Fixed Displacement Piston Pump/Motor OS–A2F

rated pressure35Mpa，There are 7 specifications with displacement of 45–460

Description

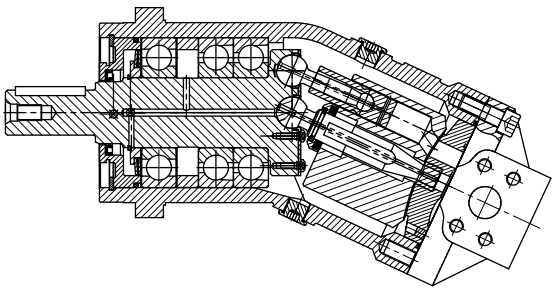
※Axial plunger element, with fixed displacement, used as hydrostatic drive pump or motor in open or closed loop

※As a pump, the flow rate is proportional to the driving speed and displacement.

※As a motor, the output speed is proportional to the flow rate and inversely proportional to the displacement.

※The output torque increases with the pressure difference between the high pressure side and the low pressure side.





Special Features

※The rotor assembly of the spherical valve has the advantages of automatic, high efficiency, low peripheral speed.

※Durable ball bearings and roller bearings for long life work.

※The drive shaft can bear radial load.

※ISO mounting flange, consistent with the A6V variable motor.

Technical Data

1、Operation Pressure Range(Pump)

Import (A, B or S) working pressure

Minimum pressure $p_{s\,min}$ —— 0.08MPa absolute pressure

In the closed circuit, the oil pressure must be between 0.2 and 0.6MPa, depending on the pump's speed and the viscosity of the hydraulic oil.

2、Outlet Operating Pressure Range (Motor)

rated pressure p_n —— 35MPa

Maximum pressure p_{max} —— 40MPa

The pressure at the mouth and A of the B and shall not exceed 70MPa, and the highest 40MPa per side pressure.

3、 Allowed Case Pressure

absolute pressurep_{Lmax} —— 0.2MPa absolute pressure absolute pressure

4、Technical Date

Size					45	55	63	80	107	125	160
Displacement			V_g	mL/r	44.3	54.8	63	80	107	125	160
Max.Speed	Closed loop		n_{max}	r/min	4500	3750	4000	3350	3000	3150	2650
	Open circuit	0.09MPa	no.09	r/min	2850	2360	2550	2120	1900	2120	1650
		0.10MPa	no.10	r/min	3000	2500	2700	2240	2000	2240	1750
		0.1 5MPa	no.15	r/min	3550	3000	3300	2750	2450	2750	2100
Max.Flow	Closed loop	n=nmax	Q_{max}	L/min	199	206	253	268	321	394	424
	Open circuit	n=n0.09	Q0.09	L/min	122	125	156	165	197	257	256
		n=n0.10	Q0.10	L/min	129	133	165	174	208	272	272
		n=n0.15	Q0.15	L/min	157	159	202	213	251	333	326
Max. Power	Closed loop	Q=Qmax	P_{max}	KW	116	120	147	156	187	230	247
	Open circuit	Q=Q0.09	P0.09	KW	71	73	91	96	115	150	149
		Q=Q0.10	P0.10	KW	75	78	96	101	121	159	159
		Q=Q0.15	P0.15	KW	92	93	118	124	148	194	190
Motor speed n=1450r/min △p=35MPa	Flow	closed	Q_{Ec}	L /min	64.2	79.5	91.3	116	155.2	181.2	232
		open	Q_{Eo}	L/min	62.3	77.1	88.6	112.5	150.5	175.8	225
	Power	closed	P_E	KW	27.4	46	53	67.7	90	106	135
Torque		△ p=10MPa	T_{10}	Nm	70	87	100	127	170	199	254
		△p=35MPa	T_{max}	Nm	247	305	35	445	595	696	890
Weight				kg	23	23	33	33	44	63	63

5、Install

Installation location option.Shell must always be filled with oil.

