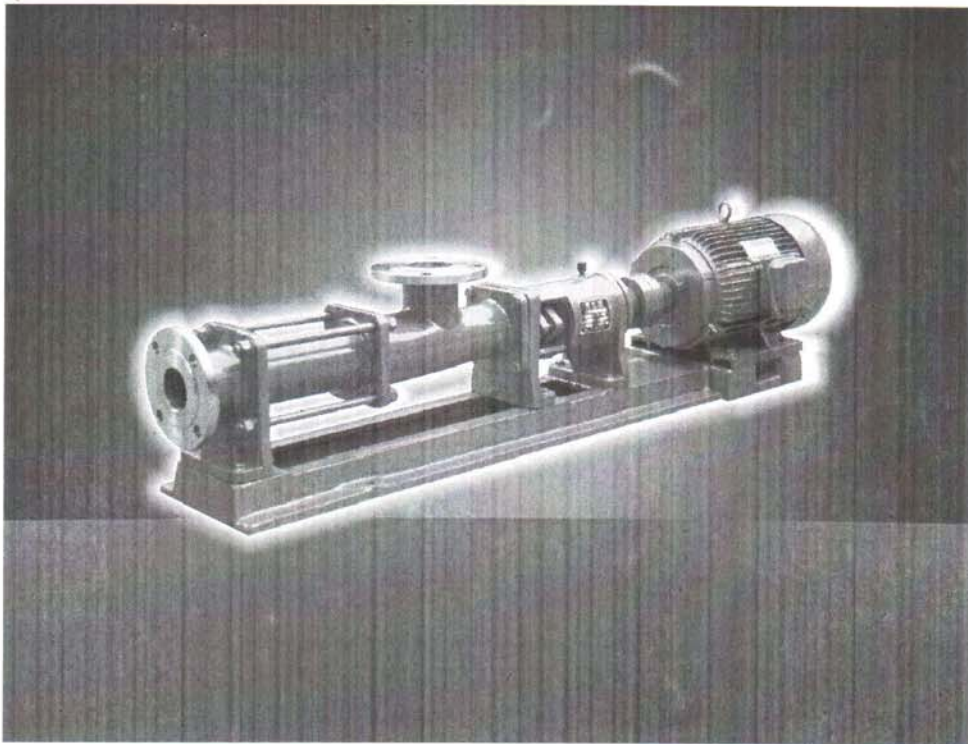


G TYPE

SCREW PUMP

Operation Manual



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G TYPE SCREW PUMP

Summarize

G series pump is the closed type screw pump with inside mesh, belong to rotate cubage pump. Because of its strong applicate with medium, stable flow, well suction capacity, low pressure fluctuate. It is not only can transport kinds of flow medium, but also the medium with high viscosity. hard suspend granule or solid granule and fibre.

Excellent performance and high efficiency make it widely applicate in environment protect, boat, petroleum, chemical, food stuff, pharmacy, brewage, construction, mining, printing, paper making, electricity, boiler industrial, etc.

Operation Principle

As a cubage pump, its main operation parts are eccentric screw (rotator) and static bush (stator). Because of special geometry shape, form several single sealed room. It pump the medium from suction part to discharge part continuously and regularity.

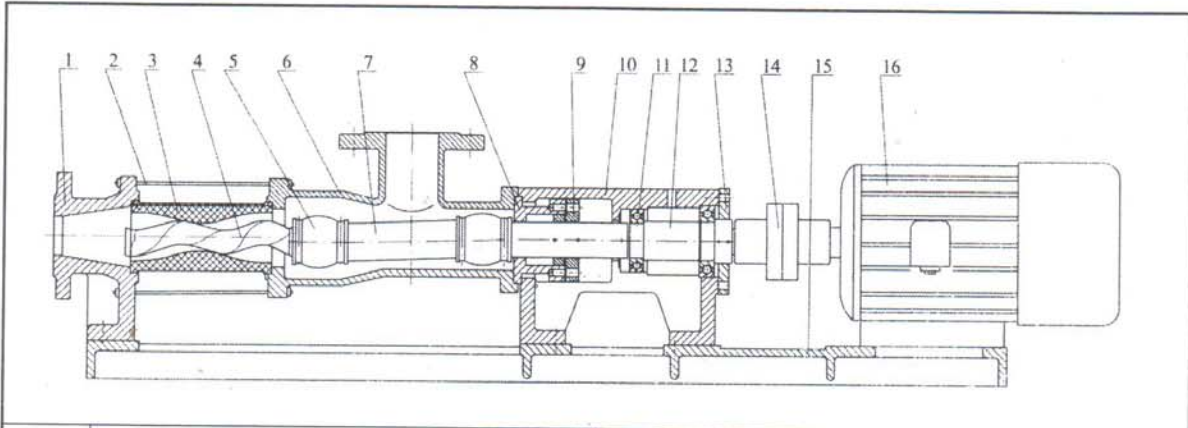
So it is applicate in below working condition:

