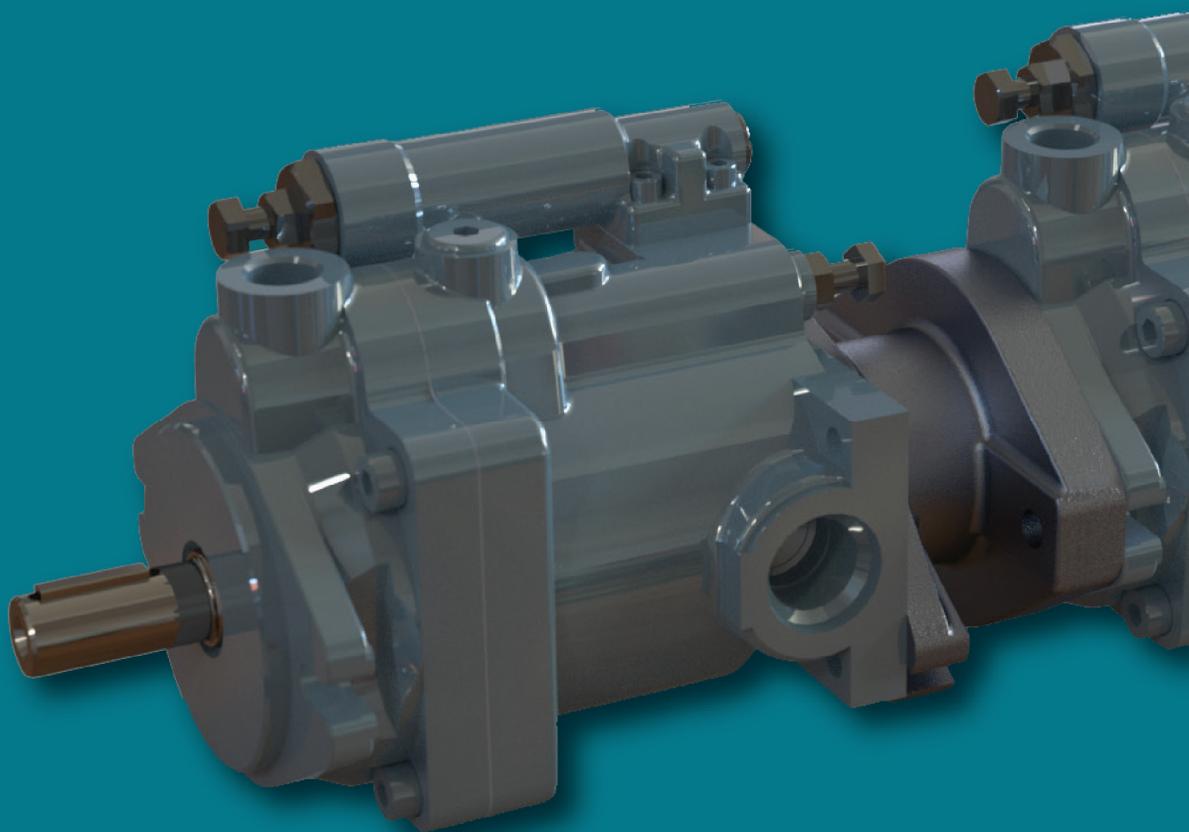




**PVS PISTON PUMP
THRU SHAFT SERIES
KEY & SPLINE SHAFT OPTIONS**



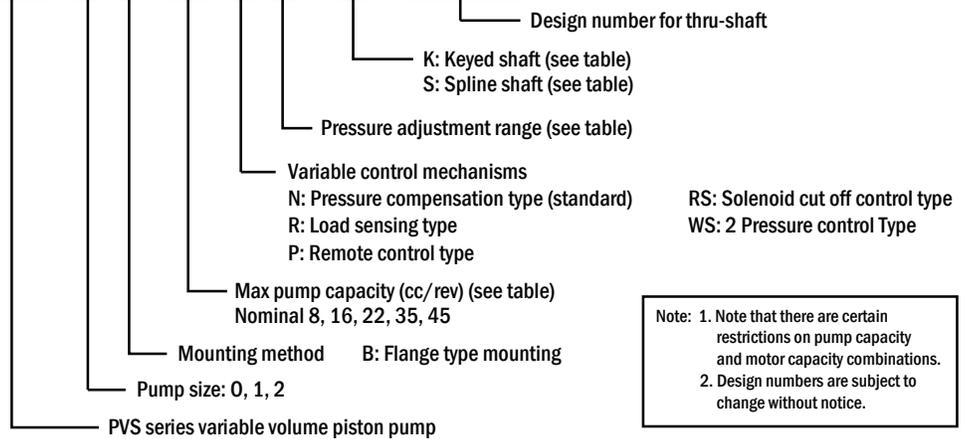
NACHI AMERICA INC.

