Dual pressure type

APD
Round Die Holder In Rod End Type

APD-Z
Male Thread In Rod End Type

- This cylinder is incorporated with pressure boosters and hydro-cylinders and it can be managed with an air pressure controller.
- This cylinder is of high output force, without defects of high temperature and noise, and more economical, safer and more efficient than hydraulic systems.

Specification

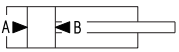
Type	APD
Pressure boost model	1T, 3T, 5T, 8T, 10T
Working stroke (mm)	5, 10, 15, 20
Power fluid	Filtered air with or without lubrication
The range of pressure (MPa)	0.3 ~ 0.8
The range of temperature (℃)	-10~＋60

How to order

APD | 3T × 100 — 10 — Z

- **Type**: APD
- **Thrust model**: 1T— 1ton; 3T— 3ton; 5T— 5ton; 8T— 8ton; 10T—10ton
  Operating pressure=0.5MPa
- **Stroke**: 50— 50mm; 75— 75mm; 100—100mm; 150—150mm; 200—200mm
- **Working stroke**: 5 — 5mm; 10 — 10mm; 15 — 15mm; 20 — 20mm
- **Rod end type**:
  - No Code: Round die holder in rod end
  - Z: Male thread in rod end

Power Cylinders' theoretic force



Unit: N

Type (T)			1T	3T	5T	8T	10T
Bore (mm)			ϕ50	ϕ70	ϕ80	ϕ100	ϕ125
Rod (mm)			ϕ30	40	ϕ50	ϕ60	ϕ70
Operating pressure (MPa)	0.3	A	7216	18473	30054	46959	67630
		B	377	778	919	1508	2527
	0.4	A	9621	24630	40072	62612	90174
		B	503	1037	1225	2011	3369
	0.5	A	12026	30788	50090	78265	112717
		B	628	1296	1532	2513	4212
	0.6	A	14432	36945	60108	93918	135261
		B	754	1555	1838	3016	5054
	0.7	A	16837	43103	70126	109571	157804
		B	880	1814	2144	3519	5896
	0.8	A	19242	49260	80143	125224	180347
		B	1005	2073	2450	4021	6739

Action info

Control Valve 2 ON:

When the air is charged from the port P1, the oil in the tank will forward the hydraulic cylinder quickly. The pressure is the same as the air pressure, but the inflow of oil is large in volume.

Control Valve 1 ON:

When the air is charged from the port P2,a ram will advance. the highly pressured fluid will come in to the hydraulic cylinder which will be forwarded by large thrust.

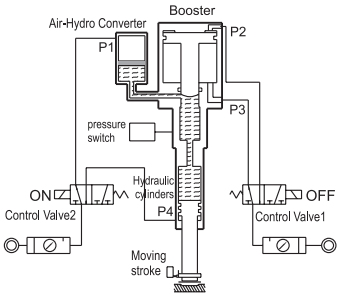
Control Valve 1,2 OFF:

When the air is send into port P4 and P3. the hydraulic cylinder is swiftly reversed. and at the same time the ram goes back.

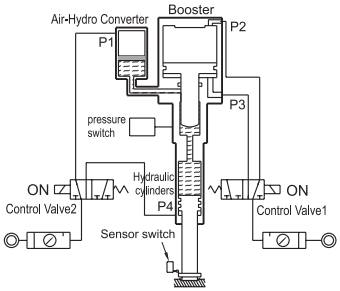
Points in usage

- The power cylinders must be maintained vertical posture.
- Standard booster are designed for use with petroleum base hydraulic oil.
- Pressure booster and cylinder rod shall extract before operation.
- Frequency of use should be 20 times / min or lower.

