

Reliability is our target



**PG** series(Sealless)

**PAN WORLD  
SEALLESS MAGNETIC  
DRIVEN PUMPS  
(ISO-5199, Cr-NI-MO  
steel made)**



**PAN WORLD CO., LTD.**

■ **The PG series meets to customer requirement of safety and reliability.**

**Sic thrust bearing**

Silicon free Silicon carbide ceramic made thrust bearing and thrust pads ensure from thrust force.

**Sic radial bearing**

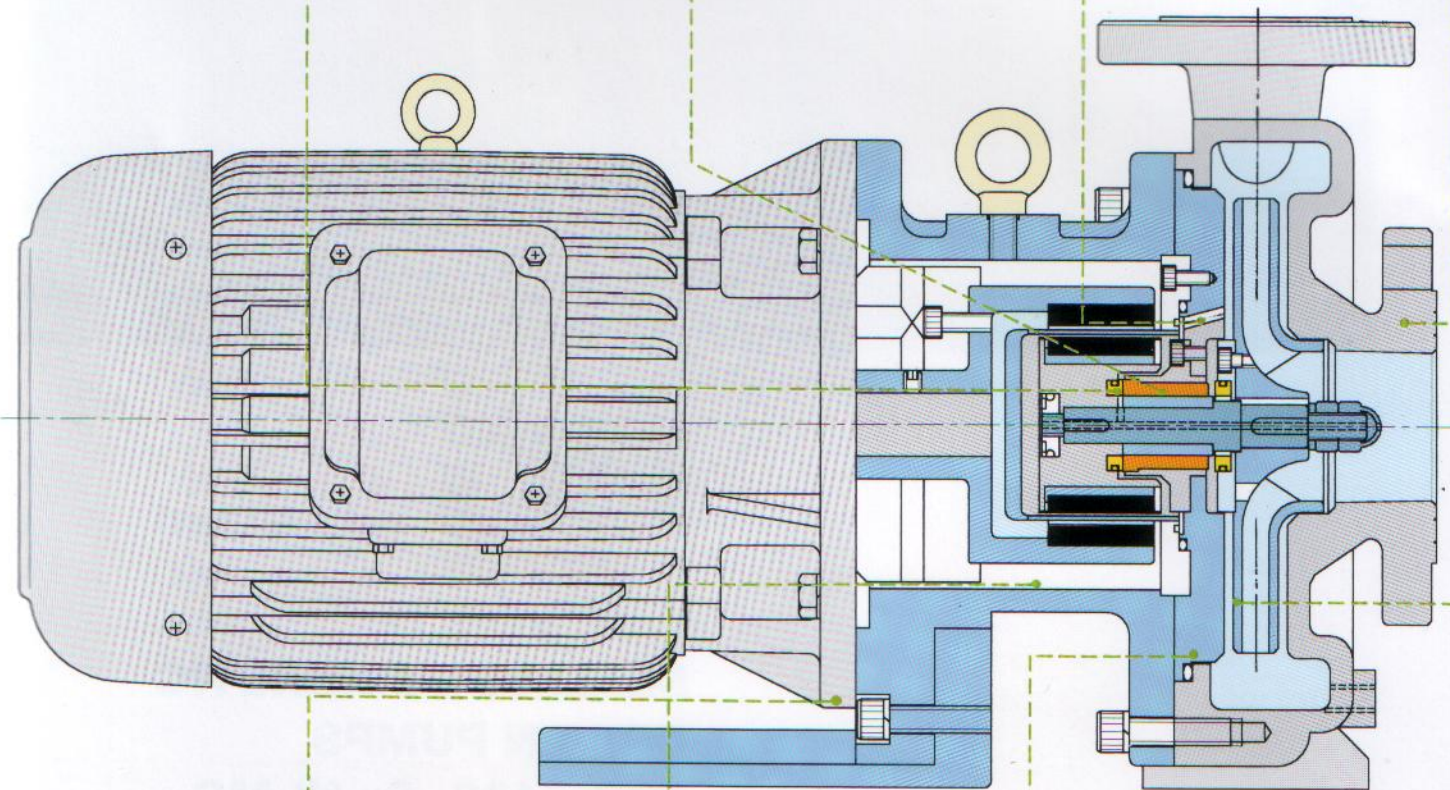
Silicon free Silicon carbide ceramic made radial bearing and sleeve, shaft ensure from mechanical load and hydrolic force.

