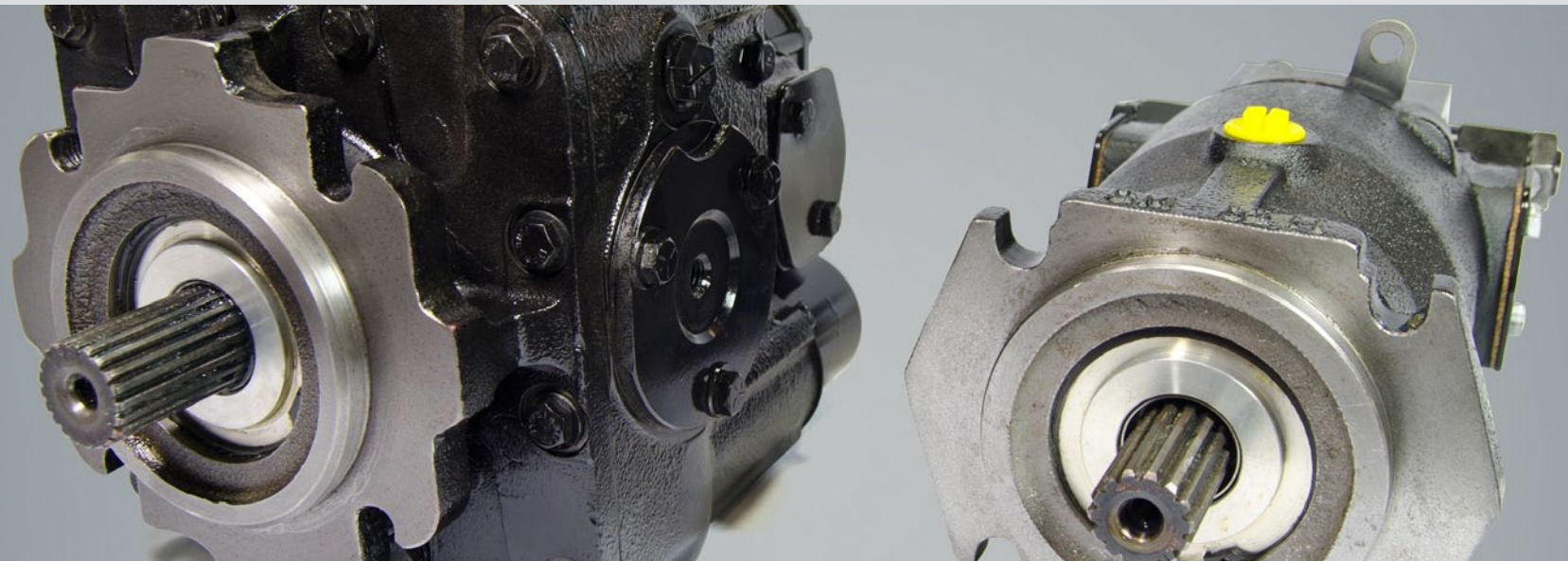


# Genuine Metaris PV & MF Series Pumps and Motors

Engineered for Quality, Durability and Versatility



## Designed for High Efficiency Output

Our 20 series aftermarket replacement pumps and motors are engineered for quality, durability and versatility. Components used are designed for high efficiency. For example, components such as tapered roller bearings are utilized, which offer a high loading capacity for external radial forces. Our lineup of aftermarket 20 series consists of variable displacement pumps and fixed displacement motors in multiple displacements, and replacement parts. Our units are easily serviceable and most all components are replaceable and stocked by Hydraulex Global. These units and parts are fit, form and function replacements for Sauer-Sundstrand® 20 series components.

- Suitable for a variety of applications
- Multiple displacements and options available
- 8 different frame sizes
- Engineered to provide a long service life and reliability
- Fixed displacement motor can be operated in either direction of rotation
- Multiple drive shaft options and control options
- Heavy duty bearings and shafts
- Easily serviceable
- Replacement parts also available
- Direct replacements for Sauer-Sundstrand® 20 series



# Variable Displacement Pumps

## Model Code Breakdown

**PV - 20 - AAA - R - A - A - B - 13 - B1 - 000**

**Series**  
PV

**Displacement**  
cm<sup>3</sup>/r (in<sup>3</sup>/r)

20 = 33.3 (2.03)	24 = 118.7 (7.24)
21 = 51.6 (3.15)	25 = 165.8 (10.12)
22 = 69.8 (4.26)	26 = 227.3 (13.87)
23 = 89.0 (5.43)	27 = 333.7 (20.36)

**Type of Control**

AAA = Without mechanical-hydraulic servo valve, with top cover only

BBB = Without mechanical-hydraulic servo valve, with joining piece and cover

MH = Mechanical hydraulic servo valve

MC = Mechanical-hydraulic servo valve with a pressure override valve (POR)

