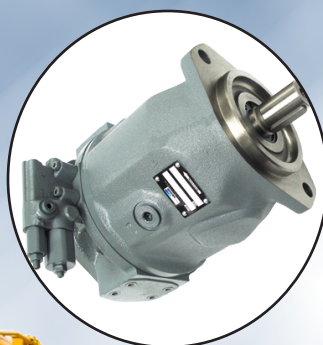
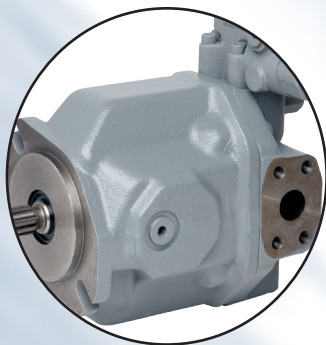


GENUINE
MEIARIS



**YOUR SOURCE FOR HIGH QUALITY
PISTON PUMPS AND COMPONENTS**

PISTON PRODUCT LISTING
EFFECTIVE: SEPTEMBER 1, 2010

PISTON PRODUCT LISTING

INDEX

VICKERS® MPVH/MPVE BUILDING CODES	3
VICKERS® MPVE 19	4
VICKERS® MPVE 21	4
VICKERS® MPVH 57/27	5
VICKERS® MPVH74 / MPVE35	6
VICKERS® MPVH98 / MPVE47	7
VICKERS® MPVH131	8
REXROTH® MA10V(S)018 BUILD CODE & PARTS LISTING.....	9
REXROTH® MA10V(S)028 BUILD CODE & PARTS LISTING	11
REXROTH® MA10V(S)045 BUILD CODE & PARTS LISTING	14
REXROTH® MA10V(S)060 BUILD CODE & PARTS LISTING	17
REXROTH® MA10V(S)071 BUILD CODE & PARTS LISTING	19
REXROTH® MA10V(S)0100 BUILD CODE & PARTS LISTING	23
REXROTH® MA10V(S)0140 BUILD CODE & PARTS LISTING	26
REXROTH® MA8VO160	29
REXROTH® MA2F107 / MA8V107	29
CATERPILLAR® 215 EXCAVATORS	30
CATERPILLAR® 225 EXCAVATORS	30
CATERPILLAR® 235 EXCAVATORS	30
CATERPILLAR® 245 EXCAVATORS & 992C WHEEL LOADERS	31
CATERPILLAR® 14G/16G MOTOR GRADERS	31
CATERPILLAR® 12G/120G/130G/140G MOTOR GRADERS	32
CATERPILLAR® 320 SWING MOTOR	32
VICKERS® MPVB 5/6	33
VICKERS® MPVB 10/25	33
VICKERS® MPVB 20/29	34
SUNDSTRAND® SERIES 20 (SPV20)	35
SUNDSTRAND® SERIES 21 (SPV21)	35
SUNDSTRAND® SERIES 22 (SPV22)	36
SUNDSTRAND® SERIES 23 (SPV23)	36
SUNDSTRAND® SERIES 24 (SPV24)	37
SUNDSTRAND® MPV90 SERIES (55CC)	37
SUNDSTRAND® MPV90 SERIES (75CC)	38
SUNDSTRAND® MPV90 SERIES (100CC)	38
LINDE® MHPR100	39
KOMATSU® PC 150-3 & 150-5 EXCAVATOR	40
KOMATSU® PC PC200-3 / PC220-3 & PC200-5 / PC220-5	41
KOMATSU® PC PC300-3 / PC400-3, PC300-5/PC400-5, PC120-6 / PC200-6	42
KOMATSU® PC PC300-6 / PC400-6	43
WARRANTY POLICY & PROCEDURES	44



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

MPVH/MPVE - BUILDING CODES

MPV* - ** (QI) ** - (L/R) (*) * - ** S - 11 - ** *** (V) - ***
1 2 3 4 5 6 7 8 9 10 11

1 SERIES

MPVH

MPVE (Metaris Conversion)

2 PUMP SIZE

57 or PVE27

74 or PVE35

98 or PVE47

131

3 APPLICATION

Blank - Mobile

QI - Quiet Industrial

(1500-1800rpm @ 250/280 bar)

4 MOUNTING FLANGE

C - SAE "C" 4-bolt type

C2 - Optional 2/4 bolt mount

C3 - Optional 4-bolt SAE-C pilot for vertical mounting.

5 ROTATION

R - Right Hand

L - Left Hand

6 CONFIGURATION

Blank - Non-thru-drive (single unit)

A - SAE-A thru-drive-pump, standard (SAE J744-82-2)

B - SAE-B thru-drive-pump, optional (SAE J44-101-2/4)

C - SAE-C thru-drive-pump, optional (SAE J744-127-2/4)

7 MAIN PORTS

F - SAE 4-Bolt flange ports (standard)

M - SAE 4-bolt pads with Metric threads

8 SHAFT TYPE

1 - SAE-C straight key

2 - SAE-C 14-tooth spline

3 - SAE-CC 17-tooth spline

5 - Tapered-Keyed

8 - SAE-BB 15-tooth spline (57 only)

10 - 14-tooth spline (57/ 74 only)

24 - 19-tooth spline (57 only)

Thru - Drive Shafts

2 - 14-tooth thru-drive (98 only)

3 - 17-tooth thru-drive (74 / 98 only)

5 - Tapered thru-drive (98 only)

10 - 14-tooth spline thru-drive (74 / 98 only)

9 SHAFT SEAL

S - Single

D -Double

10 PRESSURE CONTROL TYPE

C - Compensator, 140-280 bar (2080-4000psi)

CM - Compensator, 35-140 bar (50-2000psi)

CV - Load Sense Controller

11 PRESSURE SETTING

25 - 250 bar (3625 psi) Standard setting

** - Special settings available

--- Thru-Drive not available in PVH57/PVE27 size



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

VICKERS® MPVE19

DESCRIPTION	QTY	METARIS #	REFERENCE #
Rotating Group Assembly	1	MPN093160	M923948
Barrel	1	MPN093151	M426454
Piston (EACH)	9 REQ.	MPN093627	M923939
Shoe Cage {Retainer Plate}	1	MPN093628	M402650
Ball Guide (Spherical Washer)	1	MPN093629	M402580
Valve Plate - LH	1	MPN093152	M425415
Valve Plate - RH	1	MPN093153	M425412
Pin Retainer	1	MPN093165	M410050
Pin (EACH)	3 REQ.	MPN093155	M248810
Spring	1	MPN093157	M402579
Spring Washer a	1	MPN093156	M404932
Spring Washer b	1	MPN093158	M423368
Snap Ring	1	MPN093159	M99907
Seal Kit	1	MPN093163	M923989
Yoke	1	MPN105133	M409997

VICKERS® MPVE21

DESCRIPTION	QTY	METARIS #	REFERENCE #
Rotating Group Assembly	1	MPN093171	M923947
Barrel	1	MPN093161	M418215
Piston (EACH)	9 REQ.	MPN093162	M923946
Shoe Cage {Retainer Plate}	1	MPN093628	M402650
Ball Guide (Spherical Washer)	1	MPN093629	M402580
Valve Plate - LH	1	MPN093164	M425416
Valve Plate - RH	1	MPN093630	M425413
Load Sensing Control Valve	1	MPN090694	M02-125161
Standard 'C' Compensator	1	MPN090509	M02-125160
Pin Retainer	1	MPN093165	M410050
Pin (EACH)	3 REQ.	MPN093155	M248810
Spring	1	MPN093157	M402579
Spring Washer a	1	MPN093156	M404932
Spring Washer b	1	MPN093158	M423368
Snap Ring	1	MPN093159	M99907
Seal Kit	1	MPN093163	M923989
Yoke	1	MPN105133	M409997



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

VICKERS® MPVH 57/27

DESCRIPTION	QTY	METARIS #	REFERENCE #
PUMP - PVH57			
PUMP - PVE27 Replacement*			
PVE Adapter Kit**	1	See Model Code for Configurations	
Thru Drive Option			
Rotating Group Assembly PVE27	1	MPN098556	M938102
Rotating Group Assembly PVH57	1	MPN098418	M877420
Barrel	1	MPN093108	M937023 / M680625
Piston (EACH)	9 REQ.	MPN093109	M306362
Piston Kit (SET)	1	MPN098552	M926257
Shoe Cage {Retainer Plate}	1	MPN093110	M584512
Valve Plate - LH	1	MPN093115	M680631
Valve Plate - RH	1	MPN093116	M680630
Yoke PVH57	1	MPN093118	M690832
Shaft (Keyed) - #1	1	MPN107679	M527166
Shaft (Splined) - #2	1	MPN101819	M513839
Shaft (Splined) - #8	1	MPN101595	M913978
Shaft (Splined) - #10	1	MPN101418	M857787
Shaft (Splined) - #24	1	MPN101419	M997024
Shaft - Thru-Drive (Splined) - #2	1	MPN101680	M526684
Saddle Bearing (W) PVH57 (each)	1	MPN092338	M513885
Saddle Bearing (N) PVH57 (each)	1	MPN092339	M513886
Coupling SAE C - 14 Tooth	1	MPN101753	M526696
Coupling SAE B - 13 Tooth	1	MPN101754	M526694
Coupling SAE BB - 15 Tooth	1	MPN101752	M526695
Spacer Pair (2pc Included)	2 REQ.	MPN093119	M690801
Spring Guide	1	MPN093111	M680624
Shaft Bearing	1	X03-33-13565	M513433
Spring	1	MPN093112	M627524
Spring Guide	1	MPN093113	M584524
Retaining Ring	1	MPN093114	M85560
Spacer PVE27	1	MPN098072	M632587
Swash Plate PVE27	1	MPN098075	M584515
Load Sensing Control Valve	1	MPN090694	M02-125161
Standard 'C' Compensator	1	MPN090509	M02-125160
Limiter Pair (2pc Included)	2 REQ.	MPN093120	M690218
Gasket - PVH	1	MPN093624	M513846
Seal Kit - PVH	1	MPN400125	M102244



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

VICKERS® MPVH74 / MPVE35

DESCRIPTION	QTY	METARIS #	REFERENCE #
PUMP - PVH74			
PUMP - PVE35 Replacement*	1	See Model Code for Configurations	
PVE Adapter Kit**			
Thru Drive Option			
Rotating Group Assembly PVH74	1	MPN098417	M877421
Rotating Group Assembly PVE35	1	MPN098451	M938101
Barrel	1	MPN092725	M937025 / M680626
Piston (EACH)	9 REQ.	MPN092724	M305857
Piston Kit (SET)	1	MPN093626	M941424
Shoe Cage {Retainer Plate}	1	MPN093631	M584774
Valve Plate - LH	1	MPN093632	M627437
Valve Plate - RH	1	MPN400060	M627438
Valve Plate (QI) - LH - PVH	1	MPN095586	M513890
Valve Plate (QI) - RH - PVH	1	MPN107583	M513889
Yoke - PVH	1	MPN093105	M526651
Shaft (Keyed) - #1 (74 only)	1	MPN107676	M692567
Shaft (Splined) - #2 (74 only)	1	MPN107677	M513865
Shaft (Threaded-Keyed) - #5 (74 only)	1	MPN107166	M883252
Shaft (Splined) - #10 - (74 only)	1	MPN107167	M883326
Shaft Thru-Drive (Splined) - #2 (74 only)	1	MPN107119	M883229
Shaft Thru-Drive (Threaded-Keyed) - #5 (74 only)	1	MPN101774	M9T1634
Shaft Thru-Drive (Splined) - #10 (74 only)	1	MPN109000	M875792
Coupling SAE B - 13 Tooth	1	MPN101758	M864457
Coupling SAE BB - 15 Tooth	1	MPN101755	M864459
Coupling SAE C - 14 Tooth	1	MPN101756	M864458
Coupling SAE CC - 17 Tooth	1	MPN101757	M864461
Coupling SAE A - 9 Tooth	1	MPN101838	M864460
Spacer (2pc Included)	2 REQ.	MPN093106	M526639
Spring Guide	1	MPN400061	M631568
Spring	1	MPN400062	M584454
Spring Guide	1	MPN400063	M584483
Retaining Ring	1	MPN400064	M91365
Spacer PVE35	1	MPN098074	M584473
Yoke PVE74	1	MPN090156	M526651
Swash Plate PVE35	1	MPN098076	M631567
Limiter (2pc Included)	2 REQ.	MPN093107	M690796
Load Sensing Control Valve	1	MPN090694	M02-125161
Standard 'C' Compensator	1	MPN090509	M02-125160
Gasket	1	MPN101332	M526631
Seal Kit	1	MPN400066	M102262
Saddle Bearing (N) PVH74 (each)	1	MPN098399	M513927
Saddle Bearing (W) PVH74 (each)	1	MPN098400	M513926



