



# IMP PUMPS®

Intelligent Motor Pumps

[www.imp-pumps.com](http://www.imp-pumps.com)



## CB, CBN, BL-H, DL, PC, PC-V, C

TECHNICAL DATA



## **GENERAL INFORMATION**

**ALL PRODUCTS AND COMPONENTS ARE MANUFACTURED FROM ENVIRONMENTALLY FRIENDLY MATERIALS.**

**UPON DISPOSAL INTERNAL ENVIRONMENTAL REGULATION MUST BE CONSIDERED.**

**FURTHER INFORMATION ON ALL PUMPING PROGRAMS WITH TECHNICAL DATA ARE AVAILABLE ON  
[WWW.IMP-PUMPS.COM](http://WWW.IMP-PUMPS.COM)**

**GENERAL SALES CONDITIONS AND TERMS OF PAYMENT – DEPENDING ON THE AGREEMENT WITH THE FIRM IMP PUMPS.**

**IMAGES IN CATALOGUE ARE FOR ILLUSTRATIVE  
PURPOSES ONLY.**

**TECHNICAL ADJUSTMENTS AND REVISIONS ARE NOT PERMITTED!**



## ABOUT US

IMP PUMPS is Slovenian manufacturer of pumps and pumping systems located in Komenda in Slovenia. Company designs, develops, manufactures, distributes and maintains pumps and pumping systems. With products and services of its own and from strategic partners, company is positioned as provider of integrated solutions. With specialized skills company resolves the problems relating to the transportation of liquid media. This ensures the comfort of home environment and optimal working conditions in the industry.

More than 96 % of production is sold in over 80 countries around the world. Company is innovator in the field of electro commutated submersible motors and has the quality certificate ISO 9001:2015.

## HISTORY

IMP PUMPS was founded in 1947 and has existed as part of the IMP until the late 1980s. Company successfully survived the change of the economic system and the turbulent nineties and stood on its own feet. Company was privatized in 1997 and 1999. In the year 2000, the company was restructured and renamed in IMP PUMPS d.o.o.. Slovenia's entry into the EU was another initiative for IMP PUMPS intensive development of the sales network in the changing European market, either directly or through its business partners.

At the same time investments in development, marketing, information technology, and philosophy of e-commerce were made.

## PRESENT

IMP PUMPS is present with its products and services in many world markets (Eastern and Western Europe, North America, Asia, North Africa and Australia). IMP PUMPS is also a member of EUROPUMP the European Association of Pump Manufacturers. In pump design, high priority is given to the improvement of the energy efficiency of pumps. Excellent results have been reached by the new NMT pump series, using permanent magnets technology for very high efficiency rates. IMP PUMPS is one of the few European manufacturers, which over the years developed and launched a new generation of pumps with electronically controlled wet running motors. This is one of the main reasons that the company IMP PUMPS is ranked among Europe's technological elite.

## FUTURE

IMP PUMPS Company employees are aware they have become part of global development and the importance of the environment in which they live. Our products are energy efficient and environmentally friendly. We are constantly developing new and more cost effective pumps replacing the old types and investing in the development of intelligent pumps with an emphasis on digitization and communication. The company plans to further expand its sales on foreign markets and enhance its position among the four largest manufacturer of circulator pumps in Europe. In the spirit of its motto "The honest product for the honest price", IMP PUMPS intends to maintain the excellent quality of its products at the favorable prices for the customer, along with the application of the latest technologies and prompt service.

## Product overview

The basic production program of IMP PUMPS are circulating pumps for HVAC application. Pumps are flanged or threaded and single or double design with a bronze or cast iron hydraulic casing. All cast iron hydraulics are covered with cataphoresis.

### Wet running circulating pumps



NMT (electronic savings, ECM, SAN circulation for sanitary water)



SAN - for sanitary water



GHN (3-speed pumps)

### Dry running circulating pump



BL, BWJ  
(multistage)



PPT BL (pressure boosting unit)





**IMP PUMPS**<sup>®</sup>  
Intelligent Motor Pumps

**CB**

**RIGIDLY COUPLED  
CENTRIFUGAL PUMPS**



**Handled Liquids**

Clean or slightly contaminated low viscosity liquids without solid & fibrous particles.

**Technical Data**

Discharge Flange \_\_\_\_\_ DN 32.....DN 150 mm

Capacity \_\_\_\_\_ up to 600 m<sup>3</sup>/h(\*)

Head \_\_\_\_\_ up to 100 m(\*)

Operating Temperature \_\_\_\_\_ -10 °C' to +140 °C(\*\*)

Casing Pressure (Pmax) \_\_\_\_\_ 10 bar (16 bar)(\*\*)

(Pmax: Suction Pressure + Shut off Head)

(\*) Contact company for higher capacity and head values.

(\*\*) The Material of pump differs according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

**Design Features**

•Horizontal / Vertical rigidly-coupled, volute casing, single stage, end suction centrifugal pump with closed impeller.

•Volute casing dimensions comply with EN 733.

•Suction and discharge flanges conform to EN 1092-2 / PN 16. The flanges are according to EN 1092-1 / PN 16 for steel or stainless steel casing. In case of request, ANSI/ASME flanges can be supplied.

•Pumps are rigidly coupled with electric motors of IEC frame sizes with high efficiency class.

**Pump Designation**

Pump Type \_\_\_\_\_

Discharge Nozzle (DN-mm) \_\_\_\_\_

Nominal Impeller Diameter (mm) \_\_\_\_\_

Motor pol \_\_\_\_\_

Motor power P2 \_\_\_\_\_

**CB 100 - 250 /2/15.0**

•All impellers are balanced dynamically or statically according to ISO 1940 grade 6.3.

•Axial thrust is balanced by impeller balancing holes system.

•Direction of rotation is clockwise viewed from drive end.

•In case of request, wear ring and/or shaft sleeve can be supplied.

•The pump and motor have separate shafts connected by a rigid coupling or through slide fit shaft. Axial and radial forces are absorbed by electric motor bearings.

•Rigidly coupled pumps are lighter and smaller comparing to the norm centrifugal pumps of same hydraulic specifications.

•When the elbow is mounted on the suction of the pump, the name is changed to CB. In this case, the pump is always installed vertically.

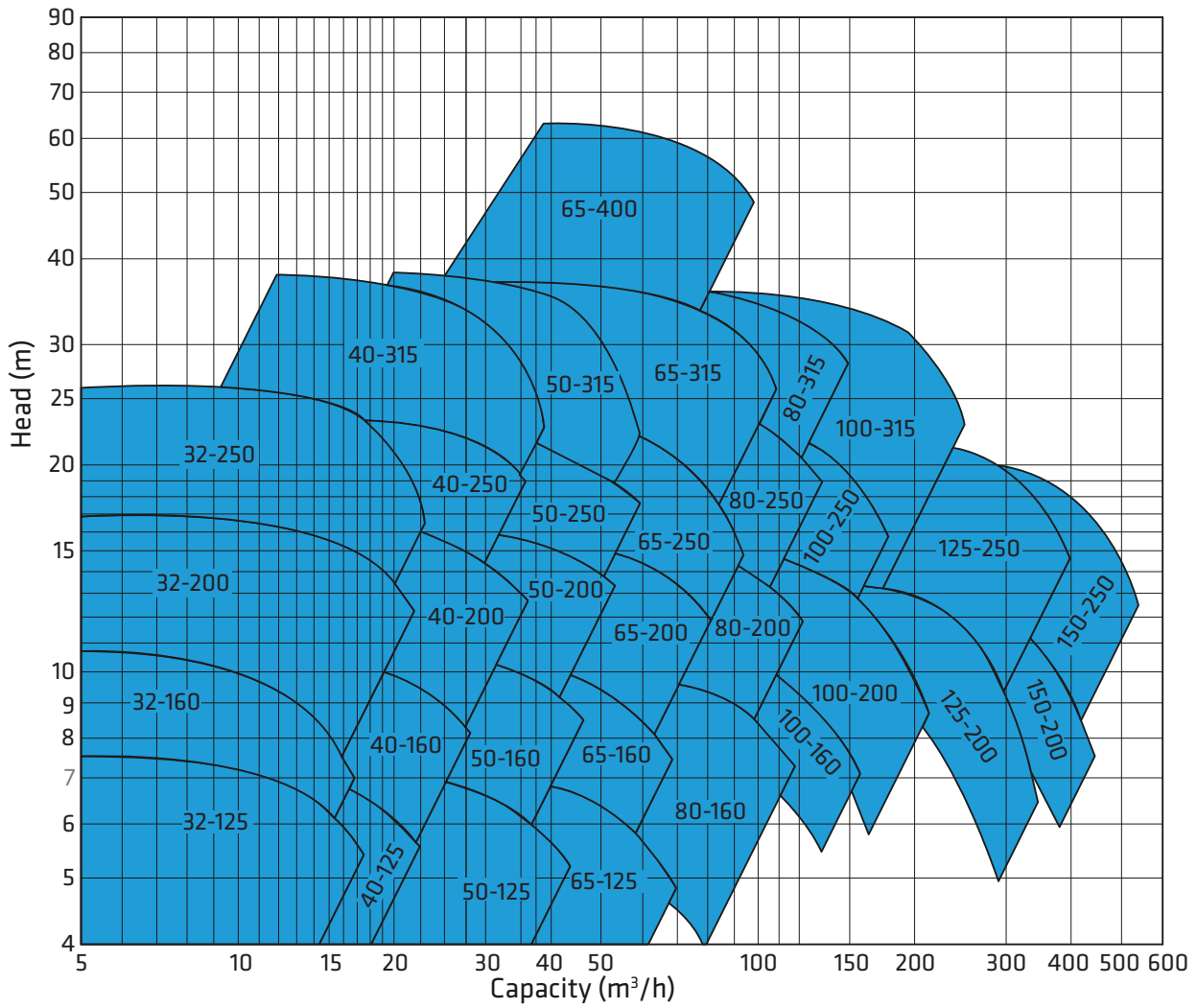
•The electrical motor powers of CB pumps are limited because of its installation type.

