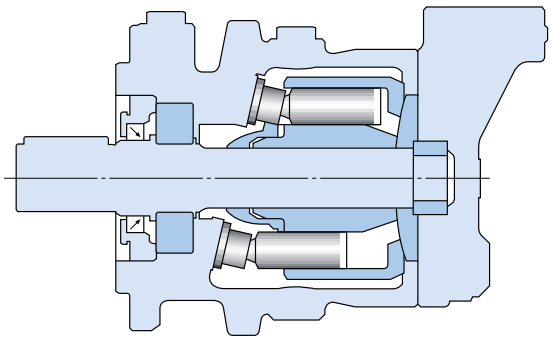
Fixed Displacement Axial Piston Motor K3X Series



The K3X series are newly developed motors for industrial machinery.
The design is based on technology and experience of current K3V series for construction machinery or industrial machinery.

FEATURES

1. High E□ciency and Reliability

K3X series has high e□ciency and high reliability by using common rotary parts of K3V Series pumps which are used widely for construction machines and have many years of experience.

2. Allowable to Apply The Radial Force

The motor shaft can withstand radial loads. But in this case, bearing life decrease.

3. Allowable to Use on Upward Motor Shaft Position

The motor has the drain port to be installed with shaft vertical.

ORDERING CODE

K3X 112 S -1 0 0 M - D1

K3X series

size
63 : 64cm³ 90 : 89cm³
80 : 82cm³ 112 : 111cm³

power code, shaft code
0 : standard type, key (standard)
1 : standard type, involute spline
5 : high power type, key
6 : high power type, involute spline

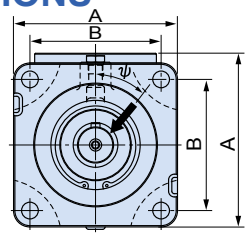
valve cover code and direction of rotation
(A port :high press., view from shaft end)
0 : split □ange and clockwise rotation (standard)
1 : thread □ange and clockwise rotation
2 : split □ange and anti-clockwise rotation
3 : thread □ange and anti-clockwise rotation

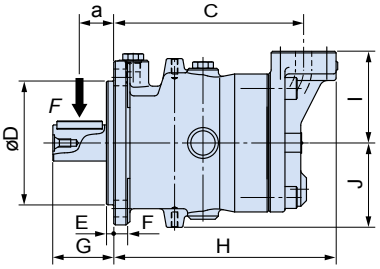
oil temp. code

marks	oil temperature range	remarks
V2	90°C < θ °C	all seal parts: □uoro-rubber
V1	90°C ≧ θ °C	oil seal: □uoro-rubber
blank	–20°C ≦ θ ≦90°C	
D1	–30°C < θ <–20°C	
D3	–45°C ≦ θ ≦–30°C	

DIMENSIONS

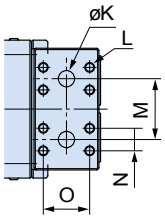
M3X112 S



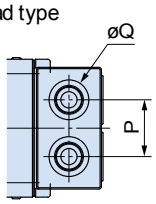


◆ **Main □ange**

split type



thread type



(mm)

size	A	B	C	øD	E	F	G	H	I	J	øK	L	M	N	O	P	Q
K3X63	146.5	114.5	198	127	12.7	14	55.5	234	102	91	16	M10	66	23.8	50.8	66	SAE3/4" ,1-1/16"-12UN-2B
K3X 80/90/112	202.0	161.6	234	152.4	9.0	17	75.0	276	113	104	20	M12	75	27.8	57.2	70	SAE1" ,1-5/16"-12UN-2B

Fixed Displacement Axial Piston Motor K3X Series

SPECIFICATIONS

model			standard type				high speed type			
			K3X63	K3X80	K3X90	K3X112	K3X63	K3X80	K3X90	K3X112
displacement		V_g cm³	64	82	89	111	51	82	89	111
pressure MPa (kgf/cm²)	rated		31.4 (320) *1				31.4 (320) *1			31.4(320) *2
	max.		34.3 (350)				34.3 (350)			
max. speed		n max min⁻¹	2,400	2,200			3,000			3,000 *2
max. flow		L /min	152	181	200	244	153	247	268	333
rated torque		N·m	316	411	450	554	255	411	446	554
rated power		kW	79	95	100	128	80	129	140	174
case volume		L	0.3	0.5			0.3	0.5		
moment of inertia		N·m²	0.3	0.6			0.3	0.6		
mass		kg	23	40			23	40		

*1 For K3X63S with key type shaft, rated pressure is 24.5 MPa (250 kgf/cm²).

