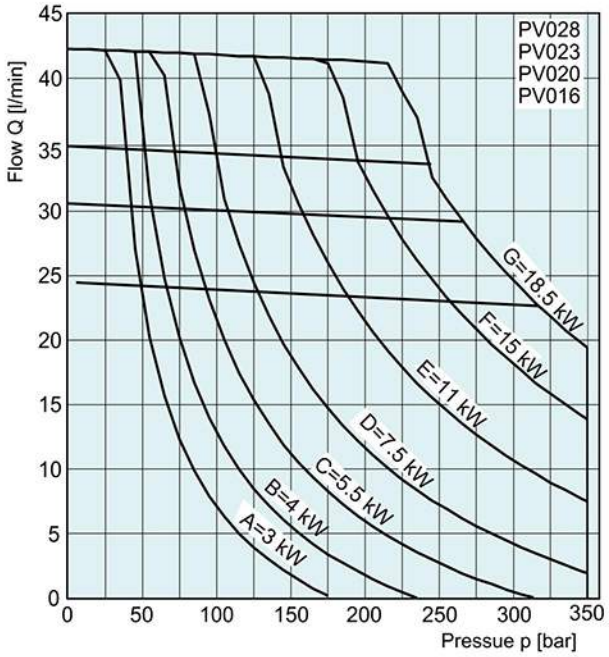
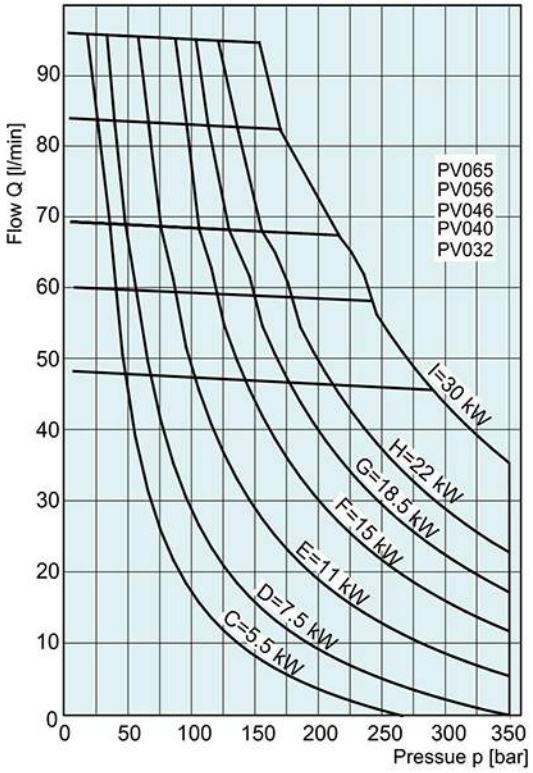
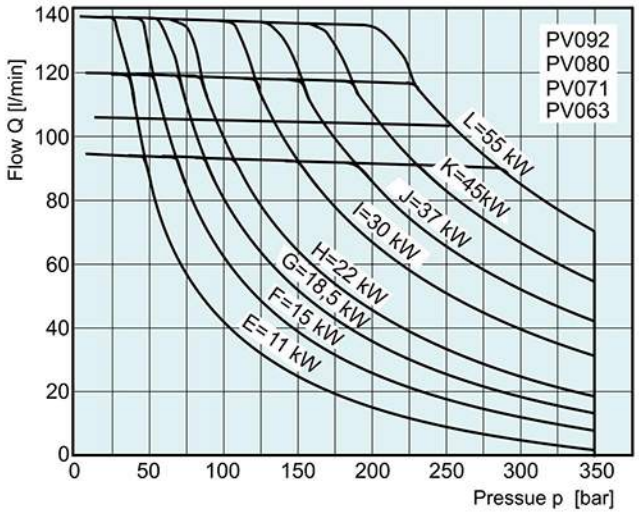
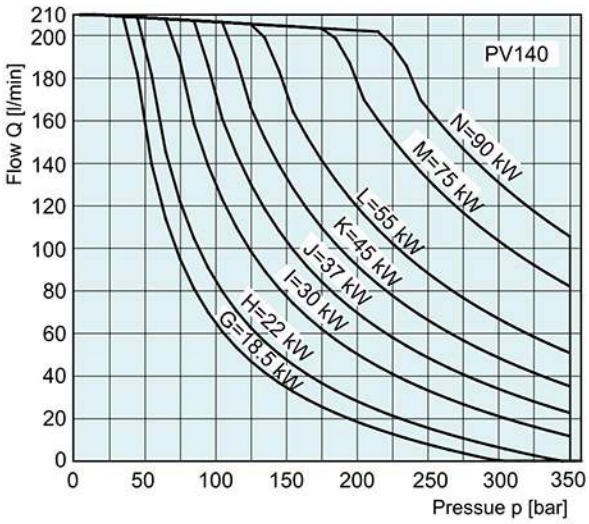
Horse power compensator, diagrams



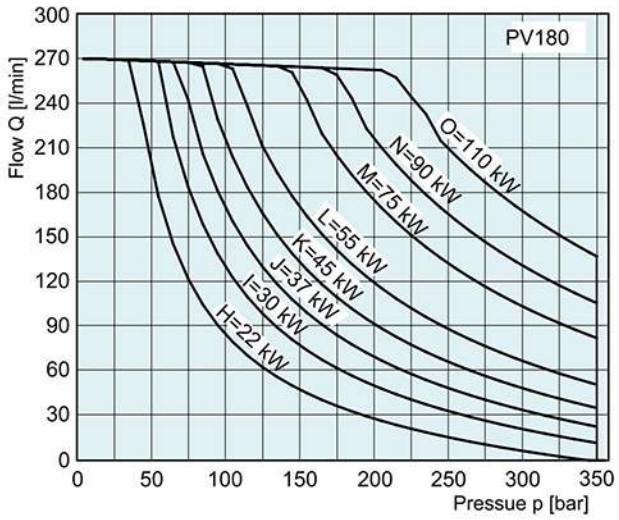


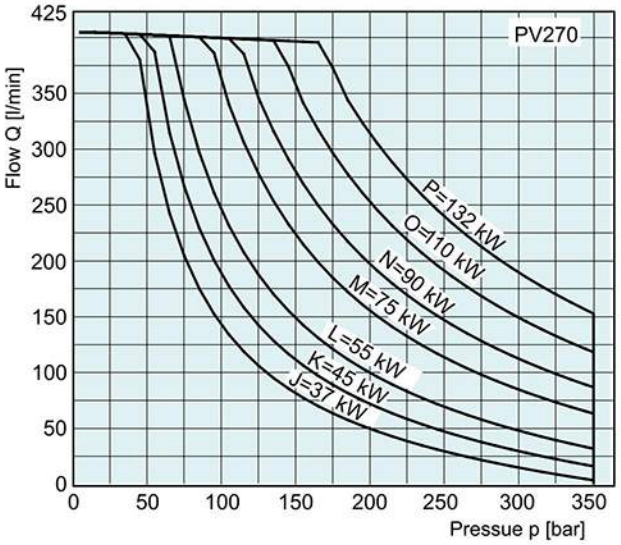




The diagrams are only valid for the following working conditions:
speed: n=1500 (- - -) and 1800 (- - -) rev/min
temperature: t=50°C
fluid: mineral oil HLP, ISO VG46
viscosity: v=46 mm2/s at 40°C

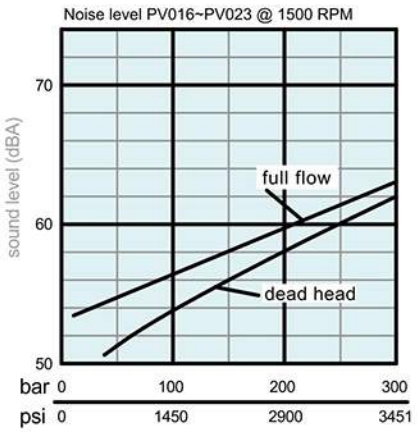
Horse power compensator, diagrams

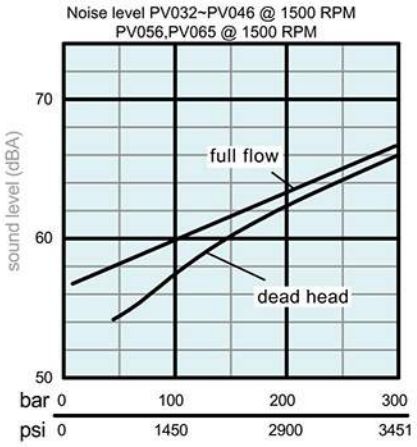


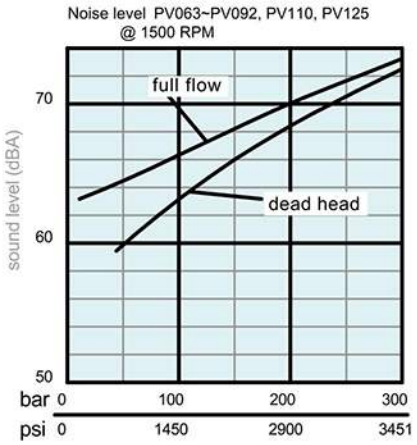


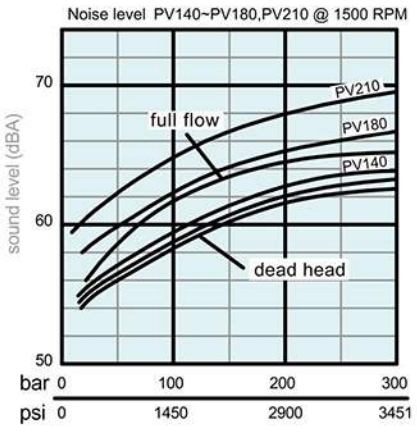
The diagrams are only valid for the following working conditions:
speed: n=1500 (- - -) and 1800 (- - -) rev/min
temperature: t=50°C
fluid: mineral oil HLP, ISO VG46
viscosity: v=46 mm2/s at 40°C

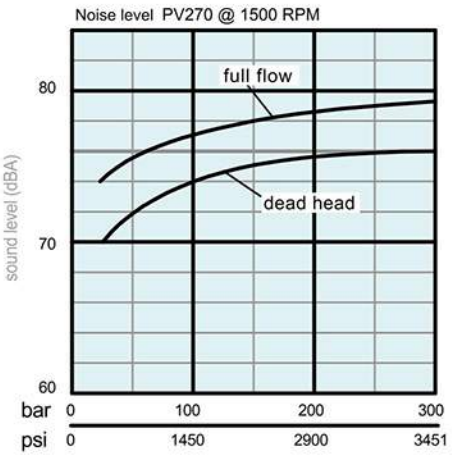
Noise diagrams











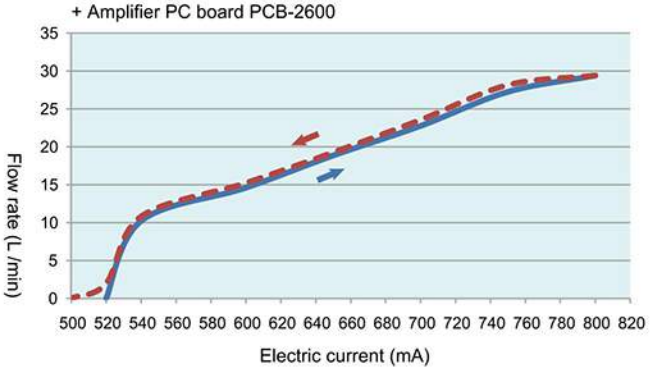
Test condition:
The noise of the single pump is according to the standard of DIN 45635, the rule of 1and26, at low echo measurement laboratory, measuring that the distance of microphone is 1m and 1500rpm.

Notice:
At the best time to install, the volume noise of hydraulic equipment is always 6 ~ 10 dBA higher than measuring at low echo measurement laboratory.

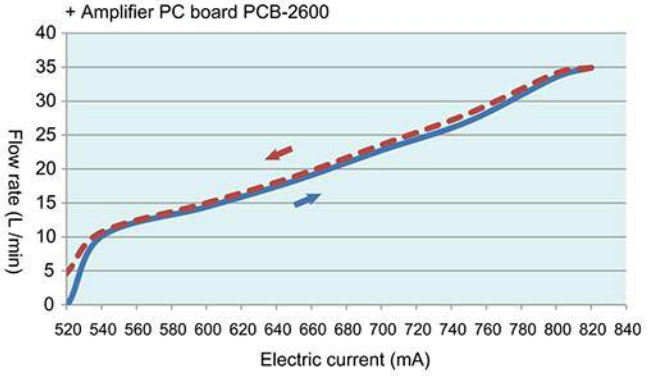
Proportional flow performance curves

YEOSHE

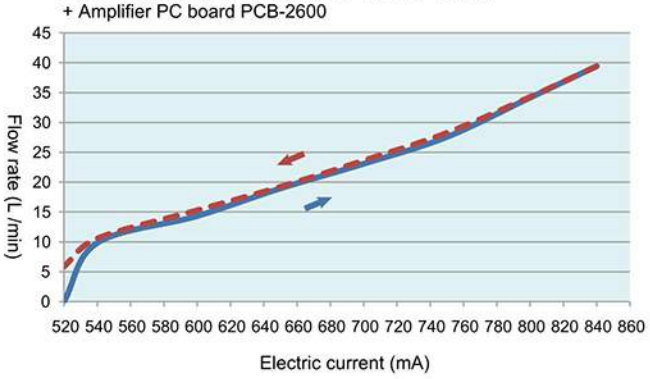
PV16 + Proportional flow valve PFC-17E-2G-0350-N
+ Amplifier PC board PCB-2600



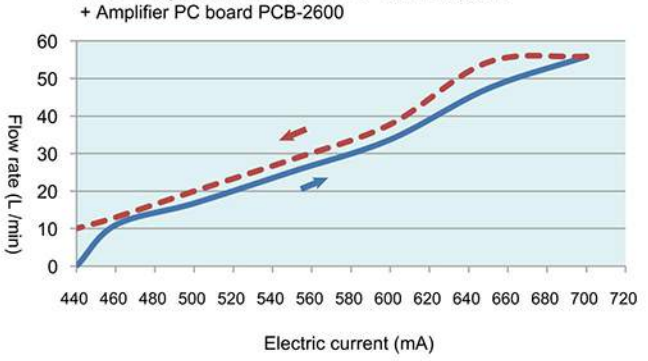
PV20+ Proportional flow valve PFC-17E-2G-0350-N
+ Amplifier PC board PCB-2600



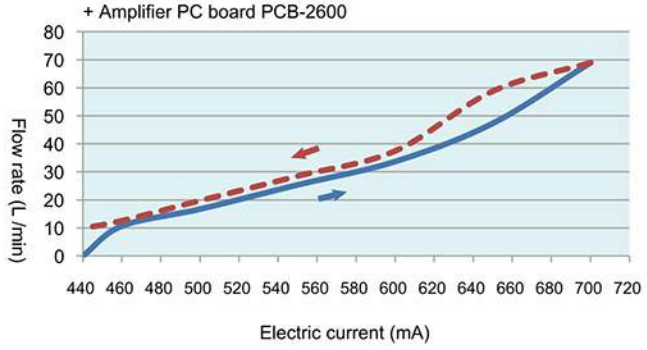
PV23+ Proportional flow valve PFC-17E-2G-0350-N
+ Amplifier PC board PCB-2600



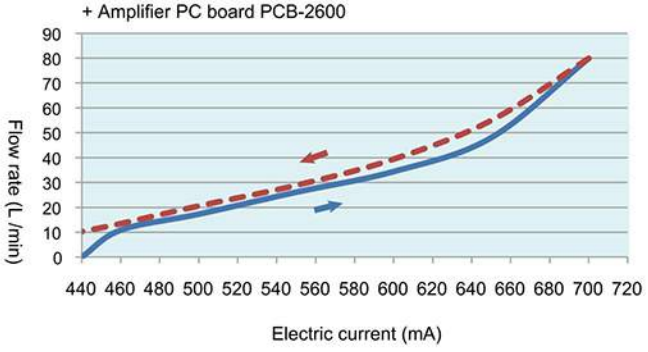
PV32+ Proportional flow valve PFC-17E-2G-0700-N
+ Amplifier PC board PCB-2600



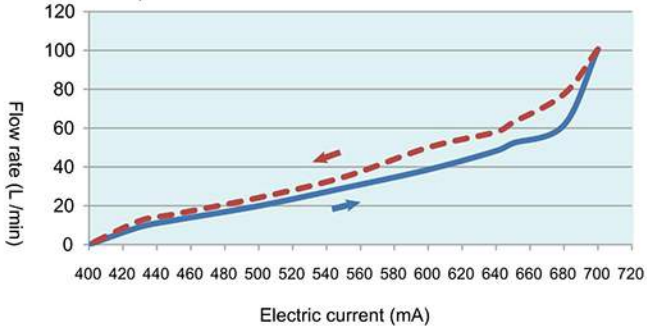
PV40 + Proportional flow valve PFC-17E-2G-0700-N
+ Amplifier PC board PCB-2600



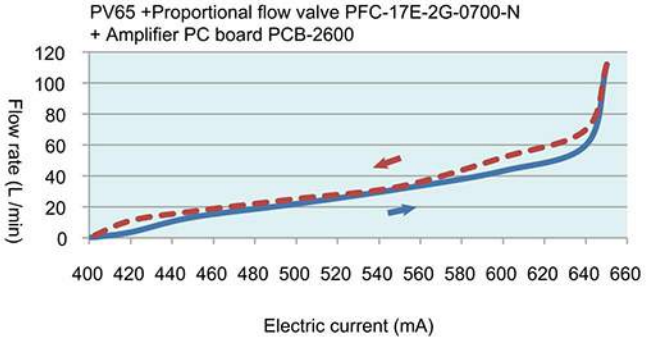
PV46 + Proportional flow valve PFC-17E-2G-0700-N
+ Amplifier PC board PCB-2600



PV56+Proportional flow valve PFC-17E-2G-0700-N
+ Amplifier PC board PCB-2600

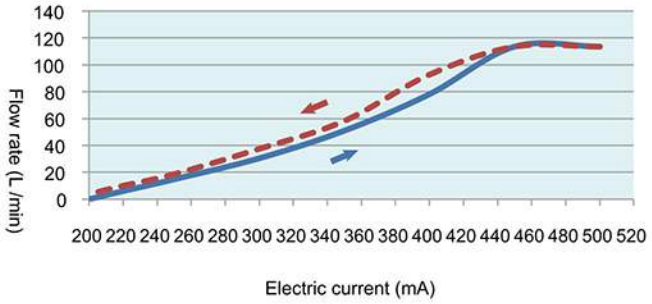


PV65 +Proportional flow valve PFC-17E-2G-0700-N
+ Amplifier PC board PCB-2600

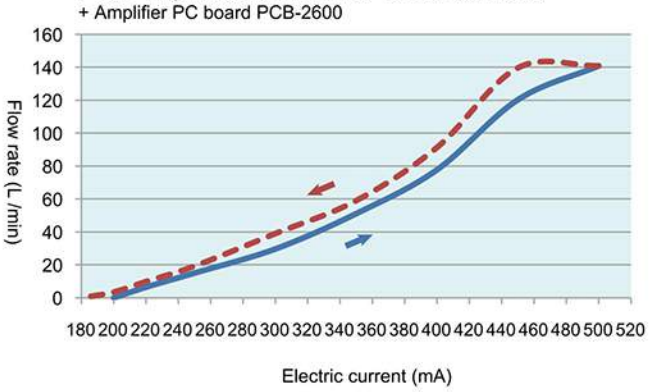


Proportional flow performance curves

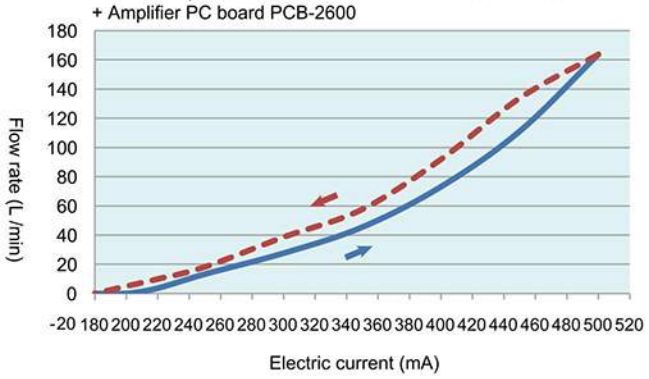
PV63 +Proportional flow valve PFC-17E-2G-0700-N
+ Amplifier PC board PCB-2600



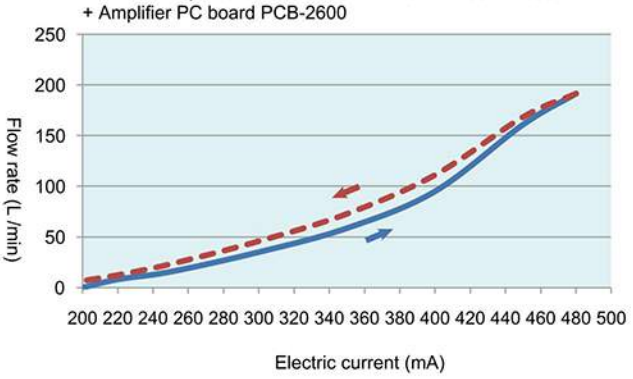
PV80 + Proportional flow valve PEV-16A-2D-09-N-1600
+ Amplifier PC board PCB-2600



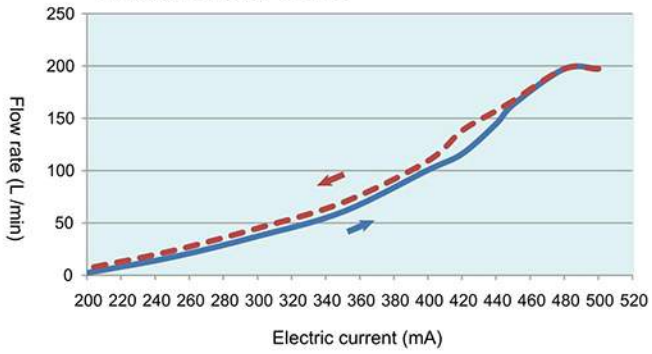
PV92 + Proportional flow valve PEV - 16A-2D-09-N-1600
+ Amplifier PC board PCB-2600



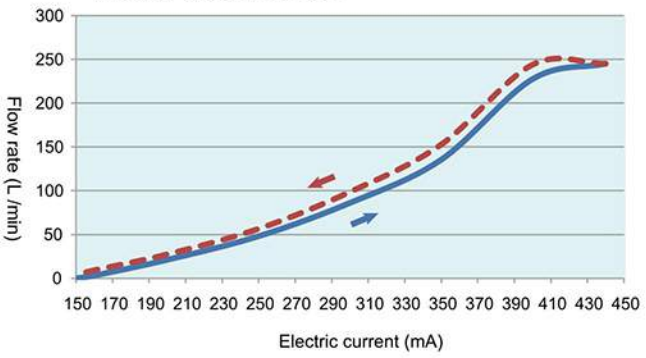
PV110 + Proportional flow valve PEV-16A-2D-09-N-1600
+ Amplifier PC board PCB-2600



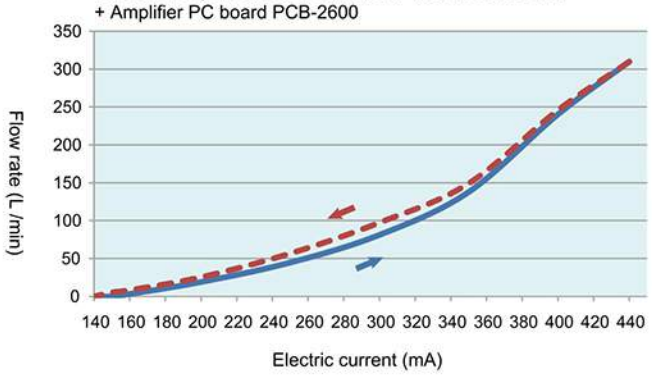
PV125 + Proportional flow valve PEV-16A-2D-09-N-1600
+ Amplifier PC board PCB-2600



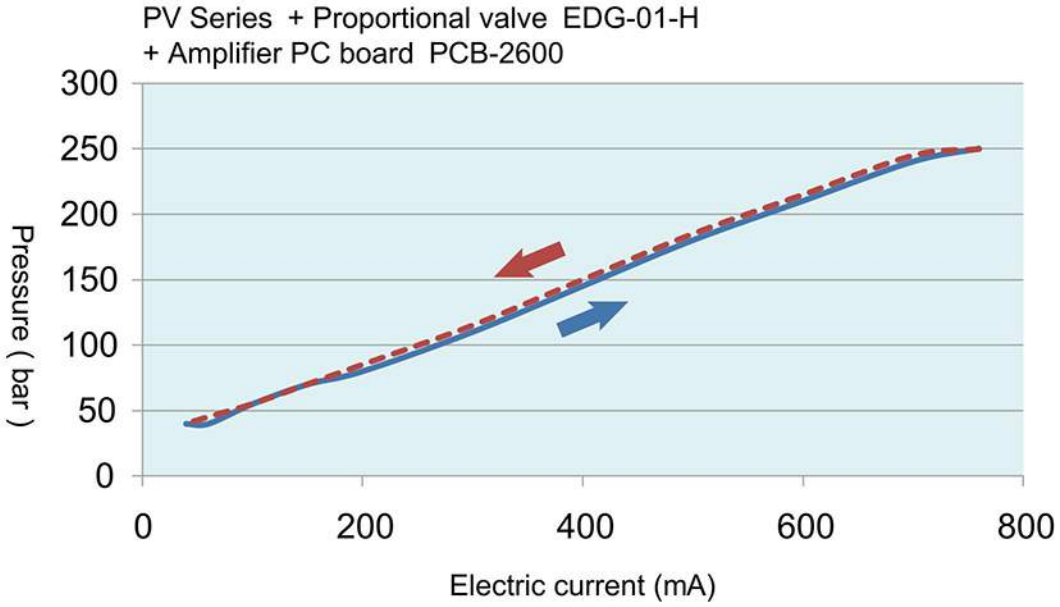
PV140 + Proportional flow valve PEV-18A-2D-09-N-3200
+ Amplifier PC board PCB-2600



PV180 + Proportional flow valve PEV-18A-2D-09-N-3200
+ Amplifier PC board PCB-2600

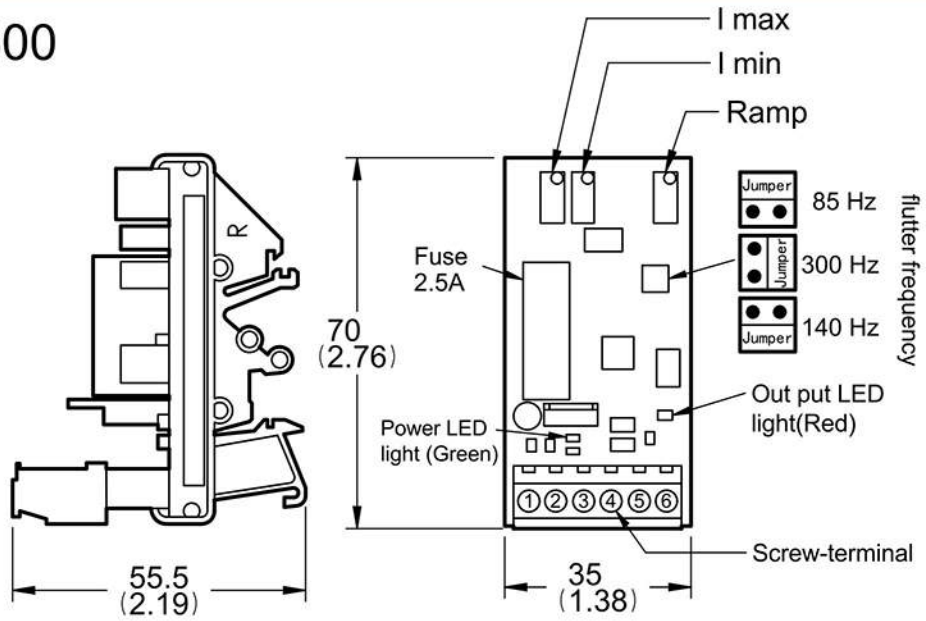


Proportional flow performance curves



Proportional amplifier

PCB-2600



UNIT：mm
(inch)

Instructions for setting

Supply：green LED

RAMP：ramping up/down time adjustment.
For long ramping times, turn potentiometers clockwise, for short ramping times, turn potentiometers counter-clockwise.

