



Air Float Attachment AF Series

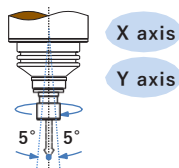
Compatibility	Machining center	Robot systems	Dedicated models
Chucking diameter	Φ10	Φ20	Φ30
			Φ40
Mechanics	Extension	Contraction	Inclination

Features of the Air Float Attachment AF Series

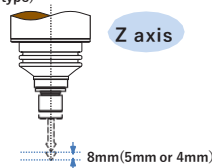
The unique air float mechanism compensates for unmeasured portions of the workpiece in the X, Y and Z-axis directions.

The air float (motor spindle attachment):

- Can tilt up to 5° and move 360° in the radial direction at that angle.



- Contracts 8mm in the axial direction.
*Contraction in the axial direction is 5mm for AF10 and 4mm for AF20. (the amount of contraction depends on the size of AF type)



- Compensates for variations in workpiece shape.
- Robot teaching can be simplified.

Floating power (force applied by the cutting tool) can be freely regulated to match the workpiece material.

Adjusting the air pressure supplied to the air float enables free regulation of the floating power (force applied by the cutting tool).

Note 1. Use the precision regulator (standard accessory) to regulate the air pressure.

Note 2. Air pressure can be regulated in the 0.05 MPa to 0.2 MPa range.

Note 3. Note that the position of the cutting tool when applied to the workpiece also causes minor variations in floating power.

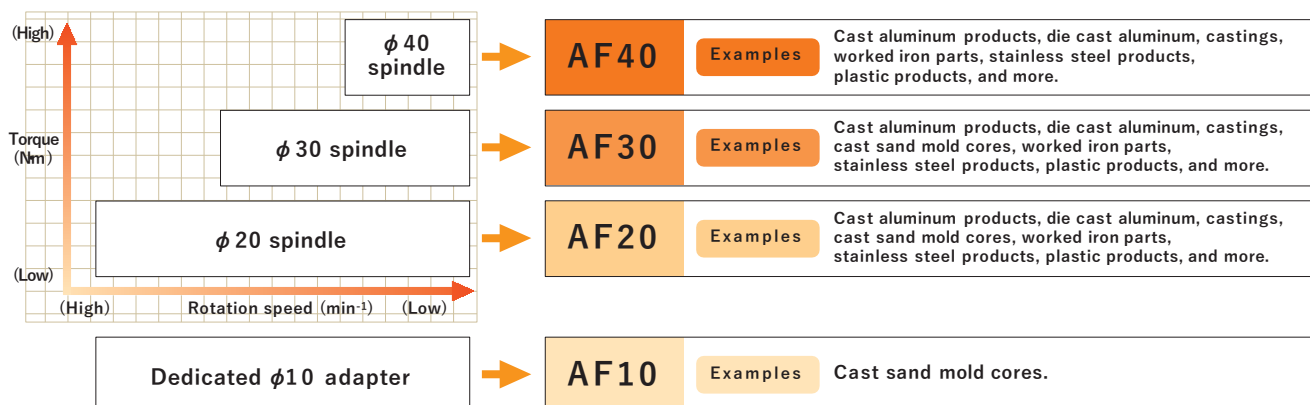
Note 4. Automatic floating power regulation is possible with the electropneumatic regulator.

Usable with workpieces made of various materials.



(Precision regulator)

Holder lineup compatible with $\phi 20$, $\phi 30$, and $\phi 40$ spindles.



Note 1. The AF series does not come with a motor spindle.

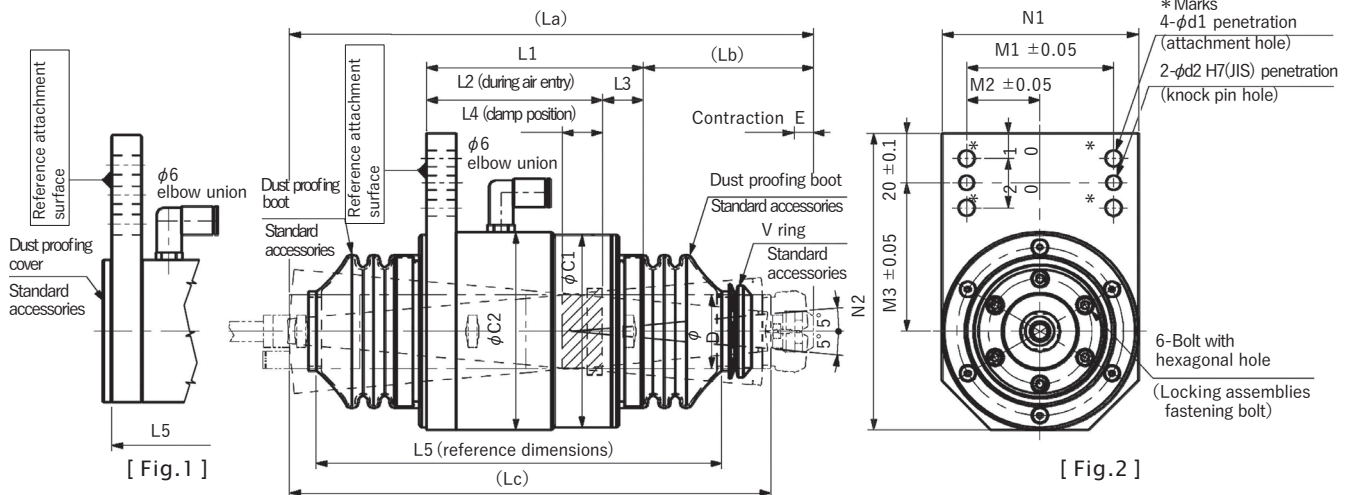
Note 2. The optimal spindle varies according to the workpiece material and shape of the burrs (machining capability differs depending on spindle power).