1. High viscosity medium
2. Medium contain solide granule and fibre
3. Continuous operation, stable pressure without fluctuation
4. Low fluctuate, can not destroy the structure of granule be transported
5. Low noise

Model Introduce



Structure



No.	Name	No.	Name
1	Outlet	9	Stuff Gland
2	Pull Bar	10	Bearing House
3	Stator	11	Bearing
4	Screw Shaft	12	Gearing Shaft
5	Gimbal	13	Bearing Cover
6	Inlet	14	Coupling
7	Connect Shaft	15	Base Plate
8	Stuff Seat	16	Motor

Application Scope

As a general used pump, the flow rate can be adjusted to requirement by changing the rotation speed.

The discharge pressure has a direct proportion relationship with the pump stage, one stage equal 0.6 Mpa pressure. It is widely used to transport medium in the following industries:

1. Environment protection: industrial sewage, residential sewage, medium contains solid granules and fibre, especially in oil-water separator and other machines.
2. Boat industry: boat cleaning, transport oil sewage water and other medium.
3. Petroleum: transport oil and oil mixture.
4. Pharmacy and chemical: kinds of viscosity slurry, emulsified liquid and soft cosmetic.
5. Food stuff: food oil, starch, honey, sugar slurry, milk oil, fish and meat slurry.

G TYPE SCREW PUMP

6. Brewage : kinds of brewing viscosity slurry, thick wine, food dreg and other slurry liquid.
7. Construction: cement slurry, paint
8. Mining: transport the deep well mining water and mud water to the ground.
9. Chemical : solid suspend liquid, grease, bond.
10. Press and paper making: oil sink, pulp, plastic slurry, short fibre slurry.
11. Boiler and electricity power : water coal mixture slurry

Performance Diagram

Performance data base on immobility speed

Model	Flow rate (m ³ /h)	Pressure (Mpa)	Max Speed (r/min)	Motor (kw)	NPSH (m)	Suction Flange dia (mm)	Discharge Flange dia (mm)	Max Granule size (mm)	Max Fibre size (mm)
G20-1	0.8	0.6	960	0.75	4	25	25	1.5	25
G20-2		1.2		1.5					
G25-1	2	0.6	960	1.5		40	32	2	30
G25-2		1.2		2.2					
G30-1	5	0.6	960	2.2		50	40	2.5	35
G30-2		1.2		3					
G35-1	8	0.6	960	3		65	50	3	40
G35-2		1.2		4					
G40-1	12	0.6	960	4		80	65	3.8	45
G40-2		1.2		5.5					
G50-1	14	0.6	720	5.5	4.5	100	80	5	50
G50-2		1.2		7.5					
G60-1	22	0.6	720	11	5	125	100	6	60
G60-2		1.2		15					
G70-1	38	0.6	720	11		150	125	8	70
G70-2		1.2		18.5					
G85-1	56	0.6	630	15		150	150	10	80
G85-2		1.2		30					
G105-1	100	0.6	500	30		200	200	15	110
G105-2		1.2		55					
G135-1	150	0.6	400	45		250	250	20	150
G135-2		1.2		90					

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Performance data base on single stage and mobility speed

