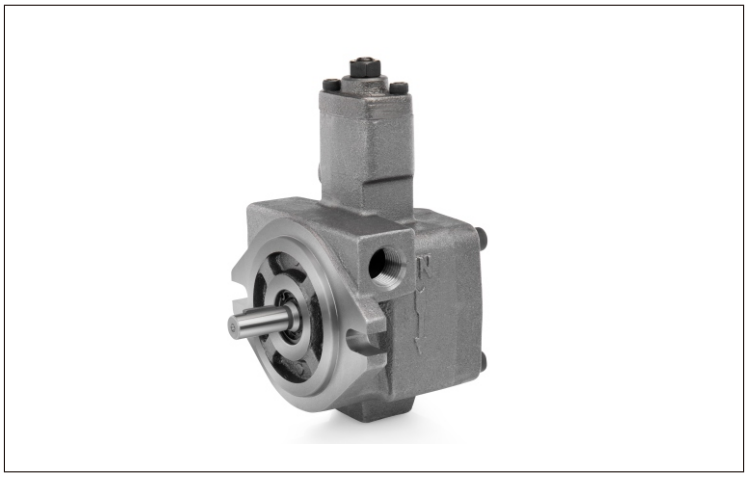
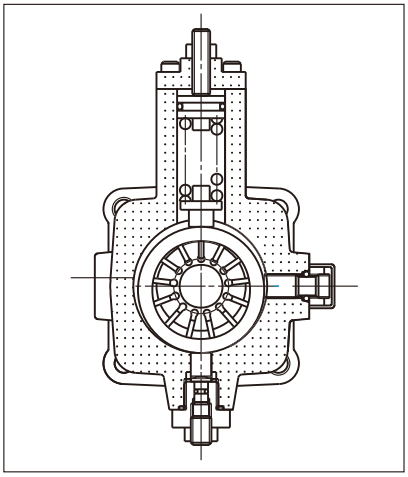
VPV Series
Variable Displacement Vane Pmup

Product show and brief introduction

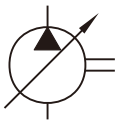
This product is suitable for metal cutting machine tools,pressure machines and other hydraulic systems with variable or pressure holding requirements. Its main features:

1.With pressure adjustment and flow adjustment device,both pressure and flow can be adjustment.
2.When the system presssure is higher than the pressure set by the pump,the flow rate is reduced,the power loss is minmized,and the efficiency is high,safe and reliable.
3.The side plate is hydraulically balanced to obtain better volumetric efficiency.
4.Several new mechanisms for sound insulation and anti-vibration are adopted,with low and no vibration.





Schematic



Single Pumps Model Code

M-	VPV1	-12	-55	-1	-1.5
Prefix,fluid compatibility	Series	outlet flow(L/min)	operating pressure range (Mpa)	Drive shaft	Input power(kW)
M:With motor Omit:Without motor	VPV1	8 12 15 20	2.0 3.5 5.5 7.0	1. Small shaft (standard) 2.Big shaft S.Spline shaft 9T	Mark this item with motor 0.75 1.5 2.25 3.75
	VPV2	30 40		1. Half round key shaft S.Spline shaft 9T	

Doule Pumps Model Code

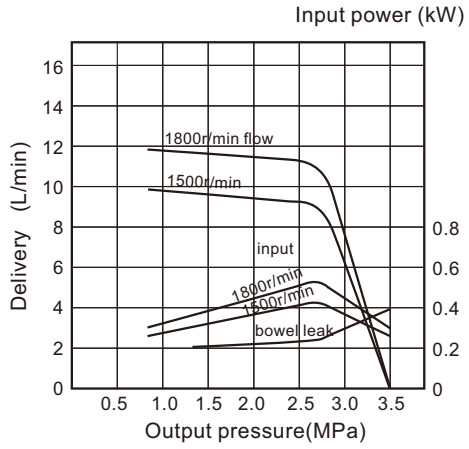
VPV22	-30	-70	/-30	-55	-20
Series	Outlet Flow L/min (shaft end pump)	Operating pressure range MPa (shaft end pump)	Outlet Flow L/min (cover end pump)	Operating pressure range MPa (cover end pump)	Design
VPV11	8 12 15 20	2.0 3.5 5.5 7.0	8 12 15 20	2.0 3.5 5.5 7.0	-20
VPV22	30 40		30 40		-20