6、Hydraulic oil

a– Viscosity range

ν_{min} =10mm^2/s

ν_{max} =1000mm^2/s

Best working viscosity

ν_{opt} =16~36mm^2/s

b– Temperature range

θ_{min} = –25℃

θ_{max} = +80℃

c– Viscosity grade of oil selection

Operating temperature range	Viscosity grade	Viscosity at 40℃
⩾30~40℃	VG22	22mm^2/s
⩾40~50℃	VG32	32mm^2/s
⩾50~60℃	VG46	46mm^2/s
⩾60~70℃	VG68	68mm^2/s
⩾ 70~80℃	VG100	100mm^2/s

Hydraulic oil filter

Recommended filteraccuracy is 10μm.

Type Code

OS–	A2F	160	R	2	P	1
	1	2	3	4	5	6

1–Machinery Type

Axial piston, bent axis,Ration pump/motor	A2F

2–Size

Nominaldisplacement mL/r	45	55	63	80	107	125	160	

3–Rotating Direction(View on Shaft End)

Clockwise	R
Counterclockwise	L
Two way (not suitable for open cicuit pump)	W

4–Series

	●	●	–	–	●	–	–	1
	●	●	●	●	●	●	●	2

5–Shaft End

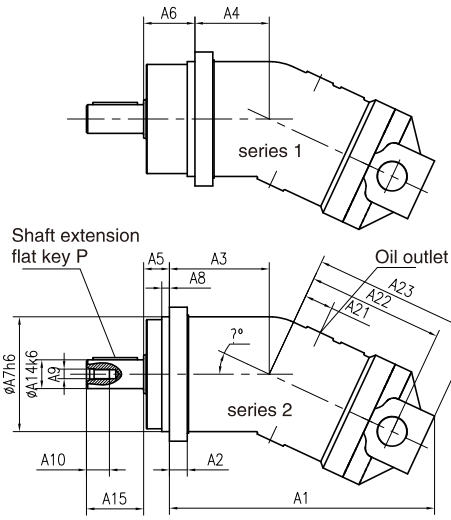
Keyed shaft GB1096–79	P
Splined shaft DIN 5480	Z
Splined shaft GB 3478.1	S

6–Ports Type

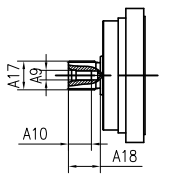
Port A and B in both sides of the rear lid, thread	1
Port A and B in both sides of the rear lid, SAE flange	2
Port B in the back cover side, SAE flange； port S in the rear, flange	3