*2 In case that the motor is used at the max. speed of 3,000min⁻¹, rated pressure is 25.1 MPa (255 kgf/cm²), and at the rated pressure of 31.4 MPa (320 kgf/cm²), max. speed is 2,400min⁻¹.

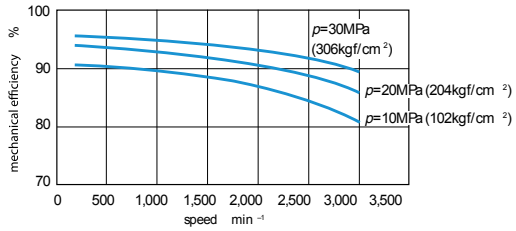
PERFORMANCE CURVE

oil temperature : 50°C oil viscosity : 32mm²/s

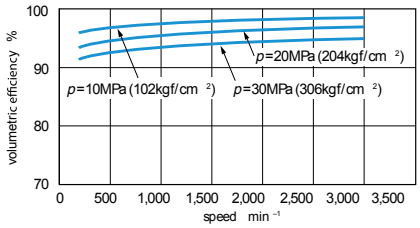
M3X112

The values given in the below figures are mean ones, and not guaranteed ones.

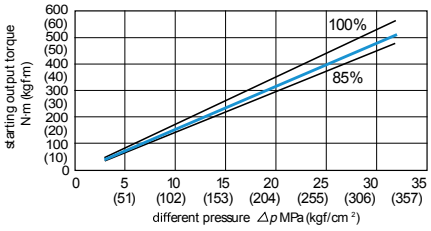
◆ **Mechanical efficiency (%)**



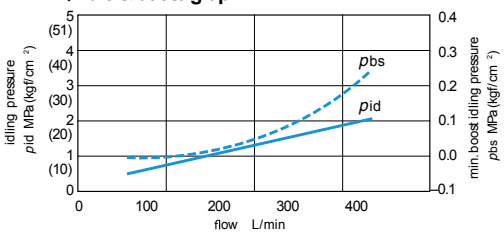
◆ **Volumetric efficiency**



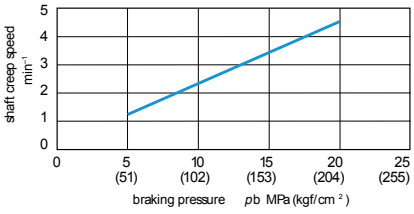
◆ **Starting mechanical efficiency**



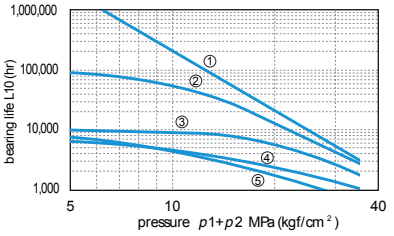
◆ **Idle & boost-graph**



◆ **Shaft creep speed**



◆ **Radial load and bearing life**



symbole	ψ	F
units	deg.	N
①	90	0
②	90	5,000
③	90	10,000
④	0	10,000
⑤	180	10,000

a = 42 mm
V_g = 111 cm³
n = 1,000 min⁻¹

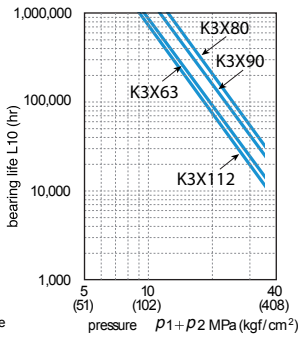
Regarding ψ F and a, please refer to the figures of DIMENTIONS in page 25.

■ Bearing life

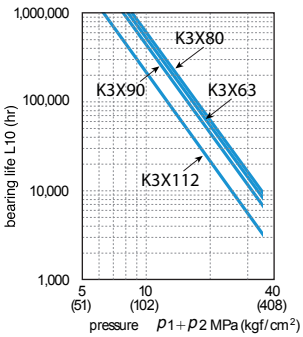
The calculated life (B_{10} life) shown in the graph is for speed No=1,000min⁻¹
Calculation of life for a random speed N is follows.

$$L = \frac{No}{N} \times Lo \quad (Lo : \text{calculated life for No})$$

◆ Front bearing life



◆ **Rear bearing life**



(Note)
p_1: inlet pressure
p_2: outlet pressure