MAX/MIN:

I max / I min
There are multi-course potentiometers for adjustment of min-max and also ramp time.

Frequency ADJ.:

The dither frequency can be set with a jumper to 85, 140, or 300 Hz.

Techincal data

Supply voltage：10-35 VDC

Max. current：0-2600 mA adjustable for 12 and 24 VDC
(Output is a PWM-DC)

Min. current：0-600 mA adjustable

Ramp adjustment：0~5 Sec.

Dither frequency：85, 140, 300 Hz to be set by jumper(Standard 140 Hz)

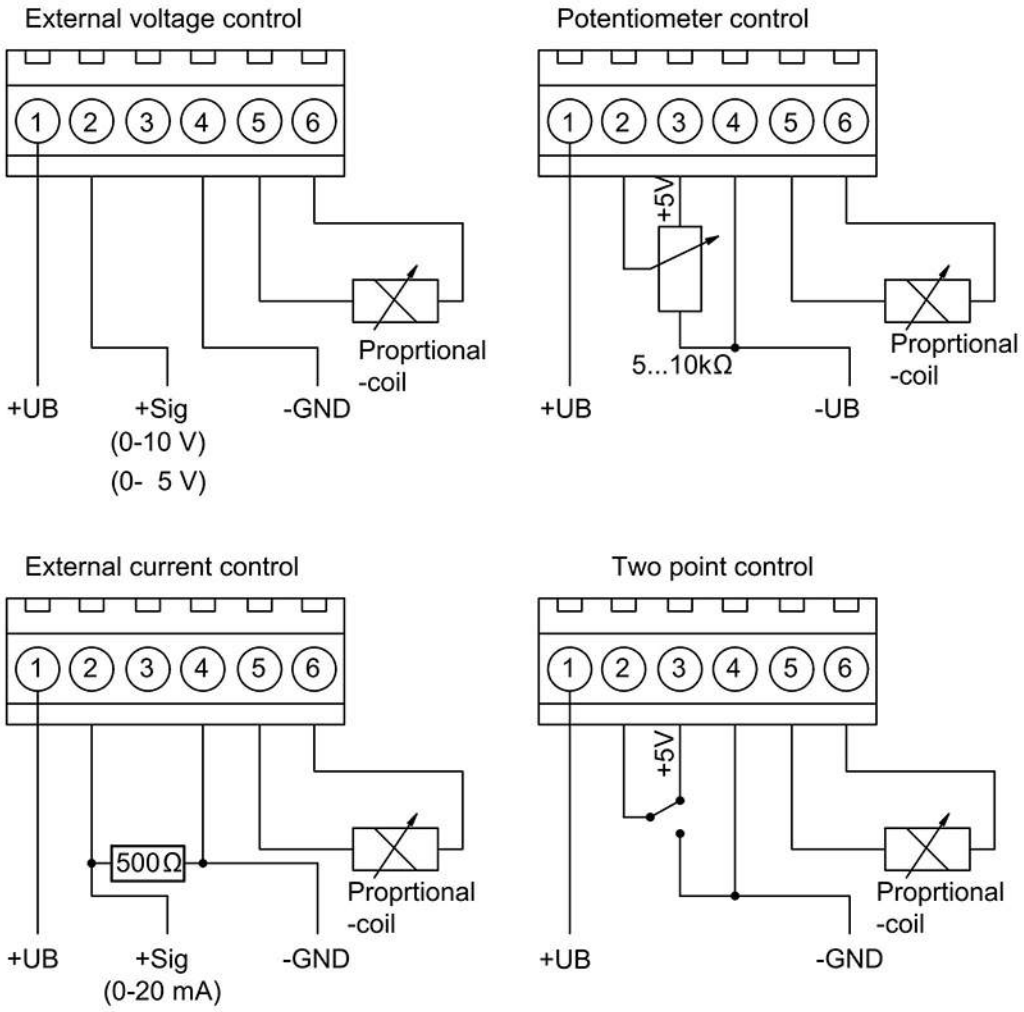
Ambient operating temperature：-15~140°F
-10~60°C

Weight：0.05kg

NOTICE

Do not remove the amplifier from the coil while the power is on.
This will cause a failure in the internal circuits of the amplifier, resulting in loss of output to the coil.

Proportional amplifier



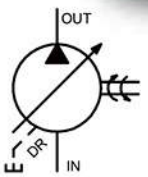
. Clamp connections plug in connector
Pin 1 =+ UB; supply voltage (10-35 VDC)
Pin 2 = Control voltage (+ Sig)
Pin 3 = Auxiliary voltage (+ 5 VDC)
Pin 4 = Ground (GND)
Pin 5 = Solenoid (-)
Pin 6 = Solenoid (+)

. Potentiometer
Turn clockwise means increasing current or Extension of ramp time
App. 10 turns for complete range

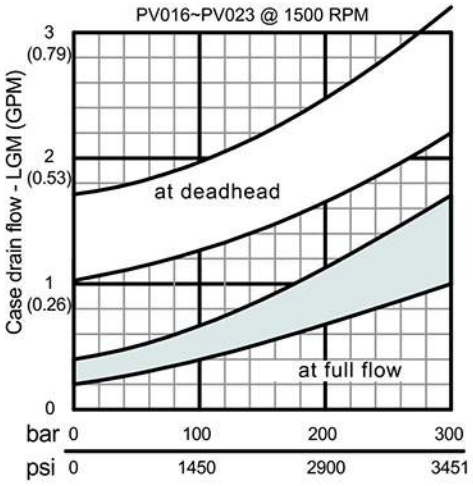
.Fuse
Standard 20 mm Glass fuse 2.5 A T

.LED's
LED +VS (green) = lights, when voltage supply and fuse are in order
LED1 (red) = lights, if there is an output to the solenoid

Efficiency and case drain flows

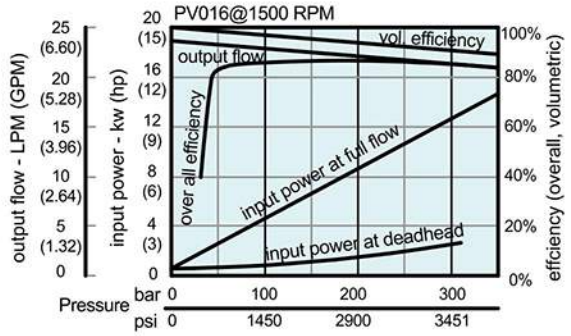


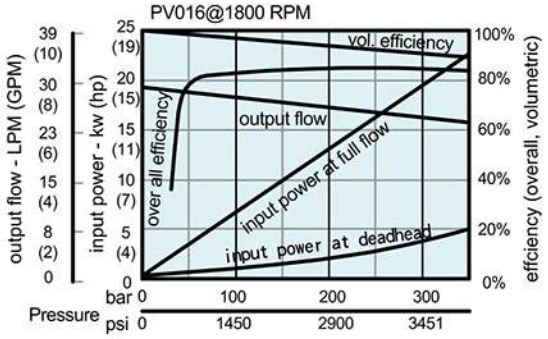
PV016 , PV020
PV023 , PV028 (Body1)

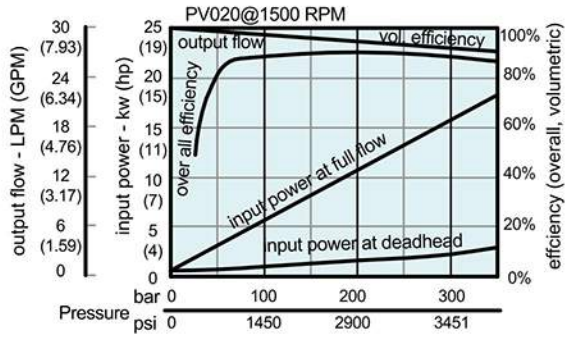


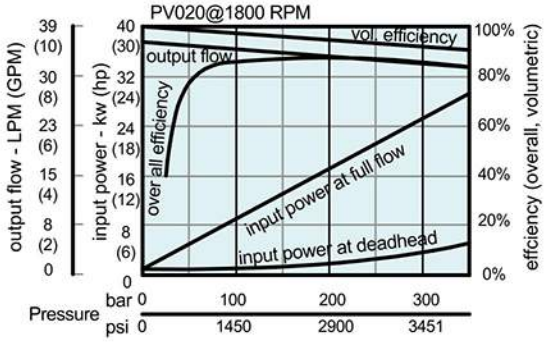
The efficiency and power graphs are measured at an input speed of n = 1500 RPM, a temperature of 40°C and a fluid viscosity of 46 mm2/s.
Case drain flow and compensator control flow leave via the drain port of the pump.
To the values shown are to be added 1 to 1.2 l/min , if at pilot operated compensators (codes G*, H*, P*, horse power compensator and p/Q-control) the control flow of the pressure pilot valve also goes through the pump.

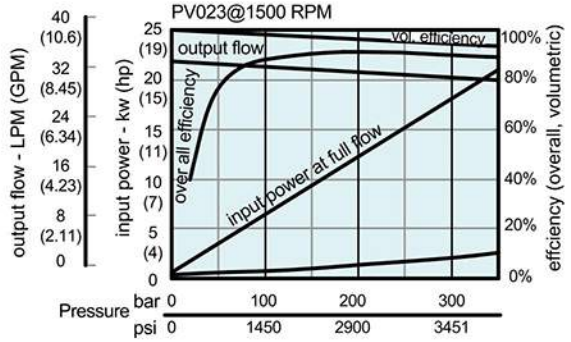
Please note: The values shown below are only valid for static operation.
Under dynamic conditions and at rapid compensation of the pump the volume displaced by the servo piston also leaves the case drain port.
This dynamic control flow can reach up to 40 l/min! Therefore the case drain line is to lead to the reservoir at full size and without restrictions as short and direct as possible.

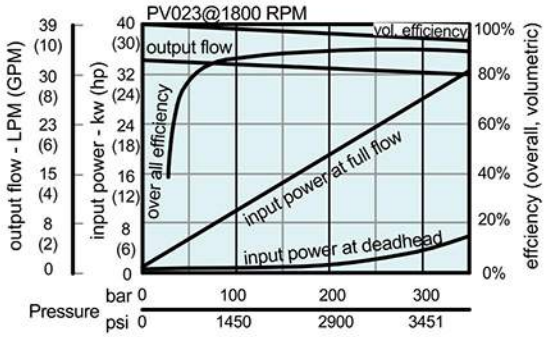








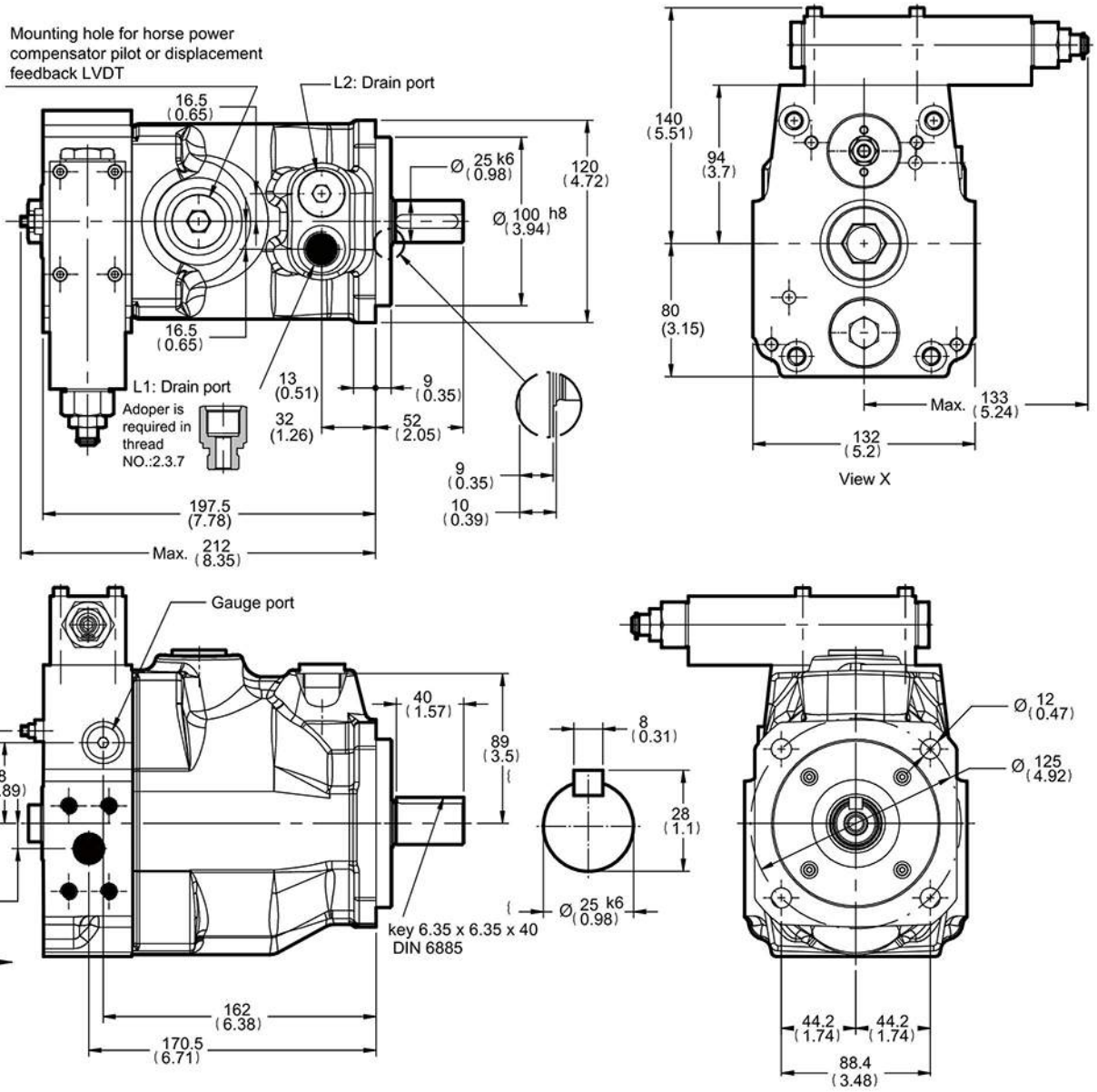


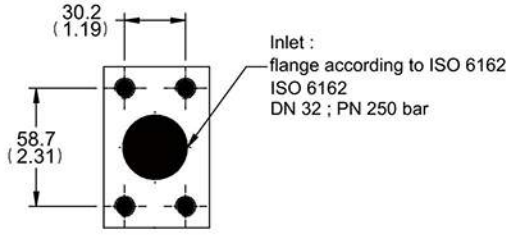


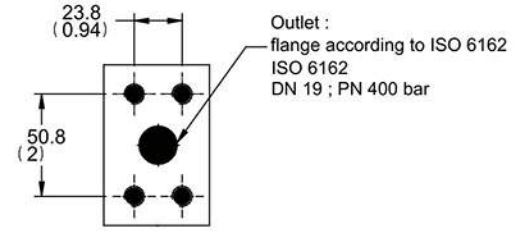
Dimensions

PV016 ~ PV023,PV028(Body 1)

Metric version (Motor Mounting Ø101.6)







Ports

Thread	1 BSPP(G)	2 PT(RC)	3 UNF(SAE)	7 ISO 6149(M)
Inlet	Ø32 M10*P1.5 18 deep	Ø32 M10*P1.5 18 deep	Ø32 7/16"-14 UNC 18 deep	Ø32 M10*P1.5 18 deep
Outlet	Ø19 M10*P1.5 18 deep	Ø19 M10*P1.5 18 deep	Ø19 7/16"-14 UNC 18 deep	Ø19 M10*P1.5 18 deep
Drain port (L1/ L2)	G 1/2"-14	PT 1/2"-14	7/8"-14 UNF	M22*P1.5
Gauge port	G 1/4"-19	PT 1/4"-19	7/16"-20 UNF	M12*P1.5

Threads code: 3 & 7 are not standard, not it stock, specially fabricate.
Adoper is required in thread NO.:2.3.7 (Drain port)

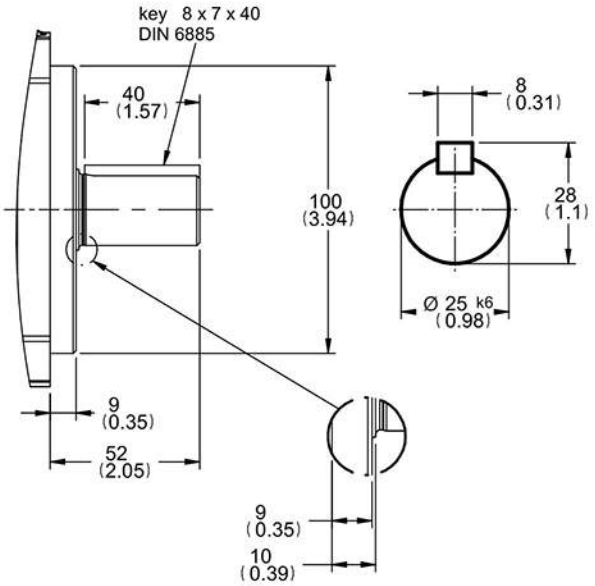
Dimensions

PV016 ~ PV023,PV028(Body 1)

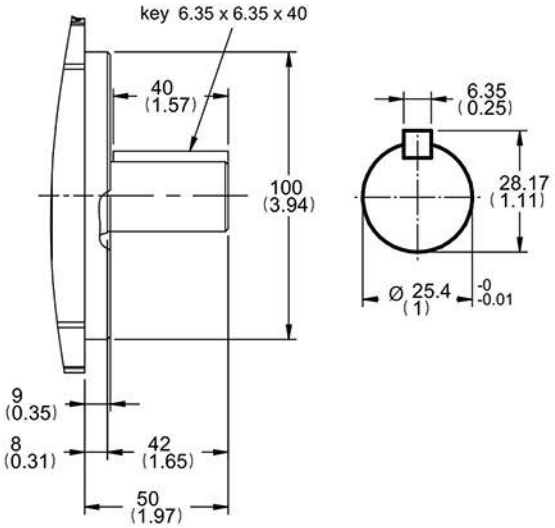
Metric version (Motor Mounting Ø100)

Shaft type

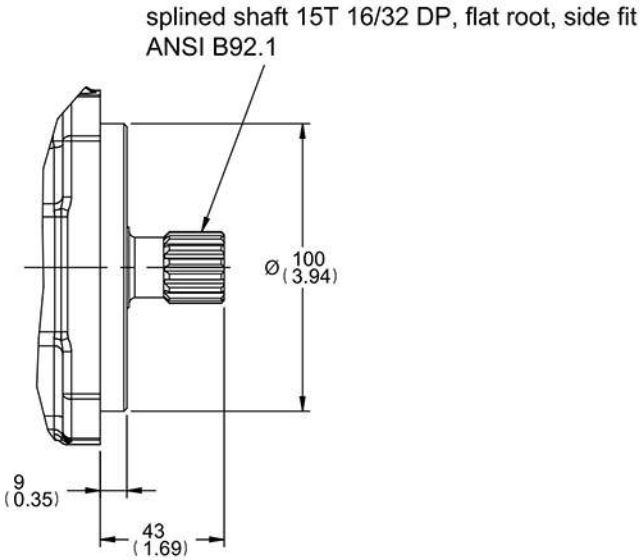
Mounting code: M



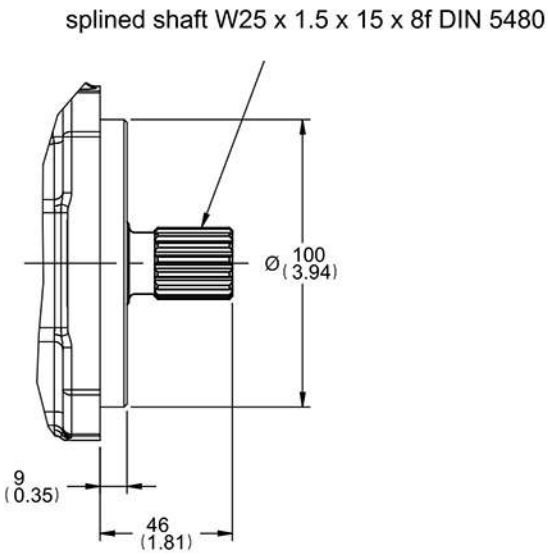
Mounting code: R



Mounting code: K



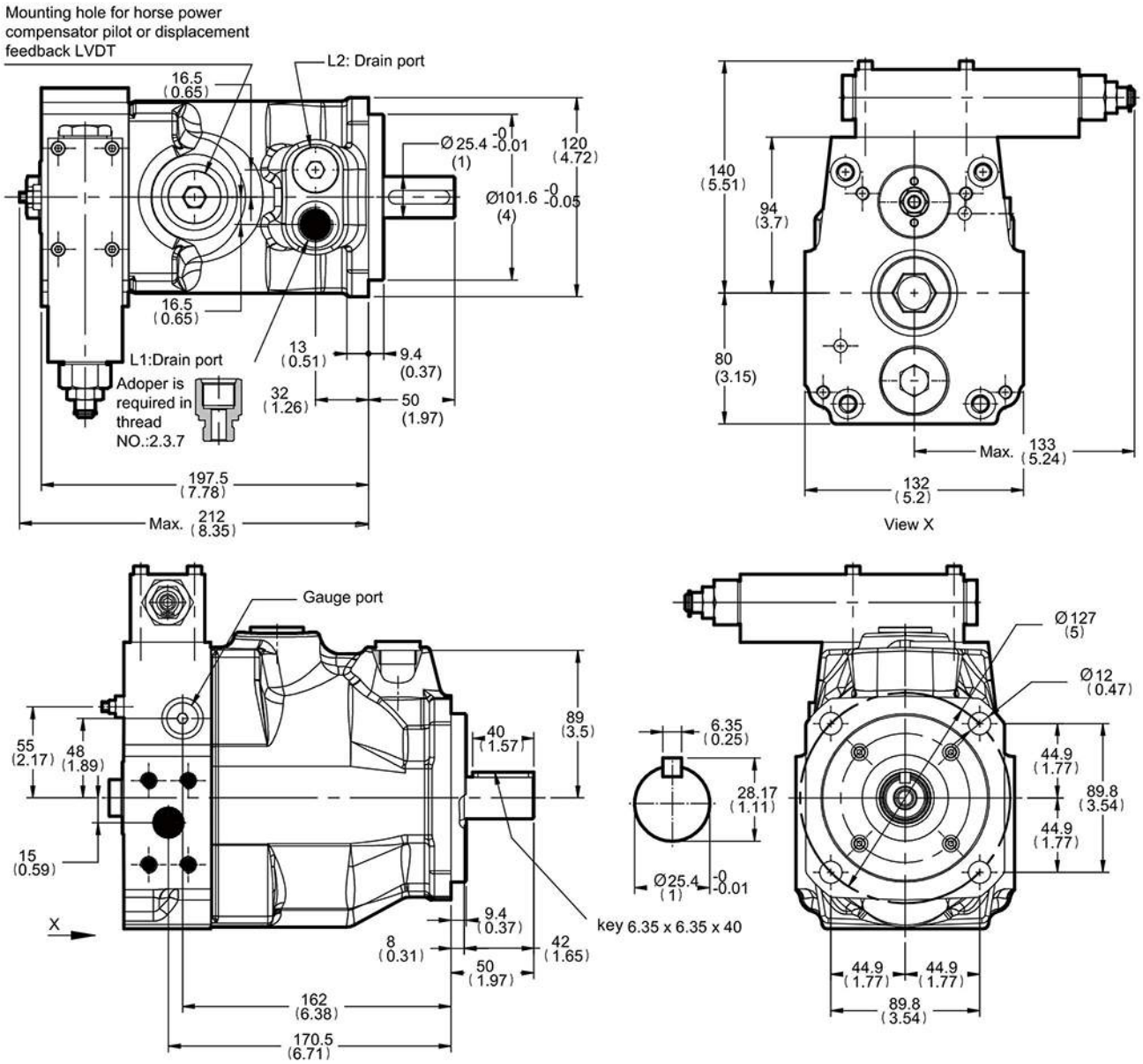
Mounting code: S

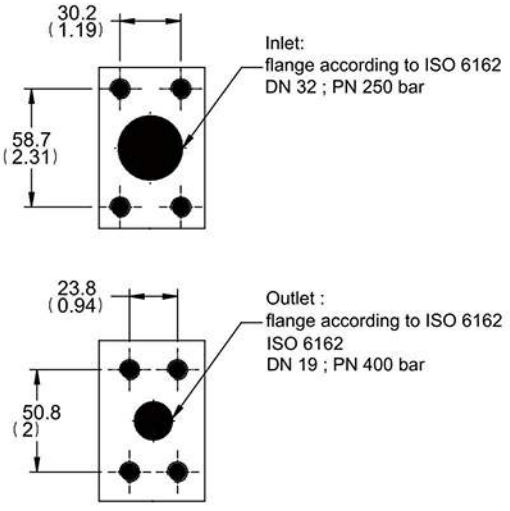


Dimensions

PV016 ~ PV023,PV028(Body 1)

SAE version(motor mounting Ø101.6)





Ports

Thread	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	Ø32 7/16"-14 UNC	Ø32 M10*P1.5 18 deep	Ø32 M10*P1.5 18 deep	Ø32 M10*P1.5 18 deep
Outlet	Ø19 7/16"-14 UNC	Ø19 M10*P1.5 18 deep	Ø19 M10*P1.5 18 deep	Ø19 M10*P1.5 18 deep
Drain port (L1/L2)	7/8"-14 UNF	G 1/2"-14	PT 1/2"-14	M22*P1.5
Gauge port	7/16"-20 UNF	G 1/4"-19	PT 1/4"-19	M12*P1.5

Threads code: 3 & 7 are not standard, not it stock, specially fabricate.
Adoper is required in thread NO.:2.3.7 (Drain port)

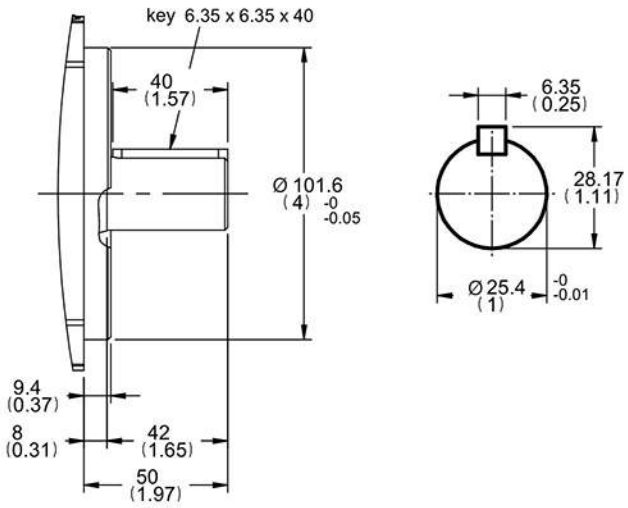
Dimensions

PV016 ~ PV023,PV028(Body 1)

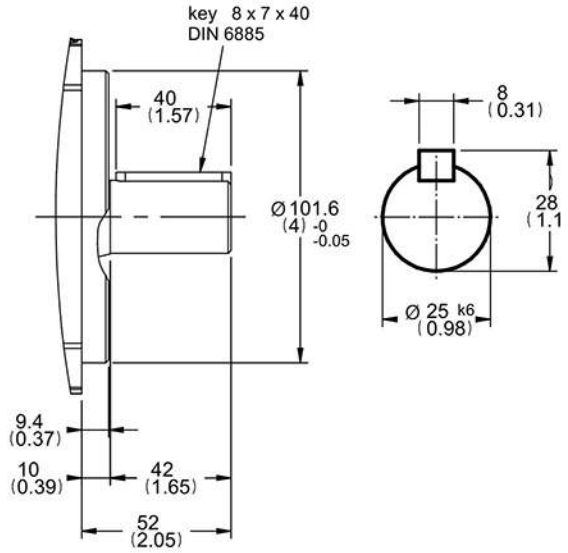
SAE version (motor mounting Ø101.6)

Shaft type

Mounting code: N

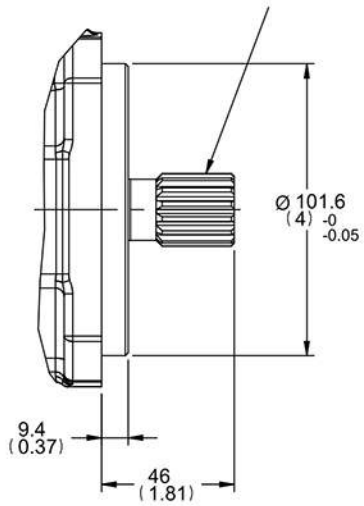


Mounting code: J



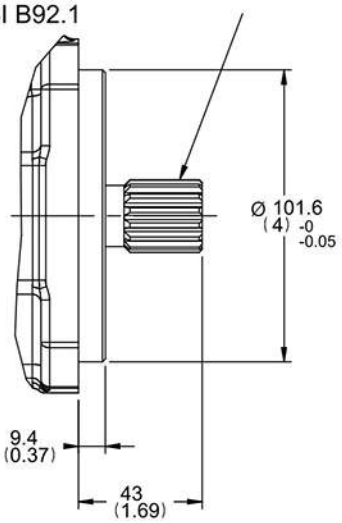
Mounting code: D

splined shaft W25 x 1.5 x 15 x 8f DIN 5480



Mounting code: U

splined shaft 15T 16/32 DP, flat root, side fit
ANSI B92.1



Dimensions

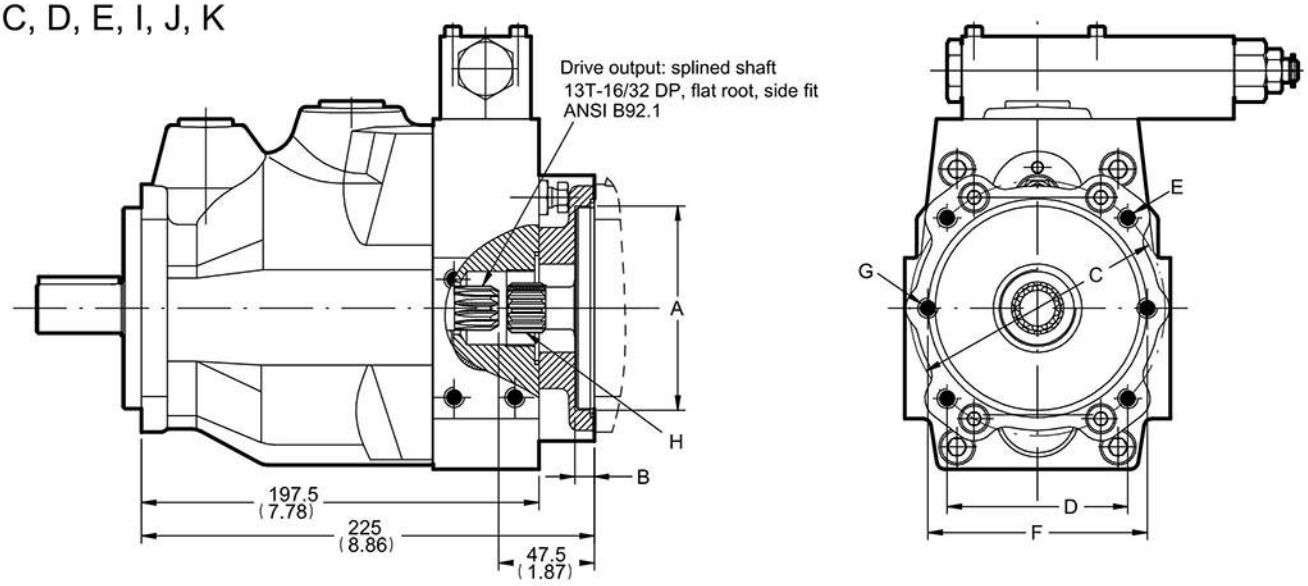
YEOSHE

PV016 ~ PV023,PV028(Body 1)

Thru drive

Thru drive:

C, D, E, I, J, K



Thru shaft adaptors are available with the following dimensions							
thru code	A	B	C	D	E	F	G
I	63	10	85	-	M8	100	M8
J	80	10	103	-	M8	109	M10
K	100	10.5	125	-	M10	n. avail.	n. avail.
C	50.8	10	-	-	-	82	M8
D	82.55	10	-	-	-	106	M10
E	101.6	10.5	-	89.8	M10	n. avail.	n. avail.

