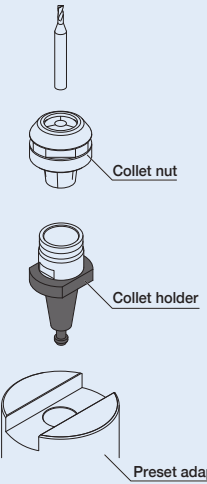
In case using a vice



Preset adapter

2

For QC3-K/A
QC5-16/K

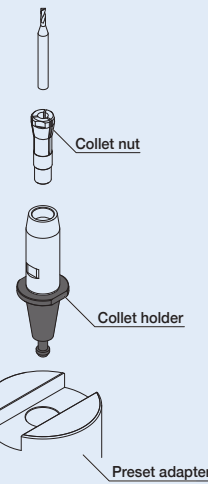


Collet nut

Collet holder

Preset adapter

For QC3-SS

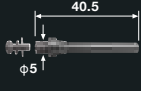
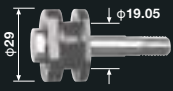


Collet nut

Collet holder

Preset adapter

Metal saw arbor · Grindstone arbor · Grindstone flange

Metal saw arbor	Code No.	Model	Description / Specifications		Compatible model
	2146	KCH-02 (5.0)	φ5.0 (I.D.)	Metal saw arbor : for φd (I.D.) × φ30 mm or less (O.D.) Run-out accuracy: within 0.02 mm	RA-100 · RA-151E
	1077	KCH-02 (6.0)	φ6.0 (I.D.)		
	2147	KCH-02 (8.0)	φ8.0 (I.D.)		
	2148	KCH-03 (5.0)	φ5.0 (I.D.)	Metal saw arbor : for φd (I.D.) × φ30 mm or less (O.D.) Run-out accuracy: within 0.02 mm	EM30-S6000 · EMA-3020K · EMR-3008K EMS-3060K · MSS-25 · MSST-23 · NR-303 · NR-311 NR-403E · NR-453E · NR-2351 · NR-2551 · NR-3060 NR-3060S · NRF-3060S · PMA-3013K · PMR-3005K PMS-3020K · RAS-101 · RAS-151E RAX-71E · RAX-271E
	2130	KCH-03 (6.0)	φ6.0 (I.D.)		
	2149	KCH-03 (8.0)	φ8.0 (I.D.)		
Grindstone arbor	Code No.	Model	Description / Specifications		Compatible model
	1029	AGM-01	Grindstone arbor Run-out accuracy: within 0.02 mm Grindstone I.D. φ5.0 mm		AMH-301 · NR-601
	2131	AGM-03	Grindstone arbor Run-out accuracy: within 0.02 mm Grindstone I.D. φ5.0 mm		EM30-S6000 · EMA-3020K · EMR-3008K EMS-3060K · MSS-25 · MSST-23 · NR-303 · NR-403E NR-453E · NR-2351 · NR-2551 · NR-3060 · NR-3060S NRF-3060S · PMA-3013K · PMS-3020K · RAS-101 RAS-151E · RAX-71E · RAX-271E
Grindstone flange	Code No.	Model	Description / Specifications		Compatible model
	2138	EGF-19	Grindstone flange Available grindstone dimension φ19.05 (I.D.) × φ40 (O.D.) mm × 7 (width) mm		EM30-S6000 · EMR-3008K · EMS-3060K NR-403E · NR-453E · NR-2551 · NR-3060 · NR-3060S NRF-3060S · PMS-3020K
	2143	NGF2-19	Grindstone flange Available grindstone dimension φ19.05 (I.D.) × φ40 (O.D.) mm × 7 (width) mm		NR-311

Grease · Oil

Grease	Code No.	Model	Description	Compatible model
	1547	—	Grease for Speed reducer (2.5 mL)	ARG-011E · ARG-021E EMR-3008K · EMA-3020K RAX-271E · RAX-71E PMR-3005K
	1550	—	Grease for Speed reducer (10 mL)	
	1549	—	Grease for Speed reducer (100 mL)	
Oil	Code No.	Model	Description	Compatible model
	1057	K-211	Lubricating oil (70 cc)	Air line kit (AL-M1201BL · AL-M1202 · AL-M1203BS2)
	1058	K-202	Lubricating oil (1 L)	