•For CB drawings, please look at below address [www.imp-pumps.com](http://www.imp-pumps.com).

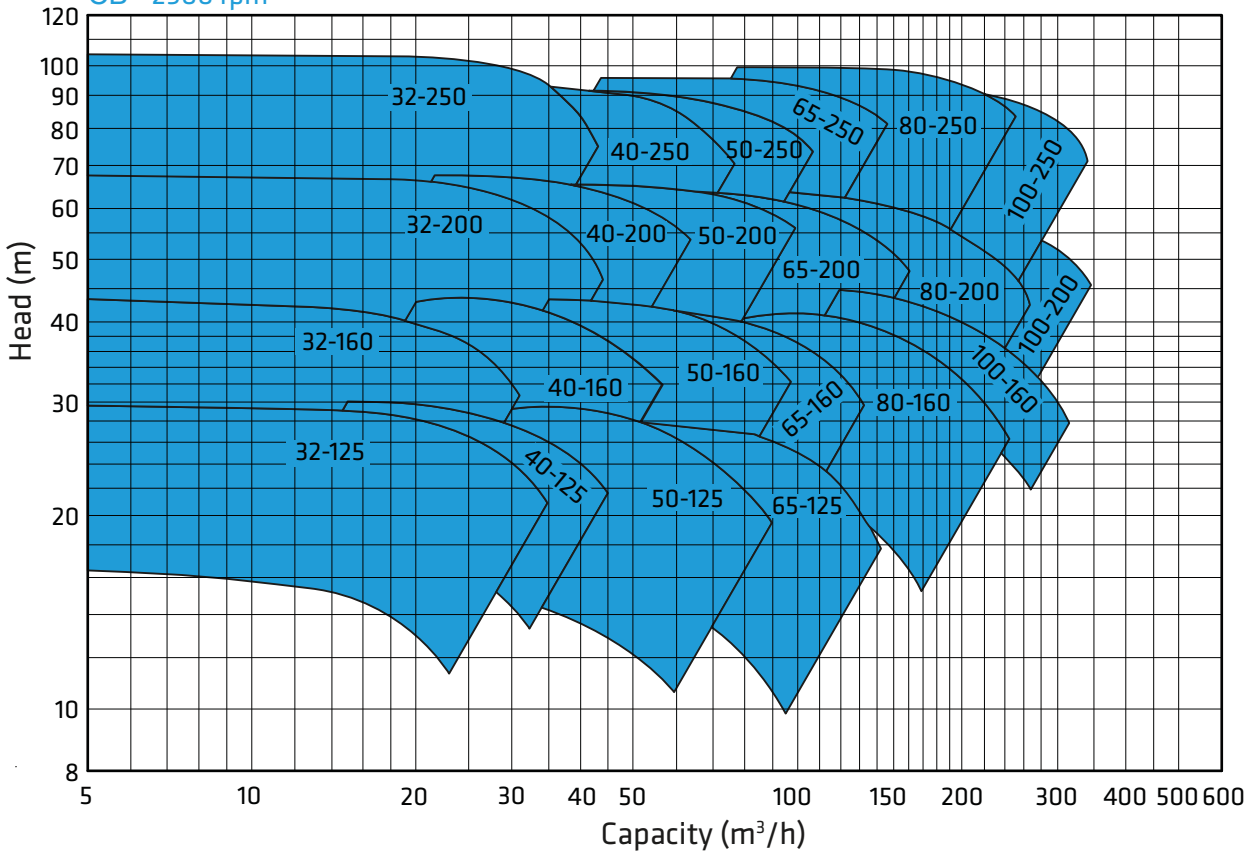
**Shaft Sealing**

•Depending on customer request or liquid type, mechanical seals are available.

CB- 1450 rpm



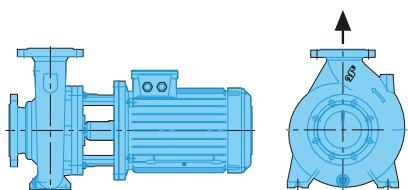
CB - 2900 rpm





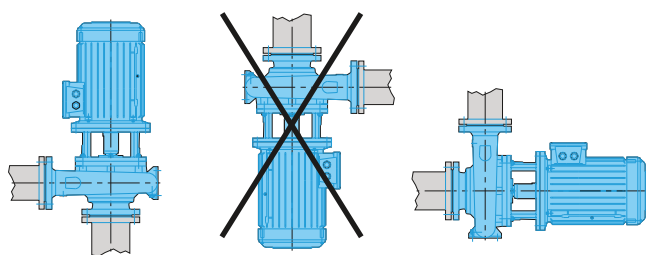


## CB pumps can be installed in different arrangements



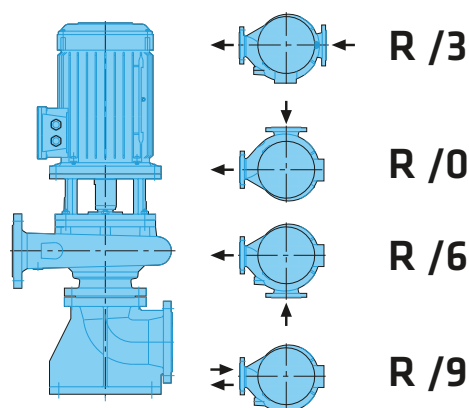
### Horizontal installation on ground

Horizontal position on a base plate

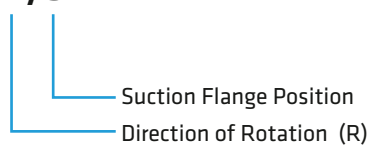


### Installation on perpendicular pipes

- Between two perpendicular pipes in horizontal or vertical position. The axis of motor below the horizontal line is not admissible.



### R/3



Direction of rotation viewed from driver end: R : Right

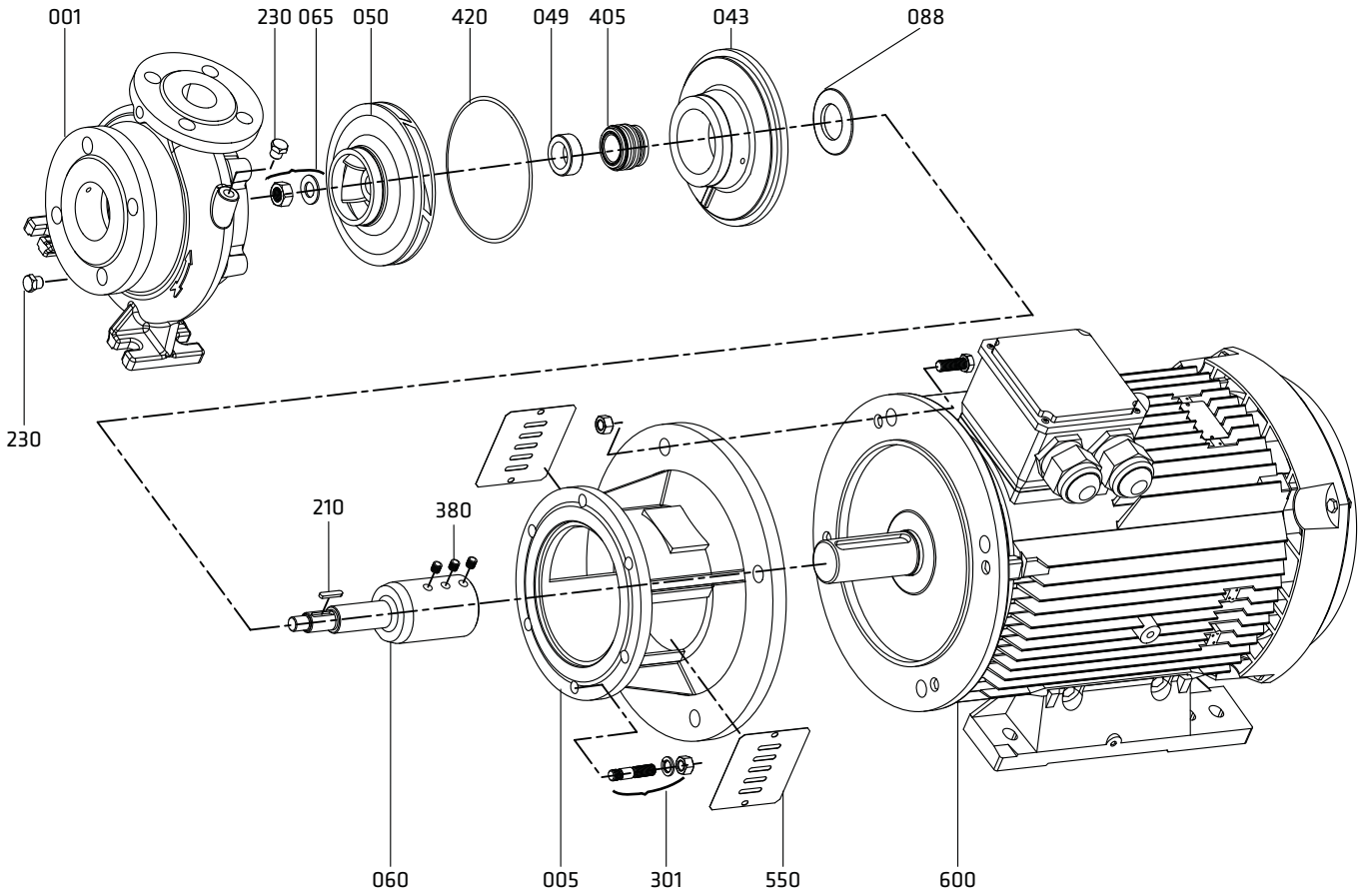
### Vertical installation on ground

- Vertical position by means of a special suction elbow with foot.