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

VICKERS® MPVH98 / MPVE47

DESCRIPTION	QTY	METARIS #	REFERENCE #
PUMP - PVH98	1	See Model Code for Configurations	
PUMP - PVE47 Replacement*			
PVE Adapter Kit**			
Thru Drive Option			
Rotating Group Assembly PVH98	1	MPN098419	M877422
Rotating Group Assembly PVE47	1	MPN098554	M938103
Barrel	1	MPN091101	M680627
Piston (EACH)	9 REQ.	MPN091100	M02-152400
Piston Kit (SET)	1	MPN098553	M926246
Shoe Cage {Retainer Plate}	1	MPN025013	M584539
Valve Block - RH	1	MPN098098	M928635
Valve Block - LH	1	MPN091104	M928684
Valve Block Metric -LH	1	MPN091105	M928685
Mobile Valve Plate - LH	1	MPN091106	M584540
Mobile Valve Plate - RH	1	MPN091107	M627371
Industrial Valve Plate - RH	1	MPN090489	M514122
Industrial Valve Plate - LH	1	MPN090503	M514120
Yoke PVH98	1	MPN090508	M513629
Saddle Bearing (W)	1	MPN095061	M513911
Saddle Bearing (N)	1	MPN095062	M513912
Front Shaft Bearing	1	MPN092123	M388154
Rear Shaft Bearing	1	MPN092126	M413603
Shaft (Keyed) - #1	1	MPN091568	M527167
Shaft (Splined) - #2	1	MPN090488	M513627
Shaft Thru-Drive (Splined) - #2	1	MPN101374	M860679
Shaft Thru-Drive (Splined) - #3	1	MPN101416	M864453
Shaft Thru-Drive (Threaded-Keyed) - #5	1	MPN109001	M500613
Coupling SAE B - 13 Tooth	1	MPN101579	M877040
Coupling SAE BB - 15 Tooth	1	MPN101638	M877044
Coupling SAE C - 14 Tooth	1	MPN101580	M877045
Coupling SAE CC - 17 Tooth	1	MPN101639	M877046
Coupling SAE A - 9 Tooth	1	MPN101839	M877039
Spacer PVH98 (2pc Included)	2 REQ.	MPN092271	M513625
Spacer PVE47	1	MPN098073	M584545
Spring Guide	1	MPN091596	M584546
Spring	1	MPN091597	M627192
Spring Guide	1	MPN091594	M584547
Retaining Ring	1	MPN091595	M102038



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

VICKERS® MPVH98 / MPVE47 - CONT'D

Swash Plate PVE47	1	MPN098077	M584531
Limiter (Pair)	2 REQ.	MPN091103	M513626
Load Sensing Control Valve	1	MPN090694	M02-125161
Standard 'C' Compensator	1	MPN090509	M02-125160
Shaft Seal	1	MPN091827	M589332
Gasket (Metal)	1	MPN091593	M513631
Seal Kit	1	MPN092717	M102264

VICKERS® MPVH131

DESCRIPTION	QTY	METARIS #	REFERENCE #
PUMP - PVH131	1	See Model code for Configurations	
Rotating Group Assembly	1	MPN098425	M877419
Barrel	1	MPN093699	M680628
Piston (EACH)	9 REQ.	MPN025003	M159749
Shoe Cage {Retainer Plate}	1	MPN025011	M683791
Valve Plate - LH	1	MPN095223	M527163
Valve Plate - RH	1	MPN095224	M527164
Yoke	1	MPN095225	M692941
Spacer Kit (2 pcs included)	2	MPN095226	M526757
Limiter (2 pcs included)	2	MPN095227	M526758
Saddle Bearing (W)	1	MPN098401	M692949
Saddle Bearing (N)	1	MPN098402	M692948
Shaft (Splined) - #3	1	MPN102069	M877042
Shaft (Keyed) - #13	1	MPN102309	M876175
Gasket (Metal)	1	MPN107566	M526760
Load Sensing Control Valve	1	MPN090694	M02-125161
Standard 'C' Compensator	1	MPN090509	M02-125160
Spring Guide	1	MPN098140	M581104
Spring	1	MPN098139	M626111
Spring Guide	1	MPN098138	M417667
Retaining Ring	1	MPN098141	M135066
Seal Kit	1	MPN099711	M102266



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O18 - BUILD CODES

MA10V(S)O18-DFR-31R-PKC-62N00

↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
A B C D E F G H I J K

CODE	DESCRIPTION
<u>A. TYPE</u>	
MA10V/31	Swashplate design variable, normal pressure 280 bar (4000psi), peak pressure 350bar (5100psi)
MA10VS/31	Swashplate design variable, c/w max flow adj. 280 bar (4000psi), peak pressure 350bar (5100psi)
<u>B. MODE OF OPERATION</u>	
O	Mode of Operation (Pump Open Circuit)
<u>C. SIZE</u>	
18	Flow Vg max - 18cm (cu.in. 1.10)
<u>D. CONTROLLER TYPE</u>	
DFR	Pressure and Flow Control
DFR1	Pressure and Flow Control - Bleed Down Orifice Plugged
DR	Pressure Control
DRG	Remote Pressure Control
<u>E. SERIES</u>	
31	Series 31
<u>F. ROTATION</u>	
R	Right (clockwise rotation)
L	Left (counter-clockwise rotation)
<u>G. SEALS</u>	
P	Buna Seals
V	Viton Seals (fluorocarbon)
<u>H. SHAFT TYPE</u>	
P	18 series Metric keyed shaft (18mm)
K	18 series SAE keyed shaft (.750 dia)
U	18 series SAE splined shaft (9 tooth-.625)
S	18 series SAE splined shaft (11 tooth - .750)
<u>I. MOUNT</u>	
A	ISO 2-Bolt mount (31 design only)
C	SAE 2-Bolt mount
<u>J. PORTING</u>	
62	Side Port Flange (U.N.C mounting screws)
12	Side Port Flange (Metric mounting screws)
<u>K. COVER TYPE</u>	
N00	Standard Cover w/o Thru-Drive
K01	82-2 SAE A mount (16-4 SAE "A" coupling)



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O18 - SERIES 31

DESCRIPTION		PORTING	
PUMP - MA10V(S)O18**62N00		SAE - SIDE PORTS	
PUMP - MA10V(S)O18**12N00		METRIC - SIDE PORTS	
THRU DRIVE OPTION			
K01 - SAE A Mount (9 Tooth)		THE THRU DRIVE (K** OPTION) INCLUDES COUPLING AND HARDWARE	
DESCRIPTION	QTY	METARIS #	REFERENCE #
PISTON (EACH)	9 REQ.	B18-72-110	M925458
RETAINER PLATE	1	B18-75-100	M946784
BALL GUIDE	1	B18-75-200	M944741
BARREL	1	B18-73-000	M940734
SPRING - SEAT	1	B18-78-000	M934827
SPRING	1	B18-76-100	M933409
RETAINER	1	X05-02-25120	M934832
LENS PLATE - LEFT	1	B18-74-200	M940732
LENS PLATE - RIGHT	1	B18-74-100	M941477
PIN (EACH)	3 REQ.	B18-77-500	M934826
SHAFT (METRIC) - CODE P	1	B18-50-291	M948585
SHAFT (SPLINED) - CODE S	1	B18-50-361	M948588
SHAFT (KEYED) - CODE K	1	B18-50-161	M948587
SHAFT (SPLINED) - CODE U	1	B18-50-311	M932607
ROTARY GROUP L.H.	1	B18-70-200	M944801
ROTARY GROUP R.H.	1	B18-70-100	M940435
YOKE L.H.	1	B18-43-210	M960983
YOKE R.H.	1	B18-43-110	M948592
CONTROLLER (DFR/ DRF)***	1	B00-30-100	M907094/ M942581
CONTROLLER (DFR1/ DRS)***		B00-30-200	M907096
CONTROLLER (DRG)***	1	B00-30-400	M916069
CONTROLLER (DR)***	1	B00-30-100	M907095
SHAFT BEARING - CUP/CONE	1	X03-33-12245	M70109-005
REAR BEARING - CUP/CONE	1	MPN101572	M772968
SADDLE BEARING (EACH)	2 REQ.	B18-03-602	M925255
CONTROL PISTON ASSY	1	B18-40-100	M940417
SEAL KIT	1	B18-80-100F	M937565
SEAL KIT - VITON	1	B18-80-200F	M941171

*** Controller Included with Pump

* Does not include Coupling/Hardware



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

MA10V(S)O28 - BUILD CODES

MA10V(S)O28-DFR-31R-PKC-62N00

↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
A B C D E F G H I J K

CODE	DESCRIPTION
<u>A. TYPE</u>	
MA10V/31	Swashplate design variable, normal pressure 280 bar (4000psi), peak pressure 350bar (5100psi)
MA10VS/31	Swashplate design variable, c/w max flow adj. 280 bar (4000psi), peak pressure 350bar (5100psi)
<u>B. MODE OF OPERATION</u>	
O	Mode of Operation (Pump Open Circuit)
<u>C. SIZE</u>	
28	Flow Vg max - 28cm (cu.in. 1.71)
<u>D. CONTROLLER TYPE</u>	
DFR	Pressure and Flow Control
DFR1	Pressure and Flow Control - Bleed Down Orifice Plugged
DR	Pressure Control
DFLR	Pressure, Flow and Torque Control
DRG	Remote Pressure Control
<u>E. SERIES</u>	
31	Series 31
<u>F. ROTATION</u>	
R	Right (clockwise rotation)
L	Left (counter-clockwise rotation)
<u>G. SEALS</u>	
P	Buna Seals
V	Viton Seals (fluorocarbon)
<u>H. SHAFT TYPE</u>	
P	28 series Metric keyed shaft (DIN 6885) 22mm
K	28 series SAE keyed shaft (.875 dia)
R	28 Series SAE Splined Reinforced for Thru-Drive
S	28 series SAE splined shaft (13 tooth - .875)
<u>I. MOUNT</u>	
A	ISO 2-Bolt mount (31 design only)
C	SAE 2-Bolt mount
<u>J. PORTING</u>	
62	Side Port Flange (U.N.C mounting screws)
61	Rear port Flange (U.N.C mounting screws)
11	Rear port Flange (metric mounting screws)
12	Side Port Flange (Metric mounting screws)
<u>K. COVER TYPE</u>	