**Lubrication**

Special cooling circulation/lubrication system is installed in pump element inside.

**Wetted end**

Chrome-Nickel-Molybdenum steel as wetted end.



**World wide connection**

World wide connection and motor are available as followings.

- ISO/DIN Flange PN-16-IEC motor
- JIS/CNS Flange 16 Bar-JEM/IEC motor
- ANSI Flange 300PSI-NEMA-C face motor

**Accessary**

Lakage detector, Dry protector, and Thermo detector, Heat jacket and Cooling jacket are available as optional parts.

**Easy maintenance**

Minimum number of elements gives easy disassembl and re-assemble without any skel and any special tooling.

**Close impeller and open impeller**

Close Impeller and open Impeller are available to meet market application. In case of close impeller model, automatical axial thrust balancing structure is installed to minimize thrust load.

## ■ Features

1. 10,000 Hours life expectancy of abrasion parts.
2. Zero leakage
3. Many combinations of abrasion parts and o ring are available
4. Built in safety of abrasion parts
5. Excellent alignment
6. Pull- out back construction
7. Close impeller and Open Impeller are available to meet slurry application.

## ■ Pump performance list

50/60Hz

Model	Flange size Outlet*Inlet	Duty point m at L/min	Max point m - L/min	Power requirement at duty point. kW
NH-32-100PG	32 x 50	12/15 at 215	15/19 - 300	2.2 / 4.2
NH-32-120PG	32 x 50	15/20 at 215	20/26 - 300	2.5 / 5.5
NH-32-140PG	32 x 50	20/27 at 215	27/35 - 300	3.1 / 7.3
NH-32-160PG	32 x 50	32/43 at 215	34/46 - 300	4.0 / 9.4
NH-32-180PG	32 x 50	41/50 at 215	43/58 - 300	5.9 / 11
NH-32-200PG	32 x 50	50/66 at 215	54/--- - 300	6.7 / ---
NH-32-210PG	32 x 50	55/71 at 215	60/--- - 300	7.5 / ---
NH-40-100PG	40 x 65	12/15 at 430	16/18 - 550	3.6 / 4.7
NH-40-120PG	40 x 65	15/19 at 430	21/25 - 550	4.4 / 6.5
NH-40-140PG	40 x 65	20/27 at 430	28/35 - 550	5.2 / 8.5
NH-40-160PG	40 x 65	32/42 at 430	35/47 - 550	6.1 / 10.1
NH-40-180PG	40 x 65	40/52 at 430	48/--- - 550	7.6 / ----
NH-40-200PG	40 x 65	50/65 at 430	55/--- - 550	8.6 / ----
NH-40-210PG	40 x 65	55/70 at 430	60/--- - 550	9.4 / ----

