EBARA

TECHNICAL DATA BOOK

50Hz/60Hz

EBARA END SUCTION VOLUTE PUMP MODEL GS

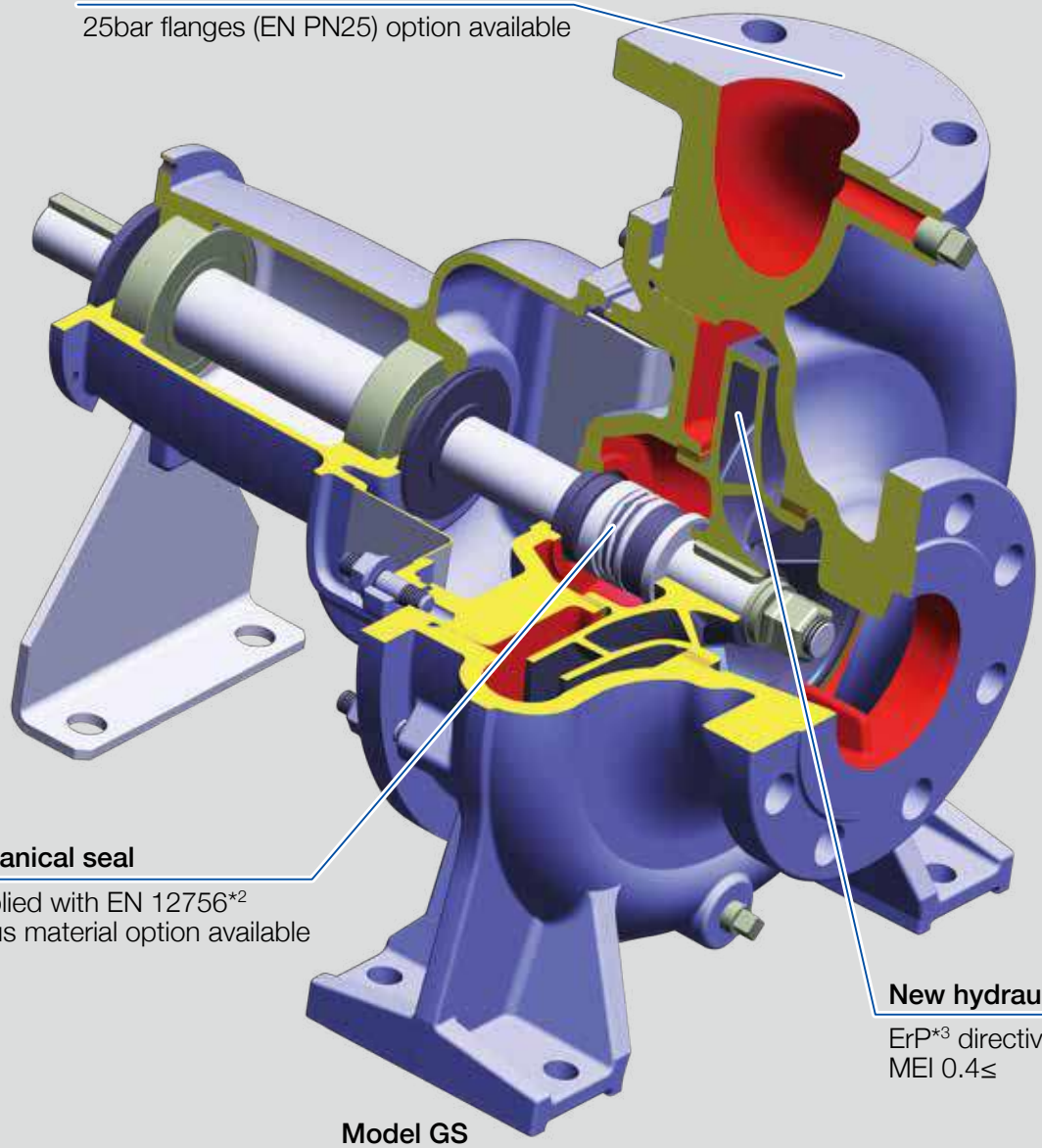
GS SERIES PUMPS

Standardized pumps

The European Standard EN733*1 complied

DIN 16bar flanges (EN PN16)

25bar flanges (EN PN25) option available



Mechanical seal

Complied with EN 12756*2
Various material option available

New hydraulic design

ErP*3 directive complied
MEI 0.4≤

Model GS

EN733*1 : End-suction centrifugal pumps, rating with 10 bar with bearing bracket - Nominal duty point, main dimensions, designation system

EN 12756*2 : Mechanical seals. Principal dimensions, designation and material codes

ErP*3 : Eco-design requirements of Energy-related Products

FEATURES

1 ENERGY-SAVING DESIGN

- World top class pump efficiency achieved.
- Major improvement over our previous models by impeller designed using our proprietary 3D inverse design technology.
- Higher efficiency means lower energy consumption and motor output, and more compact size.