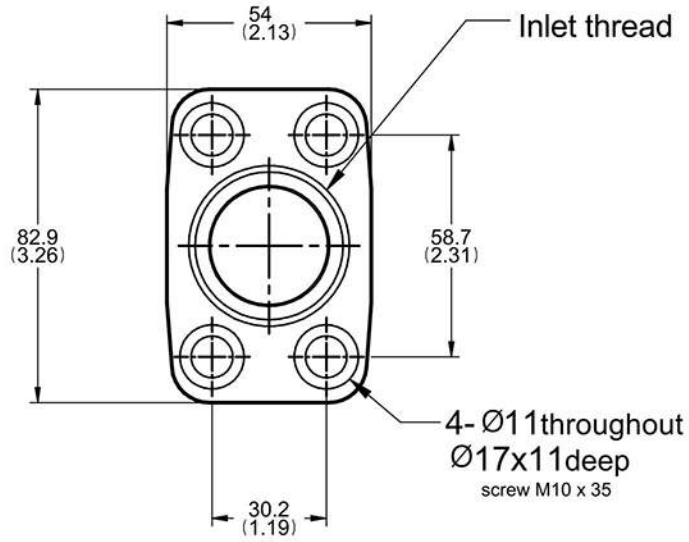
Thread codes are 3 and 7, the dimensions E and G are UNC-2B threads

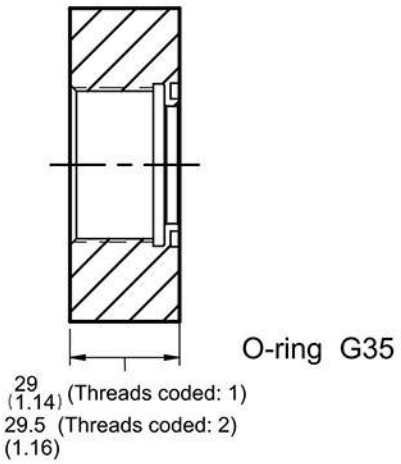
threads code: 3 and 7 Not standard, not in stock, require special requests.

Dimensions

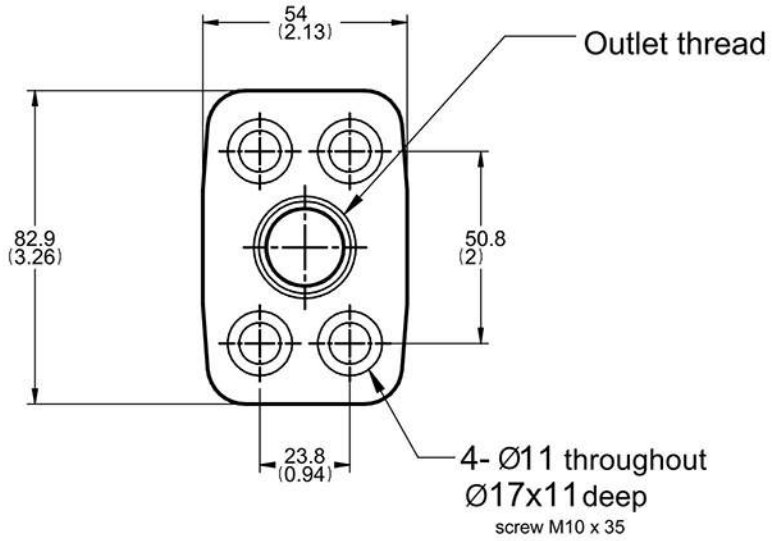
PV016 ~ PV023,PV028(Body 1) Inlet / Outlet Flange

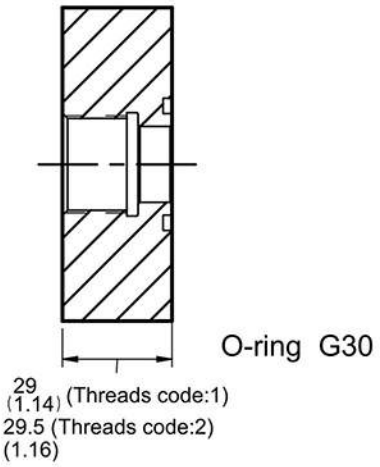
Inlet Flange





Outlet Flange



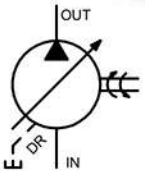


Ports

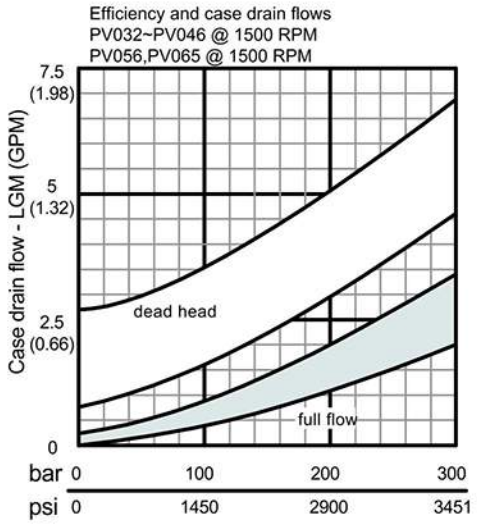
Thread code	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	1 5/8"-12 UN	G 1 1/4"-11	PT 1 1/4"-11	M42*P2.0
Outlet	1 1/16"-12 UN	G 3/4"-14	PT3/4"-14	M27*P2.0

Threads code: 3 & 7 are not standard, not it stock, specially fabricate.

Efficiency and case drain flows

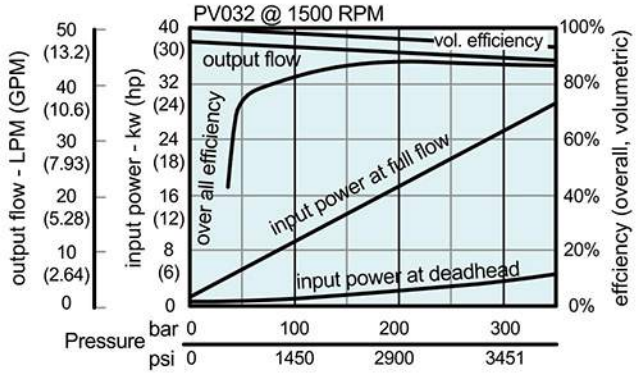


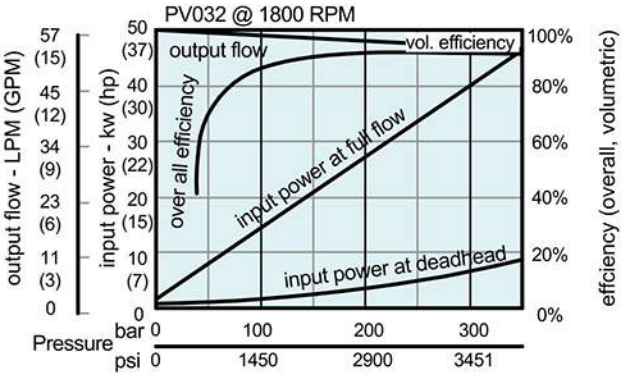
PV032 ~ PV046
PV056, PV065
(Body2)

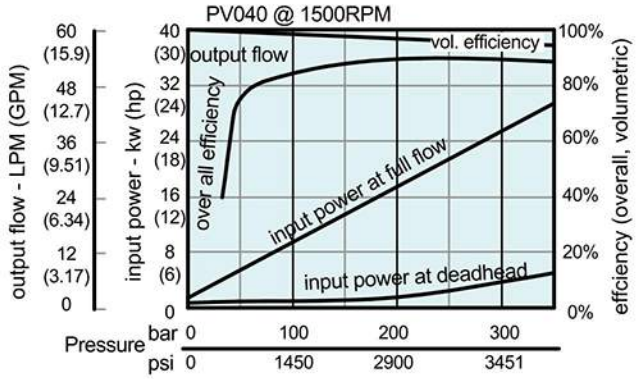


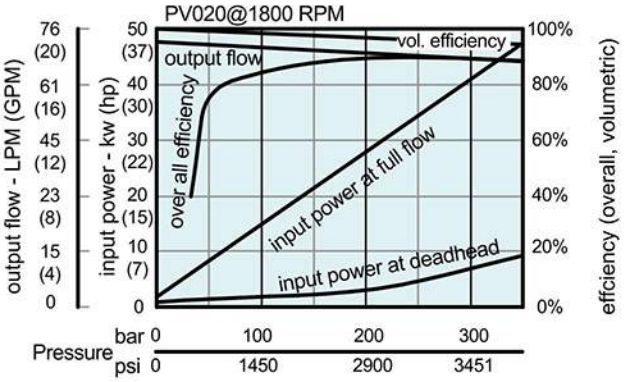
The efficiency and power graphs are measured at an input speed of n = 1500 RPM, a temperature of 40°C and a fluid viscosity of 46 mm2/s.
Case drain flow and compensator control flow leave via the drain port of the pump.
To the values shown are to be added 1 to 1.2 l/min , if at pilot operated compensators (codes G*, H*, P*, horse power compensator and p/Q-control) the control flow of the pressure pilot valve also goes through the pump.

Please note: The values shown below are only valid for static operation.
Under dynamic conditions and at rapid compensation of the pump the volume displaced by the servo piston also leaves the case drain port.
This dynamic control flow can reach up to 60 l/min! Therefore the case drain line is to lead to the reservoir at full size and without restrictions as short and direct as possible.



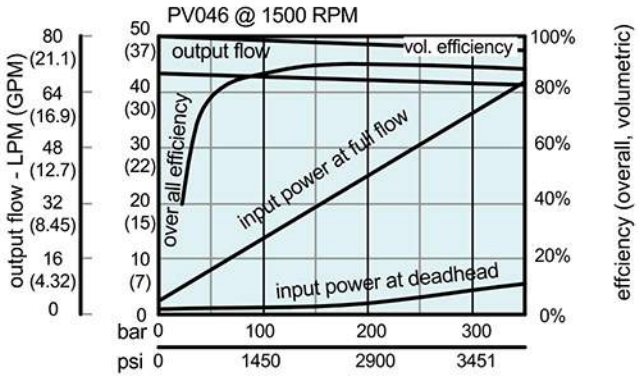


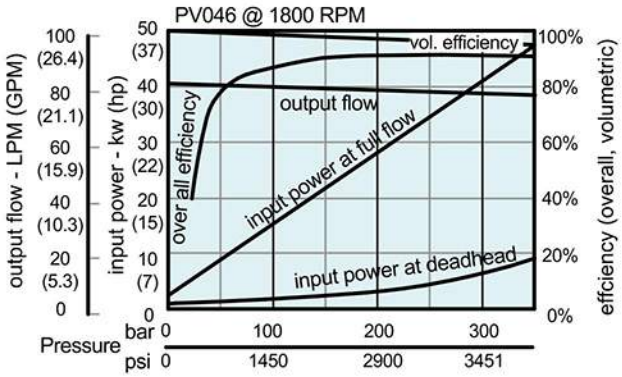


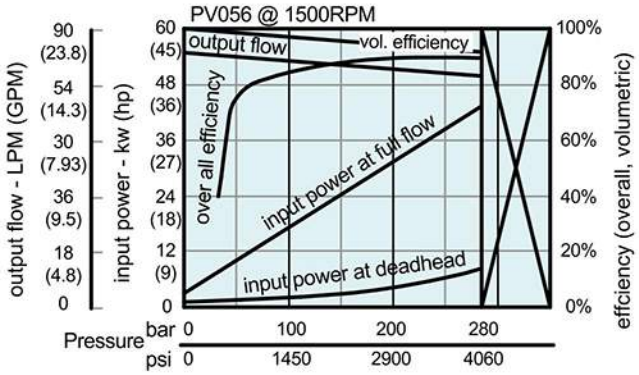


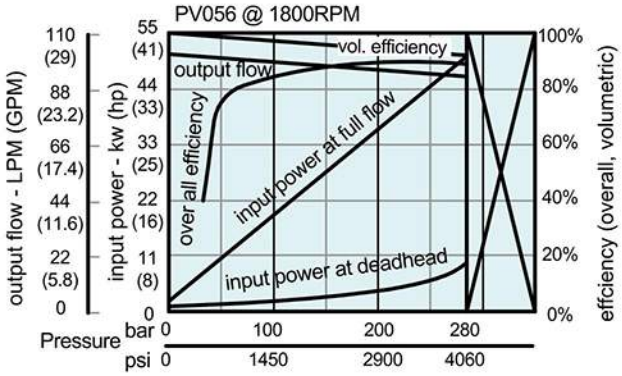
Efficiency and case drain flows

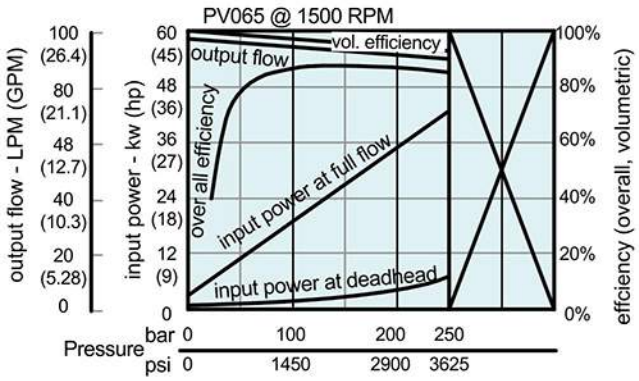
PV032 ~ PV046,PV056, PV065 (Body2)

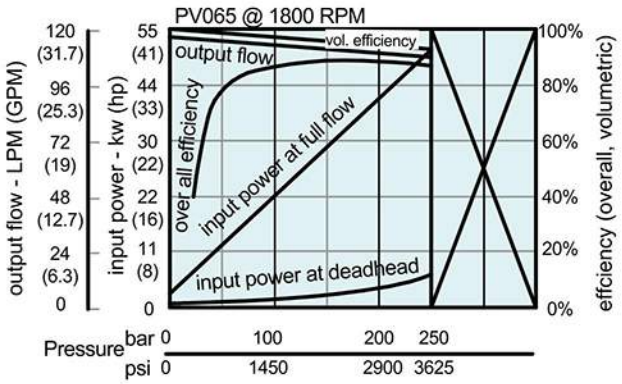








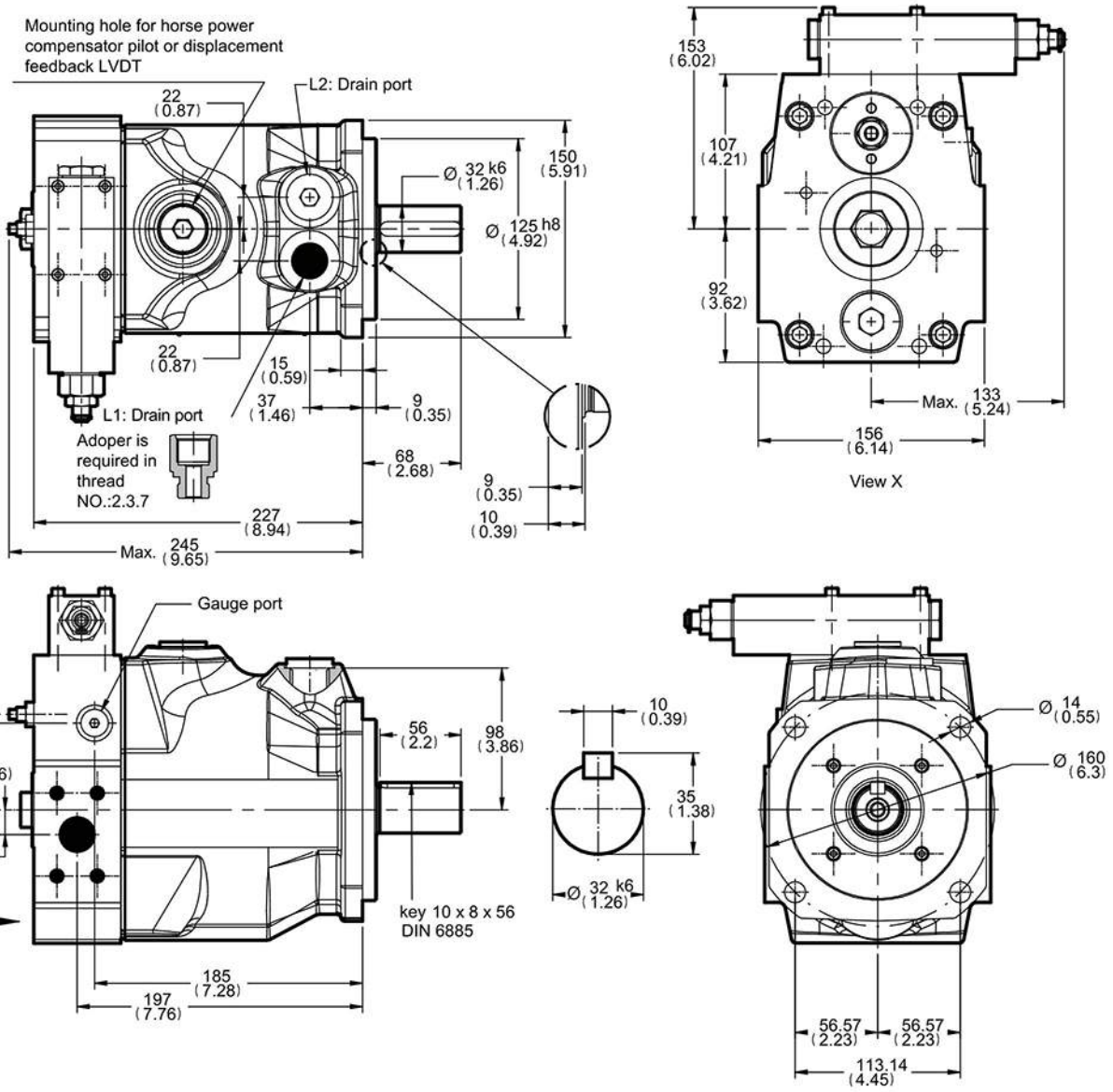


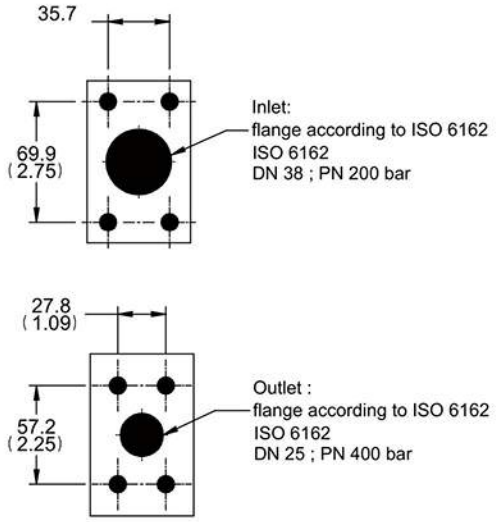


Dimension

PV032 ~ PV046,PV056, PV065 (Body 2)

Metric version (motor mounting Ø125)





Ports				
Thread	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	Ø38 1/2"-13 UNC 18 deep	Ø38 M12*P1.75 18 deep	Ø38 M12*P1.75 18 deep	Ø38 M12*P1.75 18 deep
Outlet	Ø25 1/2"-13 UNC 18 deep	Ø25 M12*P1.75 18 deep	Ø25 M12*P1.75 18 deep	Ø25 M12*P1.75 18 deep
Drain port (L1/ L2)	1 1/16"-12 UNF	G 3/4"-14	PT 3/4"-14	M27*P2.0
Gauge port	7/16"-20 UNF	G 1/4"-19	PT 1/4"-19	M12*P1.5

Threads code: 3 & 7 are not standard, not it stock, specially fabricate.
Adoper is required in thread NO.: 2.3.7 (Drain port)

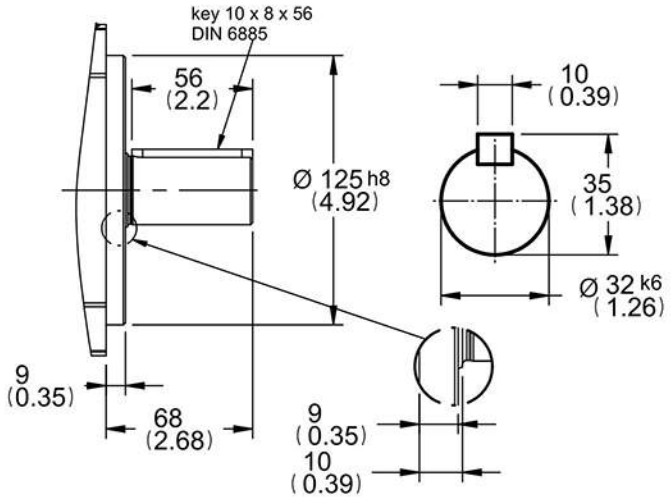
Dimension

PV032 ~ PV046,PV056, PV065 (Body 2)

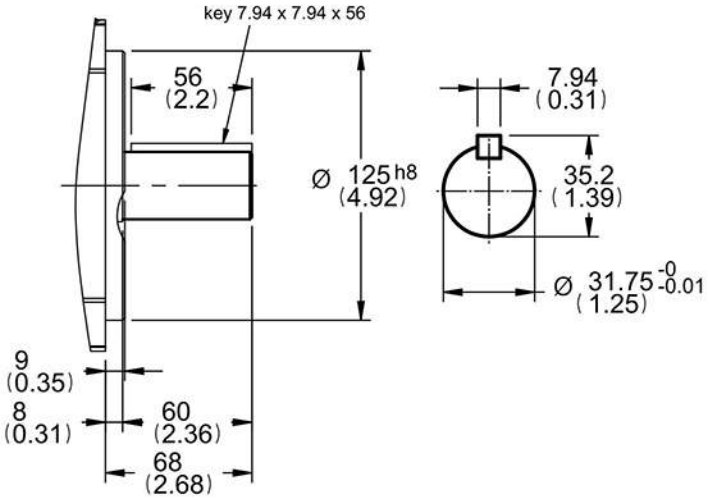
Metric version (motor mounting Ø125)