## ■ Allowable S.G. and required motor output

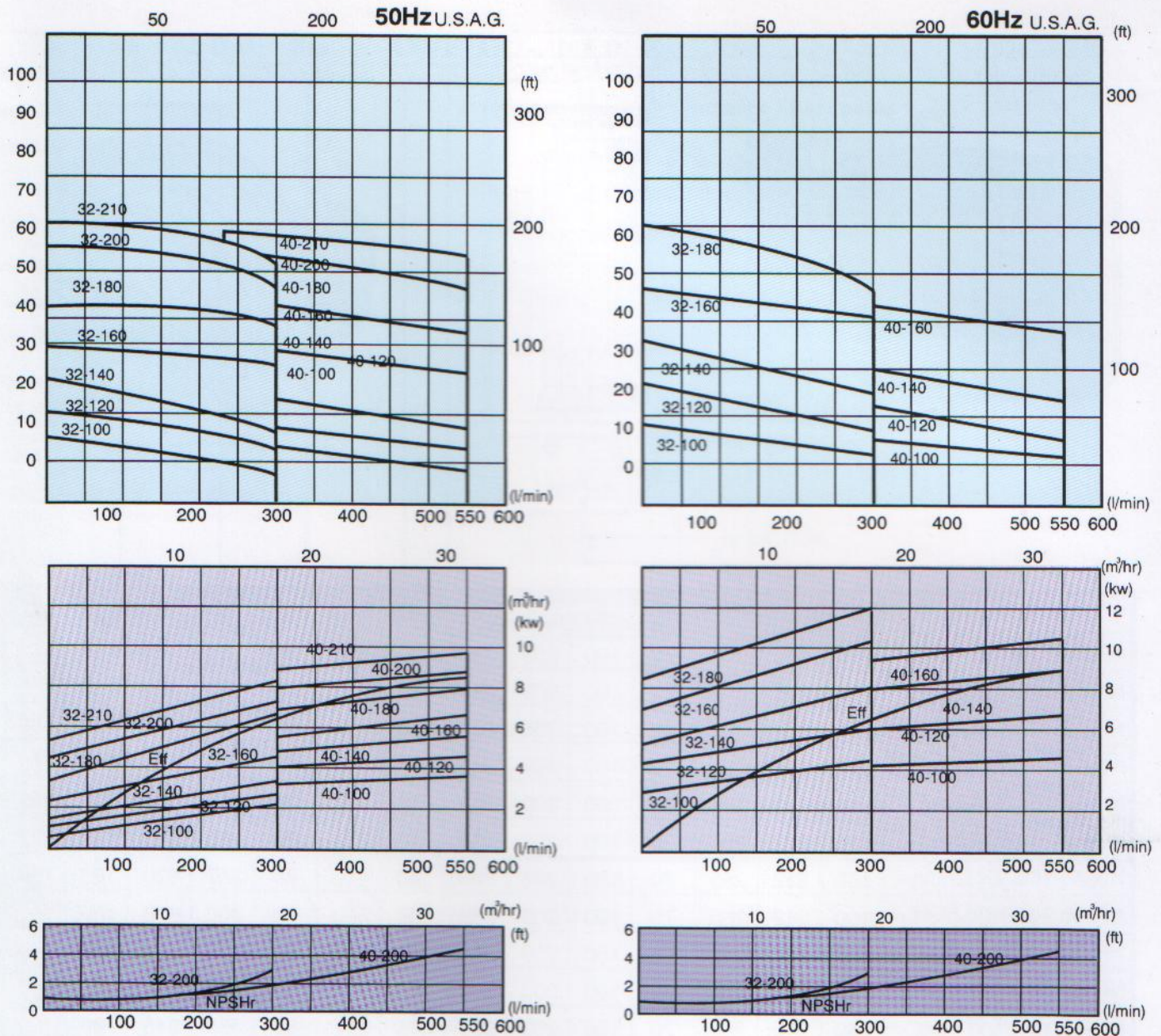
50/60Hz

Model	S.G.:1.0	S.G.:1.2	S.G.:1.5	S.G.:1.9
NH-32-100PG	2.2/5.5	3.7/5.5	3.7/7.5	3.7/11
NH-32-120PG	3.7/5.5	3.7/7.5	5.5/11	5.5/11
NH-32-140PG	3.7/7.5	3.7/11	5.5/11	7.5/11
NH-32-160PG	5.5/11	5.5/11	7.5/11	7.5*15
NH-32-180PG	7.5/11	7.5*15	11*15	*11/---
NH-32-200PG	7.5/---	7.5/---	11/---	----/----
NH-32-210PG	7.5/---	11/---	*11/---	----/----
NH-40-100PG	3.7/5.5	5.5/7.5	5.5/7.5	7.5/11
NH-40-120PG	5.5/7.5	5.5/11	7.5/11	11/11
NH-40-140PG	7.5/11	7.5/11	7.5/11	11*15
NH-40-160PG	7.5/11	7.5/11	7.5*15	*11/----
NH-40-180PG	11*15	11/15	*11/----	----/----
NH-40-200PG	11/---	11/---	----/----	----/----
NH-40-210PG	11/---	*11/---	----/----	----/----

Note: Pump model with \* mark requires trimming impeller diameter according to specific gravity, viscosity and applicable motor.

----means that operation in not available.