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O28 - BUILD CODES - CONT'D

N00	Standard Cover w/o Thru-Drive
K01	82-2 SAE A mount (16-4 SAE "A" coupling)
K02	101-2 SAE B Mount (22-4 SAE "B" coupling)
K03	SAE B Mount - SAE B Keyed

REXROTH® MA10V(S)O28 - SERIES 31

DESCRIPTION	PORTING
PUMP - MA10V(S)O28**62N00	SAE - SIDE PORTS
PUMP - MA10V(S)O28**12N00	METRIC - SIDE PORTS
PUMP - MA10V(S)O28**61N00	SAE - REAR PORTS
PUMP - MA10V(S)O28**11N00	METRIC - REAR PORTS

DFLR CONTROL OPTION THRU DRIVE OPTION - K**

K01 -- SAE A Mount (9 Tooth)

K02 -- SAE B Mount (13 Tooth)

K03 -- SAE B Mount -SAE B Keyed

THE THRU DRIVE (K** OPTION) INCLUDES
COUPLING AND HARDWARE

DESCRIPTION	QTY	METARIS #	REFERENCE #
PISTON (EACH)	9 REQ.	B28-72-110	M925459 / M967658
RETAINER PLATE	1	B28-75-100	M942514
BALL GUIDE	1	B28-75-200	M944743
BARREL	1	B28-73-000	M907125 / M2407325
SPRING - SEAT	1	X05-04-33150	M2400717 / M918933
SPRING	1	B28-76-100	M924891
RETAINER	1	B28-78-000	M939048 / M2400716
LENS PLATE - LEFT	1	B28-74-200	M936647
LENS PLATE - RIGHT	1	B28-74-100	M936648
PIN (EACH)	3 REQ.	B28-77-500	M785407
SHAFT METRIC (CODE P)	1	B28-50-291	M923797 / M2415569
SHAFT SPLINED (CODE S)	1	B28-50-321	M947780 / M923789
SHAFT SPLINED (THRU DRIVE CODE S)	1	B28-50-322	M926327 / M2417371
SHAFT KEYED (CODE K)	1	B28-50-121	M926330
SHAFT METRIC (THRU DRIVE CODE P)	1	B28-50-292	M925275 / M2415913
SHAFT KEYED (THRU DRIVE CODE K)	1	B28-50-122	M926328



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O28 - SERIES 31 - CONT'D

DESCRIPTION	QTY	METARIS #	REFERENCE #
SHAFT SPLINED (THRU DRIVE CODE R)	1	B28-50-822	M962290
ROTARY GROUP L.H.	1	B28-70-200	M947782 / M958654
ROTARY GROUP R.H.	1	B28-70-100	M947781
YOKE L.H.	1	B28-43-210	M960999
YOKE R.H.	1	B28-43-110	M960813
YOKE LH DFLR	1	B28-43-220	M947785
YOKE RH DFLR	1	B28-43-120	M947783
CONTROLLER (DFR/ DRF)***	1	B00-30-100	M907094/ M942581
CONTROLLER (DFR1/ DRS)***	1	B00-30-200	M907096
CONTROLLER (DRG)***	1	B00-30-400	M916069
CONTROLLER (DR)***	1	B00-30-100	M907095
SHAFT BEARING - CUP/CONE	1	X03-33-12556	M70109-001
REAR BEARING - CUP/CONE	1	X03-33-11740	M70109-002
SADDLE BEARING (EACH)	2 REQ	B28-03-602	M902778 / M942158
THRU DRIVE COVER K01 (RH)*	1	B28-23-124	M5120-542-005
THRU DRIVE COVER K02 / K03 (RH)*	1	B28-24-124	M5120-542-006
THRU DRIVE COVER K01 (LH)*	1	B28-23-224	M5120-542-002
THRU DRIVE COVER K02 / K03 (LH)*	1	B28-24-224	M5120-542-003
CONTROL PISTON ASSY	1	B28-40-502	MBH00911164
COUPLING K01	1	B28-50-512	MBH00943539
COUPLING K02	1	B28-50-522	MBH00943542
COUPLING K03	1	B28-50-622	M764981
SEAL KIT	1	B28-80-100	M915845
SEAL KIT - VITON	1	B28-80-200	M915845V

*** Controller Included with Pump

* Does not include Coupling/Hardware



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O45 - BUILD CODES

MA10V(S)O45-DFR-R-PKC-62N00**

↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
A B C D E F G H I J K

CODE	DESCRIPTION
<u>A. TYPE</u>	
MA10V/31/52	Swashplate design variable, normal pressure 280 bar (4000psi), peak pressure 350bar (5100psi)
MA10VS/31/52	Swashplate design variable, c/w max flow adj. 280 bar (4000psi), peak pressure 350bar (5100psi)
<u>B. MODE OF OPERATION</u>	
O	Mode of Operation (Pump Open Circuit)
<u>C. SIZE</u>	
45	Flow Vg max - 45cm (cu.in. 2.75)
<u>D. CONTROLLER TYPE</u>	
DFR	Pressure and Flow Control
DFR1	Pressure and Flow Control - Bleed Down Orifice Plugged
DR	Pressure Control
DFLR	Pressure, Flow and Torque Control (31 Design Only)
DRG	Remote Pressure Control
<u>E. SERIES</u>	
52	Series 52
31	Series 31
<u>F. ROTATION</u>	
R	Right (clockwise rotation)
L	Left (counter-clockwise rotation)
<u>G. SEALS</u>	
P	Buna Seals
V	Viton Seals (fluorocarbon)
<u>H. SHAFT TYPE</u>	
P	45 series Metric keyed shaft (DIN 6885) 25mm
K	45 series SAE keyed shaft (1" dia)
U	45 series splined shaft (13 tooth - .875)
R	45 series splined shaft reinforced for thru-frive
W	45 series SAE splined shaft for thru-drive (13 tooth 7/8")
S	45 series splined shaft (15 tooth - 1")
<u>I. MOUNT</u>	
A	ISO 2-Bolt mount (31 design only)
C	SAE 2-Bolt mount



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O45 - BUILD CODES - CONT'D

J. PORTING

62	Side Port Flange (U.N.C mounting screws)
61	Rear Port flange (U.N.C mounting screws)
11	Rear Port flange (metric mounting screws)
12	Side Port Flange (Metric mounting screws)

K. COVER TYPE - Thru-Drive on 31-Design only

N00	Standard Cover w/o Thru-Drive
K01	82-2 SAE A mount (16-4 SAE "A" coupling)
K02	101-2 SAE B Mount (22-4 SAE "B" coupling)
K03	SAE B Mount - SAE B Keyed
K04	101-2 SAE B Mount (25-4 SAE "BB" coupling)
K05	SAE B Mount - SAE BB Keyed

REXROTH® MA10V(S)O45 - SERIES 31 & 52

DESCRIPTION

PUMP - MA10V(S)O45**62N00

PUMP - MA10V(S)O45**12N00

PUMP - MA10V(S)O45**64N00

PUMP - MA10V(S)O45**61N00

PUMP - MA10V(S)O45**11N00

DFLR CONTROL OPTION - 31 DESIGN ONLY

THRU DRIVE OPTION - K** -- Available on 52 and 31 design units

K01 - SAE A Mount (9 Tooth)

K02 - SAE B Mount (13 Tooth)

K03 - SAE B Mount (SAE B Keyed)

K04 - SAE B Mount (15 Tooth)

K05 - SAE B Mount (SAE BB Keyed)

PORTING

SAE - SIDE PORTS

METRIC - SIDE PORTS

SAE - THREADED PORTS (O-RING)

SAE - REAR PORTS

METRIC - REAR PORTS

THE THRU DRIVE (K** OPTION) INCLUDES
COUPLING AND HARDWARE

PUMPS INCLUDE STANDARD SPLINED OR KEYED SHAFTS -- MULTI-PUMPS AVAILABLE IN SERIES 31 ONLY.

DESCRIPTION	QTY.	METARIS #	REFERENCE #
PISTON (EACH)	9 REQ.	B45-72-110	M925460 / M963893
RETAINER PLATE	1	B45-75-100	M943627 / M978872
BALL GUIDE	1	B45-75-200	M941318
BARREL	1	B45-73-000	M907001
SPRING - SEAT	1	B45-78-000	M2400727 / M939056
SPRING	1	B45-76-100	M2400724 / M071072
RETAINER	1	X05-04-38150	M2400726 / M912520
LENS PLATE - LEFT	1	B45-74-200	M936644
LENS PLATE - RIGHT	1	B45-74-100	M936645
PIN (EACH)	3 REQ.	B45-77-500	M941277



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O45 - SERIES 31 & 52 - CONT'D

DESCRIPTION	QTY	METARIS #	REFERENCE #
SHAFT SPLINED (CODE U)	1	B45-50-321	M987649 / M926325
SHAFT SPLINED (CODE S)	1	B45-50-331	M923309 / M947729
SHAFT KEYED (CODE K)	1	B45-50-131	M923308 / M947788
SHAFT METRIC (CODE P)	1	B45-50-291	M923742 / M947820
SHAFT SPLINED (THRU DRIVE CODE R)	1	B45-50-832	M962291/ M2417400
SHAFT SPLINED (THRU DRIVE CODE U)	1	B45-50-322	M926326 / M2417398
SHAFT KEYED (THRU DRIVE CODE K)	1	B45-50-132	M926335
SHAFT SPLINED (THRU DRIVE CODE W)	1	B45-50-822	M417398
SHAFT SPLINED (THRU DRIVE CODE S)	1	B45-50-332	M923743
SHAFT KEYED (THRU DRIVE METRIC CODE P)	1	B45-50-292	M923310
ROTARY GROUP L.H.	1	B45-70-200	M947789 / M914154
ROTARY GROUP R.H.	1	B45-70-100	M947730 / M900510
YOKE L.H. (52 Design)	1	B46-43-210	M929316
YOKE R.H. (52 Design)	1	B46-43-110	M928665
YOKE L.H. (31 Design)	1	B45-43-220	M947791
YOKE R.H. (31 Design)	1	B45-43-120	M947790
YOKE L.H. (31 Design) -DFLR	1	B45-43-220	
YOKE R.H. (31 Design) - DFLR	1	B45-43-120	M947793
CONTROLLER (DFR/ DRF)***	1	B00-30-100	M907094/ M942581
CONTROLLER (DFR1/ DRS)***	1	B00-30-200	M907096
CONTROLLER (DRG)***	1	B00-30-400	M916069
CONTROLLER (DR)***	1	B00-30-100	M907095
SHAFT BEARING - CUP/CONE	1	X03-33-12957	M70109-004
REAR BEARING - CUP/CONE	1	X03-33-12245	M70109-005
SADDLE BEARING - 52 design (EACH)	2 REQ	B46-03-602	M933793
SADDLE BEARING - 31 design (EACH)	2 REQ	B45-03-602	M900198
THRU DRIVE COVER K01 (RH)*	1	B45-23-135	M5130-542-006
THRU DRIVE COVER K02/K03/K04/K05 (RH)*	1	B45-24-135	M5130-542-007
THRU DRIVE COVER K01 (LH)*	1	B45-23-235	M5130-542-002
THRU DRIVE COVER K02/K03/K04/K05 (LH)*	1	B45-24-235	M5130-542-003
CONTROL PISTON ASSY - 31 design	1	B45-40-501	MBH00910852
COUPLING K01	1	B45-50-512	MBH00943529
COUPLING K02	1	B45-50-522	MBH00943531
COUPLING K03	1	B45-50-622	M763764
COUPLING K04	1	B45-50-532	MBH00738476
COUPLING K05	1	B45-50-632	M766933
SEAL KIT - 31 Design	1	B45-80-100	M925885
SEAL KIT - VITON - 31 Design	1	B45-80-200	M925885V
SEAL KIT - 52 Design	1	B46-80-100	M963478
SEAL KIT - VITON - 52 Design	1	B46-80-200	M963478V