Model	Pressure 0.3Mpa			Pressure 0.6Mpa			Rev Mobile Range		
	Rev (r/min)	Flow rate (m ³ /h)	Motor (kw)	Rev (r/min)	Flow rate (m ³ /h)	Motor (kw)	Rev (r/min)	Flow rate (m ³ /h)	Motor (kw)
G20-1	960	0.96	0.75-6 Phase	960	0.8	0.75-6 Phase	125~1250	0.1~1.5	1.1
	720	0.8	0.55-8 Phase	720	0.5	0.75-8 Phase			
	510	0.4	0.55-4 Phase/Gear box	510	0.3	0.75-4 Phase/Gear box			
G25-1	960	2.4	0.75-6 Phase	960	2	1.5-6 Phase	125~1250	0.1~3	1.5
	720	1.5	0.55-8 Phase	720	1.27	1.1-8 Phase			
	510	1.08	0.55-4 Phase/Gear box	510	0.9	1.1-4 Phase/Gear box			
G30-1	960	3.6	1.5-6 Phase	960	3	2.2-6 Phase	125~1250	0.2~4	2.2
	720	2.28	1.1-8 Phase	720	1.9	1.5-8 Phase			
	510	1.63	1.1-4 Phase/Gear box	510	1.35	1.5-4 Phase/Gear box			
G35-1	720	4.8	2.2-8 Phase	720	4.04	3-8 Phase	125~890	0.3~5	3
	510	3.36	1.5-4 Phase/Gear box	510	2.8	2.2-4 Phase/Gear box			
	380	1.92	1.1-4 Phase/Gear box	380	1.60	1.5-4 Phase/Gear box			
G40-1	510	6.8	2.2-4 Phase/Gear box	510	5.6	3-4 Phase/Gear box	125~890	0.3~10	4
	380	5.1	1.5-4 Phase/Gear box	380	4	2.2-4 Phase/Gear box			
	252	2.65	1.1-6 Phase/Gear box	252	2.2	1.5-6 Phase/Gear box			
G50-1	510	13.8	4-4 Phase/Gear box	510	11.5	5.5-4 Phase/Gear box	80~750	1~18	5.5
	380	10.2	4-4 Phase/Gear box	380	7.5	5.5-4 Phase/Gear box			
	252	5.6	3-6 Phase/Gear box	252	4.4	5.5-6 Phase/Gear box			
G60-1	510	20.8	7.5-4 Phase/Gear box	510	16	11-4 Phase/Gear box	63~630	1~20	11
	380	15.6	7.5-4 Phase/Gear box	380	12	11-4 Phase/Gear box			
	252	7.8	5.5-6 Phase/Gear box	252	6	7.5-6 Phase/Gear box			
G70-1	510	26	11-4 Phase/Gear box	510	20	11-4 Phase/Gear box	56~560	1~22	11
	380	17	7.5-4 Phase/Gear box	380	13	11-4 Phase/Gear box			
	252	9.1	7.5-6 Phase/Gear box	252	7	7.5-6 Phase/Gear box			
G85-1	380	32	11-4 Phase/Gear box	380	25	15-4 Phase/Gear box	37~370	2~24	15
	252	21	7.5-6 Phase/Gear box	252	16	11-6 Phase/Gear box			
	189	11	5.5-8 Phase/Gear box	189	8	11-8 Phase/Gear box			
G105-1	380	80	15-4 Phase/Gear box	380	65	22-4 Phase/Gear box	29~290	3~50	22
	252	44	15-6 Phase/Gear box	252	34	22-6 Phase/Gear box			
	189	29	11-8 Phase/Gear box	189	22	15-8 Phase/Gear box			
G135-1	380	132	37-4 Phase/Gear box	380	120	45-4 Phase/Gear box	18~180	3~56	45
	252	95	30-6 Phase/Gear box	252	80	37-6 Phase/Gear box			
	189	65	18.5-8 Phase/Gear box	189	53	30-8 Phase/Gear box			

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Performance data base on single stage and mobility speed