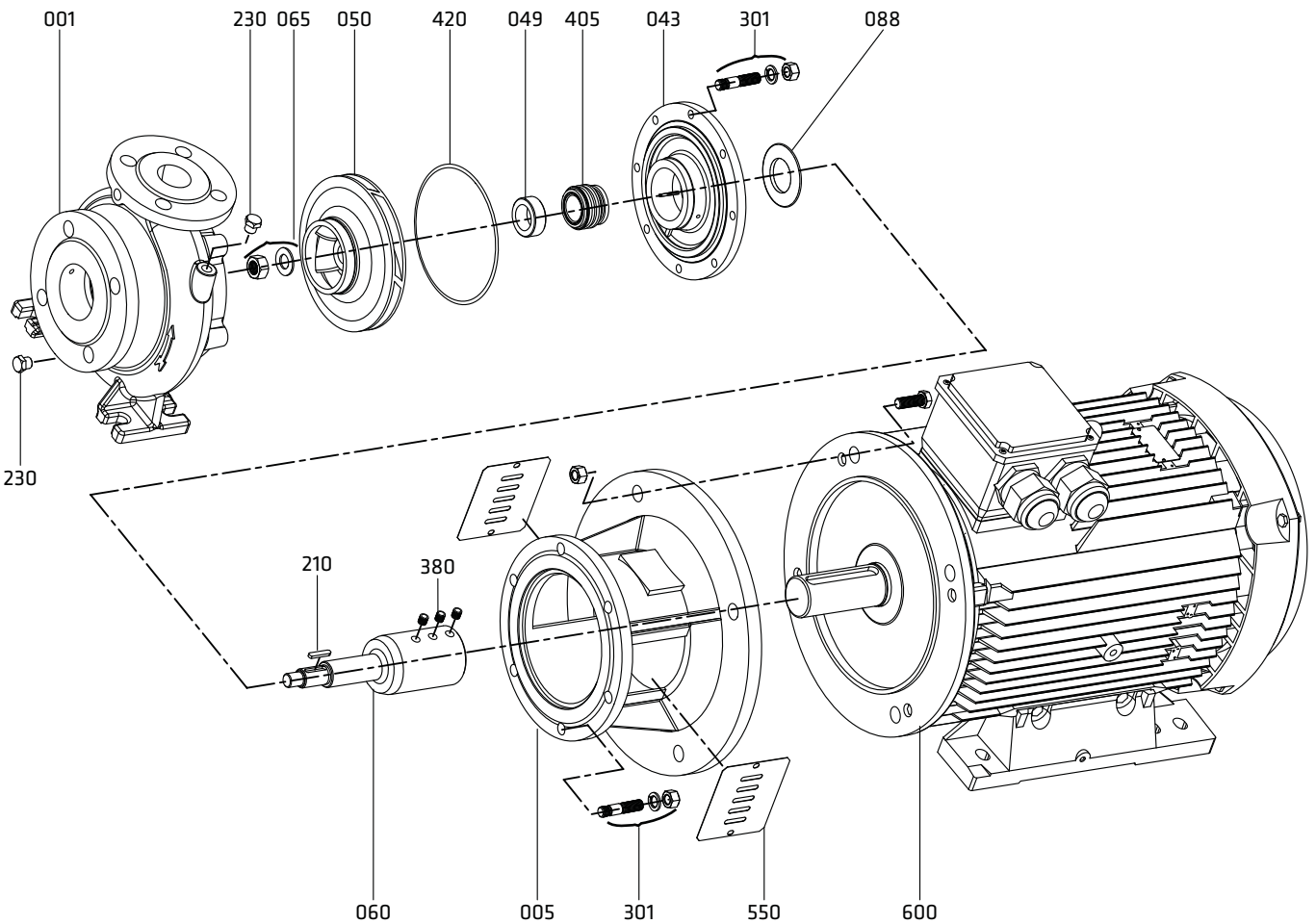
- Standard manufacturing is as in the drawings above (R/3). Suction elbow position can be adjusted for different positions.

Assembly Drawings

Form: F1 (Slide - fit shaft application)

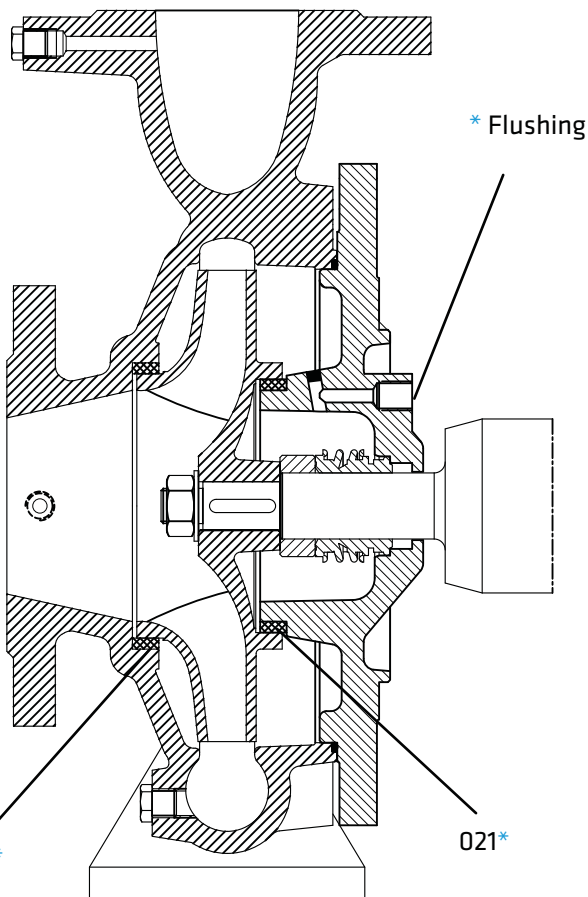
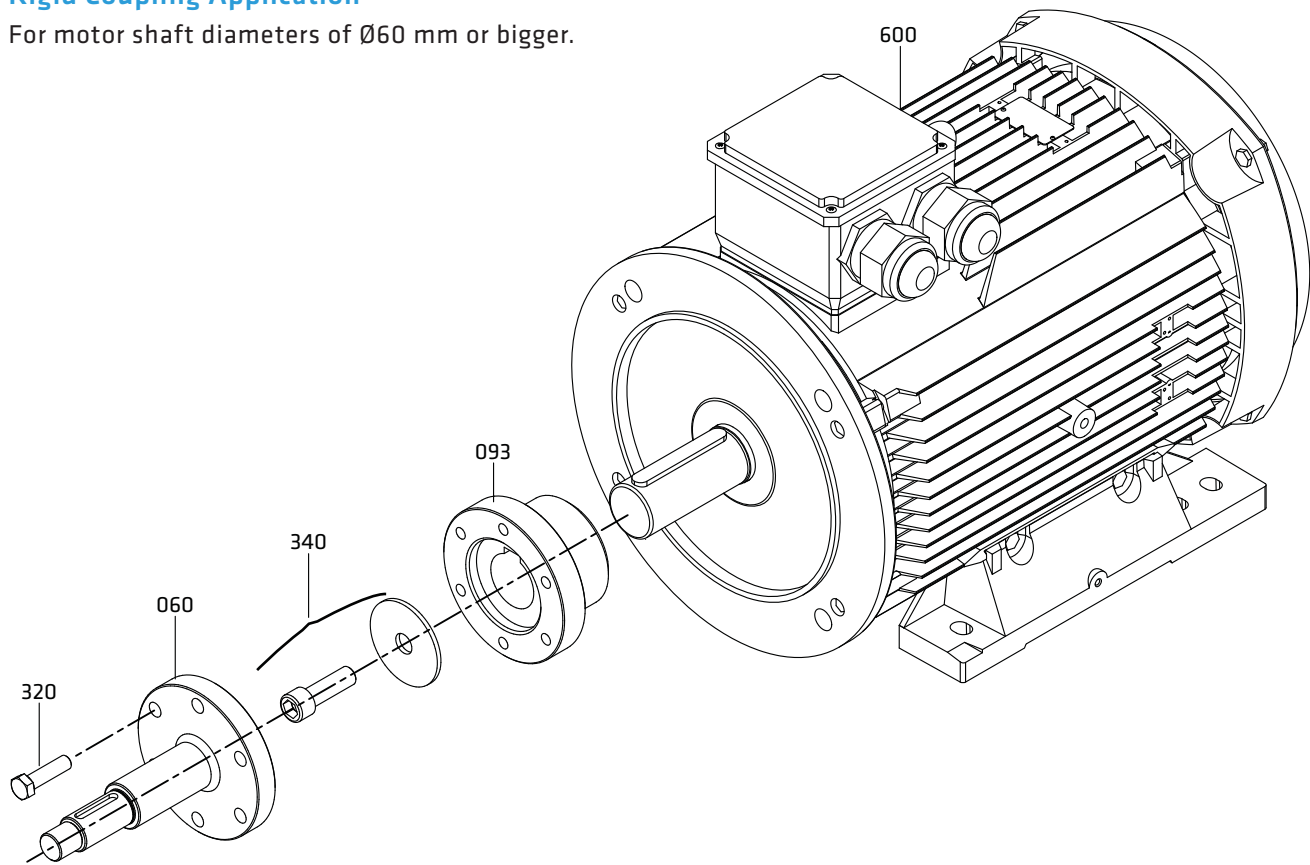


Form: F2 (Slide - fit shaft application)



**Rigid Coupling Application**

For motor shaft diameters of Ø60 mm or bigger.



