



Hydrostatics Transmission



**Pumps & Motors for
Heavy Duty Mobile Applications**

MAXMA FLUID POWER INC.

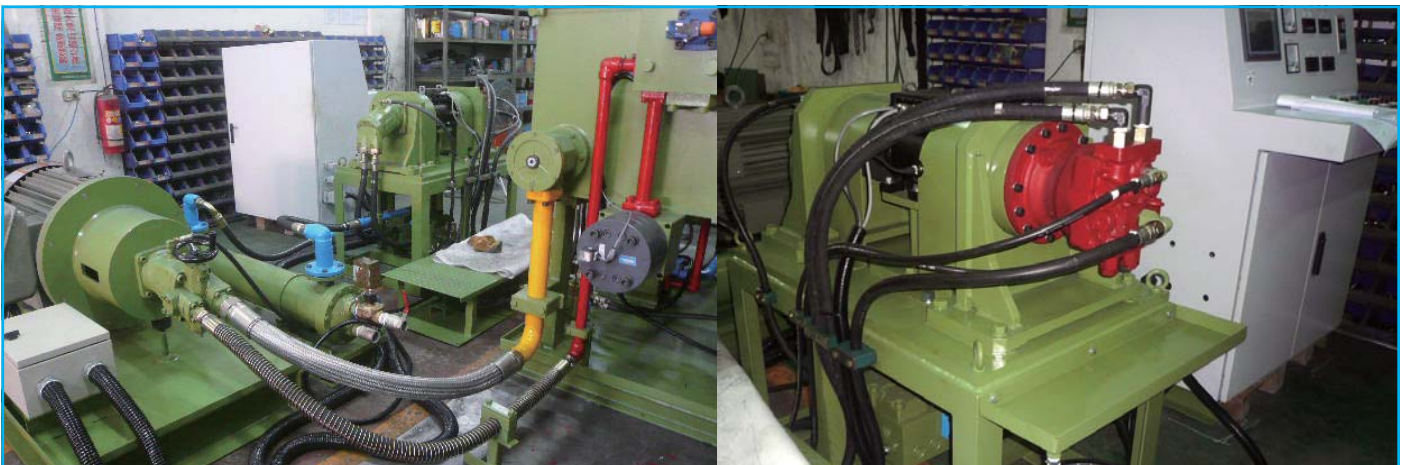
Introduction

Maxma based on 30 years of sales experience, combined with Japanese company in technology and production experience, manufacturing axial piston pumps and motors for hydrostatic system applications and provides complete hydraulic components.

Our products range can be used on mobile machinery, agricultural machinery, shipbuilding machinery and for a lot of different hydraulic equipment applications.

Our flexibility and our technicians can develop in location of the machine of our customers, are peculiarity of our service and our factory.

We would like to be close partner of our customer, with the quality of our products and the delivery on time for your satisfaction. We are grateful to our customers for the faith that always you give to us and we will be really happy to grow with them.



Series M9V&M9F Axial Piston Pumps & Motors

Technical Information

General Description

The M9V series variable displacement pump with cradle swashplate design and use the Parallel axial piston / slipper concept in connect with a tiltable swashplate to change the pumps displacement. They are for closed circuits hydrostatic transmissions applications.

The flow is proportional to the rotation speed and the swashplate angle. The flow increases when swashplate angle of inclination increases from 0 to maximum position. Inverting the angle of the swashplates, reverses the flow direction and thus reverses the direction of rotation of the motor output.

Series M9V pumps include an integral charge pump to provide system replenishing and cooling oil flow, as well as control fluid flow. And through drive shaft on option to accept auxiliary hydraulic pumps for use in complementary hydraulic systems.

The pump is equipped with two high pressure relief valves to protect the circuit from overloads and with anti-cavitation integrated system. And the design choices allow the new unit to operate at pressures up to of 420 bar (6000psi).

A complete family of control options is available to suit a variety of control systems (mechanical, hydraulic, electric).

Series M9F motors also use the parallel axial piston/ slipper design in connect with a fixed swashplate. They can input/discharge oil through either port; they are bidirectional. Both of them include an optional circuit flushing function that provides additional cooling and cleaning of fluid in the working circuit.

TECHNICAL DATA

Description	Unit	M9V-75	M9V-100
Max. displacement	cm ³ /rev (in ³ /rev)	76 (4.60)	102 (6.15)
Working pressure	Bar (psi)	350 (5000)	
Max. pressure	Bar (psi)	420 (6000)	
Min. speed	min ⁻¹ (rpm)	500	500
Rated Speed	min ⁻¹ (rpm)	3500	3200
Max. speed	min ⁻¹ (rpm)	3900	3600
Charge pump displacement	cm ³ /rev (in ³ /rev)	20 (1.22)	
Charge pump pressure Min / Max	Bar (psi)	20 / 30 (290 / 435)	
Flow at ratio speed (theoretical)	l/min (US gal/min)	267(70.3)	326(85.8)
Torque at maximum displacement (theoretical)	N·m/ 70 bar (lbf·in/1000 psi)	1.196(733.7)	1.593(971.8)
Direction of rotation	Right hand or Left hand rotation		
Input Shaft	Splined and Tapered available		
Weight	kg(lb)	49(108)	67(147.5)