COMBOX



Code No.	8495	Model	COMBOX
• By connecting the COMBOX to a CITIZEN “Cincom” CNC automatic lathe, iSpeed3 and E3000 motors can be easily operated by using the external M code signal.			
Specifications	Input voltage: DC24 V (DC23-25 V) Dimensions: W142 × D240 × H31 mm / Net weight: 1.2 kg		
Standard equipment and accessories	I/F Cable (High density D-SUB 15 connector): 1 pc. Cable D · E · F: 1 pc. each / Relay: 1 pc. Screw · Nut: 2 pcs. each / Connector cap: 4 pcs.		
Compatible controllers	E3000 controller · iSpeed3 controller		
External connecting device	CNC automatic lathe For details, please contact us or your local distributor.		

Network Interface COMBOX-NET.EIP

Easy IoT remote control and management of Nakanishi Spindle via EtherNet/IP.
Easy connection to a robot or special-purpose machine tool's PLC with a single LAN cable.

Code No.	7796	Model	COMBOX-NET.EIP
Code No.	7906	Model	COMBOX-NET D-sub Cable Set



EtherNet/IP™ is a trademark of ODVA, Inc.

Feature 1 Remote management through IoT

- **Easy remote error/warning display**
Error or warning output from the controller can be easily displayed remotely. *Display contents vary depending on S/N
- **Up to 4 sensors (digital × 2, analog × 2) can be connected**
Various commercially available sensors can be added and used for condition monitoring.

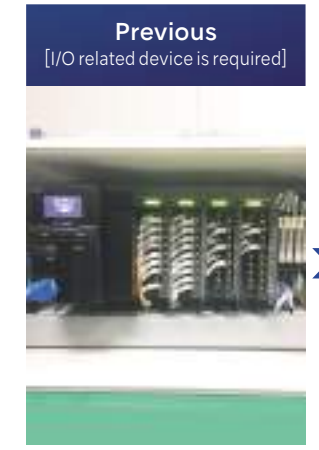


PLC display example

Feature 2 Reduce design and production work hours

- **Connectable to Ethernet/IP compatible devices via LAN cable** *Support for other protocols is pending
- **Reduction of the number of lines in the ladder program in PLCs is possible**
- **I/O-related devices are no longer needed, reducing the amount of wiring required**

33% reduction in work hours
(compared to in-house measurements)

