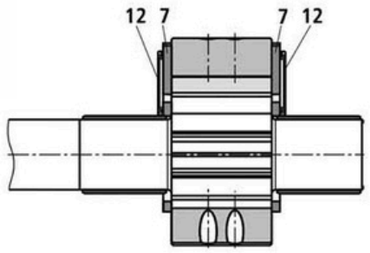
Suction and discharge process

The external gear shaft (4) installed according to fluid dynamics drives the internal gear ring (5) in the direction of rotation shown. Fill the oil through the tooth gap opened in the oil suction area. The oil is transported from the oil suction area (S) to the pressure area (P) through the side clearance between the outer gear shaft and the inner gear ring. As a result, the oil is discharged from the closed tooth gap and delivered to the pressure oil port (P). The oil suction area and the discharge area are separated by the radial compensation element (9 to 11) and the gear mesh between the inner ring gear and the outer gear.

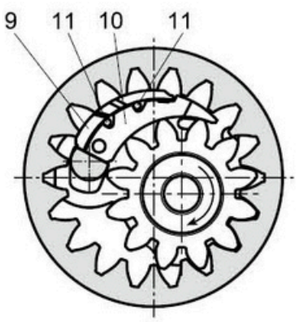
Axial compensation

The discharge chamber in the pressure zone is axially sealed by the oil distribution plate (7). The oil distribution pan faces away from the discharge area one side is back pressured by the pressure field (12). These pressure fields make the oil distribution plate and the discharge area reach a balance, from the ideal sealing effect is achieved with lower mechanical loss.



Radial compensation

The radial compensation element includes a crescent sub-plate (9), a crescent main plate (10) and a sealing rod (11). The crescent main plate (10) is closely attached to the round surface of the tooth tip of the outer gear shaft, the crescent sub-plate (9) is closely attached to the round surface of the tooth tip of the inner gear ring, and the positioning rod is used to restrict the movement of the crescent plate in the circumferential direction.
In this way, the pressure zone can be separated from the suction zone by automatic clearance adjustment. This is a prerequisite for maintaining high volumetric efficiency continuously throughout the working hours.



Toothing

The toothing with involute flanks features a long meshing length for low flow and pressure pulsation and therefore ensures lownoise operation.

Technical data (if using is beyond the scope of the specified technical parameters, please be sure to consult Nvicks!)

Overview

Design	Internal gear pump, clearance compensation
Connection type	SAE 2 standard flanges to ISO 3019-1
Pipeline connection	Oil Flange
Shaft load	Radial and axial forces only after adjustment (e.g., pulley)
Rotation direction (viewed from shaft end)	Clockwise or counterclockwise (available on request)- not bidirectional!

Hydraulic

Hydraulic oil		HLP- Mineral oil conforming to DIN 51524 Part 2 HFC- Waterborne polymer solutions in accordance with DIN EN ISO 12922 [1)2)] : Sealing design W HEES- Hydraulic oils according to DIN ISO 15380 [1)] HFD-U- Hydraulic fluid in accordance with VDMA 24317[1)], DIN EN ISO 12922 [1)]
Hydraulic oil	HLP hydraulic oil ℃	- 10 to + 80; For other temperature, please consult us!
Hydraulic oil	Special hydraulic oil	- 10 to 50 +; For other temperatures, please consult us
Ambient temperature range ℃		-20 to +60
Viscosity range mm²/s		10 to 300 (to n = 1800 min^{-1}) 10 to 100 (to n = 3000 min^{-1}) 2000 Allowable starting viscosity (400 to 1800 min^{-1})
The maximum allowable contaminati on of hydraulic oil is in line with ISO Cleanliness grade of 4406 (c)		Grade 20/18/15 [3)]

1. Attention !
   For these medium, restrictions on specific hydraulic oils may apply.
2. Hydraulic oil HFC: input speed n maximum =2000 min^{-1}
3. The specified component cleanliness level must be followed in the hydraulic system. Effective filtration can avoid failures and extend the service life of the components.

