

Symbol



Features

- * Air/Oil systems combine the speed and low cost of air operation with the smooth.
- * Hydraulic cylinder is motivated by standard air line source.



How to order

AOF	40	B	150
Air-Hydro converter	Bore size		Stroke
AOF Flange mounting	40 φ 40		150 150 mm
AOL Foot mounting	63 φ 63		175 175 mm
	80 φ 80		200 200 mm
	100 φ 100		Max. length 500 mm

Sizing the air-hydro converter

Determine the volume of fluid displaced by the work cylinder by multiplying stroke by piston area.

$$V = \frac{\pi D^2}{4} \times L \times 10^{-3}$$

D : Piston area of work cylinder (mm²)

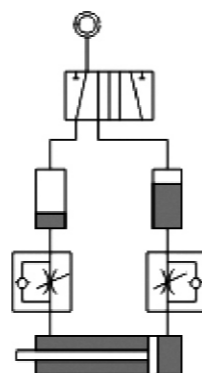
L : Stroke of work cylinder (mm)

V : Volume of work cylinder (cm³)

Specifications

Model	AOF, AOL			
Bore size	φ 40	φ 63	φ 80	φ 100
Port size	1/4"	3/8"	3/8"	1/2"
Fluid	ISO VG32 oil			
Standard length	From 150~500 mm with every 25mm as an unit increased			
Max. pressure	10.5 kgf/cm ²			
Body material	Anodized aluminum alloy			
Ambient temperature	-10℃ ~ 60℃			

Example



Air/Oil systems combine the speed and low cost of air operation with the smooth, even actuator control of oil from a standard air line source.

Volume of cylinder (Table 1)

Unit: cm³/1000

Bore size mm	Cylinder stroke (mm)										
	25	50	75	100	125	150	200	250	300	350	400
φ 20	0.0079	0.0157	0.0236	0.0314	0.0393	0.0471	0.0268	0.0785	0.0942	0.1099	0.1256
φ 25	0.0123	0.0245	0.0368	0.049	0.0613	0.0735	0.098	0.1225	1.147	0.1715	0.196
φ 32	0.0201	0.0402	0.0602	0.0803	0.1004	0.0205	0.0606	0.2008	0.2409	0.2811	0.3212
φ 40	0.0314	0.0628	0.0942	0.1256	0.157	0.0884	0.2512	0.314	0.3768	0.4396	0.5024
φ 50	0.049	0.098	0.1472	0.1963	0.245	0.294	0.393	0.491	0.589	0.687	0.785
φ 63	0.062	0.156	0.238	0.3117	0.39	0.468	0.623	0.78	0.935	1.091	1.247
φ 80	0.125	0.251	0.377	0.502	0.628	0.753	1.005	1.256	1.507	1.759	2.01
φ 100	0.196	0.293	0.589	0.785	0.981	1.178	1.57	1.962	---	---	---

Maximum useable capacities (Table 2)

Bore size mm	Converter length (mm)														
	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500
φ 40	94	110	125	141	157	172	188	204	220	235	251	267	282	298	314
φ 63	237	277	316	356	395	435	475	514	554	594	633	673	712	752	791
φ 80	377	440	502	565	628	691	754	816	880	942	1005	1068	1131	1194	1256
φ 100	589	687	785	883	981	1080	1178	1276	1374	1472	1570	1666	1767	1865	1963

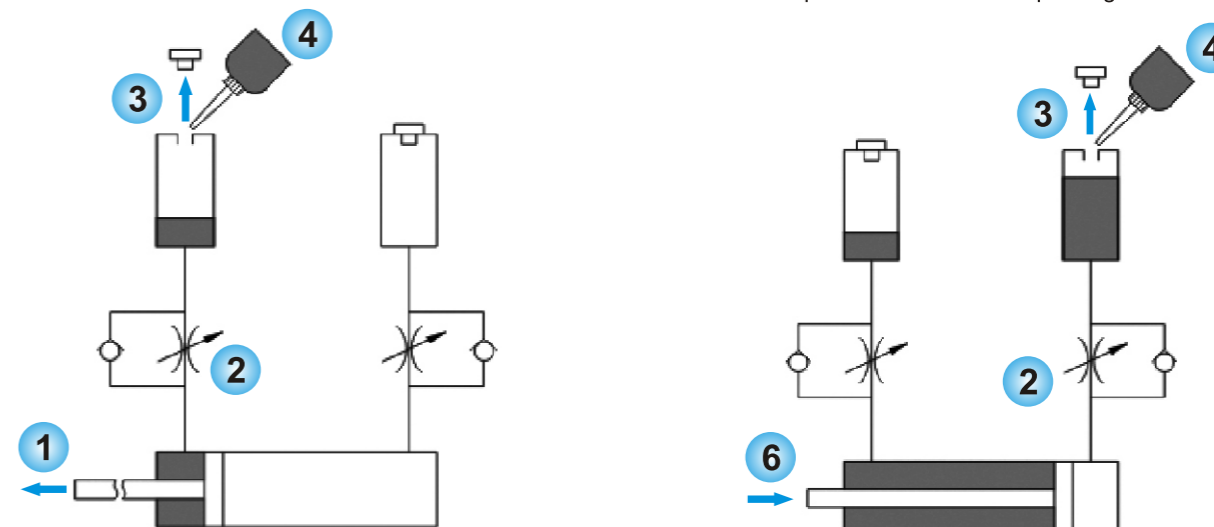
Note: Above volume have keep 50% space in advance.

Remark

- * Refer to table 2 to find the bore and length equal to or greater than this volume. In general, longer converter with smaller bore size are the most economical.
- * Suggested minimum internal length is 150mm.
- * AIR-HYDRO converter should be sized so that the coil level does not change more than 150mm/sec.
- * AIR-HYDRO converter should be mounted vertically at the highest point in the system to allow self-bleeding of the converter.