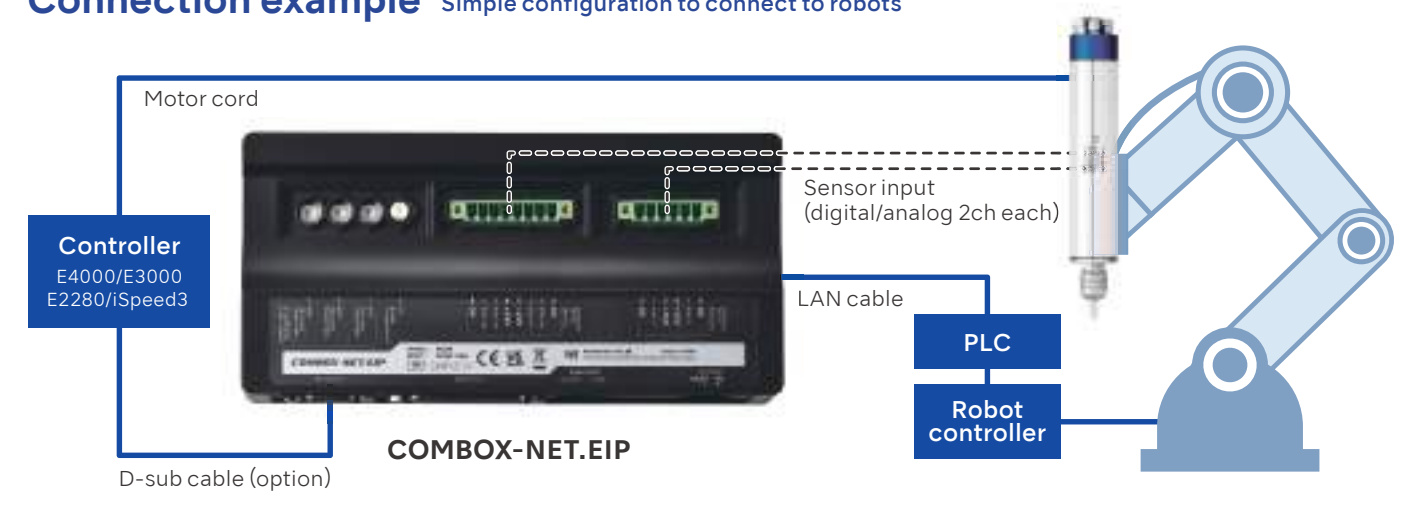


Previous
[I/O related device is required]

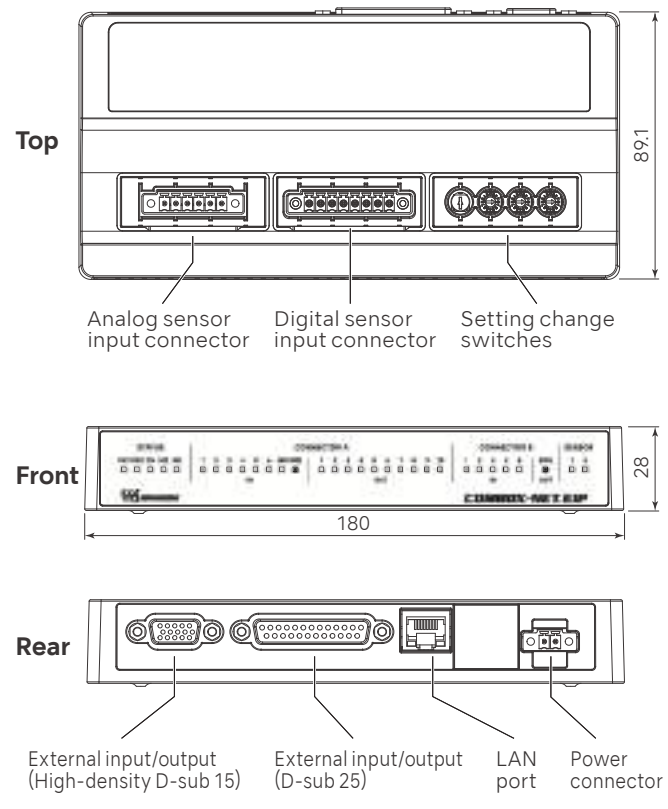


Using COMBOX-NET.EIP
[No I/O related device is required]

Connection example Simple configuration to connect to robots



Outside view



Specifications

Communication standard	EtherNet/IP
Baud rate	10 Mbps / 100 Mbps
Communication cycle (RPI)	4 ms or more
LAN cable specifications	Straight, category 5 or higher (STP cable recommended)
Rated input voltage	DC 24 V±10%
Dimensions	W180 × D89.1 × H28 mm
Net weight	282 g

Basic package

- COMBOX-NET.EIP Main Body 1 pc.
- Bracket 1 pc.
- Mounting screw 4 pcs.
- Power connector 1 pc.
- Protect covers Attached on the main body

Code No.	7796	Model	COMBOX-NET.EIP
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*D-sub cables are sold separately.

Option

Code No.	7906	Model	COMBOX-NET D-sub Cable Set
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D-sub 15 cable (500 mm) and D-sub 25 cable (500 mm)
*Since D-sub cable has special size, we recommend the above product.

Compatible controllers Connectable to all 4 models All inputs and outputs are handled via network communication.



*Controllers with the above S/Ns or later will display an error or warning code.
Controllers with the S/Ns prior to the above will only indicate the presence or absence of an error or warning.

E4000
E3000
E2000
iSpeed3
Air-Speed
HES
TURBINES
ACCESSORIES