2 SIMPLE MAINTENANCE

- Back pull-out structure enables disassembly and inspection without removal of suction and discharge piping.
- Shield bearings eliminate need for adding or exchanging lubricating oil.
- Shaft seal flushing and quenching piping not required for the standard application.
- Air-bleeding not required.
- Simplified bearings and shaft seal enable easy assembly.

3 PUMP SPECIFICATIONS

- Maximum operating pressure: 25 bar
- Liquid temperature range expansion:-25°C to 140°C
- Compatible with multiple flange standards.
- Able to meet customer specifications with many combinations of shaft seals and materials.

4 INTERNATIONAL STANDARDS

- Pump dimensions adopt EN733
- Mechanical seal adopts EN12756
- Protector fitted in accordance with EN294.

APPLICATIONS

BUILDING

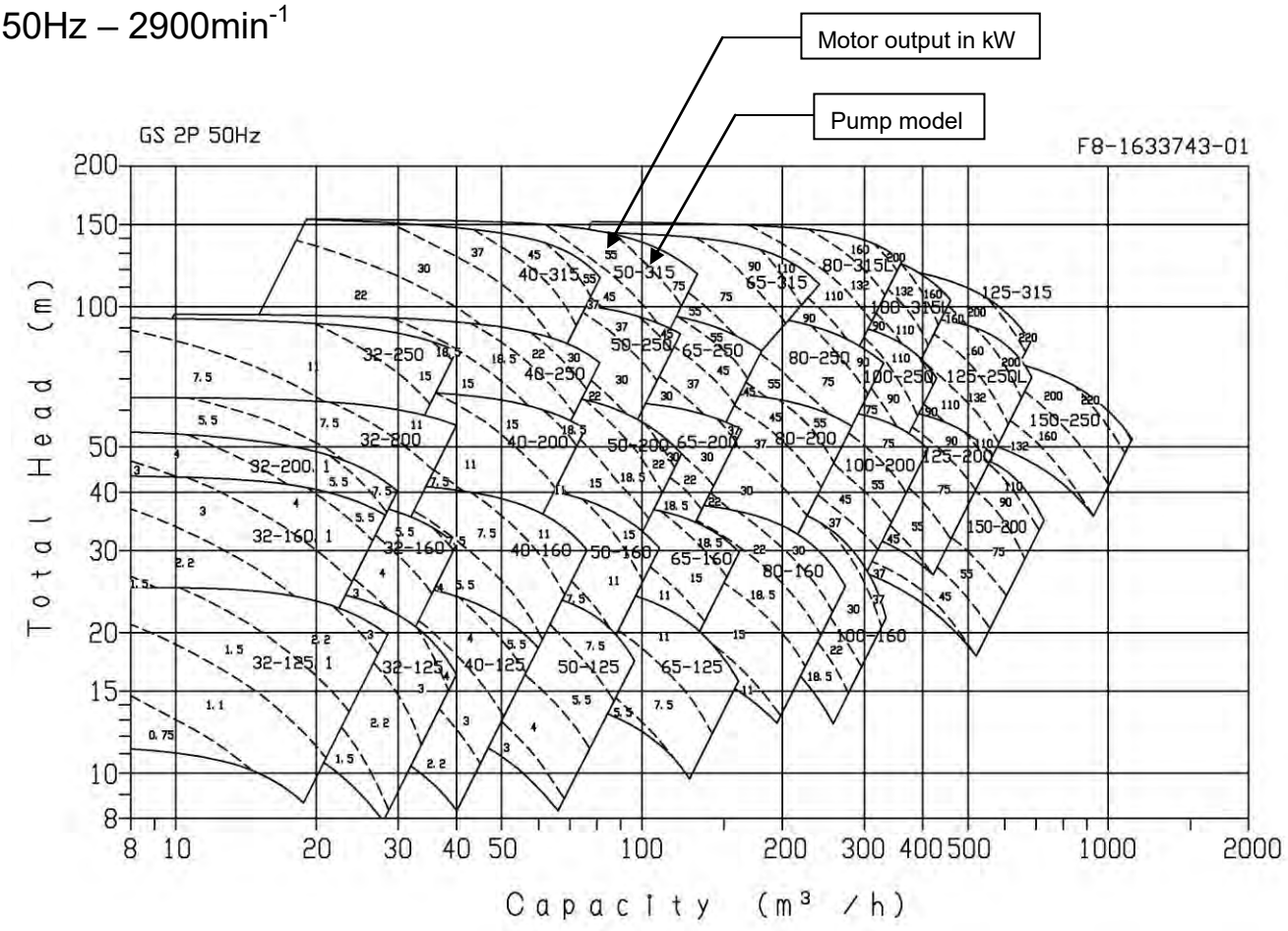
- **Air conditioning-District heating & cooling**
  General water supply
  Brine (antifreeze liquid)
  Hot water circulation
  High pressure booster

WATER SUPPLY

- **Water supply duties for municipalities**
- **Irrigation**
- **Drainage clean water**
- **Fire fighting protection**
- **Swimming pool**

SELECTION CHART

50Hz – 2900min^{-1}



Note1 : The values inside the broken lines are motor output(kW) in case of density 1.0kg/ℓ and viscosity 1.0mPa・s.