Model	Pressure 0.8Mpa			Pressure 1.2Mpa			Rev Mobile Range		
	Rev (r/min)	Flow rate (m ³ /h)	Motor (kw)	Rev (r/min)	Flow rate (m ³ /h)	Motor (kw)	Rev (r/min)	Flow rate (m ³ /h)	Motor (kw)
G20-2	960	0.96	1.5-6 Phase	960	0.8	1.5-6 Phase	125~1250	0.1~1.5	1.5
	720	0.8	1.1-8 Phase	720	0.5	1.5-8 Phase			
	510	0.4	1.1-4 Phase/Gear box	510	0.3	1.1-4 Phase/Gear box			
G25-2	960	2.4	1.5-6 Phase	960	2	2.2-6 Phase	125~1250	0.1~3	2.2
	720	1.5	1.1-8 Phase	720	1.27	1.5-8 Phase			
	510	1.08	1.1-4 Phase/Gear box	510	0.9	1.5-4 Phase/Gear box			
G30-2	960	3.6	3-6 Phase	960	3	3-6 Phase	125~1250	0.2~4	3
	720	2.28	1.5-8 Phase	720	1.9	2.2-8 Phase			
	510	1.63	1.5-4 Phase/Gear box	510	1.35	2.2-4 Phase/Gear box			
G35-2	720	4.8	3-8 Phase	720	4.04	4-8 Phase	125~890	0.3~5	4
	510	3.36	2.2-4 Phase/Gear box	510	2.8	3-4 Phase/Gear box			
	380	1.92	1.5-4 Phase/Gear box	380	1.60	2.2-4 Phase/Gear box			
G40-2	510	6.8	4-4 Phase/Gear box	510	5.6	5.5-4 Phase/Gear box	125~890	0.3~10	5.5
	380	5.1	3-4 Phase/Gear box	380	4	4-4 Phase/Gear box			
	252	2.65	2.2-6 Phase/Gear box	252	2.2	3-6 Phase/Gear box			
G50-2	510	13.8	5.5-4 Phase/Gear box	510	11.5	7.5-4 Phase/Gear box	80~750	1~18	7.5
	380	10.2	4-4 Phase/Gear box	380	7.5	5.5-4 Phase/Gear box			
	252	5.6	3-6 Phase/Gear box	252	4.4	5.5-6 Phase/Gear box			
G60-2	510	20.8	15-4 Phase/Gear box	510	16	15-4 Phase/Gear box	63~630	1~20	15
	380	15.6	11-4 Phase/Gear box	380	12	15-4 Phase/Gear box			
	252	7.8	7.5-6 Phase/Gear box	252	6	11-6 Phase/Gear box			
G70-2	510	26	15-4 Phase/Gear box	510	20	18.5-4 Phase/Gear box	56~560	1~22	18.5
	380	17	11-4 Phase/Gear box	380	13	15-4 Phase/Gear box			
	252	9.1	11-6 Phase/Gear box	252	7	11-6 Phase/Gear box			
G85-2	380	32	18.5-4 Phase/Gear box	380	25	22-4 Phase/Gear box	37~370	2~24	22
	252	21	15-6 Phase/Gear box	252	16	18.5-6 Phase/Gear box			
	189	11	15-8 Phase/Gear box	189	8	15-8 Phase/Gear box			
G105-2	380	80	30-4 Phase/Gear box	380	65	37-4 Phase/Gear box	29~290	3~50	37
	252	44	30-6 Phase/Gear box	252	34	30-6 Phase/Gear box			
	189	29	22-8 Phase/Gear box	189	22	22-8 Phase/Gear box			
G135-2	380	132	55-4 Phase/Gear box	380	120	75-4 Phase/Gear box	18~180	3~56	75
	252	95	55-6 Phase/Gear box	252	80	75-6 Phase/Gear box			
	189	65	37-8 Phase/Gear box	189	53	45-8 Phase/Gear box			

Performance data base on water coal medium

Model	Flow rate (m ³ /h)	Pressure (Mpa)	Rev (r/min)	Gear Decelerate Motor (kW)
G30-2	~1	1.2	30~300	YCT160/4A-2.2
G35-2	~2	1.2	30~300	YCT160/4A-2.2
G40-2	~3	1.2	30~280	YCT160/4A-3
G50-1	~4.5	0.6	28~280	YCT180/4A-4
G50-2	~4.5	1.2	28~280	YCT200/4A-5.5
G60-1	~6.5	0.6	25~250	YCT200/4A-5.5
G60-2	~6.5	1.2	25~250	YCT200/4B-7.5
G70-1	~8	0.6	25~220	YCT200/4B-7.5
G85-1	~12.5	0.6	18~180	YCT225/4A-11
G105-1	~20	0.6	14~140	YCT225/4B-15
G135-1	~35	0.6	10~100	YCT250/4B-22

Note: 1. The test medium of above data is normal temperature water.