Chart shows: ●=Available，○=In preparation，–=Not available

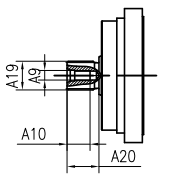
Dimensions Size

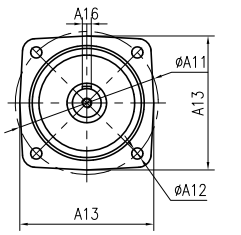


Shaft extension spline Z



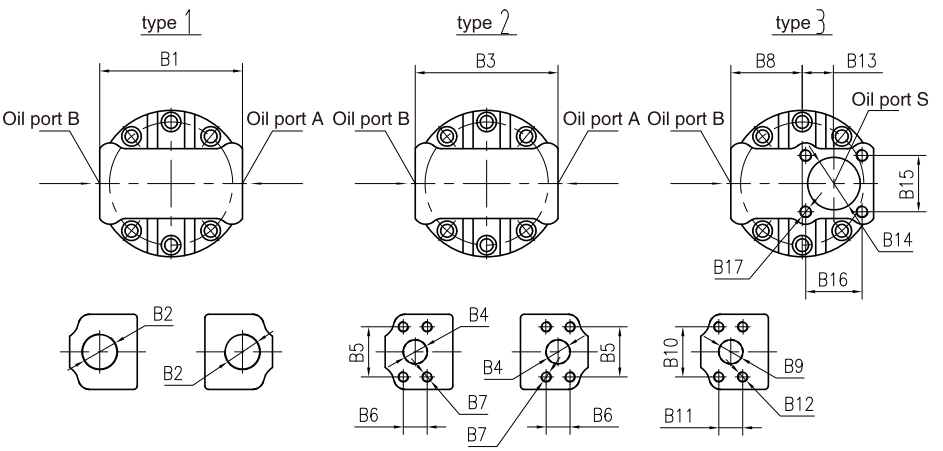
Shaft extension spline S





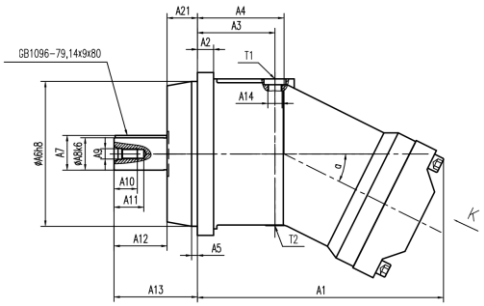
Size	α°	A_1	A_2	A_3	A_4	A_5	A_6	ϕ A_7	A_8	A_9	A_{10}	ϕ A_{11}	ϕ A_{12}	ϕ A_{13}	ϕ A_{14}	A_{15}	A_{16}	A_{17}	A_{18}	A_{19}	A_{20}	A_{21}	A_{22}	A_{23}
45	20	384	20	–	77	32	63	125	10	M12	28	160	16	150	30	60	8	W30x2x14x9g	35	EXT14Zx2mx30Rx5f	35	31.5	151	178
55	25	381	20	108	77	32	63	125	10	M12	28	160	16	150	30	60	8	W30x2x14x9g	35	EXT14Zx2mx30Rx5f	35	31.5	151	178
63	20	452	23	137	86	32	83	140	10	M12	28	180	16	165	35	70	10	W35x2x16x9g	40	EXT16Zx2mx30Rx5f	40	36	174	208
80	25	450	23	137	86	32	83	140	10	M12	28	180	16	165	35	70	10	W35x2x16x9g	40	EXT16Zx2mx30Rx5f	40	36	174	208
107	25	476	25	130	90	40	80	160	12	M12	28	200	20	190	40	80	12	W40x2x18x9g	45	EXT18Zx2mx30Rx5f	45	40	190	225
125	20	552	28	156	–	40	–	180	10	M16	36	224	20	210	45	90	14	W45x2x21x9g	50	EXT21Zx2mx30Rx5f	50	45	212	257
160	25	547	28	156	–	40	–	180	10	M16	36	224	20	210	45	90	14	W45x2x21x9g	50	EXT21Zx2mx30Rx5f	50	45	212	257

