

EAT•N

Vickers

Variable Displacement Vane Pumps

Service Parts Manual

VVS0

VVS1

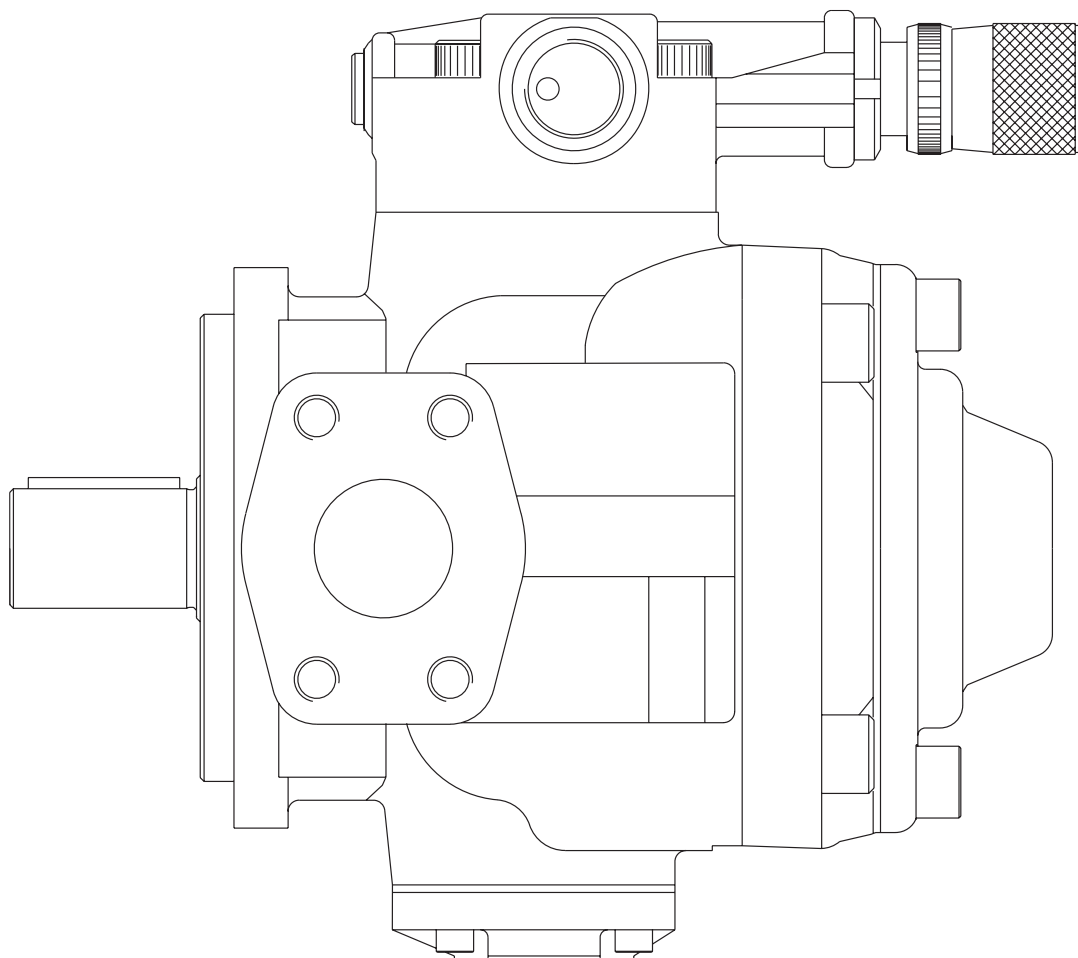
VVS2

VVS3

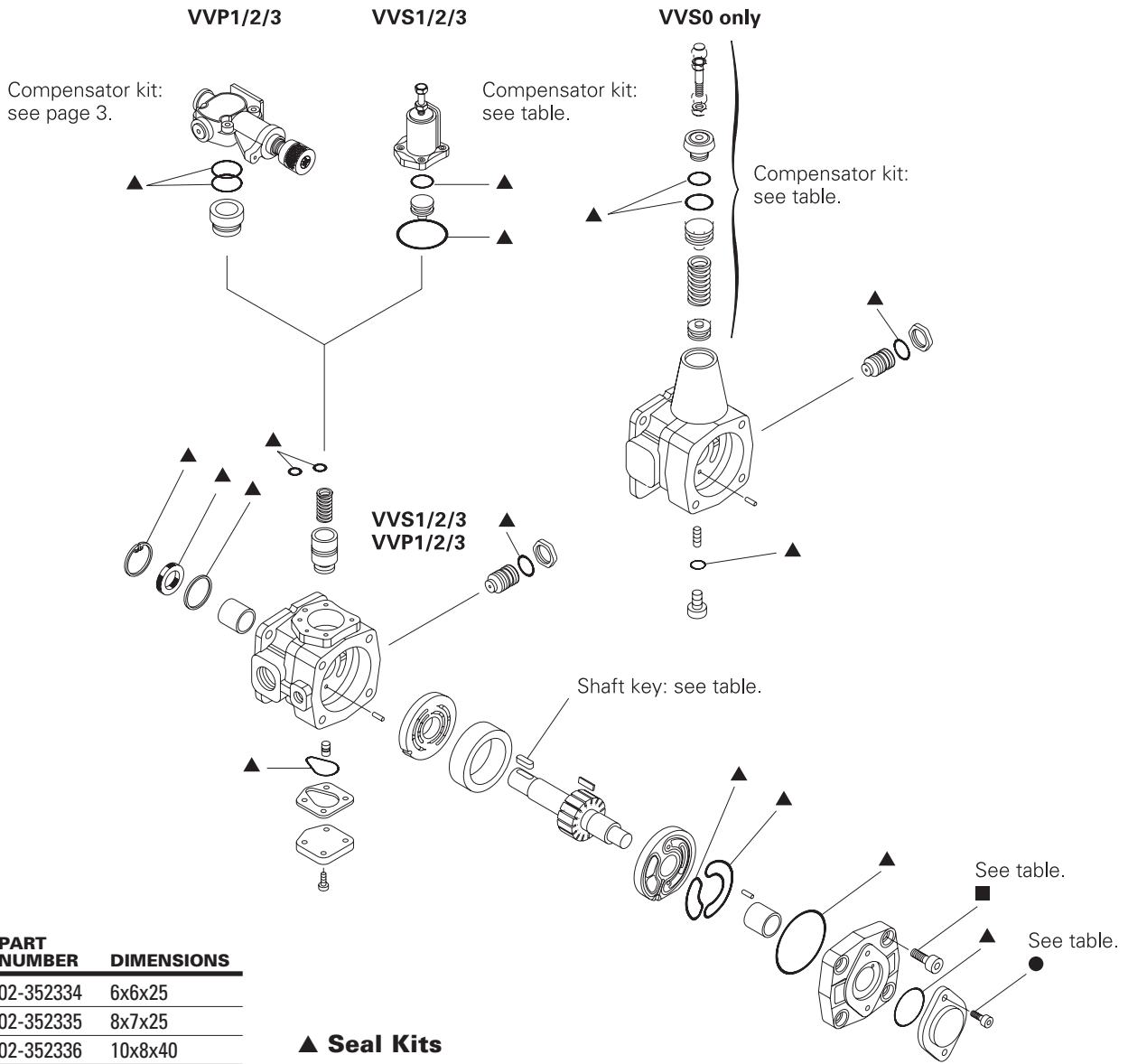
VVP1

VVP2

VVP3



Available Spares



Shaft Keys

PUMP	PART NUMBER	DIMENSIONS
VVS0-R	02-352334	6x6x25
VV*1-R	02-352335	8x7x25
VV*2-R, B, PX	02-352336	10x8x40
VV*3-R, PX	02-352337	12x8x45
VV*3-B	02-352338	8x7x35
VV*1-B	02-352339	5x7,5 (Woodruff)
VVS0-PS	02-352340	3/16"x3/16"x5/8"
VV*1-PS	02-352341	1/4"x1/4"x1"
VV*2/3-PF	02-352342	1/4"x1/4"x1 1/2"

▲ Seal Kits

PUMP	STANDARD	VITON
VVS0	02-352260	02-352261
VV*1	02-358835	02-352262
VV*2	02-358836	02-352263
VV*3	02-351947	02-358838
VV*2/3 SAE	02-358869	-