Specifications

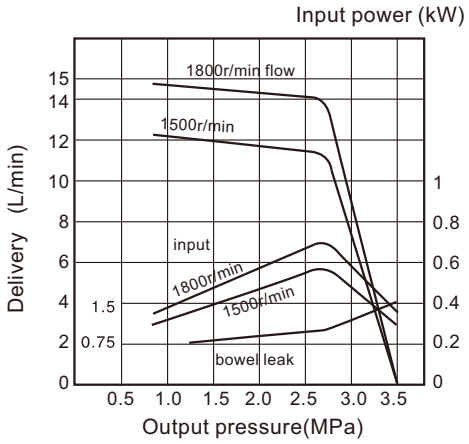
Model	Max. Displacement mL/r	Flow (0MPa 1800r/min) L/min	Operating pressure range MPa	Speed range r/min	Rotation (viewed from shaft end)	Input power kW(HP)	
						1800r/min	1500r/min
VPV1-8-20	5.3	9.5	0.8-2.0	800-1800	Right hand (for clockwise)	0.29(0.5)	0.29(0.5)
VPV1-8-35			1.5-3.5			0.59(1)	0.44(0.5)
VPV1-8-55			3.0-5..5			0.87(1)	0.59(1)
VPV1-8-70			5.0-7.0			1.19(1.5)	1.19(1.5)
VPV1-12-20	6.7	12	0.8-2.0			0.37(0.5)	0.37(0.5)
VPV1-12-35			1.5-3.5			0.75(1)	0.55(1)
VPV1-12-55			3.0-5.5			1.1(1.5)	0.75(1.0)
VPV1-12-70			5.0-7.0			1.5(2)	1.5(2.0)
VPV1-15-20	8.3	15	0.8-2.0			0.5(1)	0.55(1)
VPV1-15-35			1.5-3.5			1.1(1.5)	0.75(1.0)
VPV1-15-55			3.0-5.5			1.5(2)	1.1(2)
VPV1-15-70			5.0-7.0			1.5(2)	1.5(2)
VPV1-20-20	11.1	20	0.8-2.0			0.75(1)	0.55(1)
VPV1-20-35			1.5-3.5			1.1(2)	1.1(2)
VPV1-20-55			3.0-5.5			1.5(2)	1.5(2)
VPV1-20-70			5.0-7.0			2.2(3)	2.2(3)
VPV2-30-20	16.7	30	0.8-2.0			1.1(2)	0.75(1)
VPV2-30-35			1.5-3.5			1.5(2)	1.5(2)
VPV2-30-55			3.0-5.5			2.2(3)	2.2(3)
VPV2-30-70			5.0-7.0			3.75(5)	3.0(5)
VPV2-40-20	22.2	40	0.8-2.0			1.5(2)	1.1(2)
VPV2-40-35			1.5-3.5			2.2(3)	2.0(3)
VPV2-40-55			3.0-5.5			3.75(5)	3.0(5)
VPV2-40-70			5.0-7.0			5.5(7.5)	4.0(5)