**Part List**

001	Volute Casing
005	Motor Pedestal
020*	Wear Ring (casing)
021*	Wear Ring (seal cover)
043	Mechanical Seal Cover
049	Mechanical Seal Spacer Sleeve
050	Impeller
060	Shaft
065	Impeller Nut and Washer
088	Thrower
093	Rigid Coupling
210	Impeller Key
230	Screw
301	Stud, Washer and Nut
320	Screw
340	Allen Screw and Washer
380	Set Screw
405	Mechanical Seal
420	O-ring
550	Guard
600	Electric Motor

(\* Optional)

Part List	10	30	35	20	60	6L	70	7L	8M	7D	7S	8N	80	4C	4A	40	80	8T	60	7L	7E	7D	
	0.6025	0.7040	0.7043	1.0619	1.4308	1.4309	1.4408	1.4409	1.4500	1.4517	1.4469	1.4317	1.4008	2.1050.01	2.0975.01	2.1096.01	1.4021	1.4021+QT	1.4301	1.4404	1.4460	1.4462	
Volute Casing	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Mechanical Seal Cover	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Shaft																	●	○	○	○	○	○	○
Bearing Housing	●	○	○	○	○	○	○	○															
Wear Ring	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Mech. Seal Spacer Sleeve																	●	○	○	○	○	○	○
Mechanical Seal (*)	EN 12756																						

(\*) Optional :Depending on customer requirement or request different types and brands of mechanical seals are applicable.

● Standard manufacturing

NOTE: Depends on the request, different than above casting and shaft material can be supplied.

○ Optional

### Material Equivalents

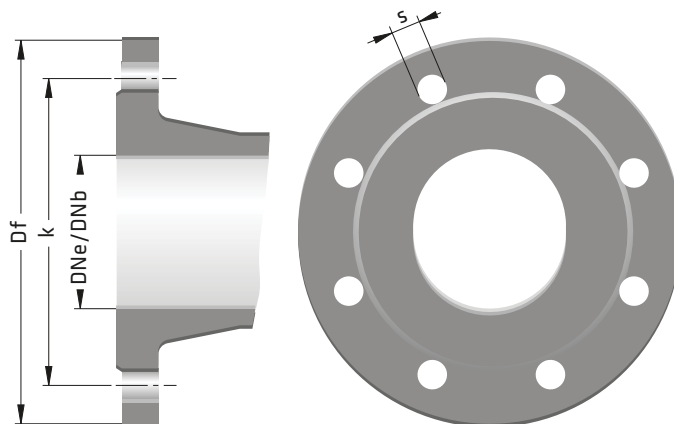
TANIM	DIN / EN	AISI / SAE / ASTM	
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Cast Steel (low carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Cast Steel (low carbon)	1.4409	GX2CrNiMo19-11-2	A351 CF3M
Austenitic Cast Steel	1.4500	GX7NiCrMoCuNb25-20	A351 CN7M
Austenitic - Ferritic Cast Steel (duplex)	1.4517	GX2CrNiMoCuN25-6-3-3	A890 CD4MCuN
Austenitic - Ferritic Cast Steel (super duplex)	1.4469	GX2CrNiMoN26-7-4	A890 CE3MN
Martenzitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martenzitic Stainless Cast Steel	1.4008	GX7CrNiMo12-1	A217 CA15
Cast Bronze (tin alloy)	2.1050.01	G-CuSn10	B427 C90700
Cast Bronze (nickel alloy)	2.0975.01	G-CuAl10Ni	B148 C95500
Cast Bronze (Leaded)	2.1096.01	G-CuSn5ZnPb	B584 C83600
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel(heat treated)	1.4021	X20Cr13	A276 Type 420+QT
Chrome Nickel Steel	1.4301	X5CrNi18-10	A276 Type 304
Chrome Nickel Steel (low carbon)	1.4404	X2CrNiMo17-12-2	A276 Type 316L
Duplex (austenitic-ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (austenitic-ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205

### Flange Dimensions

EN 1092 - 2

DNe/DNb	Suction & Discharge (PN 16)			
	Df	k	s	n
32	140	100	19	4
40	150	110	19	4
50	165	125	19	4
65	185	145	19	4
80	200	160	19	8
100	220	180	19	8
125	250	210	19	8
150	285	240	23	8
200	340	295	23	12

" n " number of holes





**IMP PUMPS**<sup>®</sup>  
Intelligent Motor Pumps

**CBN**

**EN 733 NORM PUMPS**



## Handled Liquids

Clean or slightly contaminated low viscosity liquids without solid & fibrous particles.

## Technical Data

Discharge Flange ————— DN 32.....DN 150 mm

Capacity\_ ————— up to 600 m<sup>3</sup>/h(\*)

Head\_ ————— up to 100 m(\*)

Operating Temperature — -10 °C' to +140 °C(\*\*)

Casing Pressure (Pmax) — 10 bar (16 bar)(\*\*)

(Pmax: Suction Pressure + Shut off Head)

(\*) Contact company for higher capacity and head values.

(\*\*) The Material of pump differs according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

## Design Features

- Horizontal , radially split volute casing type , single stage, end suction centrifugal pump with closed impeller.

- Dimensionally complies with EN 733.

- In addition to 24 basic sizes conforming with EN 733, there are 8 additional sizes. Dimensions of additional sizes may differ from other suppliers.

- CBN** 40-315, 50-315, 65-315, 80-315, 100-315, 125-250 pumps are given with 2900 rpm only for fire fighting application.

## Pump Designation

Pump Type

Discharge Nozzle (DN-mm) Nominal

Impeller Diameter (mm)

Motor pole

Motor power P2

**CBN 100 - 250 /4/22.0**

- Suction and discharge flanges conform to EN 1092-2 / PN 16. For steel or stainless steel casing is EN 1092-1 / PN 16. In case of request, ANSI/ASME flanges can be supplied.

- Due to the back-pull-out design, the complete bearing assembly including impeller and casing cover can be dismantled without removing the volute casing from the pipe system. With spacer coupling application, also possible to take out the rotor group without dismantling the electric motor.

- All impellers are balanced dynamically or statically according to ISO 1940 grade 6.3.

- Axial thrust is balanced by impeller balancing holes system.

- Direction of rotation is clockwise viewed from drive end.

- In case of request, wear ring and/or shaft sleeve can be supplied.