Note2 : The indicated motor output(kW) value includes the following safety margins ;

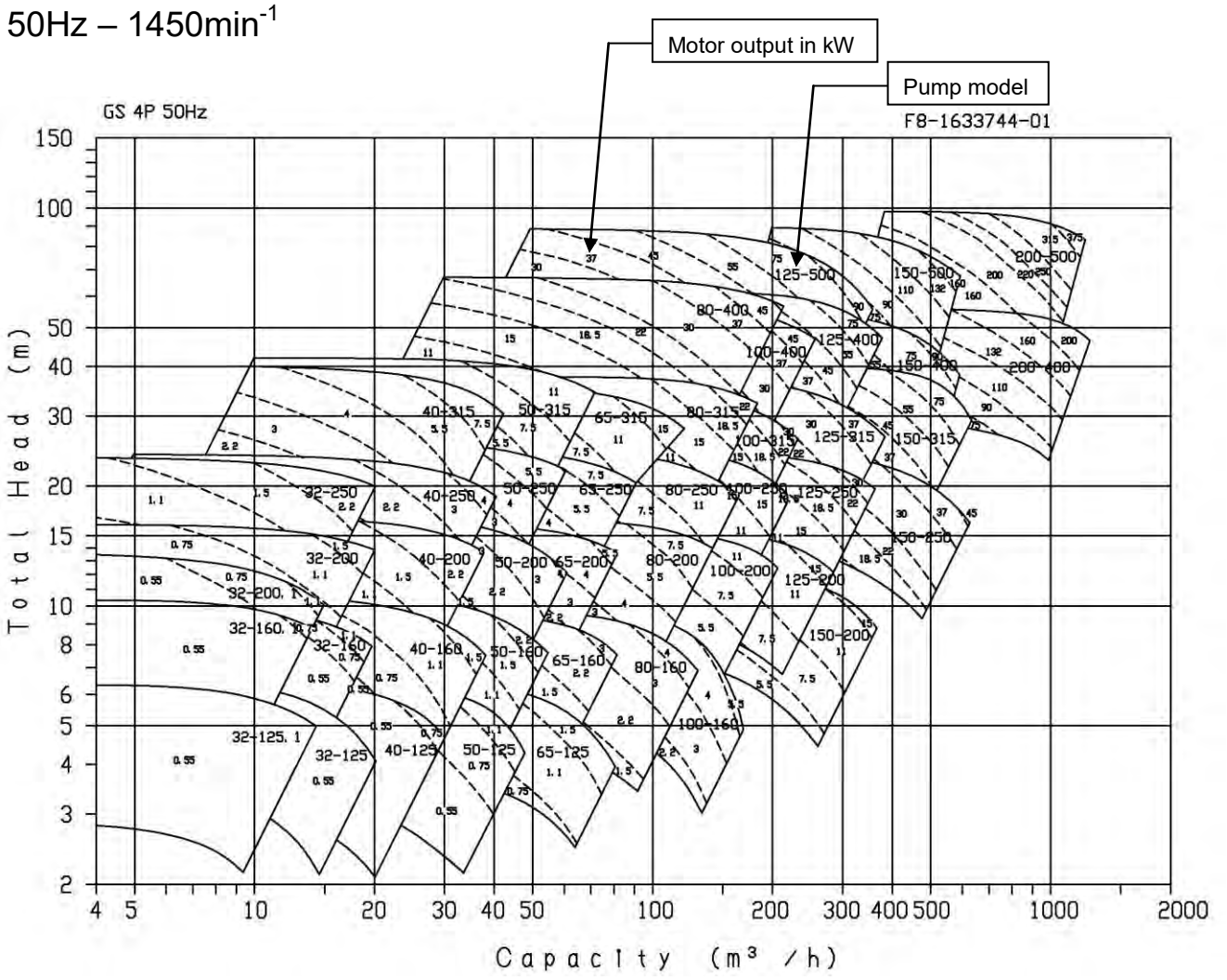
up to 7.5kW : 15%

11kW and above : 10%

Note3 : When selecting a pump , NPSH Av. should have a safety margin of at least 0.5m from NPSH Re.

