



“HART OF GOLD”



HARTMANN

PVM Piston Pumps

PVX Piston Pumps

Introduction

Introduction of DENIX

DENIX FLUID POWER PTE. LTD. is the exclusive dealership located in Singapore for 6 renowned hydraulic component factories from Europe and United States



and responsible for their sales & marketing and also after sales services. The product range includes: hydraulic high pressure piston pumps and motors, aluminum and cast iron gear pumps and motors, vane pumps and motors, high precision flow dividers and hose/tube cleaning devices and sealing devices.

DENIX has set up a warehouse in Singapore to better serve his customers on lead time and cost saving. DENIX is also known as an expert in providing his customers technical support and product trainings.



Intro of HARTMANN

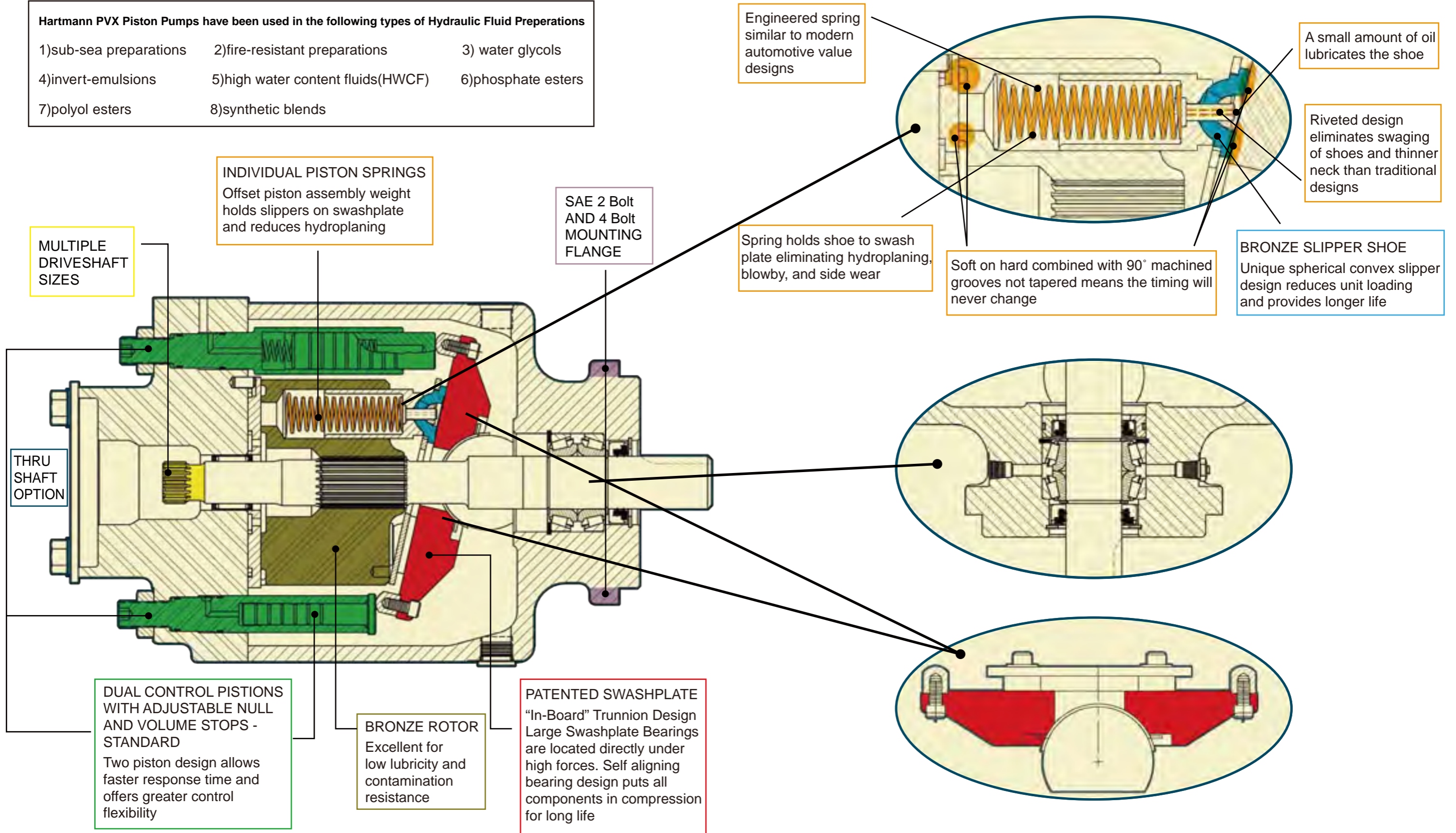
HARTMANN Controls supplies industries with robust, precision pumps that are made from the finest metals and used by the worlds largest manufactures and companies.

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Hartmann PVX Piston Pumps have been used in the following types of Hydraulic Fluid Preparations

- | | | |
|-------------------------|-------------------------------------|---------------------|
| 1) sub-sea preparations | 2) fire-resistant preparations | 3) water glycols |
| 4) invert-emulsions | 5) high water content fluids (HWCF) | 6) phosphate esters |
| 7) polyol esters | 8) synthetic blends | |



* The cross sectional diagram in only applicable to PVX series

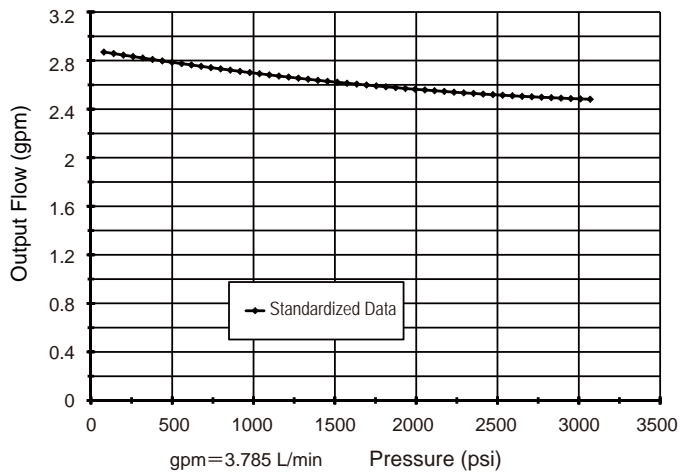
* The cross sectional diagram in only applicable to PVX series

PVM Series

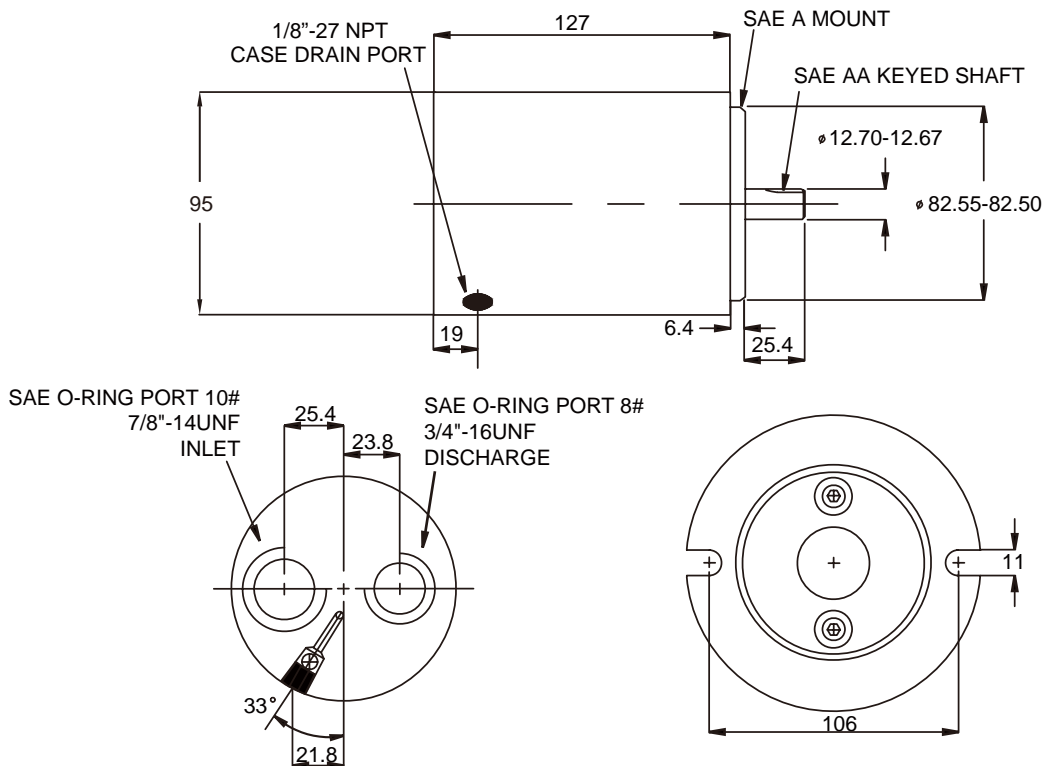
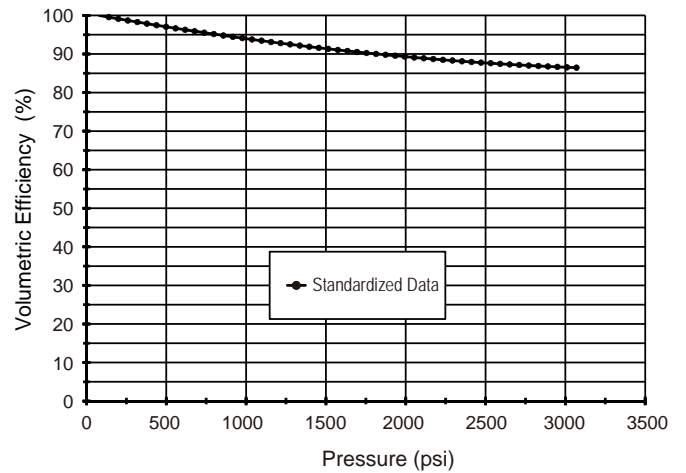
DISPLACEMENT	RATED PRESSURE	MINIMUM PRESSURE	MAXIMUM SPEED @ ATM. PRESSURE
0.8-8cm ³ /rev	280bar	10bar	2800rpm
SHAFT SIZE	MOUNT		
SAE"AA"	SAE"A"		



