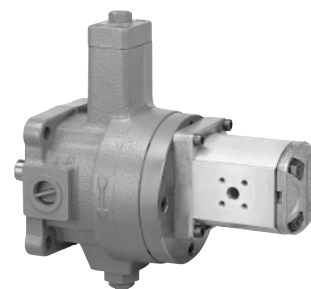




# Combination Pump - Variable Vane + Gear

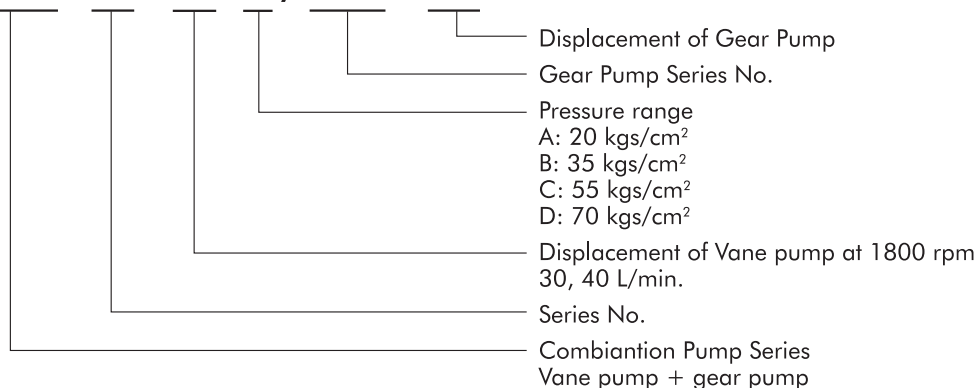
## Features:

1. Combine the characteristics of both high and low pressure pumps, applicable to high-low pressure system.
2. Very silence even in high pressure operation.
3. Compactness, space and energy saving.
4. Excellent performance gear pump with speical gear design, could be used as a high pressure source or as a cooling system.



## ■ HOW TO ORDER

**DVGP- SF - 30 -A / EGA - 4.3**



## Handling:

1. The direction of rotation is always clockwise when viewed from the shaft end..
2. Drain piping must be direct pipe up to a point that is below the tank fluid level. And the back pressure should not exceed 0.3 kgf/cm<sup>2</sup>.
3. When adjusting the pressure, pressure is increased by clockwise rotation, and decreased by counterclockwise rotation.
4. When adjusting the flow rate, the flow rate is decreased by clocwise rotation, and increased by counterclockwise rotation.
5. Factory default P-Q settings: Flow rate setting =Maximum flow rate for model as indicated in the  
 Pressure setting =Show as following  
 A:20 kgf/cm<sup>2</sup>, B: 35 kgf/cm<sup>2</sup>, C: 55 kgf/cm<sup>2</sup>, D: 70 kgf/cm<sup>2</sup>  
 $Q=q \times n \times 10^{-3}$   
 Q: No load discharge rage (L/min)  
 q: Capacity (c.c./rev)  
 N: Revolution speed (rpm)
6. Thrust Screw:This screw was precision adjusted at the factory, **Never touch this screw.**
7. Intial opeartion: Before opeartion the pump in first time,put the out port side at no-load state, and then repeat start and stop the motor to bleed all air from the inside of pump. After confirming the out-port is discharging oil, continue the no-load opeartation at least 10 minutes.
8. Hydraulic oil: Please use wear resistant hydraulic oil, ISO VG32 to 68 or equivalent.
9. Operating temperature: Within 15 to 60°C. When oil temperature is under 15°C, use a warm-up opeartion at low pressure until oil temperature is higher then 15°C.
10. Suction pressure is within -0.3 to 0.3 kgf/cm<sup>2</sup>.
11. Avoid to use pully and gear to drive the shaft.
12. Use suction strainer for vane with filtering grade of 150 mesh and 100 mesh for external gear pump.
13. Oil contamination must within the class of NAS 10 degree.
14. Add a bleed valve in the circuit when it is difficult to bleed air off.
15. Other information of vane pump please refer to page 26 For detail.
16. Detail information of external gear pump, please refer to page 43.



