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Pump & Marine Systems

- Centrifugal pumps / Mixed flow pumps
- Gear pumps / Piston pumps
- Vortex pumps
- Submersible pumps
- Hydrophore units
- Fire fighting pumps
- Selfpriming, vacuum systems
- Reversible pumps for anti-heeling systems
- Macerator pumps (CE Certified)



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Pump & Marine Systems Co., Ltd.

www.goriopump.kr

🌐 SERVICE_

- 🌐 WORLDWIDE PRESENCE VIA SALES AND SERVICE OFFICES IN MORE THAN 20 COUNTRIES
- 🌐 24 H-AVAILABILITY / HOTLINE
- 🌐 TECHNICAL CUSTOMER SUPPORT
- 🌐 INCREASE MACHINE AVAILABILITY BY USING SERVICE CONTRACTS

🌐 MARKETS_

- 🌐 UNIVERSAL USE IN MOST INDUSTRIES
- 🌐 CUSTOMIZED SOLUTIONS FOR DIFFERENT USER REQUIREMENTS
- 🌐 STRATEGICAL PARTNERSHIPS IN THE CORE PROCESSES OF DIFFERENT BRANCHES
- 🌐 MARKET ORIENTED USE OF PUMP SPECIALISTS

🌐 KNOW HOW_

- 🌐 DECADES OF EXPERIENCE PERFORMING AT TECHNICAL STANDARD
- 🌐 INNOVATION DRIVEN PROCESSES IMPROVEMENTS
- 🌐 CUSTOMER INTEGRATION IN PRODUCT DEVELOPMENT
- 🌐 USE OF EFFICIENT STATE OF THE ART MACHINE TOOLS TO GUARANTEE THE MOST EFFICIENT PRODUCTION PROCESSES

An aerial photograph of a large offshore oil rig, likely a jack-up rig, positioned in the middle of the ocean. The rig is a complex structure of steel beams and platforms, with a prominent derrick in the center. Several cranes are visible on the deck. The rig is surrounded by a dark blue sea, and the sky is a pale, hazy blue. The overall scene conveys a sense of industrial scale and maritime operations.

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QUALITY_

- MAJOUR CERTIFICATES AVAILABLE : KR, LR, BV, ABS, NK, DNV, GL, RS, KST, RINA ETC.
- OPTIMIZED SELECTION OF MATERIALS AND SURFACE COATINGS SELECTED PER EACH INDIVIDUAL APPLICATION
- LOW LIFE CYCLE COSTS MEAN MORE ECONOMICAL PUMP USE

CERTIFIED COPY Certificate No: BUS 000464
Page 1 of 1

Lloyd's Register
Certificate For Pumps

Manufacturer Gorio Pump Marine Co., Ltd 43972-13 Gangdong-dong Gangseo-gu Busan Korea	Office Busan Port Date: 07 October 2009 Work's order number
Client Gorio Pump Marine Co., Ltd Date of inspection 25 September 2009	Intended for Jiangsu, Rongsheng Heavy Ind - W1922/23/34/35 Last date of inspection 25 September 2009

This certificate is issued to the above Client to certify that the pump(s) hereto, were surveyed at the manufacturer's works and that satisfactory hydraulic running tests were witnessed.

Particulars Manufacturer's Designation Gray Water Pump x 4 sets	Pump serial numbers 89624142/43
Pump type GWP-400	Intended service Sewage Treatment System

The pump(s) described herein comply with the requirements of the Rules and Regulations for the Classification of Ships in connection with the intended service.

Hydraulic Test Test pressure on pump casing or cylinders (bar) 10	Test pressure on steam jackets (bar)
---	--------------------------------------

Running Tests Capacity delivered 15 m ³ /hr	Number of double strokes or rev per minute 3520
Discharge pressure 3.2	Total head 32m

Electrically Driven Pumps Volts 440	Steam Driven Pumps Steam pressure (bar)
Amperes 6.4	Exhaust pressure (bar/psi)
Supply frequency (Hz)	60

Identification Marking
Identification number (including office contraction code)
LR BUS 000464

T.P. (Date)
07 Oct 2009

Initials and date
JSM

Remarks
Survey was being
Surgeon in Lloyd's Register Asia
A member of the Lloyd's Register Group

Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or for any other loss, damage or expense caused by reliance on the information or advice in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Form 1085 (05/08/02)

Certificate of Conformity

We state that, on the basis of technical documentation, the Company:
Gorio Pump & Marine Systems Co., Ltd.

Reg. No: CA10P2167

Address:
3792-13, Gangdong-dong, Gangseo-gu,
Busan, 616-802, Korea

has been verified for the presence of the documents required by:
2006/42/EC Machinery Directive, Annex VII

for the following Product:
Sewage Pumps with Cutting Device

Brand name:
Gorio Pump & Marine Systems Co., Ltd.

Model:
GEV 40 (A-F)

Reference documentation:
T.F. Document No : 6546907 (rev.0 / Aug. 13. 2010)

This attestation is subject to CERMET ASIA regulations and it is valid only for the above mentioned Machinery Directive.

This attestation, different from an EC Certificate, counts as Attestation of conformity to be used by first part.

Issue date:	Sep. 16. 2010	CERMET ASIA Lead Auditor	CERMET ASIA General Manager
Last revised date:	NA		
Expiry date:	NA		
Revision:	0		
Page:	1 of 1		

CERMET ASIA LM.
SJ Technovill 708, #10-13, Gusan-dong, Gumi-si, Seoul, Korea
Tel : +82.2.3397.0107 - Fax : +82.2.3397.0105

CE The CE marking may be used if all relevant and effective EC directives are complied with.

CERMET
Certification and research for quality

CERMET S.p.A. - Headquarter Italy - Via Cadriano 23 - 43057 Cadriano di Grosseto (GR) - Tel +39.051.764811 - Fax +39.051.763362 - www.cermet.it

CreBiz QM

QUALITY MANAGEMENT SYSTEM CERTIFICATE

QA080156

Gorio Pump & Marine System CO., LTD.
#3972-13, Gangdong-dong, Gangseo-gu, Busan, Korea

KS A 9001:2009 / ISO 9001:2008

This certificate is valid for the following product or service ranges :

**Development, Production and Servicing of
Pumps & Compressors**

Valid until : May 07, 2011 Date : May 08, 2008

Approved by : *[Signature]*
President CreBiz QM

* Lack of fulfillment of conditions described in the Guide for Certification Process may render this Certificate invalid.
* The Certification scope above has been approved by Accreditation Body.
* Further modifications regarding the scope of this certificate and the applicability of ISO 9001 : 2000 requirements may be obtained by consulting the organization.

CERBIQ M #7, Yongdeong-dong 74-ka, Yeongdeugun-Gu, Busan, Korea, TEL : 01-3994-7022 FAX : 01-3994-8029

제 2010021003 호

벤처기업확인서

업 체 명 : (주)고려펌프마린
대 표 자 : 이원훈
소 재 지 : 부산 강서구 강동동 3972-13
확 인 유 형 : 기술원기보증기업(기술보증기금)
평 가 기 관 : 기술보증기금
유 효 기 간 : 2010년 03월 18일 - 2012년 03월 17일

위 업체는 벤처기업육성에관한특별조치법 제25조의
규정에 의하여 벤처기업임을 확인합니다.

2010년 03월 18일

KIBO 기술보증기금 이사장 *[Seal]*

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GHC - Series

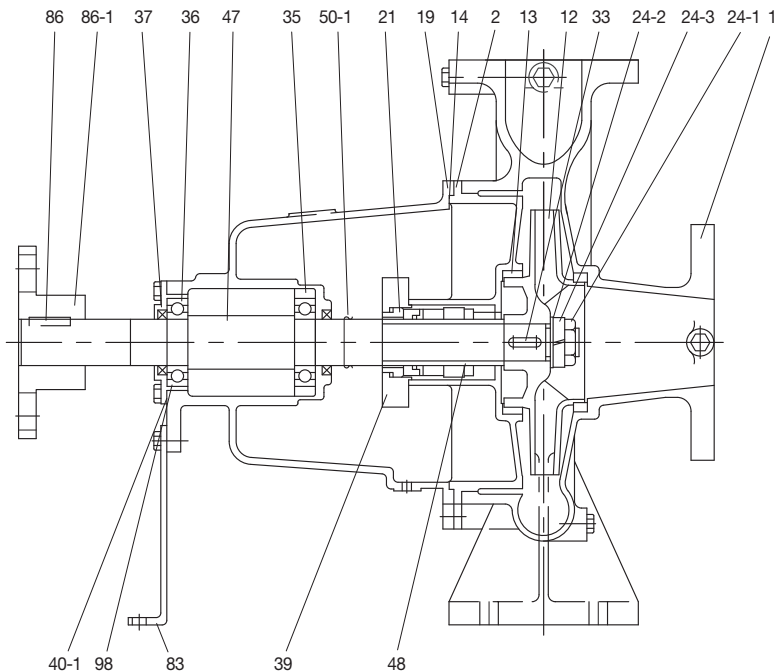
- › Horizontal Centrifugal Pump, Single Stage
- › Application : Fresh Water, Sea Water
- › Service : General Service, Cooling, Ballast, Transfer etc.

Principal Particulars

Item	Model	GHC 40A	GHC 40B	GHC 50A	GHC 50B	GHC 50C	GHC 65B	GHC 65C	GHC 80B	GHC 80C	GHC 80D
Direction of rotation		Clockwise viewed from driver end									
Suction bore (mm)		40	40	50	50	50	65	65	80	80	80
Discharge bore (mm)		32	32	40	40	40	50	50	65	65	65
Shaft seal		Mechanical seal									
Weight : GC(BC)* (kg)		24 (27)	32 (36)	26 (30)	37 (42)	60 (67)	43 (49)	60 (67)	49 (56)	67 (74)	73 (80)

*Weight : bare shaft pump *GC : Grey cast iron *BC : Bronze For extended flow rate : Available upon request

Sectional Drawing



Standard Materials

PART	NAME OF PART	MATERIAL	KS	Q'ty
1	Volute Casing	Cast Iron	GC200	1
2	Casing Cover	Cast Iron	GC200	1
83	Support	Steel	SB41	1
47	Shaft	Duplex	SS	1
12	Impeller	Bronze	BC6	1
35	Ball Bearing	Bearing Steel		1
36	Ball Bearing	Bearing Steel		1
19	Bearing Housing	Cast Iron	GC200	1
37	Bearing Case	Cast Iron	GC200	1
40-1	Gasket	Non Asbestos		1
21	Mechanical Seal	Tc : Carbon		1
39	Seal Cover	Stainless Steel	STS304	1
13	Casing Wear Ring	Bronze	BC6	1
14	O-Ring	Rubber		1
50-1	Thrower	NBR		1
48	Shaft Sleeve	Stainless Steel	STS304	1
86-1	Coupling Half	Cast Iron	GC200	1
24-1	Impeller Nut	Stainless Steel	STS304	1
24-2	Plain Washer	Steel	SB41	1
24-3	Spring Lock Washer	Steel	SB41	1
98	Wave Spring	Spring Steel	1	
33	Impeller Key	Steel	SM45C1	
86	Coupling Key	Carbon Steel	SM45C1	

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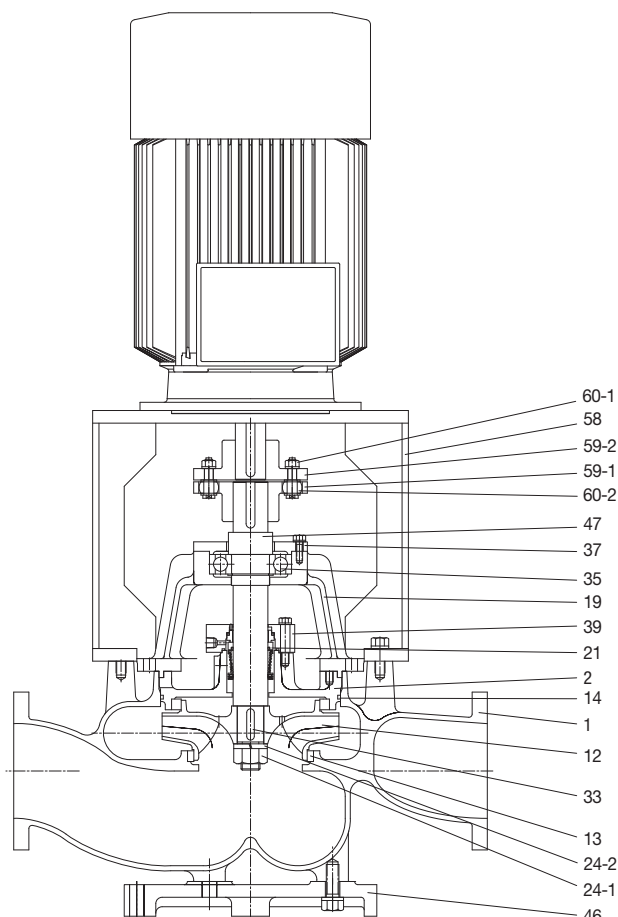
GVC - Series

- › Vertical Centrifugal Pump, Single Stage
- › Application : Fresh Water, Sea Water
- › Service : General Service, Cooling, Ballast, Transfer etc.

Principal Particulars

Item	Model	GVC40	GVC65B	GVC80C	GVC125B	GVC125C	GVC125D	GVC150C	GVC200B	GVC200C
Direction of rotation		Clockwise viewed from driver end								
Suction bore (mm)		40	65	80	125	125	125	150	200	200
Discharge bore (mm)		40	65	80	125	125	100	150	200	200
Weight : GC(BC) (kg)			240 (243)	263 (278)	258 (276)	301 (323)	359 (388)	340 (378)	364 (396)	364 (396)

Sectional Drawing



Standard Materials

PART NO.	NAME OF PART	FOR FRESH WATER		REQ. NO. FOR 1 PUMP
		NAME	KS	
1	Casing	Bronze	BC 6	1
2	Casing Cover	Bronze	BC 6	1
12	Impeller	Prospore Bronze	PBC 2	1
13	Wearing	Bronze	BC 6	2
14	O-Ring	Rubber		1
19	Bearing Housing	Cast Iron	GC200	1
21	Mechanical Seal	TC/CA		1
24-1	Impeller Nut	Stainless Steel	STS304	1
24-2	Spring Washer	Stainless Steel	STS304	1
33	Impeller Key	Stainless Steel	STS304	1
35	Ball Bearing	Bearing Steel		1
37	Bearing Cover	Cast Iron	GC200	1
39	Seal Cover	Stainless Steel	STS304	1
46	Pump Foot	Cast Iron	GC200	1
47	Shaft	Stainless Steel	STS304	1
58	Motor Frame	Mild Steel	SS400	1
59-1	Pump Coupling	Cast Iron	GC200	1
59-2	Motor Coupling	Cast Iron	GC200	1
60-1	Bolt.Nut for Coupling			1
60-2	Rubber for Coupling Bolt			

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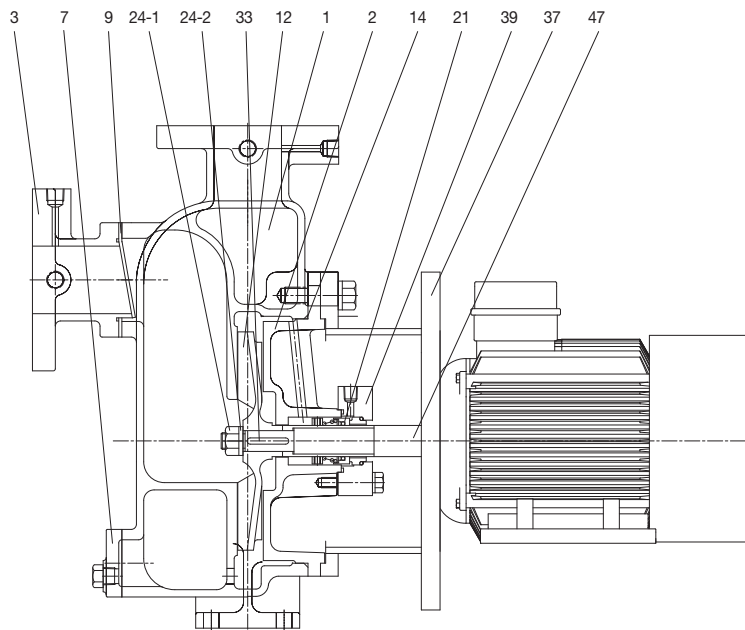
GHS - Series

- › Horizontal Centrifugal Pump, Single Stage, Self-priming
- › Application : Fresh Water, Sea Water
- › Service : General Service, Bilge, Discharge, Drain etc.

Principal Particulars

Item	Model	GHS40	GHS65	GHS80	GHS100	GHS125
Direction of rotation		Clockwise viewed from driver end				
Suction bore (mm)		40	65	80	100	125
Discharge bore (mm)		40	65	80	100	125
Shaft seal		Mechanical seal				
Weight : GC(BC)* (kg)		36 (40)	65 (74)	73 (114)	110 (120)	160 (180)

Sectional Drawing



Standard Materials

PART NO.	NAME OF PART	MATERIAL		REQ.NO. FOR 1 PUMP
		NAME	KS	
1	Casing	Cast Iron	GC200	1
2	Casing Cover	Cast Iron	GC200	1
3	Suction Cover	Cast Iron	GC200	1
7	Drain Cover	Cast Iron	GC200	1
9	Suction Check Valve	Rubber		1
12	Impeller	Bronze	BC 6	1
14	O-Ring	Rubber		1

PART NO.	NAME OF PART	MATERIAL		REQ.NO. FOR 1 PUMP
		NAME	KS	
21	Mechanical Seal	TC/CA		1
24-1	Impeller Nut	Stainless Steel	STS304	1
24-2	Spring Washer	Stainless Steel	STS304	1
33	Impeller key	Stainless Steel	STS304	1
37	Adapter	Steel	SS400	1
39	Seal Cover	Stainless Steel	STS304	1
47	Shaft	Stainless Steel	STS304	1

GHC

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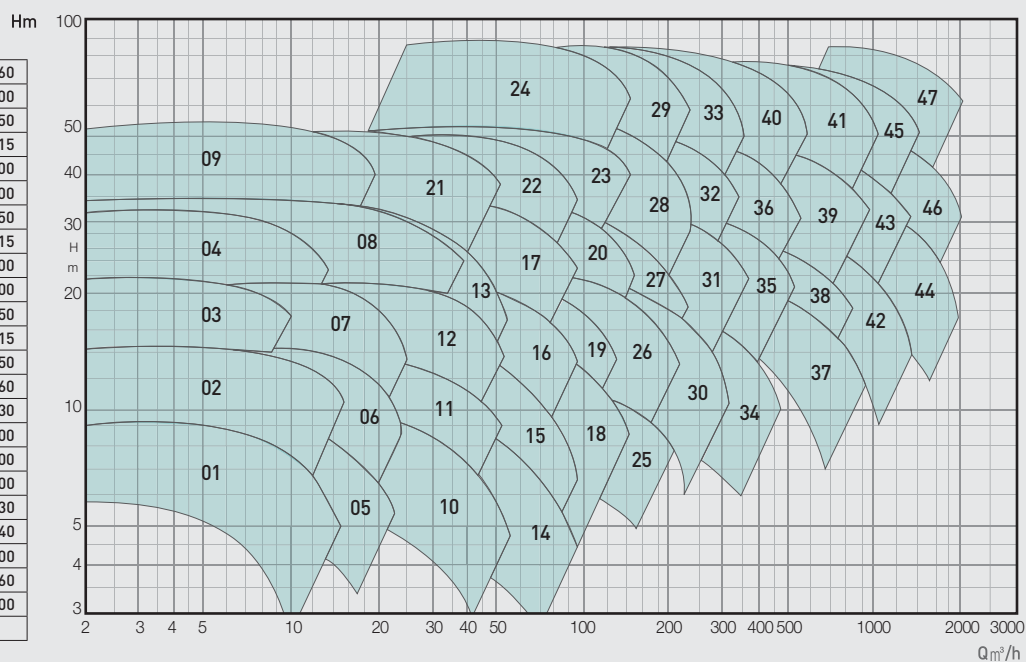
GEV