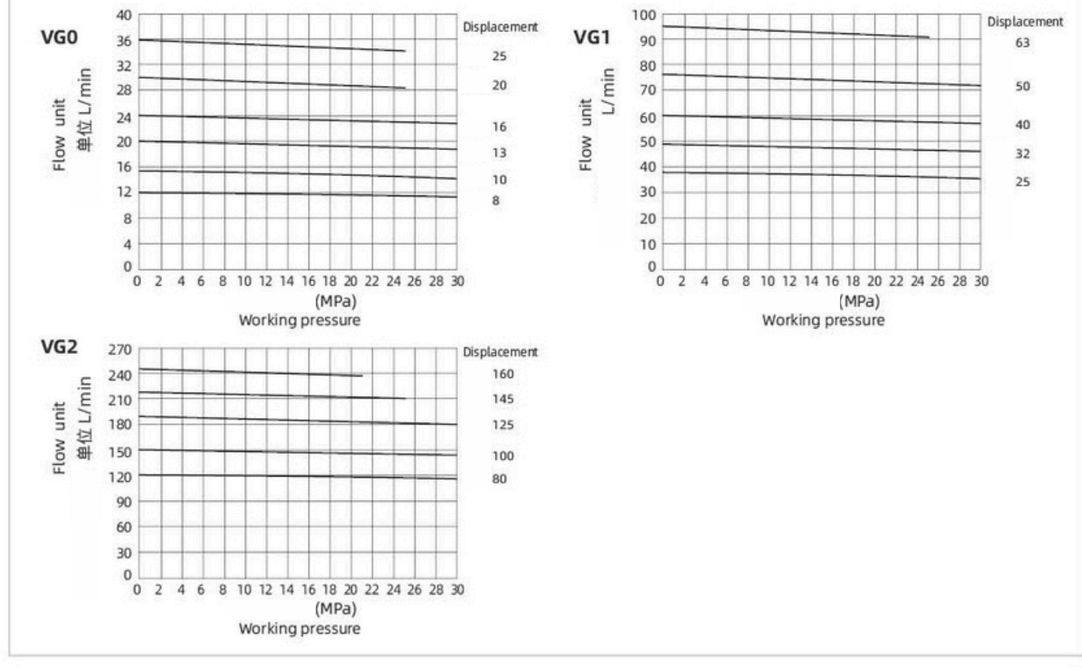
Model Designation

VG1	-63	R	E	W	-A1
Series	ml/r Displacement	Rotation	Shaft type	Sealing material	Design number
VGH0	003、004、005	Viewed from shaft end of pump R= Right hand for clockwise L= Left hand for counter-clockwise	K= Straight key shaft	W= (Buna) NBR V= (Viton) FKM	1K
VG0	8、10、13、16、20、25、28		E= Straight key shaft R=SAE Spline shaft		A1
VG1	25、32、40、50、63 50H、63H				
VG2	80、100、125、145、160				