2. The performance data will be changed on different medium or different rev, the flow rate has direct proportion relationship with rev while inverse proportion with medium viscosity and thickness slurry

Select Principle

1. Select rev on medium viscosity

Medium viscosity(cst)	1-1000	1000-10000	10000-100000	100000-1000000
Rev(r/min)	400-1000	200-400	< 200	< 100

2. Select rev on medium grinded lost

Medium grinded condition	Medium name	Rev(r/min)
No grinded	Clean water, Oil, Jam, Soap water, Blood, Glyceria, etc.	400-1000
Common grinded	Industrial sewage, Oil paste, Mortar, Sediment	200-400
Severity grinded	Mud sturry, Lime Slurry, Viscidity soil	50-200

3. Select pump stage on output pressure

Grinded	Single stage	Double stage	Grinded	Single stage	Double stage	Grinded Common	Single stage	Double stage
No	0.6MPa	1.2MPa	Common	0.4MPa	0.8MPa	Severity	0.2MPa	0.4MPa

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4. Pump Rubber Trait

Temperature Medium	Rubber	NBR	FPM	EPDM	NR
Max temperature		+100°C	+150°C	+120°C	+60°C
Anti grinded		○	○	●	○
Anti aging		●	○	○	×
Anti ozone		×	○	○	×
Anti steam		●	○	○	×
Anti lighted		●	○	○	×

● Good ○ Excellent × Bad

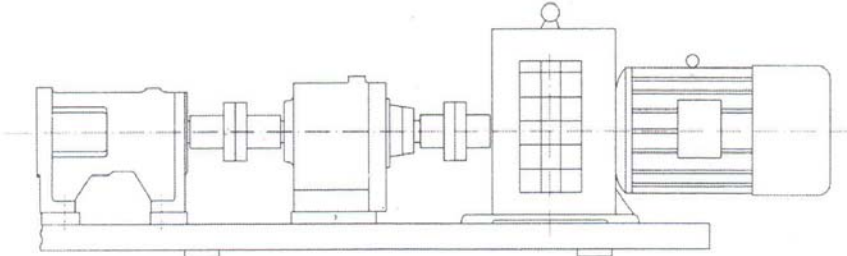
5. Select Stator Rubber on Medium

Temp Medium	Rubber	NBR	FPM	W-NBR	EPDM	NR	Temp Medium	Rubber	NBR	FPM	W-NBR	EPDM	NR
Water		●	●	●	●	△	Grain alcohol		●	●	●	△	●
Plant oil		●	●	●	△	×	Coal oil		●	●	●	×	×
Mineral oil		●	●	●	×	×	Diesel oil		●	●	●	×	×
Ammonia		●	×	●	△	●	Calomel		×	△	×	×	×
Linatool		×	●	×	×	×	Ketone		×	×	×	●	×
Thick alkali		●	×	●	●	×	Ethanol		●	●	●	●	●
Thick nitric acid		×	△	×	×	×	Grease		×	×	×	●	×
Cool vinegar acid		●	●	●	×	△	Aether		×	×	×	●	×
Dilute vitrol		●	●	●	●	●	Slurry		●	△	●	●	●
Thick vitrol		×	●	×	△	×	Phosphate		△	△	△	●	●
Dilute hydrochloric		●	●	×	●	●	Sodium carbonate		●	×	●	●	●
Thick acid		●	●	●	●	●	Sugar aldehyde		△	△	△	●	×
Hot water		△	×	△	●	×	Benzeneloo		×	●	×	×	×
Gasoline		●	●	●	×	×	Acet		×	×	×	●	×
Toluene		×	●	×	×	×	Linseed oil		●	●	●	●	×
Xylene		×	●	×	×	×	Carbon bisulfide		×	●	×	×	×