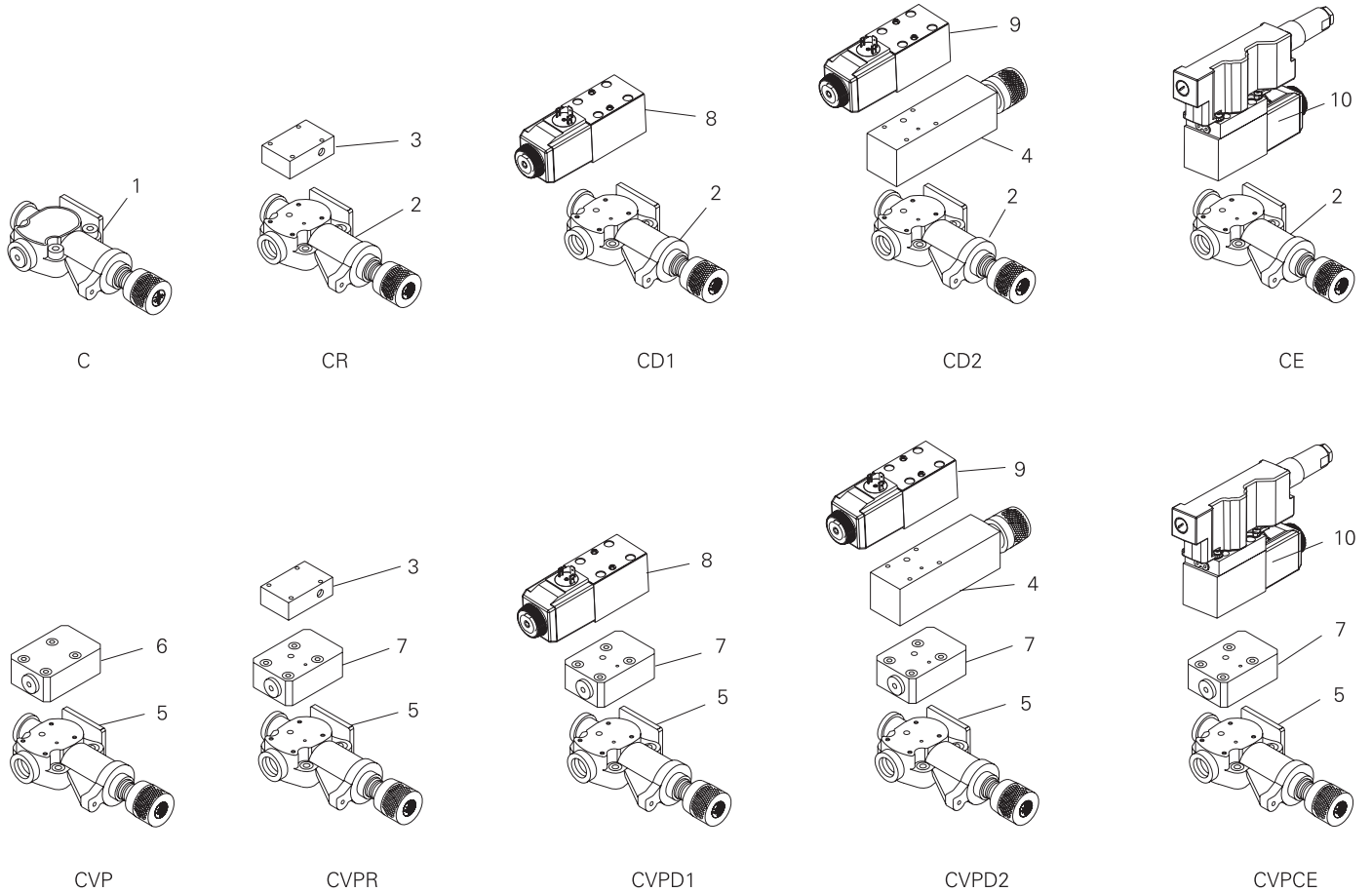
▲ Included in seal kit.

Cover Tightening Torques

PUMP	■	TORQUE		●	TORQUE	
		Nm	(lbf in)		Nm	(lbf in)
VVS0	4 x M10	84,90	(751)	- -		
VV*1	4 x M12	144,50	(1279)	2 x M8	42,00	(372)
VV*2	4 x M14	230,67	(2042)	2 x M12	144,50	(1279)
VV*3-RF, PX	6 x M16	354,10	(3134)	2 x M12	144,50	(1279)
VV*3-PF, B	4 x M16	354,10	(3134)	2 x M12	144,50	(1279)
	+					
	3 x M8	42,00	(372)			

VVS Compensator Kits

FRAME SIZE	PRESSURE RANGE	CONTROL "C"
0	A	02-352252
0	C	02-352253
0	D	02-352254
1	A	02-359787
1	C	02-352158
2	A	02-359788
2	C	02-352257
3	A	02-359788
3	B	02-352259