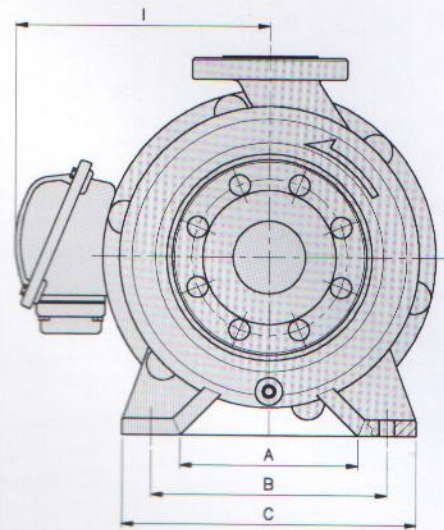
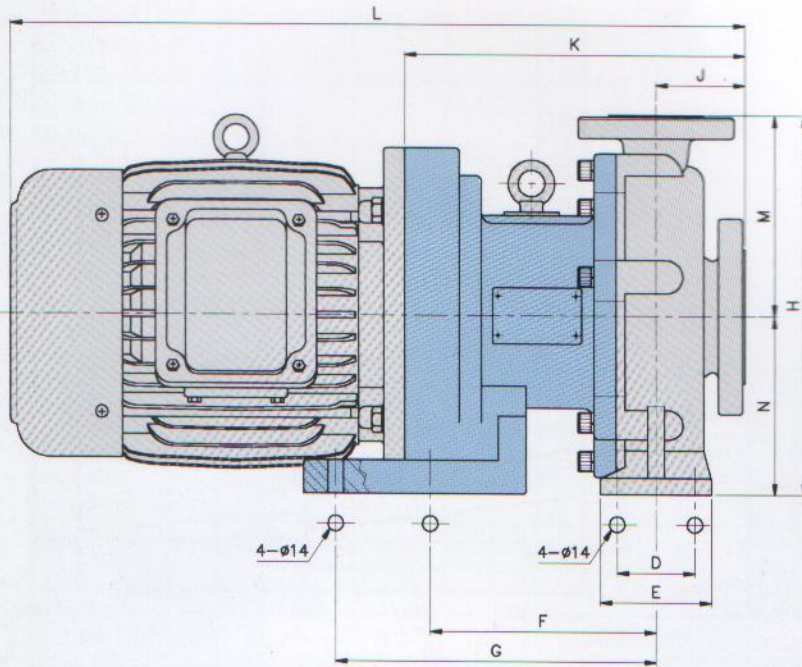
## Expected performance curve



## Supplement

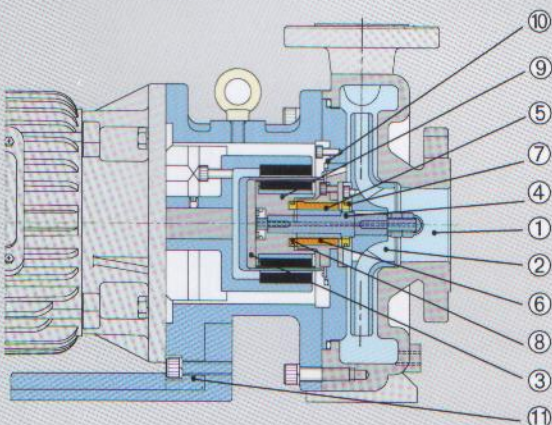
1. Expected performance is shown with clean water without gas.
2. A margin of +20% is recommended for of NPSHr as proper NPSHa.
3. Power requirement in performance curve is shown with viscosity 10 cp or/and S.G. 1.0.
4. Temperature range : 0-100° C
5. Pump nominal speed : 3,000 r.p.m. at 50 Hz.  
3,600r.p.m. at 60 Hz.
6. Applicable regulation  
Overall tolerance through pump manufacturing process: JIS 16 grade  
Flange : ISO PN-16, JIS 16Bar, ANSI 300psi, CNS 16Bar  
Motor : IEC, JEM, CNS, NEMA-C
7. +10% is recommended for a safety margin of power requirement when pump handles heavy or viscous chemical.
8. Required enviroment condition: 0-40° C, up to 85%

## ■ Installation dimension



Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N
NH-32-100PG(2.2kw)	160	212	265	70	100	203	288	340	160	80	257	570	180	160
NH-32-120PG(3.7kw)	160	212	265	70	100	203	288	340	210	80	257	620	180	160
NH-32-140PG(5.5kw)	160	212	265	70	100	203	288	340	250	80	306	670	180	160
NH-32-160PG(7.5kw)	160	212	265	70	100	203	288	340	250	80	306	670	180	160
NH-32-200PG(11kw)	160	212	265	70	100	203	288	365	287	80	350	845	180	185
NH-32-210PG(15kw)	160	212	265	70	100	203	288	365	287	80	350	845	180	185
NH-40-100PG(3.7kw)	160	212	265	70	100	203	288	340	210	80	257	620	180	160
NH-40-120PG(5.5kw)	160	212	265	70	100	203	288	340	250	80	306	670	180	160
NH-40-140PG(7.5kw)	160	212	265	70	100	203	288	340	250	80	306	670	180	160
NH-40-160PG(7.5kw)	160	212	265	70	100	203	288	340	250	80	306	670	180	160
NH-40-180PG(11kw)	160	212	265	70	100	203	288	365	287	80	350	845	180	185
NH-40-200PG(11kw)	160	212	265	70	100	203	288	365	287	80	350	845	180	185
NH-40-210PG(11kw)	160	212	265	70	100	203	288	365	287	80	350	845	180	185