Characteristic Curves

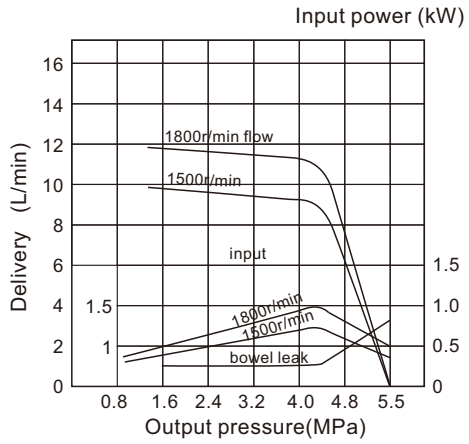
VPV1-12-35



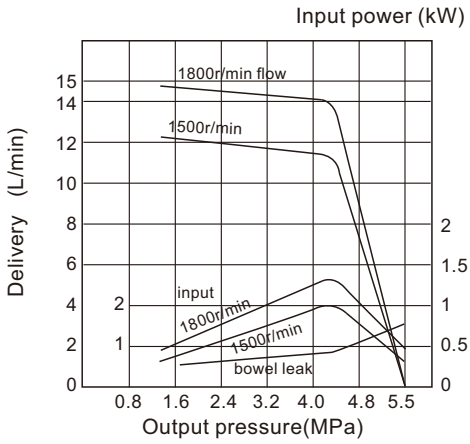
VPV1-15-35



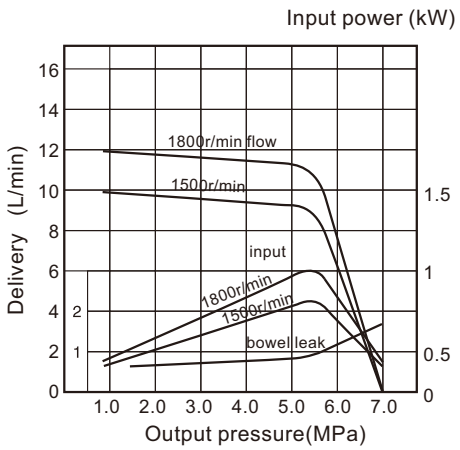
VPV1-12-55



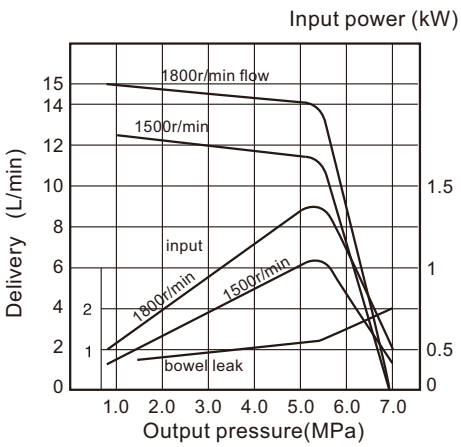
VPV1-15-55



VPV1-12-70

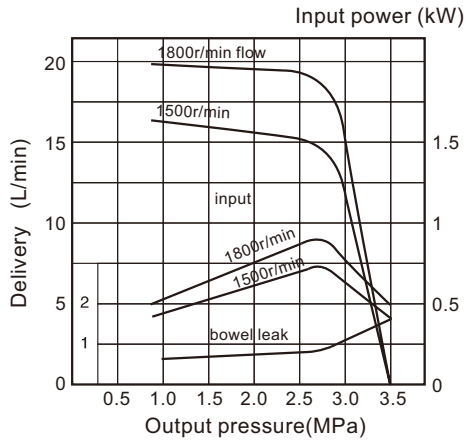


VPV1-15-70

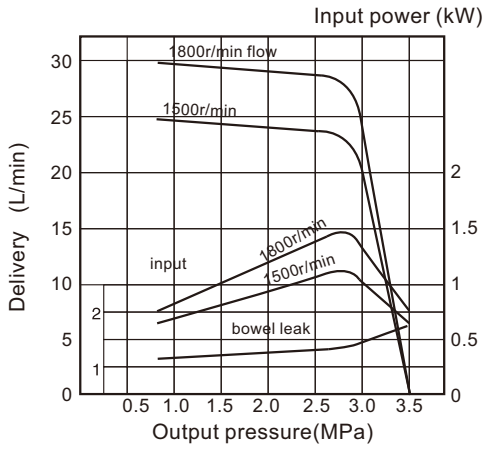


Characteristic Curves

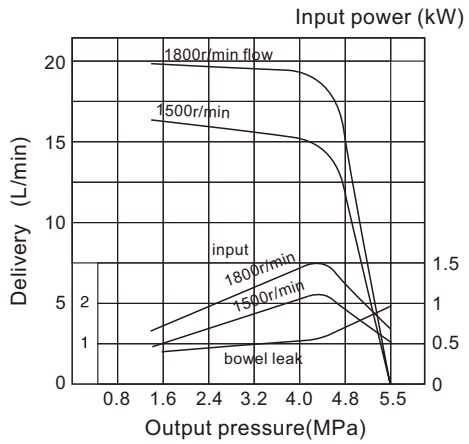
VPV1-20-35



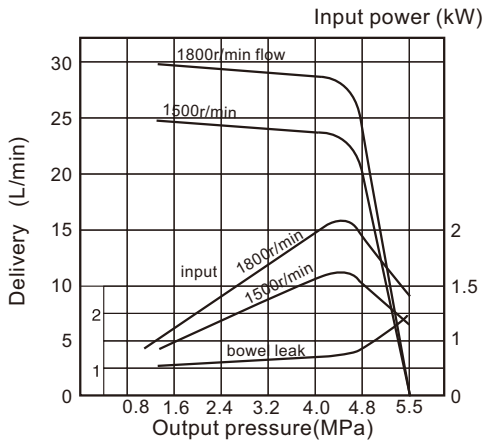