*** Controller Included with Pump

* Does not include Coupling/Hardware



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O60 - BUILD CODES

MA10V(S)O60-DFR-52R-PKC-62N00
 ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
A B C D E F G H I J K

CODE	DESCRIPTION
<u>A. TYPE</u>	
MA10V/52	Swashplate design variable, normal pressure 280 bar (4000psi), peak pressure 350bar (5100psi)
MA10VS/52	Swashplate design variable, c/w max flow adj. 280 bar (4000psi), peak pressure 350bar (5100psi)
<u>B. MODE OF OPERATION</u>	
O	Mode of Operation (Pump Open Circuit)
<u>C. SIZE</u>	
60	Flow Vg max - 60cm (cu.in. 3.66)
<u>D. CONTROLLER TYPE</u>	
DFR	Pressure and Flow Control
DFR1	Pressure and Flow Control - Bleed Down Orifice Plugged
DR	Pressure Control
DRG	Remote Pressure Control
<u>E. SERIES</u>	
52	Series 52
<u>F. ROTATION</u>	
R	Right (clockwise rotation)
L	Left (counter-clockwise rotation)
<u>G. SEALS</u>	
P	Buna Seals
V	Viton Seals (fluorocarbon)
<u>H. SHAFT TYPE</u>	
K	60 series Keyed shaft (1.250 dia)
U	60 series SAE splined shaft (15 tooth - 1")
S	60 series SAE splined shaft (14 tooth 1.250")
<u>I. MOUNT</u>	
D	SAE 4-bolt mount (5" pilot)
C	SAE 2-Bolt mount
<u>J. PORTING</u>	
62	Side Port Flange (U.N.C mounting screws)
61	Rear Port Flange (U.N.C mounting screws)
12	Side Port Flange (Metric mounting screws)
<u>K. COVER TYPE</u>	
N00	Standard Cover w/o Thru-Drive



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O60 - SERIES 52

DESCRIPTION		PORTING	
PUMP - MA10V(S)O60**62N00		SAE - SIDE PORTS	
PUMP - MA10V(S)O60**12N00		METRIC - SIDE PORTS	
PUMP - MA10V(S)O60**61N00		SAE - REAR PORTS	
PUMP - MA10V(S)O60**11N00		METRIC - REAR PORTS	
PUMP - MA10V(S)O63**12/62/11/61N00		REPLACEMENT FOR A10V(S)O63	
DESCRIPTION	QTY.	METARIS #	REFERENCE #
PISTON (EACH)	9 REQ.	B60-72-110	M2418043
RETAINER PLATE	1	B60-75-300	M2413087
BALL GUIDE	1	B60-73-000	M973533
BARREL	1	B60-78-000	M973540
SPRING - SEAT	1	B60-76-100	M2400742
SPRING	1	MPN107182	M975251
RETAINER	1	B60-74-200	M9156218
LENS PLATE - LEFT	1	B60-74-100	M2451807
LENS PLATE - RIGHT	1	B60-77-500	M978570
PIN (EACH)	3 REQ.	B60-50-341	M2400741
SHAFT SPLINED (CODE S)	1	B60-50-331	M2413417
SHAFT SPLINED (CODE U)	1	B60-50-141	M987666
SHAFT KEYED (CODE K)	1	B60-70-200	M2413414
ROTARY GROUP L.H.	1	B60-70-100	M926276
ROTARY GROUP R.H.	1	B60-43-210	M973744
YOKE L.H (52 Design)	1	B60-43-110	M975095
YOKE R.H (52 Design)	1	B00-30-100	M973545
CONTROLLER (DFR/ DRF)***	1	B00-30-200	M907094/ M942581
CONTROLLER (DFR1/ DRS)***	1	B00-30-400	M907096
CONTROLLER (DRG)***	1	B00-30-100	M916069
CONTROLLER (DR)***	1	X03-33-13573	M907095
SHAFT BEARING - CUP/CONE	1	X03-33-12552	M70109-007
REAR BEARING - CUP/CONE	1	B60-03-612	
SADDLE BEARING -R	1	B60-03-622	M2413837
SADDLE BEARING - L	1	B60-40-500	M2413836
CONTROL PISTON ASSY	1	B60-80-100	M993694
SEAL KIT	1	B60-80-200	M408523
SEAL KIT - VITON	1		M408523V

*** Controller Included with Pump

* Does not include Coupling/Hardware



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O71 - BUILD CODES

MA10V(S)O71-DFR-31R-PKC-62N00

↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
A B C D E F G H I J K

CODE	DESCRIPTION
<u>A. TYPE</u>	
MA10V/31	Swashplate design variable, normal pressure 280 bar (4000psi), peak pressure 350bar (5100psi)
MA10VS/31	Swashplate design variable, c/w max flow adj. 280 bar (4000psi), peak pressure 350bar (5100psi)
<u>B. MODE OF OPERATION</u>	
O	Mode of Operation (Pump Open Circuit)
<u>C. SIZE</u>	
71	Flow Vg max - 71cm (cu.in. 4.33)
<u>D. CONTROLLER TYPE</u>	
DFR	Pressure and Flow Control
DFR1	Pressure and Flow Control - Bleed Down Orifice Plugged
DR	Pressure Control
DFLR	Pressure, Flow and Torque Control
DRG	Remote Pressure Control
<u>E. SERIES</u>	
31	Series 31
<u>F. ROTATION</u>	
R	Right (clockwise rotation)
L	Left (counter-clockwise rotation)
<u>G. SEALS</u>	
P	Buna Seals
V	Viton Seals (fluorocarbon)
<u>H. SHAFT TYPE</u>	
P	71 series Metric Keyed shaft (DIN 6885) 32mm
K	71 series SAE keyed shaft (1.250 dia)
S	71 series splined shaft (14 tooth - 1.250)
R	71 series SAE splined shaft reinforced for thru-drive
<u>I. MOUNT</u>	
A	ISO 2-Bolt mount (31 design only)
C	SAE 2-Bolt mount
<u>J. PORTING</u>	
11	Rear port flange (1" & 1 1/4" comb. Pressure port) metric mounting screws
12	Side port flange (1" & 1 1/4" comb. Pressure port) metric mounting screws
41	Rear port flange (1" pressure) metric mounting screws
42	Side port flange (1" pressure) metric mounting screws



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O71 - BUILD CODES - CONT'D

43	Rear port flange (1 1/4" pressure port) metric mounting screws
44	Side port flange (1 1/4" pressure port) metric mounting screws
61	Rear port flange (1" & 1 1/4" comb. Pressure port) U.N.C mounting screws
62	Side port flange (1" & 1 1/4" comb. Pressure port) U.N.C mounting screws
91	Rear port flange (1" pressure) U.N.C mounting screws
92	Side port flange (1" pressure) U.N.C mounting screws
93	Rear port flange (1 1/4" pressure port) U.N.C mounting screws
94	Side port flange (1 1/4" pressure port) U.N.C mounting screws

K. COVER TYPE

N00	Standard Cover w/o Thru-Drive
K01	82-2 SAE A mount (16-4 SAE "A" coupling)
K02	101-2 SAE B mount (22-4 SAE "B" coupling)
K03	SAE B mount - SAE B Keyed
K04	101-2 SAE B mount (25-4 SAE "BB" coupling)
K05	SAE B mount - SAE BB Keyed
K07	127-2 SAE C mount (32-4 SAE "C" coupling)
K08	SAE C mount (SAE C Keyed)



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O71 - SERIES 31

DESCRIPTION		PORTING	
PUMP - MA10V(S)O71**62/92N00		SAE - SIDE PORTS	
PUMP - MA10V(S)O71**12/42N00		METRIC - SIDE PORTS	
PUMP - MA10V(S)O71**61/91N00		SAE - REAR PORTS	
PUMP - MA10V(S)O71**11/41N00		METRIC - REAR PORTS	
PUMP - MA10V(S)O74**62/92/12/42/11/41N00		ALL TYPES AVAILABLE	
DFLR CONTROL OPTION			
THRU DRIVE OPTION - K**			
K01 - SAE A Mount (9 Tooth)		THE THRU DRIVE (K** OPTION) INCLUDES COUPLING AND HARDWARE	
K02 - SAE B Mount (13 Tooth)			
K03 - SAE B Mount (SAE B Keyed)			
K04 - SAE B Mount (15 Tooth)			
K05 - SAE B Mount (SAE BB Keyed)			
K07 -SAE C Mount (14 Tooth)			
K08 - SAE C Mount (SAE C Keyed)			
DESCRIPTION	QTY.		
PISTON (EACH)	9 REQ.	B71-72-110	M720011 / M924554
RETAINER PLATE	1	B71-75-100	M919813
BALL GUIDE	1	B71-75-200	M749745
BARREL	1	B71-73-000	M907126
SPRING - SEAT	1	B71-78-000	M720186
SPRING	1	B71-76-100	M720178
RETAINER	1	X05-04-45180	M919038
LENS PLATE - LEFT	1	B71-74-200	M936640
LENS PLATE - RIGHT	1	B71-74-100	M936641
PIN (EACH)	3 REQ.	B71-77-500	M785423
SHAFT METRIC (CODE P)	1	B71-50-291	M947821 / M995064
SHAFT SPLINED (CODE S)	1	B71-50-341	M923553 / M947796
SHAFT KEYED (CODE K)	1	B71-50-141	M926333 / M2412021
SHAFT SPLINED (THRU DRIVE CODE S)	1	B71-50-342	M923471
SHAFT KEYED (THRU DRIVE CODE K)	1	B71-50-142	M926344 / M2412030
SHAFT METRIC (THRU DRIVE CODE P)	1	B71-50-292	M925556 / M987680
ROTARY GROUP L.H.	1	B71-70-200	M947802 / M911929
ROTARY GROUP R.H.	1	B71-70-100	M947801 / M956007
YOKE L.H.	1	B71-43-220	M904689
YOKE R.H.	1	B71-43-120	M903881



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O71 - SERIES 31 - CONT'D

DESCRIPTION	QTY	METARIS #	REFERENCE #
YOKE LH DFLR	1	B71-43-220	M961020
YOKE RH DFLR	1	B71-43-120	M961017
CONTROLLER (DFR/ DRF)***	1	B00-30-100	M907094/ M942581
CONTROLLER (DFR1/ DRS)***	1	B00-30-200	M907096
CONTROLLER (DRG)***	1	B00-30-400	M916069
CONTROLLER (DR)***	1	B00-30-100	M907095
SHAFT BEARING - CUP/CONE	1	X03-33-13573	M70109-007
REAR BEARING - CUP/CONE	1	X03-33-12557	M70109-008
SADDLE BEARING (EACH)	2 REQ	B71-03-602	M902777
BEARING KIT	1	B71-03-800	M5140-635-014
THRU DRIVE COVER K01/K04 (RH)*	1	B71-23-196	M5140-542-017
THRU DRIVE COVER K02/K03/K04/K05 (RH)*	1	B71-24-196	M5140-542-019
THRU DRIVE COVER K07 / K08 (RH)*	1	B71-25-196	M5140-542-021
THRU DRIVE COVER K01/K04 (LH)*	1	B71-23-296	M5140-542-018
THRU DRIVE COVER K02/K03/K04/K05 (LH)*	1	B71-24-296	M5140-542-020
THRU DRIVE COVER K07 / K08 (LH)*	1	B71-25-296	M5140-542-022
CONTROL PISTON ASSY	1	B71-40-501	M910873 / 910870
COUPLING K01	1	B71-50-512	MBH00943545
COUPLING K02	1	B71-50-522	MBH00943547
COUPLING K03	1	B71-50-622	M795682
COUPLING K04	1	B71-50-532	MBH00943548
COUPLING K05	1	B71-50-632	M764906
COUPLING K07	1	B71-50-542	MBH00943549
COUPLING K08	1	B71-50-642	M766895
SEAL KIT	1	B71-80-100	M915846 / M5140-635-005
SEAL KIT - VITON	1	B71-80-200	M915846V / M5140-635-007