Uncompensated performance of PVM 6 CCR pump;
Tests run with ISO 32 oil at 115°F



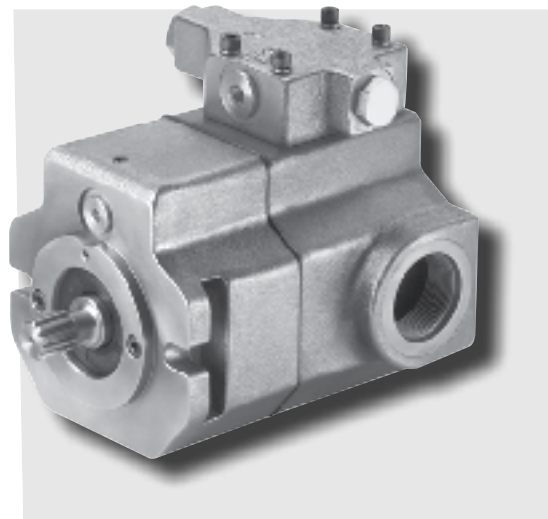
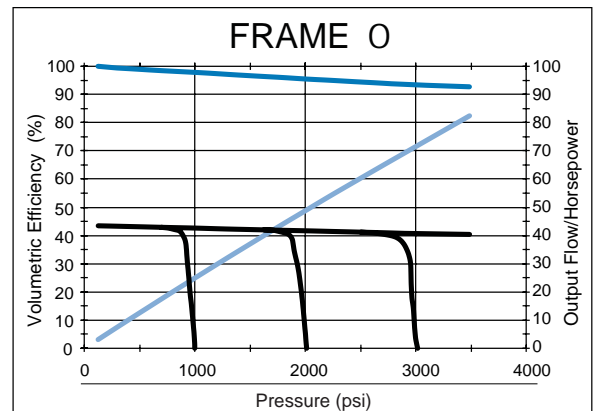
Uncompensated performance of PVM 6 CCR pump;
Tests run with ISO 32 oil at 115°F



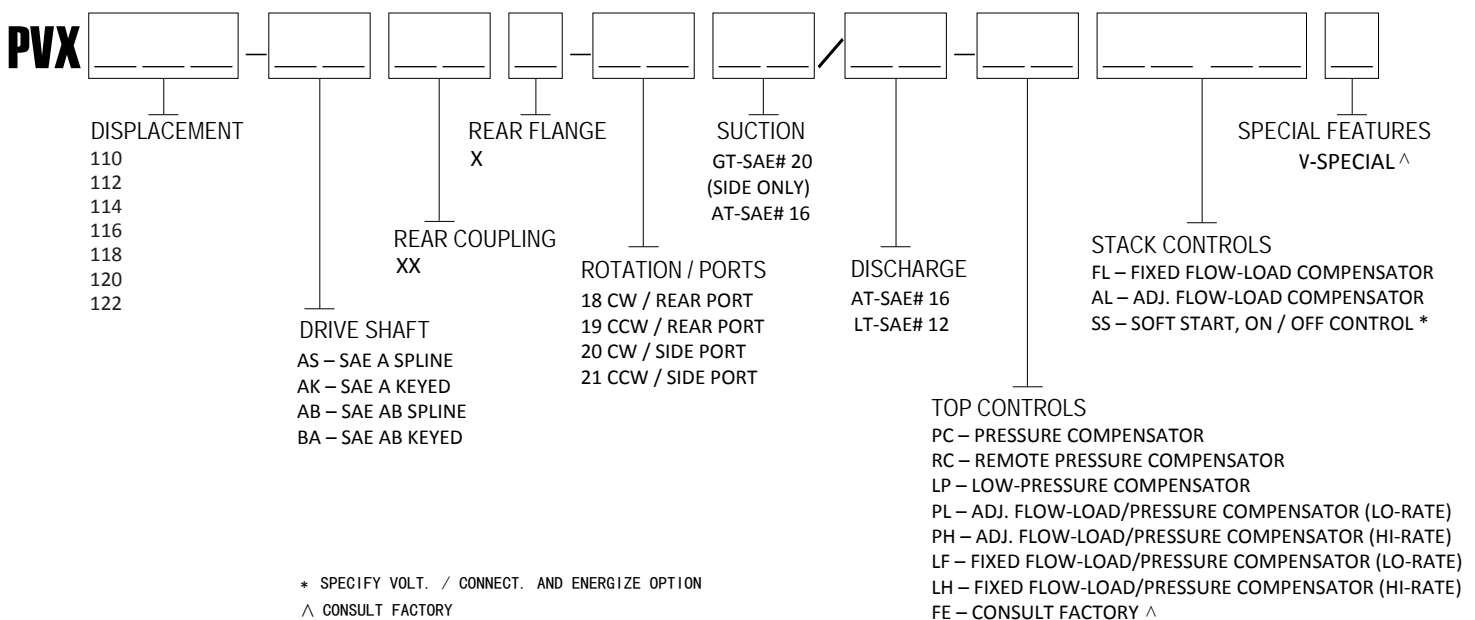
PVX 0 Series

PVX	RATED PRESSURE	PEAK PRESSURE	MINIMUM PRESSURE	
110	241bar	276bar	10bar	
112	241bar	276bar	10bar	
114	241bar	276bar	10bar	
116	241bar	276bar	10bar	
118	241bar	276bar	10bar	
120	241bar	276bar	10bar	
122	241bar	276bar	10bar	
PVX	DISPLACEMENT	THEORETICAL FLOW @ 1800 rpm	MAXIMUM SPEED @ ATM. PRESSURE	MINIMUM SPEED
110	10cm ³ /rev	17.8L/min	3200rpm	600rpm
112	12cm ³ /rev	21.6L/min	3200rpm	600rpm
114	14cm ³ /rev	25.0L/min	3200rpm	600rpm
116	16cm ³ /rev	29.5L/min	3200rpm	600rpm
118	18cm ³ /rev	32.5L/min	3200rpm	600rpm
120	20cm ³ /rev	36.0L/min	3200rpm	600rpm
122	22cm ³ /rev	39.4L/min	3200rpm	600rpm
PVX	INPUT TORQUE @ RATED PRESSURE	SHAFT SIZE	RECOMMENDED TORQUE LIMIT	
110	38.4Nm	SAE "A" SAE "AB"	56.0Nm 110.0Nm	
112	46.0Nm			
114	53.6Nm			
116	62.9Nm			
118	69.3Nm			
120	76.8Nm			
122	84.4Nm			

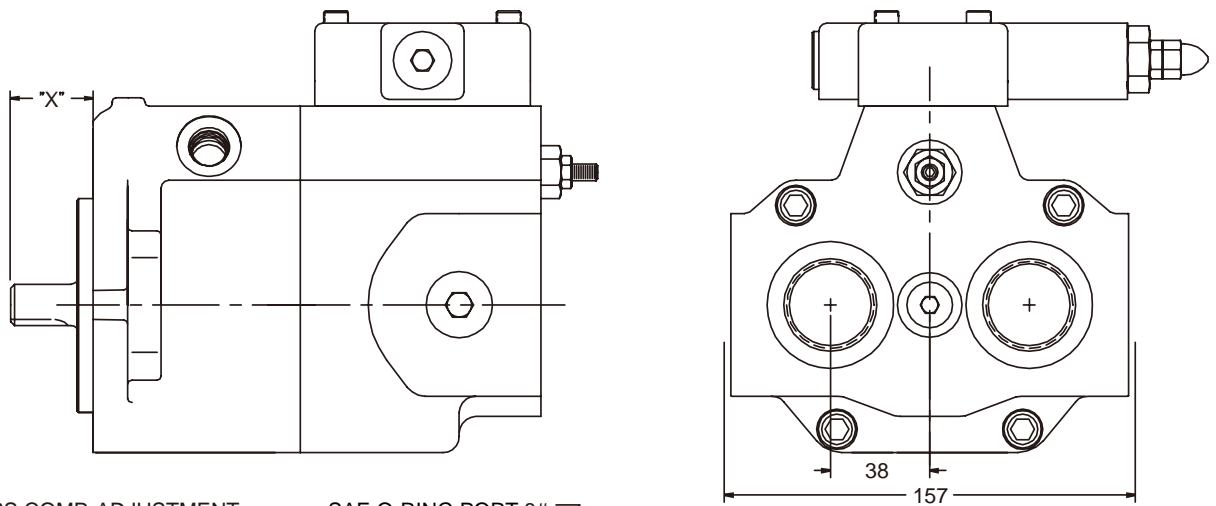
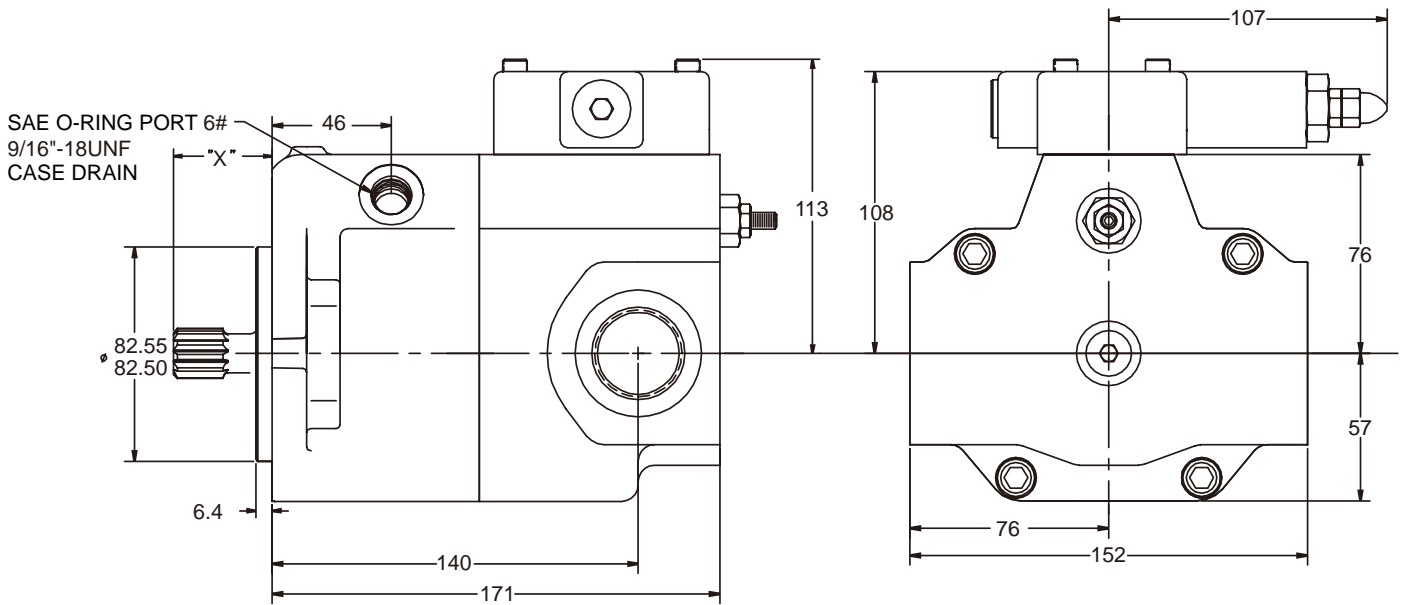
- Input shaft torque should not exceed the total of front-pump torque and the added torque requirements of its rear-mounted units.
- SHIPPING WEIGHTS: Side Port = 37 lbs. Rear Port = 35 lbs.