Shaft type

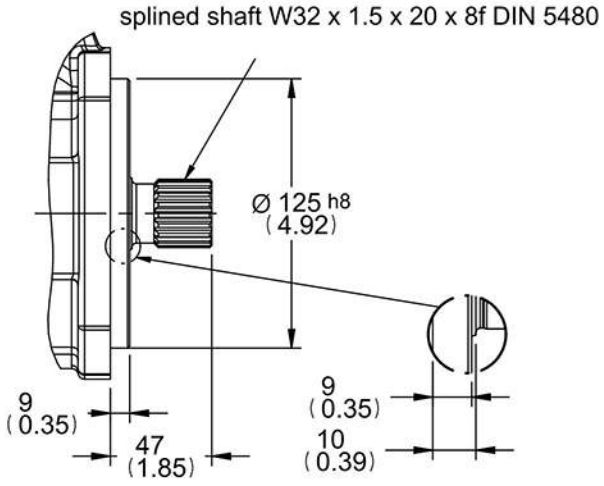
Mounting code: M



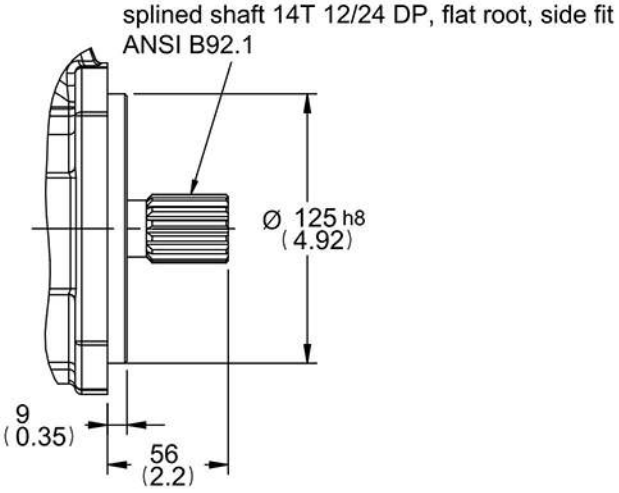
Mounting code: R



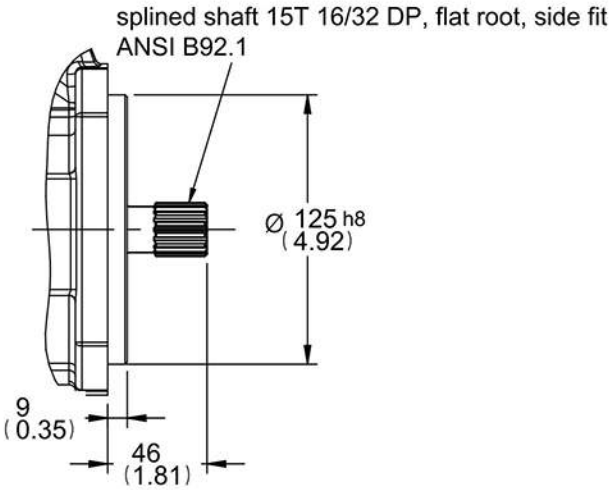
Mounting code: K



Mounting code: S



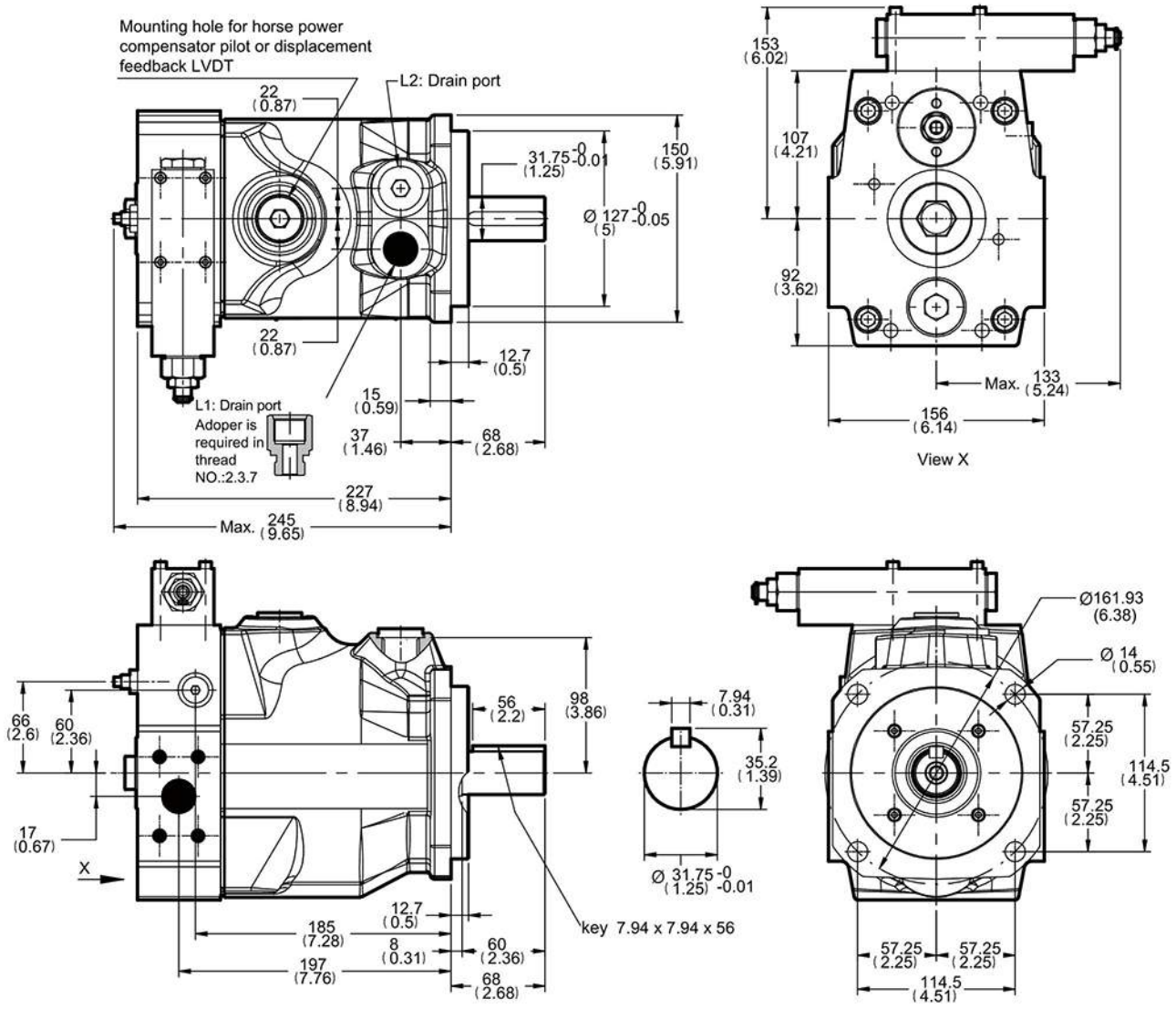
Mounting code: P

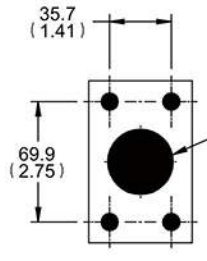


Dimension

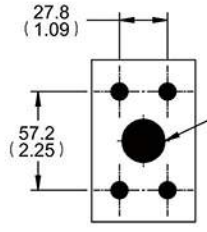
PV032 ~ PV046, PV056, PV065 (Body 2)

SAE version (motor mounting Ø127)





Inlet :
flange according to ISO 6162
ISO 6162
DN 38 ; PN 200 bar



Outlet :
flange according to ISO 6162
ISO 6162
DN 25 ; PN 400 bar

Ports				
Thread	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	Ø38 1/2"-13 UNC 18 deep	Ø38 M12*P1.75 18 deep	Ø38 M12*P1.75 18 deep	Ø38 M12*P1.75 18 deep
Outlet	Ø25 1/2"-13 UNC 18 deep	Ø25 M12*P1.75 18 deep	Ø25 M12*P1.75 18 deep	Ø25 M12*P1.75 18 deep
Drain port (L1/ L2)	1 1/16"-12 UNF	G 3/4"-14	PT 3/4"-14	M27*P2.0
Gauge port	7/16"-20 UNF	G 1/4"-19	PT 1/4"-19	M12*P1.5

Threads code: 3 & 7 are not standard, not it stock, specially fabricate.
Adoper is required in thread NO.: 2.3.7 (Drain port)

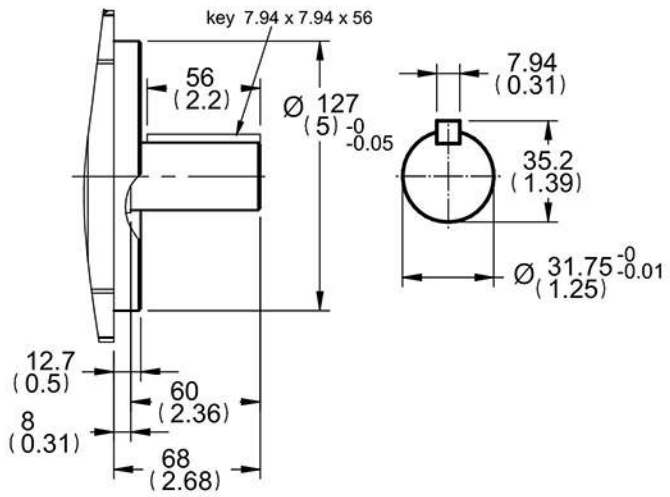
Dimension

PV032 ~ PV046, PV056, PV065 (Body 2)

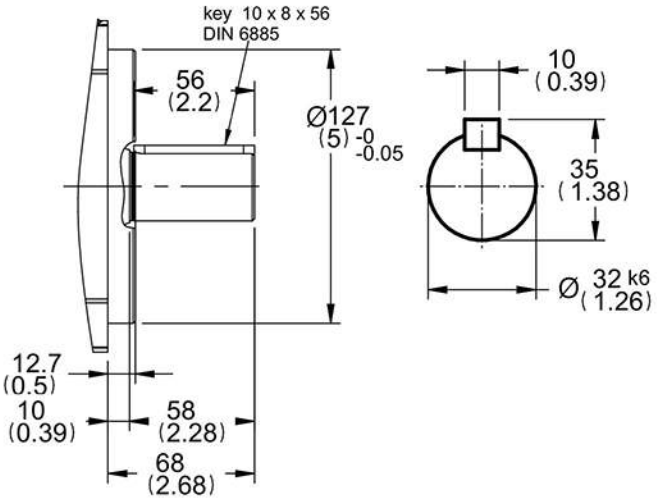
SAE version (motor mounting Ø127)

Shaft type

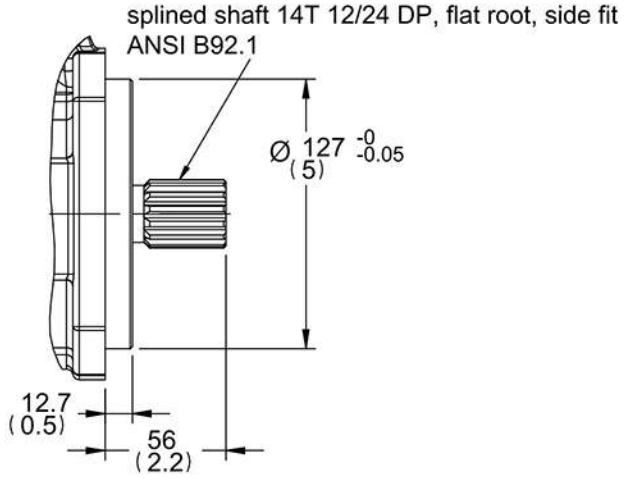
Mounting code: N



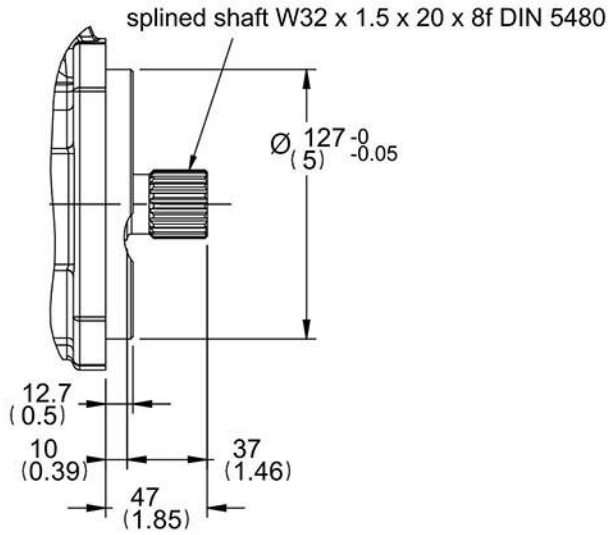
Mounting code: J



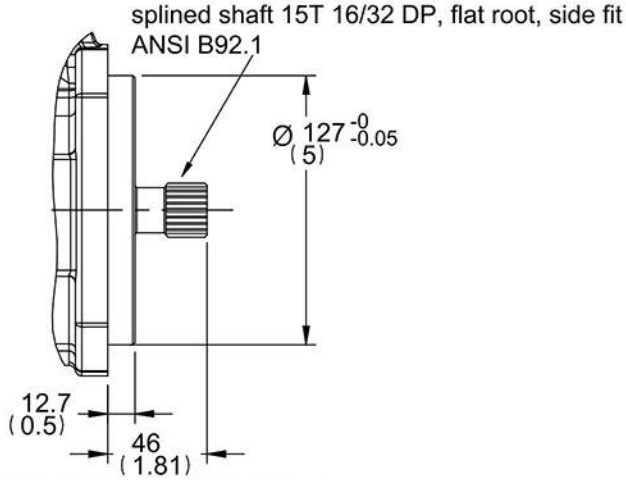
Mounting code: D



Mounting code: U



Mounting code: G



Dimension

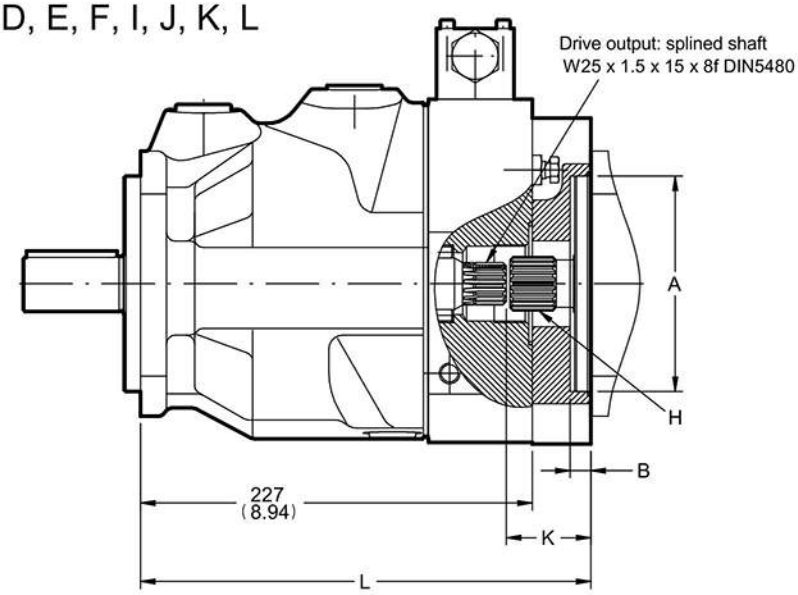
YEOSHE

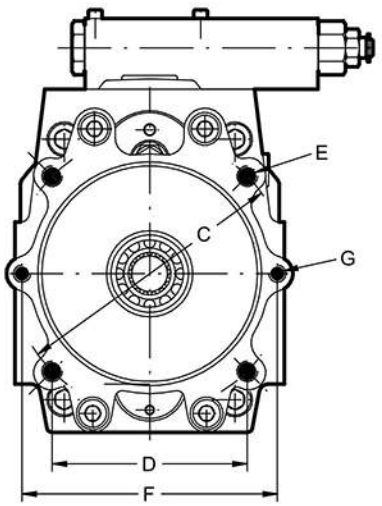
PV032 ~ PV046, PV056, PV065 (Body 2)

Thru drive

thru drive:

D, E, F, I, J, K, L





Thru shaft adaptors are available with the following dimensions:									
thru code	A	B	C	D	E	F	G	K	L
I	63	8.5	85	-	M8	100	M8	49	261
J	80	8.5	103	-	M8	109	M10	49	261
K	100	10.5	125	-	M10	140	M12	49	261
L	125	12	160	-	M12	n. avail.	n. avail.	49	261
D	82.55	8	-	-	-	106	M10	49	261
E	101.6	11	-	89.8	M10	146	M12	49	261
F	127	13.5	-	114.5	M12	n. avail.	n. avail.	64	276

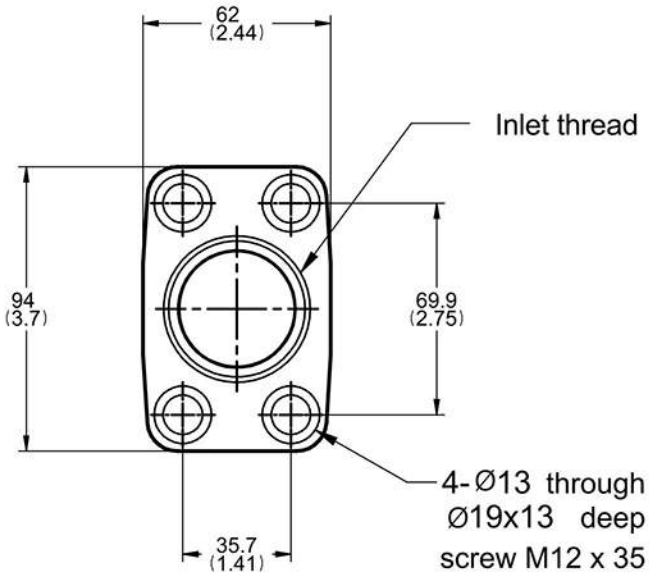
Thread codes are 3 and 7 the dimensions E and G are UNC-2B threads

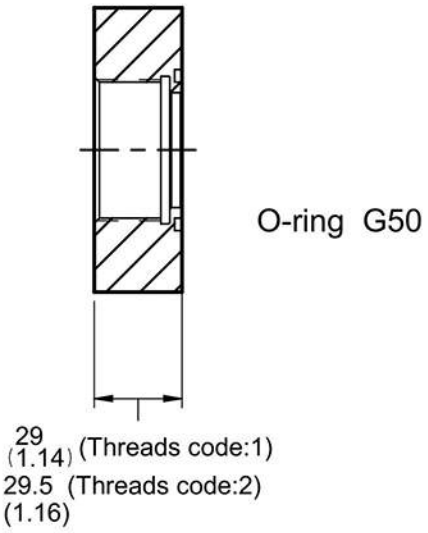
threads code: 3 and 7 Not standard, not in stock require special requests

Dimension

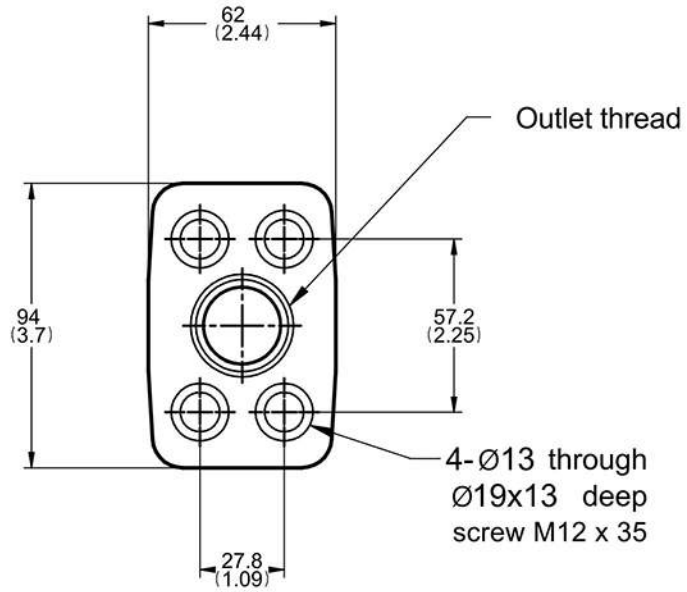
PV032 ~ PV046, PV056, PV065 (Body 2) Inlet / Outlet Flange

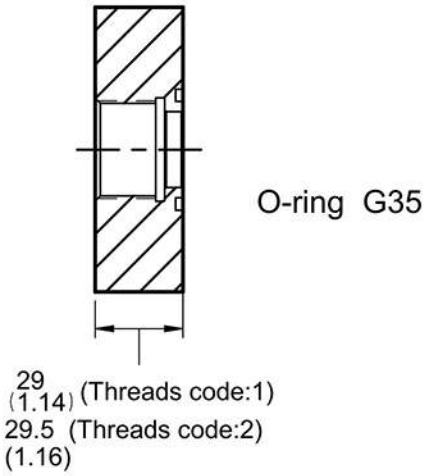
Inlet Flange





Outlet Flange



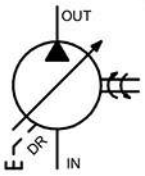


Ports

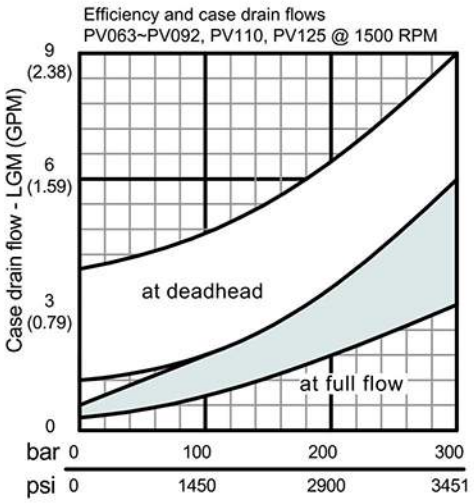
Thread code	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	1 7/8"-12 UN	G 1 1/2"-11	PT 1 1/2"-11	M48*P2.0
Outlet	1 5/16"-12 UN	G 1"-11	PT 1"-11	M33*P2.0

threads code: 3 & 7 are not standard, not it stock, specially fabricate.

Efficiency and case drain flows

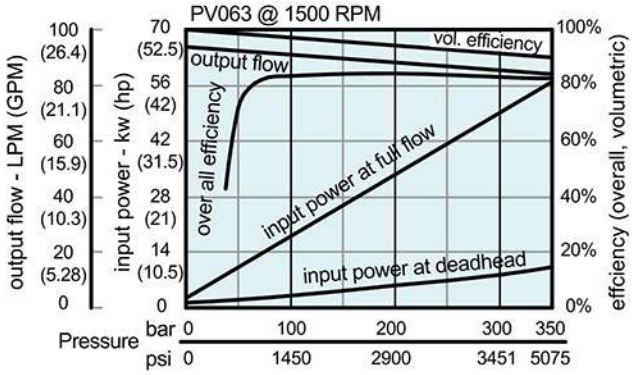


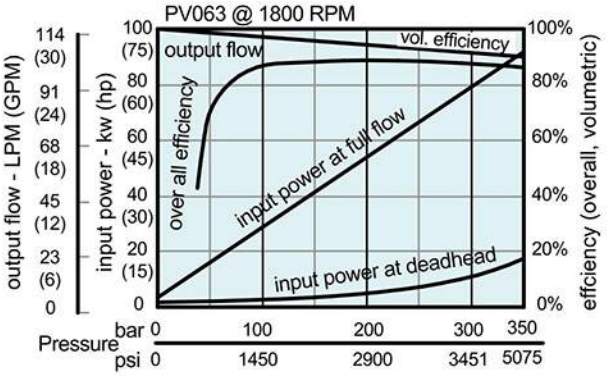
PV063 ~ PV092
PV110, PV125
(Body 3)

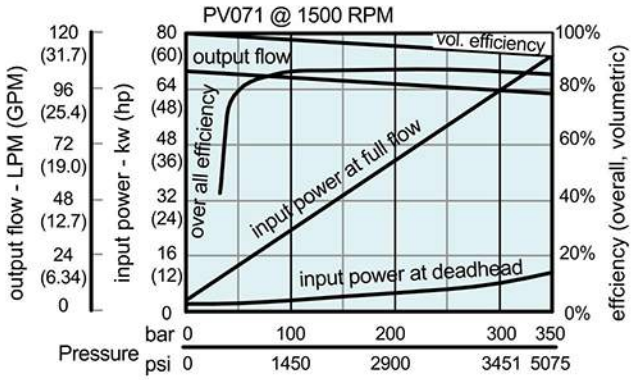


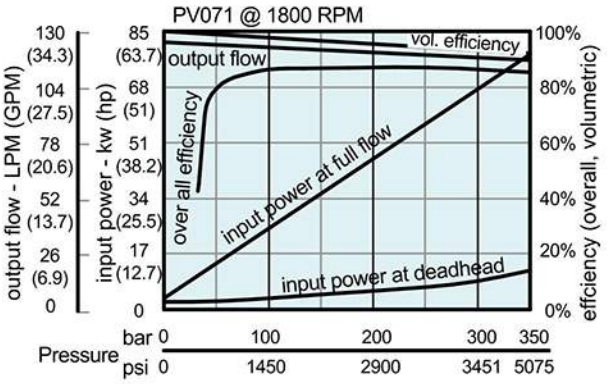
The efficiency and power graphs are measured at an input speed of n = 1500 RPM, a temperature of 40°C and a fluid viscosity of 46 mm2/s.
Case drain flow and compensator control flow leave via the drain port of the pump. To the values shown are to be added 1 to 1.2 l/min , if at pilot operated compensators (codes G*, H*, P*, horse power compensator and p/Q-control) the control flow of the pressure pilot valve also goes through the pump.

Please note: The values shown below are only valid for static operation. Under dynamic conditions and at rapid compensation of the pump the volume displaced by the servo piston also leaves the case drain port.
This dynamic control flow can reach up to 80 l/min! Therefore the case drain line is to lead to the reservoir at full size and without restrictions as short and direct as possible.



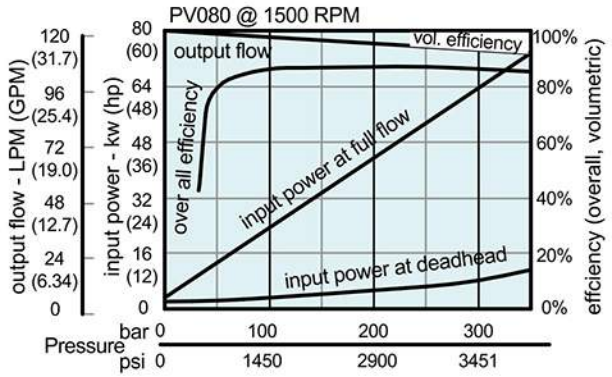


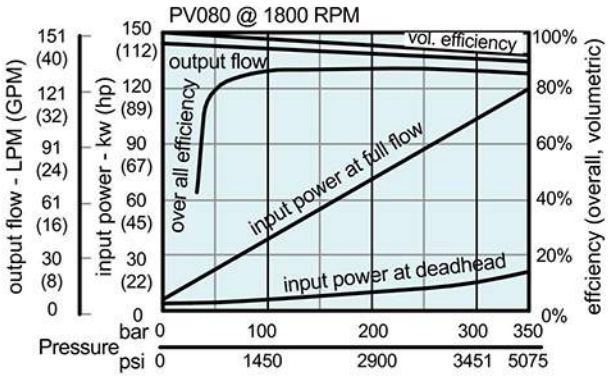


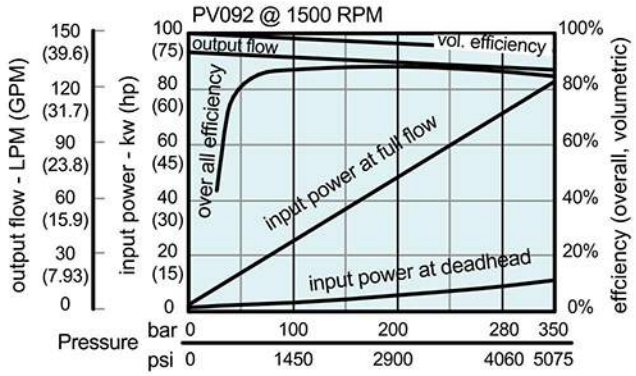


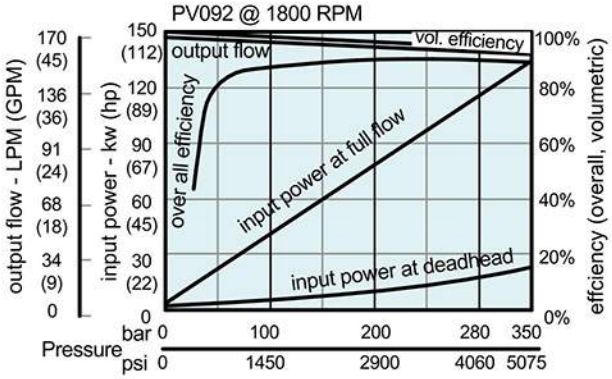
Efficiency and case drain flows

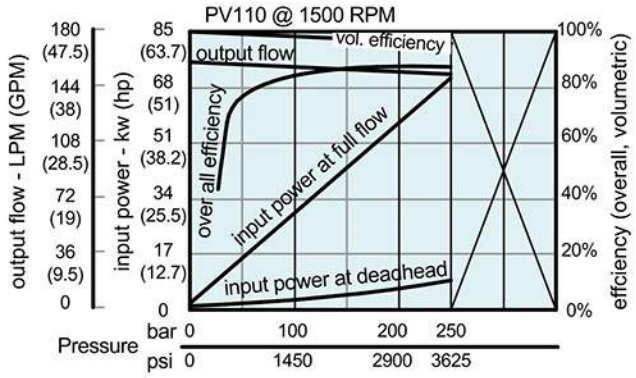
PV063 ~ PV092, PV110, PV125 (Body 3)