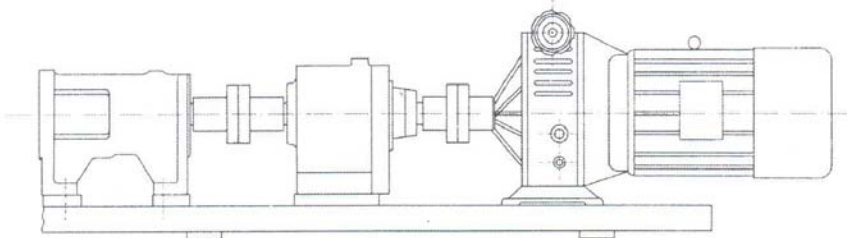
● Good ○ Common × Bad

Driving Mode

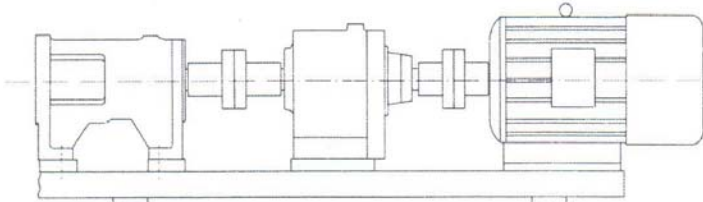
Gear Electromagnetism Speed Adjust Motor Driving