SELECTOR SYSTEM



PVX 0 Series

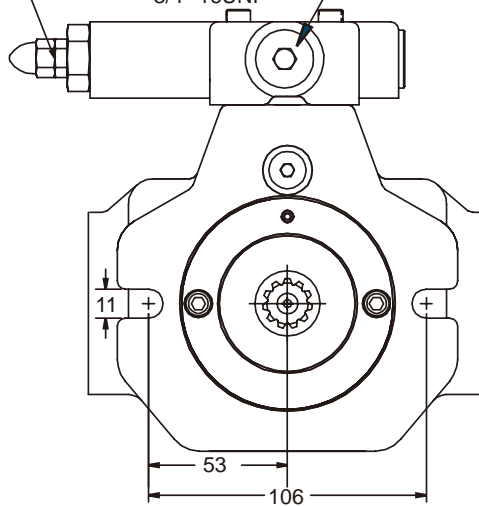


PRESS COMP. ADJUSTMENT

SAE O-RING PORT 8#
3/4"-16UNF

DRIVESHAFT OPTIONS

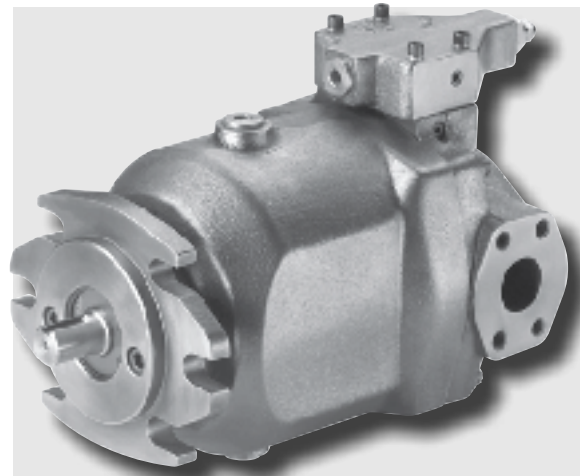
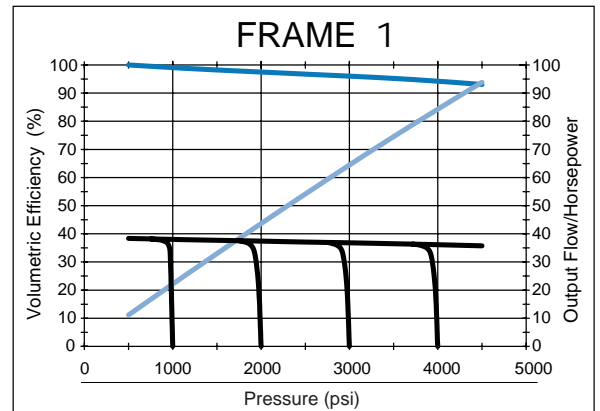
SAE SHAFT	DESCRIPTION	"X"
A KEYED	Ø15.88, 5/32 SQ KEY	32
A SPLINE	9T, 16/32 DP	32
A-B KEYED	Ø19.05, 3/16 SQ KEY	32
A-B SPLINE	11T, 16/32 DP	38



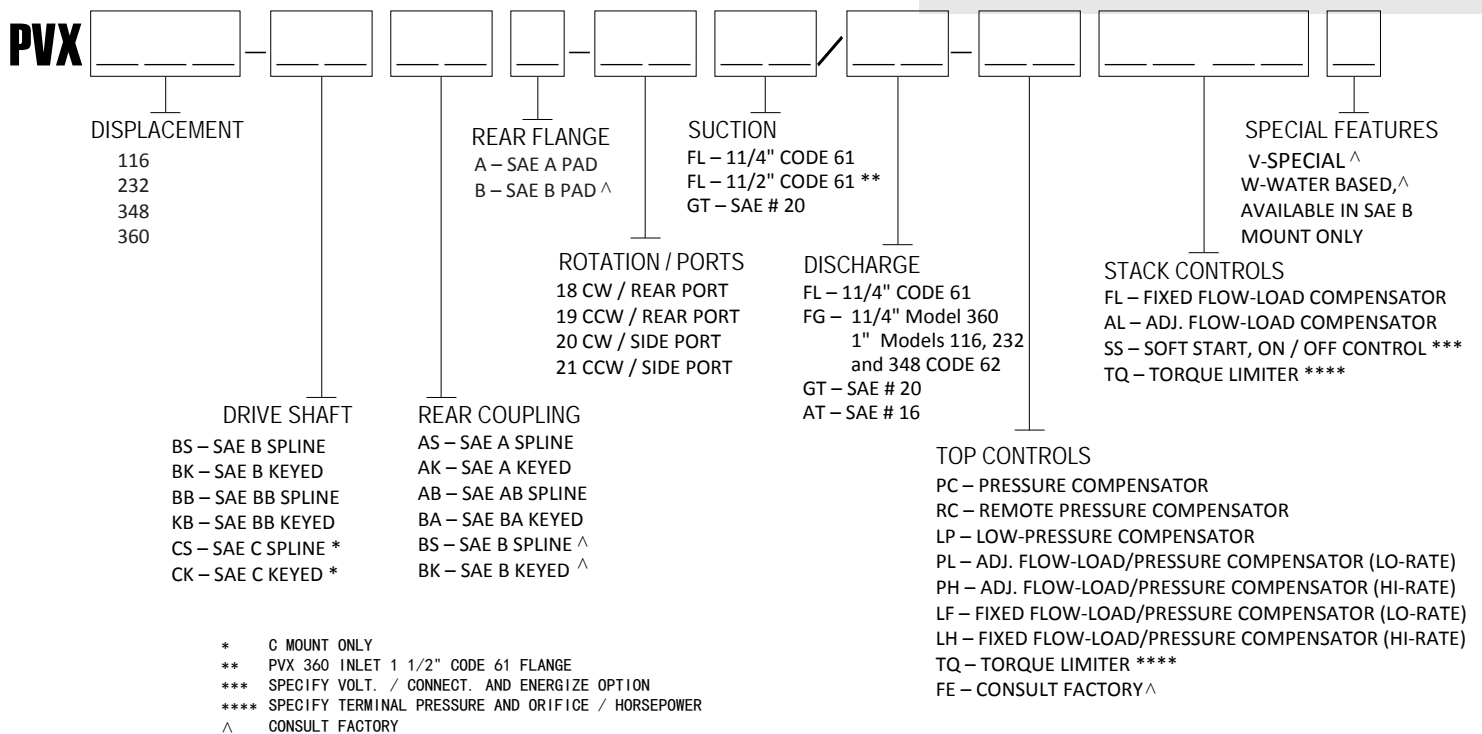
PVX 1 Series

PVX	RATED PRESSURE	PEAK PRESSURE	MINIMUM PRESSURE	
116	345bar	417bar	14bar	
232	310bar	379bar	14bar	
348	310bar	379bar	14bar	
360	241bar	276bar	34bar	
PVX	DISPLACEMENT	THEORETICAL FLOW @ 1800 rpm	MAXIMUM SPEED @ ATM. PRESSURE	MINIMUM SPEED
116	16cm ³ /rev	29.5L/min	3200rpm	600rpm
232	32cm ³ /rev	59.0L/min	3200rpm	600rpm
348	48cm ³ /rev	83.0L/min	2800rpm	600rpm
360	60cm ³ /rev	107.9L/min	2800rpm	600rpm
PVX	INPUT TORQUE @ RATED PRESSURE	SHAFT SIZE	RECOMMENDED TORQUE LIMIT	
116	90.0Nm	SAE"B" SAE"BB" SAE"C"	163.0Nm	
232	161.0Nm		248.0Nm	
348	230.0Nm		417.0Nm	
360	230.0Nm			

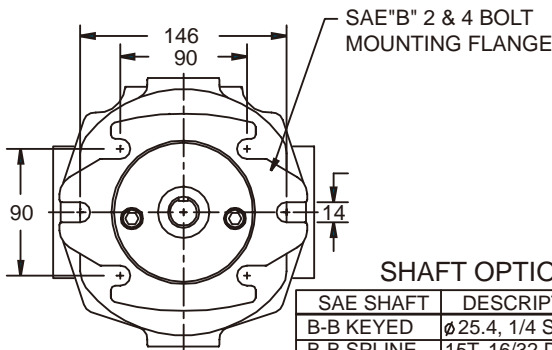
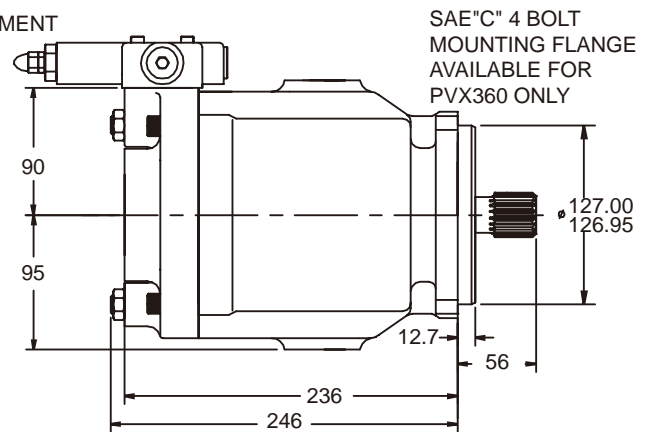
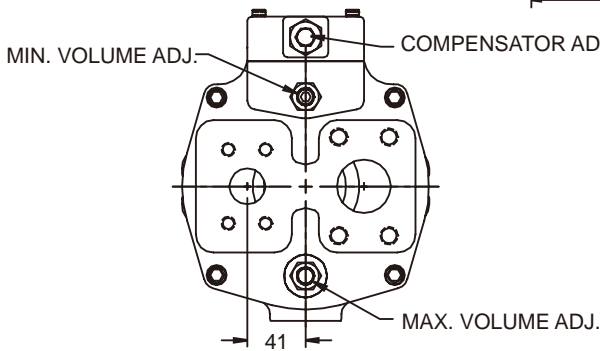
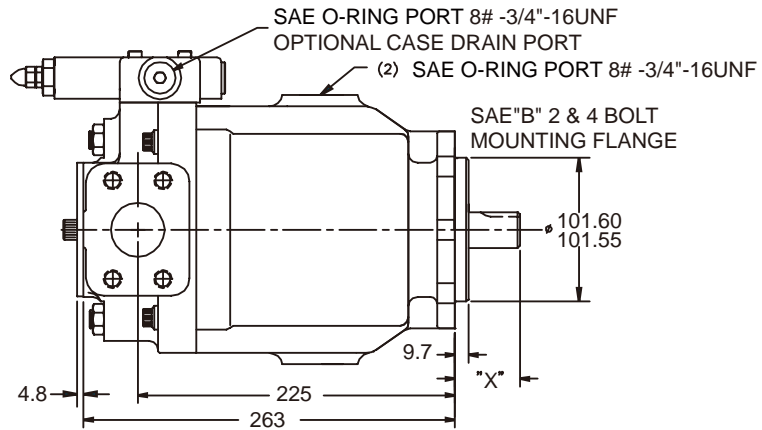
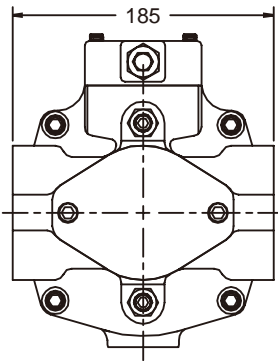
- Input shaft torque should not exceed the total of front-pump torque and the added torque requirements of its rear-mounted units.
- SHIPPING WEIGHTS: Side Port = 68 lbs. Rear Port = 62 lbs.