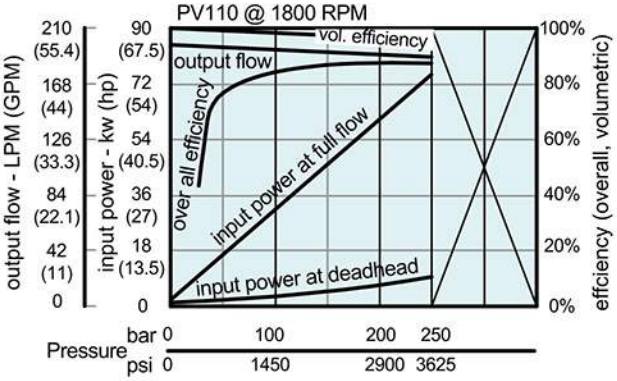


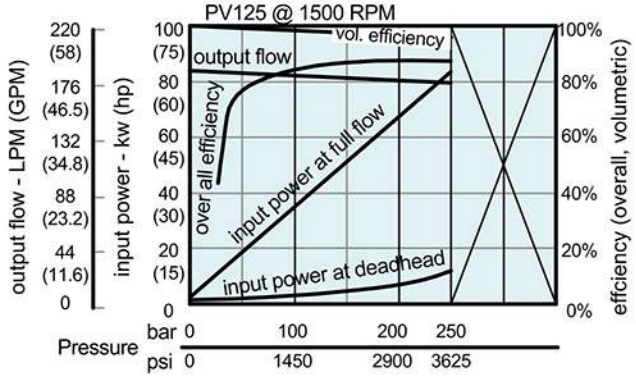


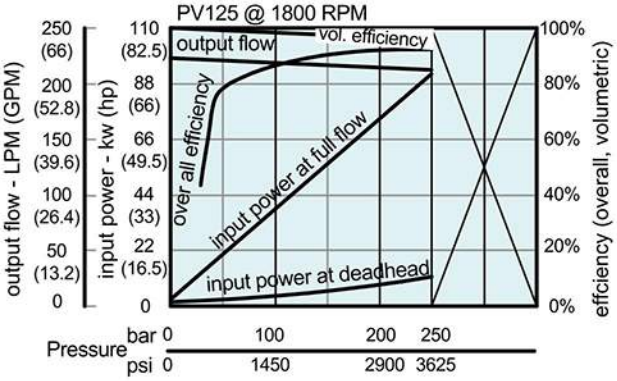








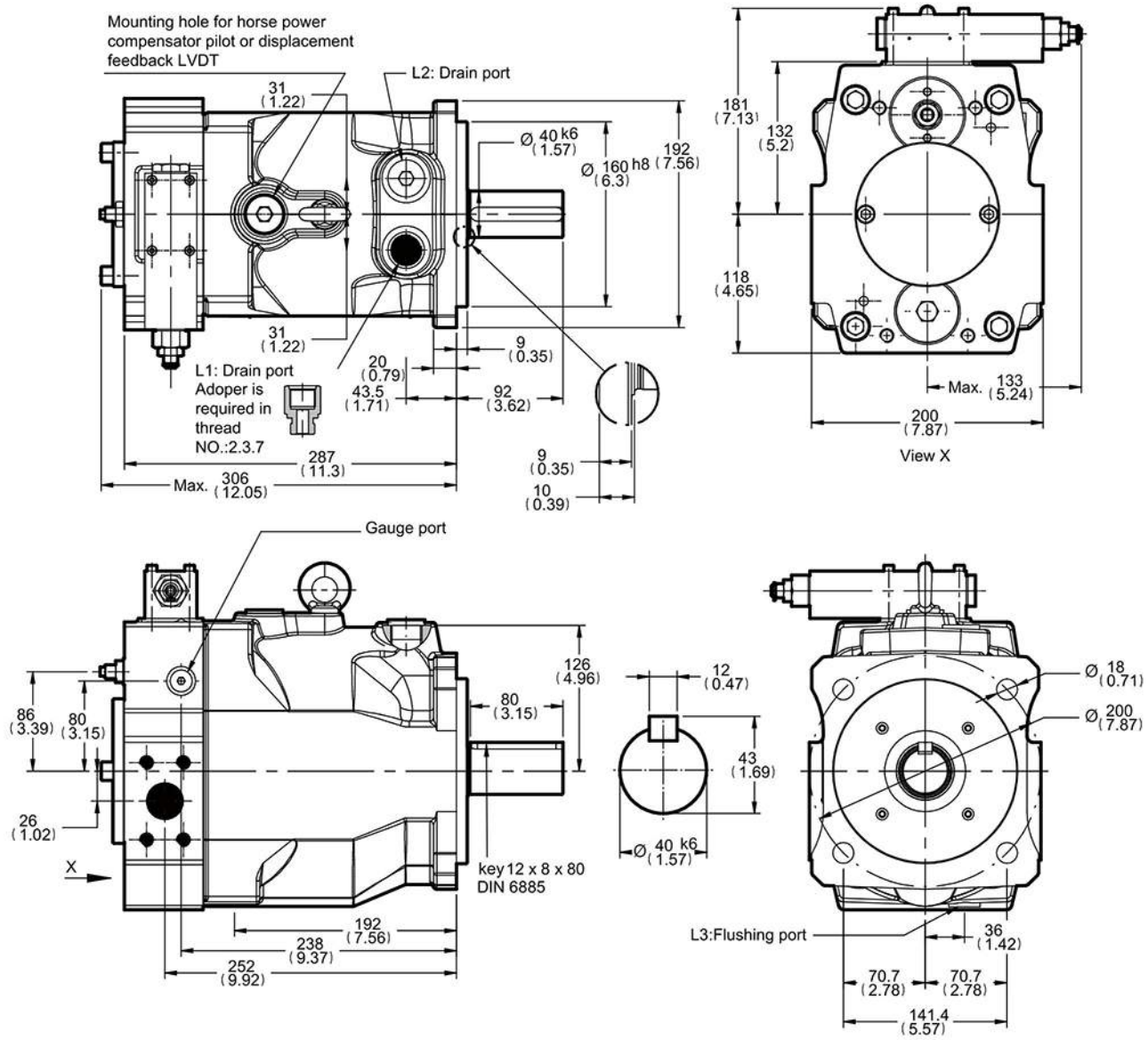


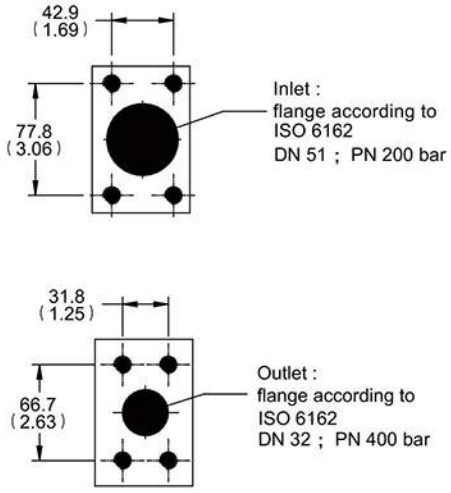


Dimension

PV063 ~ PV092, PV110, PV125 (Body 3)

Metric version (motor mountingØ160)





Ports				
Thread	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	Ø47 1/2"-13 UNC 20 deep	Ø47 M12*P1.75 20 deep	Ø47 M12*P1.75 20 deep	Ø47 M12*P1.75 20 deep
Outlet	Ø32 1/2"-13 UNC 20 deep	Ø32 M12*P1.75 20 deep	Ø32 M12*P1.75 20 deep	Ø32 M12*P1.75 20 deep
Drain port (L1/ L2)	1 1/16"-12 UNF	G 3/4"-14	PT 3/4"-14	M27*P2.0
L3	7/8"-14 UNF	G 1/2"-14	PT 1/2"-14	M22*P1.5
Gauge port	7/16"-20 UNF	G 1/4"-19	PT 1/4"-19	M12*P1.5

Threads code: 3 & 7 are not standard, not it stock, specially fabricate.
Adoper is required in thread NO.:2.3.7 (Drain port)

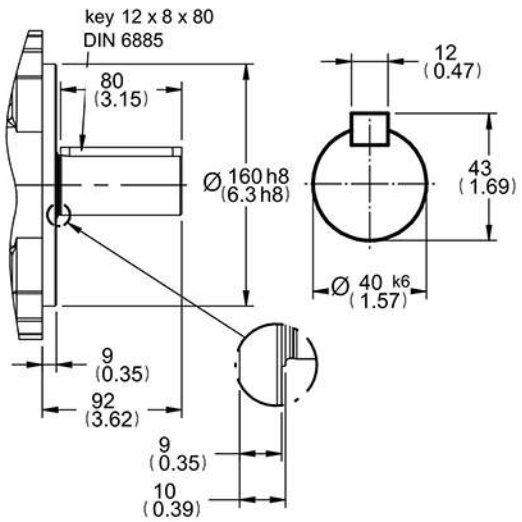
Dimension

PV063 ~ PV092, PV110, PV125 (Body3)

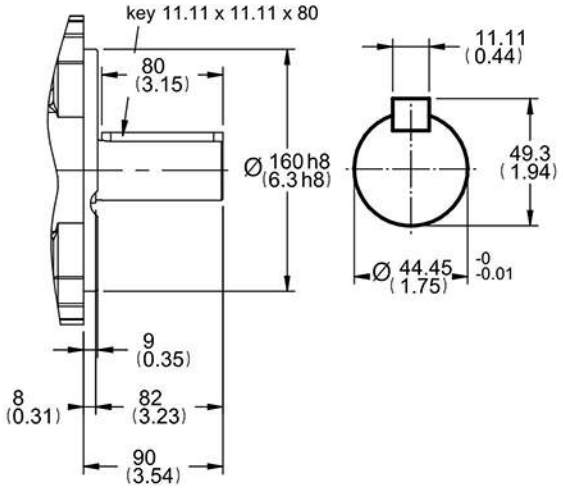
Metric version (motor mounting Ø160)

Shaft type

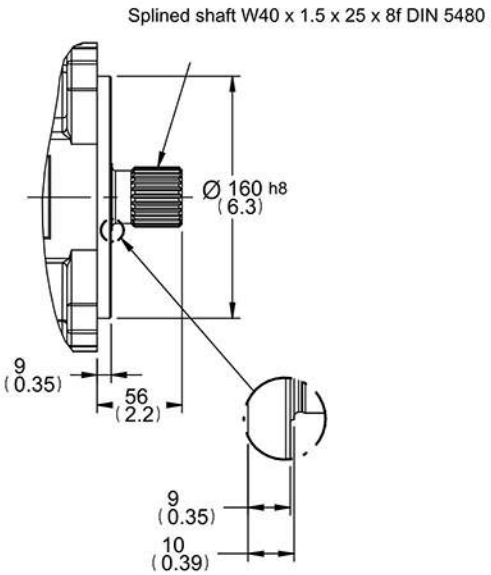
Mounting code: M



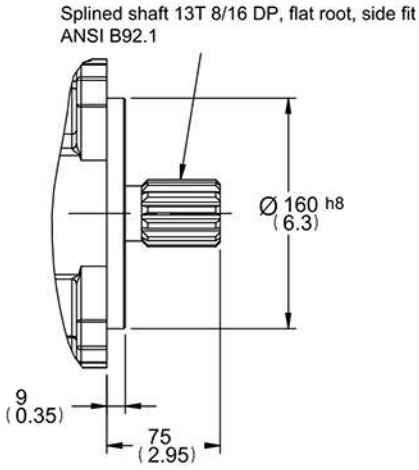
Mounting code: R



Mounting code: K



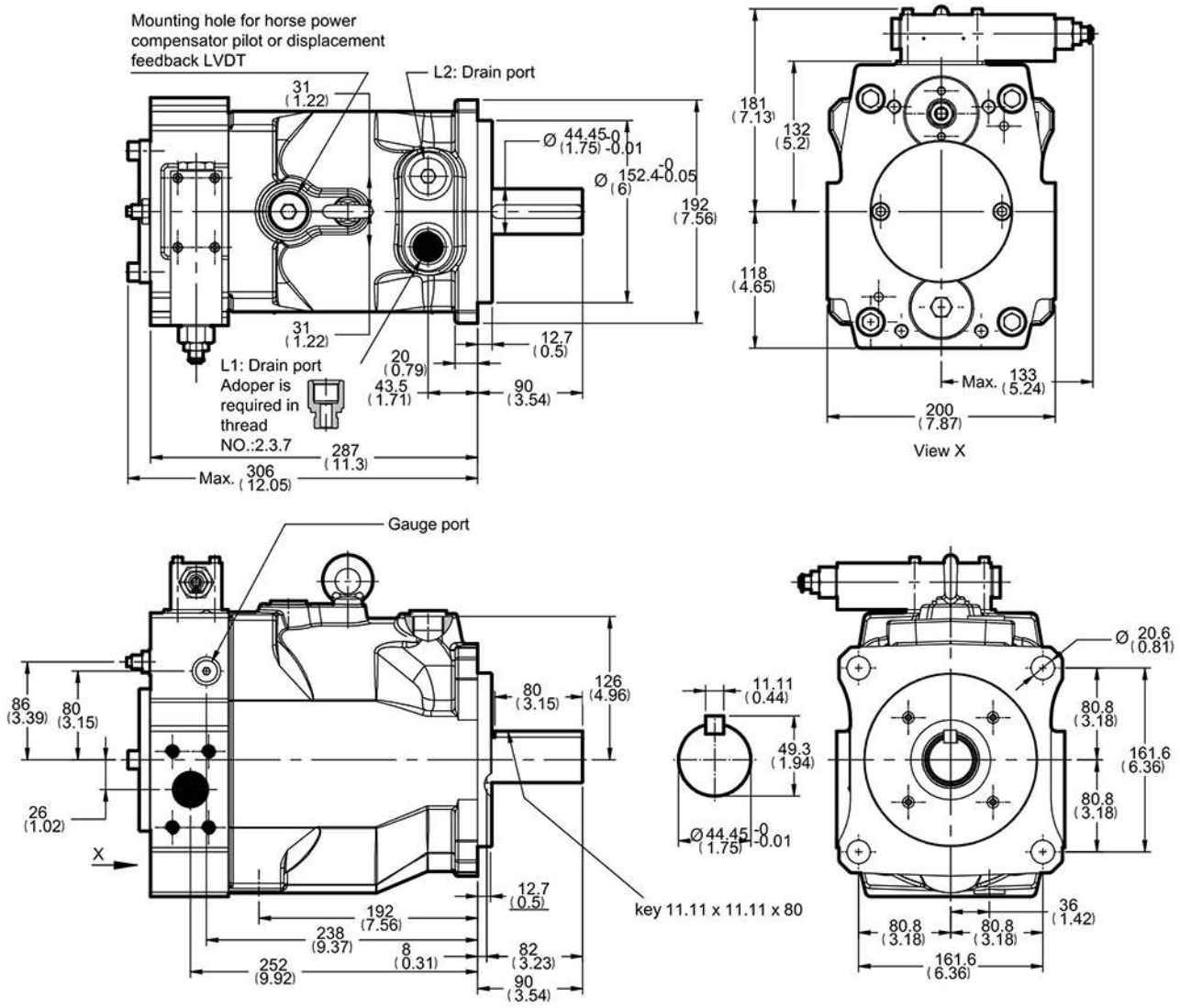
Mounting code: S

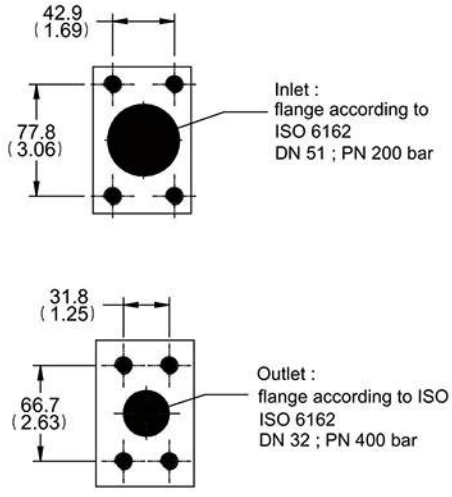


Dimension

PV063 ~ PV092, PV110, PV125 (Body 3)

SAE version (motor mounting Ø152.4)





Ports				
Thread	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	Ø38 1/2"-13 UNC 18 deep	Ø38 M12*P1.75 18 deep	Ø38 M12*P1.75 18 deep	Ø38 M12*P1.75 18 deep
Outlet	Ø25 1/2"-13 UNC 18 deep	Ø25 M12*P1.75 18 deep	Ø25 M12*P1.75 18 deep	Ø25 M12*P1.75 18 deep
Drain port (L1/ L2)	1 1/16"-12 UNF	G 3/4"-14	PT 3/4"-14	M27*P2.0
Gauge port	7/16"-20 UNF	G 1/4"-19	PT 1/4"-19	M12*P1.5

Threads code: 3 & 7 are not standard, not it stock, specially fabricate.
Adoper is required in thread NO.:2.3.7 (Drain port)

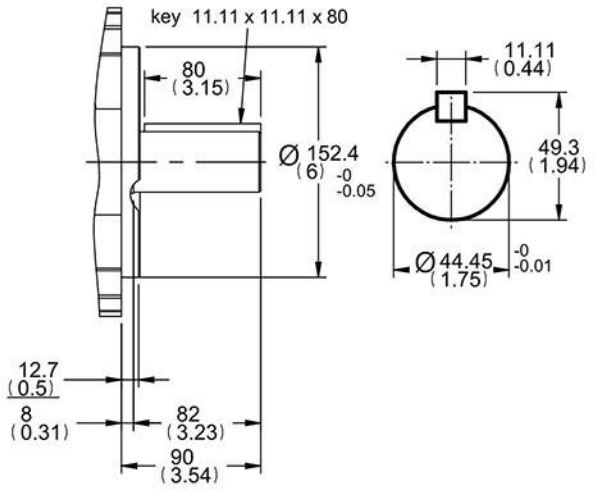
Dimension

PV063 ~ PV092, PV110, PV125 (Body 3)

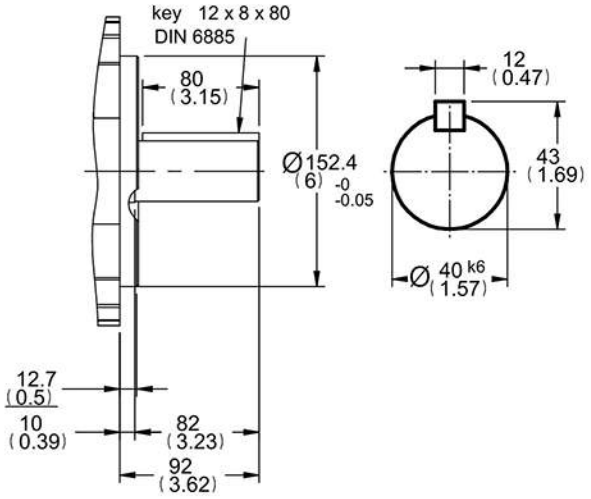
SAE version (motor mounting Ø152.4)

Shaft type

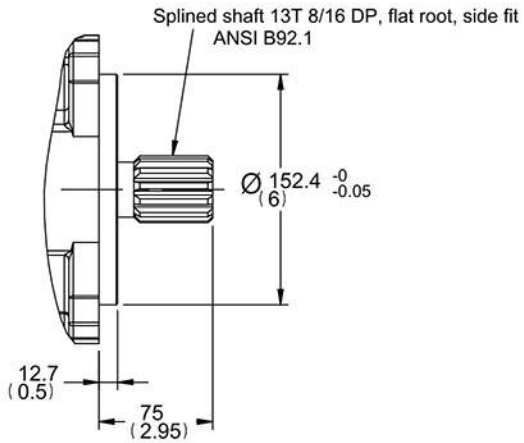
Mounting: N



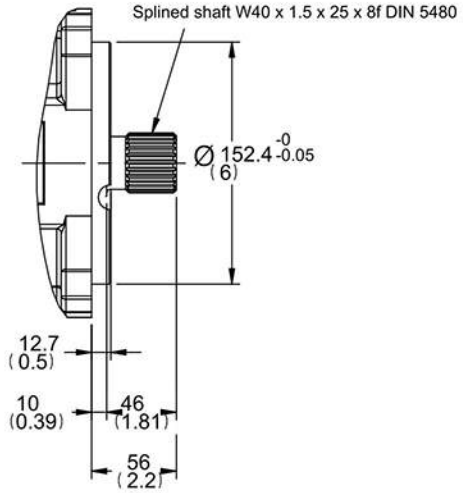
Mounting: J



Mounting: D



Mounting: U



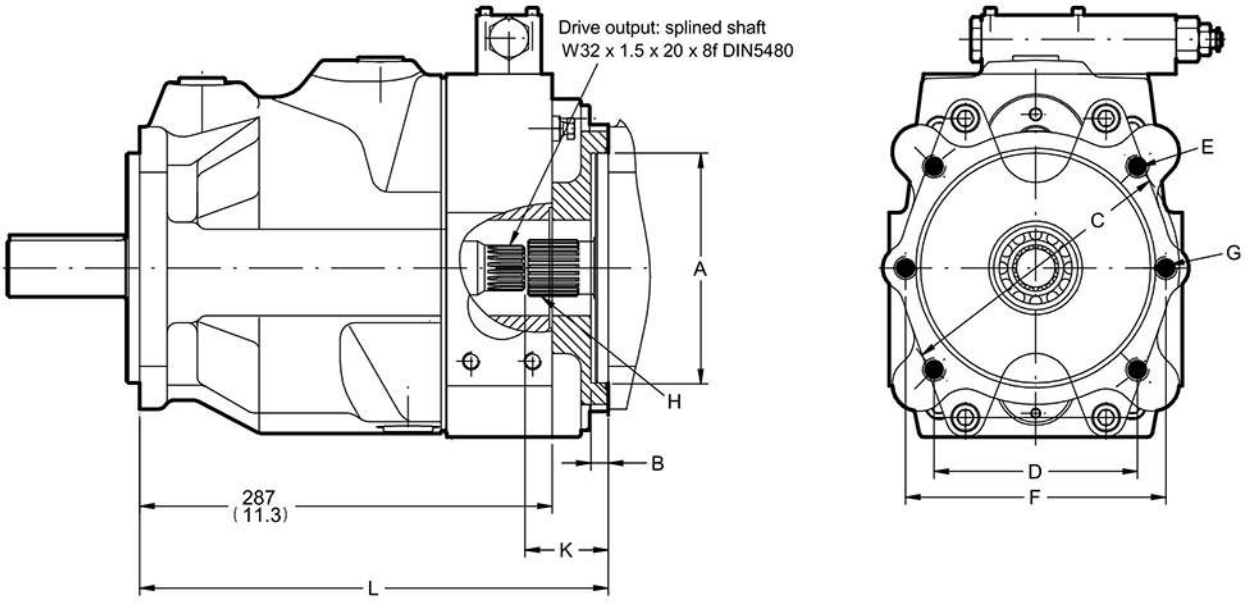
Dimension

YEOSHE

PV063 ~ PV092, PV110, PV125 (Body 3)

Thru drive

thru drive:
D, E, F, G, I, J, K, L, M



Thru shaft adaptors are available with the following dimensions:									
Thru code	A	B	C	D	E	F	G	K	L
I	63	10	85	-	M8	100	M8	58	326
J	80	10	103	-	M8	109	M10	58	326
K	100	12	125	-	M10	140	M12	58	326
L	125	12	160	-	M12	180	M16	58	326
M	160	12	200	-	M16	n. avail.	n. avail.	58	326
D	82.55	10	-	-	-	106	M10	58	326
E	101.6	12	-	89.8	M10	146	M12	58	326
F	127	14	-	114.5	M12	181	M16	58	326
G	152.4	14	-	161.6	M16	n. avail.	n. avail.	78	346

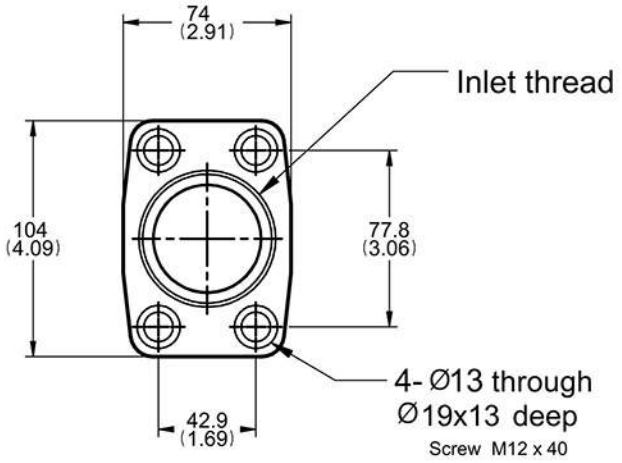
Thread codes are 3 and 7 the dimensions E and G are UNC-2B threads

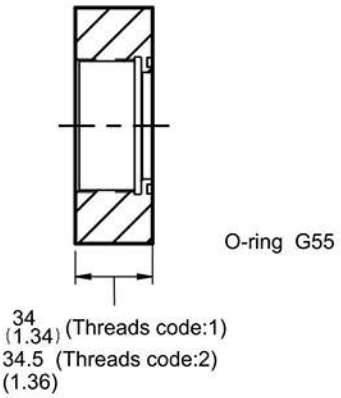
threads code: 3 and 7 Not standard, not in stock require special requests.

Dimension

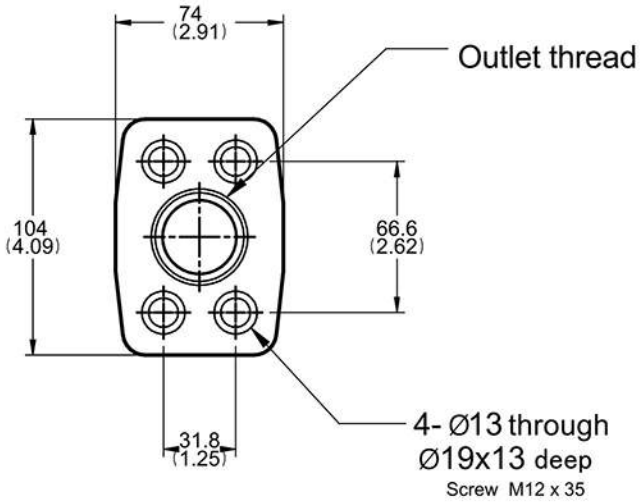
PV063 ~ PV092, PV110, PV125 (Body 3) Inlet / Outlet Flange

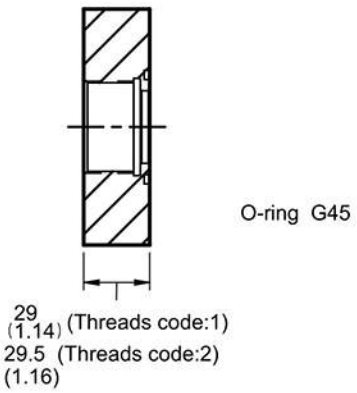
Inlet Flange





Outlet Flange



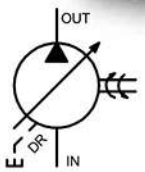


Ports

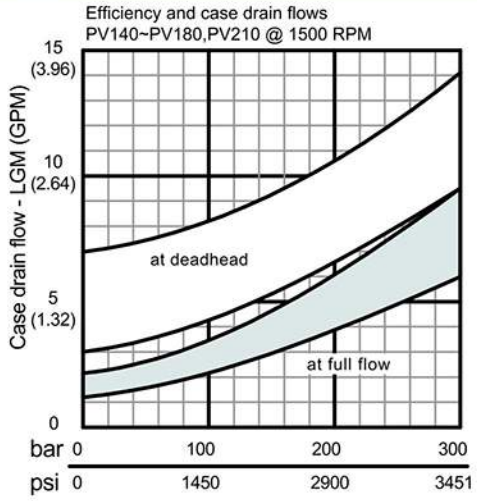
Thread code	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	2 1/2"-12 UN	G 2"-11	PT 2"-11	M33*P2.0
Outlet	1 5/8"-12 UN	G 1 1/4"-11	PT1 1/4"-11	M42*P2.0

Threads code: 3 & 7 are not standard, not it stock, specially fabricate.

Efficiency and case drain flows

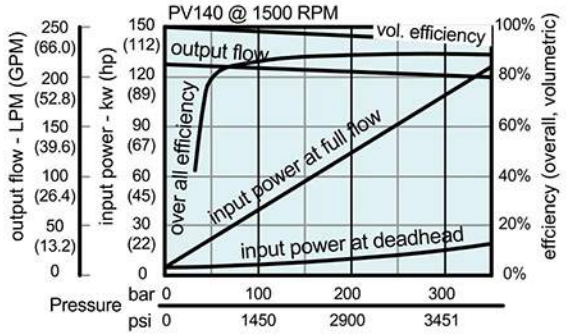


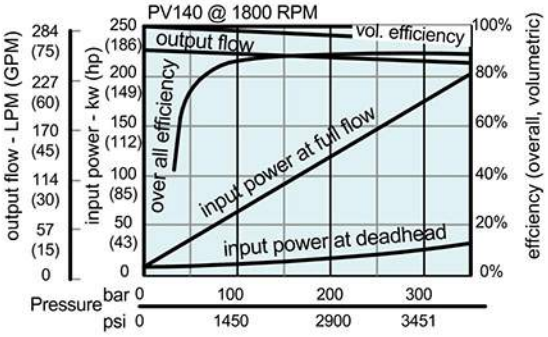
PV140 ~ PV180
PV210
(Body 4)

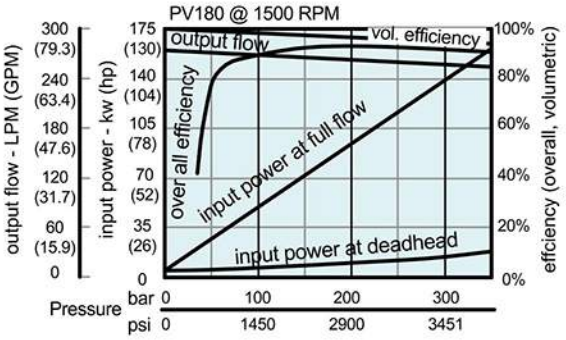


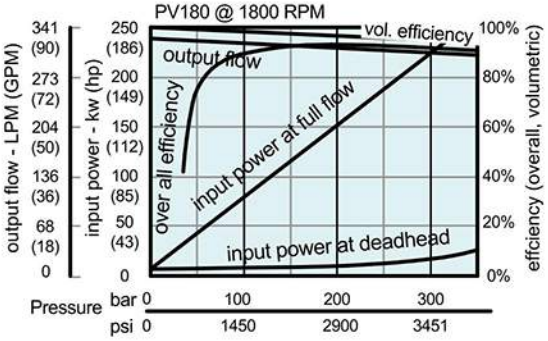
The efficiency and power graphs are measured at an input speed of n = 1500 RPM, a temperature of 40°C and a fluid viscosity of 46 mm2/s.
Case drain flow and compensator control flow leave via the drain port of the pump.
To the values shown are to be added 1 to 1.2 l/min , if at pilot operated compensators (codes G*, H*, P*, horse power compensator and p/Q*control) the control flow of the pressure pilot valve also goes through the pump.
Please note: The values shown below are only valid for static operation.