Ports

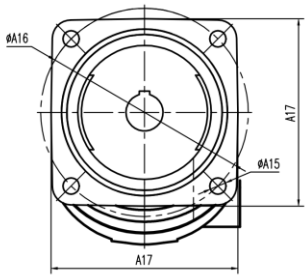


Size	B_1	B_2	B_3	B_4	B_5	B_6	B_7	B_8	B_9	B_{10}	B_{11}	B_{12}	B_{13}	B_{14}	B_{15}	B_{16}	B_{17}	T
45	132	M33x2deep18	126	ϕ 19	50.8	23.8	4–M10deep16	63	ϕ 19	50.8	23.8	4–M10deep16	29	ϕ 42	48	48	4–M10deep16	M18x1.5
55	132	M33x2deep18	126	ϕ 19	50.8	23.8	4–M10deep16	63	ϕ 19	50.8	23.8	4–M10deep16	29	ϕ 42	48	48	4–M10deep16	M18x1.5
63	156	M42x2deep20	150	ϕ 25	57.2	27.8	4–M12deep16	75	ϕ 25	57.2	27.8	4–M12deep16	35.5	ϕ 53	60	60	4–M12deep18	M18x1.5
80	156	M42x2deep20	150	ϕ 25	57.2	27.8	4–M12deep16	75	ϕ 25	57.2	27.8	4–M12deep16	35.5	ϕ 53	60	60	4–M12deep18	M18x1.5
107	165	M42x2deep20	160	ϕ 25	57.2	27.8	4–M12deep18	80	ϕ 25	57.2	27.8	4–M12deep18	35.5	ϕ 53	60	60	4–M12deep18	M18x1.5
125	195	M48x2deep22	190	ϕ 32	66.7	31.8	4–M14deep21	95	ϕ 32	66.7	31.8	4–M14deep21	42.2	ϕ 68	75	75	4–M16deep24	M22x1.5
160	195	M48x2deep22	190	ϕ 32	66.7	31.8	4–M14deep21	95	ϕ 32	66.7	31.8	4–M14deep21	42.2	ϕ 68	75	75	4–M16deep24	M22x1.5

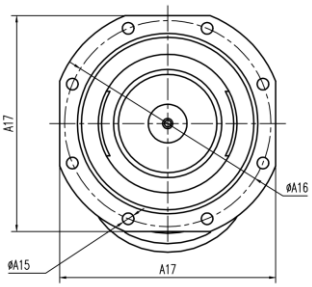
Dimensions Size

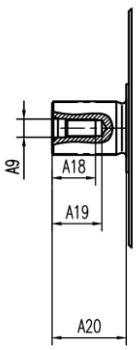


Size 200–250



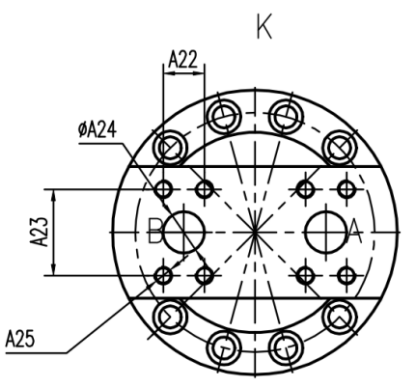
Size 355



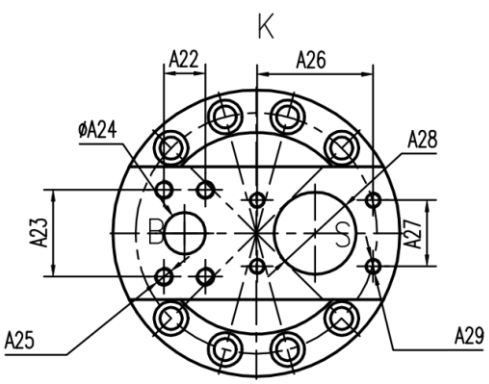


K direction

Rear cover type 1



Rear cover type 2



Size	α °	A_1	A_2	A_3	A_4	A_5	A_6	A_7	A_8	A_9	A_{10}	A_{11}	A_{12}	A_{13}	A_{14}	A_{15}
200	21	380.8	25	120	134	9	224	53.5	50	M16	36	46	82	129	M22	22
250	26.5	381	25	120	134	9	224	53.5	50	M16	36	46	82	129	M22	22
355	26.5	419.7	28	140	160	14.5	280	64	60	M20	42	52	105	155	M33	18

Size	A_{16}	A_{17}	A_{18}	A_{19}	A_{20}	A_{21}	A_{22}	A_{23}	A_{24}	A_{25}	A_{26}	A_{27}	A_{28}	A_{29}	A_{30}	A_{31}
200	280	252	36	46	58	47	31.8	66.7	32	M14	88.9	50.8	63	M12	55	45
250	280	252	36	46	58	47	31.8	66.7	32	M14	88.9	50.8	63	M12	55	45
355	320	340	48	55	82	50	36.6	79.4	40	M16	88.9	50.8	63	M12	60	50