SELECTOR SYSTEM

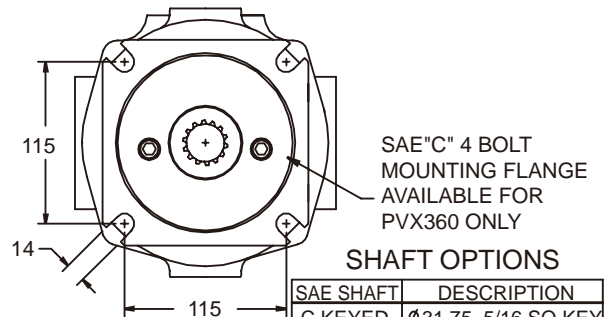


PVX 1 Series



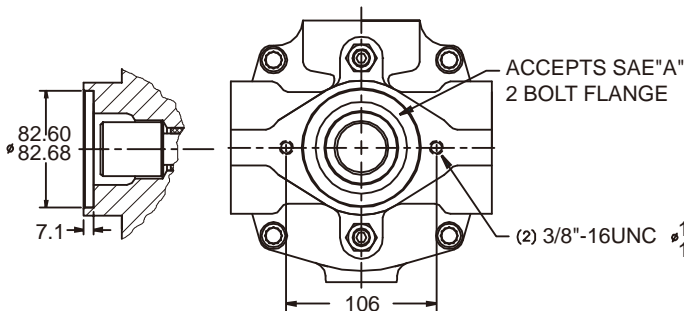
SHAFT OPTIONS

SAE SHAFT	DESCRIPTION	"X"
B-B KEYED	ø25.4, 1/4 SQ KEY	46
B-B SPLINE	15T, 16/32 DP	46
B KEYED	ø22.23, 1/4 SQ KEY	41
B SPLINE	13T, 16/32 DP	41



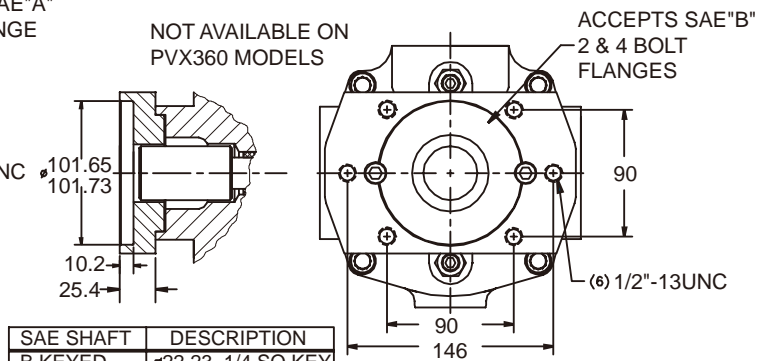
SHAFT OPTIONS

SAE SHAFT	DESCRIPTION
C KEYED	ø31.75, 5/16 SQ KEY
C SPLINE	14T, 12/24 DP



SAE SHAFT	DESCRIPTION
A KEYED	ø15.88, 5/32 SQ KEY
A SPLINE	9T, 16/32 DP
A-B KEYED	ø19.05, 3/16 SQ KEY
A-B SPLINE*	11T, 16/32 DP

* A-B SPLINE REQUIRES USE OF A 9.7 WIDE FLANGE EXTENDER

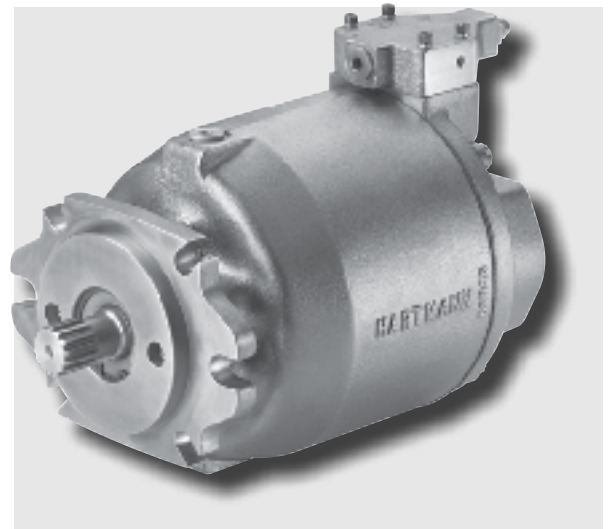
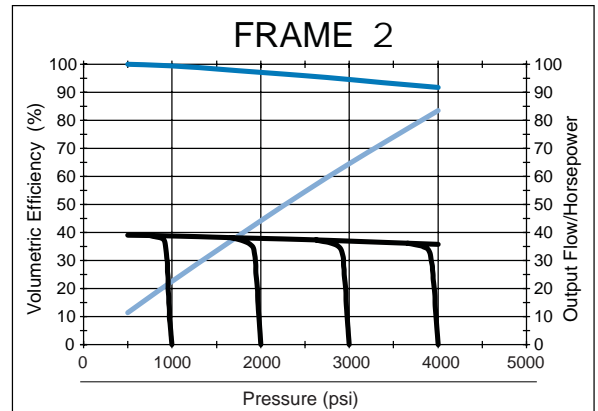


SAE SHAFT	DESCRIPTION
B KEYED	ø22.23, 1/4 SQ KEY
B SPLINE	13T, 16/32 DP

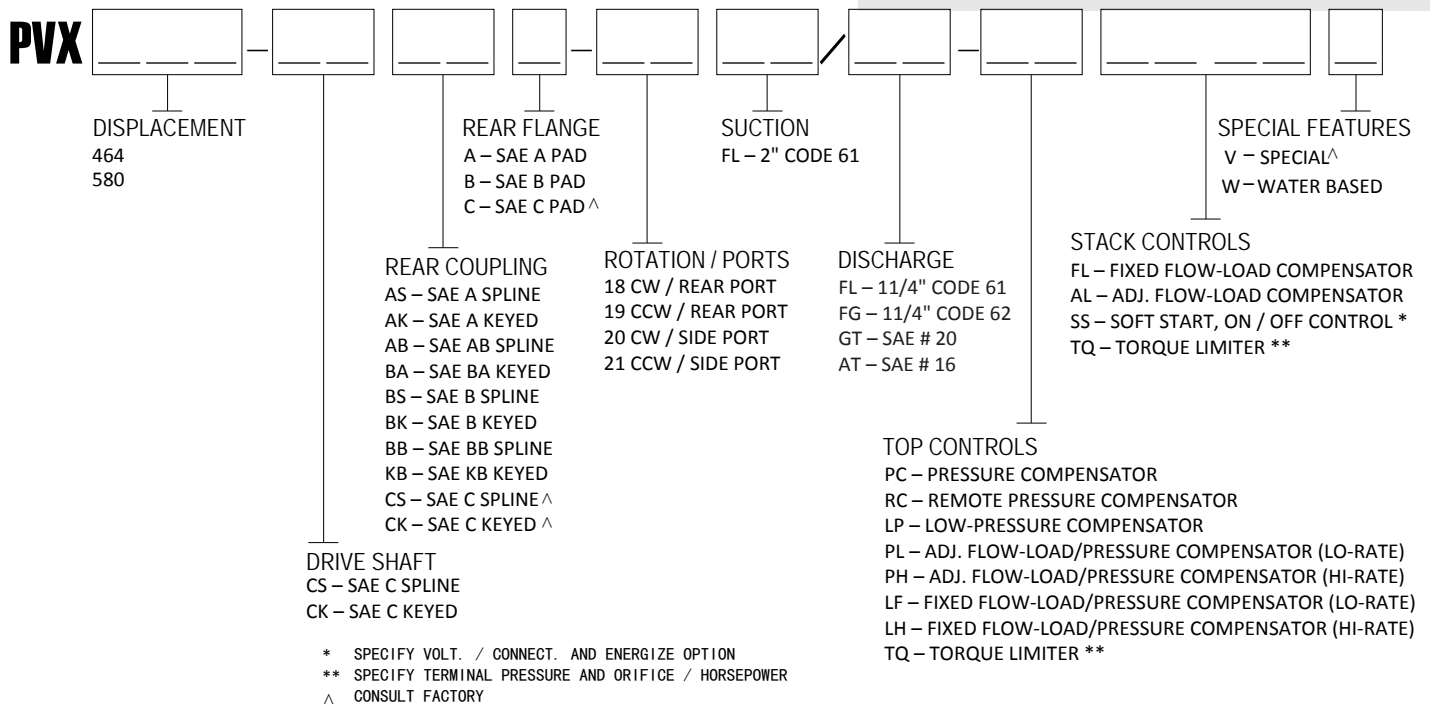
PVX 2 Series

PVX	RATED PRESSURE	PEAK PRESSURE	MINIMUM PRESSURE	
464	276bar	345bar	34bar	
580	276bar	345bar	34bar	
PVX	DISPLACEMENT	THEORETICAL FLOW @ 1800 rpm	MAXIMUM SPEED @ ATM. PRESSURE	MINIMUM SPEED
464	64cm ³ /rev	118.0L/min	2800rpm	600rpm
580	80cm ³ /rev	147.6L/min	2800rpm	600rpm
PVX	INPUT TORQUE @ RATED PRESSURE	SHAFT SIZE	RECOMMENDED TORQUE LIMIT	
464	286.8Nm	SAE"C"	600.0Nm	
580	230.0Nm			