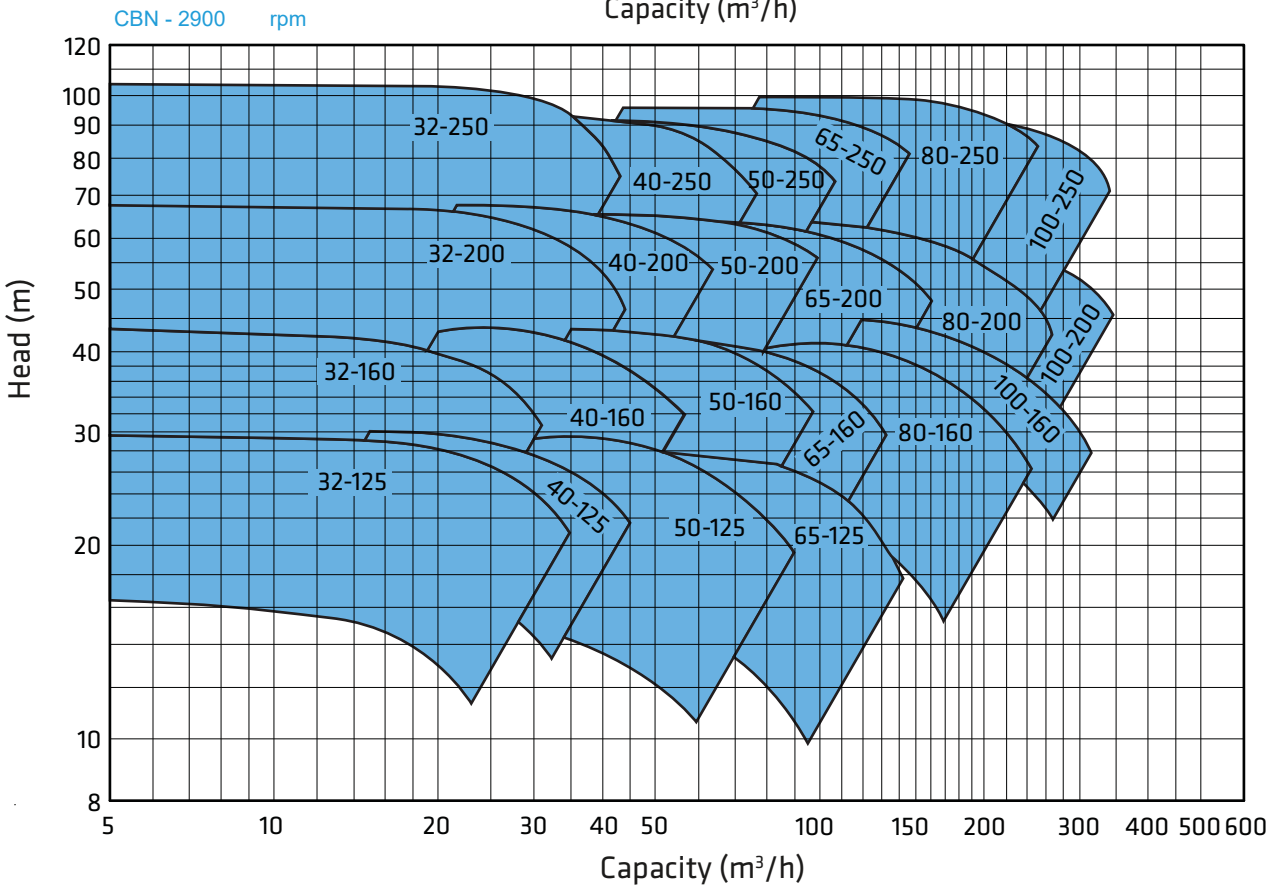
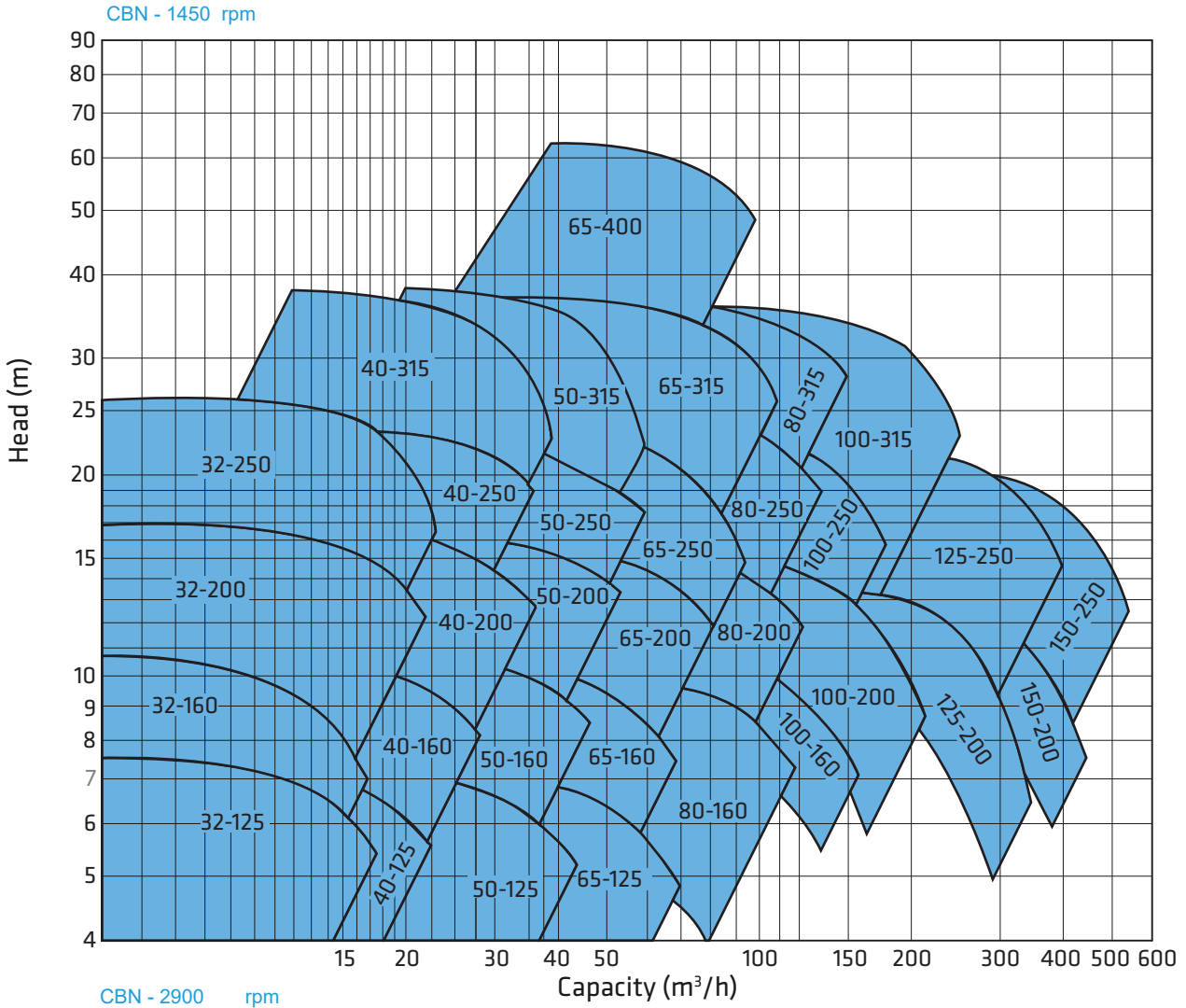
- Bearings of **CBN** type pumps are normally "life time grease lubricated" ball bearings. If there is a demand, oil lubrication or re-greasable bearing can be supplied.

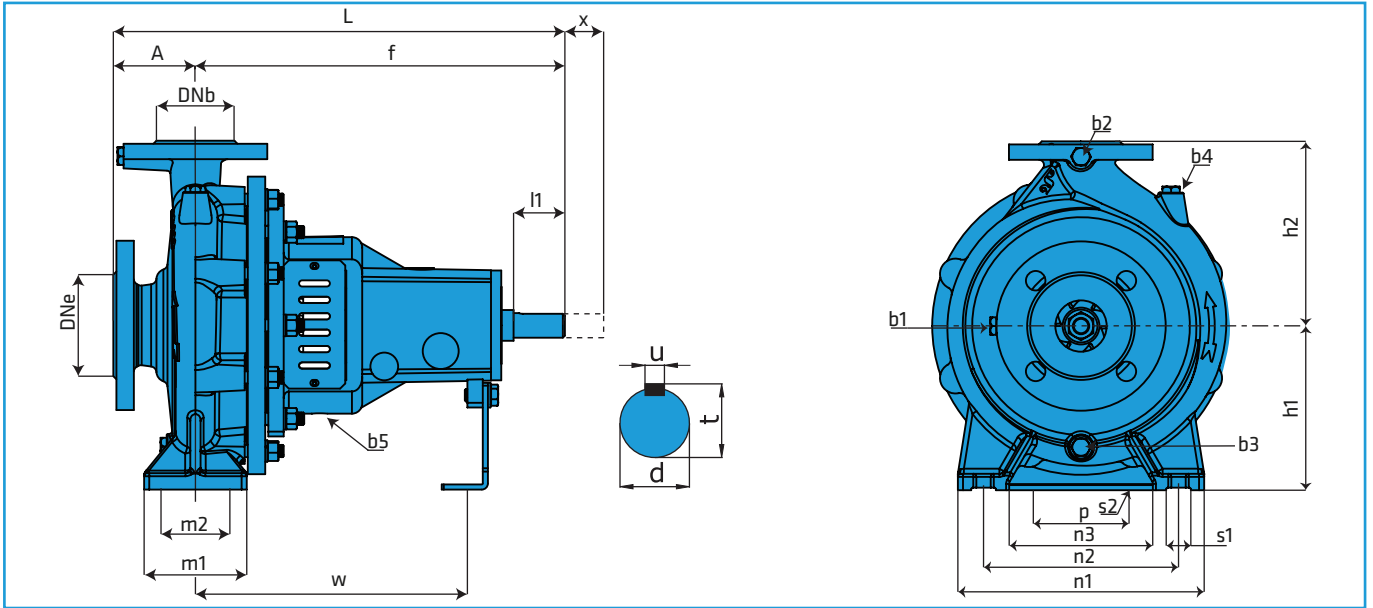
- For **CBN** drawings, please look at below adress [www.imp-pumps.com](http://www.imp-pumps.com)

## Shaft Sealing

- In standard production, soft packed stuffing boxes are used.

- Depending on customer request, mechanical seals are available. In this case, pump shaft is always stainless steel.

