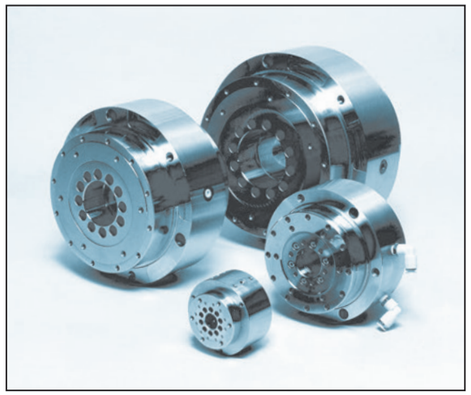
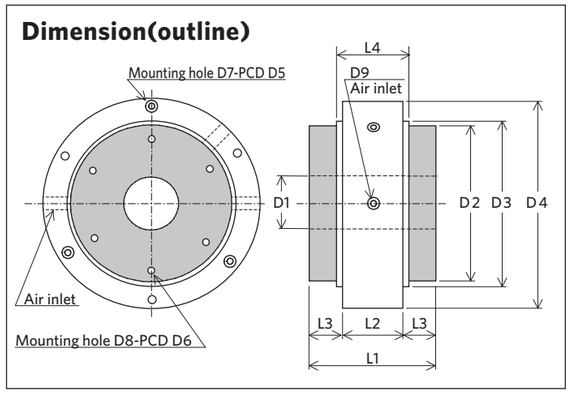
OILES Air Bearing spindle type (ASW series)

Made-to-order RoHS2 ELV



Dimension(outline)



- It can be used as a tool bearing for precision machining and grinding.
- It can be used as a spindle for precision measuring instruments.

Dimension

Unit : mm

Part No.	D1 H7	D2 h7	D3 h7	D4	D5	D6	D7	D8	D9	L1	L2	L3	L4
ASW - 30	Φ5	Φ30	—	Φ45	PCD 38	PCD 24	2×3 −M3 depth of 5	2×3 M3 depth of 4	M5 depth of 5	46	—	8	30
ASW - 50	Φ15	Φ55	—	Φ75	PCD 67	PCD 45	2×3 −M4 depth of 8	2×6 M3 depth of 7	M5 depth of 5	60	—	12	36
ASW - 80	Φ20	Φ80	Φ84	Φ110	PCD 96	PCD 60	2×3 −M6 8counterbore depth of 24	2×6 M4 depth of 12	Rc1/8	80	36	22	42
ASW - 100	Φ30	Φ105	Φ110	Φ140	PCD 125	PCD 75	2×3 −M8 11counterbore depth of 38	2×6 M5 depth of 18	Rc1/8	106	50	28	56
ASW - 150	Φ50	Φ155	Φ160	Φ200	PCD 180	PCD 120	2×3 −M10 15counterbore depth of 47	2×6 M6 depth of 20	Rc1/8	130	60	35	66
ASW - 200	Φ70	Φ195	Φ200	Φ240	PCD 220	PCD 150	2×3 −M10 15counterbore depth of 61	2×6 M6 depth of 20	Rc1/8	160	74	43	80
ASW - 250	Φ82.55	Φ247.6	Φ255	Φ300	PCD 275	PCD 190.5	2×6 −M10 15counterbore depth of 60	2×12 M8 depth of 20	Rc1/8	170	76	47	82

Performance

Part No.	Radial stiffness (N/μm)	Axial stiffness (N/μm)	Radial load capacity (N)	Axial load capacity (N)	Radial error motion NRRO(μm) TIR (μm)	Axial error motion NRRO(μm) TIR(μm)	Max speed (min^{-1})	Air consumption (NL/min)	Weight (Kg)	Moment of inertia ($Kg{\cdot}m^2$)	GD^2 ($Kg{\cdot}m^2$)
ASW - 30	13	25	30	55	0.07 1.5	0.05 1.5	30,000	10	0.5	1.13×10^{-5}	4.56×10^{-5}
ASW - 50	22	50	70	150	0.05 1.5	0.03 1.5	20,000	15	1.6	1.94×10^{-4}	7.74×10^{-4}
ASW - 80	35	150	120	360	0.05 1.5	0.03 1.5	15,000	18	4.4	1.27×10^{-3}	5.10×10^{-3}
ASW - 100	90	320	210	720	0.05 1.5	0.03 1.5	10,000	22	9.6	4.89×10^{-3}	1.96×10^{-2}
ASW - 150	150	600	300	1500	0.05 2.0	0.03 2.0	5,000	25	23.7	2.95×10^{-2}	1.18×10^{-1}
ASW - 200	250	1000	600	2700	0.05 2.0	0.03 2.0	3,000	30	42.1	9.12×10^{-2}	3.65×10^{-1}
ASW - 250	300	1320	720	4320	0.05 2.0	0.03 2.0	2,000	40	71.2	0.257	1.03

note

1) Please use within the load capacity.
2) Stiffness refers to a value near the load capacity.
3) For sizes over ASW150, additional packing cost will be charged.

Accuracy of the pedestal on which the spindle is installed

Make sure that the flatness of the pedestal on which the air spindle housing is attached is 5μm or less.
When fixing the spindle to the pedestal, do not block the air inlet on the side.