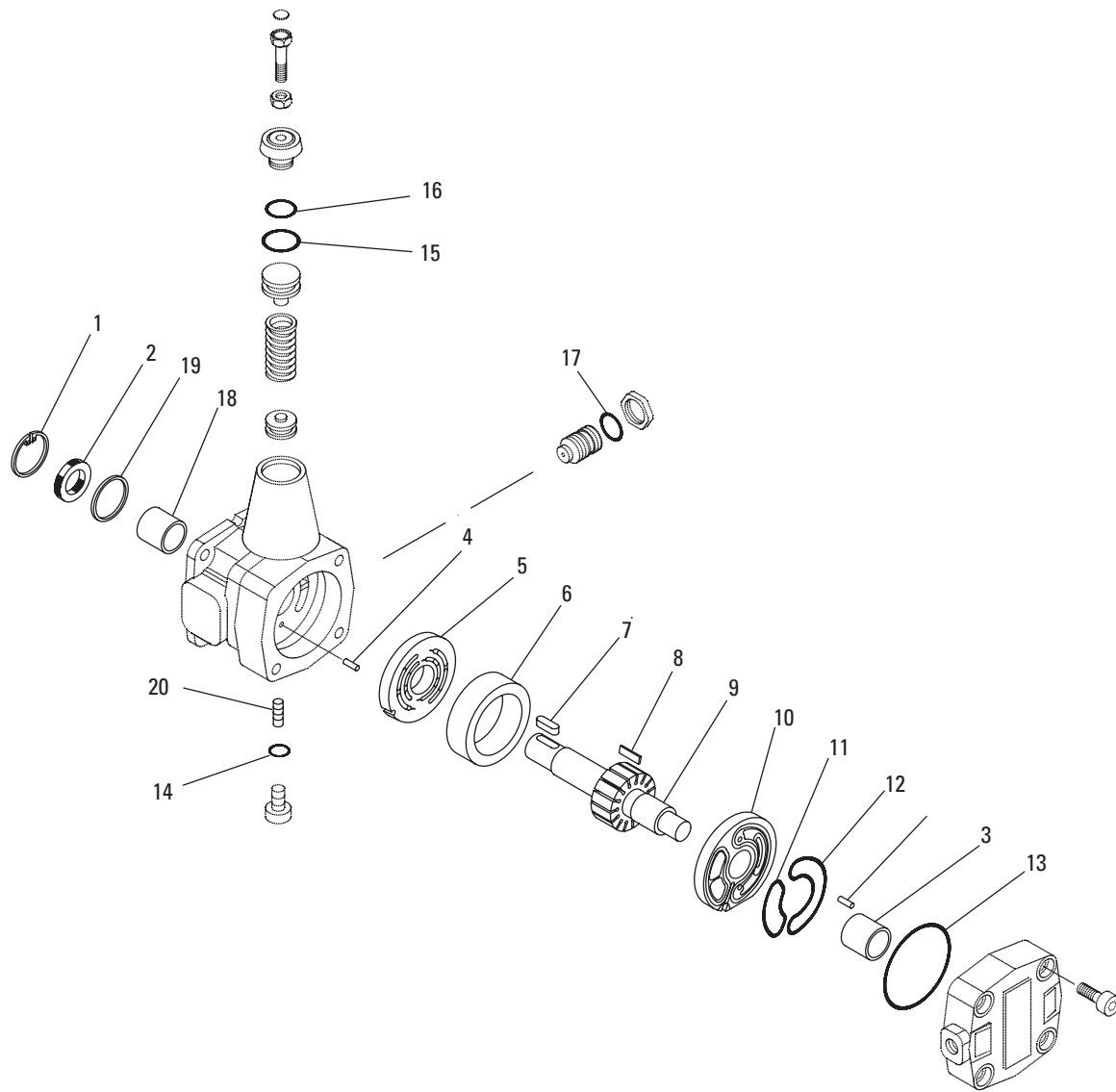


VVP Compensator Kits

ITEM	DESCRIPTION	VVP1	VVP2	VVP3
1	Standard Compensator	02-352242	02-352243	02-352244
2	Multifunctional Compensator	02-352245	02-352248	02-352248
3	Remote Control Block	02-352246	02-352246	02-352246
4	Relief for Dual Pressure Control	02-352247	02-352247	02-352247
5	Load Sensing Compensator	02-352249	02-352251	02-352251
6	Load Sensing Block for Standard	02-352250	02-352250	02-352250
7	Load Sensing Block w/ interface	02-359835	02-359835	02-359835
8	Directional Control Valve (All Sizes)			
	DG4V 3S 0B M U C 5 60		02-109042	
	DG4V 3S 0B M U H 5 60		02-109039	
	DG4V 3S 0B M U B 5 60		02-110204	
	DG4V 3S 0B M FW B 5 60		02-109638	
9	Directional Control Valve (All Sizes)			
	DG4V 3S 22A M U C 5 60		02-312228	
	DG4V 3S 22A M U H 5 60		02-109939	
	DG4V 3S 22A M U B 5 60		02-109645	
	DG4V 3S 22A M FW B 5 60		02-109636	
10	Proportional Pressure Valve			
	KBCG3160DZM2PD7H110		02-146087	

Overhaul Kits

Pump VVS



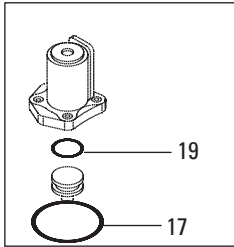
DESCRIPTION	PART NUMBER
Overhaul Kits For VVS 0 - 6 (6cc)	02-353594
Overhaul Kits For VVS 0 - 10 (10cc)	02-353595
Overhaul Kits For VVS 0 - 12 (12cc)	02-353591

In Phase Of Order You Must Indicate The Complete Code Of The Pump On Which The Overhaul Kit Is Mounted.

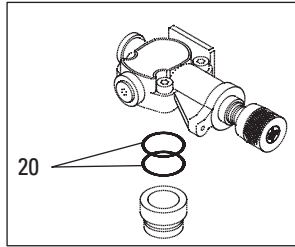
Eaton Supply Only The Complete Kit, Not The Single Parts