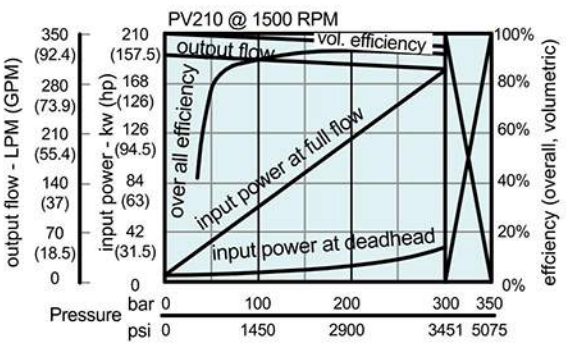
Under dynamic conditions and at rapid compensation of the pump the volume displaced by the servo piston also leaves the case drain port.
This dynamic control flow can reach up to 40 l/min! Therefore the case drain line is to lead to the reservoir at full size and without restrictions as short and direct as possible.

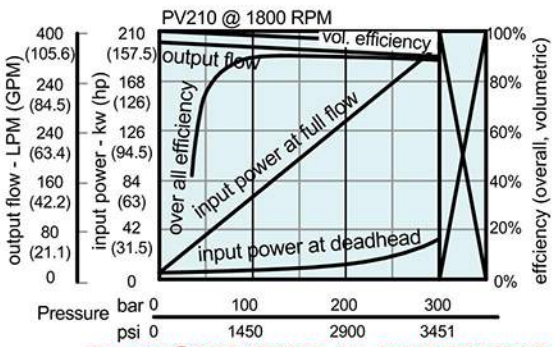








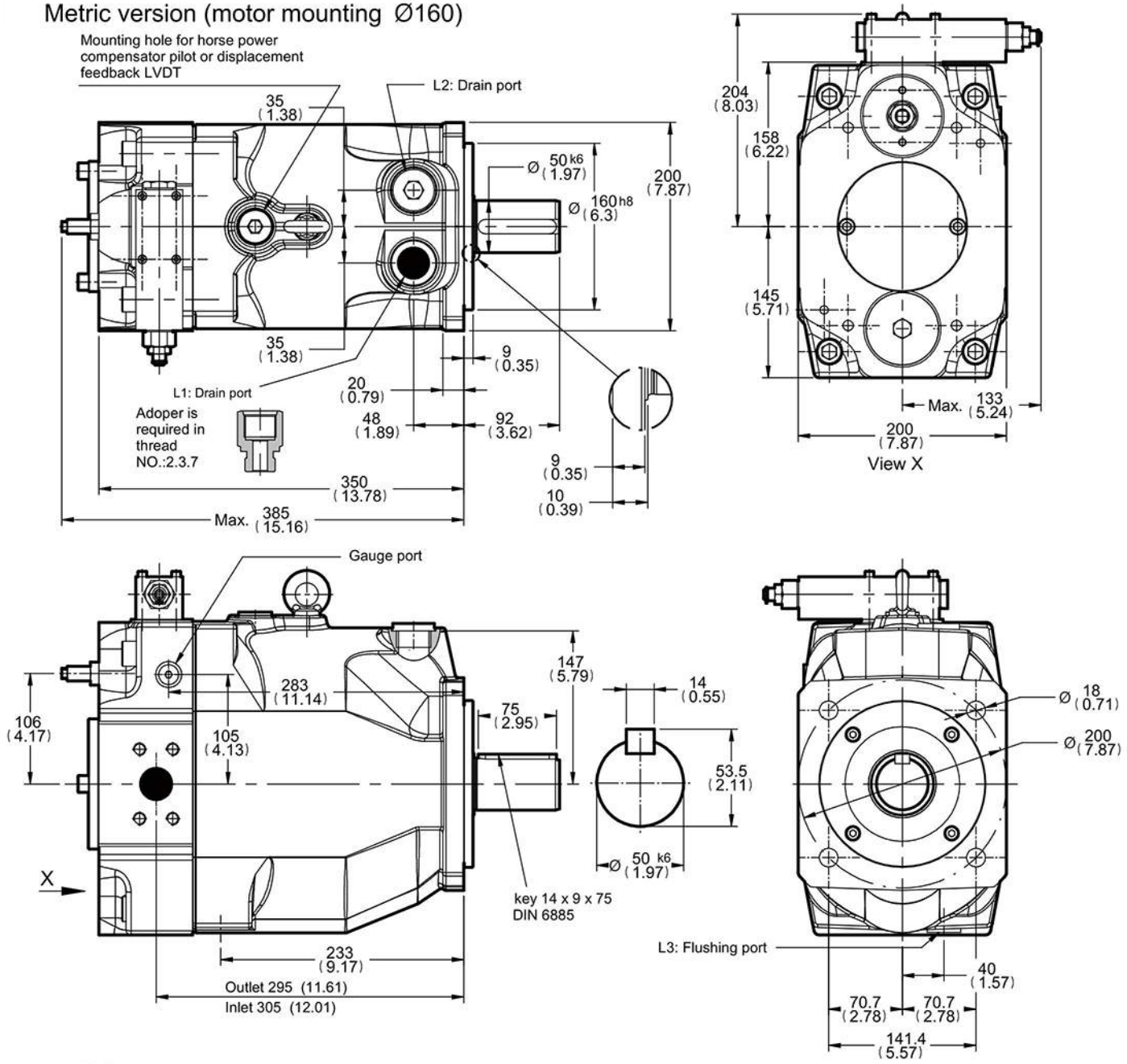


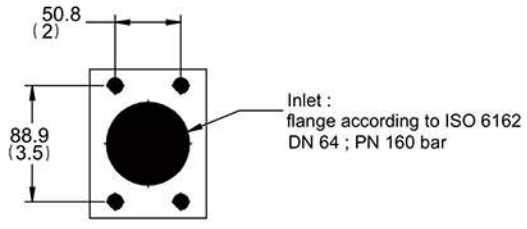


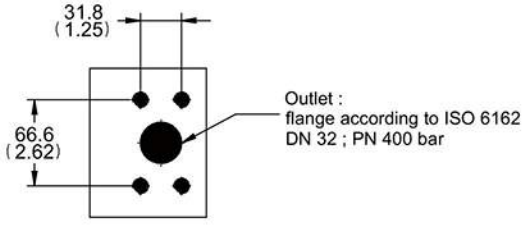
Dimension

PV140 ~ PV180, PV210 (Body 4)

Metric version (motor mounting Ø160)







Ports

Thread	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	Ø64 1/2"-13 UNC 20 deep	Ø64 M12*P1.75 20 deep	Ø64 M12*P1.75 20 deep	Ø64 M12*P1.75 20 deep
Outlet	Ø32 1/2"-13 UNC 20 deep	Ø32 M12*P1.75 20 deep	Ø32 M12*P1.75 20 deep	Ø32 M12*P1.75 20 deep
Drain port (L1/ L2)	1 5/16"-12 UNF	G 1"-11	PT 1"-11	M33*P2.0
L3	1 1/16"-12 UNF	G 3/4"-14	PT 3/4"-14	M27*P2.0
Gauge port	7/16"-20 UNF	G 1/4"-19	PT 1/4"-19	M12*P1.5

threads code: 3 & 7 are not standard, not it stock, specially fabricate.
Adoper is required in thread NO.:2.3.7 (Drain port)

Dimension

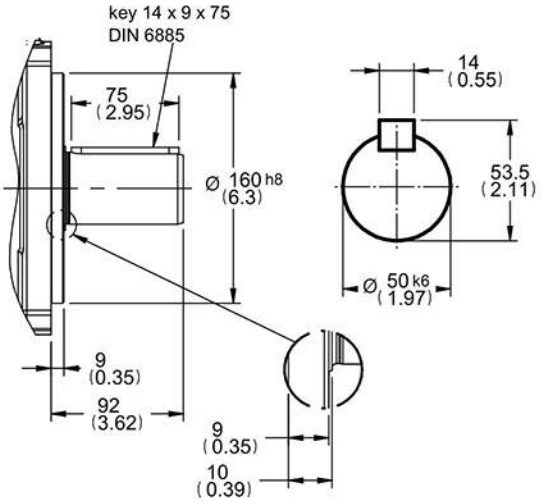
YEOSHE

PV140 ~ PV180, PV210 (Body 4)

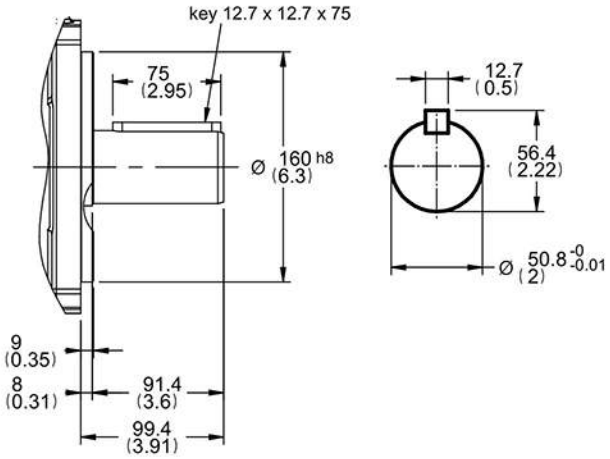
Metric version (motor mounting Ø160)

Shaft type

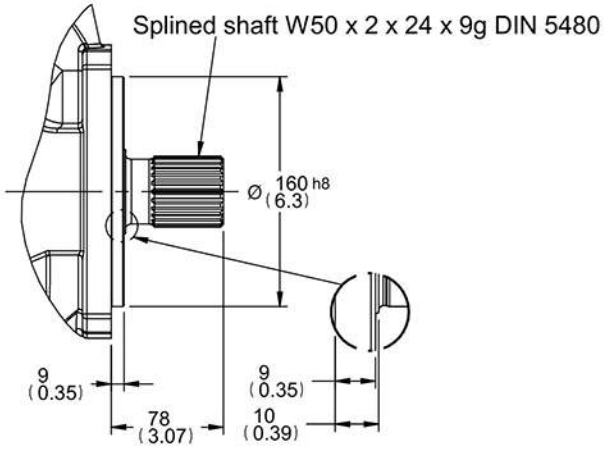
Mounting code: M



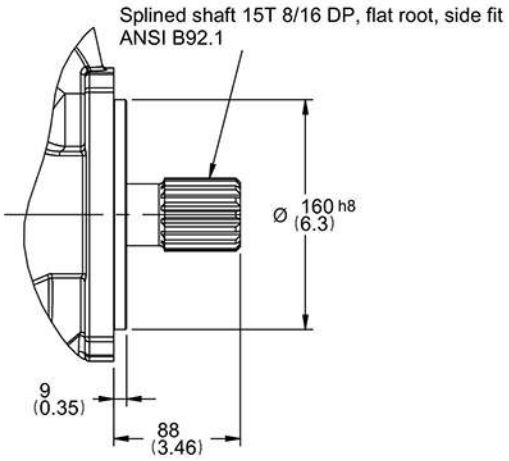
Mounting code: R



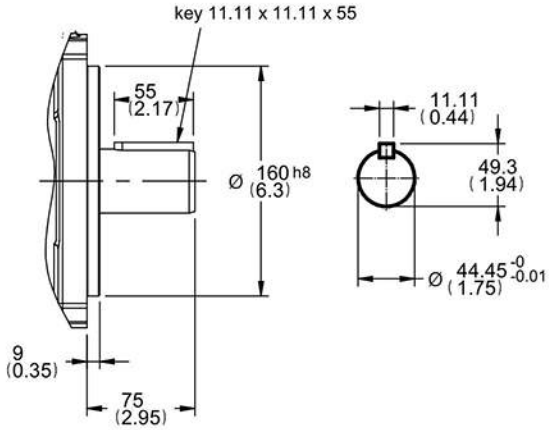
Mounting code: K



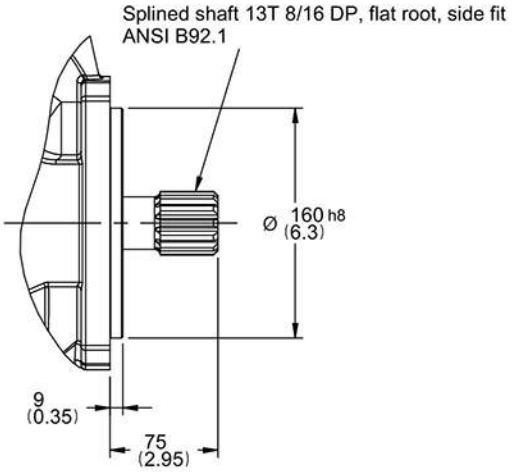
Mounting code: S



Mounting code: Q



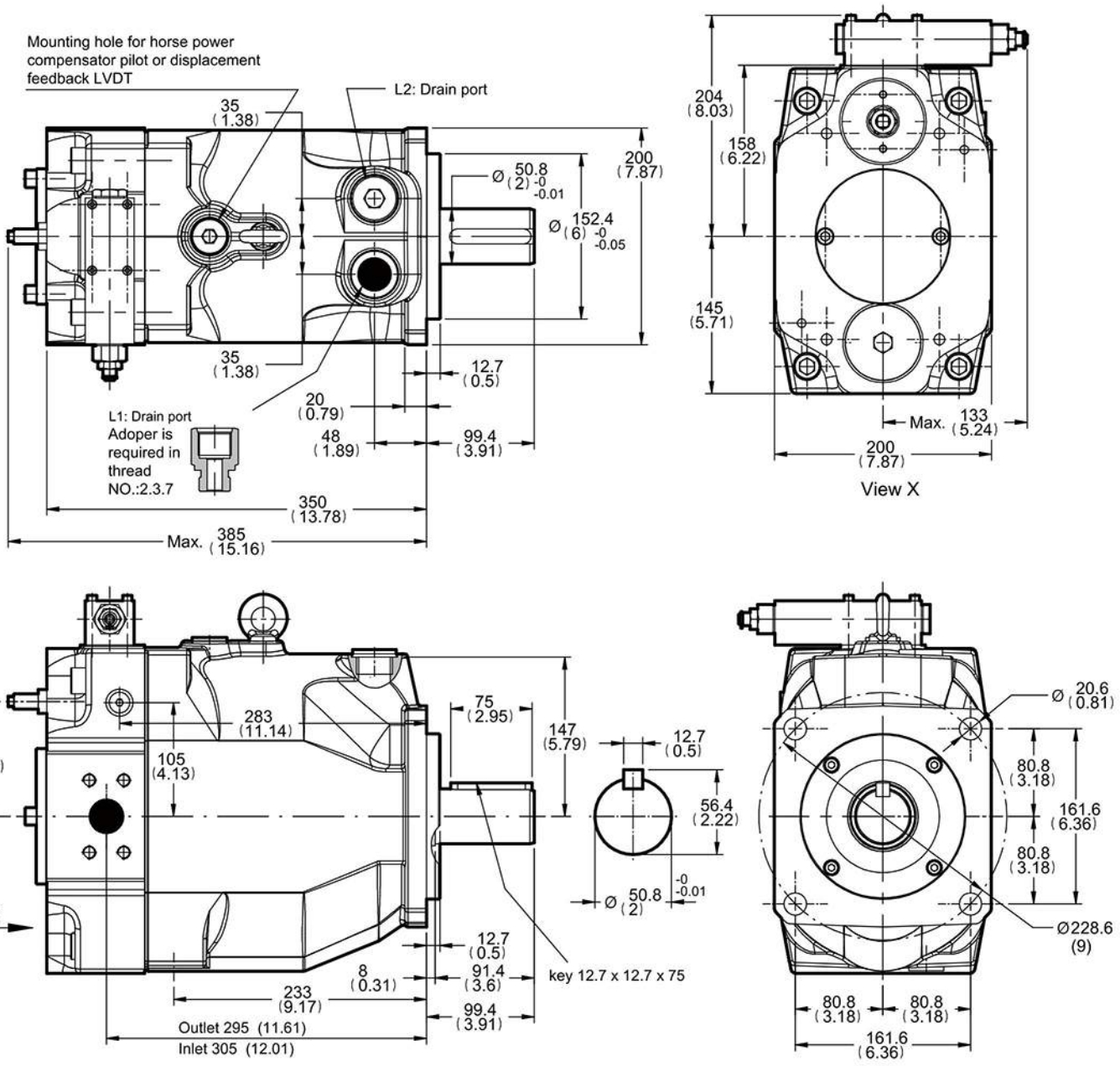
Mounting code: P

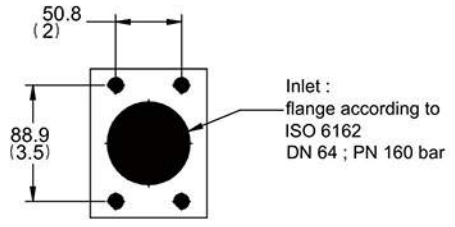


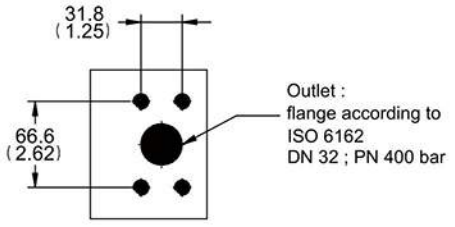
Dimension

PV140 ~ PV180, PV210 (Body 4)

SAE version (motor mounting Ø152.4)







Ports

Thread	1 BSPP(G)	2 PT(RC)	3 UNF(SAE)	7 ISO 6149(M)
Inlet	Ø64 M12*P1.75 20 deep	Ø64 M12*P1.75 20 deep	Ø64 1/2"-13 UNC 20 deep	Ø64 M12*P1.75 20 deep
Outlet	Ø32 M12*P1.75 20 deep	Ø32 M12*P1.75 20 deep	Ø32 1/2"-13 UNC 20 deep	Ø32 M12*P1.75 20 deep
Drain port (L1/ L2)	G 1"-11	PT 1"-11	1 5/16"-12 UNF	M33*P2.0
L3	G 3/4"-14	PT 3/4"-14	1 1/16"-12 UNF	M27*P2.0
Gauge port	G 1/4"-19	PT 1/4"-19	7/16"-20 UNF	M12*P1.5

threads code: 3 & 7 are not standard, not it stock, specially fabricate.
Adoper is required in thread NO.:2.3.7 (Drain port)

Dimension

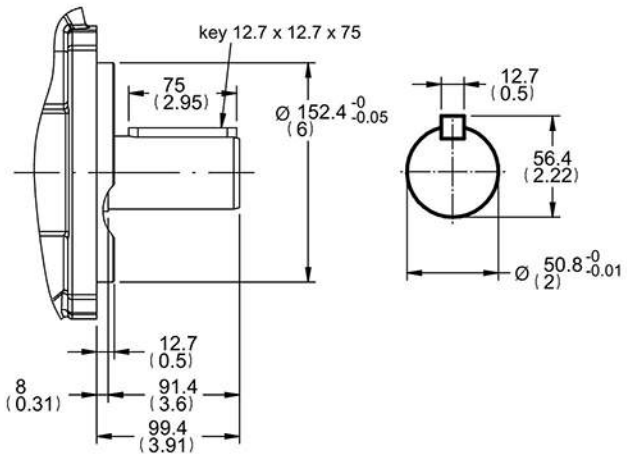
YEOSHE

PV140 ~ PV180, PV210 (Body 4)

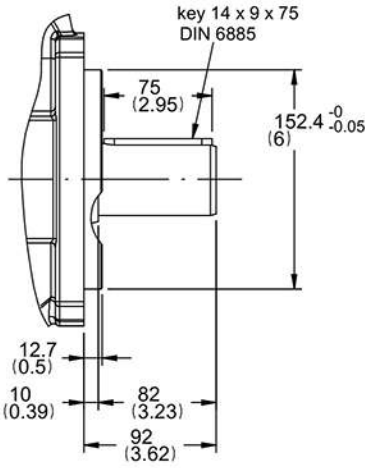
SAE version(motor mounting Ø152.4)

Shaft type

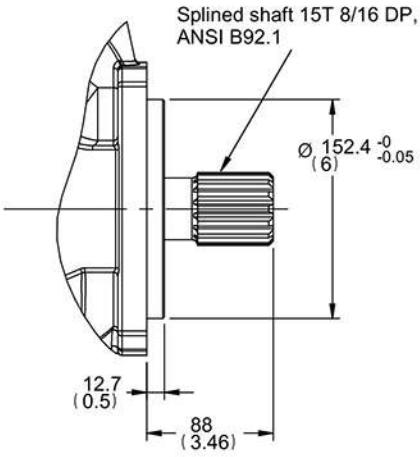
Mounting code: N



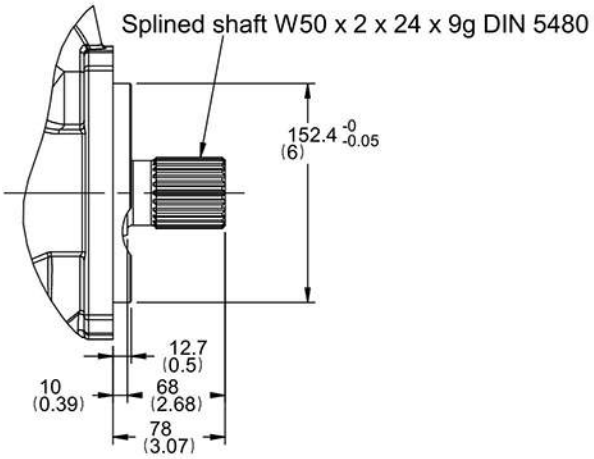
Mounting code: J



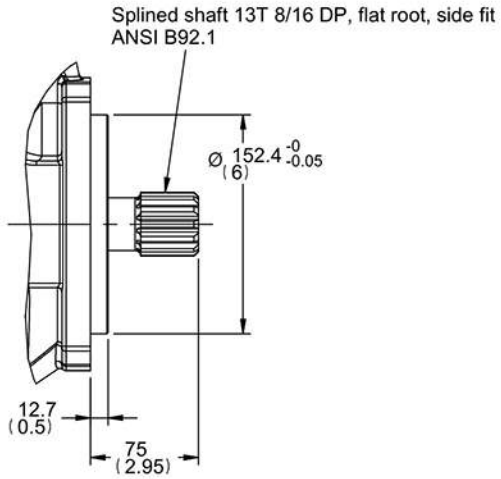
Mounting code: D



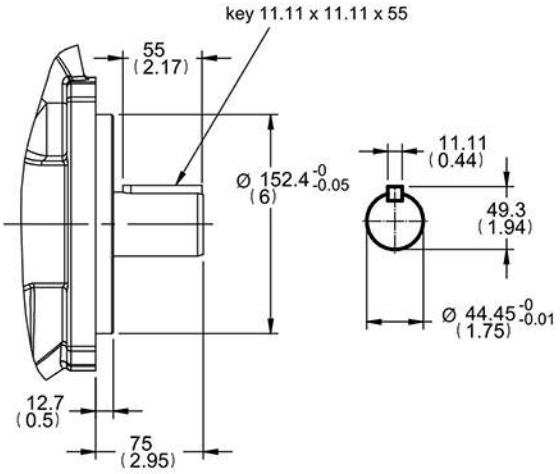
Mounting code: U



Mounting code: G



Mounting code: F

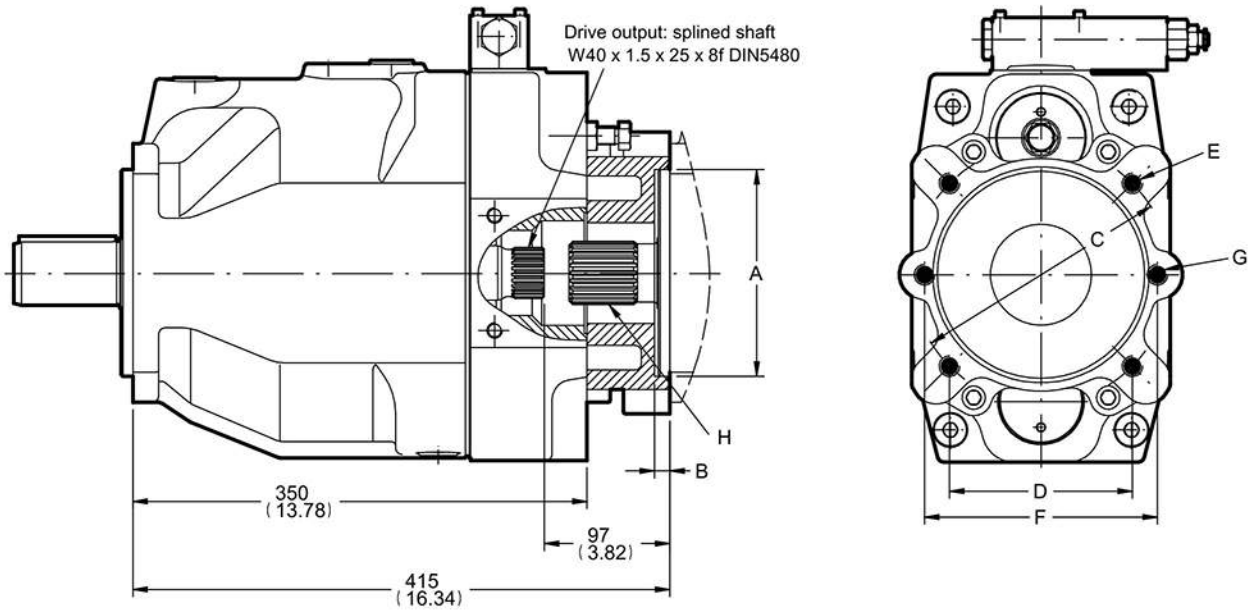


Dimension

PV140 ~ PV180, PV210 (Body 4)

Thru drive

Thru drive:
D, E, F, G, J, K, L, M



Thru shaft adaptors are available with the following dimensions:							
thru code	A	B	C	D	E	F	G
J	80	10	103	-	M8	109	M10
K	100	12	125	-	M10	140	M12
L	125	12	160	-	M12	180	M16
M	160	12	200	-	M16	n. avail.	n. avail.
D	82.55	10	-	-	-	106	M10
E	101.6	12	-	89.8	M10	146	M12
F	127	14	-	114.5	M12	181	M16
G	152.4	14	-	161.6	M16	n. avail.	n. avail.

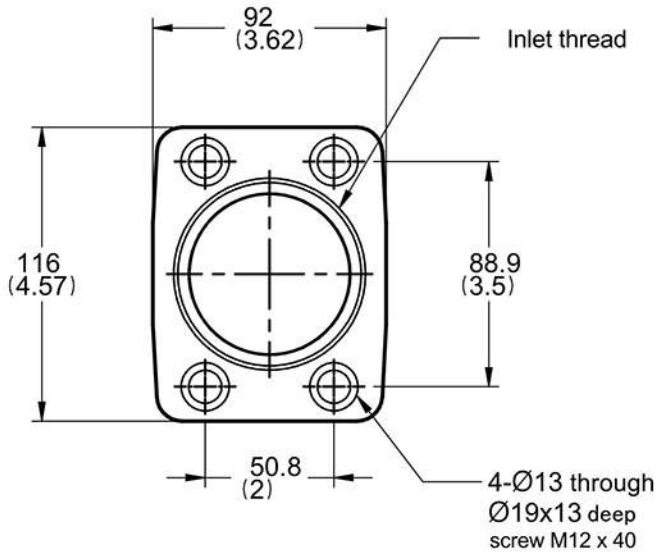
Thread codes are 3 and 7 the dimensions E and G are UNC-2B threads

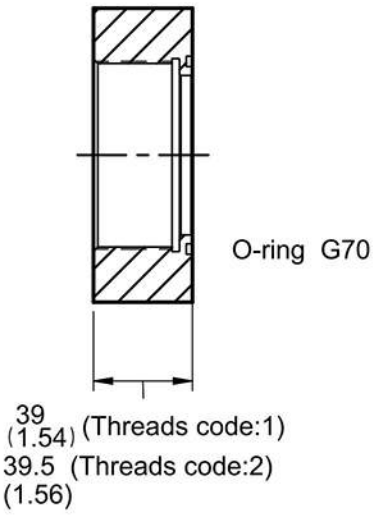
threads code: 3 and 7 Not standard, not in stock require special requests.