GHC - Series / GVC - Series / GHS - Series

General Selection Chart

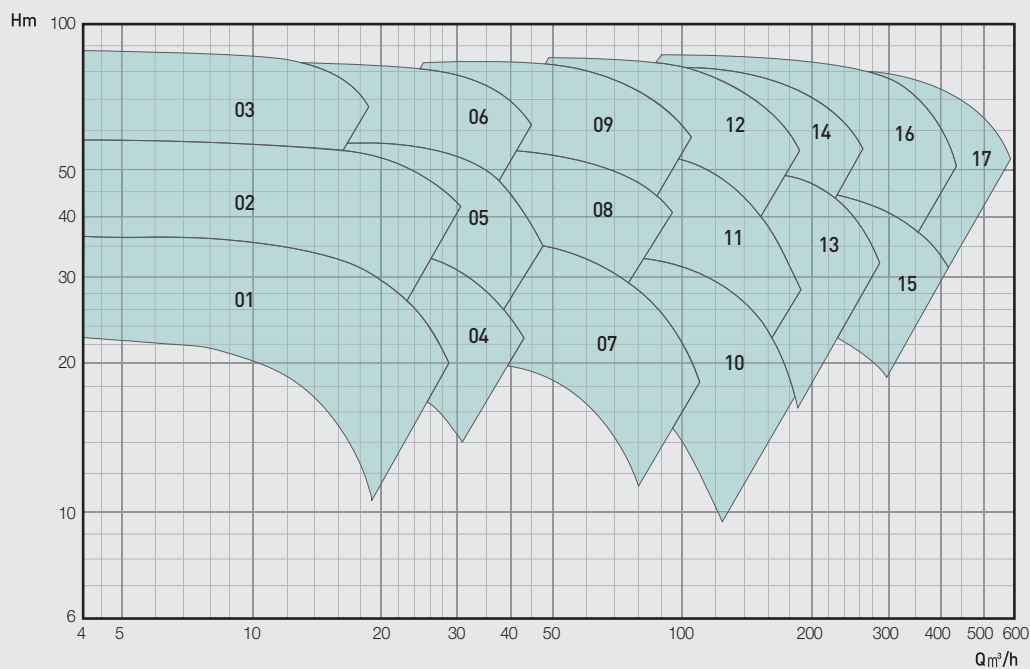
60Hz 4P (1750 rpm)

01	40 - 125	25	125 - 160
02	40 - 160	26	125 - 200
03	40 - 200	27	125 - 250
04	40 - 250	28	125 - 315
05	50 - 125	29	125 - 400
06	50 - 160	30	150 - 200
07	50 - 200	31	150 - 250
08	50 - 250	32	150 - 315
09	50 - 315	33	150 - 400
10	65 - 125	34	200 - 200
11	65 - 160	35	200 - 250
12	65 - 200	36	200 - 315
13	65 - 250	37	250 - 250
14	80 - 125	38	250 - 260
15	80 - 160	39	250 - 330
16	80 - 200	40	250 - 400
17	80 - 250	41	250 - 400
18	100 - 160	42	300 - 300
19	100 - 200	43	300 - 330
20	100 - 250	44	300 - 340
21	100 - 315	45	400 - 400
22	100 - 315	46	400 - 360
23	100 - 315	47	400 - 400
24	100 - 400		



60Hz 2P (3550 rpm)

1	50 - 125
2	50 - 160
3	50 - 200
4	65 - 125
5	65 - 160
6	65 - 200
7	80 - 125
8	80 - 160
9	80 - 200
10	100 - 125
11	100 - 160
12	100 - 200
13	125 - 160
14	125 - 200
15	150 - 160
16	150 - 200
17	200 - 200



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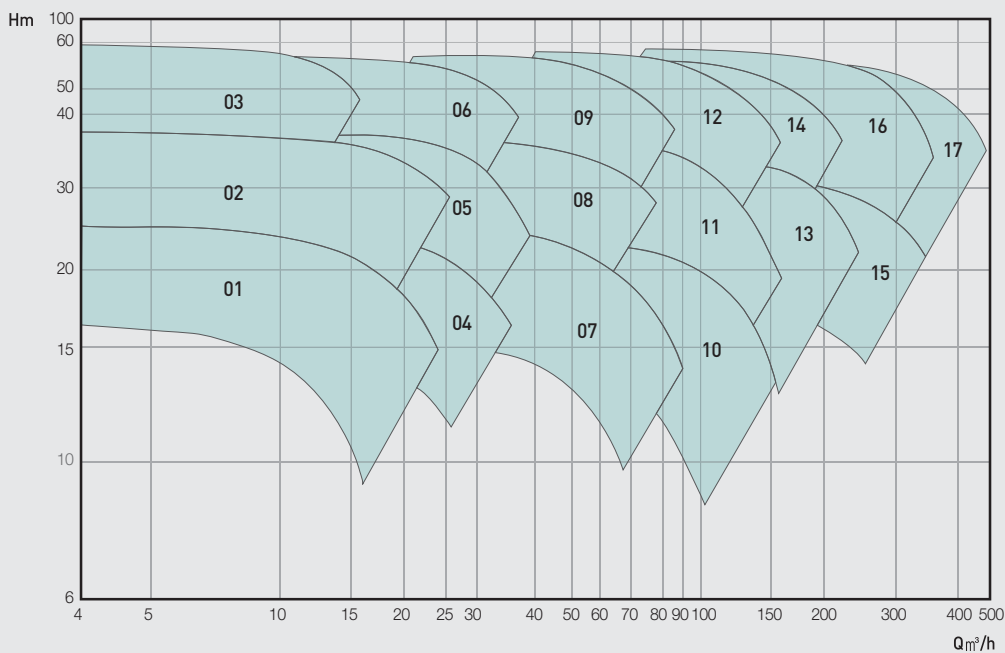


GHC - Series / GVC - Series / GHS - Series

■ General Selection Chart

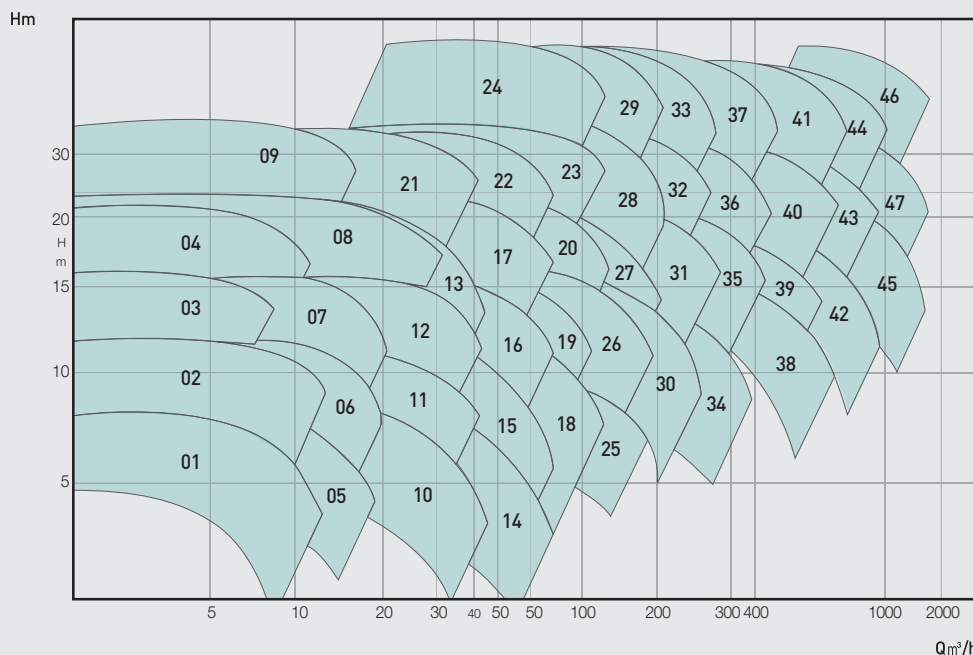
50Hz 2P (2950 rpm)

1	40 - 125
2	40 - 160
3	40 - 200
4	50 - 125
5	50 - 160
6	50 - 200
7	65 - 125
8	65 - 160
9	65 - 200
10	80 - 125
11	80 - 160
12	80 - 200
13	100 - 160
14	100 - 200
15	125 - 160
16	125 - 200
17	150 - 200



50Hz 4P (1450 rpm)

01	40 - 125	25	125 - 160
02	40 - 160	26	125 - 200
03	40 - 200	27	125 - 250
04	40 - 250	28	125 - 315
05	50 - 125	29	125 - 400
06	50 - 160	30	150 - 200
07	50 - 200	31	150 - 250
08	50 - 250	32	150 - 315
09	50 - 315	33	150 - 400
10	65 - 125	34	200 - 200
11	65 - 160	35	200 - 250
12	65 - 200	36	200 - 315
13	65 - 250	37	200 - 400
14	80 - 125	38	250 - 250
15	80 - 160	39	250 - 260
16	80 - 200	40	250 - 330
17	80 - 250	41	250 - 400
18	100 - 160	42	300 - 300
19	100 - 200	43	300 - 330
20	100 - 250	44	300 - 400
21	100 - 315	45	350 - 340
22	100 - 315	46	350 - 400
23	100 - 315	47	400 - 360
24	100 - 400		

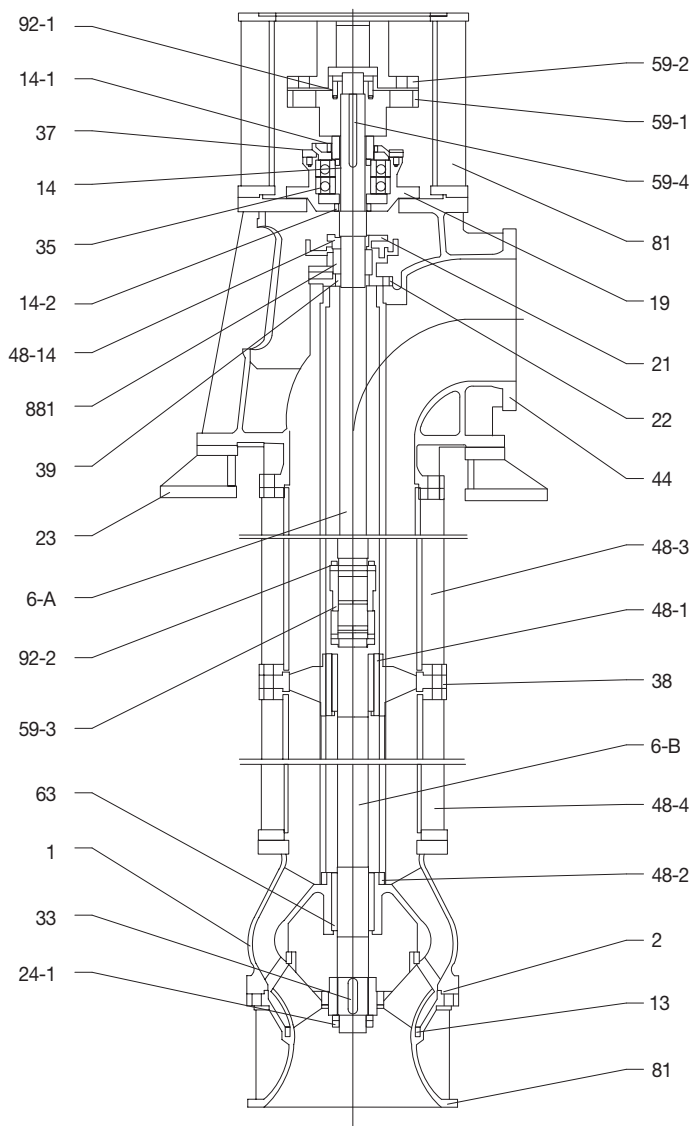


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GDWP - Series

- › Vertical Mixed Flow Pump, Single-Stage or Multi-Stage, Deep Well
- › Application : Fresh Water, Sea Water, LO
- › Service : Main LO, Drain, Intake, Irrigation, Discharge etc
- › Flow Rate : up to 800 m³/h
- › Dif. Pressure : up to 8 bar
- › Column Head : 6 m max.

■ Sectional Drawing



■ Standard Materials

PART NO.	PART DESCRIPTION	MATERIAL		Q'TY
		NAME	KS	
112	Guide Casing	Cast Iron	GC200	1
138	Suction Bell	Cast Iron	GC200	1
144	Discharge Elbow	Cast Iron	GC200	1
211	Lower Shaft	Stainless Steel	STS304	1
213	Upper Shaft	Stainless Steel	STS304	1
230	Impeller	Cast Iron	GC200	1
321	Ball Bearing	Bearing Steel	STB2	1
341	Motor Frame	Mild Steel	SS400	1
350	Bearing Housing	Cast Iron	GC200	1
360	Bearing Housing	Cast Iron	GC200	1
383	Bearing Spider	Cast Iron	GC200	1
421.0	Oil Seal	NBR		1
421.1	Oil Seal	NBR		1
451	Stuffing Box Housing	Cast Iron	GC200	1
452	Packing Gland	Cast Iron	GC200	1
458	Lantern Ring	Bronze Casting	BC6	1
461	Packing	Non Asbestos		4
502	Ccasing Wear Ring	Bronze Casting	BC6	2
524	Shaft Pro. Selve	Stainless Steel	STS304	1
526	Centering Sleeve	Carbon Steel	SM45C	1
545	Bearing Bush	Rubber+STS304		2
711.0	Column Pipe(Lower)	Mild Steel	SS400	1
711.1	Column Pipe(Upper)	Mild Steel	SS400	1
714.0	Shaft Pro. Pipe(Lower)	Stainless Steel	STS304TP	1
714.1	Shaft Pro. Pipe(Upper)	Stainless Steel	STS304TP	1
852	Screwed Coupling	Stainless Steel	STS304	2
861.0	Coupling Half	Cast Iron	GC200	1
861.1	Coupling Half	Cast Iron	GC200	1
891	Base Plate	Mild Steel	SS400	1
916	Adjusting Screw	Stainless Steel	STS304	4
922	Impeller Nut	Stainless Steel	STSS304	2
924	Adjusting Nut	Mild Steel	SS400	1
940	Impeller Key	Stainless Steel	STS304	1
941	Coupling Key	Carbon Steel	SM45C	1

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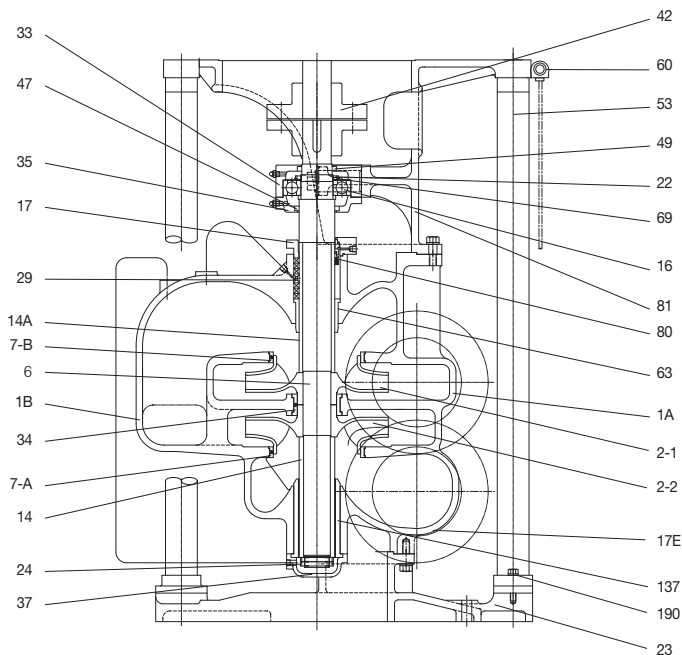
GVS - Series

- › Vertical Centrifugal Pump, Two-Stage
- › Application : Fresh Water, Sea Water
- › Service : General Service & Fire Fighting (G/S & Fire), Emergency Fire, High Pressure, Cooling etc.

Principal Particulars

Item	Model	GVS - 2S - 100	GVS - 2S - 150	GVS - 2S - 200	GVS - 2S - 250
Direction of rotation		Clockwise viewed from driver end			
Suction bore (mm)		100	150	200	250
Discharge bore (mm)		100	150	200	250
Weight : GC(BC)* (kg)		520 (565)	640 (695)	720 (780)	850 (925)

Sectional Drawing



Standard Materials

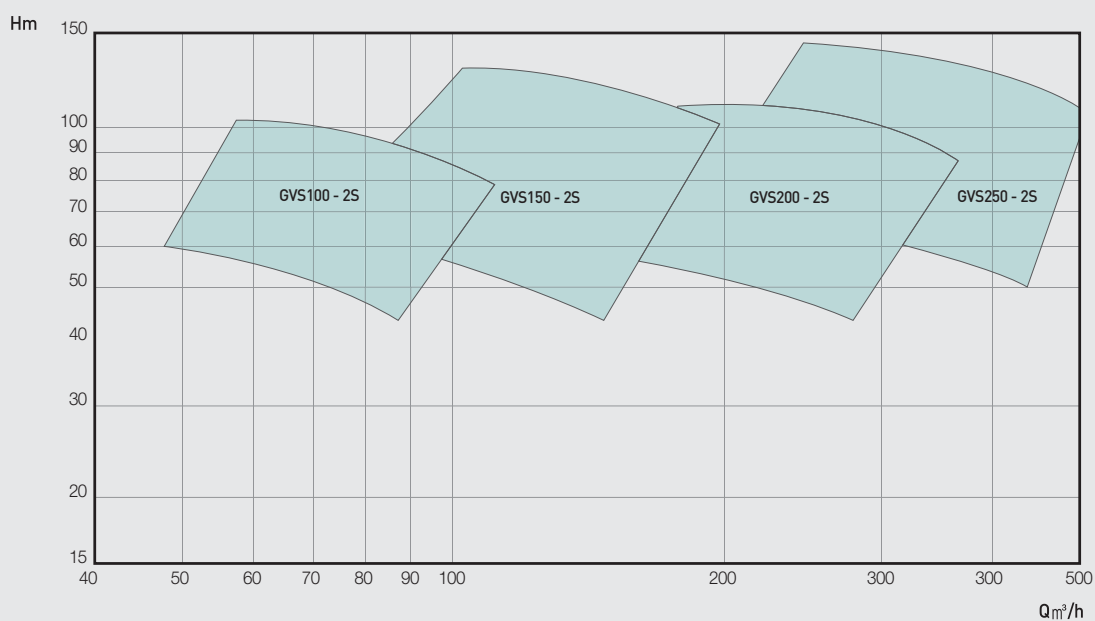
NO.	Part Name	Q'ty	Material	Remark
1A	Casing Low	1	GC 200	
1B	Casing Up	1	GC 200	
2-2	Lower Impeller	1	PBC 2	
2-1	Upper Impeller	1	PBC 2	
6	Shaft	1	STS 304	
7-A	LOWER Casing Ring	1	BC 6	
7-B	UPPER Casing Ring	1	BC 6	
14	Sleeve	1	STS 304	
14A	Sleeve	1	STS 304	
16	Ball Bearing	1	STB 2	
17	Seal Cover	1	STS 304	
17E	End Cover	1	BC 6	
22	Bearing Nut	1	SS 400	
23	Stool	1	GC 200	
24	Sleeve Nut	2	SS 400	
29	Mechanical Seal	1	TC/CA	
33	Bearing Housing	1	GC 200	
34	Interstage Bush	1	BC6	
35	Bearing Cover(up)	1	GC 200	
37	Bearing Cover(dawn)	1	GC 200	
42	Coupling	1SET	GC200	
47	Oil Seal	1	NBR	
49	Oil Seal	1	NBR	
53	Support	3	SS 400	
60	Air Ejector	1	BC6	
63	Throttling Bush	1	BC6	
69	Bearing Washer	1	SS400	
80	Mechanical Seal	1SET	TC/CA	
81	Motor frame	1	GC200	
137	Sleeve Bearing	1	BC6	
190	Support Gland	1	BC6	