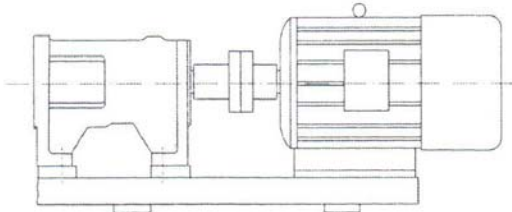
Gear Speed Adjust Motor Driving



Gear Common Motor Driving

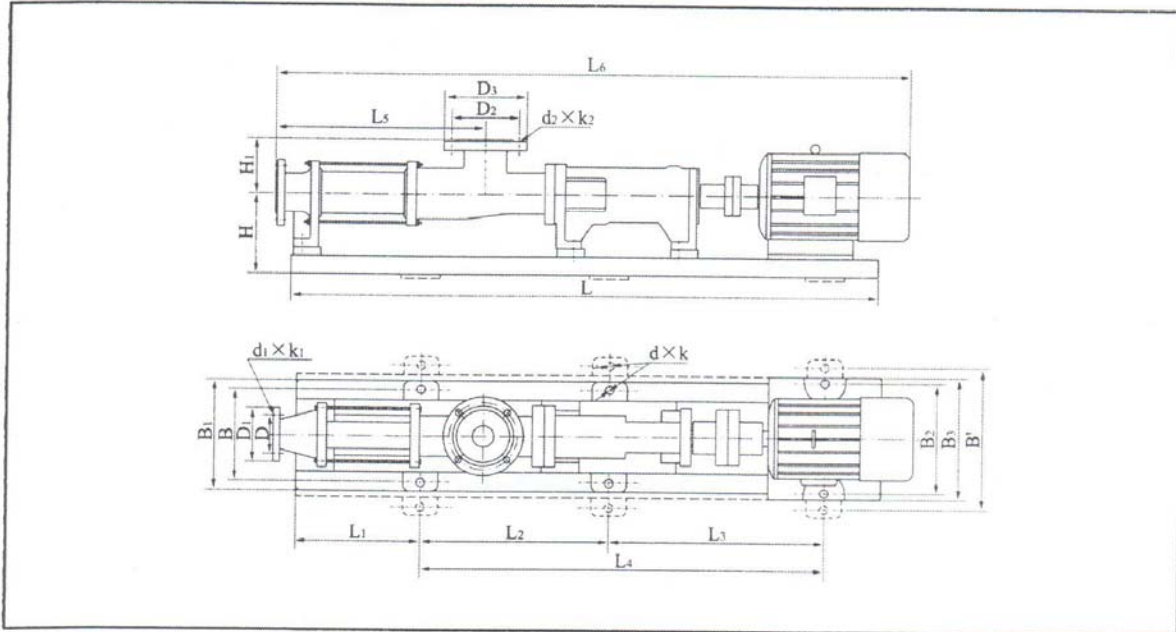


Common Motor Driving



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Installation Size



Model	L	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	H	H ₁	B	B ₁	B ₂	B ₃	B'	D	D ₁	D ₂	D ₃	d × k	d ₁ × k ₁	d ₂ × k ₂
G20-1	1010	225			690	360	1150	150	95	160	190	185	215		85	115	85	115	4 × 12	4 × 14	4 × 14
G20-2		100		715	310	975		140	230	175	175				85	115	85	115	4 × 12	4 × 14	4 × 14
G25-1	1010	225			690	360	1150	150	95	160	190	185	215		85	115	100	135	4 × 12	4 × 14	4 × 14
G25-2	1140	185			850	470	1280	150	95	160	200	220	250		85	115	100	135	4 × 12	4 × 14	4 × 14
G30-1	1150	200			850	420	1300	170	130	195	225	220	250		110	145	125	160	4 × 12	4 × 18	4 × 18
G30-2	1360	250			1000	575	1540	190	130	220	250	250	290		110	145	125	160	4 × 12	4 × 18	4 × 18
G35-1	1230	225			890	450	1410	190	135	220	250	260	285		125	160	145	180	4 × 14	4 × 18	4 × 18
G35-2	1450	125	600	600		615	1610	190	135	220	250	260	290		125	160	145	180	6 × 14	4 × 18	4 × 18
G40-1	1350	225			990	470	1510	200	130	220	250	260	285		145	180	160	195	4 × 14	4 × 18	4 × 18
G40-2	1540	120	650	650		665	1700	200	130	220	260	260	290		145	180	160	195	6 × 14	4 × 18	4 × 18
G50-1	1480	135	580	630		550	1620	225	150	250	280	250	290		160	195	180	215	6 × 16	8 × 18	8 × 18
G50-2	1800	140	760	760		790	1960	225	150	250	280	300	330		160	195	180	215	6 × 16	8 × 18	8 × 18
G60-1	1720	175	680	690		570	1810	225	160	260	300	300	330		180	215	210	245	6 × 16	8 × 18	8 × 18
G60-2	2040	200	800	800		820	2140	225	160				350	400	180	215	210	245	6 × 16	8 × 18	8 × 18
G70-1	1950	175	800	800		680	2120	245	150				350	400	210	245	240	280	6 × 18	8 × 18	8 × 18
G85-1	2620	210	1100	1100		945	2810	275	170				350	400	240	280	225	265	6 × 18	8 × 18	8 × 18
G105-1						1193		300	195						295	340	280	320	6 × 18	12 × 22	8 × 18
G135-1																					

Note: Base plate is made of iron or stainless steel, the install size of the former is lined with real line, the latter is lined with broken line.

Attention

1. Pls check the pump rotate direction before started, no inverse allowed.
2. No empty operation (without medium) to protect stator.
3. Before started, pls fill some oil or soap water into pump body, handle pump with cannulation forceps, for sure no rub.
4. To avoid jamming, clean pump body with water or impregnant, after transport medium with high viscosity or granule or corrosive .
5. In winter, after shut off, dry the pump to avoid fracture .
6. The bearing seat should have enough lubricant , if not , pls add in time , when discover the leakage, pls check on time and change the oil seal.
7. Any abnormal when operation, pls shut off immedi ally and verified.

Fault And Solve

Fault	Reason	Solve
Can not started	1. Rotator and stator is too tight 2. Low voltage 3. Medium viscosity is too high	1. Handle it to released 2. Check, adjusted 3. Dilute the medium
Can not transported	1. Wrong rotate direction 2. Suction pipe has problem 3. Medium viscosity is too high 4. Stator, rotator or other rotator part has broken 5. Jam	1. Verify direction 2. Check the leakage, open valve in inlet and outlet 3. Dilute it 4. Check and change 5. Cleaned
Flow shortage	1. Pipe leakage 2. Valve is not full opened or jam partially 3. Too low speed 4. Rotator or stator has broken	1. Check and verify 2. Open all valve and cleaned the jam 3. Adjust it 4. Change it
Pressure shortage	ROtator or stator has been broken	CHanged
Motor is too hot	1. Motor fault 2. The discharge pressure is too high, motor is overload 3. Stator burn out or adhibit to the rotator	1. Check motor voltage, electricity, frequency 2. Check head, full opened discharge valve, cleaned jam 3. Change the broken accessories
Flow and pressure come down rapidly	1. Pipe suddenly jamed or leakage 2. Stator badly broken 3. Medium viscosity changed suddenly 4. Voltage come down suddenly	1. Check and verify 2. Change 3. Verify 4. Verify
Shaft seal part leakage so much	1. Solf packing stuff grinded 2. Mechanical seal broken	1. Tighted or change the packing stuff 2. Repair or changed