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O100 - BUILD CODES

MA10V(S)O100-DFR-31R-PKC-62N00

↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
A B C D E F G H I J K

CODE	DESCRIPTION
<u>A. TYPE</u>	
MA10V/31	Swashplate design variable, normal pressure 280 bar (4000psi), peak pressure 350bar (5100psi)
MA10VS/31	Swashplate design variable, c/w max flow adj. 280 bar (4000psi), peak pressure 350bar (5100psi)
<u>B. MODE OF OPERATION</u>	
O	Mode of Operation (Pump Open Circuit)
<u>C. SIZE</u>	
100	Flow Vg max - 100cm (cu.in. 6.10)
<u>D. CONTROLLER TYPE</u>	
DFR	Pressure and Flow Control
DFR1	Pressure and Flow Control - Bleed Down Orifice Plugged
DR	Pressure Control
DFLR	Pressure, Flow and Torque Control
DRG	Remote Pressure Control
<u>E. SERIES</u>	
31	Series 31
<u>F. ROTATION</u>	
R	Right (clockwise rotation)
L	Left (counter-clockwise rotation)
<u>G. SEALS</u>	
P	Buna Seals
V	Viton Seals (fluorocarbon)
<u>H. SHAFT TYPE</u>	
P	100 series Metric keyed shaft (DIN 6885) 40mm
K	100 series SAE keyed shaft - 1.5" dia
U	100 series SAE splined shaft - 14 tooth- 1.250)
S	100 series SAE splined shaft - 1.5"
W	100 series SAE splined shaft for thru-drive - 14 tooth - 1.250
<u>I. MOUNT</u>	
A	ISO 2-Bolt mount (31 design only)
C	SAE 2-Bolt mount
<u>J. PORTING</u>	
61	Rear port flange (1 1/4" pressure port) U.N.C. mounting screws
11	Rear port flange (1 1/4" pressure port) Metric mounting screws
62	Side port flange (1 1/4" pressure port) U.N.C. mounting screws
12	Side port flange (1 1/4" pressure port) Metric mounting screws



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O100 - BUILD CODES - CONT'D

K. COVER TYPE

N00	Standard Cover w/o Thru-Drive
K01	82-2 SAE A mount (16-4 SAE "A" coupling)
K02	101-2 SAE B mount (22-4 SAE "B" coupling)
K04	101-2 SAE B mount (25-4 SAE "BB" coupling)
K07	127-2 SAE C mount (32-4 SAE "C" coupling)
K08	SAE C mount (SAE C Keyed)
K24	SAE C mount (17 tooth)
K52	82-2 SAE A mount (19-4 SAE "A-B" coupling)

REXROTH® MA10V(S)O100 - SERIES 31

DESCRIPTION		PORTING	
PUMP - MA10V(S)O100**62N00		SAE - SIDE PORTS	
PUMP - MA10V(S)O100**12N00		METRIC - SIDE PORTS	
PUMP - MA10V(S)O100**61N00		SAE - REAR PORTS	
PUMP - MA10V(S)O100**11N00		METRIC - REAR PORTS	
DFLR CONTROL OPTION			
THRU DRIVE OPTION - K**			
K01 - SAE A Mount (9 Tooth)		THE THRU DRIVE (K** OPTION) INCLUDES COUPLING AND HARDWARE	
K02 - SAE B Mount (13 Tooth)			
K04 - SAE B Mount (15 Tooth)			
K07 -SAE C Mount (14 Tooth)			
K08 - SAE C Mount (SAE C Keyed)			
K24 - SAE C Mount (17 Tooth)			
K52- SAE A Mount - (11 Tooth)			
DESCRIPTION	QTY.	METARIS #	REFERENCE #
PISTON (EACH)	9 REQ.	B10-72-110	M925463 / M2418003
RETAINER PLATE	1	B10-75-100	M967136 / M996526
BALL GUIDE	1	B10-75-200	M906813 / M944744
BARREL	1	B10-73-000	M906882 / M2407207
SPRING - SEAT	1	B10-78-000	M906880
SPRING	1	MPN400031	M906894
RETAINER	1	X05-02-62200	M791555
LENS PLATE - LEFT	1	B10-74-200	M936639
LENS PLATE - RIGHT	1	B10-74-100	M936661
PIN (EACH)	3 REQ.	B10-77-500	M906879
SHAFT SPLINED (CODE U)	1	B10-50-341	M2410600 / M923312



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O100 - SERIES 31 - CONT'D

DESCRIPTION	QTY	METARIS #	REFERENCE #
SHAFT SPLINED (CODE S)	1	B10-50-381	M924553 / M987698
SHAFT KEYED (CODE K)	1	B10-50-181	M923317/ M2410595
SHAFT METRIC (CODE P)	1	B10-50-291	M925162 / M987699
SHAFT SPLINED (THRU DRIVE CODE R)	1	B10-50-882	M993523
SHAFT SPLINED (THRU DRIVE CODE W)	1	B10-50-842	M987686
SHAFT METRIC (THRU DRIVE CODE P)	1	B10-50-292	M923709 / M987697
SHAFT KEYED (THRU DRIVE CODE K)	1	B10-50-182	M924552 / M2410605
SHAFT SPLINED (THRU DRIVE CODE S)	1	B10-50-382	M923316
ROTARY GROUP L.H.	1	B10-70-200	M907681 / M948604
ROTARY GROUP R.H.	1	B10-70-100	M948603 / M906871
YOKE L.H.	1	B10-43-220	M906886
YOKE R.H.	1	B10-43-120	M096872
YOKE LH DFLR	1	B10-43-220	M948606
YOKE RH DFLR	1	B10-43-120	M093881
CONTROLLER (DFR/ DRF)***	1	B00-30-100	M907094/ M942581
CONTROLLER (DFR1/ DRS)***	1	B00-30-200	M907096
CONTROLLER (DRG)***	1	B00-30-400	M916069
CONTROLLER (DR)***	1	B00-30-100	M907095
SHAFT BEARING - CUP/CONE	1	X03-33-14587	M906908
REAR BEARING - CUP/CONE	1	X03-333-13062	M906909
SADDLE BEARING (EACH)	2 REQ	B10-03-602	M906881
CONTROL PISTON ASSY	1	B10-40-501	M913784
THRU DRIVE COVER K01/K52(RH)	1	B10-23-147	M910375
THRU DRIVE COVER K01/K52(LH)	1	B10-23-247	M910729
THRU DRIVE COVER K02/K04(RH)	1	B10-24-147	M910369
THRU DRIVE COVER K02/K04(LH)	1	B10-24-247	
THRU DRIVE COVER K071/K24/K08(RH)	1	B10-25-147	
THRU DRIVE COVER K071/K24/K08(RH)	1	B10-25-247	
COUPLING K01	1	B10-50-512	M943560
COUPLING K02	1	B10-50-522	M943562
COUPLING K04	1	B10-50-532	M943563
COUPLING K07	1	B10-50-542	M943564
COUPLING K08	1	B10-50-642	M943569
COUPLING K24	1	B10-50-582	M943565
COUPLING K52	1	B10-50-592	M943561
SEAL KIT	1	B10-80-100	M915847
SEAL KIT - VITON	1	B10-80-200	M915847V



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O140 - BUILD CODES

MA10V(S)O140-DFR-31R-PKC-62N00

↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑
A B C D E F G H I J K

<u>CODE</u>	<u>DESCRIPTION</u>
<u>A. TYPE</u>	
MA10V/31	Swashplate design variable, normal pressure 280 bar (4000psi), peak pressure 350bar (5100psi)
MA10VS/31	Swashplate design variable, c/w max flow adj. 280 bar (4000psi), peak pressure 350bar (5100psi)
<u>B. MODE OF OPERATION</u>	
O	Mode of Operation (Pump Open Circuit)
<u>C. SIZE</u>	
140	Flow Vg max - 140cm (cu.in. 8.54)
<u>D. CONTROLLER TYPE</u>	
DFR	Pressure and Flow Control
DFR1	Pressure and Flow Control - Bleed Down Orifice Plugged
DR	Pressure Control
DFLR	Pressure, Flow and Torque Control
DRG	Remote Pressure Control
<u>E. SERIES</u>	
31	Series 31
<u>F. ROTATION</u>	
R	Right (clockwise rotation)
L	Left (counter-clockwise rotation)
<u>G. SEALS</u>	
P	Buna Seals
V	Viton Seals (fluorocarbon)
<u>H. SHAFT TYPE</u>	
P	140 series Metric keyed shaft (45mm)
K	140 series SAE keyed shaft (1.750 dia)
S	140 series SAE splined shaft (13 tooth - 1.750 dia)
<u>I. MOUNT</u>	
B	ISO 4-Bolt mount
D	SAE 4-Bolt mount
<u>J. PORTING</u>	
62	Side Port Flange (U.N.C mounting screws)
12	Side Port Flange (Metric mounting screws)
<u>K. COVER TYPE</u>	
N00	Standard Cover w/o Thru-Drive
K07	127-2 SAE C mount (32-4 SAE "C" coupling)
K17	SAE D mount (13 tooth)



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA10V(S)O140 - SERIES 31

DESCRIPTION		PORTING	
PUMP - MA10V(S)O140**62N00		SAE - SIDE PORTS	
PUMP - MA10V(S)O140**12N00		METRIC - SIDE PORTS	
DFLR CONTROL OPTION			
THRU DRIVE OPTION - K**			
K07 -SAE C Mount (14 Tooth)		THE THRU DRIVE (K** OPTION) INCLUDES COUPLING AND HARDWARE	
K17 - SAE D Mount (13 Tooth)			
DESCRIPTION	QTY.	METARIS #	REFERENCE #
PISTON (EACH)	9 REQ.	B14-72-110	M925464
RETAINER PLATE	1	B14-75-100	M996527
BALL GUIDE	1	B14-75-200	M944745
BARREL	1	B14-73-000	M945341
SPRING - SEAT	1	B14-78-000	M917727
SPRING	1	B14-76-100	M918171
RETAINER	1	X05-02-58200	918189
LENS PLATE - LEFT	1	B14-74-200	M975126
LENS PLATE - RIGHT	1	B14-74-100	M973907 / M975125
PIN (EACH)	3 REQ.	B14-77-500	M917728
SHAFT SPLINED (CODE S)	1	B14-50-351	M923593 / M948614
SHAFT KEYED (CODE K)	1	B14-50-151	M923315 / M948513
SHAFT METRIC (CODE P)	1	B14-50-291	M923594 / M948612
SHAFT KEYED (THRU-DRIVE CODE K)	1	B14-50-152	M923314
SHAFT SPLINED (THRU-DRIVE CODE S)	1	B14-50-352	M923595
SHAFT METRIC (THRU-DRIVE CODE P)	1	B14-50-292	M923313
ROTARY GROUP L.H.	1	B14-70-200	M948618
ROTARY GROUP R.H.	1	B14-70-100	M948617
YOKE L.H.	1	B14-43-210	M948620
YOKE R.H.	1	B14-43-110	M948619
CONTROLLER (DFR/DFR1)*	1	B14-30-100	M924993
CONTROLLER (DRG)*	1	B14-30-400	M928528
CONTROLLER (DR)*	1	B14-30-300	M920182
SHAFT BEARING - CUP/CONE	1	MPN101573	M918203
REAR BEARING - CUP/CONE	1	MPN101574	M918201
SADDLE BEARING (EACH)	2	B14-03-602	M918174
COUPLING K07	1	B14-50-542	M921508
COUPLING K17	1	B14-50-552	M932172
SEAL KIT	1	B14-80-100	M941169
SEAL KIT - VITON	1	B14-80-200	M941169V