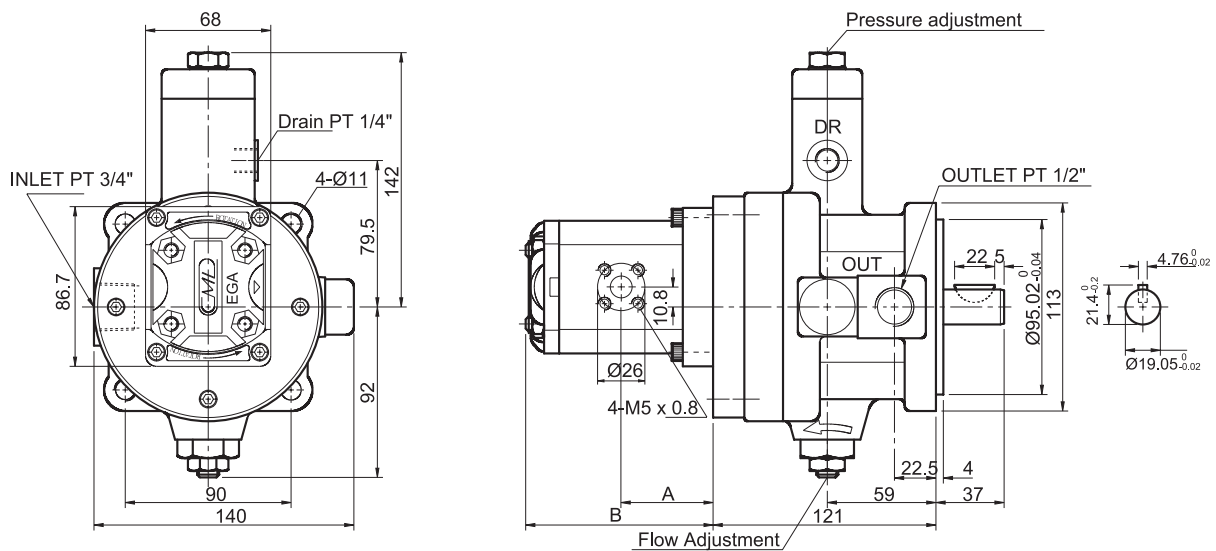
# Combination Pump - Variable Vane + Gear

## ■ TECHNICAL DATA OF COMBINATION PUMPS

Model No.	Vane Pump		Gear Pump		Rotation Speed RPM		Weight kg
	Theory Displacement cm <sup>3</sup> /rev	Maximum Working Pressure kgf/cm <sup>2</sup>	Theory Displacement cm <sup>3</sup> /rev	Maximum Working Pressure kgf/cm <sup>2</sup>	Max	Min	
	SF-30A/EGA-※	16.7	20	Refer to single external gear pump	Refer to following table	1800	
SF-30B/EGA-※	35		1800			600	
SF-30C/EGA-※	55		1800			600	
SF-30D/EGA-※	70		1800			600	
SF-40A/EGA-※	22.2	20	1800			800	
SF-40B/EGA-※		35	1800			800	
SF-40C/EGA-※		55	1800			800	
SF-40D/EGA-※		70	1800			800	

## ■ DIMENSION

UNIT: mm



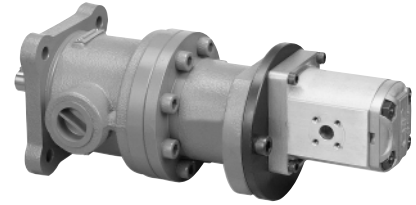
EGA Series		1.2 c.c.	1.7 c.c.	2.2 c.c.	2.6 c.c.	3.2 c.c.	3.8 c.c.	4.3 c.c.	6.2 c.c.	7.8 c.c.
Dimension mm	A	37.8	38.5	39.5	40.5	41.5	42.5	43.5	47	50
	B	75.5	77	79	81	83	85	87	94	100
In port/Out port Dimension mm	In	10	10	10	10	12	12	12	12	12
	Out	10	10	10	10	12	12	12	12	12
Weight	kg	1	1	1	1.1	1.1	1.2	1.2	1.3	1.4
Max. Working Pressure	kgf/cm <sup>2</sup>	190	190	190	190	190	190	190	170	150