TECHNICAL DATA

Description	Unit	M9F-75	M9F-100
Max. displacement	cm ³ /rev (in ³ /rev)	76 (4.60)	102 (6.15)
Working pressure	Bar (psi)	350 (5000)	
Max. pressure	Bar (psi)	420 (6000)	
Min. speed	min ⁻¹ (rpm)	500	500
Rated Speed	min ⁻¹ (rpm)	3500	3200
Max. speed	min ⁻¹ (rpm)	3900	3600
Max. corner power	kW (hp)	234(314)	290(389)
Torque at maximum displacement (theoretical)	N·m/ 70 bar (lbf·in/1000 psi)	1.196(733.7)	1.593(971.8)
Direction of rotation	Bi-directional		
Output shaft	Splined and Straight available		
Weight	kg (lb)	35(77)	45(99)

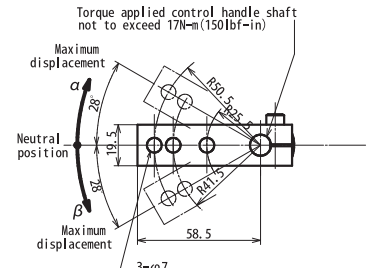
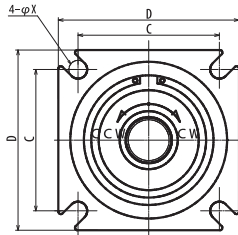
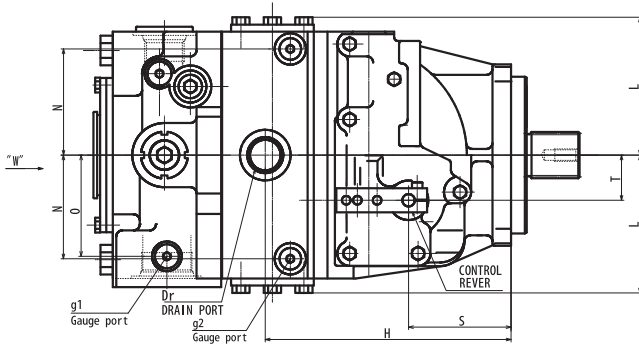
General Specifications

Mounting (per ISO 3019-1) Flange 127-4 (SAE C)	Case Pressure bar (psi)
Main ports: 4-bolts flange (per SAE J518 code 62) 25.4(1.0)	Rated : 3 (44)
Auxiliary mounting SAE-A,B	Maximum : 5 (73)

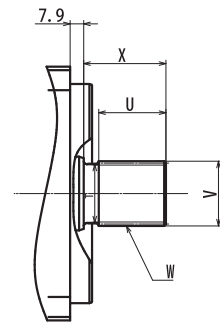
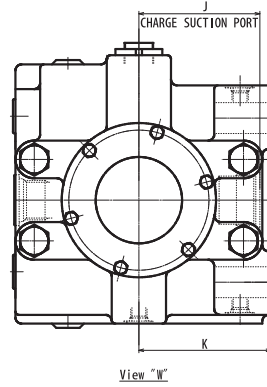
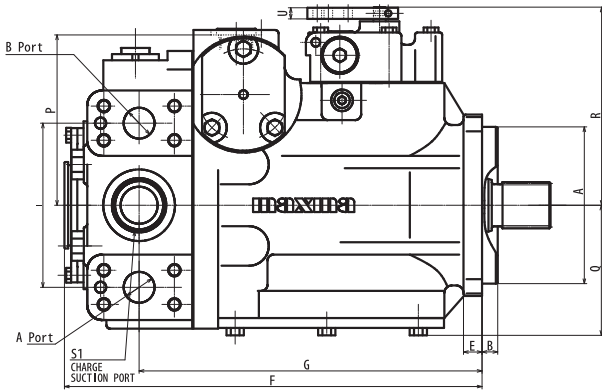
Charge pump inlet pressure bar(absolute) / (in Hg Vac.)	Temperature °C (°F)
Rated : 0.7 / (9)	Minimum (cold start) : -25 (-13)
Minimum (cold start) : 0.2 / (24)	Rated : + 90 (+194)
Maximum : 4 bar (58 psi)	Maximum intermittent : +100 (+212)

Filtration	Viscosity, mm ² / sec (cSt) (SUS)
Solid Particle contamination level of 18/16/13	Recommended range : 12 - 80 (66-370)
Cleanliness per ISO 4406-1999	Maximum : 1600 (7500)
	Minimum : 7 (49)