Dimension

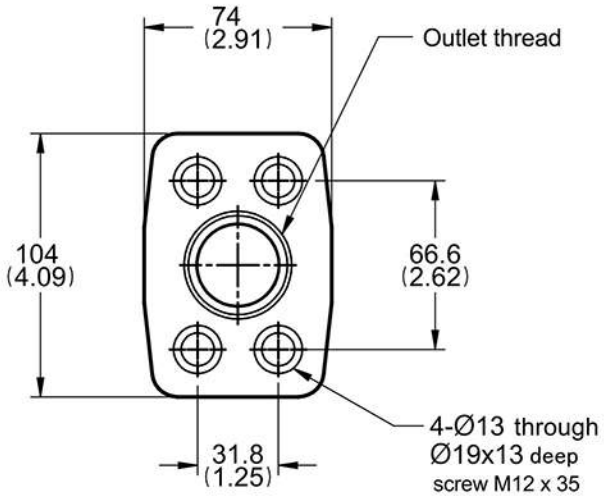
PV140 ~ PV180, PV210 (Body 4) Inlet / Outlet Flange

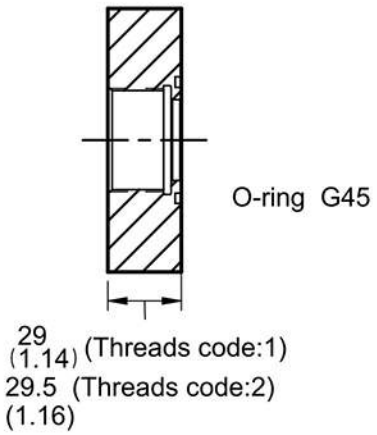
Inlet Flange





Outlet Flange



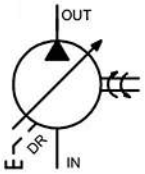


Ports

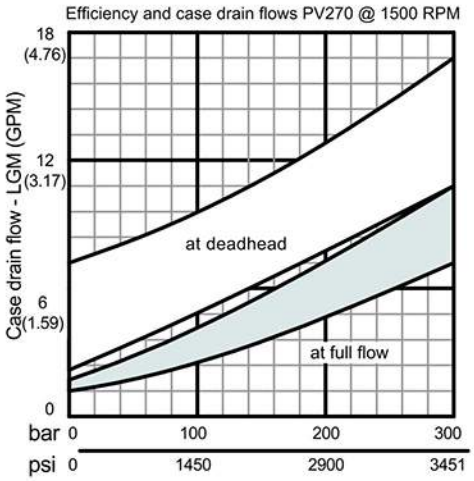
Thread code	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	Welding	G 2 1/2"-11	PT 2 1/2"-11	Welding
Outlet	1 5/8"-12 UN	G 1 1/4"-11	PT 1 1/4"-11	M42*P2.0

threads code: 3 & 7 are not standard, not it stock, specially fabricate.

Efficiency and case drain flows

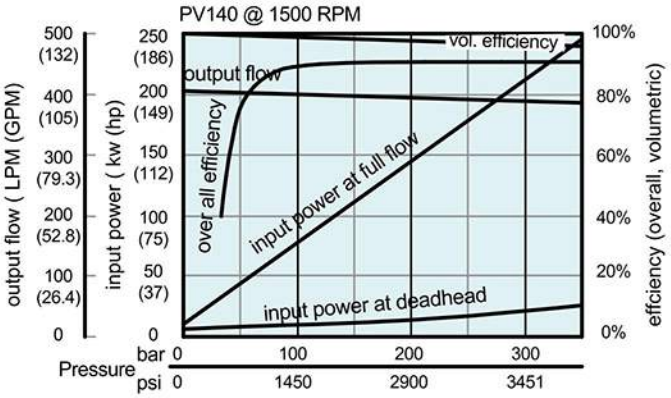


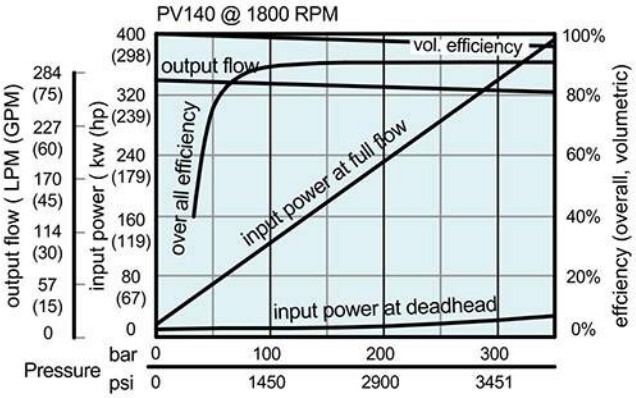
PV270 (Body 5)



The efficiency and power graphs are measured at an input speed of n = 1500 RPM, a temperature of 40°C and a fluid viscosity of 46 mm2/s.
Case drain flow and compensator control flow leave via the drain port of the pump.
To the values shown are to be added 1 to 1.2 l/min , if at pilot operated compensators (codes G*, H*, P*, horse power compensator and p/Q(control) the control flow of the pressure pilot valve also goes through the pump.

Please note: The values shown below are only valid for static operation.
Under dynamic conditions and at rapid compensation of the pump the volume displaced by the servo piston also leaves the case drain port.
This dynamic control flow can reach up to 120 l/min!
Therefore the case drain line is to lead to the reservoir at full size and without restrictions as short and direct as possible.

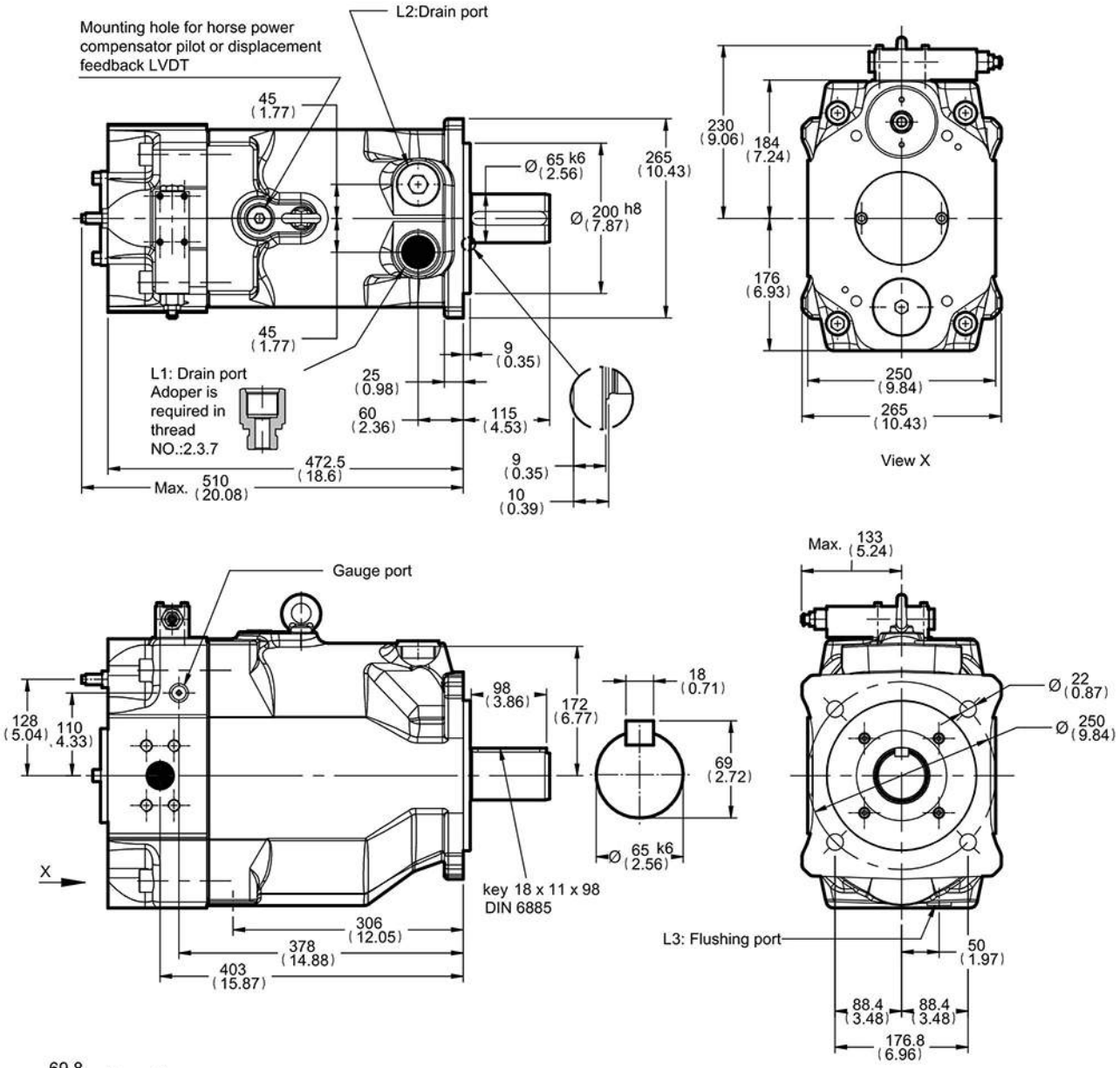


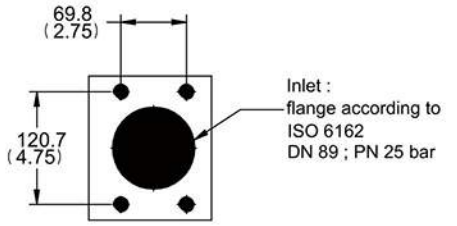


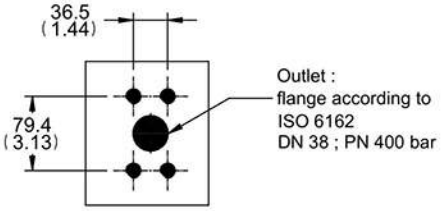
Dimension

PV270 (Body5)

Metric version (motor mounting Ø200)







Ports

Thread	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	Ø88 5/8"-11 UNC 32 deep	Ø88 M16*P2.0 32 deep	Ø88 M16*P2.0 32 deep	Ø88 M16*P2.0 32 deep
Outlet	Ø38 5/8"-11 UNC 32 deep	Ø38 M16*P2.0 32 deep	Ø38 M16*P2.0 32 deep	Ø38 M16*P2.0 32 deep
Drain port (L1/ L2)	1 5/8"-12 UNF	G 1 1/4"-11	PT 1 1/4"-11	M42*P2.0
L3	1 1/16"-12 UNF	G 3/4"-14	PT 3/4"-14	M27*P2.0
Gauge port	7/16"-20 UNF	G 1/4"-19	PT 1/4"-19	M12*P1.5

threads code: 3 & 7 are not standard, not it stock, specially fabricate.
Adoper is required in thread NO.:2.3.7 (Drain port)

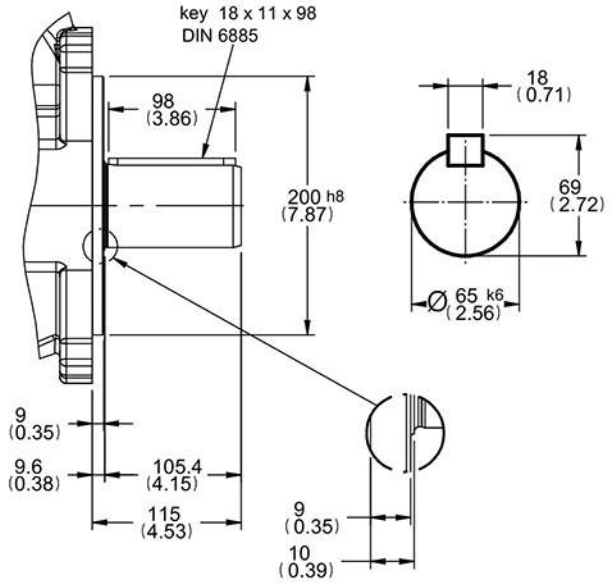
Dimension

PV270 (Body 5)

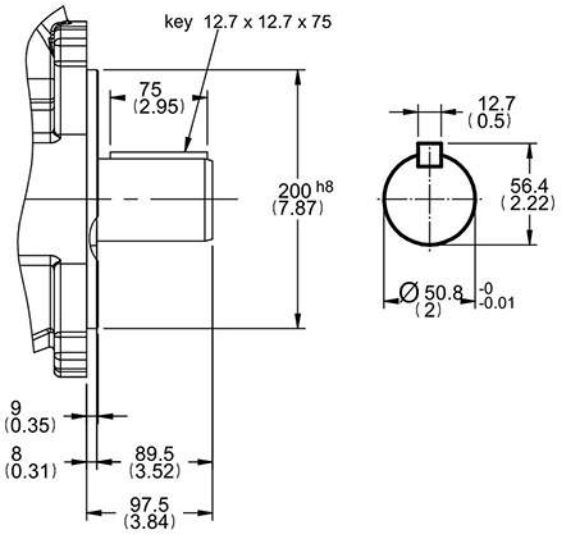
Metric version (motor mounting Ø200)

Shaft type

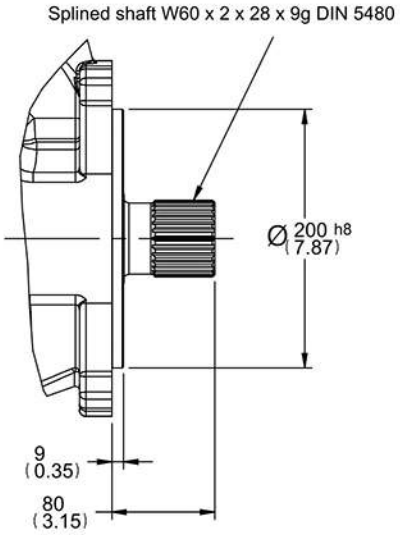
Mounting code: M



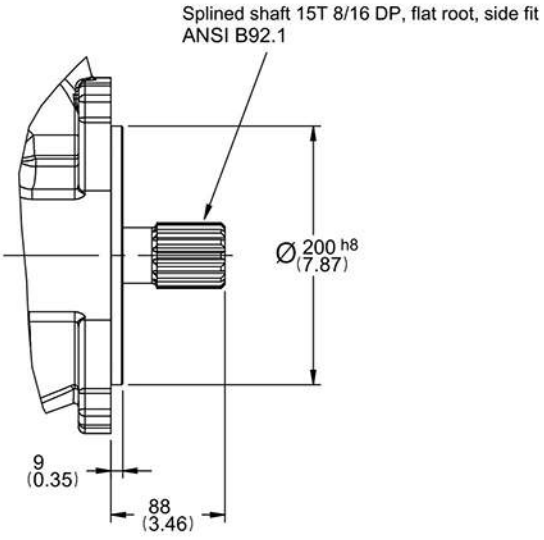
Mounting code: R



Mounting code: K



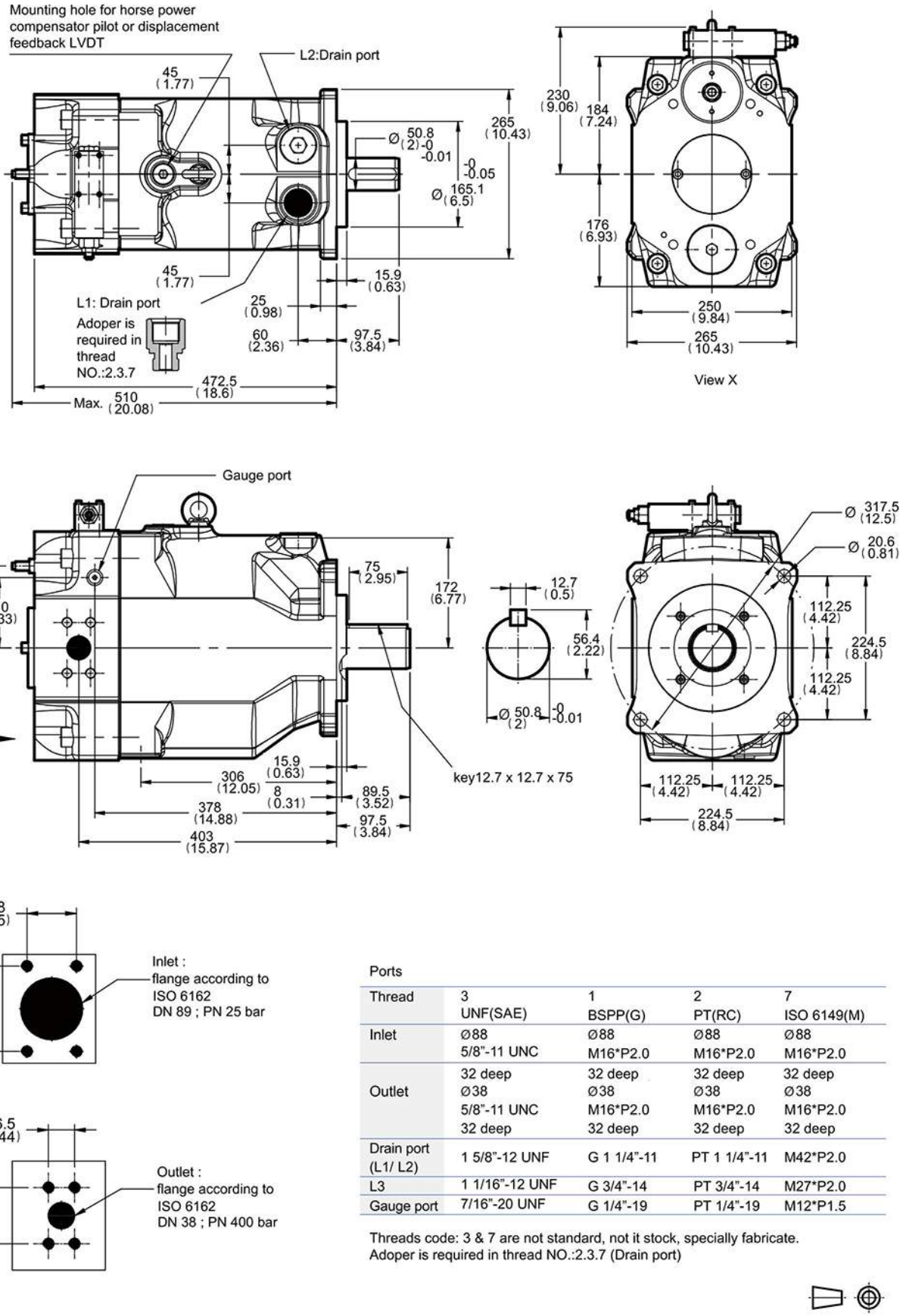
Mounting code: S



Dimension

PV270 (Body 5)

SAE version (motor mounting Ø165.1)



Ports

Thread	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	Ø88 5/8"-11 UNC	Ø88 M16*P2.0	Ø88 M16*P2.0	Ø88 M16*P2.0
Outlet	32 deep Ø38 5/8"-11 UNC 32 deep	32 deep Ø38 M16*P2.0 32 deep	32 deep Ø38 M16*P2.0 32 deep	32 deep Ø38 M16*P2.0 32 deep
Drain port (L1/ L2)	1 5/8"-12 UNF	G 1 1/4"-11	PT 1 1/4"-11	M42*P2.0
L3	1 1/16"-12 UNF	G 3/4"-14	PT 3/4"-14	M27*P2.0
Gauge port	7/16"-20 UNF	G 1/4"-19	PT 1/4"-19	M12*P1.5

Threads code: 3 & 7 are not standard, not it stock, specially fabricate.
Adoper is required in thread NO.:2.3.7 (Drain port)

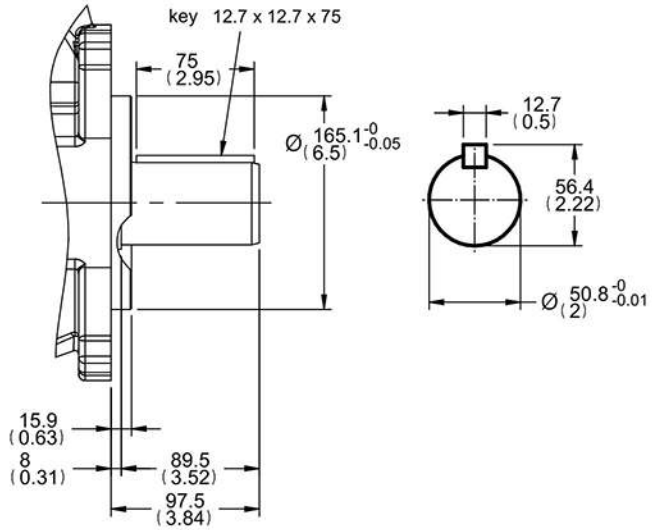
Dimension

PV270 (Body 5)

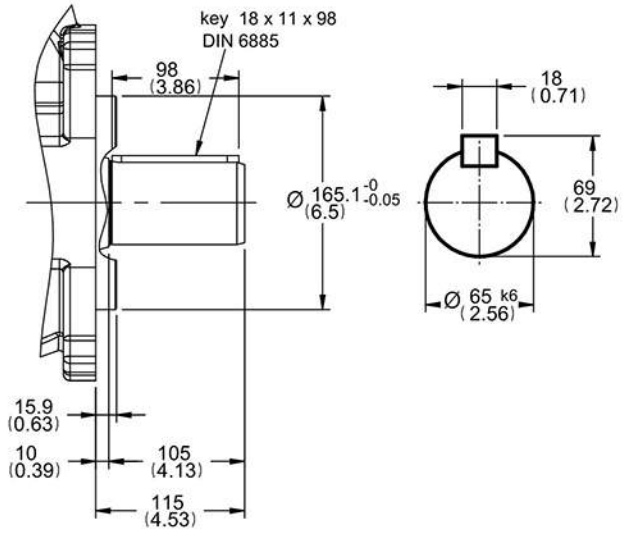
SAE version(motor mounting Ø165.1)

Shafe type

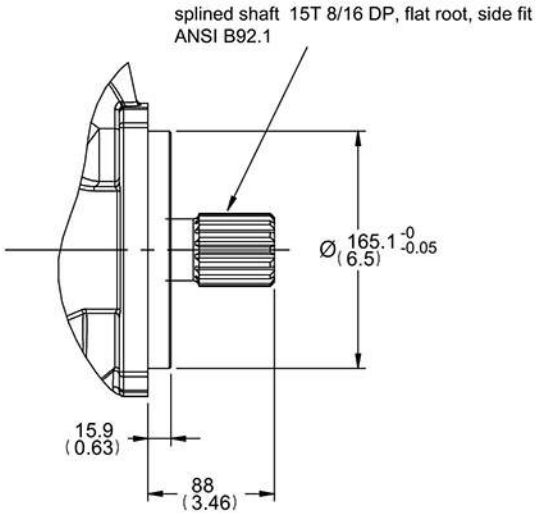
Mounting code: N



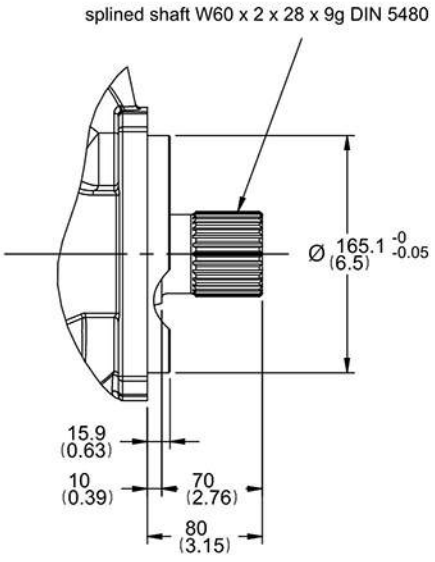
Mounting code: J



Mounting code: D



Mounting code: U



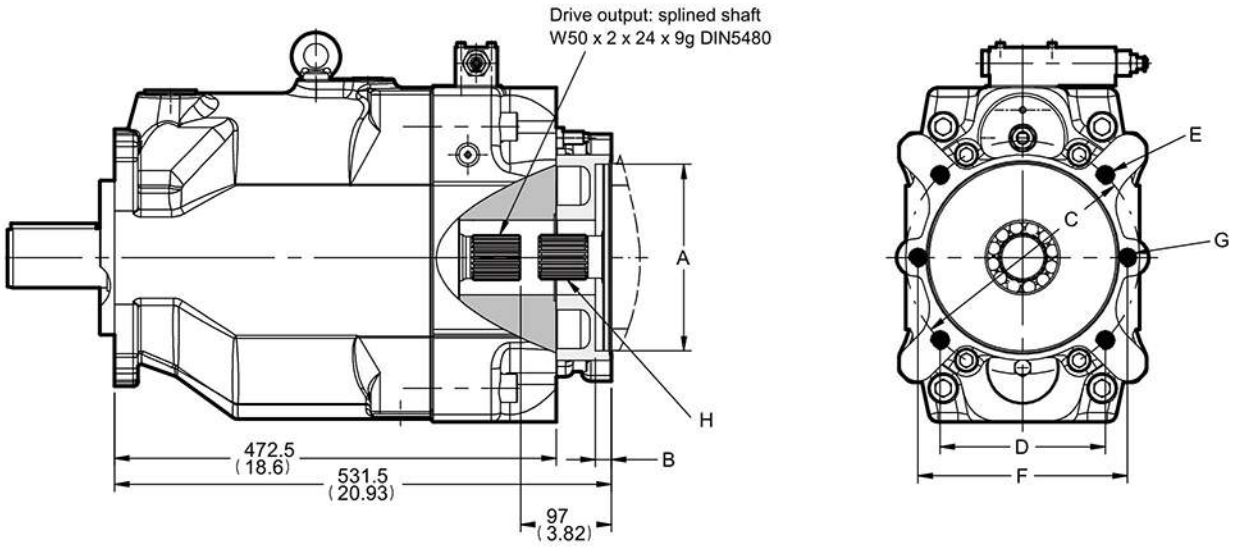
Dimension

YEOSHE

PV270 (Body 5)

Thru drive

thru drive:
D, E, F, G, H, J, K, L, M, N



Thru shaft adaptors are available with the following dimensions:							
thru code	A	B	C	D	E	F	G
J	80	8.5	103	-	M8	109	M10
K	100	10.5	125	-	M10	140	M12
L	125	10.5	160	-	M12	180	M16
M	160	13.5	200	-	M16	224	M20
N	200	13.5	250	-	M20	n. avail.	n. avail.
D	82.55	8	-	-	-	106	M10
E	101.6	11	-	89.8	M10	146	M12
F	127	13.5	-	114.5	M12	181	M16
G	152.4	13.5	-	161.6	M16	229	M20
H	165.1	17	-	224.5	M20	n. avail.	n. avail.