SELECTION CHART

50Hz – 1450min^{-1}



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Note2 : The indicated motor output(kW) value includes the following safety margins ;

up to 7.5kW : 15%

11kW and above : 10%

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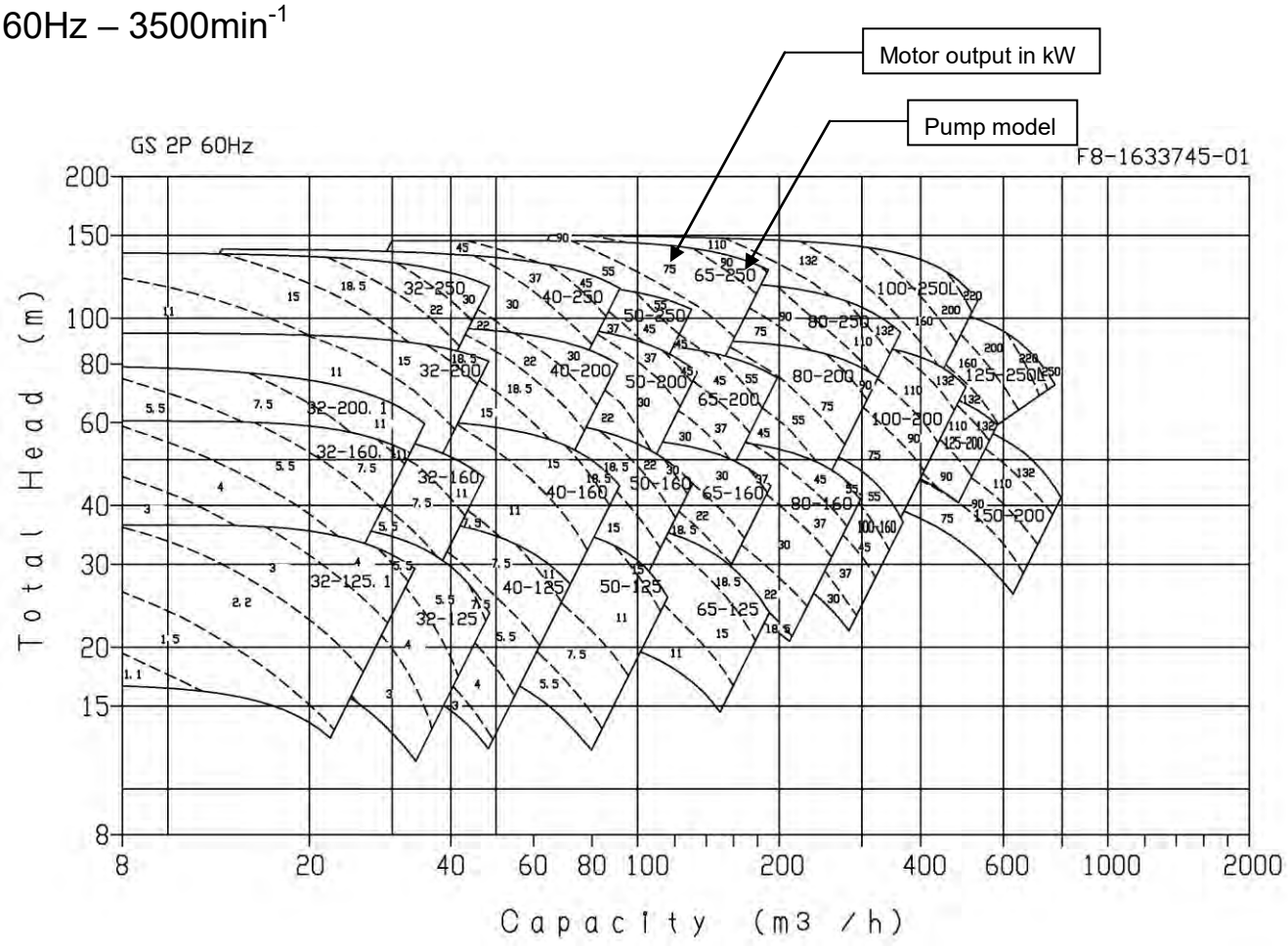
SELECTION CHART

60Hz – 3500min^{-1}



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Note2 : The indicated motor output(kW) value includes the following safety margins ;

