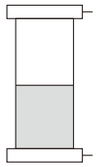
Air-Hydro Converter

Symbol



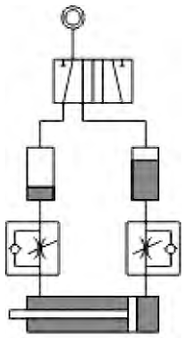
Features

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

How to order

AOF	110	B150
Air-Hydro converter	**Bore size**	**Stroke**
AOF : Flange mounting	**40** : ϕ40	**150** : 150mm
AOL : Foot mounting	**63** : ϕ63	**175** : 175mm
	80 : ϕ80	**200** : 200mm
	100 : ϕ100	**Max. length** : 500mm

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.

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 : Inner diameter (mm)

L : Stroke of work cylinder (mm)

V : Volume of work cylinder (cm^3)

Specifications

Model	AOF, AOL			
Bore size	ϕ40	ϕ63	ϕ80	ϕ100
Port size	1/4"	3/8"	3/8"	1/2"
Fluid	Hydraulic oil (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℃			

Volume of cylinder (Table 1)

Unit: cm^3

Bore size mm	Cylinder stroke (mm)										
	25	50	75	100	125	150	200	250	300	350	400
ϕ 20	7.9	15.7	23.6	31.4	39.3	47.1	26.8	78.5	94.2	109.9	125.6
ϕ 25	12.3	24.5	36.8	49	61.3	73.5	98	122.5	114.7	171.5	196
ϕ 32	20.1	40.2	60.2	80.3	100.4	20.5	60.6	200.8	240.9	281.1	321.2
ϕ 40	31.4	62.8	94.2	125.6	157	88.4	251.2	314	376.8	439.6	502.4
ϕ 50	49	98	147.2	196.3	245	294	393	491	589	687	785
ϕ 63	62	156	238	311.7	390	468	623	780	935	1091	1247
ϕ 80	125	251	377	502	628	753	1005	1256	1507	1759	2010
ϕ 100	196	293	589	785	981	1178	1570	1962	---	---	---

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	1696	1767	1865	1963

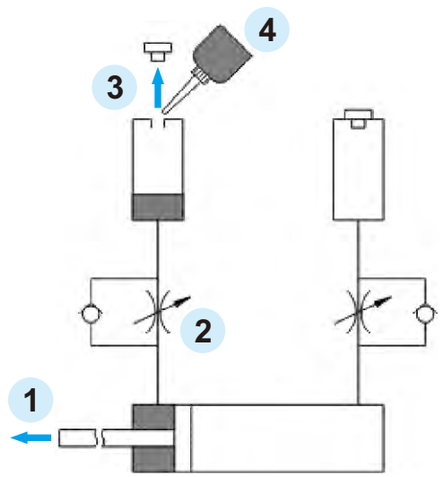
Note: Above volume have keep 50% space in advance.

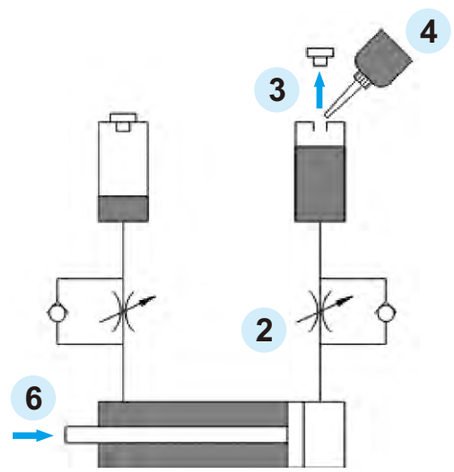
Remark

1. 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.
2. Suggested minimum internal length is 150mm.
3. AIR-HYDRO converter should be sized so that the coil level does not change more than 150mm/sec.
4. AIR-HYDRO converter should be mounted vertically at the highest point in the system to allow self-bleeding of the converter.