PVS PISTON PUMP THRU SHAFT SERIES

Model Code How to Order



PVS - 1 B - 16 - N - 2 - (*) - E5737A



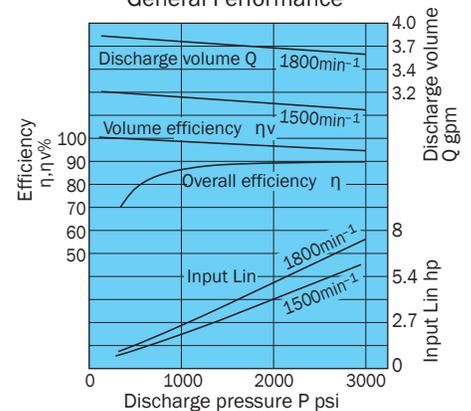
PVS PUMP

- Multiple pressure compensation options
- Multiple spline and key shaft options
- Low friction Nachi bearings guarantee pump viability

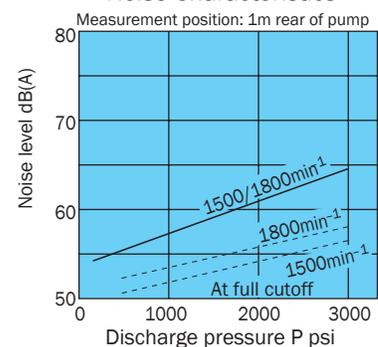
Nachi Design

- High operating efficiency for lower power consumption and reduced heat generation
- Semi-circular swash plate reduces power loss by ensuring a stable discharge volume
- 11 piston design minimizes flow ripple, further reducing noise

General Performance



Noise Characteristics



*All tests performed on PVS-0B-8N3-E30

APPLICATIONS

- CNC Machine
- Mill
- Lathe
- Injection Molding Machine
- Hydraulic Press

PVS PISTON PUMP THRU SHAFT SERIES

Model No.	Volume in ³ /rev (cm ³ /rev)	Discharge volume at no-load (gpm) 1800min ⁻¹	Pressure range (psi)	Permitted peak pressure (psi)	Front shaft	Rear shaft	Port size	Rotating speed (min ⁻¹)		Mass lbs
								Min.	Max.	
PVS-0B-8*0-(*)-E5737A 1 2 3	.18 - .48 (3.0 - 8.0)	3.8	290 to 507 290 to 1015 435 to 2030 435 to 3045	3625	K: SAE (AH) 19-1 (3/4) S: SAE (A) 16-4 (9T)	SAE (A) 16-4 (9T)	Inlet: SAE-12 Outlet: SAE-08	500	2000	17
PVS-1B-16*0-(*)-E5737A 1 2 3	.3 - 1.0 (5.0 - 16.5)	7.8	290 to 507 290 to 1015 435 to 2030 435 to 3045	3625	K: SAE (AH) 19-1 (3/4) S1: SAE (AH) 19-4 (11T) S3: SAE (B) 22-4 (13T)	SAE (A) 16-4 (9T)	Inlet: SAE-16 Outlet: SAE-12	500	2000	24
PVS-1B-22*0-(*)-E5737A 1 2 3	.42 - 1.34 (7.0 - 22.0)	10.5	290 to 507 290 to 1015 435 to 2030 435 to 3045	3625	K: SAE (AH) 19-1 (3/4) S1: SAE (AH) 19-4 (11T) S3: SAE (B) 22-4 (13T)	SAE (A) 16-4 (9T)	Inlet: SAE-16 Outlet: SAE-12	500	2000	24
PVS-2B-35*0-(*)-E5737A 1 2 3	.48 - 2.1 (8.0 - 35.0)	16.6	290 to 507 290 to 1015 435 to 2030 435 to 3045	3625	K: SAE (B-B) 25-1 (1") S3: SAE (B) 22-4 (13T) S5: SAE (B-B) 25-4 (15T)	SAE (AH) 19-4 (11T)	Inlet: Code 61-1 1/4" Outlet: Code 61-1"	500	2000	46
PVS-2B-45*0-(*)-E5737A 1 2 3	.67 - 2.74 (11.0 - 45.0)	21.5	290 to 507 290 to 1015 435 to 2030 435 to 3045	3625	K: SAE (B-B) 25-1 (1") S3: SAE (B) 22-4 (13T) S5: SAE (B-B) 25-4 (15T)	SAE (AH) 19-4 (11T)	Inlet: Code 61-1 1/4" Outlet: Code 61-1"	500	2000	46