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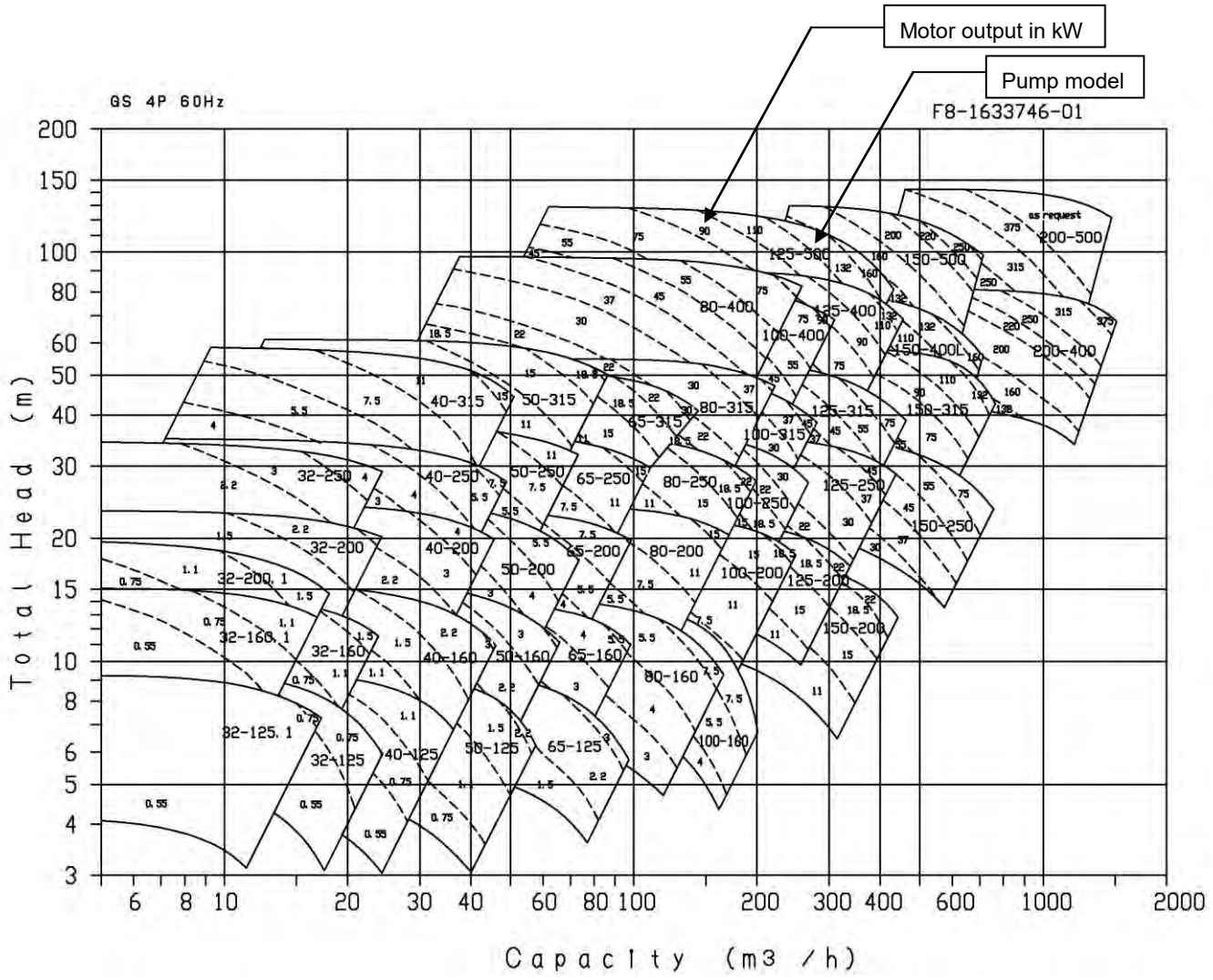
SELECTION CHART

60Hz – 1750min^{-1}



Note1 : The values inside the broken lines are motor output(kW) in case of density 1.0kg/ℓ and viscosity 1.0mPa・s.