# Combination Pump - Vane + Gear

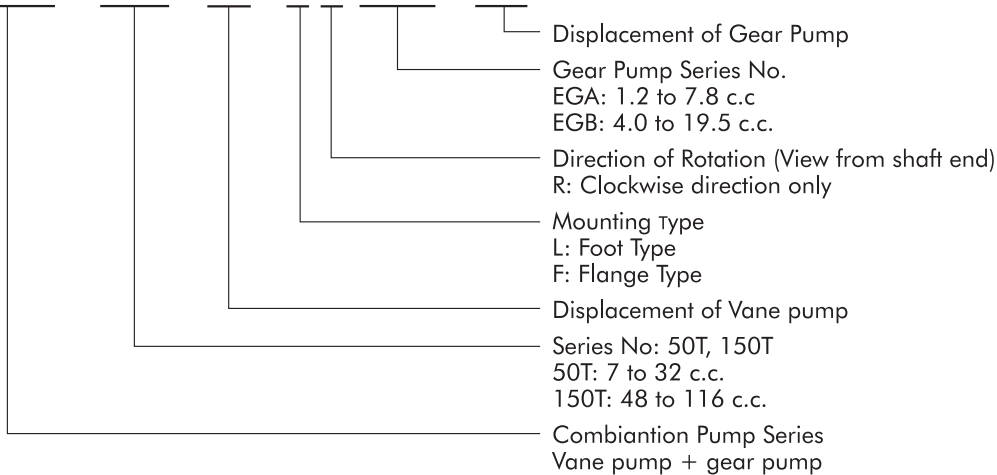
## Features:

1. The combination vane pump and external gear pump has two flow and two pressure, and always be used as high-low pressure system.
2. The external gear pump has low noise and high efficiency characteristic even at high pressure operation. It could be use as high pressure source or a cooling pump for system.
3. Compactness, minimize space and energy saving. SAE standard mounting flange.
4. For more detail information of external gear pump, please refer to the table of Technical data.



## ■ HOW TO ORDER

### DVGP - 50T - 23 - L R/EGA - 4.3



## ■ TECHNICAL DATA OF COMBINATION PUMPS

Model No.	Vane Pump		Gear Pump		Rotation Speed RPM		Weight kg
	Theory Displacment cm <sup>3</sup> /rev	Maximum Working Pressure kgf/cm <sup>2</sup>	Theory Displacment cm <sup>3</sup> /rev	Maximum Working Pressure kgf/cm <sup>2</sup>	Max	Min	
50T-7/EGA-※	6.7	70	Refer to EGA gear pump	Refer to following table	1800	800	Flange type: 11.0+EGA Foot type: 11.6+EGA
50T-12/EGA-※	11.3	70			1800	800	
50T-17/EGA-※	16.2	70			1800	800	
50T-23/EGA-※	22.5	70			1800	800	
50T-26/EGA-※	25.2	70			1800	800	
50T-32/EGA-※	35.1	70			1800	800	
50T-7/EGB-※	6.7	70	Refer to EGB gear pump	Refer to following table	1800	800	Flange type: 11.0+EGB Foot type: 11.6+EGB
50T-12/EGB-※	11.3	70			1800	800	
50T-17/EGB-※	16.2	70			1800	800	
50T-23/EGB-※	22.5	70			1800	800	
50T-26/EGB-※	25.2	70			1800	800	
50T-32/EGB-※	35.1	70			1800	800	
150T-48/EGB-※	47.2	70	Refer to EGB gear pump	Refer to following table	1500	600	Flange type: 25.0+EGB Foot type: 26.0+EGB
150T-61/EGB-※	60.3	70			1500	600	
150T-75/EGB-※	74.1	70			1500	600	
150T-94/EGB-※	92.6	70			1200	600	
150T-116/EGB-※	115.5	70			1200	600	