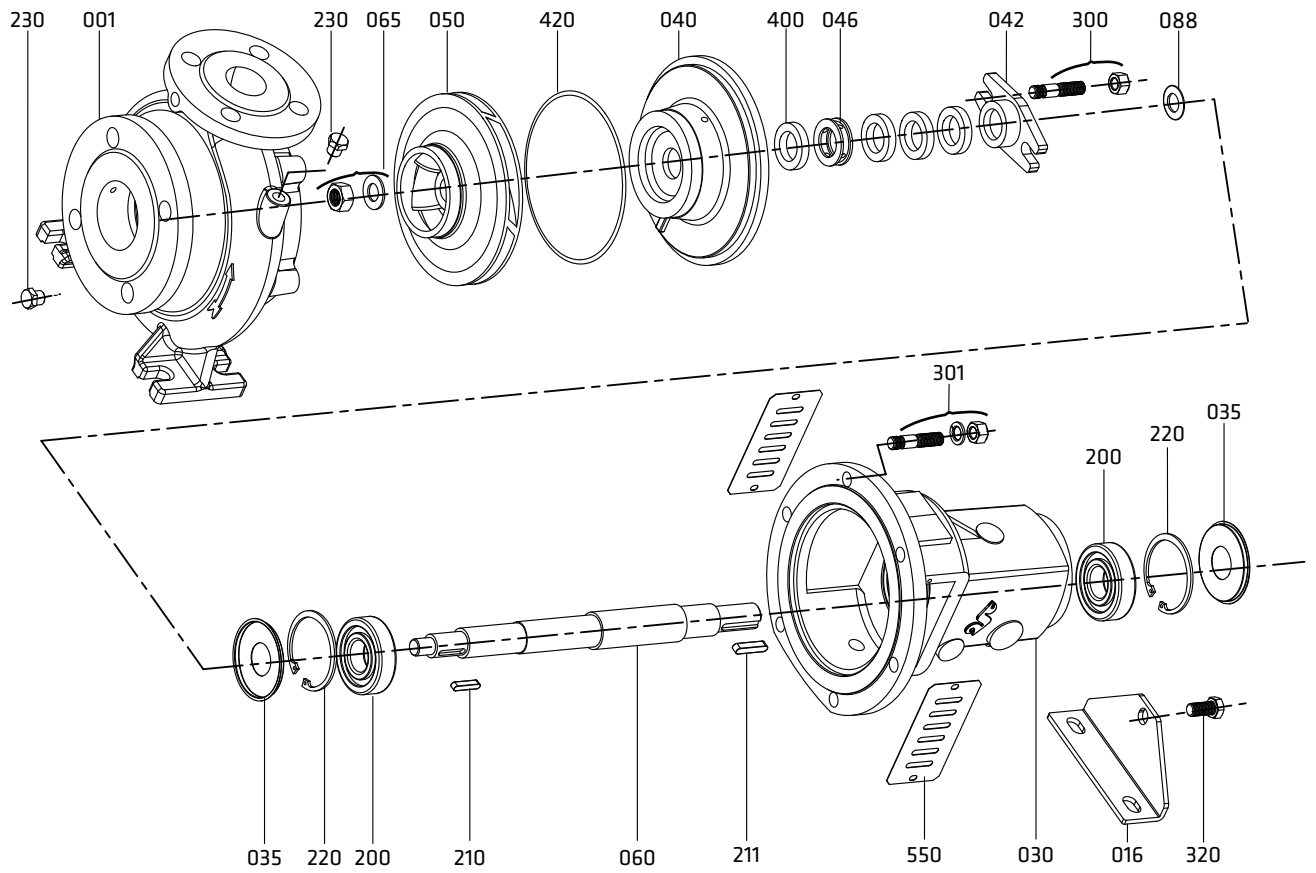




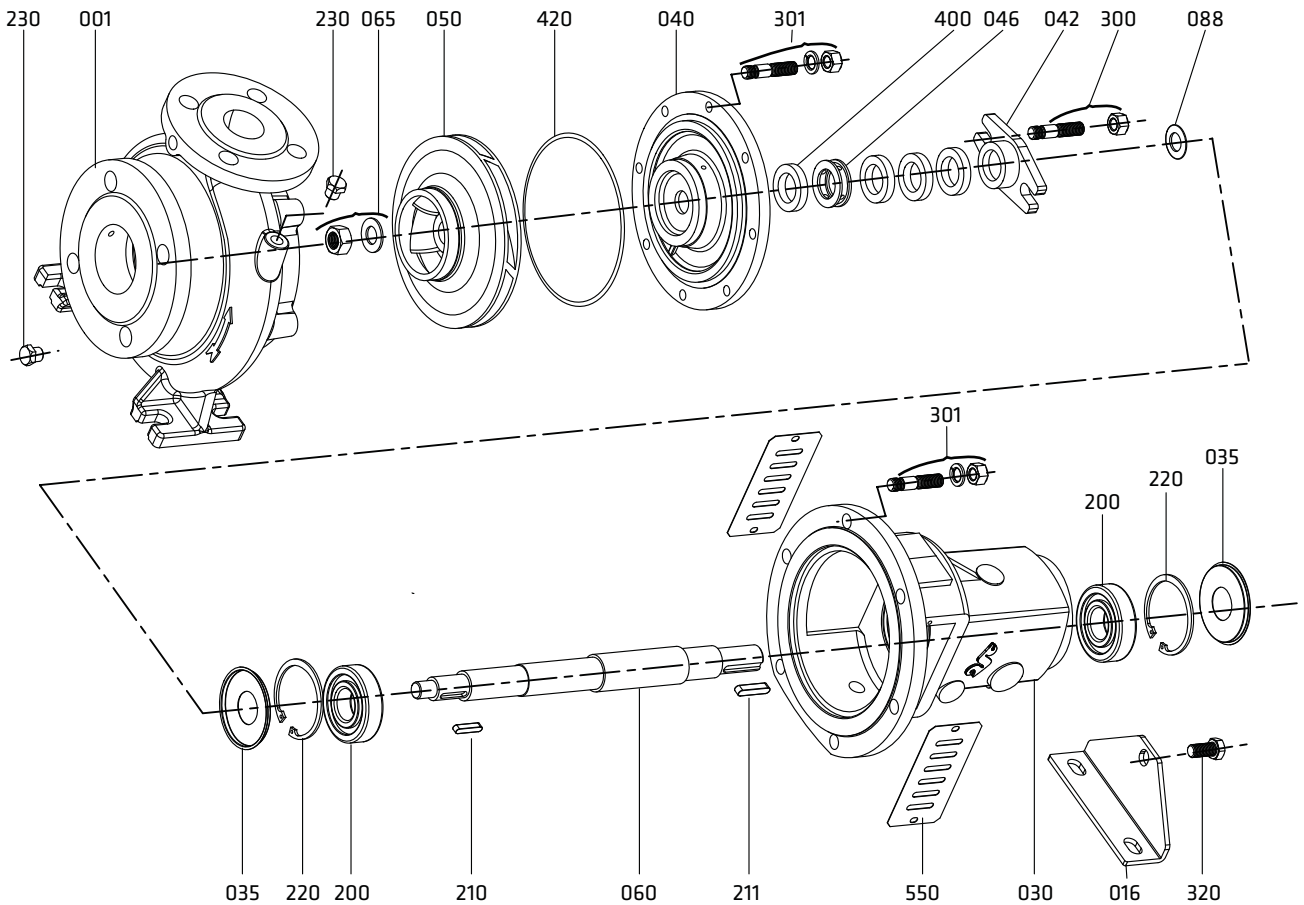
Pump Type		Form	Overall Dimensions							Support & Foot Dimensions							Shaft End				Weight (kg)	Space x**							
EN 733	Other		DN <sub>e</sub>	DN <sub>b</sub>	A	f	L	h <sub>1</sub>	h <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub>	n <sub>1</sub>	n <sub>2</sub>	n <sub>3</sub>	s <sub>1</sub>	p	s <sub>2</sub>	w	d	l <sub>1</sub>			t	u	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	b <sub>4</sub>	b <sub>5</sub>
32-125		F1	50	32	80	360	440	112	140	100	70	190	140	90	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	32	100
32-160		F1	50	32	80	360	440	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	39	100
32-200		F2	50	32	80	360	440	160	180	100	70	240	190	140	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	41	100
	32-250	F1	50	32	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	53	100
40-125		F1	65	40	80	360	440	112	140	100	70	210	160	110	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	33	100
40-160		F1	65	40	80	360	440	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	40	100
40-200		F2	65	40	100	360	460	160	180	100	70	265	212	165	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	45	100
40-250		F2	65	40	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	57	100
	40-315	F2	65	40	100	360	460	200	250	125	95	345	280	190	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	67	100
50-125		F1	65	50	100	360	460	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	34	100
50-160		F1	65	50	100	360	460	160	180	100	70	265	212	165	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	42	100
50-200		F2	65	50	100	360	460	160	200	100	70	265	212	165	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	48	100
50-250		F2	65	50	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	57	100
	50-315	F2	65	50	125	470	595	225	280	125	95	345	280	190	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3/8"	90	100
65-125		F1	80	65	100	360	460	160	180	125	95	280	212	150	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	40	100
65-160		F1	80	65	100	360	460	160	200	125	95	280	212	150	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	46	100
65-200		F2	80	65	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	51	140
65-250		F2	80	65	100	470	570	200	250	160	120	360	280	200	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	90	140
65-315		F2	80	65	125	470	595	225	280	160	120	400	315	240	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	105	140
	65-400	F2	100	65	125	470	595	260	355	160	120	435	355	275	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	130	140
80-160		F1	100	80	125	360	485	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	49	140
80-200		F1	100	80	125	470	595	180	250	125	95	345	280	215	14	110	14	340	32	80	35	10	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	63	140
80-250		F2	100	80	125	470	595	200	280	160	120	400	315	240	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	95	140
80-315		F2	100	80	125	470	595	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	125	140
	100-160	F1	125	100	125	470	595	200	280	160	120	360	280	200	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	80	140
100-200		F1	125	100	125	470	595	200	280	160	120	360	280	200	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	87	140
100-250		F2	125	100	140	470	610	225	280	160	120	400	315	240	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	100	140
100-315		F2	125	100	140	470	610	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	3/8"	3/8"	3/8"	130	140
	125-200	F1	150	125	140	470	610	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	1/2"	1/2"	3/8"	97	140
125-250		F2	150	125	140	470	610	250	355	160	120	400	315	240	19	110	14	340	32	80	35	10	1 1/4"	1 1/4"	1/2"	1/2"	3/8"	110	140
	150-200	F1	200	150	160	470	630	280	355	200	150	500	400	300	23	110	14	340	32	80	35	10	1 1/4"	1 1/4"	1/2"	1/2"	3/8"	150	140
	150-250	F2	200	150	160	470	630	280	375	200	150	500	400	300	23	110	14	340	32	80	35	10	1 1/4"	1 1/4"	1/2"	1/2"	3/8"	160	140