Overhaul Kits

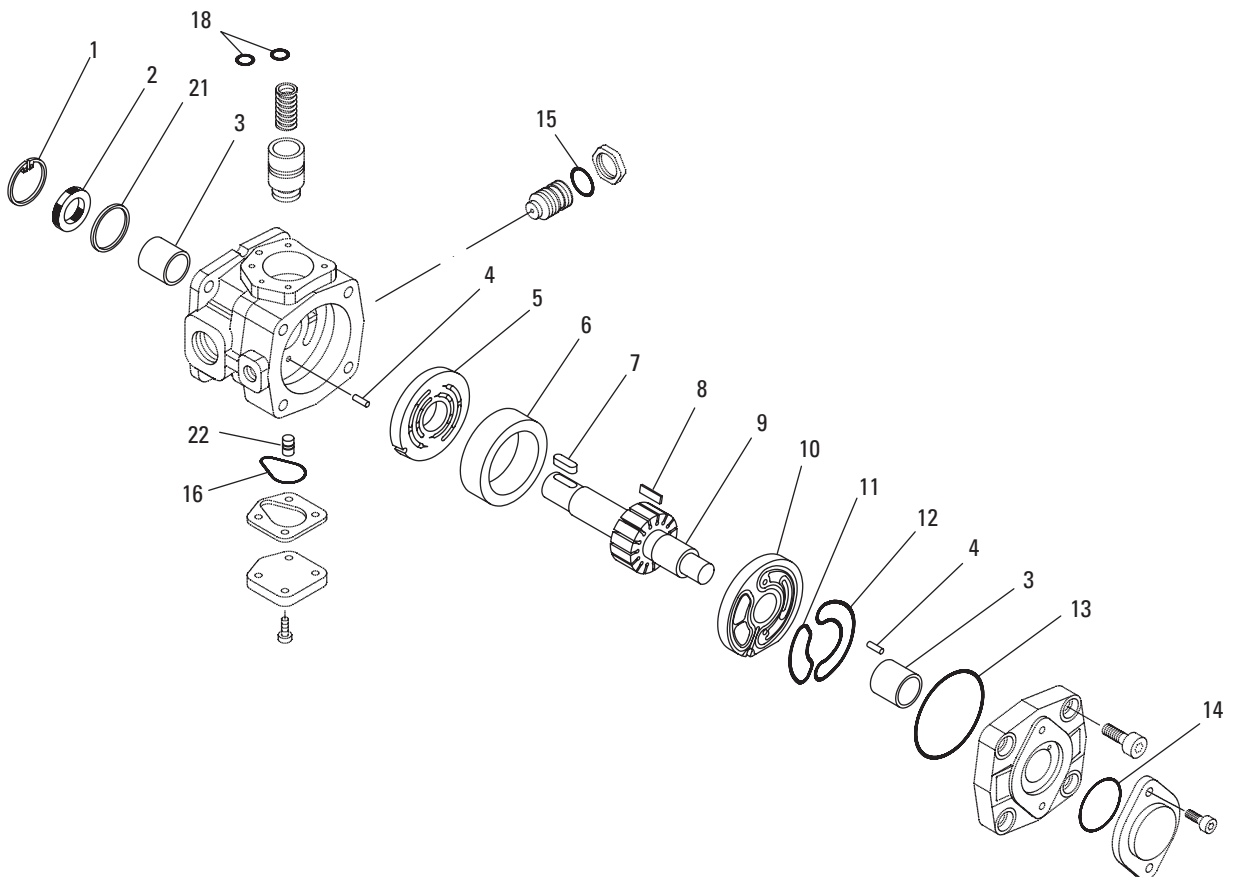
Pump VVS/VVP



VVS



VVP



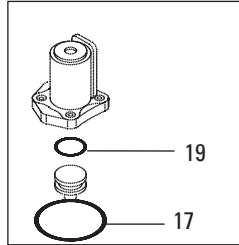
DESCRIPTION	PART NUMBER
Overhaul Kits For VVS/VVP1 - 16 (16cc)	02-353597
Overhaul Kits For VVS/VVP1 - 20 (20cc)	02-353598
Overhaul Kits For VVS/VVP1 - 25 (25cc)	02-353599

In Phase Of Order You Must Indicate The Complete Code Of The Pump On Which The Overhaul Kit Is Mounted.

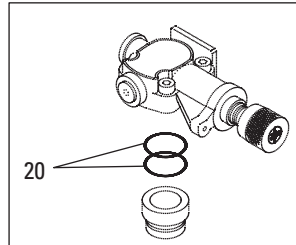
Eaton Supply Only The Complete Kit, Not The Single Parts