GHG
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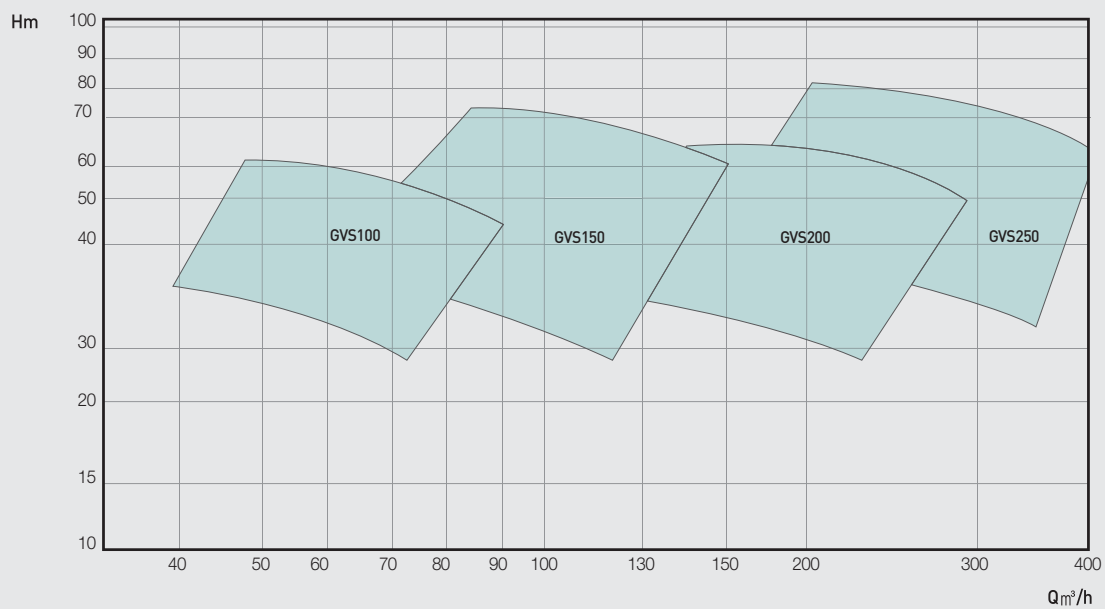
GVS - Series

■ General Selection Chart

60Hz 4P (1750 rpm)



50Hz 4P (1450 rpm)



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GVD - Series

- › Vertical Centrifugal Pump, Single Stage, Double Suction
- › Application : Fresh Water or Sea Water
- › Service : Ballast, Sea Water Circulation etc.

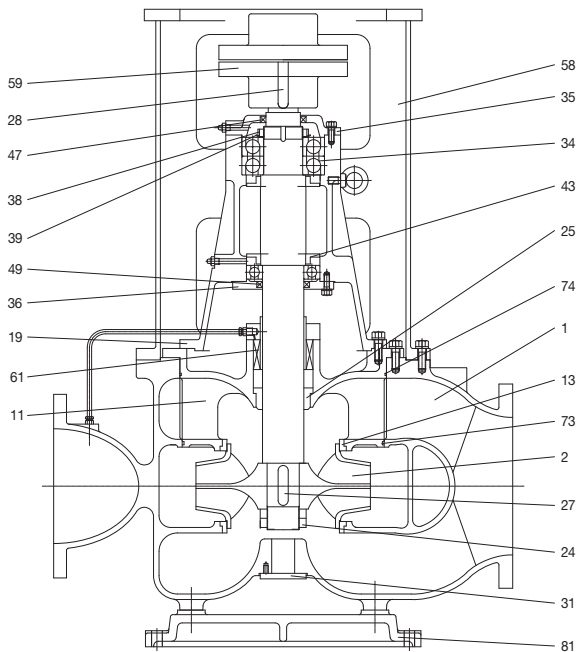
Principal Particulars

Item	Model	GVD250	GVD300	GVD350	GVD400	GVD500	GVD600	GVD800	※
Direction of rotation		cw	cw	cw	cw	cw	cw	cw	
Suction bore (mm)		200	250	300	350	400	500	700	
Discharge bore (mm)		250	300	350	400	500	600	800	
Weight : GC(BC) (kg)		580(750)	1200(1560)	1700(2200)	2000(2600)	2500(3250)	3800(4940)	8700(11,300)	

* Bigger size : available

* CW : Clockwise seen from driver end

Sectional Drawing



Standard Materials

PART NO.	NAME OF PART	MATERIAL		REQ.NO. FOR 1 PUMP
		NAME	KS	
1	Casing	Cast Iron	GC200	1
2	Impeller	Prosphore Bronze	PBC2	1
6	Shaft	Stainless Steel	SUS304	1
11	Casing Cover	Cast Iron	GC200	1
13	Wear Ring	Bronze	BC 6	2
19	Bearing Housing	Cast Iron	GC200	1
24	Impeller Nut	Stainless Steel	SUS304	2
25	Throttling Bush	Bronze	BC 6	1
27	Impeller Key	Stainless Steel	SUS304	1
28	Coupling Key	Mild Steel	SS400	1
31	End Cover	Cast Iron	GC200	1
34	Bearing	Bearing Steel	SUJ 2	1
35	Bearing Cover	Cast Iron	GC200	1
36	Bearing Cover	Cast Iron	GC200	1
38	Bearing Nut	Mild Steel	SS400	1
39	Bearing Washer	Mild Steel	SS400	1
43	Deflector	Mild Steel	SS400	1
47	Oil Seal	NBR		1
49	Oil Seal	NBR		1
58	Motor Frame	Mild Steel	SS400	1
60	Coupling	Cast Iron		1
61	Mechanical Seal	TC/CA		1
73	O-Ring	Rubber		1
74	O-Ring	Rubber		1
81	Bed	Cast Iron	GC200	1

GHC

GVC

GHS

GDWP

GVS

GVD

GDS

GSP

GSS

GVP

GLG

GHG

GIF

GHU

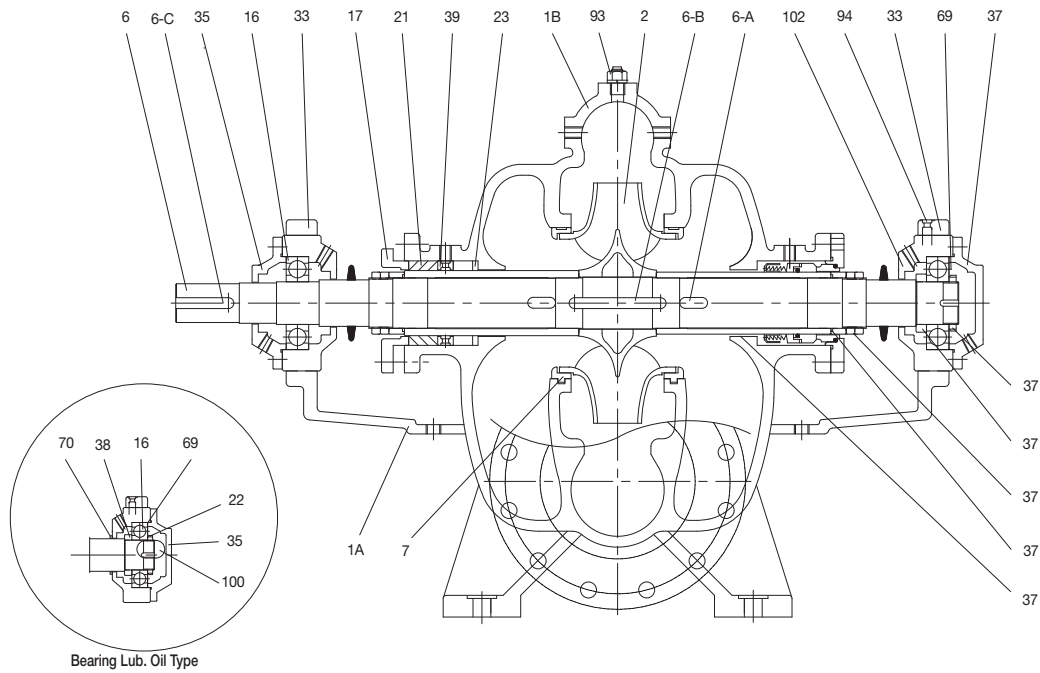
GPP

GEV

GDS - Series

- › Horizontal Centrifugal Pump, Single Stage, Double Suction
- › Application : Fresh Water or Sea Water
- › Service : Ballast, Sea Water Circulation etc.

■ Sectional Drawing



■ Standard Materials

PART NO.	NAME OF PART	REMARKS
1A	Casing Lower Half	
1B	Casing Upper Half	
6	Shaft	
2	Impeller	
16	Ball Bearing	
33	Bearing Housing	
37	Bearing Cover-E	
35	Bearing Cover	
70	Deflector	
100	Constant Level Oiler	

PART NO.	NAME OF PART	REMARKS
102	C-Ring	
101	O-Ring	
21	Mechanical Seal	
23	Packing Seat	
39	Lantern Ring	
88	Packing	
17	M/Seal Cover	
7	Casing Ring	
38	Bearing Seat	
14	Shaft Sleeve	

PART NO.	NAME OF PART	REMARKS
94	Grease Nipple	
93	Plug	
22	Bearing Nut	
48.5	Shaft Nut	
69	Bearing Washer	
6-A	Key	
6-B	Key	
6-C	Key	

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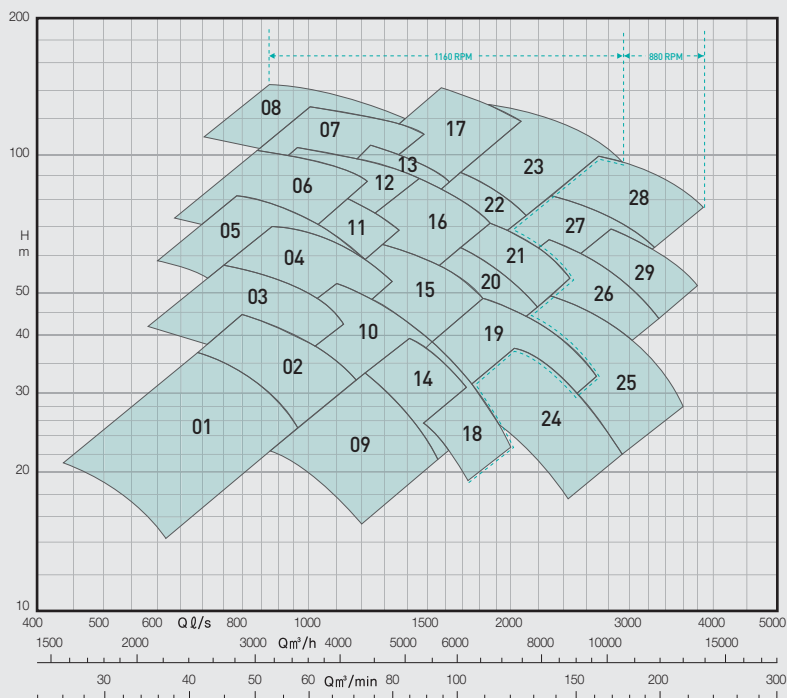


GVD - Series / GDS - Series

■ General Selection Chart

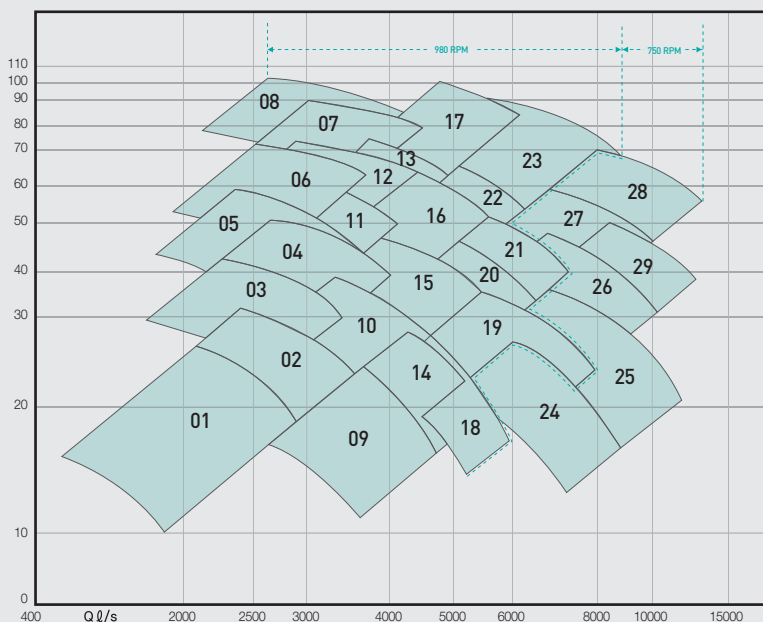
60Hz 6P (1150 rpm)

01	600-510B	16	600-710A
02	600-510A	17	700-830A
03	600-640B	18	700-590B
04	600-640A	19	700-590A
05	600-700B	20	700-710B
06	600-790B	21	700-710B
07	600-790A	22	800-820B
08	600-890B	23	800-820A
09	700-540B	24	700-740B
10	700-620B	25	700-740A
11	700-710B	26	900-840B
12	600-700A	27	900-970B
13	700-830B	28	900-970A
14	700-540A	29	900-840A
15	700-620A		



50Hz 6P (980 rpm)

01	600-510B	16	600-710A
02	600-510A	17	700-830A
03	600-640B	18	700-590B
04	600-640A	19	700-590A
05	600-700B	20	700-710B
06	600-790B	21	700-710B
07	600-790A	22	800-820B
08	600-890B	23	800-820A
09	700-540B	24	700-740B
10	700-620B	25	700-740A
11	700-710B	26	900-840B
12	600-700A	27	900-970B
13	700-830B	28	900-970A
14	700-540A	29	900-840A
15	700-620A		



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GSP - Series

- › Horizontal Centrifugal Pump
- › Service : Non-clog Pump

Solves clogging problems encountered with conventional centrifugal pumps.
The special impeller design handles large particle solids and fibrous/stringy materials.

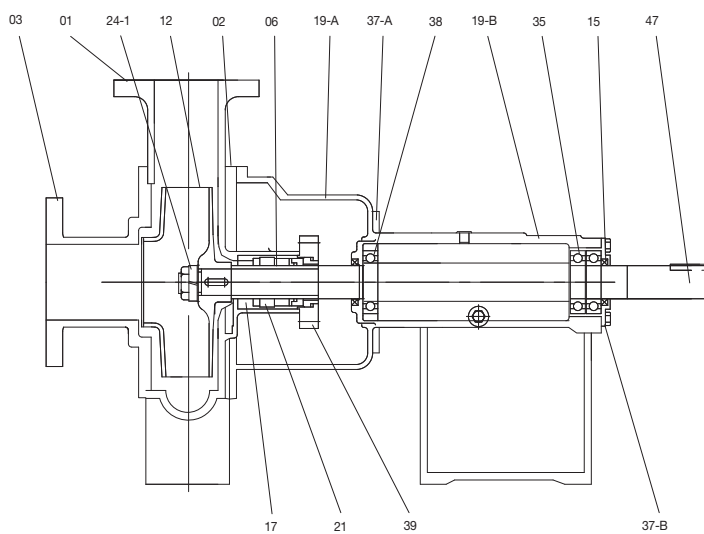
Feature

Non-clog, sludge water, cargo waste pump
Back pull-out design
Thick casing and impeller
Good efficiency

Applications

- Pulp and paper
- Food processing
- Mining
- Waste treatment
- Agriculture
- Factory process

Sectional Drawing



Standard Materials

NO.	NAME OF PART	MATERIAL	KS	Q'ty
03	Suction cover	Cast Iron	GC200	1
01	CASING	Cast Iron	GC200	1
24-1	Impeller Nut	Stainless Steel	STS304	1
12	Impeller	Stainless Steel	SSC13	1
02	Casing Cover	Cast Iron	GC200	1
06	sleeve	Stainless Steel	SSC13	1
19-A	Bearing Housing	Cast Iron	GC200	1
37-A	Bearing Cover	Cast Iron	GC200	1
38	Bearing Radial	Bearing metal	STB2	1
19-B	Bearing Housing	Cast Iron	GC200	1
35	Bearing (Thrust)	Bearing metal	STB2	1
15	Oil seal	Rubber	NBR	1
47	Shaft	CrMo Steel	SCM440	1
37-B	Bearing Cover	Cast Iron	GC200	1
39	SEAL Cover	Cast Iron	GC200	1
21	M/SEAL	SIC/CAR		1
25	Retain Ring	Stainless Steel	STS304	1

Principal Particulars

Model	Size	Capacity (m ³ /min)	Head (m)	Power (kW)	Pump speed (rpm)
GSP150	150×100	3.4	45	45	1750
GSP200	200×150	5	58	75	1750
GHP250F	250×200	9.5	52	132	1750
GSP250H	250×200	6.7	20	37	1160
GSP250	250×250	10	23	75	1160
GSP300	300×250	12	55	190	1750
GSP350	350×300	19	31	150	1160
GSP450	450×400	28	45	300	1160