(\*\*) Gap necessary for the withdrawal of the pump rotor from the driven end without the need for dismantling the motor and pipework (spacer coupling application)

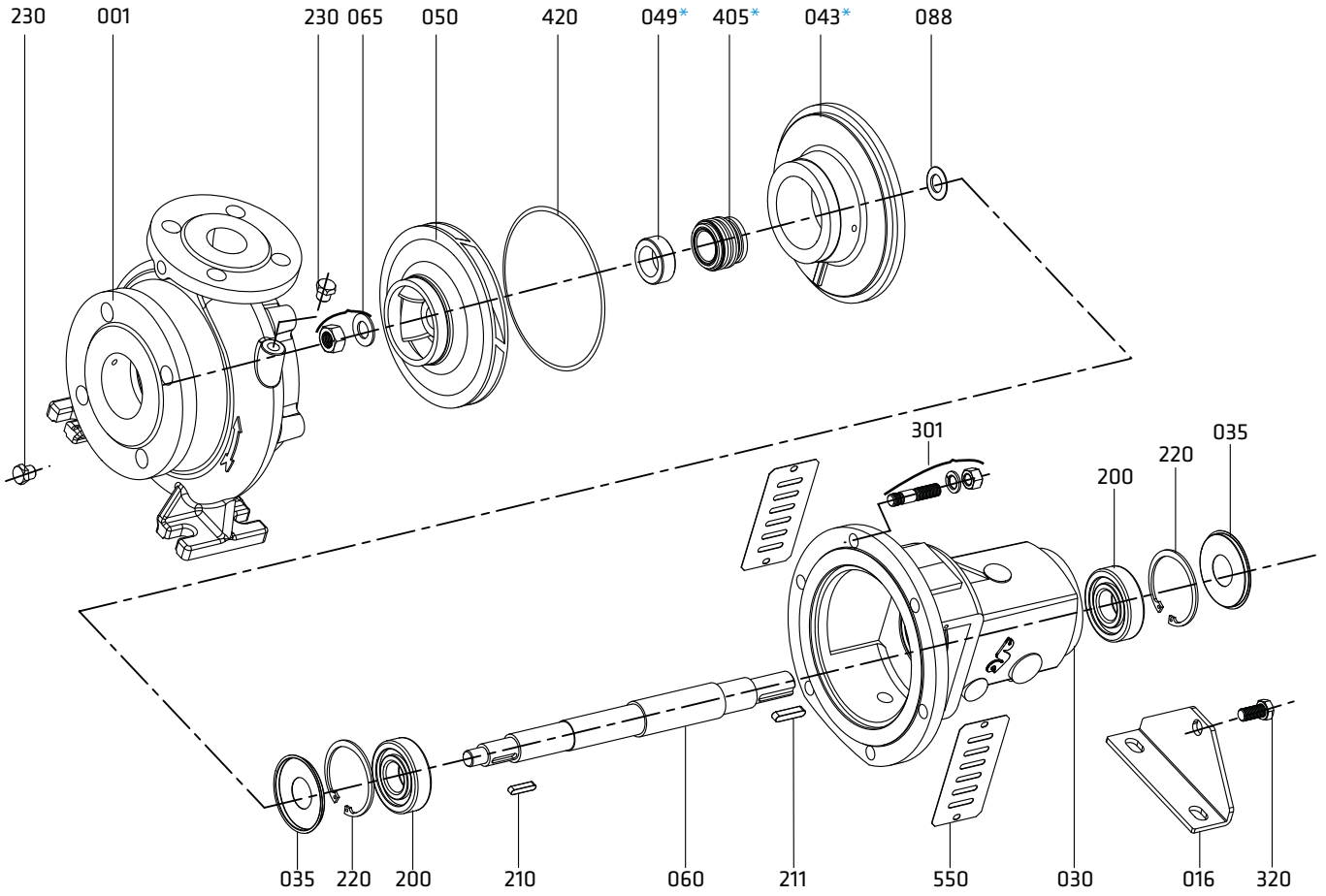
Form: F1 (Soft Packing Seal Pump)



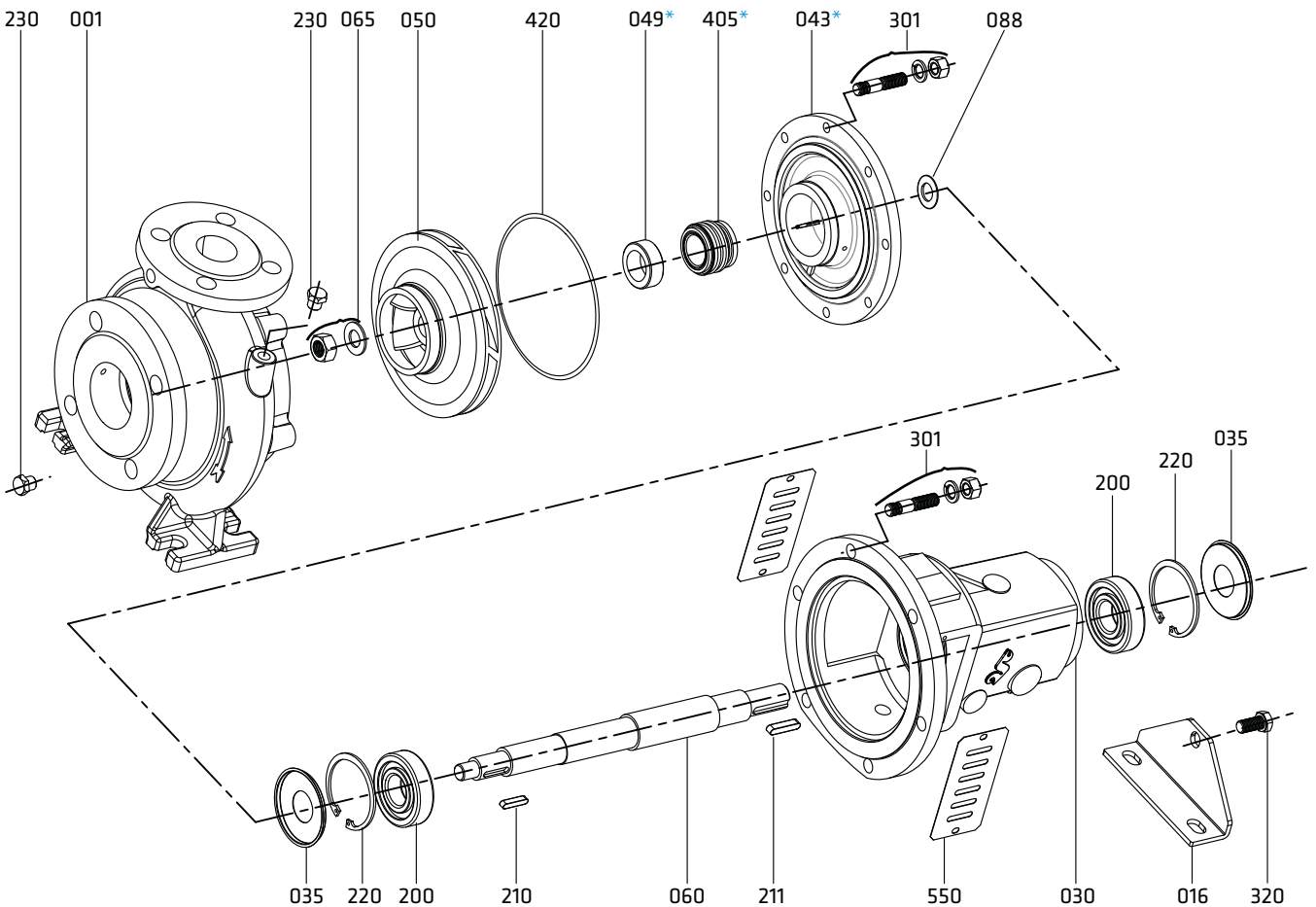
Form: F2 (Soft Packing Seal Pump)