VPV2-30-35



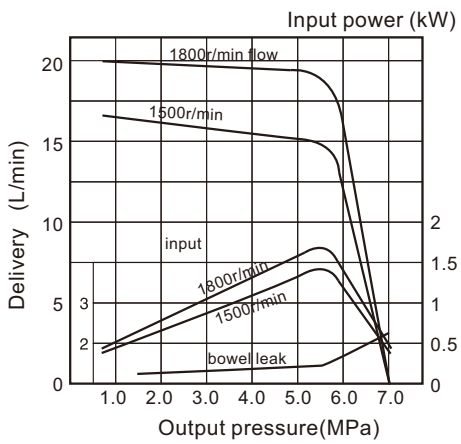
VPV1-20-55



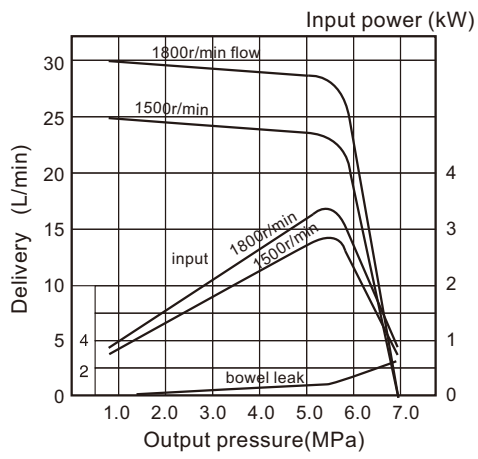
VPV2-30-55



VPV1-20-70

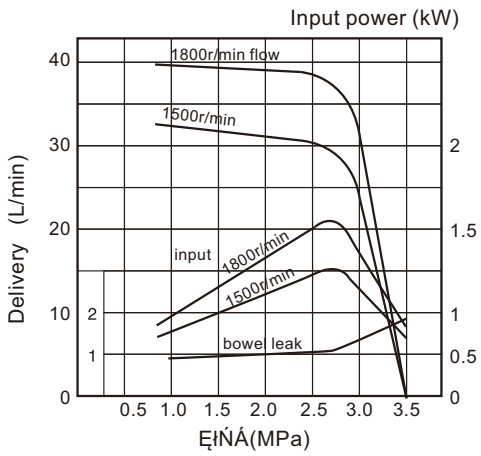


VPV2-30-70

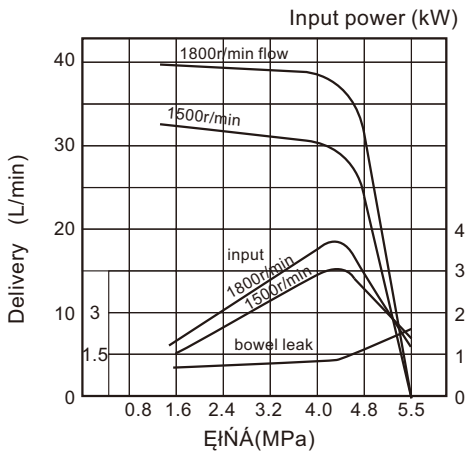


Characteristic Curves

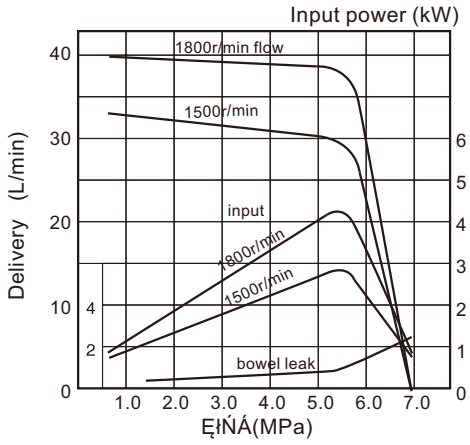
VPV2-40-35



VPV2-40-55

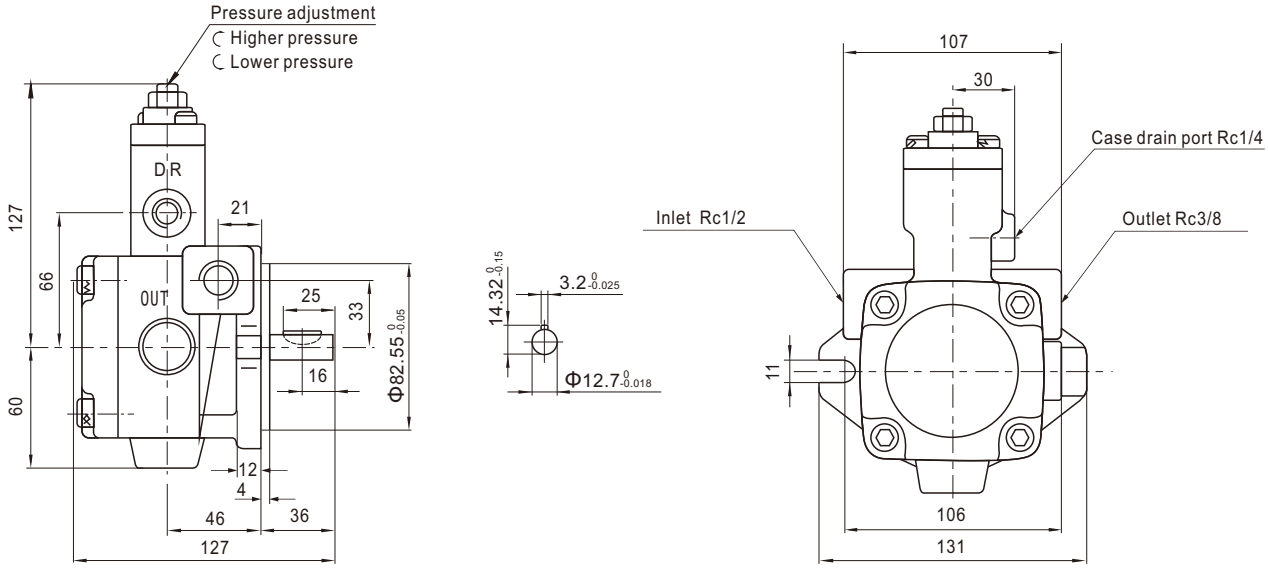


VPV2-40-70



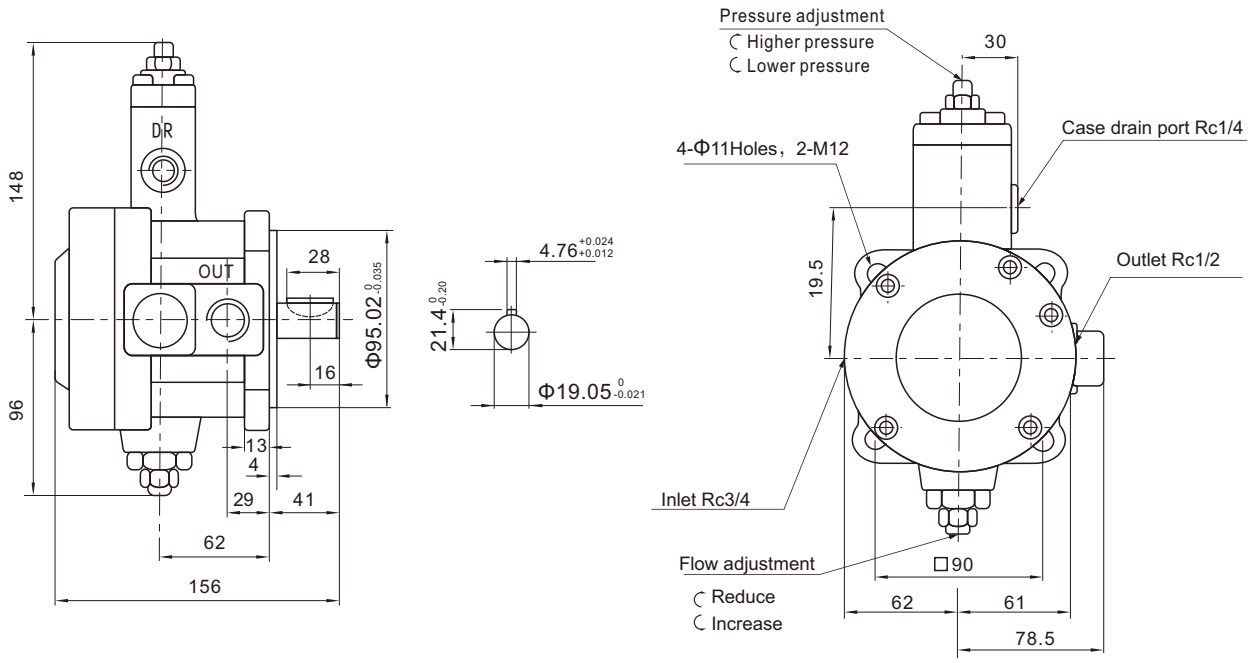
Installation dimensions