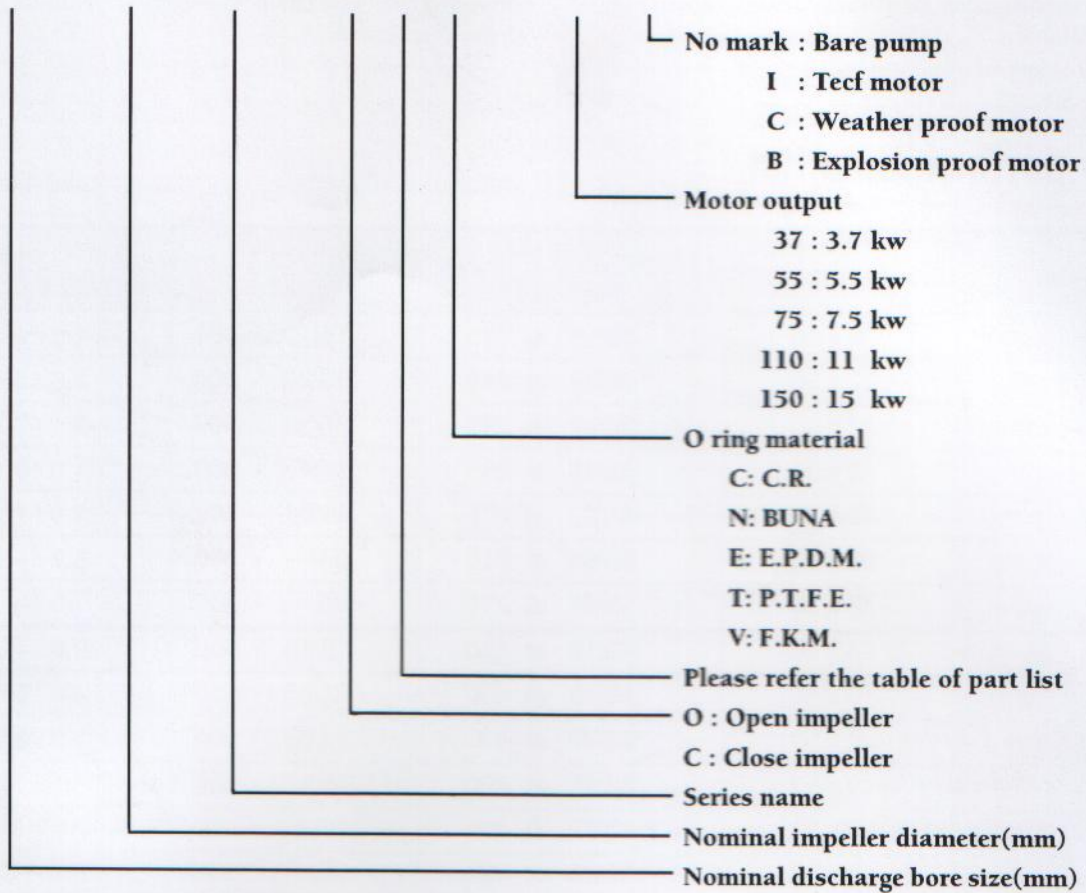
## ■ Part list



No	Part name	FV	FC	FE	Si	SN
1	Front casing	Ni - Cr - Mo casting, steel(SCS-14)				
2	impeller	Ni - Cr - Mo steel(SUS-316)				
3	Rear casing	Ni - Cr - Mo steel(SUS-316)				
4	Shaft	SUS-316				
5	Sleeve, Shaft	SUS-329J1			SiC ceramic	
6	Bearing	High density carbon			SiC ceramic	
7	Front thrust pad	SUS-329J1			SiC ceramic	
8	Rear thrust pad	SUS-329J1			SiC ceramic	
9	Magnet capsule	Ni - Cr - Mo steel(SUS-316)				
10	O ring	FKM	CR	EPDM	PTFE	BUNA
11	Bracket	FCD-40				

## ■ Pump identification

NH - 32 - 200 PG - O F C - 110 C



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