Overhaul Kits

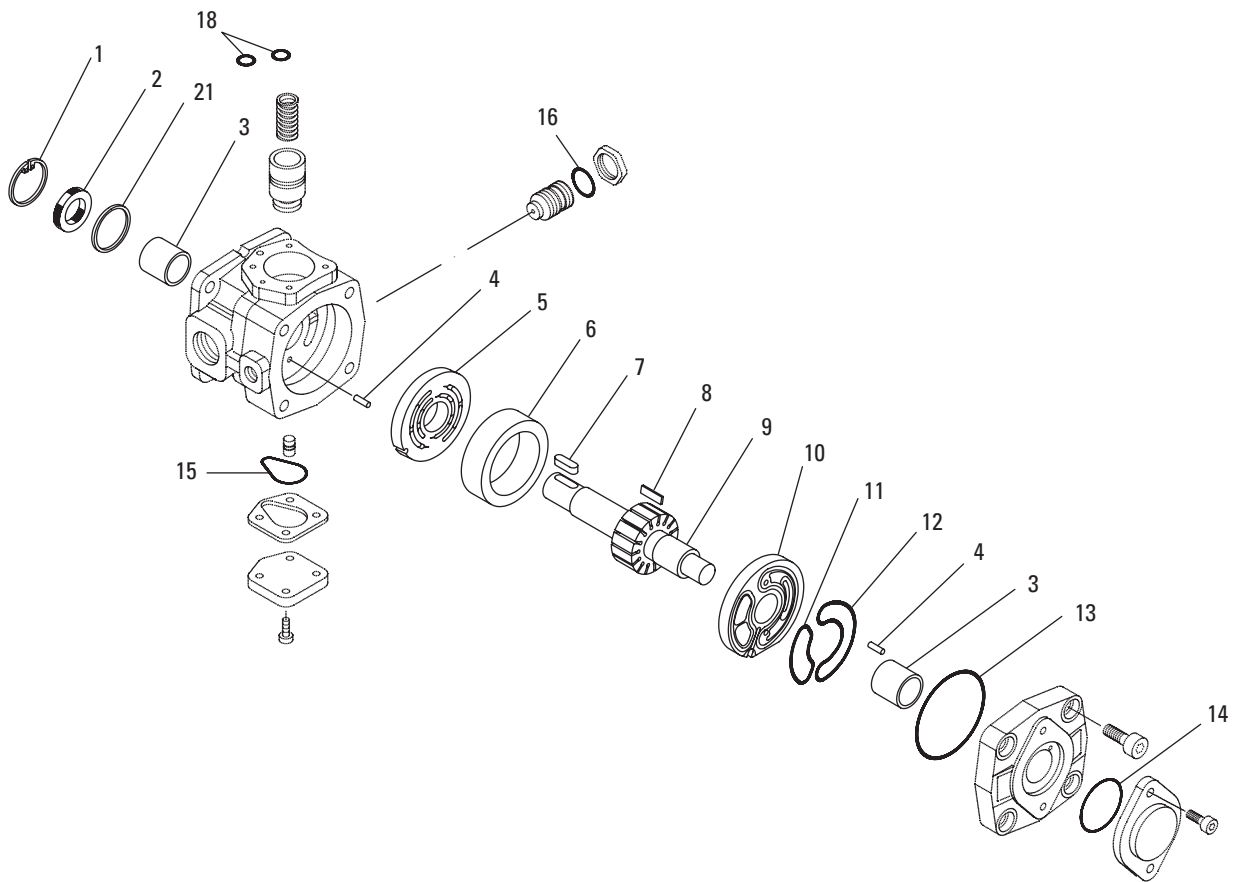
Pump VVS/VVP



VVS



VVP



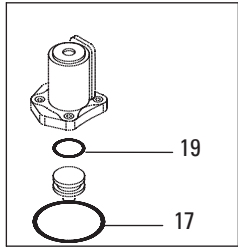
DESCRIPTION	PART NUMBER
Overhaul Kits For VVS/VVP2 - 31 (31cc)	02-353600
Overhaul Kits For VVS/VVP2 - 40 (40cc)	02-353601
Overhaul Kits For VVS/VVP2 - 50 (50cc)	02-353602

In Phase Of Order You Must Indicate The Complete Code Of The Pump On Which The Overhaul Kit Is Mounted.

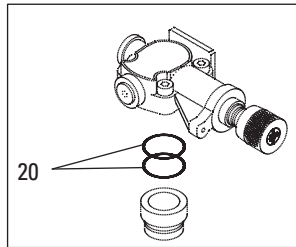
Eaton Supply Only The Complete Kit, Not The Single Parts