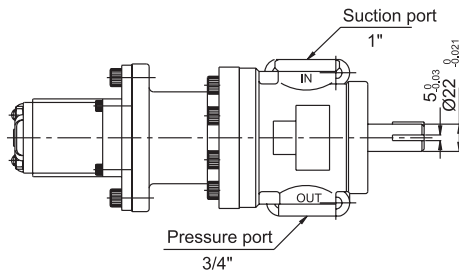
# Combination Pump - Vane + Gear

## DIMENSIONS:

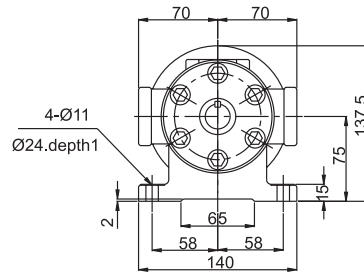
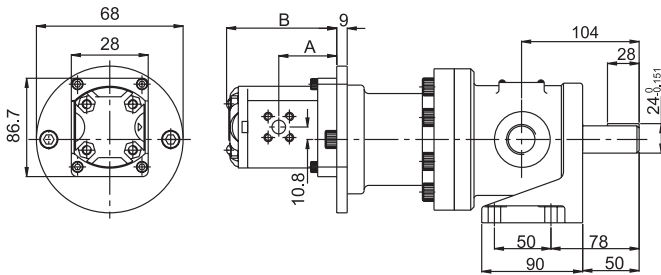
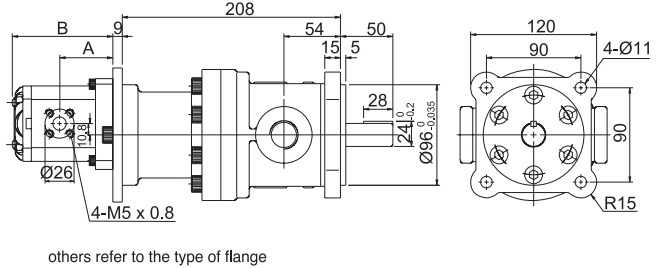
UNIT: mm

### 50T-EGA

Foot type



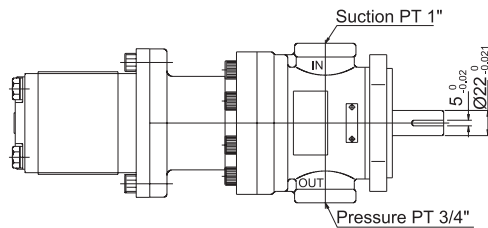
Flange type



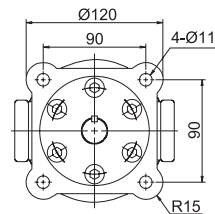
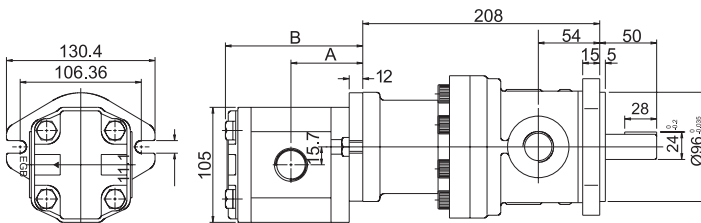
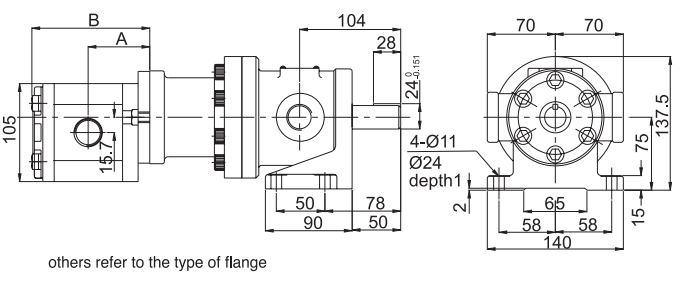
EGA Series		1.2 c.c.	1.7 c.c.	2.2 c.c.	2.6 c.c.	3.2 c.c.	3.8 c.c.	4.3 c.c.	6.2 c.c.	7.8 c.c.
Dimension mm	A	37.8	38.5	39.5	40.5	41.5	42.5	43.5	47	50
	B	75.5	77	79	81	83	85	87	94	100
In port/Out port Dimension mm	In	10	10	10	10	12	12	12	12	12
	Out	10	10	10	10	12	12	12	12	12
Weight	kg	1	1	1	1.1	1.1	1.2	1.2	1.3	1.4
Max. Working Pressure	kgf/cm <sup>2</sup>	190	190	190	190	190	190	190	170	170