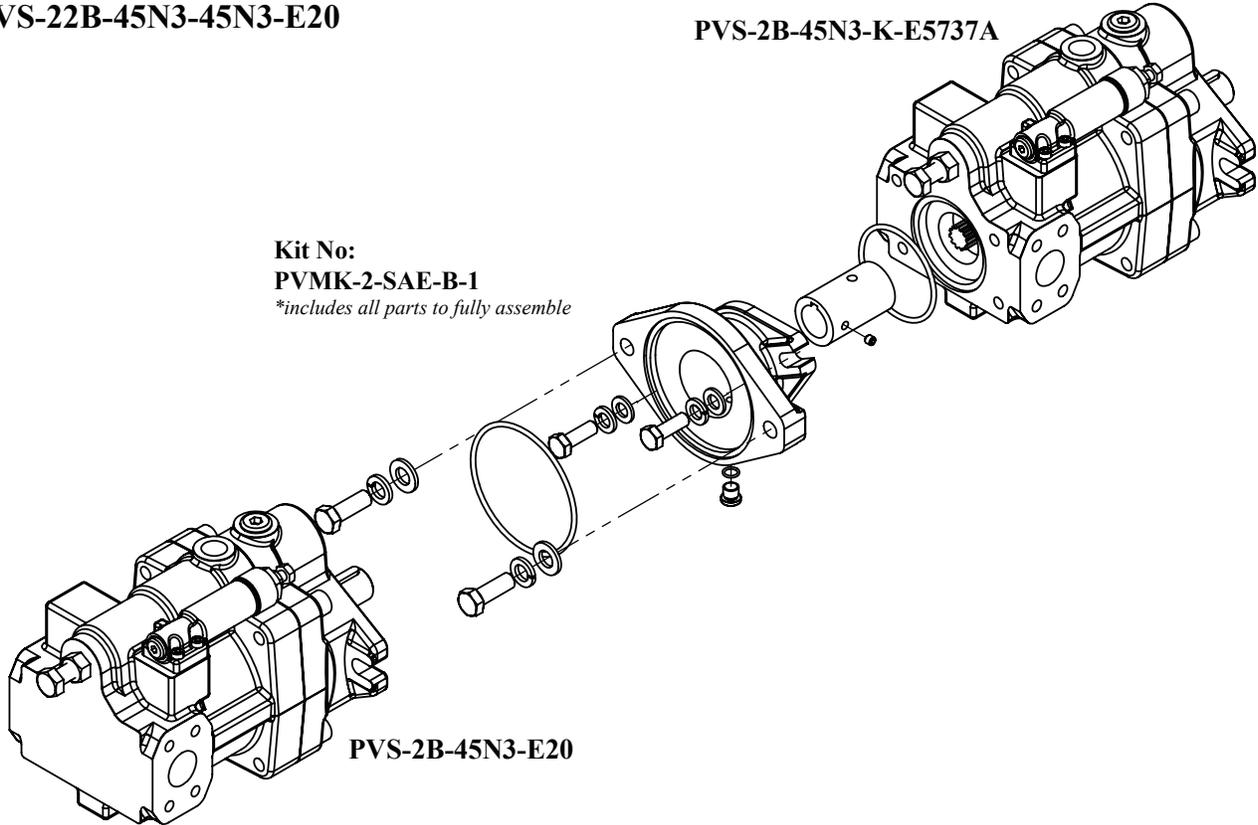
Note: Direction of rotation is clockwise when viewed from the shaft end.