Series M9V Axial piston pumps



Manual displacement control handle dimensions

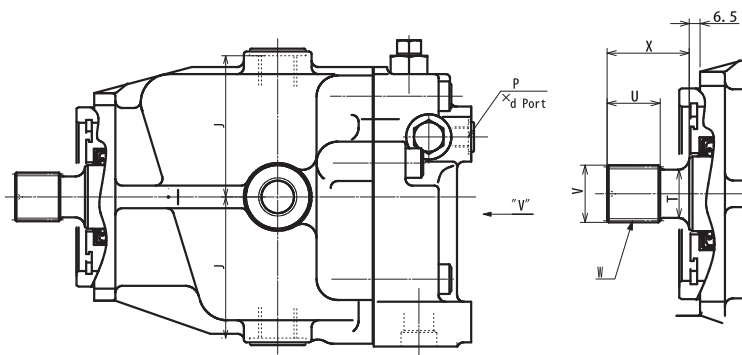
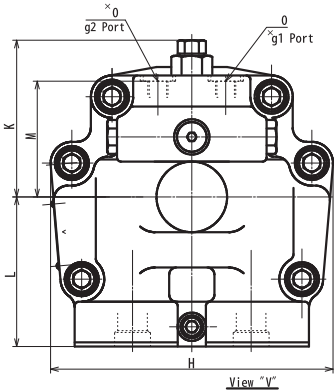


Shaft option

Code	Teeth
S1	14
S2	21
S3	23

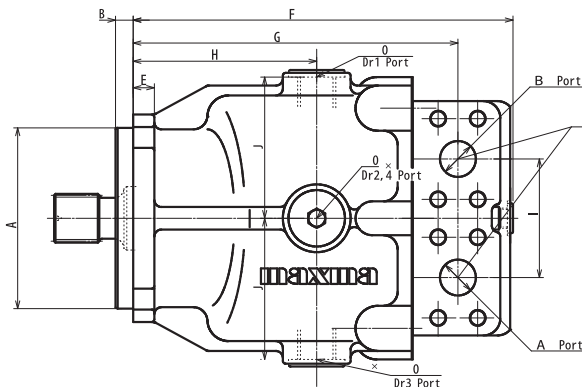
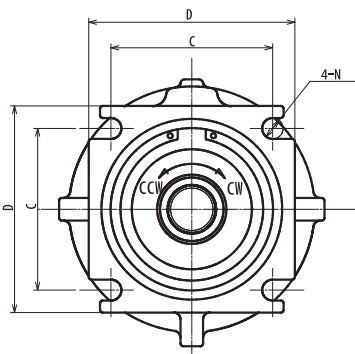
	A	B	C	D	E	F	G	H	I	J	K	L	P	Q	R	Dr	g1	g2
M9V-075	126.7	12.45	114.5	146.4	14.2	306.1	248.2	172.2	122	99	110	92	124.2	94.5	149.8	1 1/16-12UN-2B	9/16-18UNF-2B	9/16-18UNF-2B
M9V-100	127	12.7	114.5	146.4	15	338.3	277.8	199.1	133	98	107	112	140	106	161	1 1/16-12UN-2B	9/16-18UNF-2B	9/16-18UNF-2B

Series M9F Axial piston motors



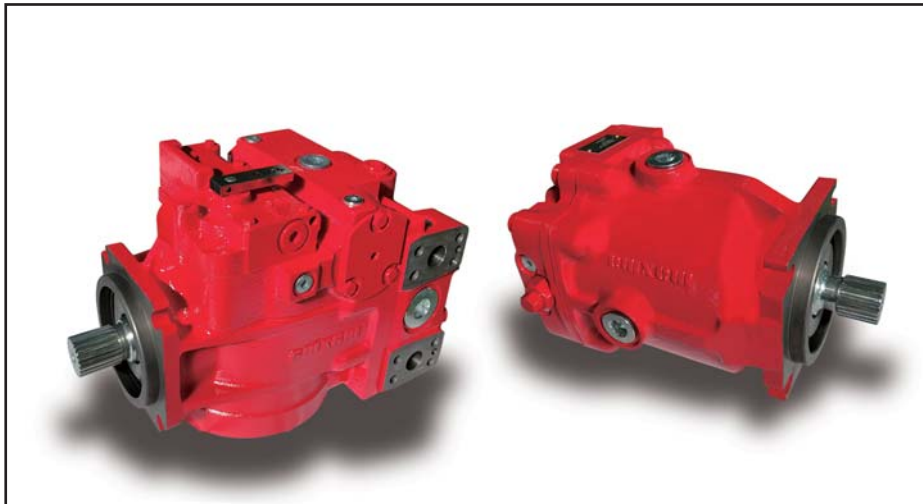
Shaft option

Code	Teeth
S1	14
S2	21
S3	23



End cap ports
1.00-600psi (4) bolt
split flange type per
SAE j518
bolt size 8-N12*1.75
effective depth 25

	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P
M9F-075	127	12.7	114.5	146.4	14.7	239.8	208.8	113.8	83.56	97	105.8	96.8	4-14.8	1 1/16-12UN-2B	9/16-18UNF-2B
M9F-100	127	12.7	114.5	146.4	15	269	230	130	84	100	111	106	4-14.3	1 1/16-12UN-2B	9/16-18UNF-2B



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