HDC = Hydraulic Displacement Control

HDP = Hydraulic Displacement Control with pressure override valve (POR)

**Rotation**

R = Clockwise CW

L = Counter-Clockwise CCW

V = Reversible

**Shaft**

A = 14t, 12/24 Pitch, Ø31.20 (1.23")	I = 20t, 16/32 Pitch, Ø32.91 (1.30")
B = 19t, 16/32 Pitch, Ø31.75 (1.25")	J = Cone 1:8, SAE J501, Ø41.27 (1.62")
C = 21t, 16/32 Pitch, Ø34.50 (1.36")	K = Cone 1:8, SAE J501, Ø31.75 (1.25")
D = 23t, 16/32 Pitch, Ø37.68 (1.48")	L = Parallel with Key, Ø34.925 (1.38")
E = 27t, 16/32 Pitch, Ø44.03 (1.73")	M = Parallel with Key, Ø44.45 (1.75")
F = 40t, 16/32 Pitch, Ø64.66 (2.55")	P = 15t, 16/32 Pitch, Ø25.40 (1.00")
G = 13t, 8/16 Pitch, Ø43.71 (1.72")	R = 13t, 16/32 Pitch, Ø21.80 (0.86")

**Design Code**

000 = Standard

XXX = Special Production Number

**Orifice**

A = Ø0.76 (0.030")	1 = Orifice in channel "P"
B = Ø0.91 (0.036")	2 = Orifice in channel "A", "B"
C = Ø1.05 (0.041")	3 = Orifice in channel "P", "A", "B"
D = Ø1.36 (0.054")	4 = Orifice in channel "A"
E = Ø1.60 (0.063")	5 = Orifice in channel "B"
N = Without Orifice	6 = Orifice in channel "P", "A"
	7 = Orifice in channel "P", "B"
	0 = Without Orifice

**Pressure Setting of Gear Pump**

13 = 1.3 MPa (1.3±0.05 MPa at 3.8 dm<sup>3</sup> min<sup>-1</sup>)

XX = Other

00 = Without Charge Pump

*Other values according to mutual agreement, max 3.5 MPa*

**Charge Gear Pump** cm<sup>3</sup>/r (in<sup>3</sup>/r)

B = 12.3 (0.75)	E = 32.8 (2.00)
C = 18.0 (1.10)	F = 65.5 (4.00)
D = 18.9 (1.15)	NN = Without Charge Pump

**Ports**

A = SAE J518c, Code 62, Size 1", 6000psi, 7/16"-14UNC-2A

B = SAE J518c, Code 61, Size 1", 5000psi, 3/8"-16UNC-2A

C = ISO 6162, DN25, Type II, 40 MPa, M12

D = SAE J518c, Code 62, Size 3/4", 6000psi, 3/8"-16UNC-2B

E = SAE J518c, Code 61, Size 3/4", 5000psi, 3/8"-16UNC-2B

F = ISO 6162, DN19, Type II, 40 MPa, M10

## PV Series Piston Pumps



Pump Series	Displacement (in <sup>3</sup> / cm <sup>3</sup> )	RPM (Min. / Max.)	Max Torque* (KG·M <sup>2</sup> ·10 <sup>-3</sup> / LBF·FT <sup>2</sup> ·10 <sup>-3</sup> )
PV-20	2.03 / 33.3	500 / 3800	4.34 / 103.0
PV-21	3.15 / 51.6	500 / 3500	8.14 / 193.2
PV-22	4.26 / 69.8	500 / 3200	12.34 / 292.8
PV-23	5.43 / 89.0	500 / 2900	17.77 / 421.7
PV-24	7.24 / 118.7	500 / 2700	29.11 / 690.8
PV-25	10.12 / 165.8	500 / 2400	50.19 / 1191.0
PV-26	13.87 / 227.3	500 / 2100	86.80 / 2059.8
PV-27	20.36 / 333.7	500 / 1900	161.40 / 3830.0

\* Without Charge Pump

# Fixed Displacement Motors

## Model Code Breakdown

**MF - 20 - A - B - A - 11 - 35 - 35 - 000**

**Series**  
MF

**Displacement**  
cm<sup>3</sup>/r (in<sup>3</sup>/r)

**20** = 33.3 (2.03)      **24** = 118.7 (7.24)  
**21** = 51.6 (3.15)      **25** = 165.8 (10.12)  
**22** = 69.8 (4.26)      **26** = 227.3 (13.87)  
**23** = 89.0 (5.43)      **27** = 333.7 (20.36)