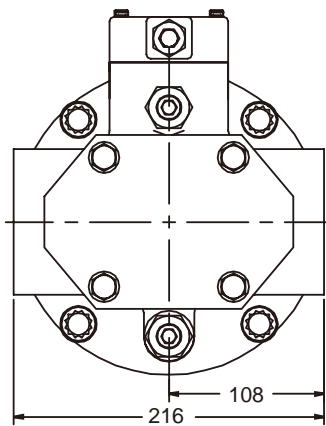
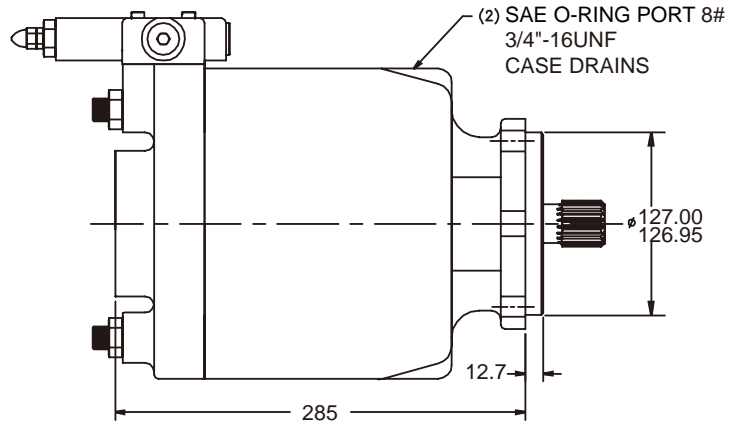
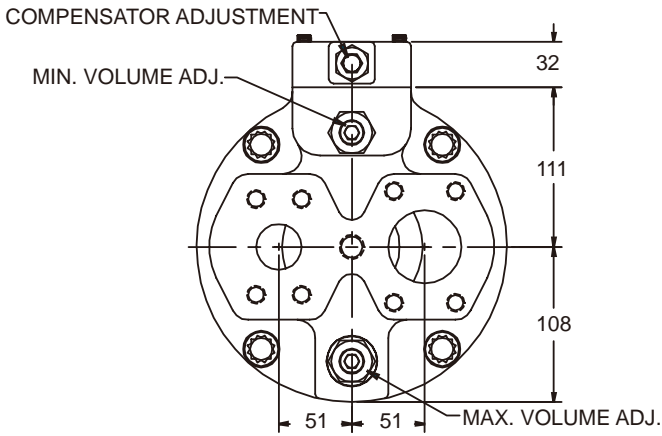
- Input shaft torque should not exceed the total of front-pump torque and the added torque requirements of its rear-mounted units.
- SHIPPING WEIGHTS: Side Port = 118 lbs. Rear Port = 110 lbs.



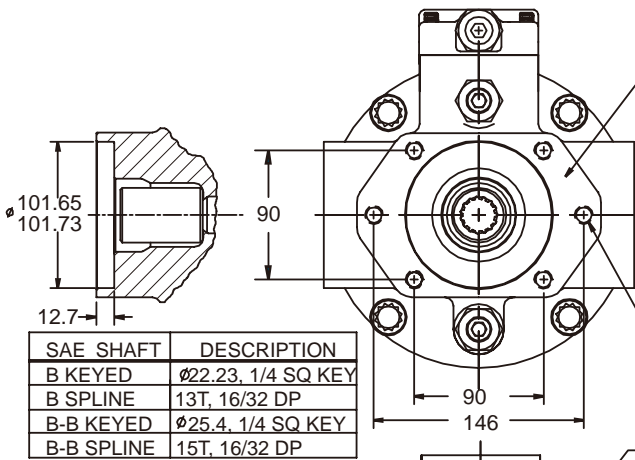
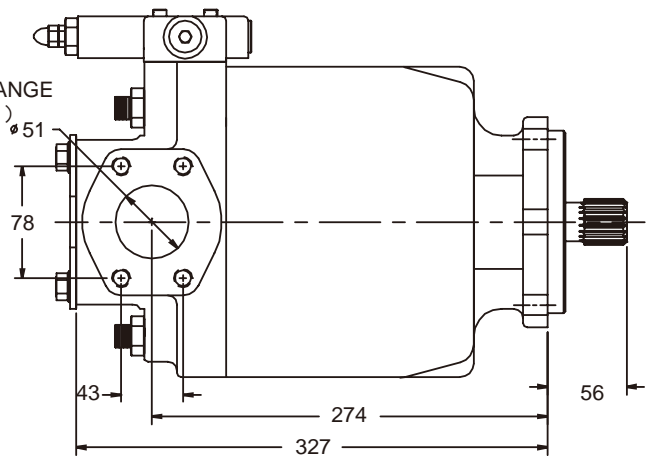
SELECTOR SYSTEM



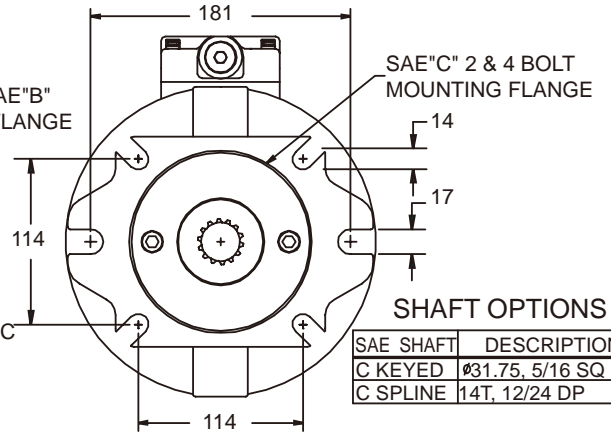
PVX 2 Series



2" SAE 4 BOLT FLANGE
3000 PSI(CODE 61)
INLET PORT

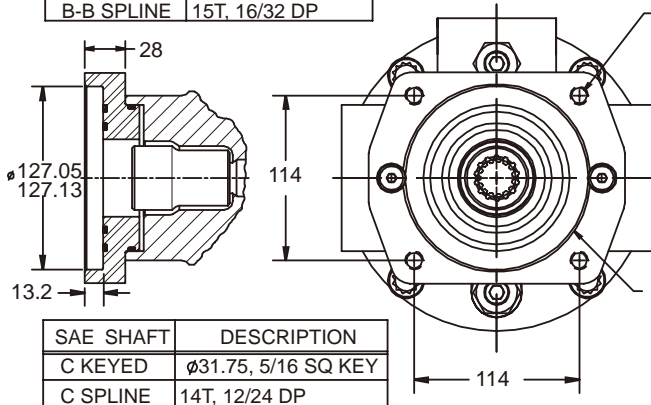


SAE SHAFT	DESCRIPTION
B KEYED	Ø22.23, 1/4 SQ KEY
B SPLINE	13T, 16/32 DP
B-B KEYED	Ø25.4, 1/4 SQ KEY
B-B SPLINE	15T, 16/32 DP

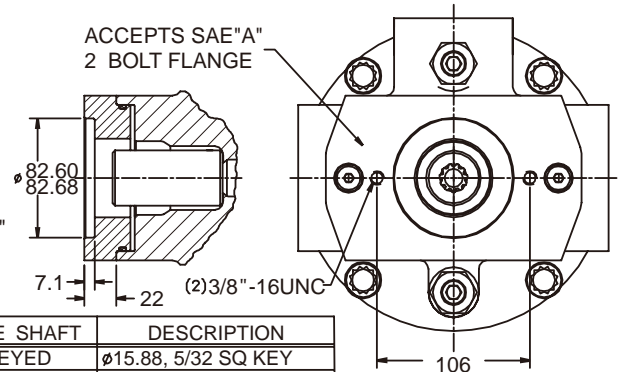


SHAFT OPTIONS

SAE SHAFT	DESCRIPTION
C KEYED	Ø31.75, 5/16 SQ KEY
C SPLINE	14T, 12/24 DP



SAE SHAFT	DESCRIPTION
C KEYED	Ø31.75, 5/16 SQ KEY
C SPLINE	14T, 12/24 DP

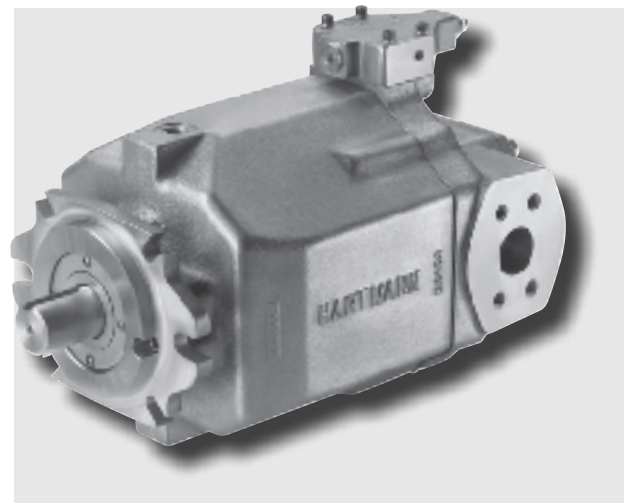
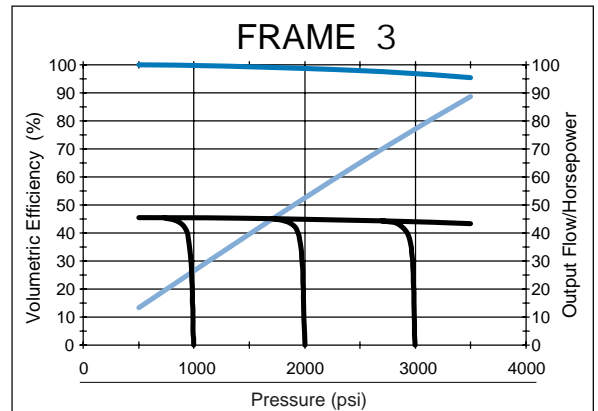


SAE SHAFT	DESCRIPTION
A KEYED	Ø15.88, 5/32 SQ KEY
A SPLINE	9T, 16/32 DP
A-B KEYED	Ø19.05, 3/16 SQ KEY
A-B SPLINE	11T, 16/32 DP