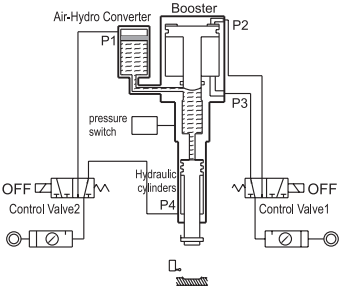
① Quick traverse

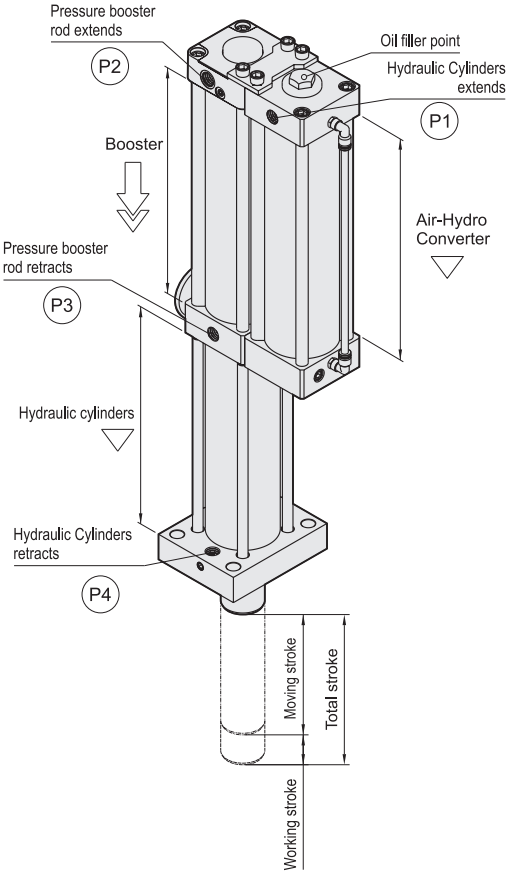


② Intensified feeding



③ Swift reverse





Power Cylinders stroke and working stroke

Type		Working stroke				
Stroke \ Thrust model		1T	3T	5T	8T	10T
APD	50mm	⑤⑩⑮	⑤⑩	⑤⑩	⑤⑩	⑤⑩⑮
	75mm	⑤⑩⑮⑳	❺⑩⑮	⑤⑩⑮	⑤⑩⑮	❻⑩⑮
	100mm	❺⑩⑮⑳	❺⑩⑮	❺⑩⑮	❺⑩⑮	❻⑩⑮
	125mm	❺⑩⑮⑳	❿⑮	❺⑩⑮	⑩⑮	⑩⑮⑳
	150mm	❿⑮⑳	❿⑮⑳	⑩⑮⑳	⑩⑮⑳	❿⑮⑳
	200mm	❿⓯⑳	❿⓯⑳	❿⑮⑳	❿⑮⑳	❿⑮⑳
APD-Z	50mm	⑤⑩⑮⑳	⑤⑩	⑤⑩⑮	⑤⑩⑮	⑤⑩⑮
	75mm	⑤⑩⑮⑳	❺⑩⑮	⑤⑩⑮	⑤⑩⑮	❺⑩⑮⑳
	100mm	❺⑩⑮⑳	❺⑩⑮⑳	❺⑩⑮	❺⑩⑮⑳	❺⑩⑮⑳
	125mm	❺⑩⑮⑳	❿⑮⑳	❺⑩⑮⑳	⑩⑮⑳	⑩⑮⑳
	150mm	❿⑮⑳	❿⑮⑳	⑩⑮⑳	⑩⑮⑳	❿⑮⑳
	200mm	❿⓯⑳	❿⓯⑳	❿⑮⑳	❿⑮⑳	❿⑮⑳

Comment: ⑤=Working strok 5mme ; ⑩=Working stroke 10mm ; ⑮=Working stroke 15mm ; ⑳=Working stroke 20mm

⑤⑩⑮⑳: For details see page 2-5.3
❺❿⓯⑳: For details see page 2-5.4

Dimensional features

● **APD** TYPE
● **APD-Z** TYPE

APD□
APD□Z

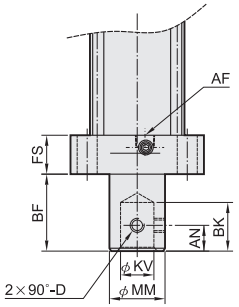
Standard stroke (Short stroke)