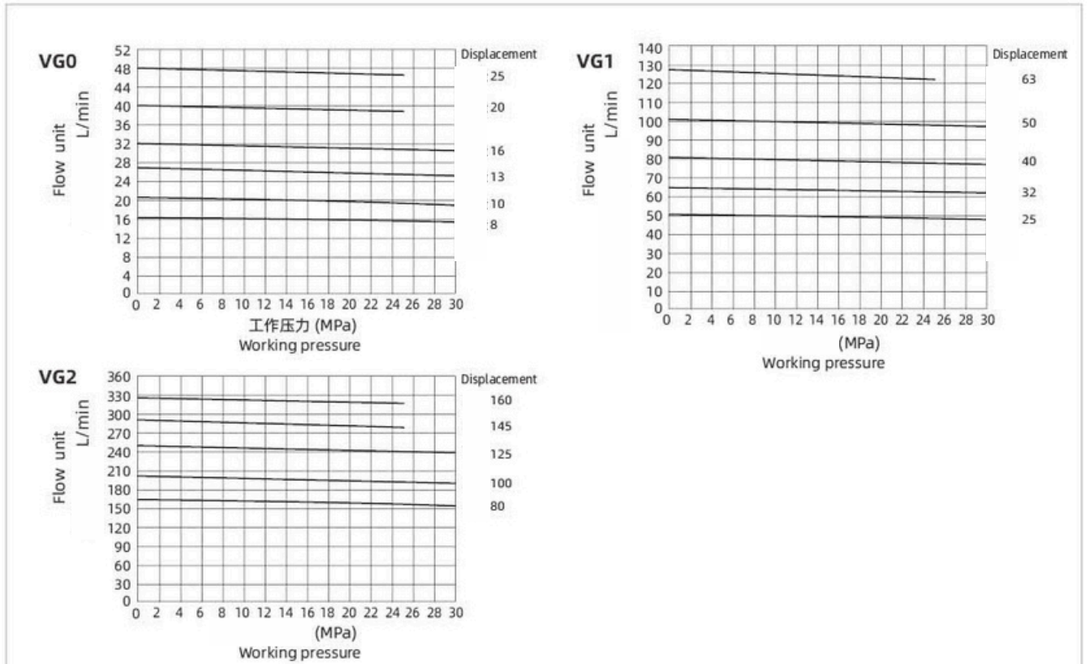
Technical Data

Series	ml/r Displacement	ml/r Theory Displacement	Mpa Rated Pressure	Mpa Max.pressure	r/min Max.speed	kg Weight
VGH0	003	3	33	40	4200	4.6
	004	4				4.8
	005	5				4.8
VG0	8	8.2	31.5	35	3000	4.6
	10	10.2				4.8
	13	13.3				4.9
	16	16.0				5.2
	20	20.0	25	30		5.6
	25	24.0				6.0
	28	27.0				6.4
VG1	25	25.3	31.5	35		14.5
	32	32.7				15
	40	40.1				16
	50	50.7				17
	63	63.7	25	30		18.5
VG2	80	81.4	31.5	35		43.5
	100	100.2				45.5
	125	125.3				48
	145	145.2	25	28		50
	160	162.8	21	26		52