Note 3. Use AF10 after attaching a special tool to the dedicated adapter.

* The dedicated adapter does not rotate. Deburring is performed by stroking the burrs with the special tool. Contact our sales department for details.

Note 4. Our recommended deburring attachments with attached $\phi 20$, $\phi 30$, and $\phi 40$ motor spindles are also available. Contact our sales department for details.

Air Float Attachment AF Series Dimensions (Unit: mm)



Model	L1	L2	L3	L4	L5	(La)	(Lb)	(Lc)	φ C1	φ C2	φ D	E	M1	M2	M3	N1	N2	φ d1	φ d2	Unit weight (kg)	Fig
AF10	62.5	48.5	14.0	12.8	86.0	-	60.0	-	48	48	10	5	34	17	46	48	90.0	5.5	5.0	0.51	1
AF20	63.5	51.3	12.2	13.4	115.0	183.1	48.0	133.0	62	62	20	4	42	21	53	62	104.0	6.6	6.0	0.76	2
AF30	88.5	71.8	16.7	16.4	165.0	213.8	67.9	196.4	78	80	30	8	60	30	60	80	120.0	6.6	6.0	1.52	2
AF40	100.0	83.0	17.0	25.0	178.0	262.1	83.0	229.0	97	99	40	8	60	30	80	99	149.5	6.6	6.0	2.78	2

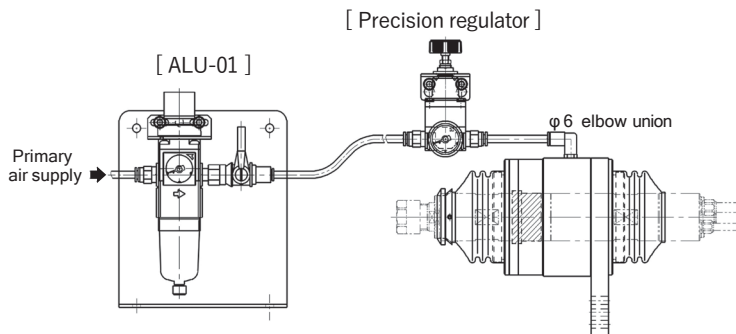
Note 1. The φ d2_H7(JIS) dimensions are those of the attachment hole for the air float on which the motor spindle is attached.

Note 2. Refer to the instruction manual and mount the motor spindle at the correct position.

Note 3. The weight of the motor spindles we recommend is 0.23kg for φ 20, 0.80kg for φ 30, and 1.84kg for φ 40.

Note 4. There is no recommended motor spindle for AF10. Contact us for further details.

Air Path Diagram for the Air Float Attachment AF Series



- Regulate the air float pressure via the (included) precision regulator to provide clean air.
- Always set an air filter between the air supply and the precision regulator to supply clean air. (In the path diagram, ALU-01 is an air filter we offer as an optional accessory.)

Motor spindle specifications



Air file specifications



Deburring can also be performed by fixing the product and having a robot hold the workpiece.

Contact our sales department for details.

Other Products Related to the Air Float Attachment AF Series

Standard accessories



V ring

Dust proofing boot

Use this accessory to regulate the float air pressure.

Precision regulator

Optional accessories *Not included with the product. Sold separately



Air line unit

- Provide clean air for the air supply required by the float air or the selected motor spindle.
- Use a commercial air dryer if the supplied air contains a lot of moisture.



Electro-Pneumatic Regulator

- Use this accessory to regulate external float air pressure. Contact our sales department for details.

Product specifications and shapes in this brochure are subject to modification without notice.

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