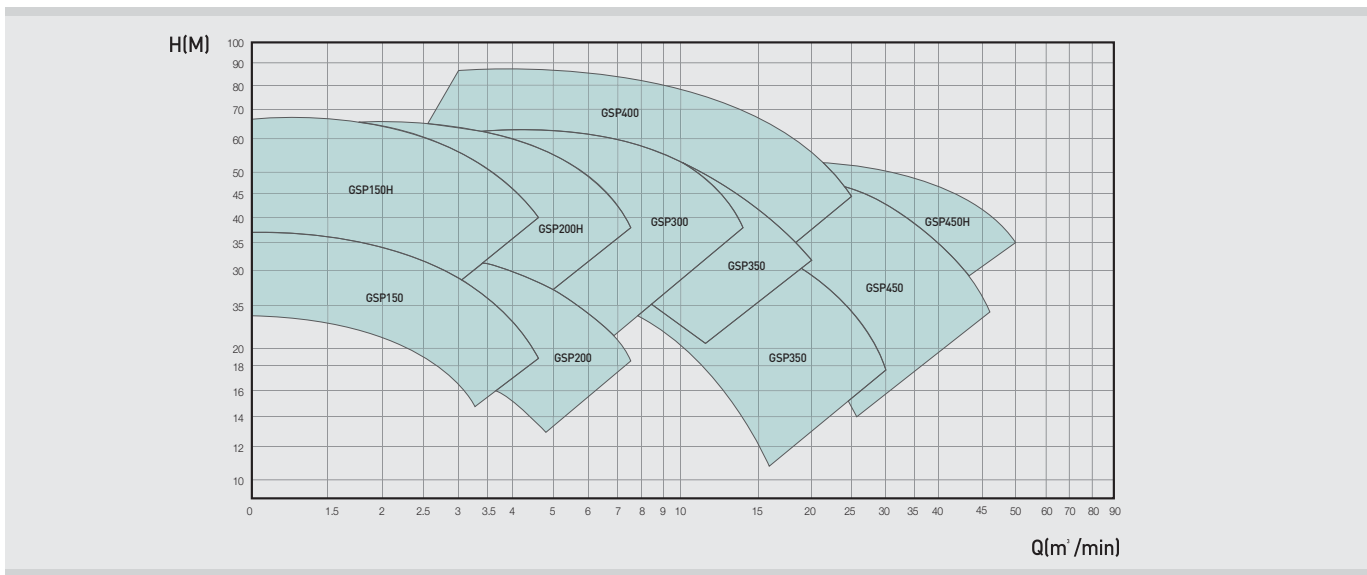
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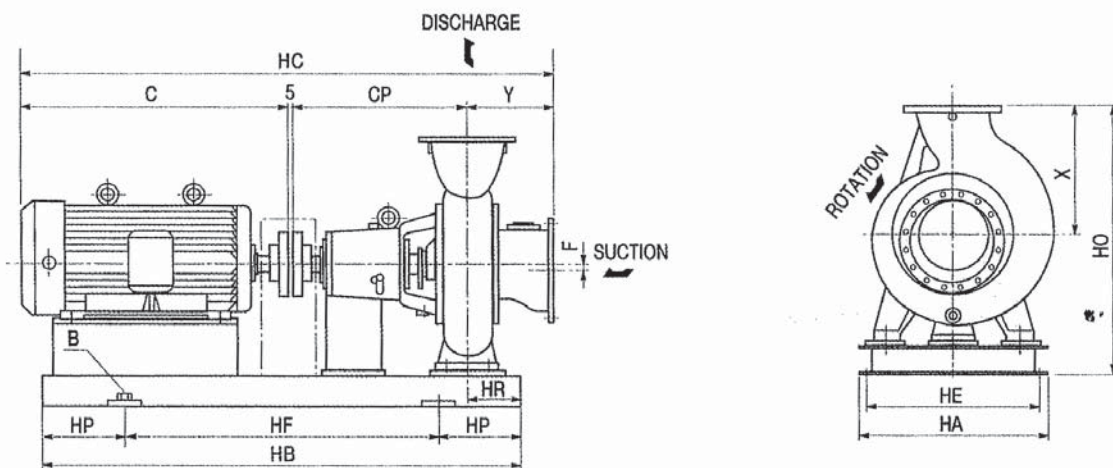


GSP - Series

General Selection Chart



Outline Dimension



Dimensional Drawing

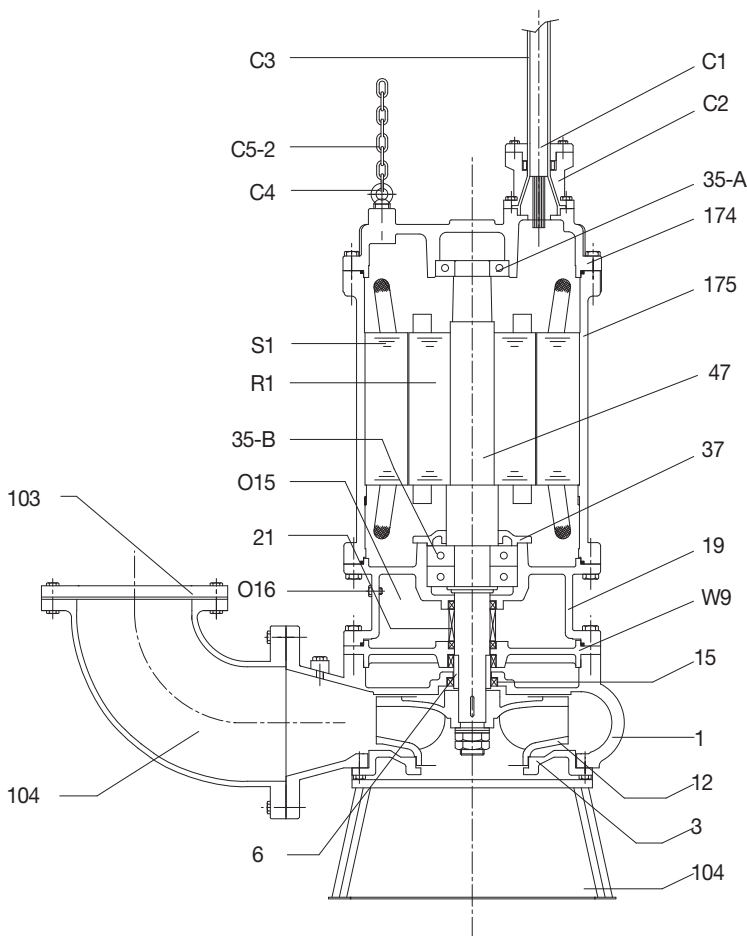
Item	Model	Pump and Motor								Baseplate						Anchor Bolt	
		Frame	kW	HC	C	CP	Y	X	F	HR	HF	HP	HB	HE	HA	HO	B
GSP100	225S	45	1912	817	790	300	355	0	85	990	255	1500	430	480	780	4-M20×315L	180
GSP150	250M	75	2034	894	795	340	400	20	90	1060	270	1600	540	600	885	4-M20×315L	180
GSP200	200L	37	1902	747	800	350	450	25	100	1060	270	1600	540	600	955	4-M20×315L	180
GSP250	250M	75	2359	894	800	400	500	30	120	1060	270	1600	540	600	1025	4-M20×315L	180
GSP300	280L	150	1259	1154	800	400	600	30	170	1250	325	1900	750	810	1370	4-M20×315L	180
GSP350	280L	150	2439	1154	880	400	600	30	170	1320	340	2000	750	810	1370	4-M20×315L	180
GSP450	580L	300	3417	1717	1250	450	820	35	250	1140×2	360	300	1050	1110	1770	6-M24×400L	230

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GSS - Series

- › Vertical Centrifugal Pump, Submersible
- › Application : Fresh Water, Sea Water, Sewage
- › Service : Drain, Discharge

■ Sectional Drawing



- Flow rate : up to 6000 m³/h
- Total head : up to 200 mwc
- Pump suction nozzle size : up to 800 mm
- Pump specification : Detail upon request

■ Standard Materials

NO.	NAME OF PARTS	KS	Q'TY
C1	Cab Tyre Cable	3 CT	10M
C2	Stuffing Box	GC 200	1
35-A	Upper Bearing	STB 2	1
M4	Motor Bracket	GC 200	1
M5	Motor Frame	GC 200	1
47	Motor Shaft	SCM 440	1
37	Bearing Cover	GC 200	1
19	Bearing Housing	GC 200	1
W9	Water Chamber	GC 200	1
15	Oil Seal	NBR	3
1	Pump Casing	GC 200	1
12	Impeller	GC 200	1
3	Suction Cover	GC 200	1
104	Stand	GC 200	1
C3	Protected Cable	NBR	1
C4	Eye Bolt	STS304	1
S1	Stator	S - 60	1
R1	Rotor	S - 60	1
35-B	Lower Bearing	STB 2	1
O15	Oil	Turbine Oil	
21	Mechanical Seal	Silicon Carbide	1
103	Flange	SB 41	1
104	Elbow	SB 41	1
O16	Oil Plug	SB 41	1
6	Sleeve	SB 41	1
C5	Chain	SB 41	1

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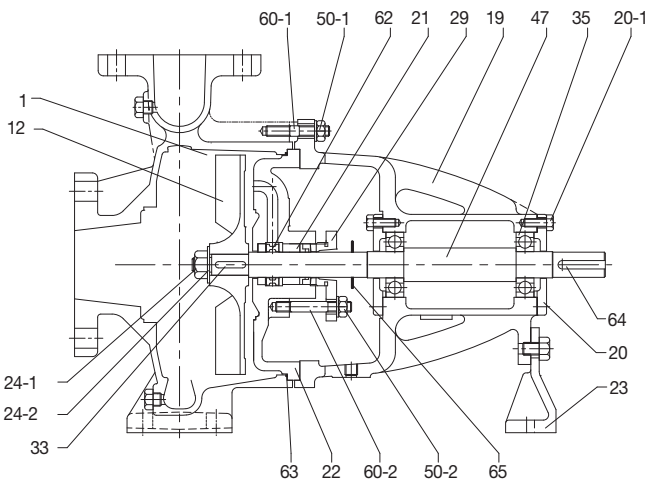
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GVP - Series

- ▶ Horizontal Vortex Pump, Non - Clog
- ▶ Application : Sewage Water, Solids etc.
- ▶ Service : Drain, Discharge

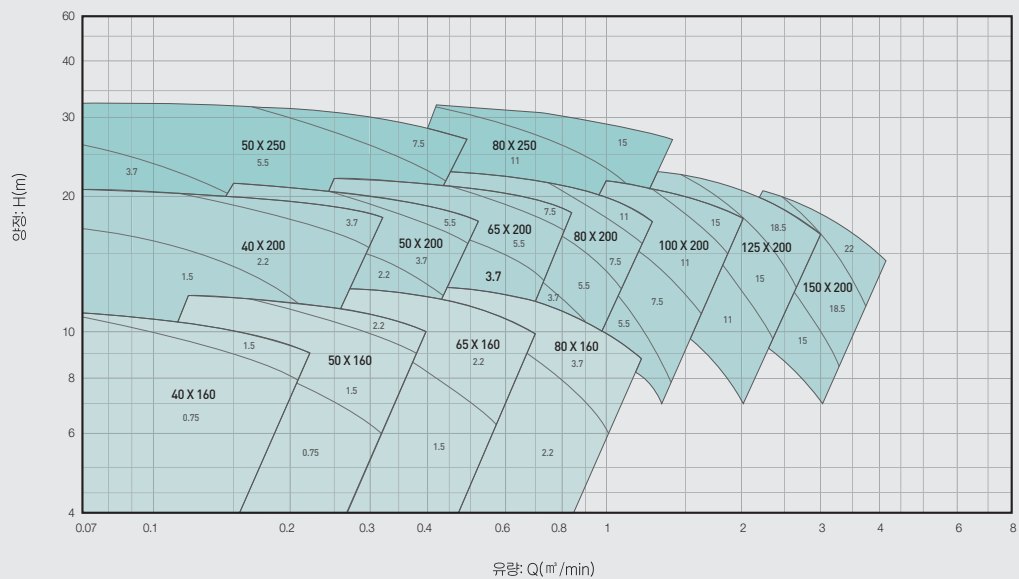
Sectional Drawing



Standard Materials

NO.	NAME OF PARTS	MATERIAL	QTY	NO.	NAME OF PARTS	MATERIAL	QTY
1	Casing	GC 200	1	35	Ball Bearing	STB	2
12	Impeller	GC 200	1	63	Casing O-Ring	RUBBER	1
19	Bearing Housing	GC 200	1	62	Lantern Ring	SS 400	1
20	Bearing Cover	GC 200	2	21	Mechanical Seal	TC/CA	1
39	Seal Cover	GC 200	1	60-1	Stud Bolt	SS 400	8
22	Packing Box	GC 200	1	60-2	Stud Bolt	SS 400	2
23	Support	SS 400	1	50-1	Hexagon Nut	SS 400	8
47	Shaft	STS 304	1	50-2	Hexagon Nut	SS 400	2
33	Impeller Key	SM 45C	1	24-1	Impeller Nut	STS 304	1
64	Coupling Key	SM 45C	1	20-1	Bolt	SS 400	6
65	Deflector	SS 400	1	24-2	Impeller Washer	STS304	1

60Hz 4P (1750 rpm)



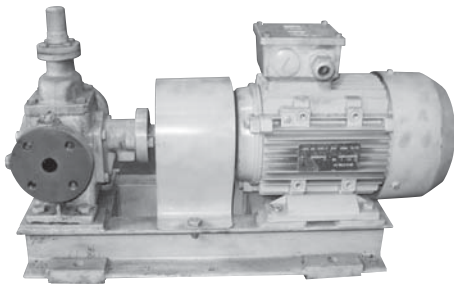
<Example>

$$\frac{40 \times 160}{0.75} = \text{Pump Size of suction 40 mm} \times \text{Impeller 160 mm} = 0.75\text{kW}$$

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GLG - Series

► Horizontal Gear Pump

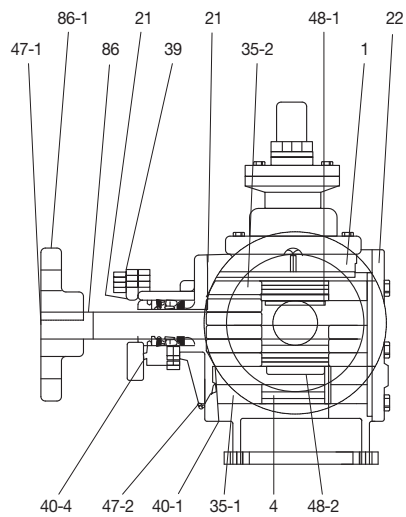
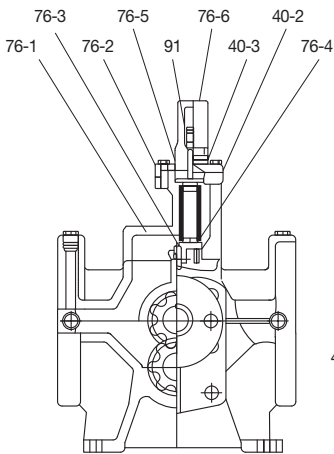


Applications ►

- HFO / LO Supply Pump for M/E, G/E
- HFO Purifier Service Pump for M/E, G/E
- HFO Booster Pump for M/E, G/E
- HFO Circulation Pump for M/E, G/E, Boiler
- HFO Trans Pump
- LO Pump for M/E, G/E

■ Principal Particulars

Item	Model	1	2	3	4	5	6	7.5	10	12	15	20	25	30	
Rotation		Clockwise viewed from driver end													
Suction & Discharge Bore (mm)	GLG	S	200	250	320		400		500		650		800		
		D	200	250	320		400		500		650		800		
	GLG	S					650		800			1000		1250	
		D					500		650			800		1000	
Standard Capacity (m ³ /hr)	50Hz	6P	0.8	1.6	2.5	3.3	4	5	6	8	10	12	16	20	25
		4P	1.2	2.5	3.7	5	6	7.5	9	12	15	18	25	30	
	60Hz	6P	1	2	3	4	5	6	7.5	10	12	15	20	25	30
		4P	1.5	3	4.5	6	7.5	9	11	15	18	22	30		
Pressure (kg/cm ²)		Up to 6 kg/cm ²													
Weight (kg)		Refer to the Outline Drawing													



■ Standard Materials

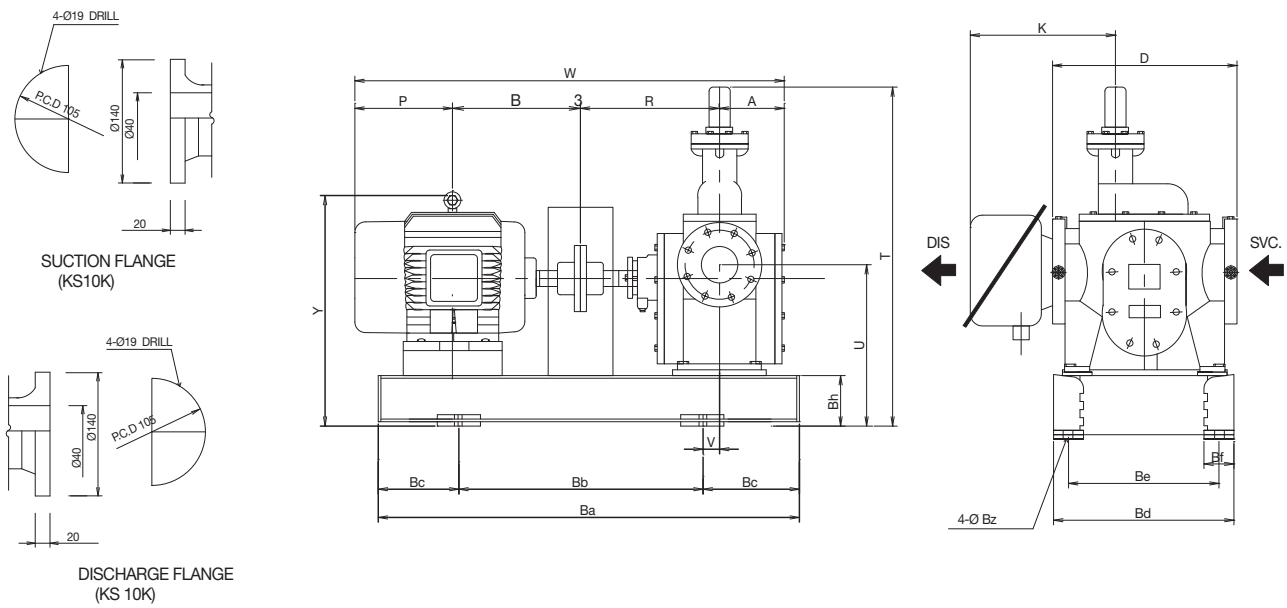
NO.	NAME OF PARTS	MATERIAL	KS	Q'TY
1	Pump Casing	Cast iron	GC200	1
21	Side Cover (Inner)	Cast iron	GC200	1
22	Side Cover (Inner)	Cast iron	GC200	1
4	Gear	Carbon steel	SM45C	2
47-1	Drive Shaft	Carbon steel	SM45C	1
47-2	Driven Shaft	Carbon steel	SM45C	1
35-1	Sliding Bearing	Leaded Tin Bronze	LBC4	3
35-2	Sliding Bearing	Leaded Tin Bronze	LBC4	1
40-1	Gasket	Oil Paper		2
40-2	Gasket	Oil Paper		1
40-3	Gasket	Oil Paper		1
40-4	Mechanical Seal	TC / CA		1
21	Gasket	Non Asbestos		1
39	Seal Cover	GC 200		1
76-1	Valve Booby	Cast iron	GC200	1
76-2	Valve Corner	Cast iron	GC200	1
76-3	Safety Valve	Bronze	BC6	1
76-4	Valve Seat	Spring Steel		1
76-5	Spring Carrier	Steel	SS41	1
76-6	Valve Cap	Cast iron	GC200	1
86-1	Coupling Half	Cast iron	GC200	1
91	Aojusting Screw	Steel	SS41	1
48-1	Driven Shaft Key	Carbon Steel	SM45C	1
48-2	Driven Shaft Key	Carbon Steel	SM45C	1
86	Coupling Key	Carbon Steel	SM45C	1

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GLG - Series



Dimensional Drawing

Type	Motor		Size(mm)													Base(mm)								Weight(kg)																
	6P	4P	A	B	D	K	P	R	T	U	V	W	Y	Ba	Bb	Bc	Bd	Be	Bf	Bg	Bh	Bj	Bz	Body	Base	Motor														
1	0.4	0.75	70	140	200	132	137	175	365	185	0	525	268	450	350	50	175	140	40	80	95	25	15	7	12	14														
	0.75	1.5		169		159	158																				159	199	169	182	604	329	550	400	75	245	210	11	19	24
	1.5	2.2		187		169	182																				604	329	550	400	75	245	210	12	19	39				
2	2.2	3.7	80	169	200	158	159	180	335	195	20	591	295	500	350	75	175	140	40	80	95	25	15	12	17	24														
	0.75	1.5		187		169	182																				619	329	550	400	75	245	210	14	17	32				
	1.5	2.2		200		182	619																				329	550	400	75	245	210	14	17	39					
2.5	2.2	3.7	90	187	240	199	182	220	432	207	35	669	329	600	400	100	235	200	40	80	95	25	15	20	19	32														
	1.5	2.2		200		182	695																				329	600	400	100	235	200	40	80	95	25	15	19	39	
	2.2	3.7		239		205	757																				417	650	450	100	275	240	40	80	115	25	15	25	21	56
3	3.7	5.5	110	259	250	217	224	250	507	227	55	807	417	700	450	125	275	240	40	80	95	25	15	35	25	70														
	5.5	7.5		239		205	796																				417	650	450	100	275	240	40	80	115	25	15	25	70	
	2.2	3.7		239		205	832																				417	750	500	125	275	240	40	80	90	25	15	45	28	56
4	3.7	5.5	115	259	280	217	224	270	527	227	45	871	417	750	500	150	325	290	40	80	123	25	15	45	35	70														
	5.5	7.5		273		270	871																				417	750	500	150	325	290	40	80	123	25	15	35	109	
	7.5	11		323		270	953																				482	800	500	150	320	285	40	80	123	25	15	35	70	
5	5.5	7.5	145	259	320	217	224	320	605	255	20	951	445	800	500	150	290	255	40	80	95	25	15	65	40	161														
	7.5	11		323		270	1061																				507	950	600	175	325	280	50	100	120	28	19	45	136	
	11	15		345		292	1105																				507	950	600	175	325	280	50	100	120	28	19	45	136	
6	15	19	145	259	320	217	224	320	605	255	20	1115	546	1000	600	200	365	320	40	80	95	25	15	65	45	177														
	19	22		371		297	1153																				546	1000	600	200	365	320	40	80	140	28	19	45	177	