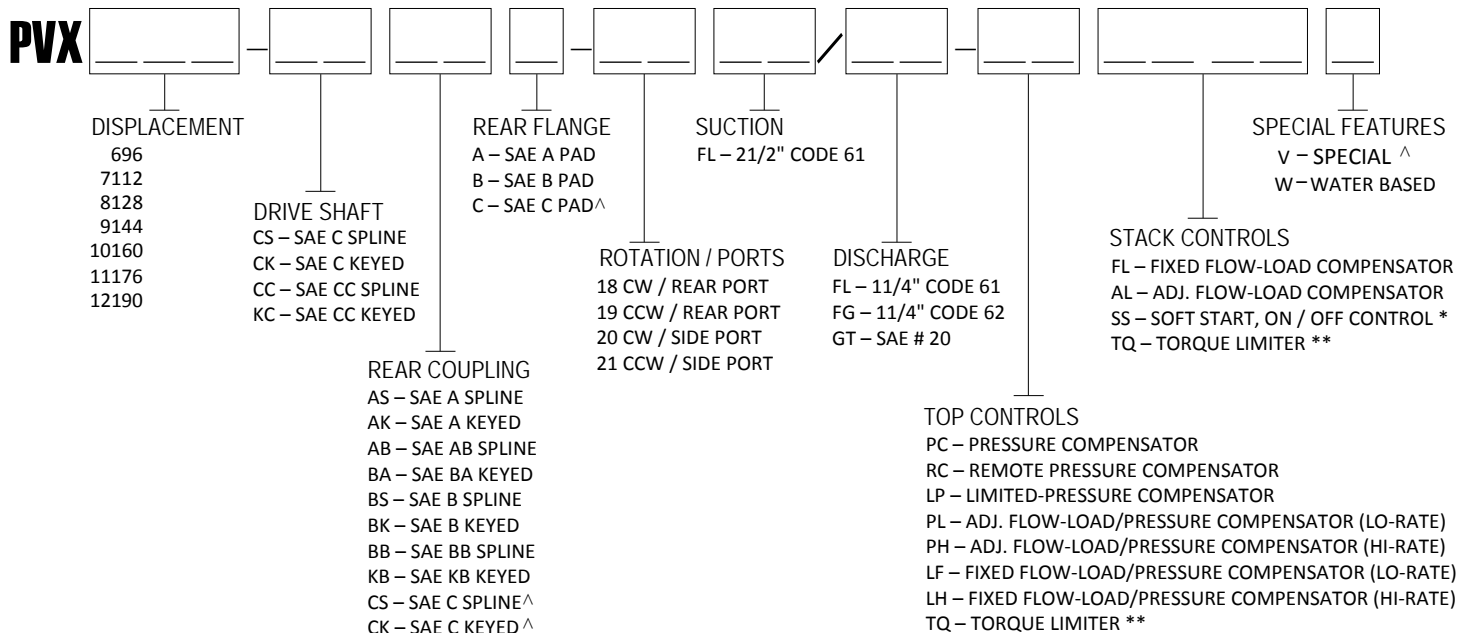
PVX 3 Series

PVX	RATED PRESSURE	PEAK PRESSURE	MINIMUM PRESSURE	
696	241bar	293bar	34bar	
7112	241bar	293bar	34bar	
8128	265bar	310bar	34bar	
9144	265bar	310bar	34bar	
10160	265bar	310bar	34bar	
11176	224bar	259bar	34bar	
12190	224bar	259bar	34bar	
PVX	DISPLACEMENT	THEORETICAL FLOW @ 1800 rpm	MAXIMUM SPEED @ ATM. PRESSURE	MINIMUM SPEED
696	96cm ³ /rev	177.0L/min	2300rpm	600rpm
7112	112cm ³ /rev	206.0L/min	2200rpm	600rpm
8128	128cm ³ /rev	236.0L/min	2100rpm	700rpm
9144	144cm ³ /rev	265.0L/min	2100rpm	700rpm
10160	160cm ³ /rev	280.0L/min	2000rpm	700rpm
11176	176cm ³ /rev	324.5L/min	2200rpm	650rpm
12190	190cm ³ /rev	344.8L/min	2200rpm	650rpm
PVX	INPUT TORQUE @ RATED PRESSURE	SHAFT SIZE	RECOMMENDED TORQUE LIMIT	
696	376.0Nm	SAE "C" SAE "CC"	619.4Nm 1070.0Nm	
7112	439.0Nm			
8128	552.0Nm			
9144	621.0Nm			
10160	690.0Nm			
11176	643.0Nm	SAE "D"	1638.0Nm	
12190	683.9Nm			

- Input shaft torque should not exceed the total of front-pump torque and the added torque requirements of its rear-mounted units.
- SHIPPING WEIGHTS: Side Port = 150-155 lbs. Rear Port = 145 lbs.

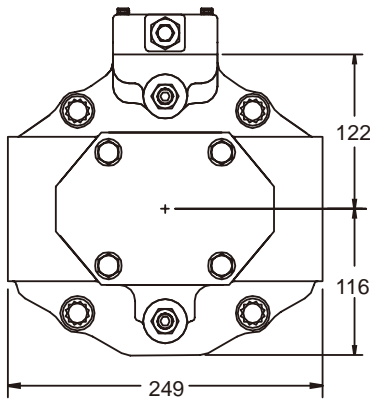


SELECTOR SYSTEM

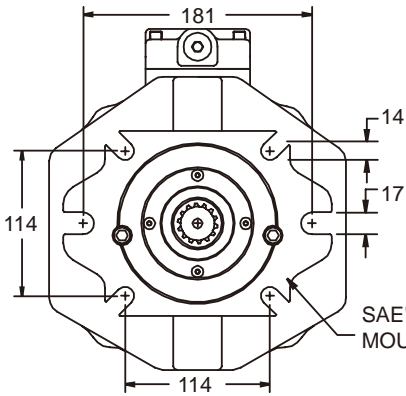
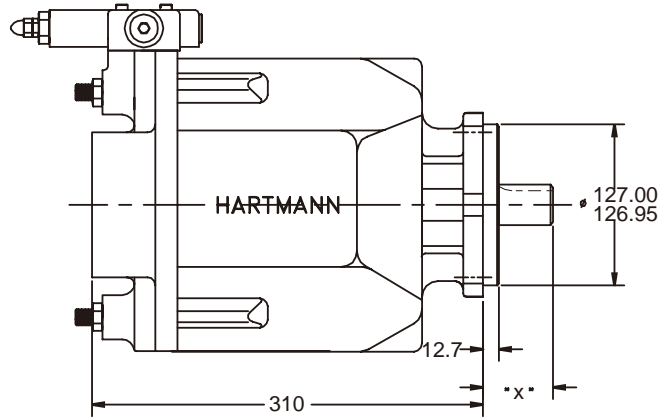
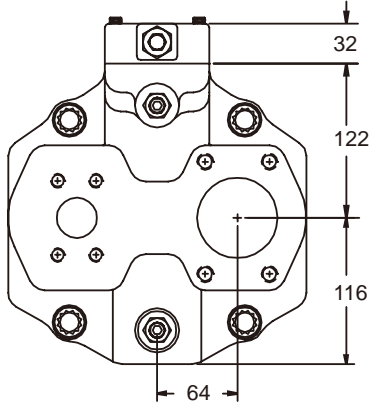
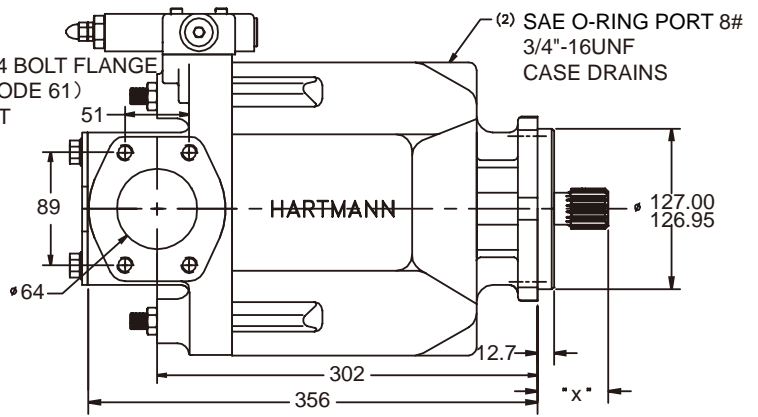


* SPECIFY VOLT. / CONNECT. AND ENERGIZE OPTION
** SPECIFY TERMINAL PRESSURE AND ORIFICE / HORSEPOWER
[^] CONSULT FACTORY

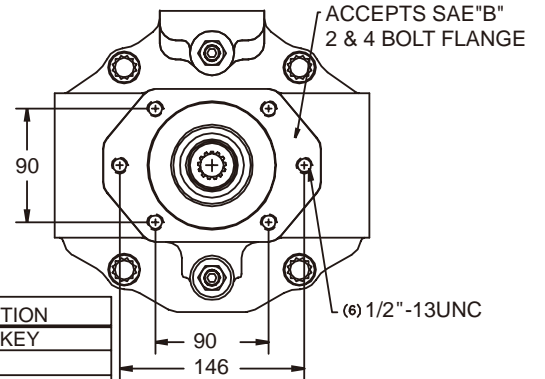
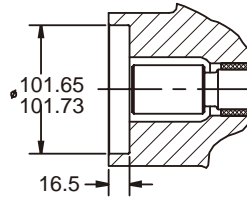
PVX 3 Series



2 1/2" SAE 4 BOLT FLANGE
3000 PSI(CODE 61)
INLET PORT

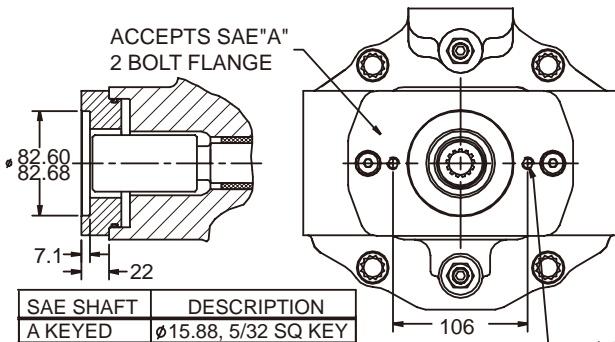


SAE "C" 2 & 4 BOLT
MOUNTING FLANGE

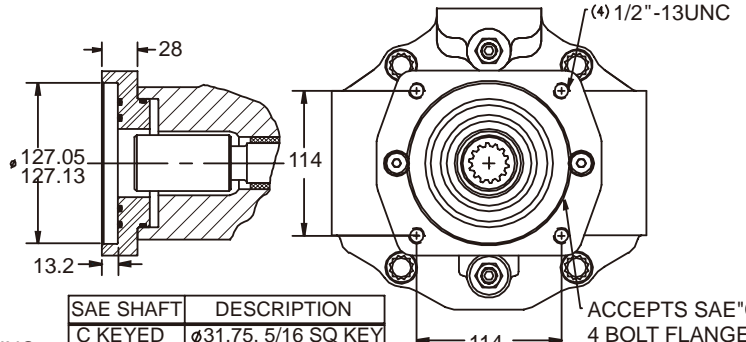


SAE SHAFT	DESCRIPTION	"X"
C KEYED	Ø 31.75, 5/16 SQ KEY	56
C SPLINE	14T, 12/24 DP	56
C-C KEYED	Ø 38.1, 3/8 SQ KEY	62
C-C SPLINE	17T, 12/24 DP	62