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA8VO107

DESCRIPTION	QTY.	METARIS #	REFERENCE #
ROTATING GROUP (DRIVE)	1	B87-70-112	M428522 / M441183
ROTATING GROUP (DRIVE) 215/225 Exc.	1	MPN108021	
ROTATING GROUP (IDLER)	1	B87-70-211	M428185 / M441184
ROTATING GROUP (w/o SHAFT)	1	B87-70-000	M434586
VALVE PLATE - LEFT	1	B87-74-200	M650454
VALVE PLATE - RIGHT	1	B87-74-100	M650453
CYLINDER BARREL	1	B87-73-000	M430886
SCREW (EACH)	14 REQ.	X41-21-05016	M449235
PISTON RING (EACH)	7 REQ.	B87-72-300	M156248
RETAINER PLATE	1	B87-75-100	M444764
PISTON (EACH)	7 REQ.	B87-72-110	M443469
PISTON WITH RING (EACH)	7 REQ.	B87-72-120	M2021910
SPACER	1	AS REQUIRED	AS REQUIRED
SHIM	1	AS REQUIRED	AS REQUIRED
DISC SPRING (EACH)	4 REQ.	B87-76-200	M409134
CENTER PIN	1	B87-77-400	M410289
DRIVE SHAFT (Main)	1	B87-50-399	M430673
DRIVE SHAFT (Hub)	1	B87-50-999	M411723 / M425724
DRIVE SHAFT (24 Tooth)	1	MPN101743	
SHAFT BEARING (ASSEMBLY)	1	MPN098921	M154486
SEAL KIT	1	B87-80-200	M270941
CUP COLLAR	1	B87-92-051	M412570



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

REXROTH® MA8VO160

DESCRIPTION	QTY.	METARIS #	REFERENCE #
ROTARY GROUP - DRIVE (RH)	1	C268-70-112	
ROTARY GROUP - IDLER (LH)	1	C268-70-211	
ROTARY GROUP w/o SHAFT	1	B86-70-000	
DRIVE SHAFT - DRIVE	1	MPN400055	M436475
DRIVE SHAFT - IDLER	1	MPN400056	M436474
VALVE PLATE - LEFT	1	B86-74-200	M650456
VALVE PLATE - RIGHT	1	B86-74-100	M650455
CYLINDER BARREL	1	B86-73-000	M430794
SCREW (EACH)	14 REQ.	X41-21-06020	M831108
PISTON RING (EACH)	7 REQ.	B86-72-300	M9831897
RETAINER PLATE	1	B86-75-100	M6269
PISTON (EACH)	7 REQ.	B86-72-110	M440274
PISTON WITH RING (EACH)	7 REQ.	B86-72-120	M2021911
SPACER	1	AS REQUIRED	AS REQUIRED
DISC SPRING (EACH)	4 REQ.	MPN025016	M410551
CENTER PIN	1	B86-77-400	M410552
BEARING ASSEMBLY	1	MPN101942	
BEARING (Main)*	1	MPN400057	M156512
BEARING - SHAFT	1	MPN400058	M23232
CUP COLLAR	1	MPN025018	M414031

REXROTH® MA2F107/MA8V107

DESCRIPTION	QTY.	METARIS #	REFERENCE #
PISTON (EACH)	7 REQ.	B27-72-110	M426823 / M410321
RETAINER PLATE	1	B87-75-100	M444764
BARREL	1	B27-73-010	M421288 / M421309
SPRING	1	B27-76-200	M400105
CENTER PIN	1	B27-77-400	M409486
VALVE CONTROL PLATE -RH	1	B27-74-100	M650851



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

CATERPILLAR® 215 EXCAVATORS

Used in Pump #'s : 8J6853, 4T7025, 9T1062, 1U4748

DESCRIPTION	ALTERNATIVE #	REPLACES #
RETAINER PLATE	M4T7022	9J7858, 8J6328
THRUST PLATE	M1U0406	9J7857, 8J6346
VALVE PLATE	M1U3444	
PISTON (EACH)	M8J2037	
SEAL KIT	M3G1707	

CATERPILLAR® 225 EXCAVATORS

Used in Pump #'s : 3G3287, 9J9362, 4T7028, 8J7823, 4T7426, 8J2344, 8J4379

DESCRIPTION	ALTERNATIVE #	REPLACES #
VALVE PLATE	M3G2859	9J2484, 8J2024, 9J1283
CYLINDER BARREL	M9J2417	9J8266, 8J5038, 9J3969
RETAINER PLATE	M4T7024	8J9966
PISTON (EACH)	M1U2738	9J4936, 9J4935, 8J1913, 8J1912
THRUST PLATE	M3G9671	8J0488, 9J0560
FRONT - CONE	M7K8877	
FRONT - CUP	M7K8876	
REAR - CONE	M8J0423	
REAR - CUP	M8J0422	
SHAFT	M8J8654	
SEAL KIT	M3G1688	

CATERPILLAR® 235 EXCAVATORS

Used in Pump #'s : 8J1905, 1U4722, 4T2507, 7J8240, 4T4026

DESCRIPTION	ALTERNATIVE #	REPLACES #
VALVE PLATE	M6E1332	9J3526, 8J6900
CYLINDER BARREL	M9J8667	8J7332, 3G2736, 9T7356
RETAINER PLATE	M4T7023	6C0415, 3G150, 8J0179
PISTON (EACH)	M4T3122	8J6897, 4T3154
THRUST PLATE	M3G4779	8J0171
FRONT - CONE	M7J8893	
FRONT - CUP	M7J8894	
REAR - CONE	M3P1210	
REAR - CUP	M8J0412	
SIDE - CUP	M2D9190	
SIDE - CONE	M2D9191	
SHAFT -245 only	M8J6802	
SEAL KIT	M8J8652	



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

CATERPILLAR® 245 EXCAVATORS & 992C WHEEL LOADERS

Used in Pump #'s : 4T2506, 8J4380, 4T7027, 3G7230, 1U3840, 3G2848, 1U477, 9J4834, 112-5381, 124-3761

DESCRIPTION	ALTERNATIVE #	REPLACES #
VALVE PLATE - 245 Only	M6E1332	9J3526, 8J6900
VALVE PLATE - 992 Only	M6E1875	3G1717
BARREL ASSEMBLY	M9J8667	8J7332, 3G2736, 9T7356
RETAINER PLATE	M4T7023	6C0415, 3G150, 8J0179
PISTON (EACH)	M4T3122	8J6897, 4T3154
THRUST PLATE	M3G4779	8J0171
FRONT - CONE	M7J8893	
FRONT - CUP	M7J8894	
REAR - CONE	M3P1210	
REAR - CUP	M8J0412	
SIDE - CUP	M2D9190	
SIDE - CONE	M2D9191	
SHAFT (245 only)	M3G4604	
SEAL KIT (245 only)	M8J8652	

CATERPILLAR® 14G / 16G MOTOR GRADERS

Used in Pump #'s : 4T2768, 4T2767, 8J6168, 8J6855, 9T3547

DESCRIPTION	ALTERNATIVE #	REPLACES #
VALVE PLATE	M3G2859	9J2484, 8J2024, 9J1283
BARREL ASSEMBLY	M9J2417	9J8266, 8J5038, 9J3969
RETAINER PLATE	M4T7024	8J9966
PISTON (EACH)	M1U2738	9J4936, 9J4935, 8J1913, 8J1912
THRUST PLATE	M3G9671	8J0488, 9J0560
FRONT - CONE	M7K8877	
FRONT - CUP	M7K8876	
REAR - CONE	M8J0423	
REAR - CUP	M8J0422	
SHAFT	M8J5592	
SEAL KIT	M3G1689	



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

CATERPILLAR® 12G / 120G / 130G / 140G MOTOR GRADERS

Used in Pump #'s : 8J0498, 8J6730, 8J6155, 8J6188, 8J6731, 8J6855, 4T2768, 9T3547

DESCRIPTION	ALTERNATIVE #	REPLACES #
VALVE PLATE	M9J5758	9J2516
BARREL ASSEMBLY	M9J8660	8J6348
RETAINER PLATE	M4T7022	9J7858, 8J6328
PISTON (EACH)	M8J2022	
THRUST PLATE	M1U0406	9J7584, 8J6346
FRONT - CONE	M8J6315	
FRONT - CUP	M8J6314	
REAR - CONE	M1B3953	
REAR - CUP	M8J6322	
SIDE	M3G3156	
SHAFT	M8J6296	
SEAL KIT	M3G1708	

CATERPILLAR® 320 SWING MOTOR

Used in Motor #'s : 087-4715, 087-4824, 115-3737, 116-3550, 123-1998, 123-1999, 147-5789

DESCRIPTION	ALTERNATIVE #	REPLACES #
VALVE PLATE	M5I8628	
BARREL ASSEMBLY	M5I8631	
RETAINER PLATE	M5I8636	
PISTON (EACH)	M5I8632	
THRUST PLATE	M5I8637	
BALL GUIDE	M5I8634	
PIN	M5I8420	
SEPARATION PLATE	M5I8629	
FRICTION PLATE	M5I8630	
BEARING - FRONT	M5I8419	



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

VICKERS® MPVB 5/6

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP - PVB 5	1	MPN090157	M875775
PISTON KIT (SET OF 9) - PVB 5	1	MPN091856	M942229
ROTATING GROUP PVB6	1	MPN091092	M875773
PISTON KIT (SET OF 9) -PVB6	1	MPN091857	M942230
VALVE PLATE LH - MPVB5/6	1	MPN091861	M942224
VALVE PLATE RH - MPVB5/6	1	MPN090158	M942223
SHAFT - KEYED	1	MPN091098	M266162
SHAFT - SPLINED	1	MPN091845	M286848
SHAFT BEARING	1	MPN091647	M283233
PINTLE BEARING *	1	MPN091649	M317572
SEAL KIT (NITRILE)	1	MPN091653	M919191

VICKERS® MPVB 10/15

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP - PVB10	1	MPN090160	M938276
PISTON KIT (SET OF 9) - PVB10	1	MPN091858	M942047
ROTATING GROUP - PVB15	1	MPN090785	M938273
PISTON KIT (SET OF 9) - PVB15	1	MPN091859	M941887
VALVE PLATE LH - MPVB15	1	MPN091863	M942162
VALVE PLATE RH - MPVB15	1	MPN091862	M942163
VALVE PLATE LH - MPVB10	1	MPN091864	M942161
VALVE PLATE RH - MPVB10	1	MPN091865	M942160
SHAFT - KEYED	1	MPN091099	M261478
SHAFT - SPLINED	1	MPN091846	M292077
SHAFT BEARING	1	MPN091648	M284397
PINTLE BEARING *	1	MPN091641	M012016
SEAL KIT (NITRILE)	1	MPN091654	M919682