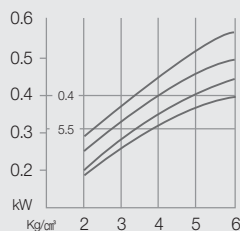
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■ Selection Chart

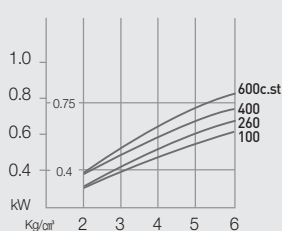
60Hz

GLG - 0.5

0.5 m³/h × 1200 r/min

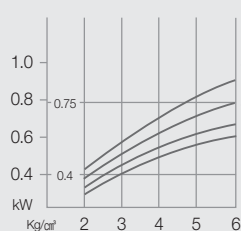


0.75 m³/h × 1800 r/min

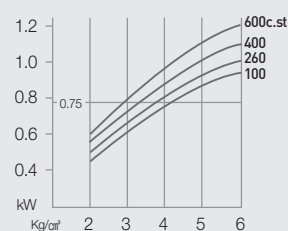


GLG - 1

1 m³/h × 1200 r/min

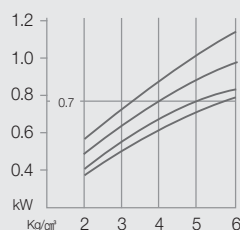


1.5 m³/h × 1800 r/min

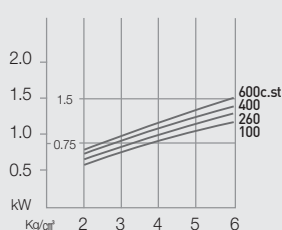


GLG - 1.5

1.5 m³/h × 1200 r/min

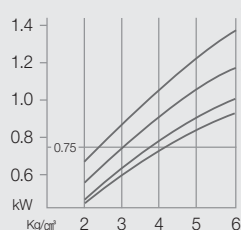


1.8 m³/h × 1800 r/min

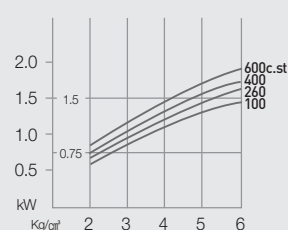


GLG - 2

2 m³/h × 1200 r/min

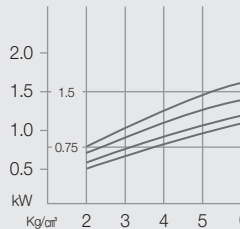


3 m³/h × 1800 r/min

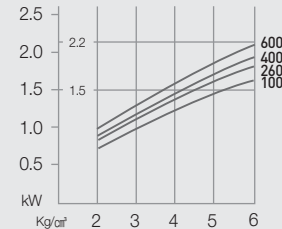


GLG - 2.5

2.5 m³/h × 1200 r/min

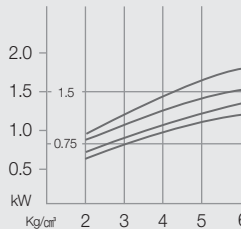


3.7 m³/h × 1800 r/min

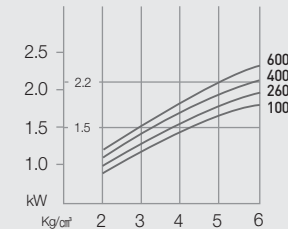


GLG - 3

3 m³/h × 1200 r/min

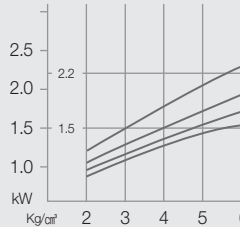


4.5 m³/h × 1800 r/min

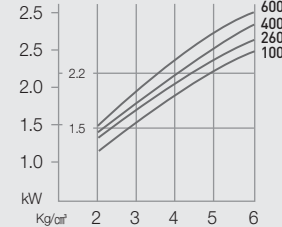


GLG - 4

4 m³/h × 1200 r/min

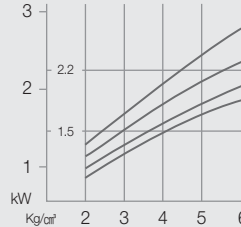


6 m³/h × 1800 r/min

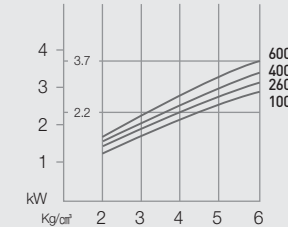


GLG - 5

5 m³/h × 1200 r/min

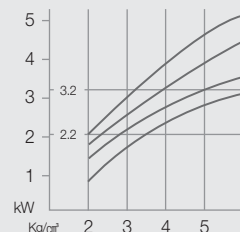


6 m³/h × 1800 r/min

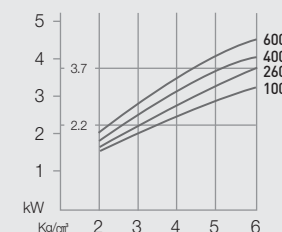


GLG - 6

6 m³/h × 1200 r/min

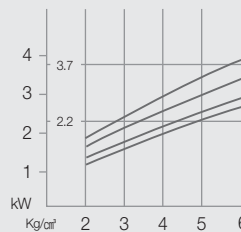


9 m³/h × 1800 r/min

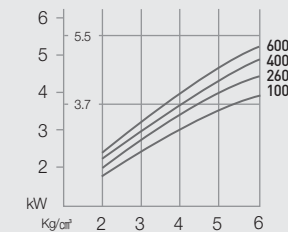


GLG - 7.5

7.5 m³/h × 1200 r/min



10 m³/h × 1800 r/min



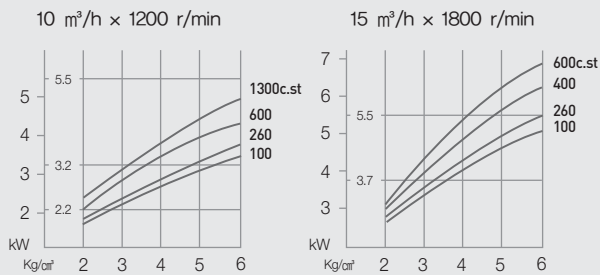
GHG
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GEV

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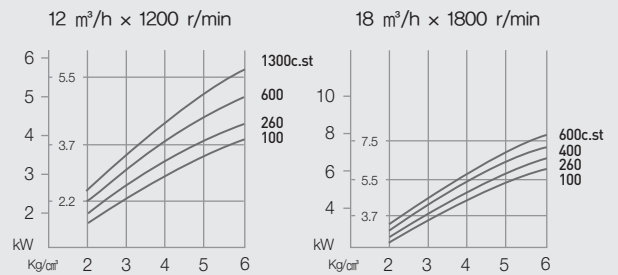
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60Hz

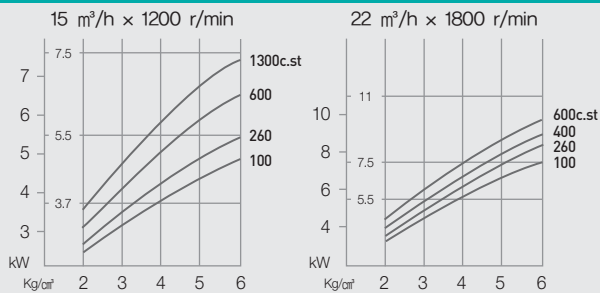
GLG - 10



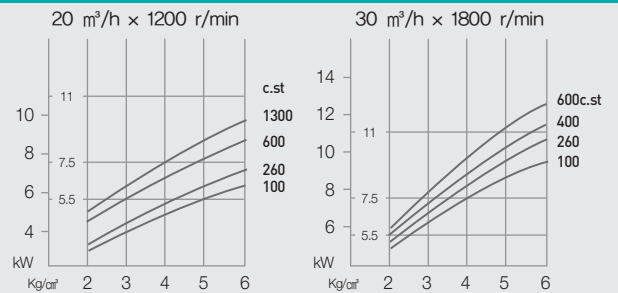
GLG - 12



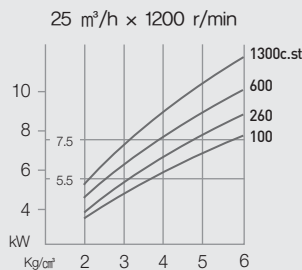
GLG - 15



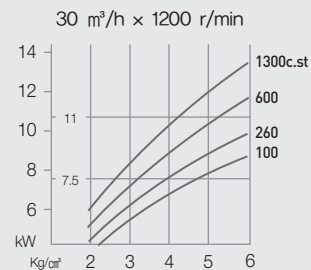
GLG - 20



GLG - 25

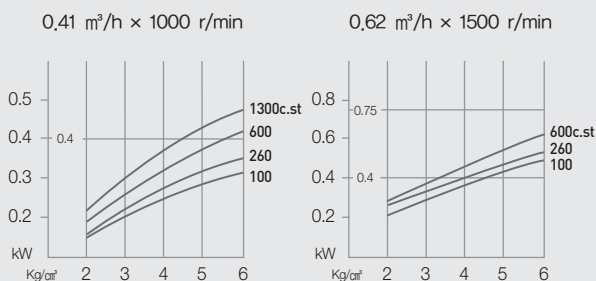


GLG - 30

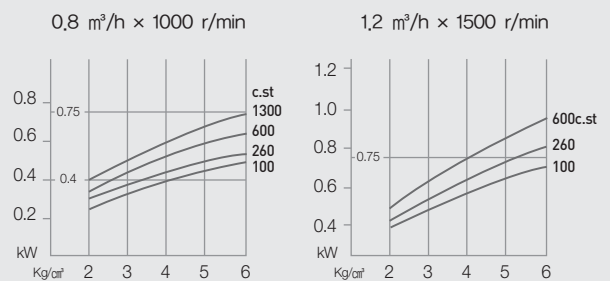


■ Selection Chart

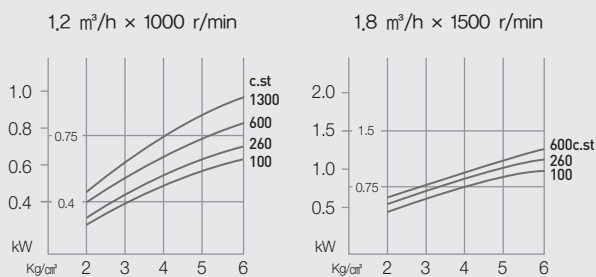
GLG - 0.5



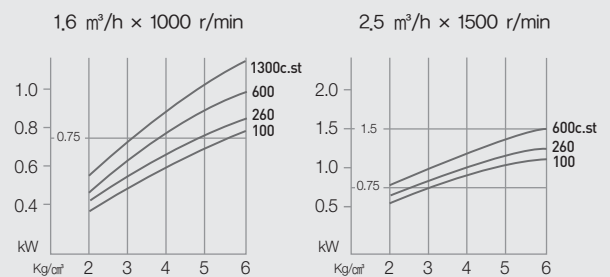
GLG - 1



GLG - 1.5



GLG - 2



50Hz

GHC

GVC

GHS

GDWP

GVS

GVD

GDS

GSP

GSS

GVP

GLG

GHG

GIF

GHU

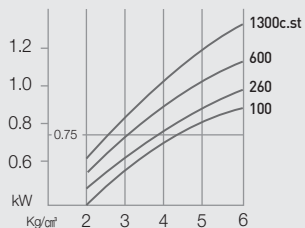
GPP

GEV

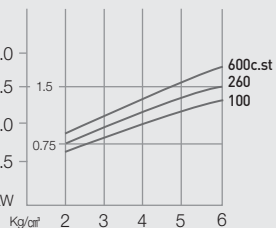
50Hz

GLG - 2.5

2 m³/h × 1000 r/min

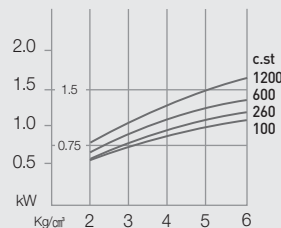


3 m³/h × 1500 r/min

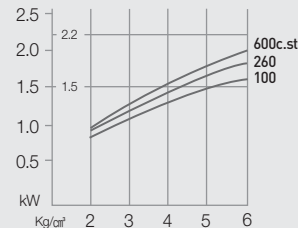


GLG - 3

2.5 m³/h × 1000 r/min

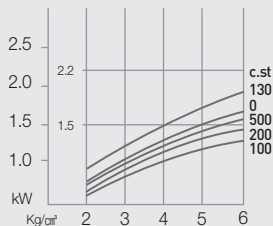


3.7 m³/h × 1500 r/min

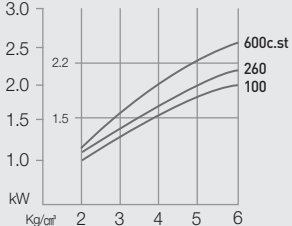


GLG - 4

3,3 m³/h × 1000 r/min

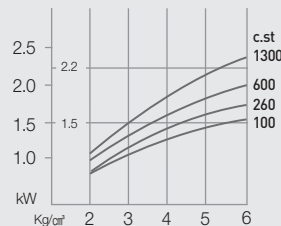


5 m³/h × 1500 r/min

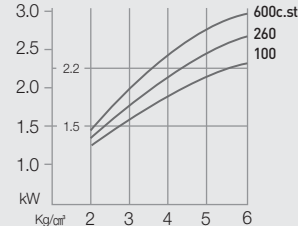


GLG - 5

4 m³/h × 1000 r/min

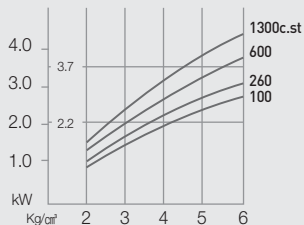


6 m³/h × 1500 r/min

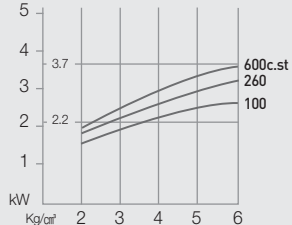


GLG - 6

5 m³/h × 1000 r/min

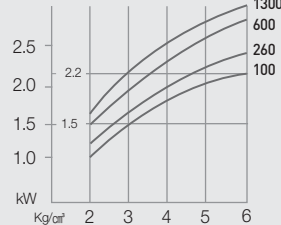


7,5 m³/h × 1500 r/min

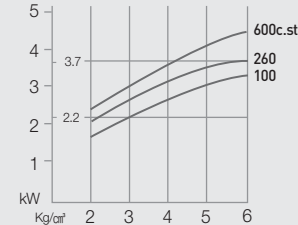


GLG - 7.5

6 m³/h × 1000 r/min

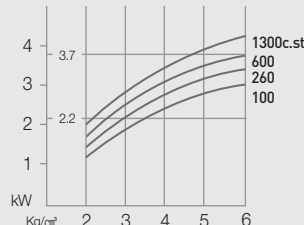


9 m³/h × 1500 r/min

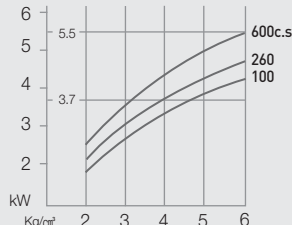


GLG - 10

8 m³/h × 1000 r/min

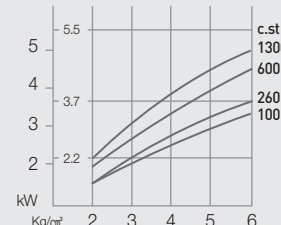


12 m³/h × 1500 r/min

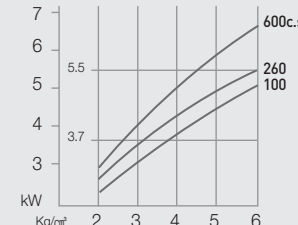


GLG - 12

10 m³/h × 1000 r/min

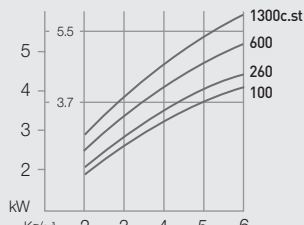


15 m³/h × 1500 r/min

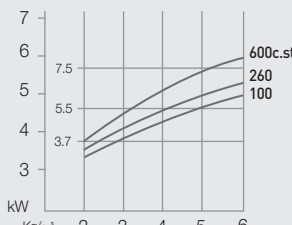


GLG - 15

12 m³/h × 1000 r/min

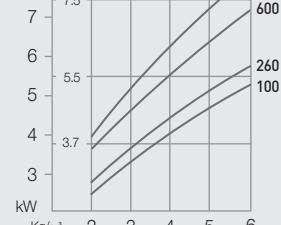


18 m³/h × 1500 r/min

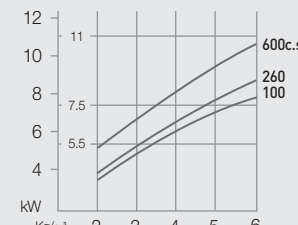


GLG - 20

16 m³/h × 1000 r/min



25 m³/h × 1500 r/min



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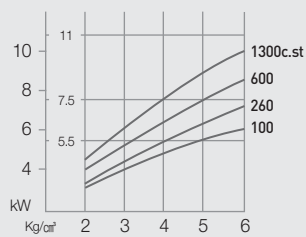
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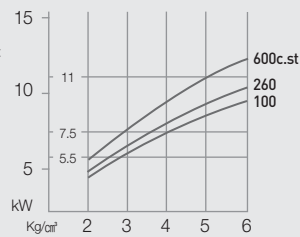
50Hz

GLG - 25

20 m³/h × 1000 r/min

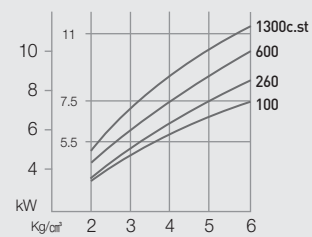


30 m³/h × 1500 r/min



GLG - 30

25 m³/h × 1000 r/min



■ Lubrication of Bearing

The metal bearing internally set in the casing is lubricated by the pumping liquid.