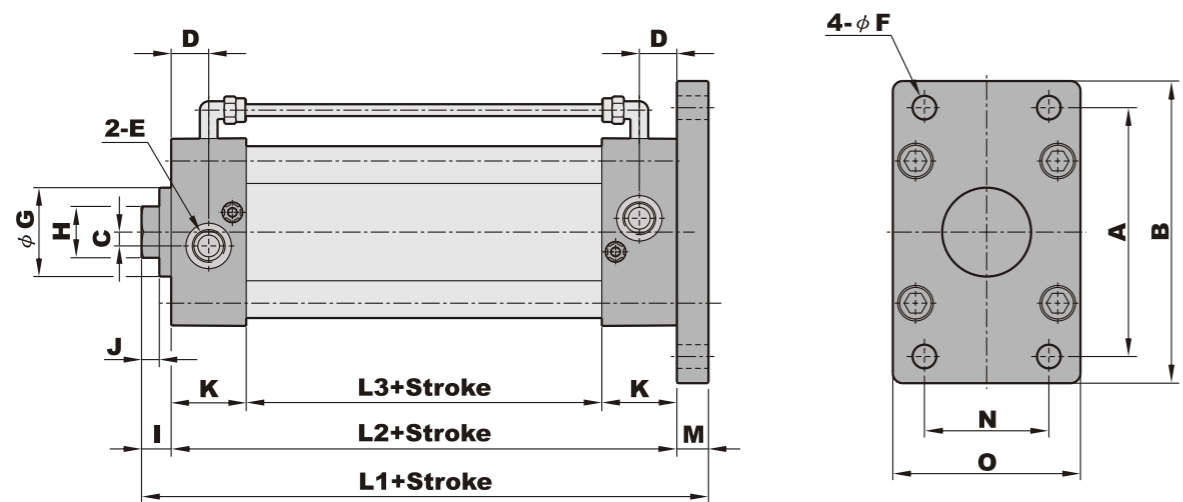
Lubricating procedure

1. Please pull the piston to the location of oil supply.
2. Throttle valve opens fully.
3. Open the bolt of oil hole between the top center of Air-Hydro converter.
4. Pour into oil from down side inlet by power.
5. Feed the oil to max. of oil tank capacity and lock bolt (Close oil hole).
6. Use about 0.2MPa pressure to pour oil into and push piston to another side.
7. Repeat step 2 to step 5 on the other end.
8. Use about 0.2 MPa pressure to return piston about 2~3, times after completion the work of oil pouring into.



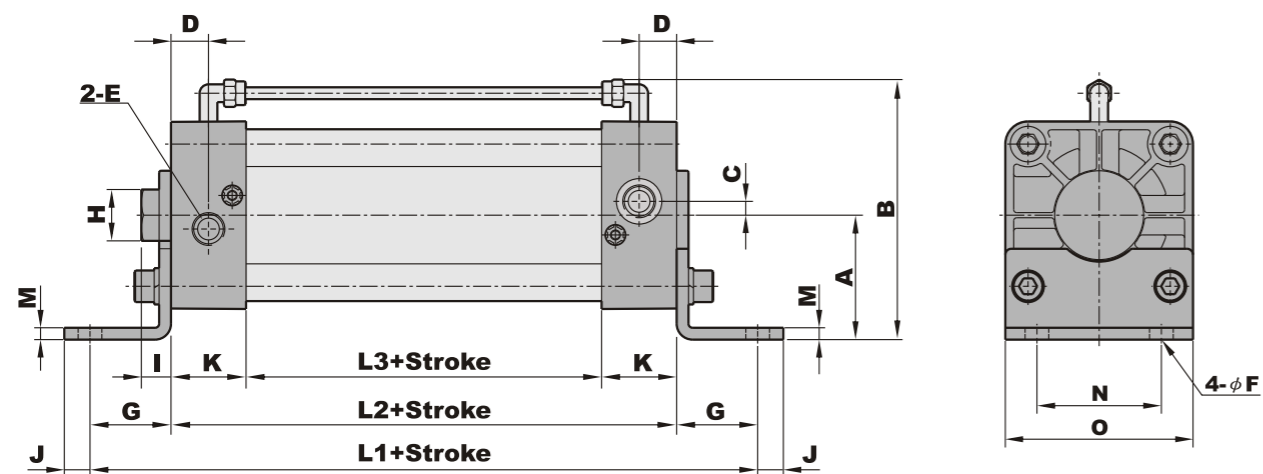
Dimensions

AOF



Bore size	A	B	C	D	E	F	G	H	I	J	K	L1	L2	L3	M	N	O
φ 40	72	90	4	15	G1/4	9	35	26	14	5	30	114	90	30	10	36	55
φ 63	100	120	7	16	G3/8	9	15	26	14	5	32	120	94	30	12	50	75
φ 80	126	153	7	19	G3/8	12	15	26	15	6	38	137	106	30	16	63	95
φ 100	150	178	7	20	G3/8	14	55	26	15	6	40	141	110	30	16	75	115

AOL



Bore size	A	B	C	D	E	F	G	H	I	J	K	L1	L2	L3	M	N	O
φ 40	36	84	4	15	PS 1/4	9	28	26	14	10	30	146	90	30	5	36	53
φ 63	50	109	7	16	PS 3/8	9	32	26	14	10	32	158	94	30	5	50	75
φ 80	63	132	7	19	PS 3/8	12	41	26	15	13	38	188	106	30	6	63	95
φ 100	71	150	7	20	PS 3/8	14	41	26	15	15	40	192	110	30	6	75	115

PNEUMATIC CYLINDER

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