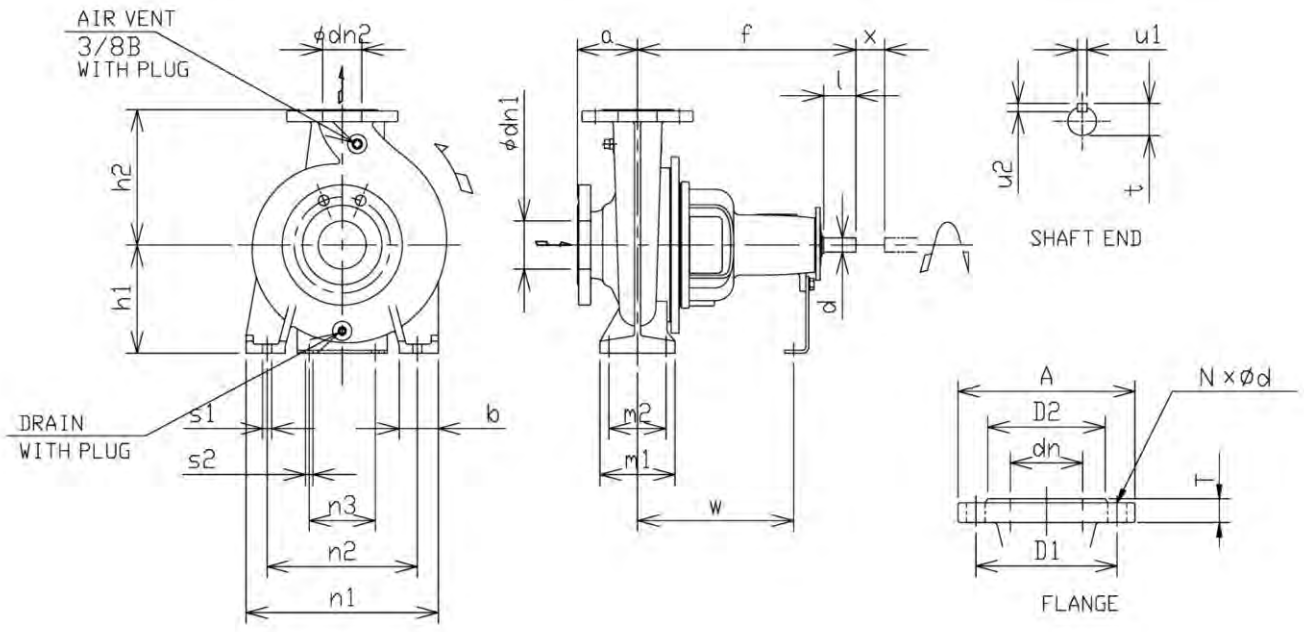
Note2 : The indicated motor output(kW) value includes the following safety margins ;

up to 7.5kW : 15%

11kW and above : 10%

Note3 : When selecting a pump , NPSH Av. should have a safety margin of at least 0.5m from NPSH Re.

DIMENSIONS - Dimensions of Bare Shaft Pump



Flange Dimension

Material: **Cast Iron**
Flange Standard: **EN PN16**

Unit: mm

Model	Suction flange							Discharge flange						
	dn1	A	D1	D2	T	N	d	dn2	A	D1	D2	T	N	d
GS32	50	165	125	99	20	4	19	32	140	100	76	18	4	19
GS40	65	185	145	118	20	4	19	40	150	110	84	18	4	19
GS50	65	185	145	118	20	4	19	50	165	125	99	20	4	19
GS65	80	200	160	132	22	8	19	65	185	145	118	20	4	19
GS80	100	220	180	156	24	8	19	80	200	160	132	22	8	19
GS100	125	250	210	184	26	8	19	100	220	180	156	24	8	19
GS125	150	285	240	211	26	8	23	125	250	210	184	26	8	19
GS150	200	340	295	266	30	12	23	150	285	240	211	26	8	23
GS200	250	405	355	319	32	12	28	200	340	295	266	30	12	23

Flange Standard: **JIS 10K**

Unit: mm

Model	Suction flange							Discharge flange						
	dn1	A	D1	D2	T	N	d	dn2	A	D1	D2	T	N	d
GS32	50	155	120	96	20	4	19	32	135	100	76	20	4	19
GS40	65	175	140	116	22	4	19	40	140	105	81	20	4	19
GS50	65	175	140	116	22	4	19	50	155	120	96	20	4	19
GS65	80	185	150	126	22	8	19	65	175	140	116	22	4	19
GS80	100	210	175	151	24	8	19	80	185	150	126	22	8	19
GS100	125	250	210	182	24	8	23	100	210	175	151	24	8	19
GS125	150	280	240	212	26	8	23	125	250	210	182	24	8	23
GS150	200	330	290	262	26	12	23	150	280	240	212	26	8	23
GS200	250	400	355	324	30	12	25	200	330	290	262	26	12	23