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

VICKERS® MPVB 20/29

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP - PVB20	1	MPN090163	M938274
PISTON KIT (SET OF 9) - PVB20	1	MPN090819	M941883
ROTATING GROUP - PVB29	1	MPN091094	M938275
PISTON KIT (SET OF 9) - PVB29	1	MPN091860	M941888
VALVE PLATE LH - MPVB29	1	MPN091866	M942172
VALVE PLATE RH - MPVB29	1	MPN091867	M942171
VALVE PLATE LH - MPVB20	1	MPN090210	M942170
VALVE PLATE RH - MPVB20	1	MPN090164	M942169
SHAFT - KEYED	1	MPN091096	M362135
SHAFT - SPLINED	1	MPN091847	M282880
SHAFT BEARING	1	MPN091646	M283090
PINTLE BEARING *	1	MPN091651	M353230
SEAL KIT (NITRILE)	1	MPN091655	M919683

SUNSTRAND® SERIES 20 -23 (MSPV20)

DESCRIPTION	METARIS #	ALTERNATIVE #
Charge Pump 1.1 LH	MPN102272	M9510656LX
Charge Pump .75 LH	MPN102273	M9510655LX
Charge Pump 1.1 RH	MPN102289	M9510656RX
Charge Pump .75 RH	MPN102290	M9510655RX



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

SUNSTRAND® SERIES 20 (MSPV20)

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP	1	MPN091075	M510149
VALVE PLATE - RH	1	MPN090149	M9200428
VALVE PLATE - LH	1	MPN090148	M9200429
MOTOR PLATE	1	MPN090128	M9200430
THRUST PLATE	1	MPN090137	M9200159
BEARING PLATE	1	MPN090136	M9200216
BALL GUIDE	1	MPN090147	M9200124
SLIPPER RETAINER	1	MPN090146	M9200158
PISTON (EACH)	9 REQ.	MPN090145	M9200499/ M501528
CYLINDER BLOCK	1	MPN090144	M49155
PUMP GASKET KIT (Includes Shim Kit)	1	MPN090645	M9510224
MOTOR GASKET KIT FIXED (Includes Shim Kit)	1	MPN090942	M9510225
MOTOR GASKET KIT VARIABLE (Includes Shim Kit)	1	MPN090947	M9510226
SHAFT SEAL	1	MPN080160	M9510189

SUNSTRAND® SERIES 21 (MSPV21)

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP	1	MPN091076	M9210696
VALVE PLATE - RH	1	MPN090143	M9210478
VALVE PLATE - LH	1	MPN090142	M9210479
MOTOR PLATE	1	MPN090127	M9210480
THRUST PLATE	1	MPN090150	M9210293
BEARING PLATE	1	MPN090135	M9210658
BALL GUIDE	1	MPN080163	M9210219
SLIPPER RETAINER	1	MPN080162	M9210292
PISTON - WELDED (EACH)	9 REQ.	MPN093420	M9510408-0010
CYLINDER BLOCK	1	MPN090141	M9210576
PUMP GASKET KIT (Includes Shim Kit)	1	MPN090646	M9510227
MOTOR GASKET KIT FIXED (Includes Shim Kit)	1	MPN090943	M9510228
MOTOR GASKET KIT VARIABLE (Includes Shim Kit)	1	MPN090948	M9510229
SHAFT SEAL	1	MPN080160	M9510189



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

SUNSTRAND® SERIES 22 (MSPV22)

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP	1	MPN091077	M9221448
VALVE PLATE - RH	1	MPN090140	M9220990
VALVE PLATE - LH	1	MPN090139	M9220991
MOTOR PLATE	1	MPN090126	M9220992
THRUST PLATE	1	MPN090138	M9220626
BEARING PLATE	1	MPN090076	M9221335
BALL GUIDE	1	MPN080173	M9220500
SLIPPER RETAINER	1	MPN080172	M9220628
PISTON - WELDED (EACH)	9 REQ.	MPN093421	M9510408-0001
CYLINDER BLOCK	1	MPN090134	M9221102
PUMP GASKET KIT (Includes Shim Kit)	1	MPN090647	M9510230
MOTOR GASKET KIT FIXED (Includes Shim Kit)	1	MPN090944	M9510231
MOTOR GASKET KIT VARIABLE (Includes Shim Kit)	1	MPN090949	M9510232
SHAFT SEAL	1	MPN080160	M9510189
SHAFT - 21 Tooth	1	MPN090660	M9220417

SUNSTRAND® SERIES 23 (MSPV23)

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP	1	MPN091078	M9230973
VALVE PLATE - RH	1	MPN090133	M9230560
VALVE PLATE - LH	1	MPN090132	M9230561
MOTOR PLATE	1	MPN090125	M9230562
THRUST PLATE	1	MPN080404	M9230235
BEARING PLATE	1	MPN090077	M9230881
BALL GUIDE	1	MPN080405	M9230158
SLIPPER RETAINER	1	MPN080403	M9230234
PISTON - WELDED (EACH)	9 REQ.	MPN093422	M9510408-0002
CYLINDER BLOCK	1	MPN080401	M9230651
PUMP GASKET KIT (Includes Shim Kit)	1	MPN090648	M9510233
MOTOR GASKET KIT FIXED (Includes Shim Kit)	1	MPN090945	M9510234
MOTOR GASKET KIT VARIABLE (Includes Shim Kit)	1	MPN090950	M9510235
SHAFT SEAL	1	MPN090075	M9510190
SHAFT - 14 Tooth	1	MPN090661	M9230476
SHAFT - 21 Tooth	1	MPN090659	M9230325



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

SUNSTRAND® SERIES 24 (MSPV24)

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP	1	MPN091079	M9240641
VALVE PLATE - RH	1	MPN090131	M9240277
VALVE PLATE - LH	1	MPN090130	M9240278
MOTOR PLATE	1	MPN090124	M9240279
THRUST PLATE	1	MPN080409	M9240124
BEARING PLATE	1	MPN090129	M9240560
BALL GUIDE	1	MPN080410	M9240097
SLIPPER RETAINER	1	MPN080408	M9240125
PISTON (EACH)	9 REQ.	MPN093423	M9510408-0004
CYLINDER BLOCK	1	MPN080406	M9240394
PUMP GASKET KIT (Includes Shim Kit)	1	MPN090649	M9510236
MOTOR GASKET KIT FIXED (Includes Shim Kit)	1	MPN090946	M9510237
MOTOR GASKET KIT VARIABLE (Includes Shim Kit)	1	MPN090951	M9510238
SHAFT SEAL	1	MPN090075	M9510190

SUNSTRAND® MPV90 SERIES (55CC)

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP - PUMP	1	MPN093054	M80020S07
ROTATING GROUP - MOTOR	1	MPN093666	M80030S07
CYLINDER BLOCK Assy - W/O Speed Ring	1	MPN093667	M8000128
CYLINDER BLOCK Assy - W/ Speed Ring	1	MPN093668	M8000336
PISTON (EACH)	9 REQ.	MPN093064	M367672
VALVE PLATE, -2 DEGREE	1	MPN093056	M8000071
VALVE PLATE (PV90 R-55) +0.5	1	MPN013158	M508125
MOTOR PLATE	1	MPN093060	M8000132
THRUST PLATE (Motor)	1	MPN093669	M8000374
RETAINER SLIPPER GUIDE	1	MPN095313	M8000072
SHIM-SLIPPER GUIDE RETAINER	1	MPN095316	M8000073



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

SUNSTRAND® MPV90 SERIES (75cc)

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP - PUMP	1	MPN093053	M81020S07
ROTATING GROUP - MOTOR	1	MPN093681	M81030S07
CYLINDER BLOCK Assy - W/O Speed Ring	1	MPN093682	M8100267
CYLINDER BLOCK Assy - W/ Speed Ring	1	MPN093683	M8100525
PISTON (EACH)	9 REQ.	MPN093063	M708230
VALVE PLATE, +0 DEGREE	1	MPN093057	M518805
MOTOR PLATE	1	MPN093059	M8100278
THRUST PLATE (Motor)	1	MPN093685	M8100156
RETAINER SLIPPER GUIDE	1	MPN095314	M8100271
SHIM-SLIPPER GUIDE RETAINER	1	MPN095317	M8100272

SUNSTRAND® MPV90 SERIES (100cc)

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
ROTATING GROUP - PUMP	1	MPN093052	M82020S07
ROTATING GROUP - MOTOR	1	MPN093650	M82030S07
CYLINDER BLOCK Assy - W/O Speed Ring	1	MPN093651	M8200124
CYLINDER BLOCK Assy - W/ Speed Ring	1	MPN093652	M8200277
PISTON (EACH)	9 REQ.	MPN093062	M364000
VALVE PLATE, - 2 DEGREE	1	MPN093055	M518994
VALVE PLATE (PV90 R-55) +0.5	1	MPN013159	M508806
MOTOR PLATE	1	MPN093058	M8200134
THRUST PLATE (Motor)	1	MPN093654	M8200167
RETAINER SLIPPER GUIDE	1	MPN095315	M8200128
SHIM-SLIPPER GUIDE RETAINER	1	MPN095318	M8200129



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

LINDE® MHPR100

DESCRIPTION	QTY.	METARIS #	REFERENCE #
DRIVE SHAFT	1	MPN025000	2543230111
VALVE PLATE - LEFT	1	MPN093639	2543240205
VALVE PLATE - RIGHT	1	MPN025002	2543240201
CYLINDER BARREL	1	MPN025008	2343200805
BALL GUIDE & RETAINER PLATE	1	MPN025007	2343201400
PISTON (EACH)	9 REQ.	MPN025001	2343200401
SPRING	1	MPN093640	9215619
SPACER	1	MPN093641	9144004
SPACER	1	MPN093642	9143805
SHIM	1	MPN093643	92890366
PIN (NEEDLE BEARING)	3	MPN093644	9517000129
REATINER	1	MPN093645	9456622544
WASHER	1	MPN400080	9143515
BEARING - REAR CUP	1	MPN091749	9509000731
BEARING - REAR CONE	1		
BEARING - FRONT CONE	1		
BEARING - FRONT CUP	1	MPN091753	9247305
SWASH PLATE	1	MPN093646	2543232010
SUPPORT	1	MPN093647	9515121
RING (LARGE)	1	MPN091751	9841004
SERVER PISTON (LARGE)	1	MPN400081	2543400002
RING (SMALL)	1	MPN093648	9841005
SERVER PISTON (SMALL)	1	MPN400082	2543400017
SADDLE BEARING (EACH)	2 REQ	MPN400083	2543401800
SEAL KIT - SINGLE	1	MPN400084	2543209900
SEAL KIT - DOUBLE	1	MPN093649	2543209901



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

KOMATSU® PC - 150-3 EXCAVATOR

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
CRADLE (FRONT)	1	MPN091413	M708-25-00051
CRADLE (REAR)	1	MPN091414	M708-25-00061
PISTON (EACH)	9 REQ.	MPN091736	M708-25-13314
RETAINER PLATE	1	MPN091741	M708-25-13422
CYLINDER BARREL	1	MPN091738	M708-25-13151
VALVE PLATE - RIGHT	1	MPN091423	M708-25-13210
VALVE PLATE - LEFT	1	MPN091424	M708-25-13220
SPRING (CYL BLOCK)	1	MPN091743	M708-25-13130
SNAP RING (CYL BLOCK)	1	MPN091744	M708-25-13140
WASHER (CYL BLOCK)	1	MPN091742	M708-25-13120
SERVO PISTON FRONT & REAR	1	MPN091407	M708-25-14112.25 / 50
SERVO PISTON FRONT	1		
SERVO PISTON REAR	1		
RETAINER BRG.	1	MPN091790	M708-25-13441
SHIM KIT, RETAINER BRG.	1	MPN091789	M708-25-05061