**Shaft**

**A** = 14t, 12/24 Pitch, Ø31.20 (1.23")  
**B** = 19t, 16/32 Pitch, Ø31.75 (1.25")  
**C** = 21t, 16/32 Pitch, Ø34.50 (1.36")  
**D** = 23t, 16/32 Pitch, Ø37.68 (1.48")  
**E** = 27t, 16/32 Pitch, Ø44.03 (1.73")  
**F** = 40t, 16/32 Pitch, Ø64.66 (2.55")  
**G** = 3t, 8/16 Pitch, Ø43.71 (1.72")  
**I** = 20t, 16/32 Pitch, Ø32.91 (1.30")  
**J** = Cone 1:8, SAE J501, Ø41.27 (1.62")  
**K** = Cone 1:8, SAE J501, Ø31.75 (1.25")  
**L** = Parallel with Key, Ø34.925 (1.38")  
**M** = Parallel with Key, Ø44.45 (1.75")  
**P** = 15t, 16/32 Pitch, Ø25.40 (1.00")  
**R** = 13t, 16/32 Pitch, Ø21.80 (0.86")

**Ports**

**A** = SAE J518c, Code 62, Size 1", 6000psi, 7/16"-14UNC-2A  
**B** = SAE J518c, Code 61, Size 1", 5000psi, 3/8"-16UNC-2A  
**C** = ISO 6162, DN25, Type II, 40 MPa, M12  
**D** = SAE J518c, Code 62, Size 3/4", 6000psi, 3/8"-16UNC-2B  
**E** = SAE J518c, Code 61, Size 3/4", 5000psi, 3/8"-16UNC-2B  
**F** = ISO 6162, DN19, Type II, 40 MPa, M10

**Design Code**  
**000** = Standard  
**XXX** = Special Production Number

**Pressure Setting in Port B**  
**11** = 11 MPa (1600)  
**14** = 14 MPa (2050)  
**35** = 35 MPa (5000)  
**40** = 40 MPa (5500)  
**42** = 42 MPa (6000)  
**00** = Without Pressure Valve

**Pressure Setting in Port A**  
**11** = 11 MPa (1600)  
**14** = 14 MPa (2050)  
**35** = 35 MPa (5000)  
**40** = 40 MPa (5500)  
**42** = 42 MPa (6000)  
**00** = Without Pressure Valve

**Pressure Setting of Valve in Manifold Assembly**  
**11** = 1.1 MPa (1.1±0.05 MPa at 3.8 dm<sup>3</sup> min<sup>-1</sup>)  
**13** = 1.3 MPa (1.3±0.05 MPa at 3.8 dm<sup>3</sup> min<sup>-1</sup>)  
**16** = 1.6 MPa (1.6±0.05 MPa at 3.8 dm<sup>3</sup> min<sup>-1</sup>)  
**00** = Without Manifold Assembly

**Manifold Assembly**  
**A** = Manifold Assembly with Bypass Valve  
**B** = Manifold Assembly without Bypass Valve  
**C** = Without Manifold Assembly with Cover Plate  
**N** = Without Manifold Assembly

## MF Series Piston Motors



Pump Series	Displacement (in <sup>3</sup> / cm <sup>3</sup> )	RPM (Min. / Max.)	Max Torque (KG·M <sup>2</sup> ·10 <sup>-3</sup> / LBF·FT <sup>2</sup> ·10 <sup>-3</sup> )
MF-20	2.03 / 33.3	500 / 3800	4.34 / 103.0
MF-21	3.15 / 51.6	500 / 3500	8.14 / 193.2
MF-22	4.26 / 69.8	500 / 3200	12.34 / 292.8
MF-23	5.43 / 89.0	500 / 2900	17.77 / 421.7
MF-24	7.24 / 118.7	500 / 2700	29.11 / 690.8
MF-25	10.12 / 165.8	500 / 2400	50.19 / 1191.0
MF-26	13.87 / 227.3	500 / 2100	86.80 / 2059.8
MF-27	20.36 / 333.7	500 / 1900	161.40 / 3830.0

# Hydralex Global - A Recognized Global Leading Provider of High Quality Hydraulic Components



## Products We Offer

- Inline Piston Pumps
- Radial Piston Pumps & Motors
- Bent Axis Piston Pumps & Motors
- Fixed Volume Vane Pumps
- Variable Volume Vane Pumps
- Gear Pumps
- Vane Motors
- Axial Piston Motors
- High Speed Motors
- Servo Motors
- Orbital Motors
- Directional Valves
- Flow Control Valves
- Pressure Control Valves
- Relief Valves
- Check Valves
- Stack Valves
- Servo Valves
- Proportional Valves
- PTOs (Power Take-offs)
- Cylinders



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