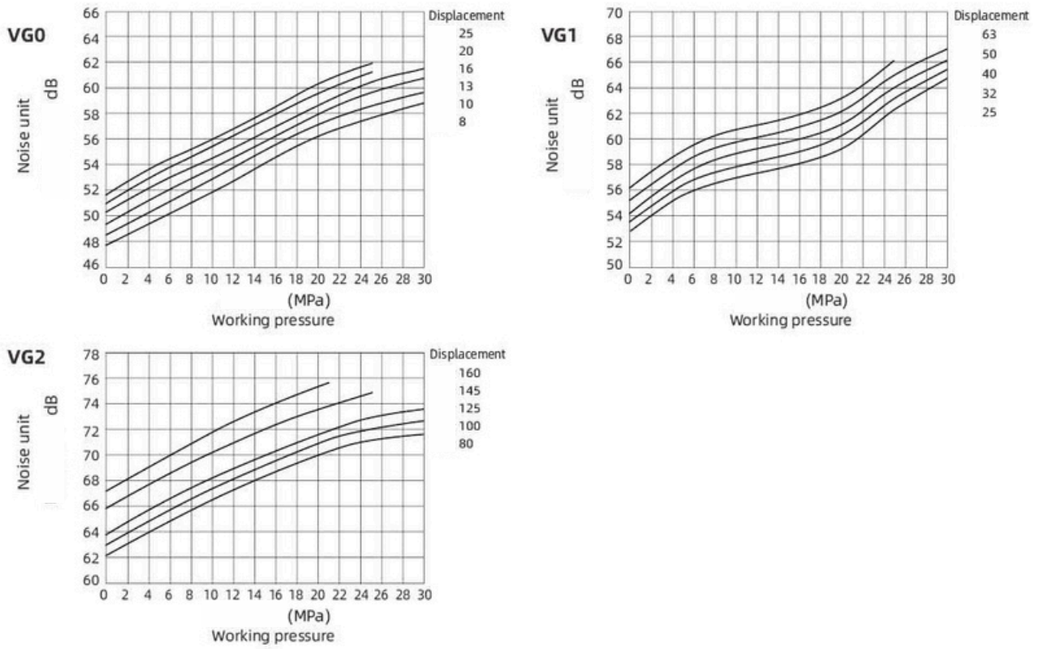
1500r/min Characteristic curve



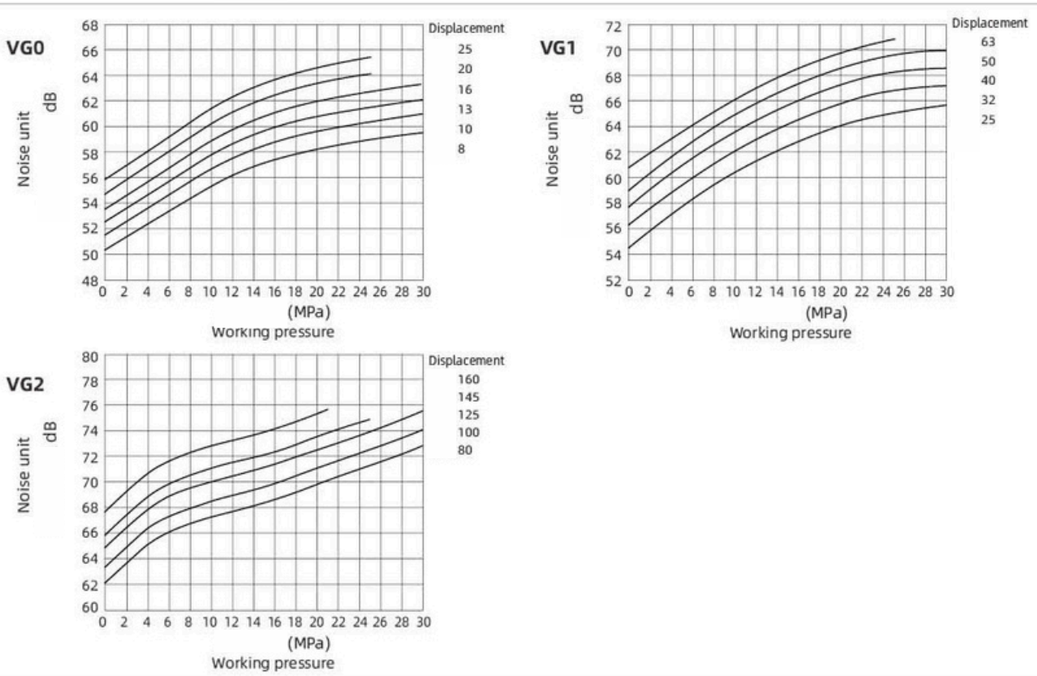
2000r/min Characteristic curve



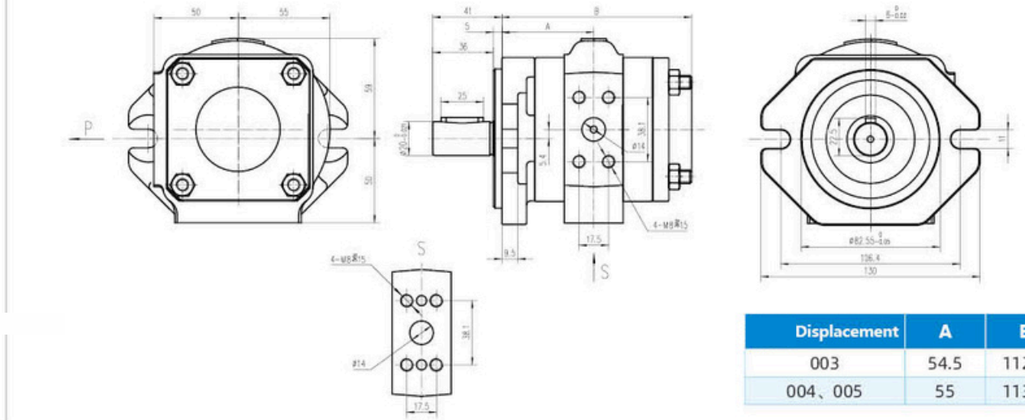
1500r/min Noise curve



2000r/min Noise curve



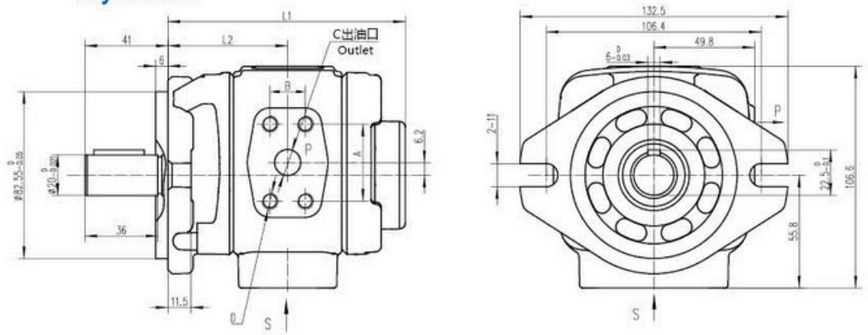
VGH0 Installation Dimensions



Displacement	A	B
003	54.5	112.5
004、005	55	113.5

VG0 Installation Dimensions

E **Keyed shaft**

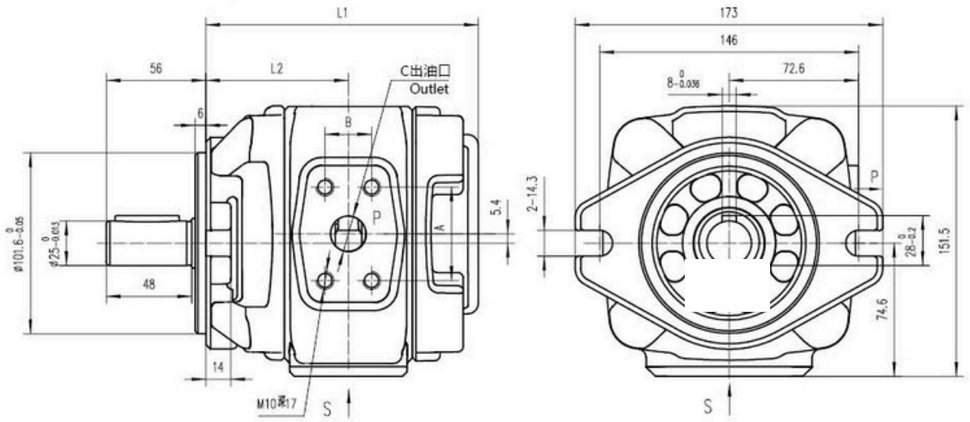


R **Spline shaft**

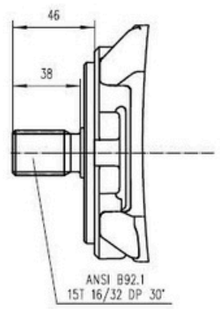
Model	L1	L2	A	B	C	D	E	F	G
VG0-08	107	54	38.1	17.5	Φ13	M8 Depth 13	47.6	22.2	Φ19
VG0-10	111	56							
VG0-13	117.5	59.25					52.4	26.2	
VG0-16	123	62							
VG0-20	131	66	47.6	22.2	Φ18	M10 Depth 15	58.7	30.2	Φ26
VG0-25	139	70			Φ19				Φ28
VG0-28	145	73							

