

Metaris Piston Pumps & Components for MA10VO/VSO Size 28, 45 & 71

Performance Data MA10VO/VSO 28, 45 & 71 Series 31

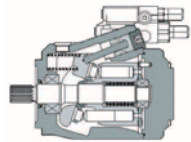
	28	1,71 CULIN	45	2,75 CULIN	71	4,33 CULIN	100	6,10 CULIN
PRESSURE	4000 PSI	280 BAR	3600 PSI	250 BAR	4000 PSI	280 BAR	4000 PSI	280 BAR
PEAK PRESSURE	5100 PSI	350 BAR	4600 PSI	315 BAR	5100 PSI	350 BAR	5100 PSI	350 BAR
MAX. FLOW	21.5 GPM	81 LITERS	30 GPM	131 LITERS	40 GPM	152 LITERS	52 GPM	197 LITERS
MAX SPEED	3000 RPM		2600 RPM		2200 RPM		2000 RPM	

MA10VO/VSO 45 Series 52

	45	2,75 CULIN
PRESSURE	3600 PSI	250 BAR
PEAK PRESSURE	4600 PSI	315 BAR
MAX. FLOW	30 GPM	131 LITERS
MAX SPEED	2600 RPM	

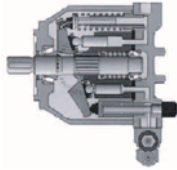
Precision built and totally interchangeable

Variable displacement axial piston pumps are designed for open loop hydraulic systems. Flow is proportional to the drive speed. By adjusting the position of the swash plates it is possible to smoothly vary the flow



Features include:

- * Maximum Stop Adjustment
- * Long Service Life
- * Low noise level
- * Wide range of controls
- * SAE mounting flange and shaft
- * Flange connection SAE
- * 2 case drain connections
- * Continuous operation pressure of 4000psi(280 bar)



All items listed are Metaris manufactured. Metaris has put this guide together to aid customers and is not responsible for the accuracy of the information herein.



METARIS PARTS

Our extensive inventory assures you of prompt shipping of pump and parts anywhere in the world.

Our parts are 100% interchangeable with OEM products. We are committed to producing quality products and processing your orders on time.

Whatever your application, Metaris has a high quality replacement product backed by our 100% commitment to service.

We strive to meet your every hydraulic need.



WIDE RANGE OF COMPONENTS

Metaris Corporation
1519 Hwy 35 North, Forest, Mississippi 39074
Tel: (801) 469-1987 / Toll Free 1-800-962-2703
Fax: (801) 469-2120 / Toll Free 1-800-654-5083
E-mail: sales@metarisausa.com

Metaris Inc.
1120 Lodestar Rd, Toronto, Ontario M3J 2Z4
Tel: (416) 638-6000 / Toll Free 1-888-477-2737
Fax: (416) 638-9365 / Toll Free 1-866-638-9365
E-mail: sales@metaris.com

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www.metaris.com



METARIS OPEN LOOP PISTON PUMPS
SERIES MA10VO/VSO



YOUR SOURCE FOR HIGH QUALITY PISTON PRODUCTS

- A10V /31** Swashplate design variable, normal pressure 280 bar (4000 psi), peak pressure 350 bar (5100 psi)
- A10VS /31** Swashplate design variable, c/w max flow adj., industrial applications normal pressure 280 bar (4000 psi), peak pressure 350 bar (5100 psi)
- A10V /52** Swashplate design variable, normal pressure 250 bar (3600 psi), peak pressure 315 bar (4600 psi)
- A10VS /52** Swashplate design variable, c/w max flow adj., normal pressure 250 bar (3600 psi), peak pressure 315 bar (4600 psi)
- O** Mode of operation (Pump open circuit)
- 28** Flow Vg max= 28 cm³ (cu.in. 1.71)
- 45** Flow Vg max= 45 cm³ (cu.in. 2.75)
- 71** Flow Vg max= 71 cm³ (cu.in. 4.33)
- 100** Flow Vg max= 100 cm³ (cu.in. 6.10)
- DFR** Pressure and flow controller
- DFR1** Pressure and flow controller X port plugged
- DR** Pressure controller
- DRG** Remote pressure controller
- DFLR** Pressure flow and power control
- 31** Series 31
- 52** Series 52
- R** Right (clockwise rotation)
- L** Left (counter clockwise rotation)
- P** Buna-N (FPM shaft seal)
- V** FPM (Fluorocarbon)
- 71** series Metric keyed shaft (DN 6885) 32mm
- K** 71 series SAE keyed shaft (1.125 dia)
- C** 71 series Spline shaft (14 tooth cast, type)
- S** 71 series SAE spline shaft (14 tooth - 1.250)
- R** 71 series SAE spline shaft reinforced for through drive torques
- P** 45 series Metric keyed shaft (DN 6885) 25mm
- S** 45 series SAE spline shaft (13 tooth - 1.)
- U** 45 series SAE spline shaft (13 tooth - .875)
- K** 45 series SAE keyed shaft (1" dia)
- R** 45 series SAE spline shaft reinforced for through drive torques
- P** 28 series Metric keyed shaft (DN 6885) 22mm
- S** 28 series SAE spline shaft (13 tooth - .875)
- P** 28 series SAE keyed shaft (.875 dia)
- K** 28 series SAE spline shaft reinforced for through drive torques
- P** 100 series Metric keyed shaft (DN 6885) 40mm
- K** 100 series SAE keyed shaft 1.5
- U** 100 series SAE spline shaft (14 tooth - 1.250)
- S** 100 series SAE spline shaft (- 1.5)
- W** 100 series SAE spline shaft reinforced for through drive (14 Tooth 1.250)