SAE SHAFT	DESCRIPTION
B KEYED	Ø 22.23, 1/4 SQ KEY
B SPLINE	13T, 16/32 DP
B-B KEYED	Ø 25.4, 1/4 SQ KEY
B-B SPLINE	15T, 16/32 DP



SAE SHAFT	DESCRIPTION
A KEYED	Ø 15.88, 5/32 SQ KEY
A SPLINE	9T, 16/32 DP
A-B KEYED	Ø 19.05, 3/16 SQ KEY
A-B SPLINE	11T, 16/32 DP

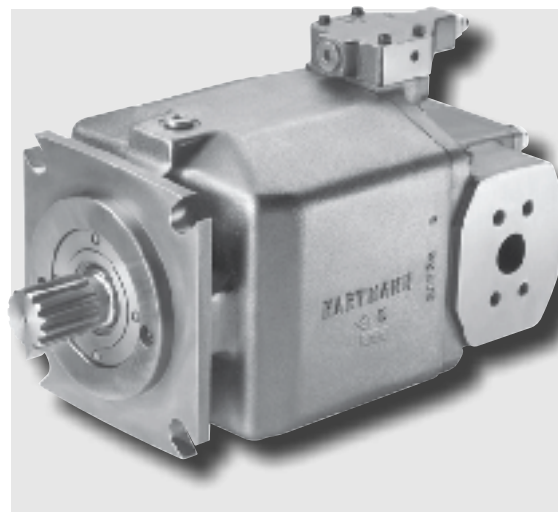
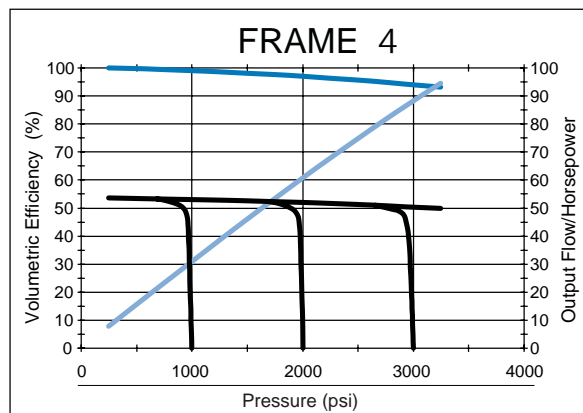


SAE SHAFT	DESCRIPTION
C KEYED	Ø 31.75, 5/16 SQ KEY
C SPLINE	14T, 12/24 DP

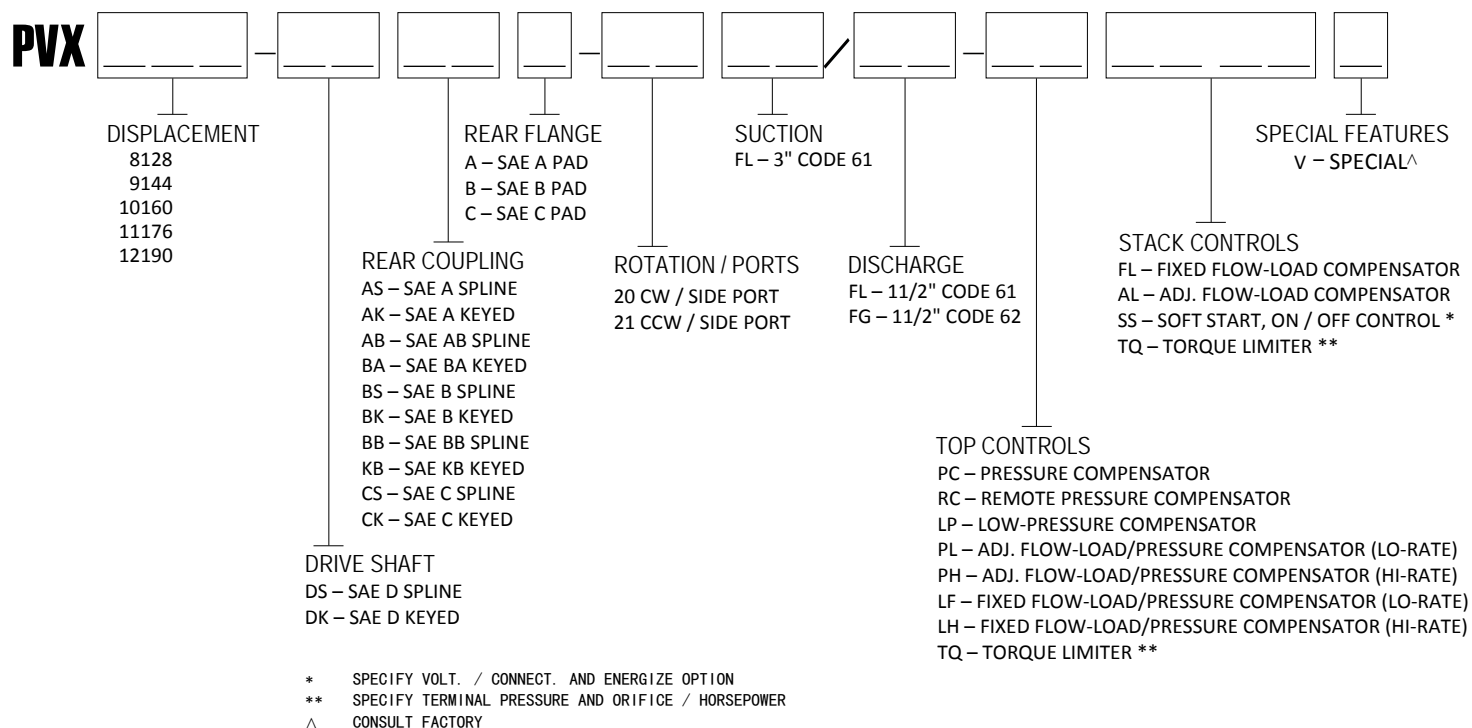
PVX 4 Series

PVX	RATED PRESSURE	PEAK PRESSURE	MINIMUM PRESSURE	
8128	276bar	310bar	34bar	
9144	276bar	310bar	34bar	
10160	276bar	310bar	34bar	
11176	224bar	259bar	34bar	
12190	224bar	259bar	34bar	
PVX	DISPLACEMENT	THEORETICAL FLOW @ 1800 rpm	MAXIMUM SPEED @ ATM. PRESSURE	MINIMUM SPEED
8128	126cm ³ /rev	235.8L/min	2200rpm	600rpm
9144	144cm ³ /rev	265.3L/min	2200rpm	600rpm
10160	160cm ³ /rev	294.9L/min	2200rpm	600rpm
11176	176cm ³ /rev	324.5L/min	2200rpm	650rpm
12190	190cm ³ /rev	344.8L/min	2200rpm	650rpm
PVX	INPUT TORQUE @ RATED PRESSURE	SHAFT SIZE	RECOMMENDED TORQUE LIMIT	
8128	575.5Nm	SAE "D"	1638.0Nm	
9144	647.5Nm			
10160	719.4Nm			
11176	643.0Nm			
12190	683.9Nm			

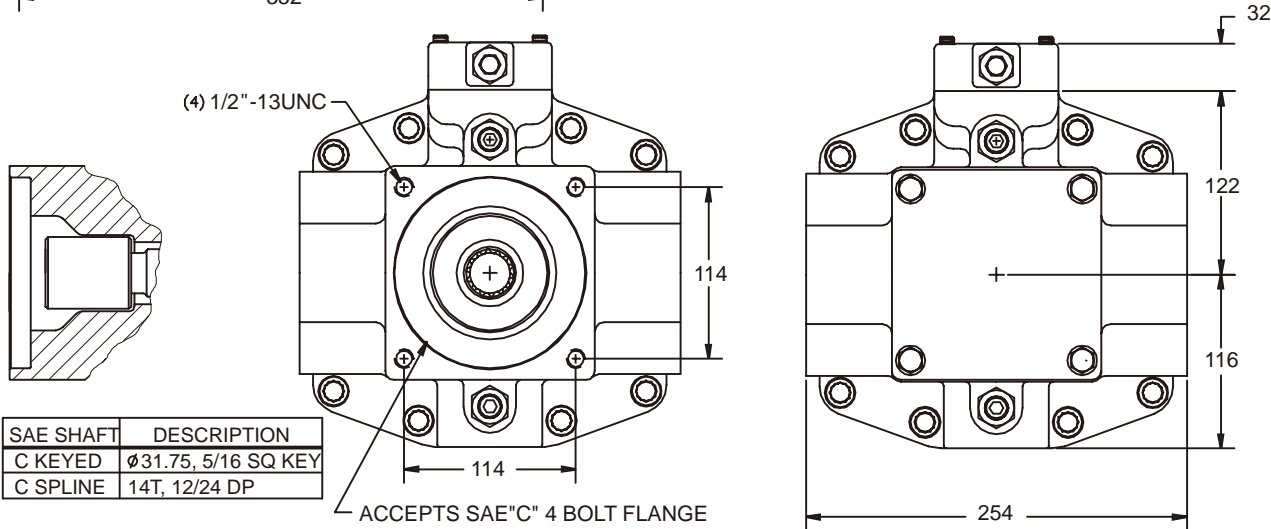
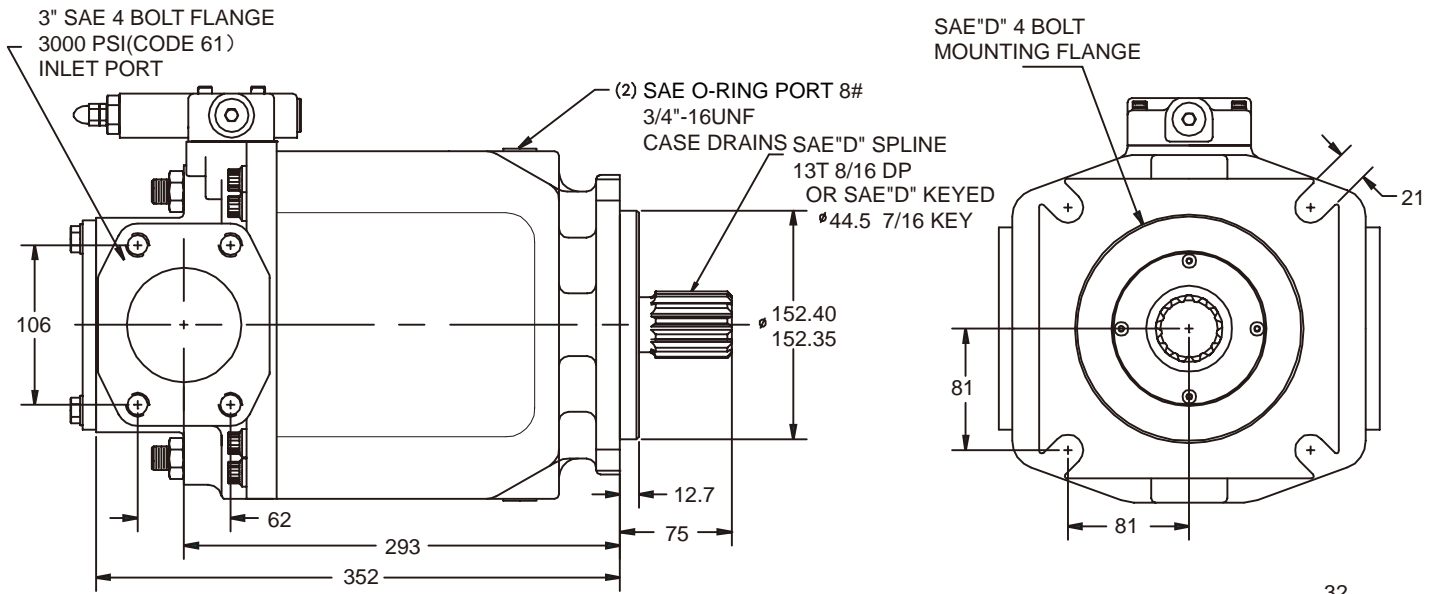
- Input shaft torque should not exceed the total of front-pump torque and the added torque requirements of its rear-mounted units.
- SHIPPING WEIGHTS: Side Port = 188 lbs.