Overhaul Kits

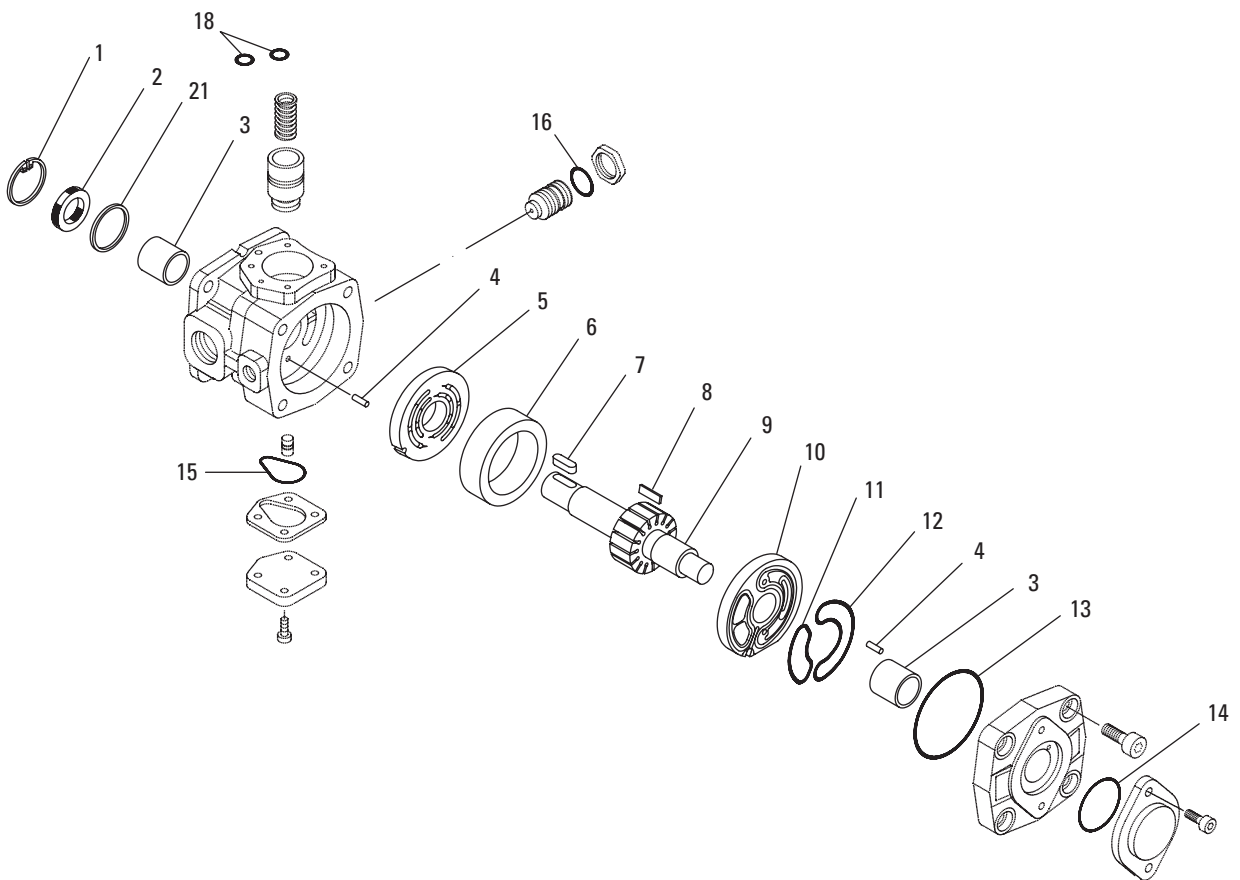
Pump VVS/VVP



VVS



VVP



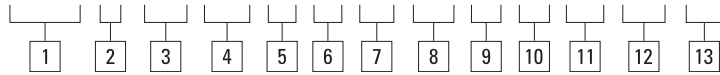
DESCRIPTION	PART NUMBER
Overhaul Kits For VVS/VVP3 - 63 (63cc)	02-353603
Overhaul Kits For VVS/VVP3 - 80 (80cc)	02-353604
Overhaul Kits For VVS/VVP3 - 100 (100cc)	02-353605

In Phase Of Order You Must Indicate The Complete Code Of The Pump On Which The Overhaul Kit Is Mounted.

Eaton Supply Only The Complete Kit, Not The Single Parts

Model Code VVS Series

VVS 1 - 16 - (S) R R M - 30 - C - D W - 10 - **



1 Variable vane pump

2 Frame size

0	-	6, 10, 12 cm ³ /r
1	-	16, 20, 25 cm ³ /r
2	-	32, 40, 50 cm ³ /r
3	-	63, 80, 100 cm ³ /r

3 Nominal size / geometric displacement, max. pressure

06	-	6 cm ³ /r	} Maximum 150 bar (2200 psi)
10	-	10 cm ³ /r	
12	-	12 cm ³ /r	
16	-	16 cm ³ /r	} Maximum 100 bar (1500 psi)
20	-	20 cm ³ /r	
25	-	25 cm ³ /r	
32	-	31,5 cm ³ /r	
40	-	40 cm ³ /r	} Maximum 80 bar (1200 psi)
50	-	50 cm ³ /r	
63	-	63 cm ³ /r	
80	-	80 cm ³ /r	
100	-	100 cm ³ /r	

4 Adjust. max. displacement stop

S	-	With stop (Omit if not required.)
---	---	--------------------------------------

5 Mounting flange / port connections

Code	Frame Size	Mounting flange	Port connections
R	Size 0 or 1	ISO 3019/2 with straight keyed shaft (size 0 is only available as a single or secondary pump)	G (BSPF) thread
RF	Size 2 or 3	ISO 3019/2 with straight keyed shaft	SAE 4-bolt flange with metric mounting bolts
PS	Size 0	ISO 3019/2 with straight keyed shaft (for size 0 pumps only). Size 0 is only available as a single or secondary pump.	SAE UNF thread
	Size 1	SAE B 4-bolt with straight keyed shaft (for size 1 pumps only)	
PF	Size 2 or 3	SAE C 2-bolt with straight keyed shaft (primary or single pump only)	SAE 4-bolt flange with UNC mounting bolts
PX	Size 2 or 3	ISO 3019/2 with straight keyed shaft (available secondary pump only)	SAE 4-bolt flange with UNC mounting bolts
B	All	Base plate mounting (available only as single pump)	O-ring sealed

6 Rotation viewed from shaft end

R	-	Right hand (clockwise) only
---	---	-----------------------------

7 Fluid compatibility

M	-	Mineral oil
E	-	Phosphate esters

8 Pump design number

30 - VVS 0, 1, 2, 3
Subject to change. Installation dimensions remain unaltered for designs *0-*9.