■ Relief Valve

1. Relief valve is set together with casing body.
2. Capacity of relief valve

Discharge pressure maximum arising value is designed to be less than 132 % of designed total pressure, even if the discharge valve is full shutted. (But when designed total pressure is less than 5 kgf/cm², the pressure-arising value should be less than 1.6 kgf/cm²),

Pressure set for the relief valve

GLG Type	Designed total pressure + 0.2 kgf/cm² (Highest : 6.2 kgf/cm² / Lowest : 2.2 kgf/cm²)
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■ Standard Accessories

Flexible coupling	1
Safety cover	1
Suction gauge	1
Discharge gauge	1
Common base	1

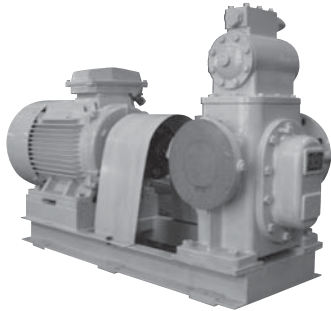
■ Standard Spare Parts

Sliding bearing	Each 1
Mech seal	1
Bolt, nut & washer for flexible coupling	1 set

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GHG - Series

► Horizontal Gear Pump for increased Flow Rate



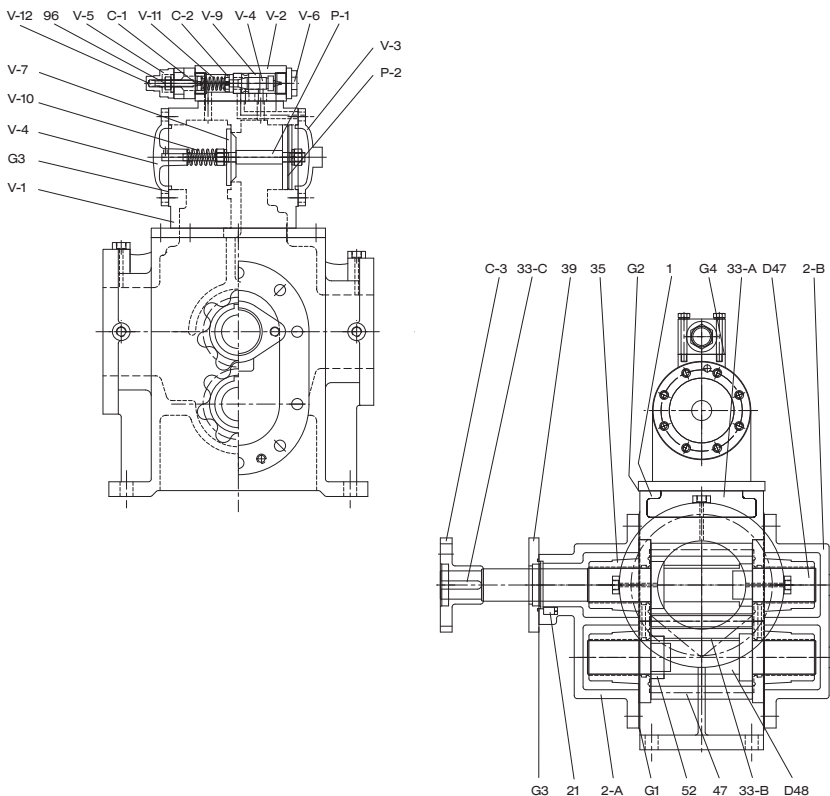
Applications

- HFO Trans. Pump
- Others

Principal Particulars

Item	Model	40	50	65	80	90	100	110	120	135	150	175	200	
Rotation		Clockwise viewed from driver end												
Suction & Discharge bore (mm)	S	150Ø				200Ø				250Ø				
	D	125Ø				150Ø				200Ø				
Standard Capacity (m ³ /hr)	GLG	6P	40	50	-	-	-	-	-	-	-	-	-	-
		8P	-	-	65	80	90	100	110	120	135	150	175	200
	50Hz	6P	33	40	-	-	-	-	-	-	-	-	-	-
		8P	-	-	55	65	75	85	90	100	110	125	145	165
Pressure (kg/cm ²)		Up to 7 kg/cm ²												
Shaft seal		Mechanical Seal												
Weight (kg)		Refer to the Outline Drawing												

Sectional Drawing



Standard Materials

NO.	NAME OF PARTS	MATERIAL	KS	Q'TY
1	Pump Casing	Cast iron	GC200	1
2-A	Side Cover (Inner)	Cast iron	GC200	1
2-B	Side Cover (Outer)	Cast iron	GC200	1
47	Gear	Carbon Steel	SM45C	2
D47	Drive Shaft	Carbon Steel	SM45C	1
D48	Drive Shaft	Carbon Steel	SM45C	1
35	Sliding Bearing	Cast Iron+White Metal	GC200+WM1	4
G1	Gasket	Non-Asbestos		2
G2	Gasket	Non-Asbestos		1
G3	Gasket	Non-Asbestos		2
G4	Gasket	Non-Asbestos		1
21	Mechanical Seal		TC/CA	1
39	Seal Cover	Stainless Steel	SS400	1
52	Gear Set Ring	Carbon Steel	SM45C	2
V-1	Valve Body	Cast Iron	GC200	1
V-2	Valve Body	Cast Iron	GC200	1
V-3	Valve Cover	Cast Iron	GC200	1
V-4	Valve Cover	Cast Iron	GC200	1
V-5	Valve Cover	Cast Iron	GC200	1
V-6	Valve Cover	Cast iron	GC200	1
V-7	Safety Valve	Carbon Steel	SM45C	1
V-8	Safety Valve	Stainless Steel	STS410J1	1
V-9	Valve Seat	Bronze	BC6	1
V-10	Valve Spring	Spring Steel	SPS6	1
V-11	Valve Spring	Spring Steel	SPS6	1
C-1	Spring Carrier	Steel	SS41	1
C-2	Spring Carrier	Steel	SS41	1
V-12	Valve Cap	Cast Iron	GC200	1
P-1	Piston Rod	Steel	SM45C	1
P-2	Piston Valve	Cast Iron	SM45C	1
C-3	Coupling Half	Cast Iron	GC200	1
96	Adjusting Screw	Steel	SS41	1
33-A	Drive Shaft Key	Carbon Steel	SM45C	1
33-B	Driven Shaft Key	Carbon Steel	SM45C	1
33-C	Coupling Key	Carbon Steel	SM45C	1

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GHG - Series

Standard Materials (GHG 40~50)

PART NO.	NAME OF PART	REQ.NO. FOR 1 PUMP	MATERIAL	
			NAME	KS
101.1	Pump Casing	1	Cast Iron	GC200
166.2	Side Cover (Inner)	1	Cast Iron	GC200
167.1	Side Cover (Outer)	1	Cast Iron	GC200
201.1	Gear	2	Carbon Steel	SM45C
220.1	Drive Shaft	1	Carbon Steel	SM45C
221.1	Driven Sshaft	1	Carbon Steel	SM45C
370.1	Sliding Bearing	4	CAST IRON + WHITE METAL	GC200 + WMI
400.1	Gasket	2	Oil Paper	
400.2	Gasket	1	Oil Paper	
400.3	Gasket	2	Oil Paper	
400.4	Gasket	1	Oil Paper	
400.5	Gasket	1	Non Asbestor	
433.1	Mechanical Seal	1		
471.1	Seal Cover	1	Stainless Steel	STS304
512.1	Gear Set Ring	2	Carbone Steel	SM45C
761.1	Valve Body	1	Cast Iron	GC200
761.2	Valve Body	1	Cast Iron	GC200
762.1	Valve Cover	1	Cast Iron	GC200

PART NO.	NAME OF PART	REQ.NO. FOR 1 PUMP	MATERIAL	
			NAME	KS
762.2	Valve Cover	1	Cast Iron	GC200
762.3	Valve Cover	1	Cast Iron	GC200
762.4	Valve Cover	1	Cast Iron	GC200
763.1	Safety Valve	2	Carbon Steel	SM45C
763.2	Safety Valve	1	Stainless Steel	STS410
764.1	Valve Seat	1	Bronze	BC6
765.1	Valve Spring	4	Spring Steel	SPS6
765.2	Valve Spring	2	Spring Steel	SPS6
766.1	Spring Carrier	1	Steel	SS41
766.2	Spring Carrier	2	Steel	SS41
767.1	Valve Cap	1	Cast Iron	GC200
768.1	Piston Rod	1	Carbon Steel	SM45C
769.1	Piston Valve	1	Carbon Steel	SM45C
861.1	Coupling Half	1	Cast Iron	GC200
916.1	Adjusting Screw	2	Steel	SS41
940.1	Drive Shaft Key	1	Carbon Steel	SM45C
940.2	Driven Shaft Key	1	Carbon Steel	SM45C
940.3	Coupling Key	1	Carbon Steel	SM45C

Standard Materials (GHG 65~200)

PART NO.	NAME OF PART	REQ.NO. FOR 1 PUMP	MATERIAL	
			NAME	KS
101.1	Pump Casing	1	Cast Iron	GC200
166.1	Side Cover (Inner)	1	Cast Iron	GC200
167.1	Side Cover (Outer)	1	Cast Iron	GC200
201.1	Gear	2	Carbone Steel	SM45C
220.1	Drive Shaft	1	Carbone Steel	SM45C
221.1	Driven Shaft	1	Carbone Steel	SM45C
370.1	Sliding Bearing	4	GC200 + White Metal	LBC4
400.1	Gasket	2	Non-Asbestos	
400.2	Gasket	1	Non-Asbestos	
400.3	Gasket	1	Non-Asbestos	
400.4	Gasket	1	Non-Asbestos	
412.1	O-Ring	1	NBR	
452.1	Packing Gland	1	Cast Iron	GC200
461.1	Packing	4	Non Metallic	
512.1	Gear Set Ring	2	Carbon Steel	SM45C
761.1	Valve Body	1	Cast Iron	GC200
762.1	Valve Cover	1	Cast Iron	GC200

PART NO.	NAME OF PART	REQ.NO. FOR 1 PUMP	MATERIAL	
			NAME	KS
763.1	Safety Valve	1	Carbon Steel	SM45C
764.1	Valve Seat	1	Bronze	BC6
765.1	Valve Spring	1	Spring Steel	SPS6
766.1	Spring Carrier	1	Steel	SS41
767.1	Valve Cap	1	Cast Iron	GC200
861.1	Coupling Half		GC200	BC6
916.1	Adjusting Screw	1	Steel	SS41
940.1	Drive Shaft Key	1	Carbon Steel	SM45C
940.2	Driven Shaft Key	1	Carbon Steel	SM45C
940.3	Coupling Key	2	Carbon Steel	SM45C

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GHG - Series

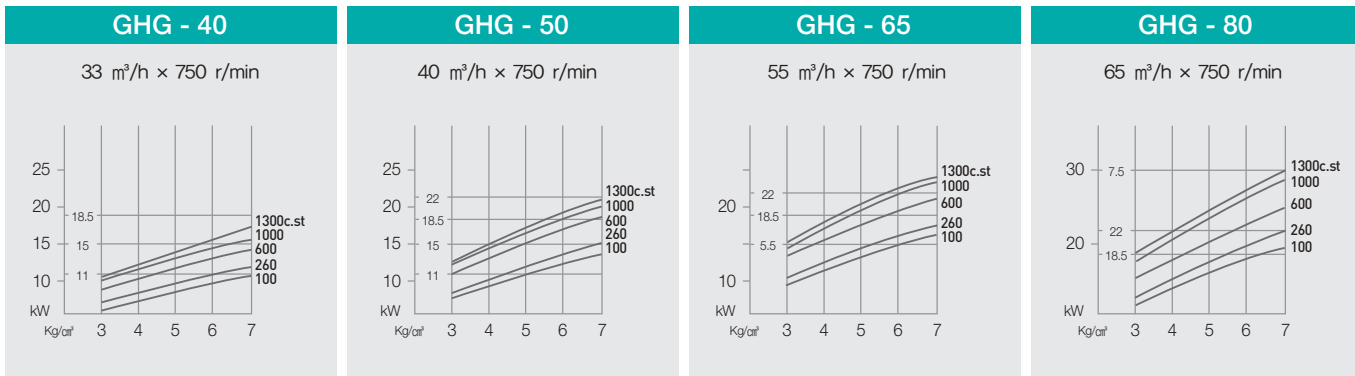
■ Selection Chart

60Hz



■ Selection Chart

50Hz



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GHU
GPP
GEV

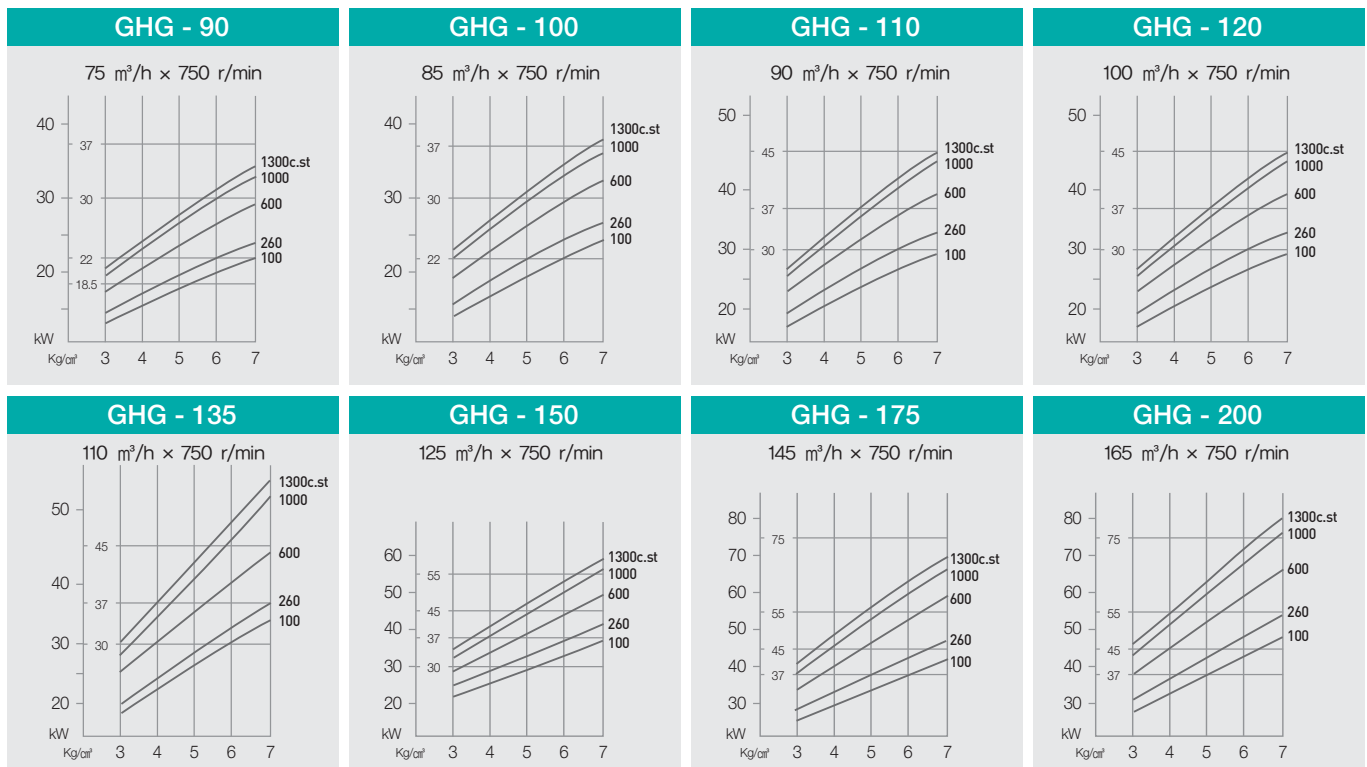
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Gorio

GHG - Series

50Hz



■ Lubrication of Bearing

The metal bearing internally set in the casing is lubricated by the pumping liquid.

■ Relief Valve

1. Relief valve is set together with casing body.
2. Capacity of relief valve

Discharge pressure maximum arising value is designed to be less than 132% of designed total pressure, even if the discharge valve is full shutted. (But when designed total pressure is less than 5 kgf/cm², the pressure-arising value should be less than 1.6kgf/cm²),

Pressure set for the relief valve

GLG Type Designed total pressure + 0.2kgf/cm²
(Highest : 6.2kgf/cm² / Lowest : 2.2kgf/cm²)

■ Standard Accessories

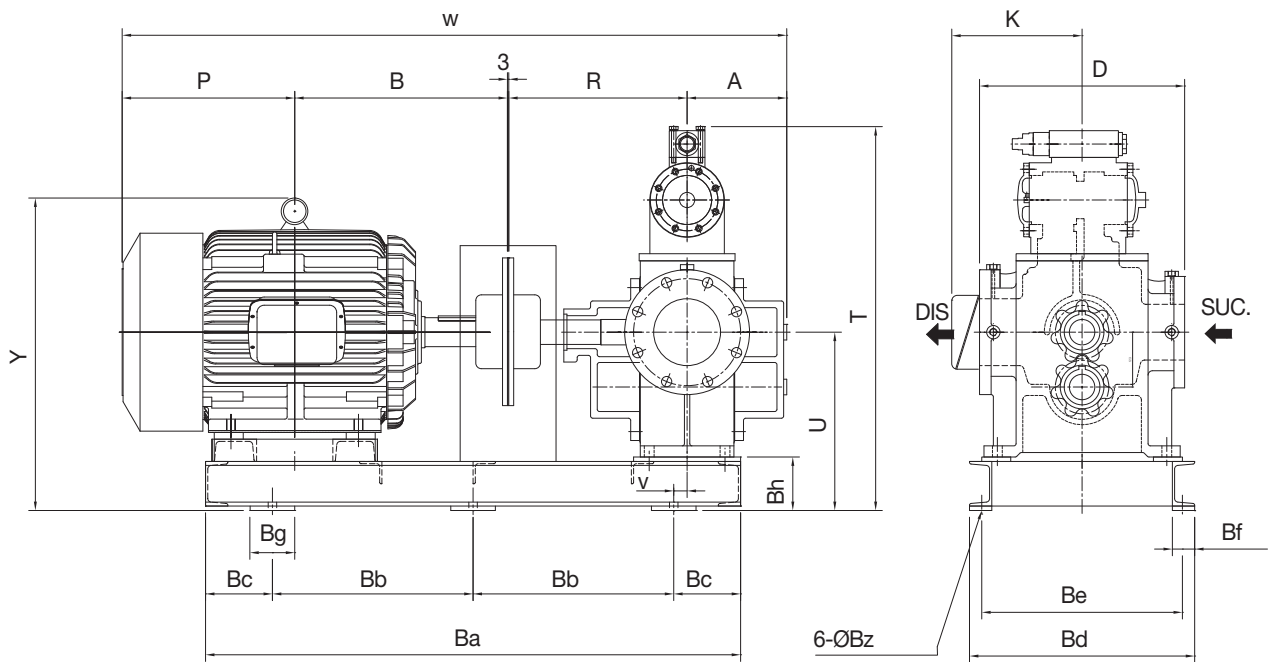
Flexible coupling	1
Safety cover	1
Suction gauge	1
Discharge gauge	1
Common base	1

■ Standard Spare Parts

Sliding bearing	Each	1
Mech Seal		1
Bolt, Nut & Washer for flexible coupling	1 set	