MA10VO/VSO 45 DFR /52 R P S C 62 NOO (OPTION 1) /31 R P S C 62 NOO (OPTION 2)

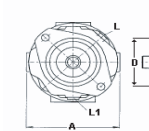
- A** ISO 2-hole mounting
- C** SAE 2-hole mounting
- 11** 28 series Rear port flange metric mounting screws
- 12** 28 series Side port flange metric mounting screws
- 61** 28 series Rear port flange U.N.C. mounting screws
- 62** 28 series Side port flange U.N.C. mounting screws
- 11** 45 series Rear port flange metric mounting screws
- 12** 45 series Side port flange metric mounting screws
- 61** 45 series Rear port flange U.N.C. mounting screws
- 62** 45 series Side port flange U.N.C. mounting screws
- 11** 71 series Rear port flange (1" & 1 1/4" combination pressure port) metric mounting screws
- 12** 71 series Side port flange (1" & 1 1/4" combination pressure port) metric mounting screws
- 41** 71 series Rear port flange (1" pressure) metric mounting screws
- 42** 71 series Side port flange (1" pressure) metric mounting screws
- 44** 71 series Side port flange (1 1/4" pressure port) metric mounting screws
- 61** 71 series Rear port flange (1" & 1 1/4" combination pressure port) U.N.C. mounting screws
- 62** 71 series Side port flange (1" & 1 1/4" combination pressure port) U.N.C. mounting screws
- 91** 71 series Rear port flange (1" pressure) U.N.C. mounting screws
- 92** 71 series Side port flange (1" pressure) U.N.C. mounting screws
- 93** 71 series Rear port flange (1 1/4" pressure port) U.N.C. mounting screws
- 94** 71 series Side port flange (1 1/4" pressure port) U.N.C. mounting screws
- 12** 100 series Side port flange (1" & 1 1/4" combination pressure port) metric mounting screws
- 62** 100 series Side port flange (1" & 1 1/4" combination pressure port) U.N.C. mounting screws
- 41** 100 series Rear port flange (1" pressure) metric mounting screws
- 42** 100 series Side port flange (1" pressure) U.N.C. mounting screws
- 62** 100 series Side port flange (1" pressure) U.N.C. mounting screws

NOO Standard cover Without through-drive

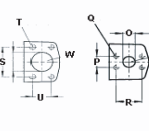
- K001** 82-2 SAE A mounting (19-4 SAE "A" coupling required)
- K002** 101-2 SAE B; pilot mounting (23-4 SAE "B" coupling required)
- K003** SAE B 2 bolt (SAE "B" keyed coupling required)
- K004** 101-2 SAE B mounting (25-4 SAE "B" coupling required)
- K006** 101-2 SAE B mounting (32-4 SAE "A" coupling required)
- K007** 121-2 SAE C mounting (32-4 SAE "C" coupling required)
- K008** SAE C 2 bolt mounting (SAE "C" keyed coupling required)
- K40** SAE A 2 bolt mounting (SAE "A" coupling required)
- K52** 82-2 SAE A mounting (19-4 SAE "A" coupling required)
- K68** 101-2 SAE B mounting (for 04 unit (22-4 SAE "B" coupling req.)

Unit Dimension

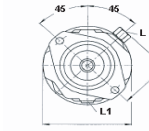
Service ports on sides



View W View V



Service ports at rear



L = Case Drain Port

	28	45	71	100				
A	6.22	158	7.13	181	8.07	205	9.29	236
B	6.48	164.5	7.24	194	8.54	217	10.83	275
C	7.64	194	8.62	219	10.12	257	12.48	317
D	3.9979	101	3.9979	101	4.9975	127	4.9975	127
E	6.3	160	7.38	180	8.18	208	7.98	200
F	6.48	164.5	7.24	194	8.54	217	10.83	275
G	3.54	90	3.78	96	4.53	115	6.89	175
H	0.79	20	0.95	25	0.98	25	1.26	32
I	0.87	22.2	1.03	26.2	1.03	26.2	1.25	31.8
J	1.87	47.6	2.06	52.4	2.06	52.4	2.63	66.7
K	1.19	30.2	1.4	35.7	1.69	42.9	2	50.8
L	3/16-18 UNF	M10 x 1.5	7/8-14 UNF	7/8-14 UNF	7/8-14 UNF	1 1/8-12 UNF		
M	2.31	58.7	2.75	69.0	3.05	77.8	3.5	88.9
N	1.25	32	1.57	40	1.97	50	2.36	60
O	0.79	20	0.95	25	0.98	25	1.26	32
P	0.87	22.2	1.03	26.2	1.03	26.2	1.25	31.8
Q	3/8-16 UNC-2B		3/8-16 UNC-2B		3/8-16 UNC-2B			
R	0.87	47.6	2.06	52.4	2.06	52.4	2.63	66.7
S	2.31	58.7	2.75	69.0	3.05	77.8	3.5	88.9
T	7/16 UNC-2B		1/2-13 UNC-2B		1/2-13 UNC-2B			
U	1.19	30.2	1.4	35.7	1.69	42.9	2	50.8
V	0.79	20	0.95	25	0.98	25	1.26	32
W	1.25	32	1.57	40	1.97	50	2.36	60

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METARIS CORP - USA
TEL 1-800-962-2703 / 1-401-469-1987
FAX 1-800-654-5083 / 1-401-469-2120



METARIS INC - CANADA - OVERSEAS
TEL 1-888-477-2737 / 1-416-638-6000
FAX 1-466-638-9365 / 1-416-638-9365

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