VPV1-※-※-10



1.No flow adjustment
2.See page 9 for other shaft

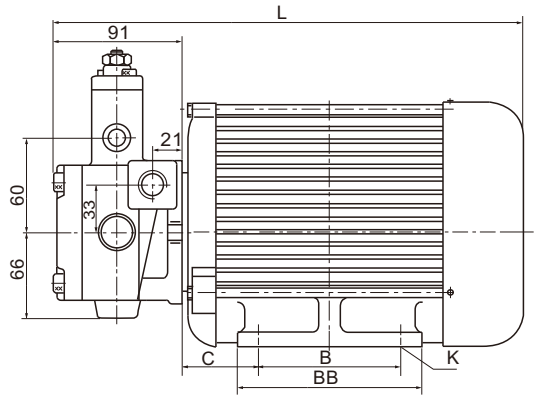
VPV2-※-※-20

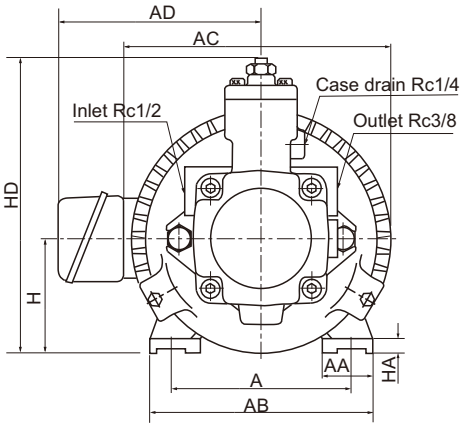


See page 9 for other shaft

Installation dimensions

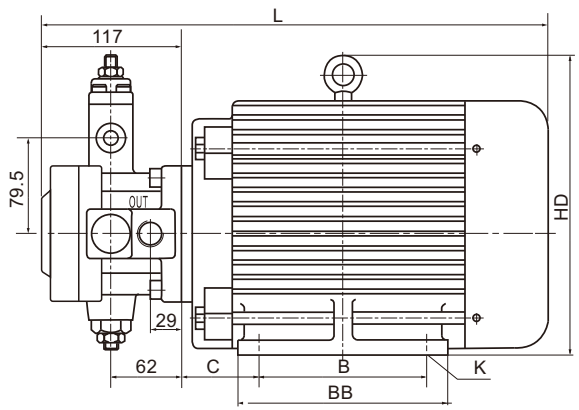
M-VPV1-※

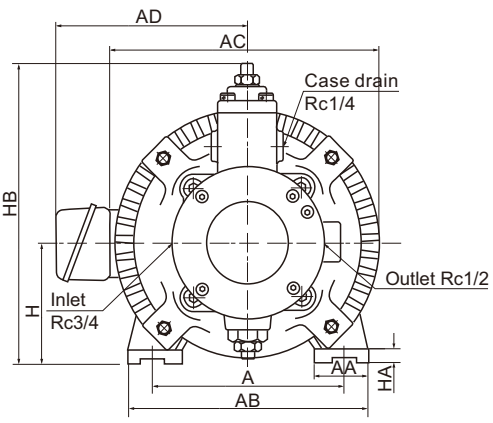




Outlet flow L/min	Pressure MPa	Input power KW	A	AA	AB	AC	AD	B	BB	C	H	HA	HD	K	L
12	3.5	0.75	125	35	155	177	140	100	130	53.5	80	10	207	10	331
	5.5	0.75	125	35	155	177	140	100	130	53.5	80	10	207	10	331
	7.0	1.50	140	35	170	196	160	125	150	57	90	10	227	10	369
15	3.5	0.75	125	35	155	177	140	100	130	53.5	80	10	207	10	331
	5.5	1.50	140	35	170	196	160	125	150	57	90	10	227	10	369
	7.0	1.50	140	35	170	196	160	125	150	57	90	10	227	10	369
20	3.5	0.75	125	35	155	177	140	100	130	53.5	80	10	207	10	331
	5.5	1.50	140	35	170	196	160	125	150	57	90	10	227	10	369
	7.0	1.50	140	35	170	196	160	125	150	57	90	10	227	10	369