KOMATSU® PC - 150-5 EXCAVATOR

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
CRADLE (FRONT)	1	MPN091413	M708-25-00051
CRADLE (REAR)	1	MPN091414	M708-25-00061
PISTON (EACH)	9 REQ.	MPN091736	M708-25-13314
RETAINER PLATE	1	MPN091741	M708-25-13422
CYLINDER BARREL	1	MPN091738	M708-25-13151
VALVE PLATE - RIGHT	1	MPN091427	M708-25-13611
VALVE PLATE - LEFT	1	MPN091426	M708-25-13621
SPRING (CYL BLOCK)	1	MPN091743	M708-25-13130
SNAP RING (CYL BLOCK)	1	MPN091744	M708-25-13140
WASHER (CYL BLOCK)	1	MPN091742	M708-25-13120
SERVO PISTON FRONT & REAR	1		
SERVO PISTON FRONT	1	MPN091407	M708-25-14112.25 / 50
SERVO PISTON REAR	1	MPN091429	M708-25-14211.25 / 50
RETAINER BRG.	1	MPN091790	M708-25-13441
SHIM KIT, RETAINER BRG.	1	MPN091789	M708-25-05061



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

KOMATSU® PC - PC200-3 / PC220-3

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
CYLINDER BLOCK ASSY RH	1	MPN091739	M708-25-00230
CYLINDER BLOCK ASSY LH	1	MPN091740	M708-25-00240
DRIVE SHAFT (FRONT)	1		
CRADLE (FRONT)	1	MPN091411	M708-25-00031
CRADLE (REAR)	1	MPN091412	M708-25-00041
CAM ROCKER	1	MPN091735	M708-25-13411
PISTON ASSY. (EACH)	9 REQ.	MPN091736	M708-25-13314
RETAINER PLATE	1	MPN091741	M708-25-13422
CYLINDER BARREL	1	MPN091738	M708-25-13151
VALVE PLATE - RIGHT	1	MPN091423	M708-25-13210
VALVE PLATE - LEFT	1	MPN091424	M708-25-13220
SPRING (CYL BLOCK)	1	MPN091743	M708-25-13130
SNAP RING(CYL BLOCK)	1	MPN091744	M708-25-13140
WASHER (CYL BLOCK)	1	MPN091742	M708-25-13120
SERVO PISTON	1	MPN091429	M708-25-14211.25 /50
SERVO PISTON	1	MPN091407	M708-25-14112.25 /50
RETAINER BRG.	1	MPN091790	M708-25-13441
SHIM KIT, RETAINER BRG	1	MPN091789	M708-25-05061

KOMATSU® PC - PC200-5 / PC220-5

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
CYLINDER BLOCK ASSY RH	1	MPN092515	M708-25-00401
CYLINDER BLOCK ASSY LH	1	MPN092514	M708-25-00411
DRIVE SHAFT (FRONT)	1	MPN092348	M708-25-12711
CRADLE (FRONT)	1	MPN091411	M708-25-00031
CRADLE (REAR)	1	MPN091412	M708-25-00041
CAM ROCKER	1	MPN091735	M708-25-13411
PISTON ASSY. (EACH)	9 REQ.	MPN091736	M708-25-13314
RETAINER PLATE	1	MPN091741	M708-25-13422
CYLINDER BARREL	1	MPN091738	M708-25-13151
VALVE PLATE - RIGHT	1	MPN091427	M708-25-13611
VALVE PLATE - LEFT	1	MPN091426	M708-25-13621
SPRING (CYL BLOCK)	1	MPN091743	M708-25-13130
SNAP RING(CYL BLOCK)	1	MPN091744	M708-25-13140
WASHER (CYL BLOCK)	1	MPN091742	M708-25-13120
SERVO PISTON	1	MPN091429	M708-25-14211.25 /50
SERVO PISTON	1	MPN091407	M708-25-14112.25 /50
RETAINER BRG.	1	MPN091790	M708-25-13441
SHIM KIT, RETAINER BRG	1	MPN091789	M708-25-05061



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

KOMATSU® PC - PC300-3 / PC400-3

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
CRADLE (FRONT)	1	MPN091415	M708-27-00032
CRADLE (REAR)	1	MPN091416	M708-27-00042
PISTON ASSY. (EACH)	9 REQ.	MPN091417	M708-27-13314
RETAINER PLATE	1	MPN091418	M708-27-13342
CYLINDER BARREL	1	MPN091425	M708-27-13111
VALVE PLATE - RIGHT	1	MPN091421	M708-27-13212
VALVE PLATE - LEFT	1	MPN091422	M708-27-13222
SERVO PISTON	1	MPN091730	M708-27-14110.25 /50
RETAINER BRG.	1	MPN091791	M708-27-13420
SHIM KIT, RETAINER BRG	1	MPN091788	M708-27-05051

KOMATSU® PC - PC300-5/PC400-5

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
CRADLE (FRONT)	1	MPN091415	M708-27-00032
CRADLE (REAR)	1	MPN091416	M708-27-00042
PISTON ASSY. (EACH)	9 REQ.	MPN091417	M708-27-13314
RETAINER PLATE	1	MPN091418	M708-27-13342
CYLINDER BARREL	1	MPN091428	M708-27-13112
VALVE PLATE - RIGHT	1	MPN091419	M708-27-13611
VALVE PLATE - LEFT	1	MPN091420	M708-27-13621
SERVO PISTON	1	MPN091730	M708-27-14110.25 /50
RETAINER BRG.	1	MPN091791	M708-27-13420
SHIM KIT, RETAINER BRG	1	MPN091788	M708-27-05051

KOMATSU® PC - PC120-6 / PC200-6

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
CRADLE (FRONT & REAR) PC120-6	1	MPN093213	M708-2L-04061
CRADLE (FRONT & REAR) PC200-6	1	MPN093213	M708-2L-04061
PISTON ASSY. (EACH)	9 REQ.	MPN093217	M708-2L-33310
RETAINER PLATE	1	MPN093218	M708-2L-33340
CYLINDER BARREL	1	MPN093220	M708-2L-33110
VALVE PLATE - RIGHT	1	MPN093216	M708-2L-33211
VALVE PLATE - LEFT	1	MPN093221	M708-2L-33221
BALL GUIDE	1	MPN093214	M708-2L-23351
PIN	1	MPN093215	M708-2L-23360



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

KOMATSU® PC - PC300-6 / PC400-6

DESCRIPTION	QTY.	METARIS #	ALTERNATIVE #
CYLINDER BLOCK ASSY (W/VALVE PLATE RH)	1	MPN093206	M708-2H-04140
CYLINDER BLOCK ASSY (W/VALVE PLATE LH)	1	MPN093207	M708-2H-04150
CRADLE (FRONT & REAR)	1	MPN093208	M708-2H-04160
PISTON ASSY. (EACH)	9 REQ.	MPN093209	M708-2H-23311
RETAINER PLATE	1	MPN093210	M708-2H-23340
PIN	1	MPN093212	M708-2H-23360
BALL GUIDE	1	MPN093211	M708-2H-23350



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.

PISTON PRODUCT LISTING

WARRANTY POLICY AND PROCEDURES

WARRANTY

Metaris Inc. and Metaris Corp. hereinafter "Metaris", Warrants all of its product to be free from defects in material and workmanship under normal operating conditions and proper application in accordance with the specifications for operation as described by the manufacturer for the period of twelve (12) months in service.

LIMITATIONS ON WARRANTY

This warranty is expressly in lieu of any other warranties expressed or implied. Buyers sole and exclusive remedy under this Warranty shall be limited to the repair, replacement or exchange of warranted products at our option, F.O.B. our factory, or designated service center.

No special, incidental, consequential or other damage shall be recoverable. Metaris shall not be liable for consequential damages or contingent liabilities including, but not limited to, loss of life, personal injury, loss of crops, loss due to water or fire damage, loss of business income, down time costs and trade or other commercial loss arising out of failure of the product. Metaris will in no event be liable for any sum in excess of the price received by it for the product for which liability is claimed or asserted.

No products shall be returned without prior authorization from Metaris. Buyers and their Agents shall prepay all transportation charges for the return of such products to Metaris 'factory or designated service center. There will be no acceptance of any charges for labor and/or parts incidental to the removal or remounting of products repaired or replaced under Warranty.

The above Warranty does not cover conditions over which Metaris has no control, including, without limitation, contamination, pressure in excess of recommended maximum, products damaged or subject to accident abuse or misuse after shipment from our factory, products altered or repaired by anyone other than Metaris personnel, authorized Metaris factory personnel or persons so designated in writing by Metaris prior to commencement of said work.

A return goods authorization number must be obtained from Metaris or a Metaris authorized service center, or a Metaris authorized agent prior to any products being returned for Warranty.

DISCLAIMERS

Caterpillar® and Cat® are registered trademarks of Caterpillar® Inc. All items listed are Metaris manufactured; OEM and reference part #'s are displayed for reference purposes only. Metaris is not affiliated or authorized by Caterpillar® Inc

Vickers® is a registered trademark of Eaton® Corp. All items listed are Metaris manufactured; OEM and reference part #'s are displayed for reference purposes only. Metaris is not affiliated or authorized by Eaton® Corp

Rexroth® is a registered trademarks of Bosch-Rexroth® Inc. All items listed are Metaris manufactured; OEM and reference part #'s are displayed for reference purposes only. Metaris is not affiliated or authorized by Bosch-Rexroth® Inc.

Sundstrand® is a registered trademark of Sauer-Danfoss® Inc. All items listed are Metaris manufactured; OEM and reference part #'s are displayed for reference purposes only. Metaris is not affiliated or authorized by Sauer-Danfoss® Inc.

Linde® and is a registered trademark of Linde® Inc. All items listed are Metaris manufactured; OEM and reference part #'s are displayed for reference purposes only. Metaris is not affiliated or authorized by Linde® Inc.



All items are Metaris manufactured; OEM part #'s are displayed for reference purpose only. Prices subject to change without notice.



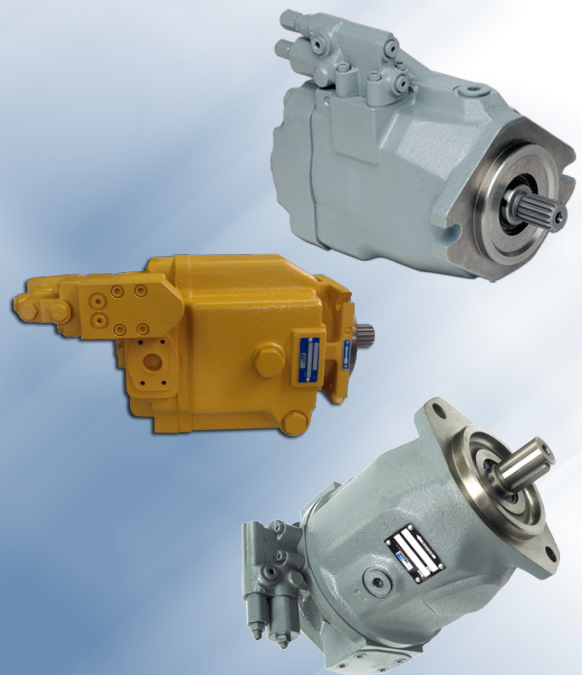
METARIS BRAND REPLACEMENT PARTS

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

Our parts are 100% interchangeable with OEM products. We are committed to high quality, zero defects, and getting your orders out correctly and on time.

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

WE WANT TO BE THE SUPPLIER FOR ALL YOUR PISTON PRODUCT NEEDS.



Metaris Corporation

1519 Hwy 35 North, Forest, Mississippi 39074
Tel: (601) 469-1987 | Toll Free: 1-800-962-2701
Fax: (601) 469-2120 | Toll Free: 1-800-654-5083
E-mail: sales@metarisusa.com

Metaris Inc.

1120 Lodestar Road, 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