Material: **Ductile Cast Iron**
Flange Standard: **EN PN25**

Unit: mm

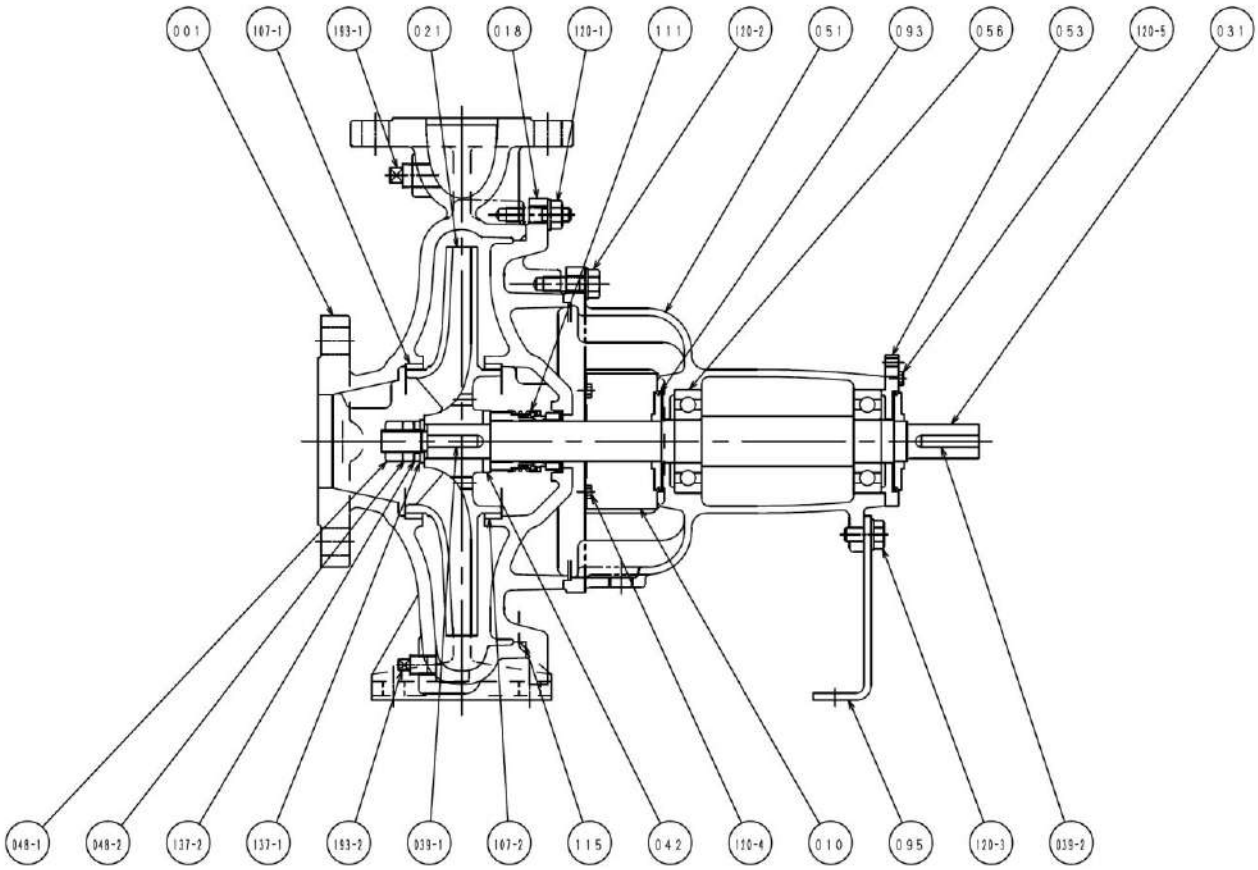
Model	Suction flange							Discharge flange						
	dn1	A	D1	D2	T	N	d	dn2	A	D1	D2	T	N	d
GS80	100	235	190	156	19	8	23	80	200	160	132	19	8	19
GS100	125	270	220	184	19	8	28	100	235	190	156	19	8	23
GS125	150	300	250	211	20	8	28	125	270	220	184	19	8	28
GS150	200	360	310	274	22	12	28	150	300	250	211	20	8	28
GS200	250	425	370	330	24.5	12	31	200	360	310	274	22	12	28

Flange Standard: **JIS 20K**

Unit: mm

Model	Suction flange							Discharge flange						
	dn1	A	D1	D2	T	N	d	dn2	A	D1	D2	T	N	d
GS80	100	225	185	160	24	8	23	80	200	160	132	22	8	23
GS100	125	270	225	195	26	8	25	100	225	185	160	24	8	23
GS125	150	305	260	230	28	12	25	125	270	225	195	26	8	25
GS150	200	350	305	275	30	12	25	150	305	260	230	28	12	25
GS200	250	430	380	345	34	12	27	200	350	305	275	30	12	25

CONSTRUCTION - Sectional view (Mechanical Seal Type)