### 50T-EGB

Flange type



Flange type



EGB Series		4 c.c.	6.2 c.c.	8.4 c.c.	11 c.c.	14.3 c.c.	16.5 c.c.	19.5 c.c.
Dimension mm	A	52.5	54	56	58	61	63	65.5
	B	98	101	105	109	115	119	124
In port/Out port Dimension mm	In	1-1/16-12UN	1-1/16-12UN	1-1/16-12UN	1-1/16-12UN	1-1/16-12UN	1-1/16-12UN	1-1/16-12UN
	Out	7/8-14UN	7/8-14UN	7/8-14UN	7/8-14UN	7/8-14UN	7/8-14UN	7/8-14UN
Weight	kg	2.5	2.6	2.7	2.8	3.0	3.1	3.3
Max. Working Pressure	kgf/cm <sup>2</sup>	210	210	210	210	190	190	160



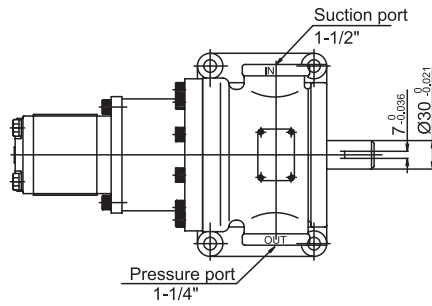
# Combination Pump - Vane + Gear

## ■ DIMENSIONS:

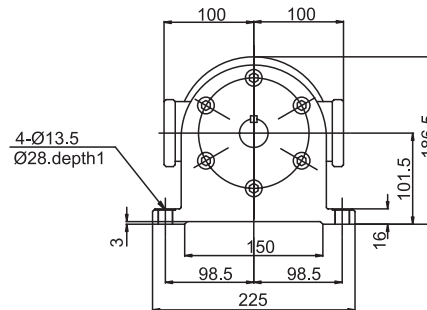
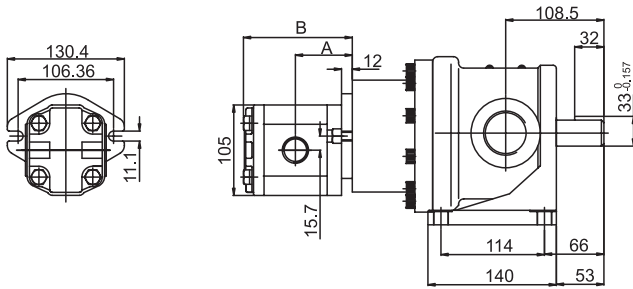
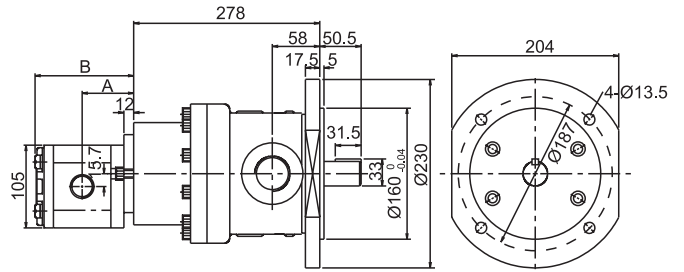
UNIT: mm

150T/EG4-26

Foot type



Flange type



EGB Series		4 c.c.	6.2 c.c.	8.4 c.c.	11 c.c.	14.3 c.c.	16.5 c.c.	19.5 c.c.
Dimension mm	A	52.5	54	56	58	61	63	65.5
	B	98	101	105	109	115	119	124
In port/Out port Dimension mm	In	1-1/16-12UN	1-1/16-12UN	1-1/16-12UN	1-1/16-12UN	1-1/16-12UN	1-1/16-12UN	1-1/16-12UN
	Out	7/8-14UN	7/8-14UN	7/8-14UN	7/8-14UN	7/8-14UN	7/8-14UN	7/8-14UN
Weight	kg	2.5	2.6	2.7	2.8	3.0	3.1	3.3
Max. Working Pressure	kgf/cm <sup>2</sup>	210	210	210	210	190	190	160