GHG - Series

■ Dimensional Drawing



■ WITH 1800 rpm MOTOR

Type	Motor		Bore		Size (mm)												Base (mm)						Weight (kg)				
	kW	rpm	Suc	Del	A	B	D	K	P	R	T	U	V	W	Y	Ba	Bb	Bc	Bd	Be	Bf	Bg	Bh	Bz	Body	Base	Motor
GHG40	15	1200	1500	1250	150	317	400	297	314	390	845	370	30	1268	616	1050	400	125	390	345	50	100	120	19	160	48	177
	19				377	331		331	50				1291	685	1100	150		410	365	51						250	
GHG50	15	1200	1500	1250	165	371	400	297	314	390	845	370	30	1263	616	1050	400	125	390	345	50	100	120	19	155	48	177
	19				377	331		331	50				1286	665	1100	150		410	365	51						250	
GHG65	19	900	1500	1250	220	395	460	331	351	445	850	400	10	1415	695	1150	450	125	450	405	50	100	120	19	230	53	277
	22				432	449		385	30				1485	722	1200	150		505	460	56						380	
GHG80	22	900	1500	1250	235	432	460	449	385	445	850	400	30	1500	722	1200	450	150	505	460	50	100	120	19	230	56	380
	30				445	477		397	25				1525	823	1300	150		495	435	65						130	150
GHG90	22	900	1500	1250	235	432	460	449	385	445	850	400	30	1500	722	1200	450	150	505	460	50	100	120	19	230	56	380
	30				445	477		397	25				1525	823	1300	150		495	435	65						130	150
GHG100	30	900	2000	1500	265	445	500	449	397	515	950	470	20	1625	792	1300	500	150	470	410	65	130	150	23	320	62	420
	37				434	477		422	25				1639	823	1300	150		495	435	65						130	150
GHG110	30	900	2000	1500	265	445	500	449	397	515	950	470	20	1625	792	1300	500	150	470	410	65	130	150	23	320	62	420
	37				434	477		422	25				1639	823	1300	150		495	435	65						130	150
GHG120	37	900	2000	1500	265	434	500	477	422	515	950	470	25	1639	823	1300	500	150	495	435	65	130	150	23	320	62	522
	45				452	442		442	25				1677	823	1300	150		495	435	65						130	150
GHG135	37	900	2500	2000	285	434	500	477	422	550	960	470	0	1694	823	1350	550	125	495	435	65	130	150	23	380	64	522
	45				452	442		442	0				1732	823	1350	550		125	495	435						65	130
GHG150	45	900	2500	2000	285	452	500	477	422	550	960	470	0	1732	823	1350	550	200	555	495	65	130	150	23	380	72	575
	55				514	517		500	10				1852	855	1500	200		555	495	65						130	150
GHG175	45	900	2500	2000	325	452	600	477	422	650	995	505	45	1872	858	1500	550	200	560	500	65	130	150	23	475	72	575
	55				514	517		500	1025				535	45	1992	920		1600	490	75						150	180
GHG200	55	900	2500	2000	325	514	600	517	525	650	1025	535	45	1992	920	1600	600	200	560	490	75	156	180	23	475	80	750
	75				540	500		1025	45				2043	920	1600	600		200	560	490						75	156

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Gorio

GIF - Series

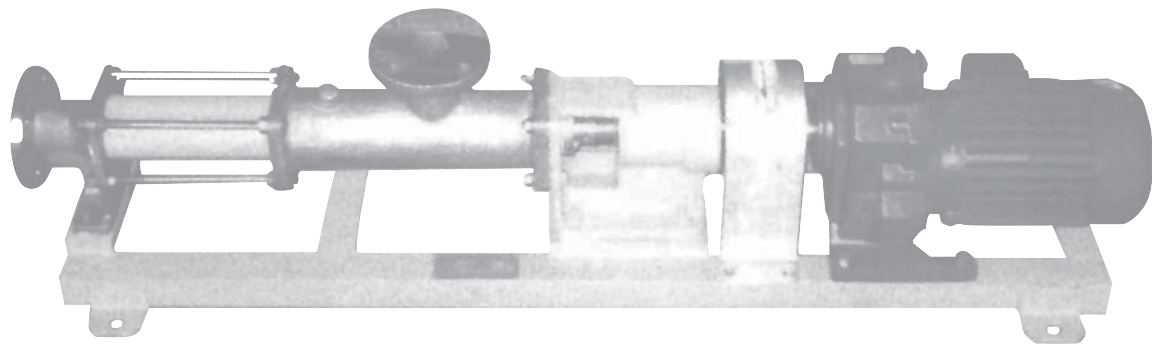
- ▶ Horizontal Eccentric Screw Pump
- ▶ Application : Sludge Oil, High Viscosity Liquid etc.
- ▶ Service : Sludge Pump, Sewage Pump etc

■ Viscosity and Pump Speed

Viscosity	Pump Speed
1~1,000 (CP)	400~1,000 (rpm)
1,000~10,000 (CP)	200~400 (rpm)
10,000~100,000 (CP)	200 (rpm) max.
100,000~2,700,000 (CP)	100 (rpm) max.

■ Discharge Pressure Reference

Pumping Liquid	Operating Pressure (bar)		
	1 Stage	2 Stage	3 Stage
Non-abrasive	6	12	24
Abrasive	4	8	16
High Abrasive	2	4	8



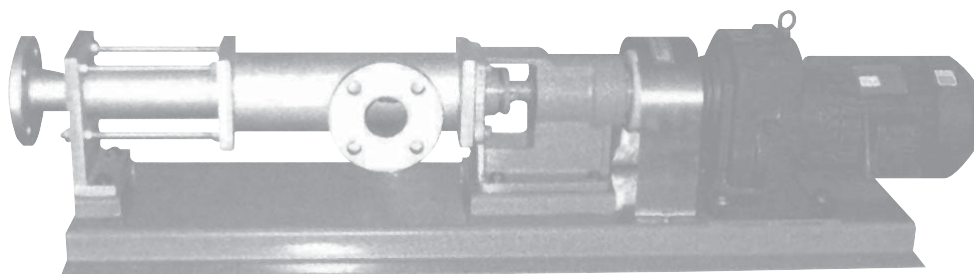
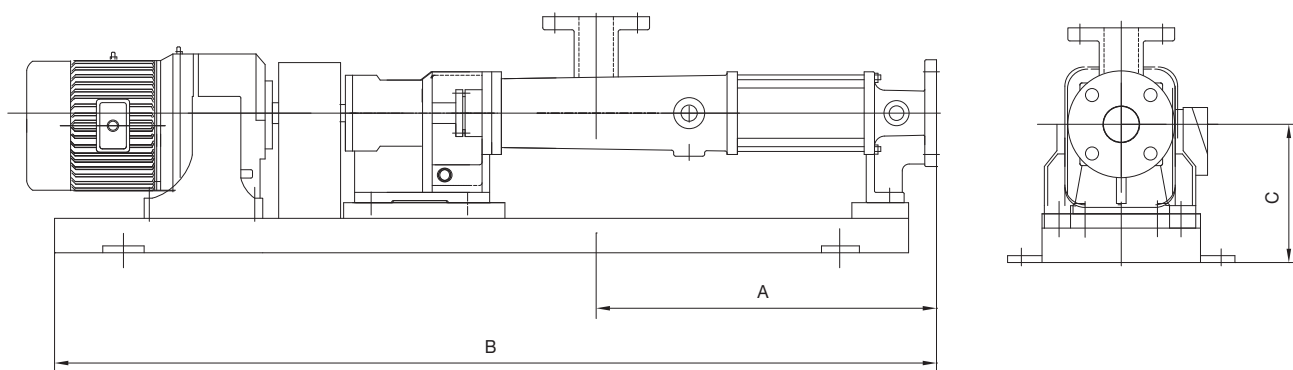
■ Pump Flow Rate(m³/hr)

MODEL	R.P.M	100	150	200	250	300	350	400	450	500	550
40		0.18	0.27	0.36	0.46	0.55	0.64	0.73	0.82	0.91	1.00
50		0.55	0.83	1.10	1.38	1.65	1.93	2.20	2.48	2.75	3.03
50		0.92	1.38	1.84	2.30	2.76	3.22	3.68	4.14	4.60	5.06
65		1.54	2.30	3.07	3.84	4.61	5.38	6.14	6.91	7.68	8.45
65		2.14	3.21	4.28	5.35	6.42	7.48	8.55	9.62	10.69	11.76
80		2.74	4.10	5.47	6.84	8.21	9.58	10.94	12.31	13.68	15.05
100		6.57	9.85	13.13	16.42	19.70	22.98	26.27	29.55	32.83	36.12
100		9.19	13.79	18.39	22.98	27.58	32.18	36.77	41.37	45.96	50.56
125		11.67	17.51	23.35	29.18	35.02	40.86	46.69	52.53	58.37	64.20
125		17.51	26.27	35.02	43.78	52.53	61.29	70.04	78.80	87.55	96.31
200		23.04	34.56	46.08	57.60	69.12	80.64	92.16	103.68		
250		34.56	51.84	69.12	86.40	103.68					

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GIF - Series

■ Dimensional Drawing (Ref. only)



MARK MODEL	A	B	C	kW
GiF-30	318	980	150	0.4
GiF-40	340	1005	150	0.4
GiF-40	470	1185	185	0.75
GiF-50	534	1310	185	1.5
GiF-50	649	1505	185	2.2
GiF-65	532	1455	218	2.2
GiF-65	732	1745	237	3.7
GiF-80	666	1745	272	3.7
GiF-80	961	2065	272	5.5

MARK MODEL	A	B	C	kW
GiF-100	831	2035	281	3.7
GiF-100	831	2035	272	3.7
GiF-100	1131	2370	281	7.5
GiF-125	1227	2615	306	7.5
GiF-125	1084	2495	306	7.5
GiF-125	1627	3090	330	11
GiF-200	1229	2790	330	11
GiF-250	1905	3715	360	19
GiF-250	2505	4540	425	30

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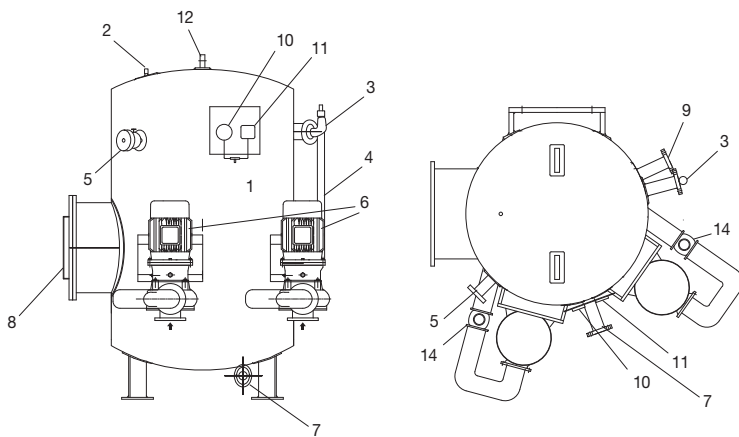
Gorio

GHU - Series

Hydrophore Unit

Applications

- Hydrophore unit for drinking water
- Hydrophore unit for fresh water
- Hydrophore unit for sanitary water



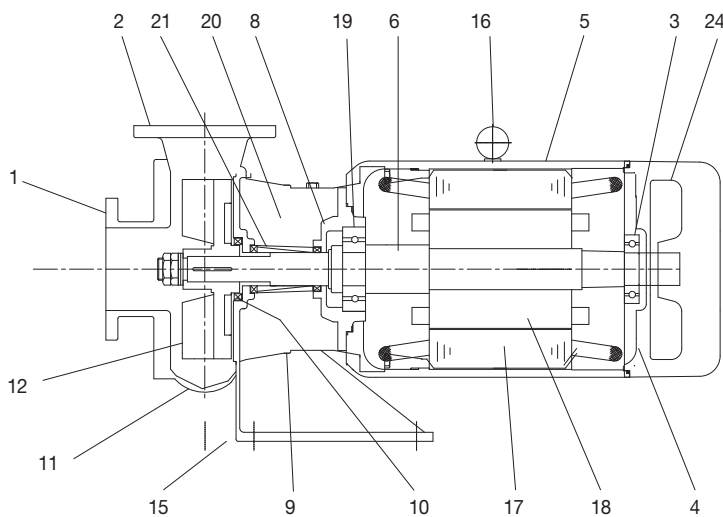
Components in the unit

NO.	NAME OF COMPONENT	MATERIAL		1 PUMP		2 PUMP	
		NAME	KS	SUPPLIED	SUPPLIE		
1	Tank	Steel	SS41	1	1		
2	Pressure Gauge			1 SET	1 SET		
3	Pressure Switch			1 SET	1 SET		
4	Safety Valve	Bronze	BC6	1 SET	1 SET		
5	Air Charge Valve			1	1		
6	Water Level Gauge	STS 304		1 SET	1 SET		
7	Pump	*	*	1 SET	1 SET		
8	Check Valve	Bronze	BC6	1	2		
9	Tank Delivery Nozzle	Steel	SS41	1	1		
10	Manhole Cover	Steel	SS41	1	1		
11	Drain Valve	Bronze	BC6	1	1		

* MATERIAL FOR PUMP
FOR FRESH WATER GC200
FOR SEA WATER BC6

Pump

The hydrophore unit is equipped with one or two sets of pump by customer's requirement and construction and material are shown as follows



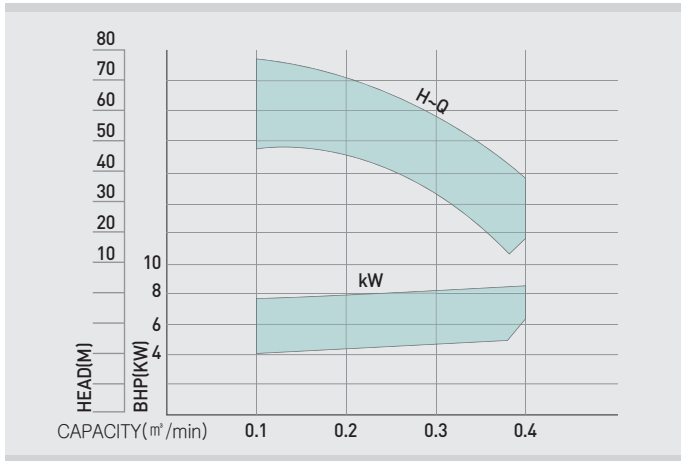
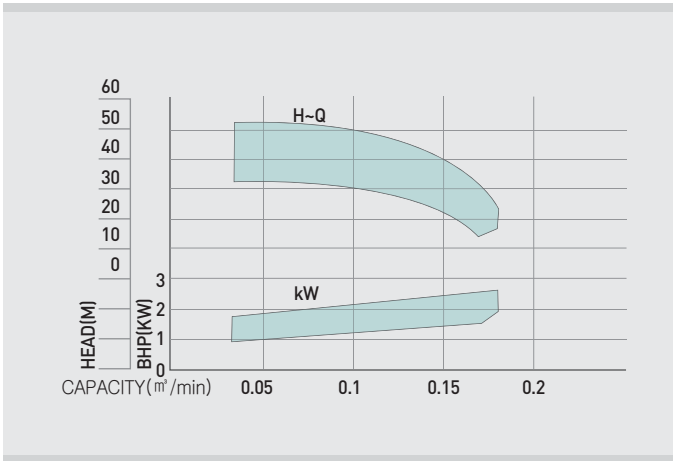
NO.	NAME OF PART	MATERIAL	Q'TY
1	Suction Flange	GC200	1
2	Discharge Flange	GC200	1
3	Radial Bearing	STB2	1
4	Motor Bracket	GC200	1
5	Motor Frame	GC200	1
6	Motor Shaft	STS304	1
8	Bearing Housing	GC200	1
9	Oil Chamber	GC200	1
10	Oil Seal	NBR	1
11	Pump Casing	GC200	1
12	Impeller	BC6	1
15	Common Base	GC200	1
16	Eye Bolt	SS 400	1
17	Stator	S - 60	1
18	Rotor	S - 60	1
19	Thrust Bearing	STB 2	1
20	Oil	Turbine Oil	
21	Mechanical Seal	Silicon Carbide	1
22	Flange	SS 400	1
23	Fan	PVC	1

The materials shown are for FW pumps, for SW pumps the materials for the volute casing and cover(BC) are different from those shown above.

GHU - Series

Principal Particulars

Item	Model	GHU 0.5-1	GHU 0.5-2		GHU 1.0-1	GHU 1.0-2	GHU 1.5-2	GHU 2.0-1	GHU 2.0-2
Tank volume (m³)		0.5	0.5	1.0	1.0	1.5	1.5	2.0	2.0
Number of pump supplied		1	2	1	2	1	2	1	2
Pump type		Vertical single stage centrifugal							
Capacity × head		2~24m³/hr×35~60m							
Operating pressure range (kg/m²)		3~55							
Weight (kg)		400	450	530	580	610	660	690	740



* Bigger capacity : available upon request.

Volume of Tank

Volume of tank

The Volume of tank can be obtained as follows on the basis of the effective water quantity in the tank and the pump start-up and stop interval.

$$T = \frac{V}{Q} \times 60 \quad (V : \text{effective water quantity in pressure tank } m^3)$$

The volume of tank must be selected so that T may become 2 ~ 3 minuters as mentioned above.

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- **GHU**
- GPP
- GEV

Gorio

GHU - Series

■ Shaft seal

Mechanical seal

■ Air charge valve

To maintain the function of unit by supplying the tank with air from time to time a manual control air charge valve is equipped near the tank top and connected to the compressed air line.

■ Water level gauge

In order to see the water level inside the tank from outside a water level gauge is provided at a suitable position and the level at the time of lowest level is clearly indicated.

■ Pressure switch

In order to start or stop the pump in accordance with the pressure inside the tank a pressure switch is provided near the tank top.

■ Safety valve

In order to prevent the abnormal pressure rise inside the tank an automatic safety valve is provided near the tank top.

■ Standard accessories

- Discharge pressure gauge 1
- Gauge board 1
- Gauge root valve 2
- Pressure switch root valve 1
- Drain pipe for safety valve 1 set
- Piping for pressure switch 1 set
- Support for electric wire 1

■ Standard spare parts

- One pump set of the following spare parts is supplied for one ship.
- Mechanical seal
- Complete set of rotating element (if required)

GHG

GVC

GHS

GDWP

GVS

GVD

GDS

GSP

GSS

GVP

GLG

GHG

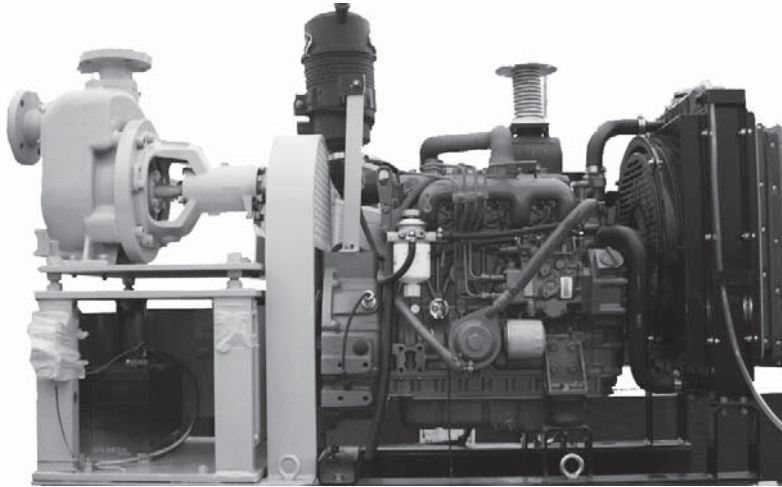
GIF

GHU

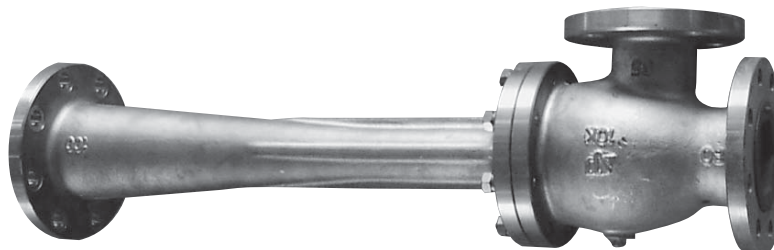
GPP

GEV

Emergency Fire Pump, Engine Driven



Ejector



Detail specification and type changes upon request.