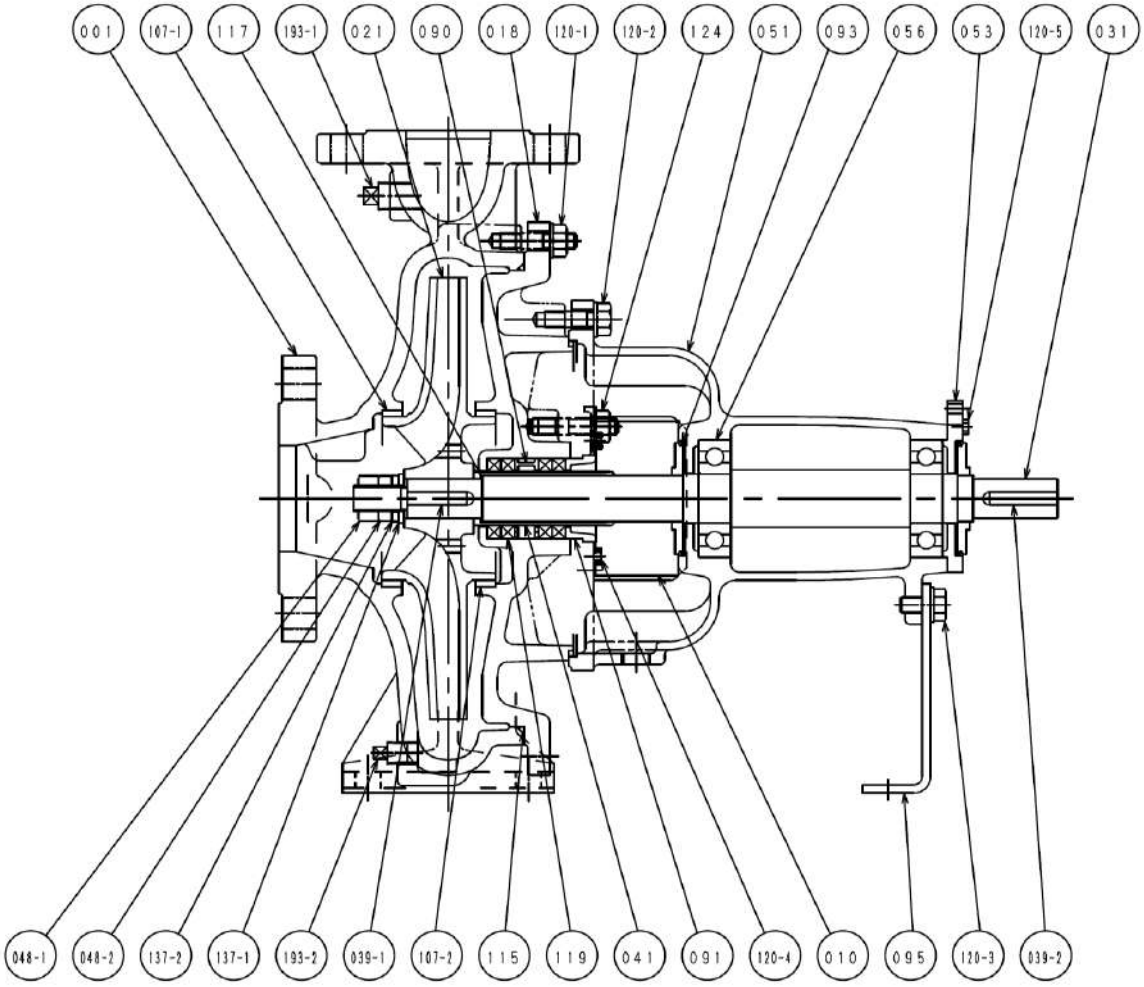


Mechanical Seal Type

No.	Part name	Qty
001	CASING	1
010	PROTECTOR	2
018	CASING COVER	1
021	IMPELLER	1
031	SHAFT	1
039-1	KEY	1
039-2	KEY	1
042	SPACER	1
048-1	IMPELLER NUT (A)	1
048-2	IMPELLER NUT (B)	1
051	BEARING HOUSING	1
053	BEARING COVER	1
056	BALL BEARING	2
093	DEFLECTOR	2

No.	Part name	Qty
095	STAY	1
107-1	CASE WEAR RING	1
107-2	CASE WEAR RING	1
111	MECHANICAL SEAL	1
115	O-RING	1
120-1	BOLT	-
120-2	BOLT	6
120-3	BOLT	1
120-4	BOLT	4
120-5	BOLT	4
137-1	PLAIN WASHER	1
137-2	SPRING LOCK WASHER	1
193-1	PLUG	1
193-2	PLUG	1

CONSTRUCTION - Sectional view (Gland Packing Type)



Gland Packing Type

No.	Part name	Qty
001	CASING	1
010	PROTECTOR	2
018	CASING COVER	1
021	IMPELLER	1
031	SHAFT	1
039-1	KEY	1
039-2	KEY	1
041	SHAFT SLEEVE	1
048-1	IMPELLER NUT (A)	1
048-2	IMPELLER NUT (B)	1
051	BEARING HOUSING	1
053	BEARING COVER	1
056	BALL BEARING	2
090	LANTERN RING	1
091	GLAND	1
093	DEFLECTOR	2

No.	Part name	Qty
095	STAY	1
107-1	CASE WEAR RING	1
107-2	CASE WEAR RING	1
115	O-RING	1
117	GASKET	1
119	GLAND PACKING	4
120-1	BOLT	-
120-2	BOLT	6
120-3	BOLT	1
120-4	BOLT	4
120-5	BOLT	4
124	GLAND BOLT	2
137-1	PLAIN WASHER	1
137-2	SPRING LOCK WASHER	1
193-1	PLUG	1
193-2	PLUG	1