Thread codes are 3 and 7 the dimensions E and G are UNC-2B threads

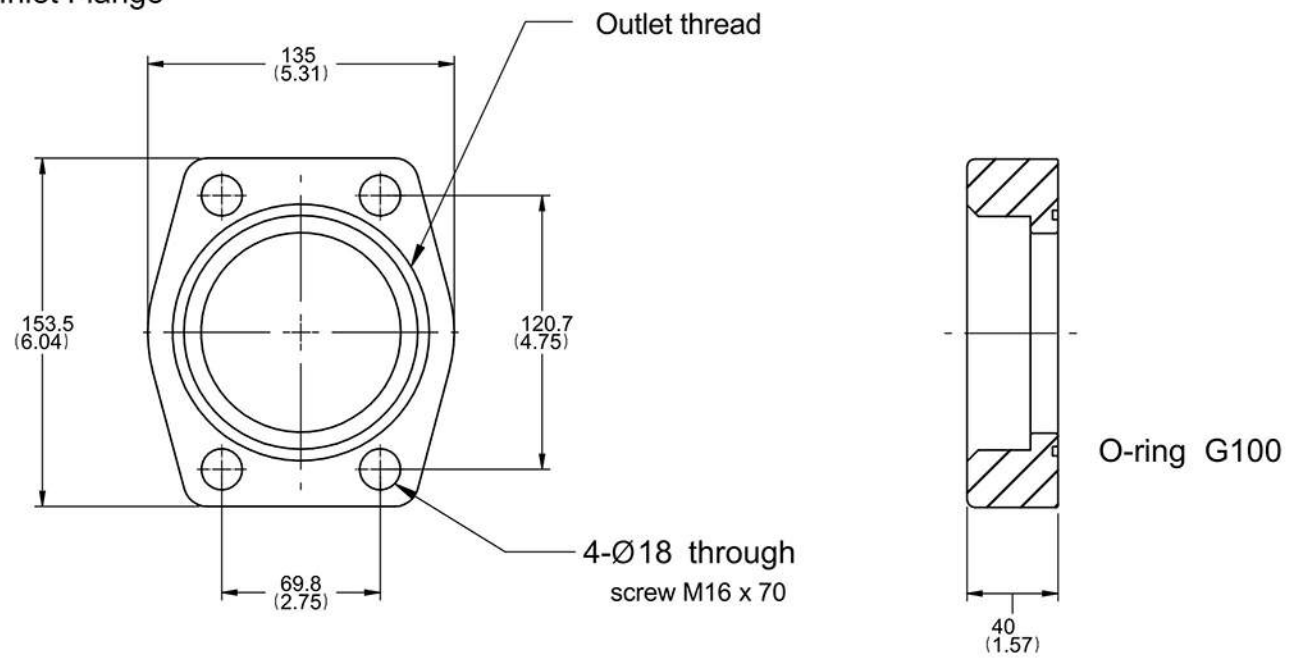
threads code: 3 and 7 Not standard, not in stock require special requests.

Dimension

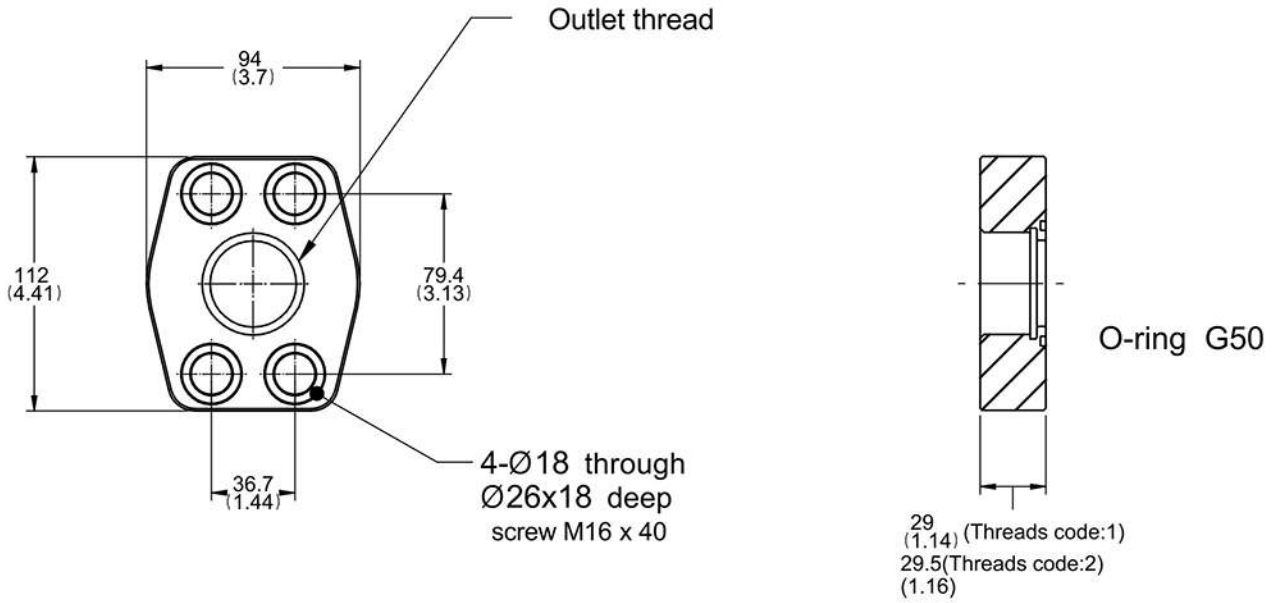
PV270 (Body 5) Inlet / outlet Flange

Thru drive

Inlet Flange



Outlet Flange

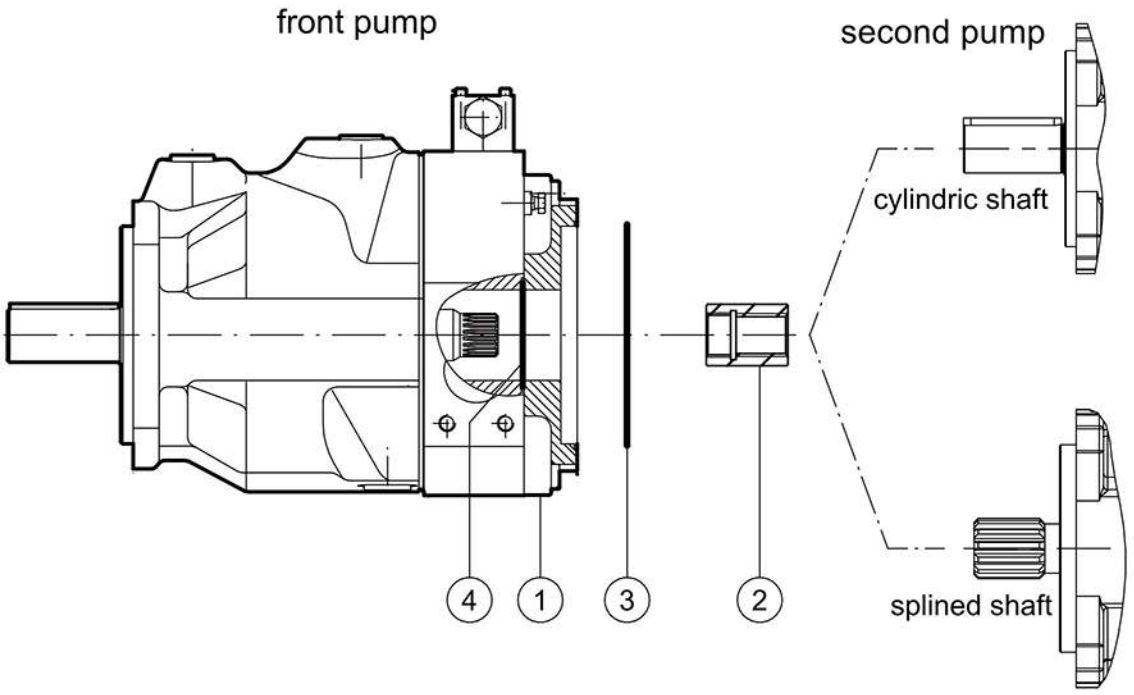


Ports

Thread code	3 UNF(SAE)	1 BSPP(G)	2 PT(RC)	7 ISO 6149(M)
Inlet	welding 3 1/2"			
Outlet	1 7/8"-12 UN	G 1 1/2"-11	PT 1 1/2"-11	M48*P2.0

Threads code: 3 & 7 are not standard, not it stock, specially fabricate.

Pump combination



NO.	Name
1	adapter
2	coupling
3	front pump o-ring
4	second pump o-ring

Order code refers to next page

Pump combination

② coupling
order no.

second pump		fornt pump Size				
second pump shaft	model	Body 1 (PV016~023, PV028)	Body 2 (PV032~046, 056,065)	Body 3 (PV063~092, 110,125)	Body 4 (PV140~180, 210)	Body 5 (PV270)
SAE splined shaft						
9T 16/32 DP		4A505032	4A505037	4A505051	4A505058	4A505069
11T 16/32 DP		--	--	--	--	--
13T 16/32 DP		4A505033	4A505034	4A505047	4A505059	4A505070
15T 16/32 DP	(PV016~023,PV028) (PV032~046,056,065)	--	4A505040	4A505120	4A505060	4A505071
14T 12/24 DP	(PV032~046,056,065)	--	4A505036	4A505052	4A505061	4A505072
17T 12/24 DP		--	--	--	--	--
13T 8/16 DP	(PV063~092,110,125) (PV140~180,210)	--	--	--	4A505062	4A505073
15T 8/16 DP	(PV140~180,210) (PV270)	--	--	--	4A505063	4A505074
splined shaft DIN 5480						
15T W25x1.5x15	(PV016~023,PV028)	4A505031	4A505038	4A505049	4A505057	4A505068
20T W32x1.5x20	(PV032~046,056,065)	--	4A505039	4A505048	4A505056	4A505067
25T W40x1.5x25	(PV063~092,110,125)	--	--	4A505050	4A505055	4A505066
24T W50x2.0x24	(PV140~180,210)	--	--	--	4A505054	4A505065
28T W60x2.0x28	(PV270)	--	--	--	--	4A505075
cylindric shaft						
ø19.05*4.76		--	--	--	--	--
ø22.22*4.76		--	4A505042	4A505043	4A505053	4A505064
ø22.22*6.35		--	4A505042	4A505043	4A505053	4A505064
ø25.4*6.35	(PV016~023,PV028)	--	4A505041	--	--	--
ø31.75*7.94	(PV032~046,056,065)	--	--	--	--	--
ø44.45*11.11	(PV063~092,110,125) (PV140~180,210)	--	--	--	--	--
ø50.8*12.7	(PV140~180,210) (PV270)	--	--	--	--	--
cylindric shaft						
ø25*8	(PV016~023,028)	--	4A505035	--	--	--
ø32*10	(PV032~046,056,065)	--	--	--	--	--
ø40*12	(PV063~092,110,125)	--	--	--	--	--
ø50*14	(PV140~180,210)	--	--	--	--	--
ø65*18	(PV270)	--	--	--	--	--

Pump combination

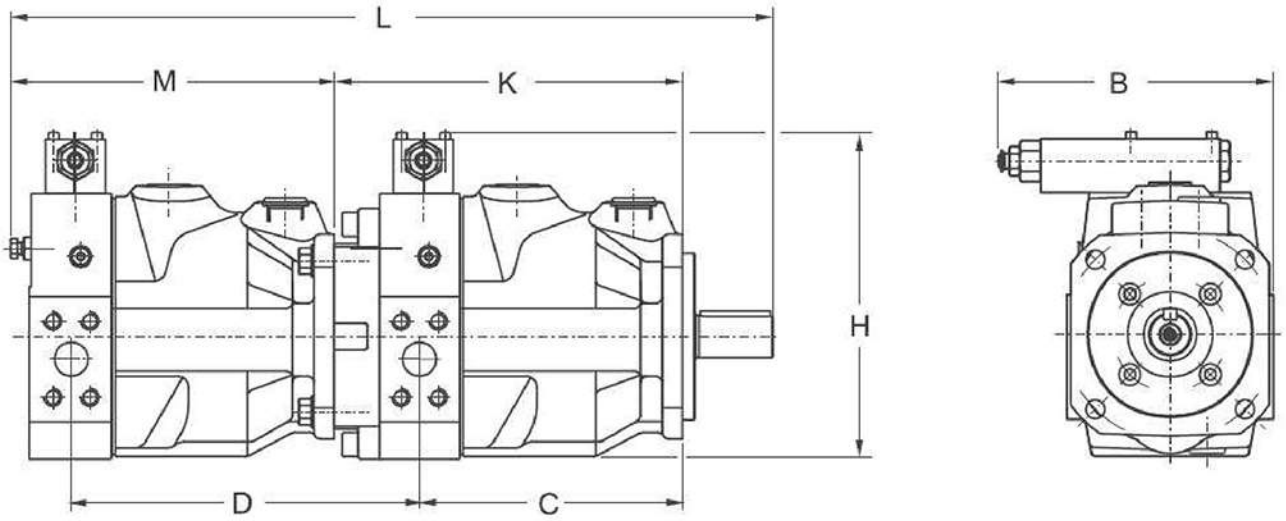
YEOSHE

order no.

			①	③	④
Fornt pump	Thru drive code		Adapter	Fornt pump o-ring	Second pump o-ring
Body 1 (PV016~023,028)	I	φ63	4A504012	3AAA1BA134	3AAC1AA065
	J	φ80	4A504013	3AAA1BA134	3AAC1AA085
	K	φ100	4A504014	3AAA1BA134	3AAC1AA105
	C	φ50.8	4A504015	3AAA1BA134	3AAC1AA055
	D	φ82.55	4A504016	3AAA1BA134	3AAC1AA085
	E	φ101.6	4A504017	3AAA1BA134	3AAC1AA105
Body 2 (PV032~046,056,065)	I	φ63 (261L)	--	3AAA1BA146	--
	J	φ80 (261L)	--	3AAA1BA146	3AAD1AA080
	K	φ100 (261L)	4A504023	3AAA1BA146	3AAD1AA100
	L	φ125 (261L)	4A504024	3AAA1BA146	3AAD1AA125
	D	φ82.55 (261L)	4A504020	3AAA1BA146	3AAD1AA085
	E	φ101.6 (261L)	4A504021	3AAA1BA146	3AAD1AA100
	S	φ101.6 (276L)	4A504018	3AAA1BA146	3AAD1AA100
	F	φ127 (276L)	4A504019	3AAA1BA146	3AAD1AA130
Body 3 (PV063~092,110,125)	I	φ63	--	3AAA1BA146	--
	J	φ80	4A504030	3AAA1BA146	3AAD1AA080
	K	φ100	4A504031	3AAA1BA146	3AAD1AA100
	L	φ125	4A504032	3AAA1BA146	3AAD1AA125
	M	φ160	4A504033	3AAA1BA146	3AAF1AA316
	D	φ82.55	4A504025	3AAA1BA146	3AAD1AA085
	E	φ101.6	4A504026	3AAA1BA146	3AAD1AA100
	F	φ127	4A504027	3AAA1BA146	3AAD1AA130
	G	φ152.4	4A504028	3AAA1BA146	3AAA1AA163
Body 4 (PV140~180,210)	J	φ80	4A504039	3AAA1BA153	3AAD1AA080
	K	φ100	4A504040	3AAA1BA153	3AAD1AA100
	L	φ125	4A504041	3AAA1BA153	3AAD1AA125
	M	φ160	4A504042	3AAA1BA153	3AAF1AA316
	D	φ82.55	4A504035	3AAA1BA153	3AAD1AA085
	E	φ101.6	4A504036	3AAA1BA153	3AAD1AA100
	F	φ127	4A504037	3AAA1BA153	3AAD1AA130
	G	φ152.4	4A504038	3AAA1BA153	3AAA1AA163
Body 5 (PV270)	J	φ80	4A504049	3AAA1BA153	3AAD1AA080
	K	φ100	4A504050	3AAA1BA153	3AAD1AA100
	L	φ125	4A504051	3AAA1BA153	3AAD1AA125
	M	φ160	4A504052	3AAA1BA153	3AAF1AA316
	N	φ200	4A504053	3AAA1BA153	3AAF1AA320
	D	φ82.55	4A504044	3AAA1BA153	3AAD1AA085

Dimensions

Double pump dimensions



Main pump	Second pump	Interface main pump	L	B	C	D	H	K	M
PV016,020,023,028	PV016,020,023,028	100 B4 HW	489	196	170.5	225	220	225	212
PV032,040,046, 056,065	PV016,020,023,028	125 B4 HW	541	208	197	235.5	245	261	212
	PV032,040,046,056,065		574	208	197	261	245	261	245
PV063,080,092 110,125	PV016,020,023,028	160 B4 HW	630	232	252	244.5	299	326	212
	PV032,040,046,056,065		663	232	252	271	299	326	245
	PV063,080,092,110,125		724	232	252	326	299	326	306
PV140,180,210	PV016,020,023,028	160 B4 HW	719	230	305	208.5	349	415	212
	PV032,040,046,056,065		752	230	305	307	349	415	245
	PV063,080,092,110,125		813	230	305	362	349	415	306
	PV140,180,210		878	230	305	415	349	415	385
PV270	PV016,020,023,028	200 B4 HW	860	255	403	299	406	531.5	212
	PV032,040,046,056,065		893	255	403	325.5	406	531.5	245
	PV063,080,092,110,125		954	255	403	380.5	406	531.5	306
	PV140,180,210		1033	255	403	433.5	406	531.5	385
	PV270		1134	255	403	531.5	406	531.5	510

PV Axial Piston Pump

YEOSHE

Thru drive, shaft load limitations

The max. Transferable torque in Nm for the different shafts options are:

Shaft code	PV016-023 PV028	PV032-046 PV056&065	PV063-125	PV032-046 PV210	PV270
N	300	550	1320	2000	2000
D	300	610	1218	2680	2680
F	-	-	-	1320	-
G	-	-	-	1640	-
M	300	570	1150	1900	2850
K	405	675	1400	2650	3980

Important notice

The max. allowable torque of the individual shaft must not be exceeded.
For 2-pump combinations, there is no problem because PV series offers 100%thru torque.
For 3-pump combinations (or more), the limit torque will be reached or exceeded.
Therefore, it is necessary to calculate the torque factor and compare with the allowed torque limit factor in the table.

Requirement: calculated torque factor ＜torque factor

To make the necessary calculations easier and more user friendly it is not required to calculate actual torque requirements in Nm and compare them with the shaft limitations. The table on the right shows limit factors that include material specification, safety factors and conversion factors.

The total torque factor is represented by the sum of the individual torque factors of all pumps in the complete pump combination.

The torque factor of each individual pump is calculated by multiplying the max. operating pressure p of the pump(in bar) with the max.displacement Vg of the pump(in cm^3/ rev).

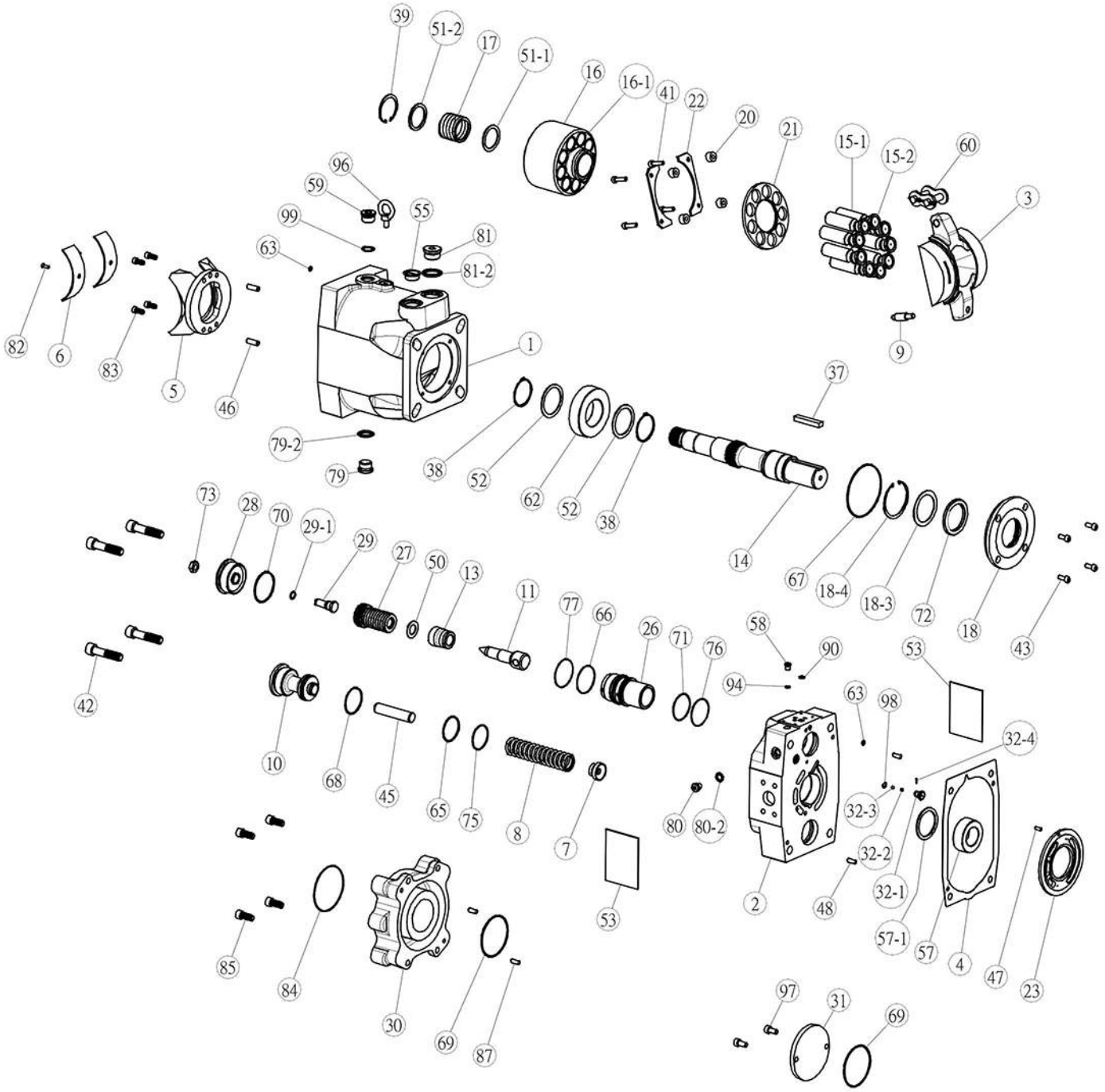
pump	shaft	torque limit factor
PV016-PV023 PV028	N	17700
	D	17700
	M	17700
	K	20130
PV032-046 PV056&065	N	32680
	D	36380
	M	33810
	K	40250
PV063-PV092 PV110&125	N	77280
	D	72450
	M	67620
	K	83720
PV140-PV180 PV210	N	118400
	D	158760
	F	78750
	G	97650
	M	113400
	K	157500
PV270	N	119000
	D	159700
	M	170100
	K	236250

Total torque factor of the comination=
sum of individual torque factors of all pumps

Torque factor of any pump= p x Vg (pressure in bar x displacement in cm^3/rev)

PV Axial piston pump exploded view

(E.g.Body 4)



Remark:Body1 without (16-1)
Body1~3 without (18-3)
Body1~3,5 without (57-1)

※YEOSHE product specifications are subject to change without prior notice.

PV Axi piston pump exploded view

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NO	Item	NO	Item
1	Pump body	51-1	Washer-cylinder block
2	Pump cover	51-2	Washer-cylinder block
3	Swash plate	52	Washer-shaft
4	Body seal	53	Seal
5	Trunnion carrier	55	Plug
6	Trunnion bearing	57	Needle bearing
7	Guide-servo spring	57-1	Washer
8	Servo spring	58	Plug-comp.interface
9	Locator-servo spring	59	Plug-feedback
10	Plug-servo spring	60	Chain link
11	Connector-swash plate	62	Roller bearing
13	Contour sleeve	63	O-ring
14	Shaft	65	O-ring
15-1	Piston assembly	66	O-ring
15-2	Piston shose	67	O-ring
16	Cylinder block	68	O-ring
16-1	Cylinder block washer	69	O-ring
17	Spring-cylinder block	70	O-ring
18	Pilot cover	71	O-ring
18-3	Pilot cover washer	72	Shaft-seal
18-4	Snap ring	73	Lock nut with seal
20	Distance washer	75	B/U ring
21	Slipper retainer	76	B/U ring
22	Retainer segment	77	B/U ring
23	Valve plate	79	Plug
26	Servo piston sleeve	79-2	Washer
27	Servo piston	80	Plug
28	Servo piston cover	80-2	Washer
29	Spindle	81	Plug
29-1	O-ring	81-2	Washer
30	Adaptor	82	Screw
31	Cover plate	83	Screw
32-1	Air bleed valve	84	O-ring
32-2	Spring	85	Adaptor-screw
32-3	Ball	87	Adaptor-pin
32-4	Pin	90	O-ring
37	Key	94	O-ring
38	Snap ring-shaft	96	Lift eye
39	Snap ring-cyl.block	97	Screw
41	Retainer screw	98	O-ring
42	Screw	99	O-ring
43	Head cap screw		
45	Guide pin-servo		
46	Loc.pin-cradle		
47	Loc.pin-valve plate		
50	Washer-servo piston		

General installation information

A. Fluid recommendations

Premium quality hydraulic mineral oil fluids are recommended, like H-LP oils to DIN 51524, part2.
The viscosity range should be 25 to 50 mm²/s (cSt) at 50° C. Operating temperatures –10 to +70°C.
For other fluids such as phosphoric acid esters or for other operating conditions, please consult with YEOSHE for assistance.

B. Seals

NBR (Nitrile) seals are used for operation with hydraulic fluids based on mineral oil.
For synthetic fluid, as perhaps phosphoric acid esters, Fluorocarbon seals are required.
Please consult with YEOSHE for assistance.

C. Filtration

For maximum pump and system component functionability and life, the system should be protected from contamination by effective filtration.
Fluid cleanliness should be in accordance with ISO classification ISO 4406.
The quality of filter elements should be in accordance with ISO standards.
(1) Minimum requirement for filtration rate ×(mm):
General hydraulic systems for satisfactory operation:
Class 19/15, to ISO 4406 X=25μm (β25≧75) to ISO 4572
(2) Hydraulic systems with maximum component life and functionability:
Class 16/13, to ISO 4406 X=10μm (β10≧75) to ISO 4572
It is recommended to use return line or pressure filters.
YEOSHE Filter Division offers a wide range of these filters for all common applications and mounting styles.
The use of suction filters should be avoided, especially with fast response pumps.
Bypass filtration is a good choice for best filter efficiency.

D. Installation and mounting

Horizontal mounting:
Outlet port-side or top. Inlet port-side or bottom, drain port always uppermost.
Vertical mounting: Shaft pointing upwards.
Install pump and suction line in such way that the maximum inlet vacuum never exceeds 0.8 bar absolute.
The inlet line should be as short and as straight as possible.
A short suction line cut to 45° is recommended when the pump is mounted inside the reservoir, to improve the inlet conditions. All connections should be leak-free,otherwise the air in the suction line will cause cavitations, noise, and damage to the pump.

E. Shaft rotation and alignment

Pump and motor shafts must be aligned within 0.25mm T.I.R. maximum. A floating coupling must be used.
Bellhousings and couplings can be ordered at manufacturers listed in this catalog.
Please follow the coupling manufacturer's installation instructions.
Please consult with YEOSHE for assistance on radial load type drives.

F. Start up

Prior to start up, the pump case must be filled with hydraulic fluid (use case drain port).
Initial start up should be at zero pressure with an open circuit to enable the pump to prime.
Pressure should only be increased once the pump has been fully primed.
Attention: Check motor rotation direction.

G. Operating noise of pumps

The normal operating noise of a pump and constantly-operation noise of the entire hydraulic system is largely determined by where and how the pump is mounted and how it is connected to the down stream hydraulic system. Besides, size, style, and installation of hydraulic tube are the major influence on the overall noise emitted by a hydraulic system.

General installation information

H. Noise reduction measures

Flexible elements help to prevent pump body vibration from being transmitted to other construction elements, where amplification may occur. Such elements can be:

Bell housing with elastic dampening flange with vulcanized labyrinth

(1) Floating and flexible coupling
(2) Damping rails
(3) Or silent blocks for mounting the electric motor or the foot mounting flange
(4) Flexible tube connections (compensators) or hoses on inlet, outlet, and drain port of the pump.
(5) Exclusive use of gas tight tube fittings for inlet connections to avoid ingression of air causing cavitations and excessive noise.

I. Drain line

The drain line must lead directly to the reservoir without restriction. The drain line must not be connected to any other return line.

The end of the drain line must be below the lowest fluid level in the reservoir and as far away as possible from the pump inlet line. This ensures that the pump is not empty itself when it's not in operation and the hot aireated oil will not be recirculated.

For the same reason, when the pump is mounted inside the reservoir, the drain line should be arranged in such a way that a siphon is created. This ensures that the pump is always filled with fluid.

The drain pressure must not exceed 1 bar.

Drain line length should not exceed 2 meters.

Minimum diameter should be selected according to the port size and a straight low pressure fitting with maximized bore should be used.

	PV016/PV020/PV023 PV028	PV032/PV040/PV046 PV056/PV065	PV063~092 PV110/PV125	PV140~180 PV210	PV270
Size of pipe joints	3/8"	1/2"	3/4"	1"	1-1/4"
I.D. of pipes	Ø12 more	Ø15 more	Ø19 more	Ø25 more	Ø32 more
Length of drain	Under 1m	Under 1m	Under 1m	Under 1m	Under 1m