M-VPV2-※

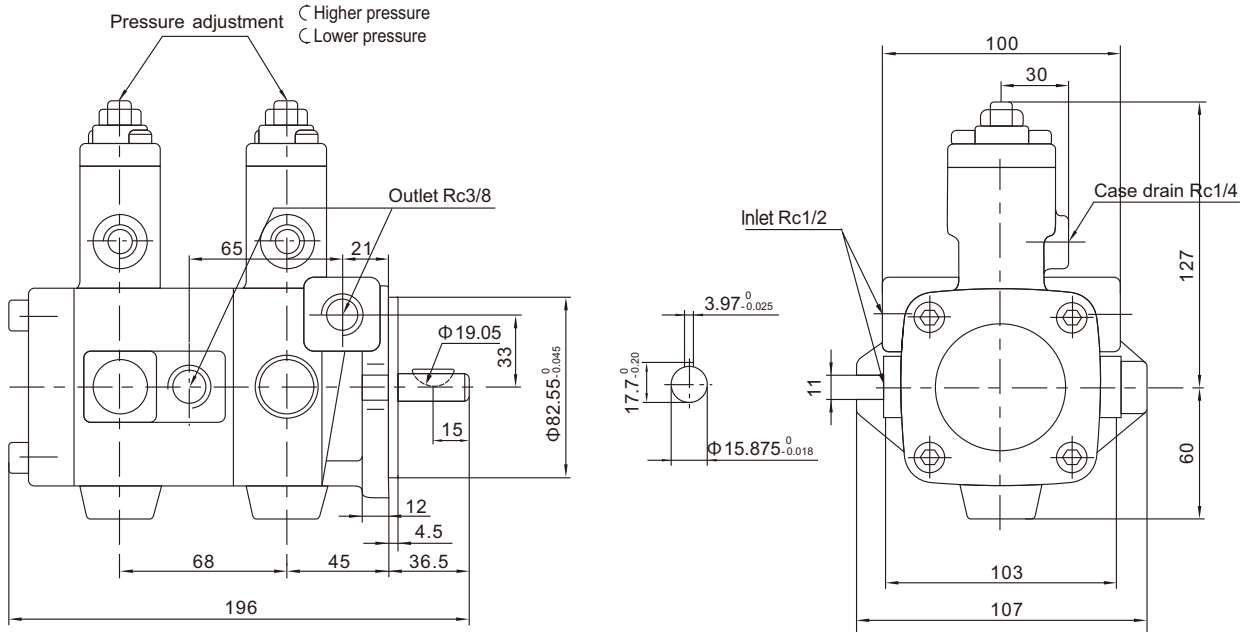




Outlet flow L/min	Pressure MPa	Input power KW	A	AA	AB	AC	AD	B	BB	C	H	HA	HB	HD	K	L
30	3.5	1.5	140	35	170	196	160	125	150	57	90	10	238	-	12	395
	5.5	2.25	160	45	200	225	160	140	175	65	100	12	248	247	12	424
	7.0	3.75	190	45	228	245	180	140	175	73.5	112	12	260	265	12	447
40	3.5	1.5	140	35	170	196	160	125	150	57	90	10	238	-	12	395
	5.5	3.75	190	45	228	245	180	140	175	73.5	112	12	260	265	12	447
	7.0	5.5	216	45	250	270	190	140	175	77	132	16	280	310	12	452