9 Pressure control

C - Standard pressure compensator

10 Control pressure setting

A - 15-50 bar (215-700 psi)
(All sizes)
B - 30-80 bar (430-1200 psi)
(Size 3 only)
C - 30-100 bar (430-1500 psi)
(Size 0, 1 or 2)
D - 80-150 bar (1200-2200 psi)
(Size 1 only)

11 Control adjustment

W - Screw with locknut
KL - Screw with key lock

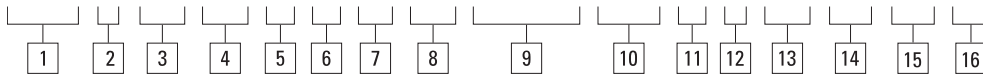
12 Control design number

10 - For all models.
Subject to change. Installation dimensions remain unaltered for designs 10-19.

13 Special features suffix

Model Code VVP Series

VVP 1 - 20 - (S) R R - M - 30 - CVTCE (03) - B * - 04 - 15 - 10 - **



1 Variable vane pump

2 Frame size

- 1 - 16, 20, 25 cm³/r
- 2 - 32, 40, 50 cm³/r
- 3 - 63, 80, 100 cm³/r

3 Nominal size / geometric displacement, max. pressure

- 16 - 16 cm³/r
 - 20 - 20 cm³/r
 - 25 - 25 cm³/r
 - 32 - 31,5 cm³/r
 - 40 - 40 cm³/r
 - 50 - 50 cm³/r
 - 63 - 63 cm³/r
 - 80 - 80 cm³/r
 - 100 - 100 cm³/r
- Maximum 160 bar (2300 psi)
Maximum 150 bar (2200 psi)

4 Adjust. max. displacement stop

- S - With stop
(Omit if not required.)

5 Mounting flange / port connections

Code	Frame Size	Mounting flange	Port connections
R	Size 1	ISO 3019/2 with straight keyed shaft	G (BSPF) thread
RF	Size 2 or 3	ISO 3019/2 with straight bolts	SAE 4-bolt flange with keyed shaft metric mounting
PS	Size 1	SAE B 4-bolt with straight keyed shaft	SAE UNF thread
PF	Size 2 or 3	SAE C 2-bolt with straight keyed shaft (primary or single pump only)	SAE 4-bolt flange with UNC mounting bolts
PX	Size 2 or 3	ISO 3019/2 with straight keyed shaft (secondary pump only)	SAE 4-bolt flange with UNC mounting bolts
B	All	Base plate mounting (available only as single pump)	O-ring sealed

6 Rotation viewed from shaft end

- R - Right hand (clockwise) only

7 Fluid compatibility

- M - Mineral oil
- E - Phosphate esters

8 Pump design number

Subject to change. Installation dimensions remain unaltered for designs 30-39.

9 Pump controls

- C - Standard pressure compensator
- CR - Remote controlled pressure control
- CD1 - Dual pressure control with non-adjustable min. pressure
- CD2 - Dual adjustable pressure control
- CE - Proportional pressure control
- CVP - Load sensing compensator
- CVPR - Remote controlled load sensing control
- CVPD1 - Load sensing control with dual pressure with fixed minimum pressure
- CVPD2 - Load sensing control with dual adjustable pressure control
- CVPCE - Load sensing control with proportional pressure control
- CVT - Torque limiter
- CVTR - Remote controlled torque limiter
- CVTD - Torque control with dual adjustable pressure control
- CVTCE - Torque control with proportional pressure control

10 Electrical rating and wiring connection

For CD*, CVPD*, CVTD pump controls, three options below apply; for CE, CVPCE, CVTCE, only option 03 applies.

- 01 - 220V AC 50 Hz with DIN 43650 plug connection
- 02 - 115V AC 60 Hz with 1/2" NPT conduit box
- 03 - 24V DC with DIN 43650 plug connection

(Omit if not required.)

11 Control pressure setting

- B - 30-160 bar (430-2300 psi) (sizes 16-50 cm³/r)
- C - 30-150 bar (430-2200 psi) (sizes 63-100 cm³/r)

12 Control adjustment

Omit for CR, CE, CVPR, CVTD, CVPCE and CVTCE pump controls.

- K - Micrometer knob (standard)
- KL - Micrometer knob with key lock

13 Maximum power setting in kW

- ** - Factory setting of power limit in kilowatt; for example 04 = 4 kW

14 Maximum pressure setting

- ** - Factory setting of pressure for zero flow in 10 bar increments; for example 15 = 150 bar

15 Control design number

- 10 - For all models. Subject to change. Installation dimensions remain unaltered for designs 10-19.

16 Special features suffix

Eaton
14615 Lone Oak Road
Eden Prairie, MN 55344
USA
Tel: 952 937-9800
Fax: 952 974-7722
www.hydraulics.eaton.com

Eaton
20 Rosamond Road
Footscray
Victoria 3011
Australia
Tel: (61) 3 9319 8222
Fax: (61) 3 9318 5714

Eaton
46 New Lane, Havant
Hampshire PO9 2NB
England
Tel: (44) 23 92 486 451
Fax: (44) 23 92 487 110