Rear Pump	Front Pump	Double Pump PN	Kit Number	
PVS-0B-8N*-E30	PVS-0B-8N*-E5737A	PVS-00B-8N*-8N*-E30	PVMK-1-SAE-A-3/4"	
	PVS-1B-16N*-E5737A	PVS-01B-8N*-16N*-E30		
	PVS-1B-22N*-E5737A	PVS-01B-8N*-22N*-E30		
	PVS-2B-35N*-E5737A	PVS-02B-8N*-35N*-E30	PVMK-2-SAE-A-3/4"	
	PVS-2B-45N*-E5737A	PVS-02B-8N*-45N*-E30		
PVS-1B-16N*-E13	PVS-1B-16N*-E5737A	PVS-11B-16N*-16N*-E13	PVMK-1-SAE-A-3/4"	
	PVS-1B-22N*-E5737A	PVS-11B-16N*-22N*-E13	PVMK-2-SAE-A-3/4"	
	PVS-2B-35N*-E5737A	PVS-12B-16N*-35N*-E13		
	PVS-2B-45N*-E5737A	PVS-12B-16N*-45N*-E13		
PVS-1B-22N*-E13	PVS-2B-35N*-E5737A	PVS-12B-22N*-35N*-E13	PVMK-2-SAE-B-7/8"	
	PVS-2B-45N*-E5737A	PVS-12B-22N*-45N*-E13		
PVS-2B-35N*-E13	PVS-2B-35N*-E5737A	PVS-22B-35N*-35N*-E13	PVMK-2-SAE-B-1"	
	PVS-2B-45N*-E5737A	PVS-22B-35N*-45N*-E13		
PVS-2B-45N*-E20	PVS-2B-45N*-E5737A	PVS-22B-45N*-45N*-E20		
NASGP 1 Series	PVS-0B-8N*-E5737A	n/a	PVMK-1-SAE-A-3/4"	
	PVS-1B-16N*-E5737A			
	PVS-1B-22N*-E5737A			
	PVS-2B-35N*-E5737A		PVMK-2-SAE-A-3/4"	
	PVS-2B-45N*-E5737A			
NASGP 300 Series	PVS-0B-8N*-E5737A		PVMK-1-SAE-A-5/8"	
	PVS-1B-16N*-E5737A			
	PVS-1B-22N*-E5737A			
	PVS-2B-35N*-E5737A			PVMK-2-SAE-A-5/8"
	PVS-2B-45N*-E5737A			

Example:
PVS-22B-45N3-45N3-E20

PVS-2B-45N3-K-E5737A

Kit No:
PVMK-2-SAE-B-1
**includes all parts to fully assemble*



Allowable Torque

Pump	Max Allowable Torque (in-lbs)	Max Rear Pump Torque (in-lbs)
PVS-0B-8N*-K-E5737A	844.80	530.00
PVS-0B-8N*-S-E5737A	375.60	256.00
PVS-1B-16/22N*-K-E5737A	928.80	530.00
PVS-1B-16/22N*-S1-E5737A	734.40	530.00
PVS-1B-16N*-S3-E5737A	1176.00	530.00
PVS-1B-22N*-S3-E5737A	1353.60	530.00
PVS-2B-35/45N*-K-E5737A	2194.80	796.00
PVS-2B-35/45N*-S3-E5737A	1353.60	796.00
PVS-2B-35/45N*-S5-E5737A	2124.00	796.00

Calculation of Torque

• **Equation**

$$\text{Torque (in-lbs)} = \text{Pressure (psi)} \times \text{Displacement (cibr)} \div (2\pi)$$

• **Notes**

Total torque is dependent on both the pump size and shaft style.
 All torque and shaft specification can be found in the PVS brochure.

• **Example:** Total allowable torque for this pump is 928.80 in-lbs

PVS-1B-16/22N*-K-E5737A (Front Pump)
 Pressure setting: 3000 psi, Displacement setting: .50 cibr
 Equation: $(3000 \text{ psi} \times .50 \text{ cibr}) \div (2\pi)$
 Result: T = 238.73 in-lbs

PVS-1B-22N1-E13 (Rear Pump)
 Pressure setting: 750 psi, Displacement setting: 1.00 cibr
 Equation: $(750 \text{ psi} \times 1.00 \text{ cibr}) \div (2\pi)$
 Result: T = 119.37 in-lbs

• **Total Torque** = 119.37 in-lbs + 238.73 in-lbs = 358.1 in-lbs

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