Lubricating procedure

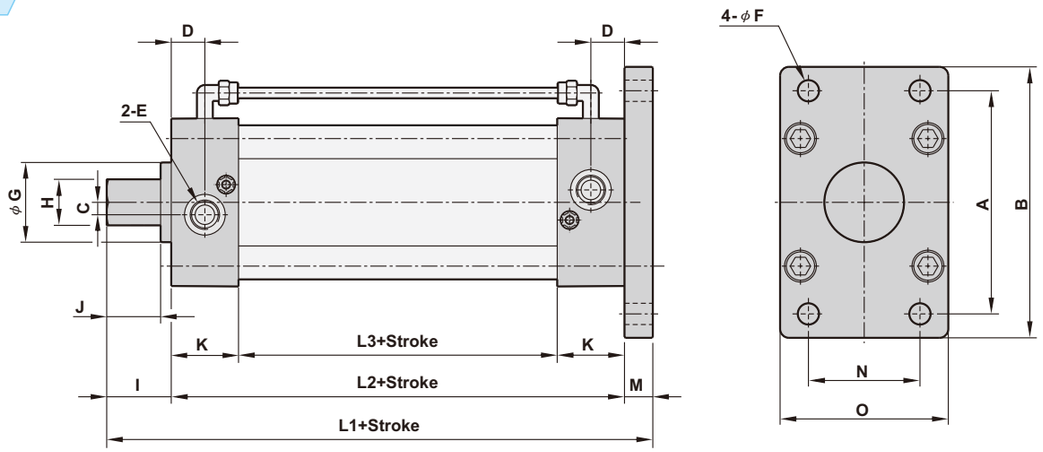
1. Please pull the piston to the location of oil supply.
2. Throttle valve opens fully.
3. Open the bolt of oil hole between the top center of Air-Hydro converter.
4. Pour into oil from down side inlet by power.
5. Feed the oil to max. of oil tank capacity and lock bolt (Close oil hole).
6. Use about 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.





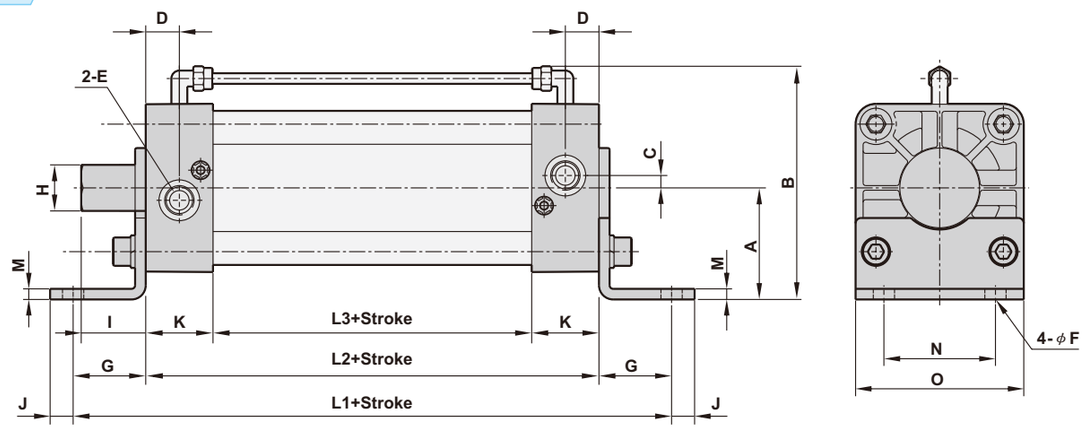
Dimensions

AOF



Model	A	B	C	D	E	F	G	H	I	J	K	L1	L2	L3	M	N	O
ϕ**40**	72	90	5.3	13.5	G1/4	9	34.7	28	33.5	26	34	141.5	98	30	10	36	55
ϕ**63**	100	120	8	16	G3/8	9	40.7	34	37.2	26	32.6	144.7	95.2	30	12	50	75
ϕ**80**	126	153	9	20.5	G3/8	12	44.7	40	46	27.5	35.5	163	101	30	16	63	95
ϕ**100**	150	178	13.5	19	G1/2	14	55.3	40	50.5	27.5	37	170.5	104	30	16	75	115

AOL



Model	A	B	C	D	E	F	G	H	I	J	K	L1	L2	L3	M	N	O
ϕ**40**	36	84	5.3	13.5	G 1/4	9	28	28	33.5	10	34	154	98	30	4	36	53
ϕ**63**	50	109	8	16	G 3/8	9	32	34	37.2	10	32.6	159.2	95.2	30	4	50	75
ϕ**80**	63	132	9	20.5	G 3/8	12	41	40	46	13	35.5	183	101	30	5	63	95
ϕ**100**	71	150	13.5	19	G 1/2	14	41	40	50.5	13	37	186	104	30	6	75	115

Memo...