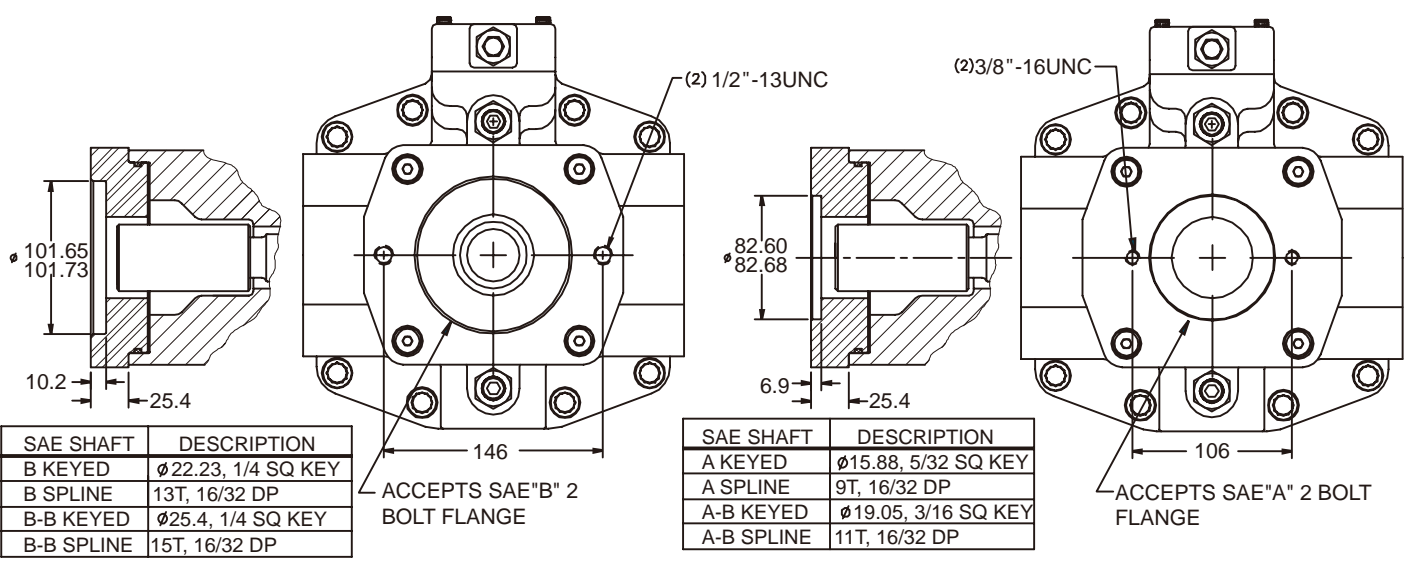
SELECTOR SYSTEM



PVX 4 Series



SAE SHAFT	DESCRIPTION
C KEYED	∅31.75, 5/16 SQ KEY
C SPLINE	14T, 12/24 DP

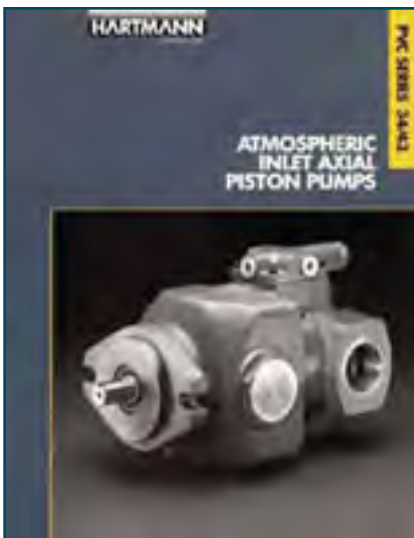


SAE SHAFT	DESCRIPTION
B KEYED	∅22.23, 1/4 SQ KEY
B SPLINE	13T, 16/32 DP
B-B KEYED	∅25.4, 1/4 SQ KEY
B-B SPLINE	15T, 16/32 DP

SAE SHAFT	DESCRIPTION
A KEYED	∅15.88, 5/32 SQ KEY
A SPLINE	9T, 16/32 DP
A-B KEYED	∅19.05, 3/16 SQ KEY
A-B SPLINE	11T, 16/32 DP

PV Atmospheric Inlet Piston Pumps and Motors

Open Loop Variable Displacement Piston Pumps in 52 and 70 CC (3.2 to 4.2 Cu In) displacement. Available in multiple porting, shaft, and control configurations



PVC Atmospheric Inlet Piston Pumps and Motors

Open Loop Variable Displacement Piston Pumps in 56 and 70 CC (3.4 to 4.3 Cu In) displacement. Available in SAE B and C keyed and splined shafts and multiple porting and control configurations

Hartmann Rol-vane Motors

Fast responding, infinitely variable speed Hydraulic Servo-Motor. The RolVane motor offers smooth operation, high torque, and instant reversing



Warranty

Denix Fluid Power warrants all products to be free from defects in material and workmanship under normal operating conditions and proper application in accordance with specifications for operation as described in the Data Sheet which accompanies such Products. Denix provides our customers of one-year standard warranty from the date of shipment to the customer.

Terms and Conditions:

No products shall be returned without prior authorization from Denix. Buyer shall prepay all transportation charges for the return of such products to Denix's facility in Singapore or Shanghai. Claims must be submitted within 30 days of failure or be subject to rejection.

The warranty claim entitles the customers to a repair, the replacement of defective parts or an exchange of the product for a product of equal quality without charging labor or material costs. The performance of warranty claims shall cause neither an extension nor a restart of the warranty period. This warranty is not transferable beyond the first using purchaser.

The foregoing warranty does not cover conditions over which Denix has no control, including, without limitation, contamination, incorrect power supply, pressures in excess of recommended maximum, products damaged or subjected to voltage, humidity, or temperature outside of specified range, accident, abuse or misuse after shipment from Denix's facilities, products altered, disassembled or repaired by anyone other than Denix's personnel, Denix's authorized factory service center personnel or persons so designated in writing by Denix's Service Department prior to commencement of said work.

Types of failures which are not attributable to defects in materials and/or workmanship and which are not considered by Denix's as part of its warranty include, but are not limited to the following:

- Damages due to deterioration during periods of storage by the Buyer prior to installation and operation.
- Damage of any kind from erosive or corrosive action of any gases or liquids handled by the machinery.
- Lack of or incorrect type of fluid, lubricants, air line additives.
- Contamination of the fluid, lubricants, air line additives, or oil systems.
- Damage attributable to accident, abuse, neglect.
- Stripped splines or keyways on drive shaft.
- Incorrect mounting of external gears, pulleys, etc.
- Operating beyond the recommended maximum speeds, pressure, temperatures, voltage or humidity or below the recommended voltage.
- Improper filtration.
- Repairs by unauthorized service personnel.

Other Products



Aluminum Gear Pumps and Motors

Displacement: 0.2 ~ 250cc/rev
 Pn: 280bar
 Peak Pressure: 300bar



Cast Iron Gear Pumps and Motors

Series: MHP/M 25/30/31/37/50
 MHP/M 51/75/76
 Series: MHP/M 315/330/350
 MHP/M 365
 Displacement: 10.2 ~ 201cc/rev
 Pn: 245bar



High Pressure Piston Pumps

Series: MA7V, MA10V
 Displacement: 18-160cc/rev
 Pn: 280bar
 Pmax: 350bar



Contamination Control Systems

Hand Held Launchers & Kits
 Bench Mount Launcher
 Projectile Verification System

Clean Seal System
 Clean Seal Flanges



Flow Dividers

Series Cast Iron
 Flow: 15 ~ 230L/min
 Pn: 245bar

 Series Aluminum
 Flow: 5.7 ~ 81.2L/min
 Pn: 280bar

 Series High Precision
 Flow: 1.5 ~ 90L/min
 Pn: 350bar



Vane Pumps

Series: V10, V20F/P
 20, 25, 35, 45V/VQ
 Displacement: 6.6 ~ 193cc/rev
 Pn: 210bar



Made in Canada
High Pressure Piston Pumps
Vane Pumps
Cast Iron Gear Pumps/Motors
Cast Iron Flow Dividers



Made in Europe
Aluminum Gear Pumps/Motors
Aluminum Flow Dividers



Made in Europe
Aluminum Gear Pumps/Motors



Made in USA
PVX Piston Pumps for
Hydraulic & Special Fluids



Made in Britain
High Pressure & High Precision
Flow Dividers



Made in USA
Hose/tube Cleaning System
Hose/tube Sealing System

DENIX FLUID POWER PTE. LTD.



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