Type	Working stroke			
	5	10	15	20
1T	50~75	50~125	50~150	75~200
3T	50	50~100	75~150	150~200
5T	50~75	50~150	75~200	150~200
8T	50~75	50~150	75~200	150~200
10T	50	50~125	50~200	125~200
1T-Z	50~75	50~125	50~150	50~200
3T-Z	50	50~100	75~150	100~200
5T-Z	50~75	50~150	50~200	125~200
8T-Z	50~75	50~150	50~200	100~200
10T-Z	50	50~125	50~200	75~200

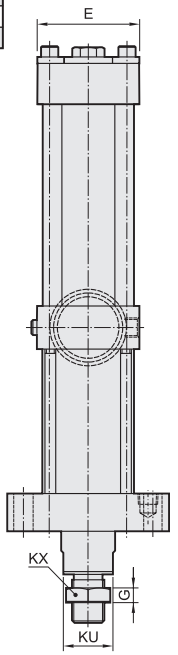
* IF you need stroke were beyond the scope of the table, please see page 2-5.4. (different sizes of Air-Hydro Converter)

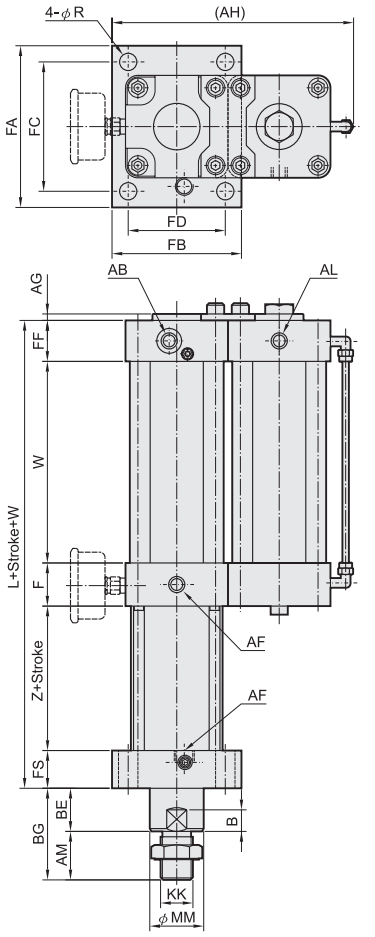
Working stroke

Type	W			
	5	10	15	20
1T	108	146	184	222
3T	126	187	248	309
5T	135	199	263	327
8T	150	214	278	342
10T	148	212	276	340



APD TYPE





Dimensional Table

Type	AB	AF	AG	AH	AL	AM	AN	B	BE	BF	BG	BK	D	E	F
1T	G3/8	G3/8	5	187	G3/8	35	12	12	25	40	60	28	M6×1.0P	75	40
3T	G3/8	G3/8	6	227	G3/8	45	15	20	40	50	85	35	M6×1.0P	95	40
5T	G1/2	G1/2	6	262	G1/2	60	20	20	40	60	100	40	M10×1.5P	115	40
8T	G1/2	G1/2	6	315	G1/2	70	25	20	50	70	120	60	M10×1.5P	140	45
10T	G3/4	G3/4	6	381	G3/4	80	30	27	60	85	140	50	M10×1.5P	174	55

Type	FA	FB	FC	FD	FF	FS	G	KK	KU	KV	KX	L	MM	R	Z
1T	130	100	100	70	32	35	11	M22×1.5P	27	16	32	167	30	11	60
3T	150	120	120	90	38	35	13	M30×1.5P	36	20	41	187	40	16	74
5T	185	130	155	100	40	45	15	M40×2.0P	46	25	57	199	50	17	74
8T	230	160	190	120	45	45	15	M48×2.0P	55	30	65	218	60	22	83
10T	270	190	220	140	55	50	20	M56×2.0P	65	40	80	243	70	26	83