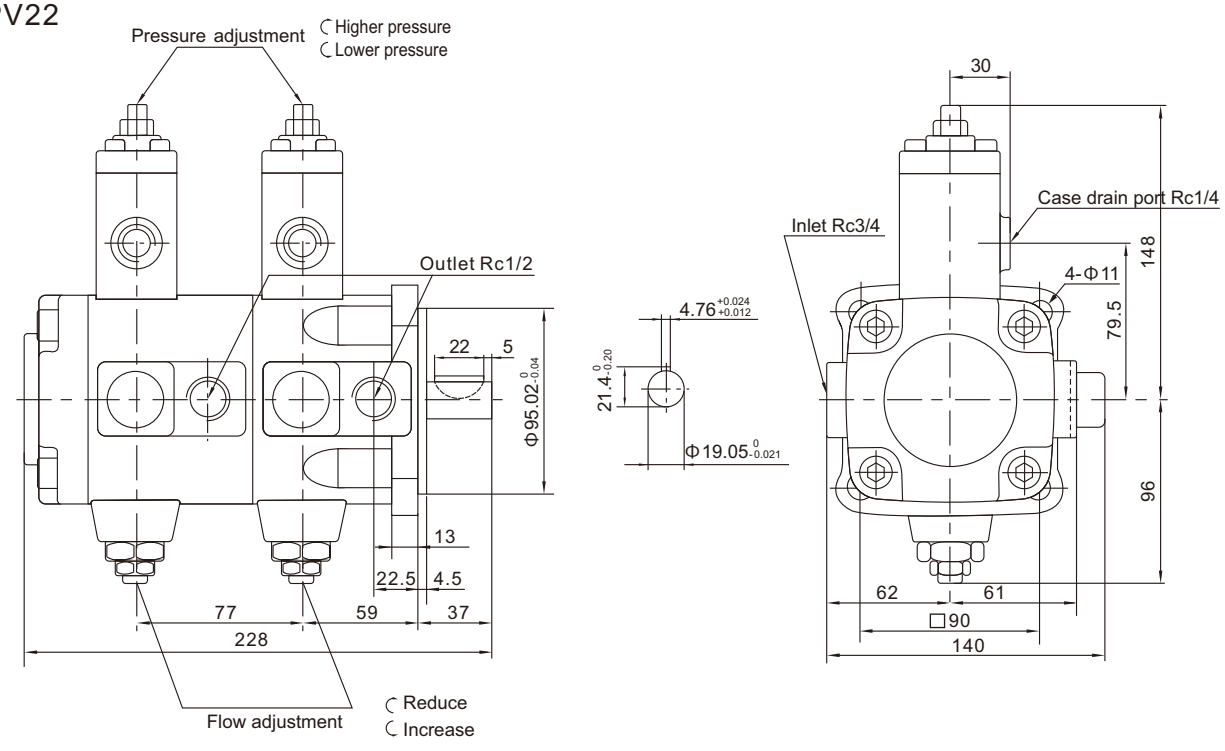
Installation dimensions

VPV11



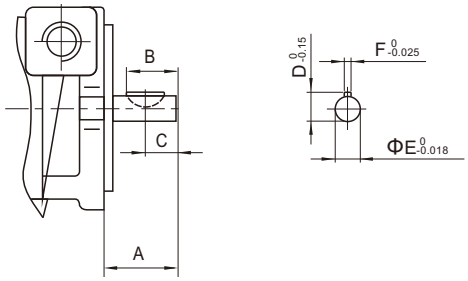
Note:No flow adjustment

VPV22

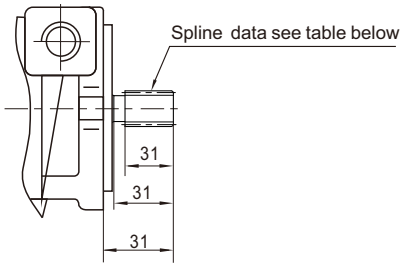


Optional shafts

Half round key shaft



Spline shaft



Half round key shaft

Size	Drive shaft	A	B	C	D	E	F
VPV1	1	36	25	16	14.32	12.7	3.2
	2	36.5	26	15	17.7	15.875	3.97
VPV2	1	41	28	16	21.4	19.05	4.76

Spline shaft

Size	Drive shaft	A	B	C	Spline data
VPV1	S	21.5	26.5	31	9T,16/32DP,30° pressure angle
VPV2	S	21.5	26.5	31	9T,16/32DP,30° pressure angle

Operation and maintenance

Hydraulic oil

Recommend using 40℃ viscosity 30-50 CST(ISO Vg32) of hydraulic oil.

Flow and pressure adjustment

1.factory,set the pump pressure as minimum pressure adjustment range,flow to the maximum.

2.adjust the pressure,loosen the lock nut,and then rotating pressure adjustment screw,clockwise pressure increased,the pressure is reduced,counterclockwise,adjustment to complete loose lock nut.

3.adjust the flow rate,loosen then lock nut,rotating flow adjusting screw again,clockwise ratation flow decreases,counterclockwise flow rate increases,adjustmeng to complete loosen lock nut.

Oil absorption condition

The suction pressure of oil inlet should be controlled between −30kpa and +30kpa.