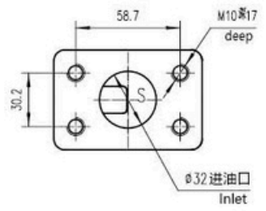
VG1 Installation Dimensions

E **Keyed shaft**



R **Spline shaft**

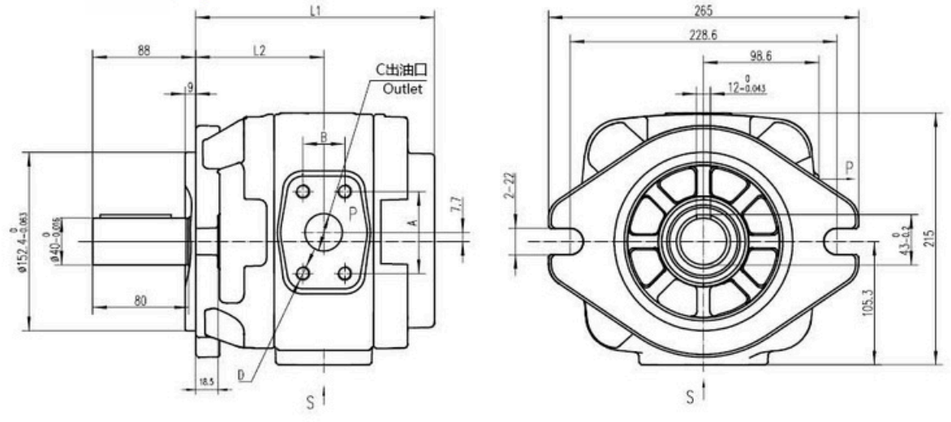




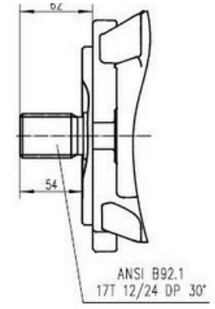
Model	L1	L2	A	B	C
VG1-25	139	73	47.6	22.2	Φ18
VG1-32	146	76.5			
VG1-40	153	80	52.4	26.2	Φ20
VG1-50	163	85			
VG1-63	177	92			
VG1-50H	163	85	see page 11 oil port size		
VG1-63H	177	92			

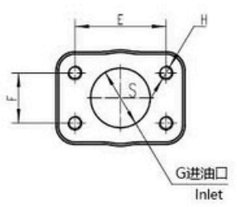
VG2 Installation Dimensions

E **Keyed shaft**



R **Spline shaft**





Model	L1	L2	A	B	C	D	E	F	G	H
VG2-80	204	109.5	69.9	35.7	Φ32	M12 Depth 20	77.8	42.9	Φ51	M12 Depth 20
VG2-100	213	114								
VG2-125	225	120	79.4	36.5	Φ38	M16 Depth 25	88.9	50.8	Φ63.5	
VG2-145	235.5	124.75								
VG2-160	243	129					106.4	61.9	Φ76	M16 Depth 25