Dimensional features

● **APD** TYPE
● **APD-Z** TYPE

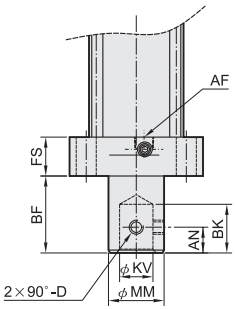
APD□
APD□Z

Standard stroke (Long stroke)

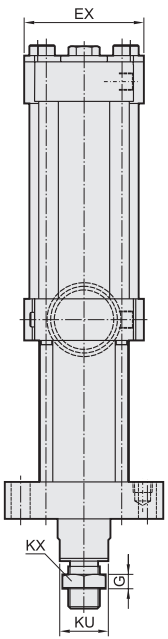
Type	Working stroke		
	5	10	15
1T	80~125	130~200	155~200
3T	55~100	105~200	155~200
5T	80~125	155~200	-
8T	80~100	155~200	-
10T	75~100	130~200	-
1T-Z	80~125	130~200	155~200
3T-Z	55~100	105~200	155~200
5T-Z	80~125	155~200	-
8T-Z	80~100	155~200	-
10T-Z	55~100	130~200	-

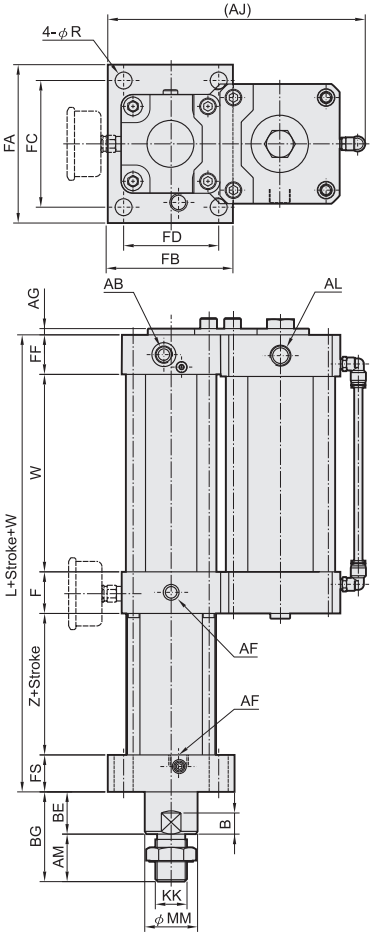
Working stroke

Type	W		
	5	10	15
1T	108	146	184
3T	126	187	248
5T	135	199	263
8T	150	214	278
10T	148	212	276



APD TYPE





Dimensional Table

Type	AB	AF	AG	AJ	AL	AM	AN	B	BE	BF	BG	BK	D	EX	F
1T	G3/8	G3/8	5	207	G3/8	35	12	12	25	40	60	28	M6×1.0P	95	40
3T	G3/8	G3/8	6	247	G1/2	45	15	20	40	50	85	35	M6×1.0P	115	40
5T	G1/2	G1/2	6	287	G1/2	60	20	20	40	60	100	40	M10×1.5P	140	40
8T	G1/2	G1/2	6	341	G3/4	70	25	20	50	70	120	60	M10×1.5P	174	45
10T	G3/4	G3/4	6	411	G3/4	80	30	27	60	85	140	50	M10×1.5P	204	55

Type	FA	FB	FC	FD	FF	FS	G	KK	KU	KV	KX	L	MM	R	Z
1T	130	100	100	70	32	35	11	M22×1.5P	27	16	32	167	30	11	60
3T	150	120	120	90	38	35	13	M30×1.5P	36	20	41	187	40	16	74
5T	185	130	155	100	40	45	15	M40×2.0P	46	25	57	199	50	17	74
8T	230	160	190	120	45	45	15	M48×2.0P	55	30	65	218	60	22	83
10T	270	190	220	140	55	50	20	M56×2.0P	65	40	80	243	70	26	83