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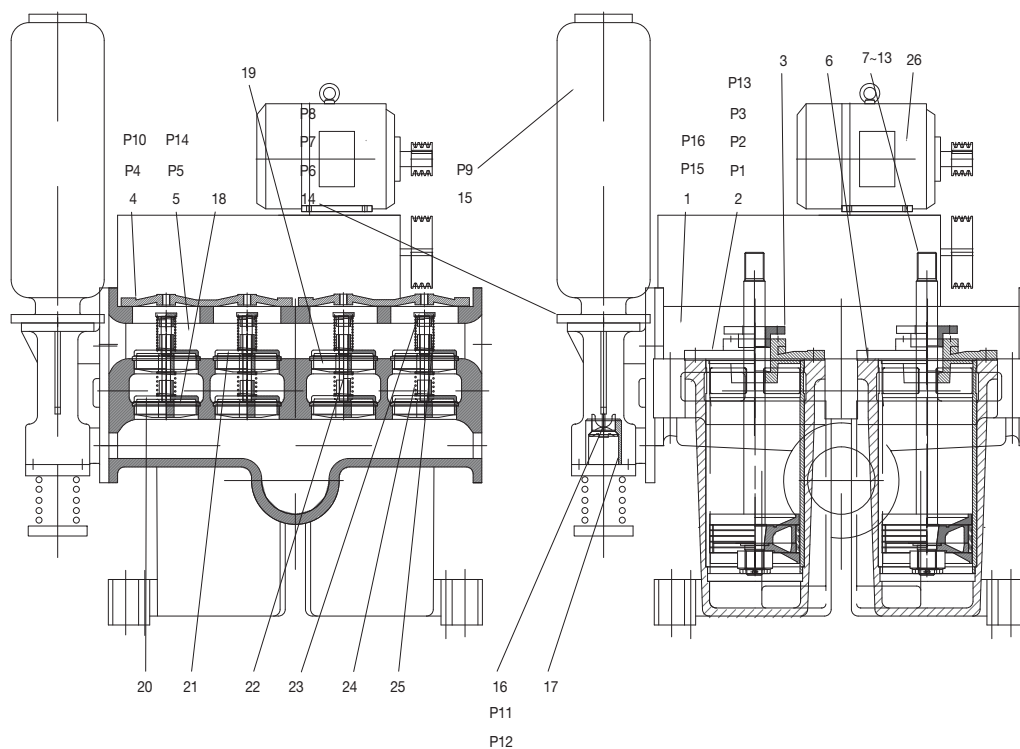
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- GEV

Gorio

GPP - Series

- Vertical Piston Pump
- Application : Chemical Cargo
- Service : Chemical Cargo Stripping
- Flow Rate : 100 m³/h, 200 m³/h, 300 m³/h and 400 m³/h
- Discharge Pressure Range : 11 bar

■ Sectional Drawing (For ref. only)



■ Standard Materials

NO.	NAME OF PART	MAT'L	SIZE	Q'TY	
				UNIT	TOTAL
1	Main Body	GC200	765X1000	1	1
2	Pump Cover	GC200	Ø415X130H	2	2
3	Pump Rod Grand	GC200	Ø180X62H	2	2
4	Pump Chest Cover	GC200	290X507X35.5H	2	2
5	Pump Chest Door	GC200	190X532X25T	2	2
6	Pump Liner	GC200	Ø266.7XØ292.1X637L	2	2
7-13	Pump Rod Ass'y	GC200	Ø266.4X958L	2	2
14	Relief Valve Body	GC200	Ø345X420X152	1	1
15	Pump Expansion Tank	GC200	Ø276X916H	1	1
16	Pump Relief Valve	GC200	Ø82.6X68H	1	1
17	Valve Bush	GC200	Ø106X135L	1	1
18	Suction Valve Seat	GC200	Ø201.5X47.2H	4	4
19	Discharge Valve Seat	GC200	Ø201.5X47.2H	4	4
20	Suction Valve	GC200	Ø190X63.5H	4	4
21	Discharge Valve	GC200	Ø190X63.5H	4	4
22	Valve Pin	GC200	Ø30XØ25X253.5L	4	4
23	Pin Cap	GC200	Ø62.5X40.5H	4	4
24	Valve Spring (SUC.)	GC200	Ø58XØ4.76X71.3L	4	4

NO.	NAME OF PART	MAT'L	SIZE	Q'TY	
				UNIT	TOTAL
25	Valve Spring (DIS.)	GC200	Ø58XØ4.76X101.6L	4	4
26	Motor	GC200	440V-7.5KW	1	1
P1	Stud Bolt, S/W, P/W	SSC16A	M20X125L	3	3
P2	Packing-Pump Rod	KLINGER4303	1/2"(12.7)X10"(254L)	10	10
P3	Gasket-Pump Cover	JOHNSTONITE N/A.BLUE	-	2	2
P4	Gasket-Chest Cover	"	-	2	2
P5	Gasket-Chest Door	"	-	2	2
P6	Gasket-Relief V/V (Top)	"	-	1	1
P7	Gasket-Relief V/V (Bot)	"	-	1	1
P8	Gasket-Main Body	"	-	1	1
P9	Gasket-Expansion	"	-	1	1
P10	Stud Bolt, Nut, S/W	STS316	M22X80L	14	28
P11	Stud Bolt, Nut, S/W	"	M18X70L	12	24
P12	Stud Bolt, Nut, S/W	"	M16X60L	8	16
P13	Stud Bolt, Nut, S/W	"	M22X80L	12	24
P14	Air Vent V/V	"	3/8"	1	4
P15	Safety V/V	"	1/2"	1	1
P16	Pulg	"	3/8"	1	4

GHC

GVC

GHS

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GWS

GVD

GDS

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GiF

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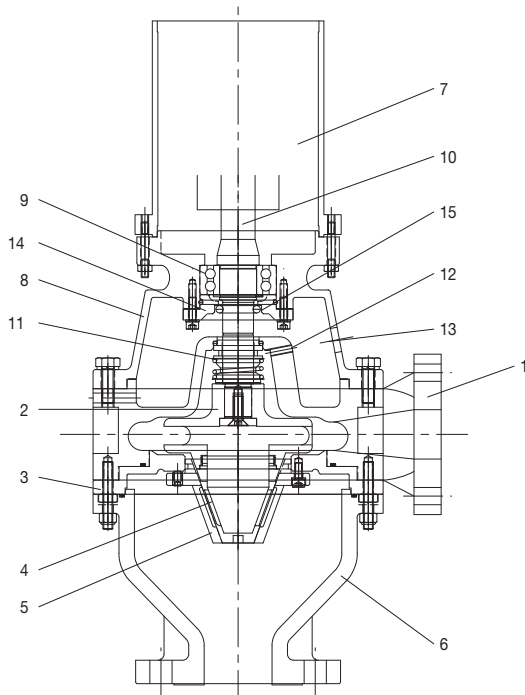
GPP

GEV

GEV 40, 50, 65, 80 - Series

- Macerator Pump (pump with macerator)
- Applicatin : Sewage
- Service : Sewage Discharge Pump for Sewage Treatment System or Toilet System.

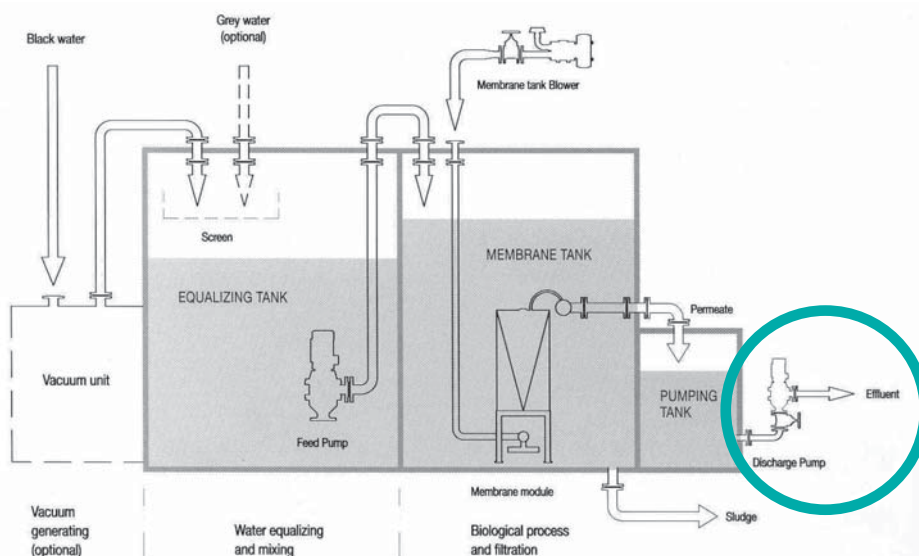
■ Sectional Drawing (For ref. only)



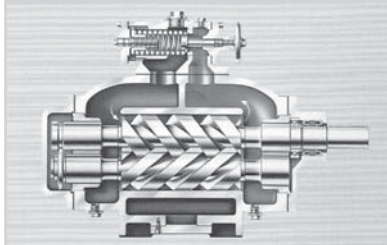
■ Standard Materials

NO.	NAME OF PART	MAT'L	Q'TY
1	Pump Casing	GG20	
2	Single-channel impeller	GG20	
3	Casing cover	GG20	
4	Cutting device, internal part	DIN 1.4528	
5	Cutting device, external part	DIN 1.4528	
6	Feed unit	GG20	
7	Motor	BEVI	
8	Lantern	GG20	
9	Angular contact ball bearing	# 3206B	
10	Shaft	Steel	
11	Mechanical seal, product side		
12	PLUG + HOSE NIPPLE	1/4"	
13	Bleeding hose	PVC	
14	Bearing cove	GG20	
15	O-ring	NBR	

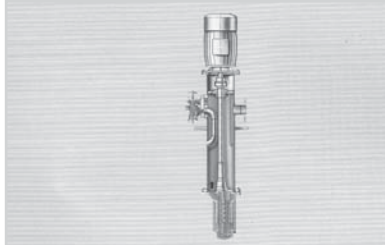
■ CE certified



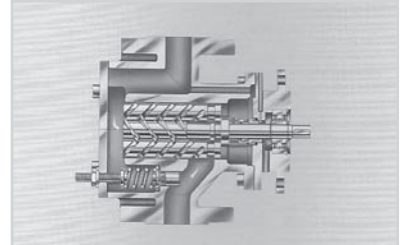
Handling Items : Leistritz Screw Pumps, Germany



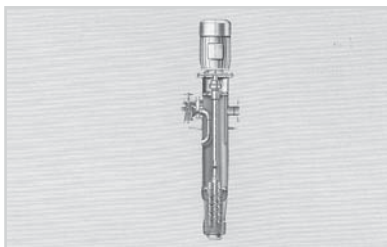
L2NG



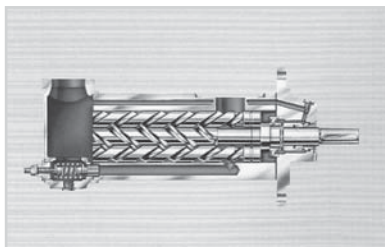
L2NT



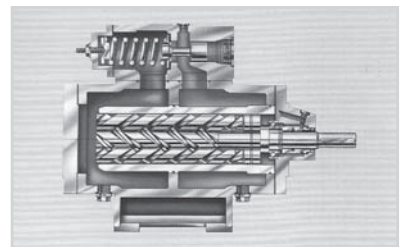
L3NG



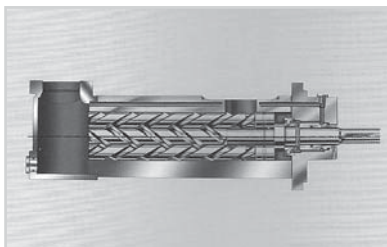
L3NT



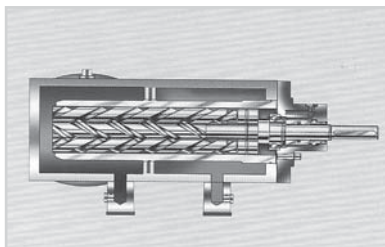
L3MF



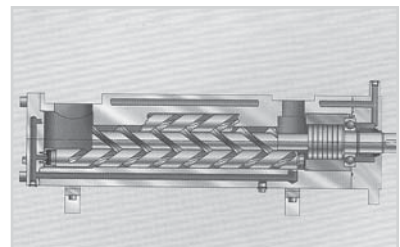
L3MG



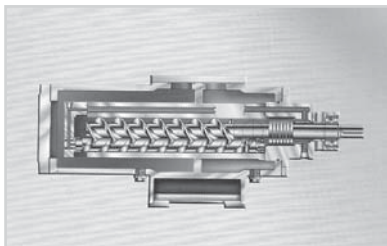
L3HF



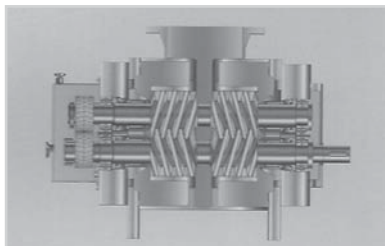
L3HG



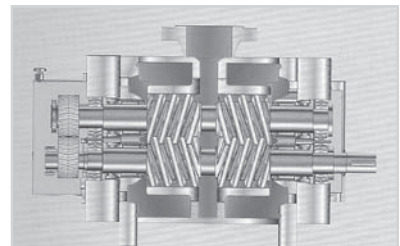
L3VF/UF



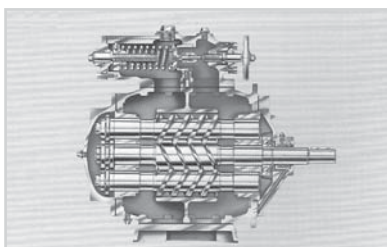
L3VG/UG



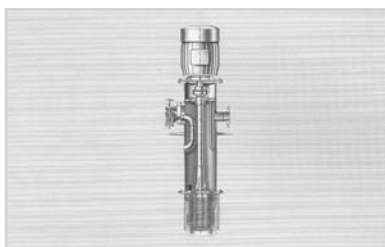
L4NG/MG



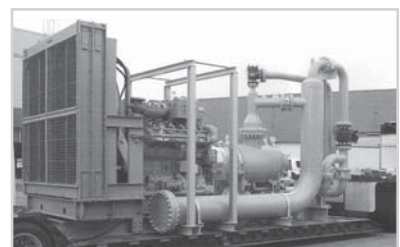
L4HG



L5NG



L5NT

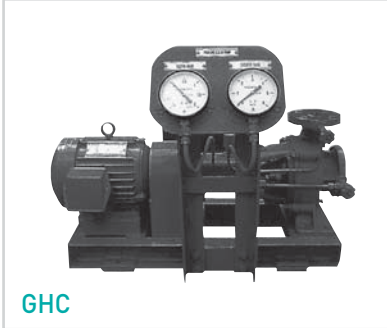
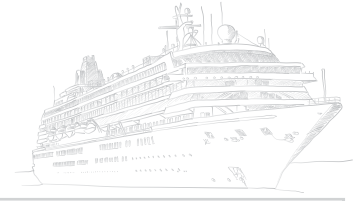


LPS

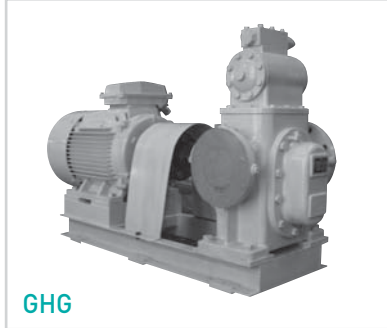
Application

Oil & Gas / Refineries / Crude Oil Boosting or Multiphase Application / Commercial and Military Shipbuilding / Chemicals / Power Generation and F.O. Systems / Hydraulics / Pulp and Paper / Sugar / Steel / Textiles / Paints / Rotating and General Machinery

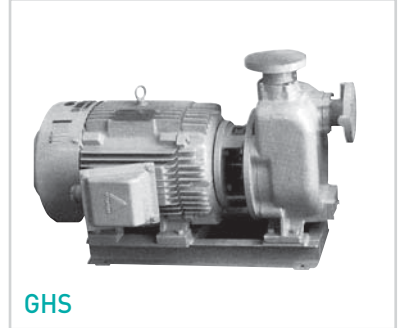
Gorio PRODUCTS



GHC



GHG



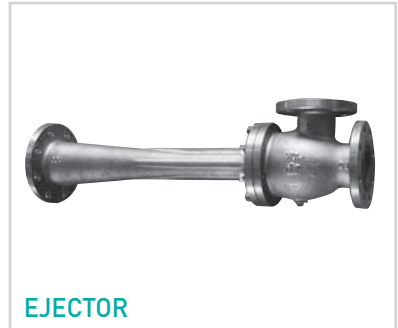
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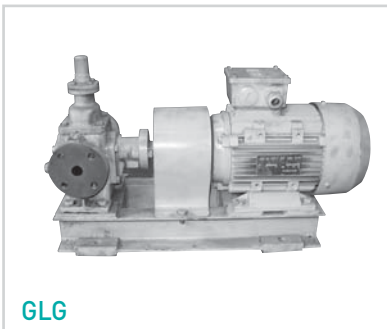
GEV



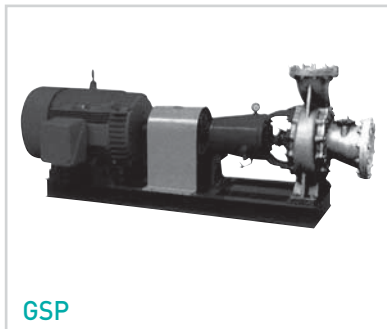
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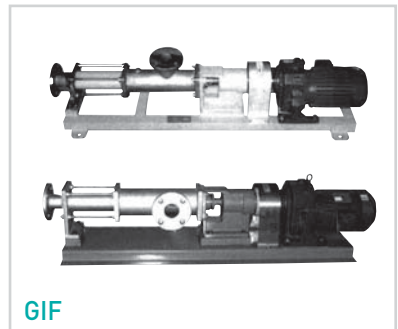
EJECTOR



GLG



GSP



GIF



GPP



GVS



GSC



GVC



GDWP



GVD

Series	Pump Type	Hor/Vert	Application	Flow Rate
GHC	Centrifugal	H.	G/S, Cooling, Ballast, Transfer etc.	up to 600 m ³ /h
GVC	Centrifugal	V.	G/S, Cooling, Ballast, Transfer etc.	up to 800 m ³ /h
GHS	Selfpriming, Centrifugal	H.	G/S, Bilge, Discharge, Drain etc.	up to 700 m ³ /h
GDWP	Deepwell, Mixed Flow	V.	Main LO, Discharge etc.	up to 1,200 m ³ /h
GVS	Two-stage, Centrifugal	V.	Fire Fighting, High Pressure, G/S	up to 800 m ³ /h
GVD	Double Suction, Centrifugal	V.	Ballast, S.W. Circulation, etc.	up to 10,000 m ³ /h
GDS	Double Suction, Centrifugal	H.	Transfer	up to 10,000 m ³ /h
GSP	Centrifugal Solids Pumps	H.	Sewage Water etc.	3,000 m ³ /h
GSS	Submersible, Centrifugal	V.	Drain, Discharge	3,000 m ³ /h
GVP	Vortex Pump	H.	Sewage Water etc.	3,000 m ³ /h
GLG	Gear Pump	H.	FO, LO etc.	up to 35 m ³ /h
GHG	Gear Pump	H.	FO, LO etc.	up to 600 m ³ /h
GIF	Eccentric Screw Pump	H.	Sludge Oil, High Viscosity Liquid etc.	up on requirement
GHU	Hydrophore Unit	V.	Fresh water, Sea water, Drinking water etc.	up on requirement
GPP	Piston Pump	V.	Bilge, Cargo Stripping	400 m ³ /h
GEV	Macerator Pump	V.	Sewage Discharge	upon requirement

Gorio
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