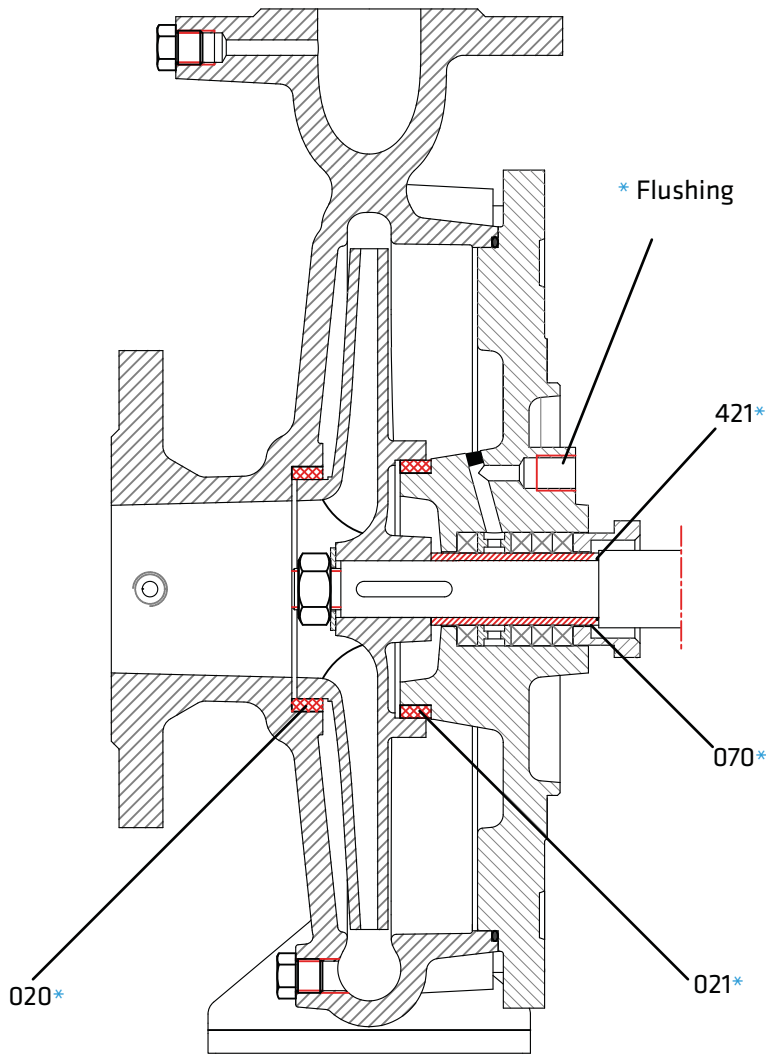
## Form: F1 (Mechanical Seal Pump)



## Form: F2 (Mechanical Seal Pump)







Part List

001	Volute Casing
016	Support Foot
020*	Wear Ring (Casing)
021*	Wear Ring (Seal Cover)
030	Bearing Housing
034*	Bearing Cover (GG)
035	Bearing Cover (St)
040	Soft Packing Seal Cover
042	Gland
043*	Mechanical Seal Cover
046	Lantern Ring
049*	Mechanical Seal Spacer Sleeve
050	Impeller
060	Shaft
065	Impeller Nut and Washer
070*	Shaft Sleeve
088	Thrower
200	Ball Bearing
210	Impeller Key
211	Coupling Key
220	Circlip
230	Screw
231*	Screw
232*	Oil Filling Plug and Breather
234*	Oil Level Indicator
300	Gland Stud and Nut
301	Stud, Washer and Nut
320	Screw
321*	Screw
400	Soft Packing
405*	Mechanical Seal
410*	Lip Seal
420	O-ring
421*	O-ring
422*	Gasket
550	Guard

(\*) Optional

Part List	10	30	35	20	60	6L	70	7L	8M	7D	7S	8N	80	4C	4A	40	20	80	8T	60	7L	7E	7D	
	0.6025	0.7040	0.7043	1.0619	1.4308	1.4309	1.4408	1.4409	1.4500	1.4517	1.4469	1.4317	1.4008	2.1050.01	2.0975.01	2.1096.01	1.0503	1.4021	1.4021+QT	1.4301	1.4404	1.4460	1.4462	
Volute Casing	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Seal Cover (Mech. or Soft)	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Shaft																	●	○	○	○	○	○	○	○
Bearing House	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Wear Ring	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Shaft Sleeve																	○	○	○	○	○	○	○	○
Mechanical Seal (*)	EN 12756																							

(\*) Optional :Depending on customer requirement or request different types and brands of mechanical seals are applicable.

● Standard manufacturing  
○ Optional

NOTE: Depends on the request, different than above casting and shaft material can be supplied.

Material Equivalents

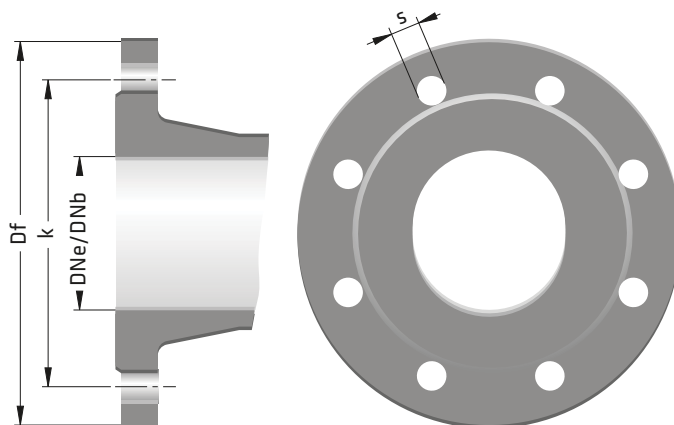
Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Cast Steel (low carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Cast Steel (low carbon)	1.4409	GX2CrNiMo19-11-2	A351 CF3M
Austenitic Cast Steel	1.4500	GX7NiCrMoCuNb25-20	A351 CN7M
Austenitic - Ferritic Cast Steel (duplex)	1.4517	GX2CrNiMoCuN25-6-3-3	A890 CD4MCuN
Austenitic - Ferritic Cast Steel (super duplex)	1.4469	GX2CrNiMoN26-7-4	A890 CE3MN
Martenzitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martenzitic Stainless Cast Steel	1.4008	GX7CrNiMo12-1	A217 CA15
Cast Bronze (tin alloy)	2.1050.01	G-CuSn10	B427 C90700
Cast Bronze (nickel alloy)	2.0975.01	G-CuAl10Ni	B148 C95500
Cast Bronze (Leaded)	2.1096.01	G-CuSn5ZnPb	B584 C83600
Carbon Steel	1.0503	C45	AISI 1045
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel (Heat treated)	1.4021	X20Cr13	A276 Type 420+QT
Chrome Nickel Steel	1.4301	X5CrNi18-10	A276 Type 304
Chrome Nickel Steel (low carbon)	1.4404	X2CrNiMo17-12-2	A276 Type 316L
Duplex (austenitic-ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (austenitic-ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205

Flange Dimensions

EN 1092 - 2

DNe/DNb	Suction & Discharge (PN 16)			
	Df	k	s	n
32	140	100	19	4
40	150	110	19	4
50	165	125	19	4
65	185	145	19	4
80	200	160	19	8
100	220	180	19	8
125	250	210	19	8
150	285	240	23	8
200	340	295	23	12

" n " number of holes

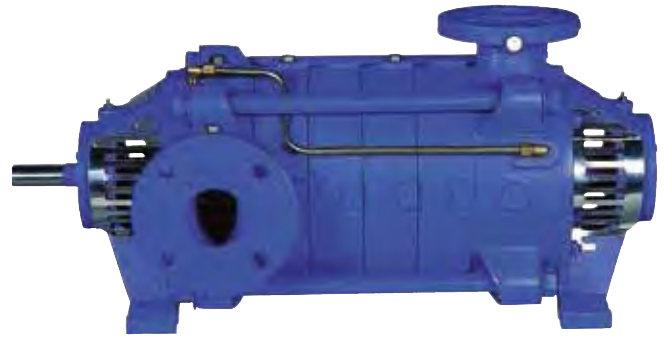




**IMPUMP**<sup>®</sup>  
Intelligent Motor Pumps

## BL-H

### MULTISTAGE CENTRIFUGAL PUMPS



#### Handled Liquids

Clean or slightly contaminated low viscosity liquids without solid & fibrous particles.

#### Technical Data

Discharge Flange \_\_\_\_\_ DN 32.....DN 250 mm

Capacity \_\_\_\_\_ up to 1000 m<sup>3</sup>/h

Head \_\_\_\_\_ up to 550 m

Speed \_\_\_\_\_ up to 2900 rpm

Operating Temperature \_\_\_\_\_ 10°C up to +140 °C\*

Casing Pressure (Pmax) \_\_\_\_\_ 30 bar (63 bar)\*

(Pmax: Suction Pressure + Shut off Head)

(\*) The Material of pumps differ according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

#### Design Features

- Horizontal ring section, multistage, centrifugal pumps with closed impeller and diffuser.
- 10 Models from DN 32 up to 250 discharge flange diameter.
- Suction nozzle flanges conform to EN 1092 - 2 / PN 16 and discharge nozzle flanges conform to EN 1092 - 2 / PN 40 (PN 63) (For steel or stainless steel casing pumps, flanges conform to related pressure class ratings defined in EN 1092 - 1)

- In standard production, suction flange is placed on the right side and close to the coupling while discharge flange is at the other end and radially upwards (R 3/0). If other flange position is required, it should be indicated in the order.
- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.
- Axial thrust is balanced by impeller balancing holes system.
- Direction of rotation is clockwise viewed from drive end.
- Bearings of BL-H type pumps are always grease lubricated.

#### Shaft Sealing

- In standard production soft packing application is applied up to 110 °C. Between 110 °C and 140 °C soft packing may also applied together with the stuffing box cooling.
- Pumps with mechanical seal can also be manufactured upon request.

#### Pump Designation

**BL-H - K 100 / 6 / 2 / 15.0**

Pump Type \_\_\_\_\_

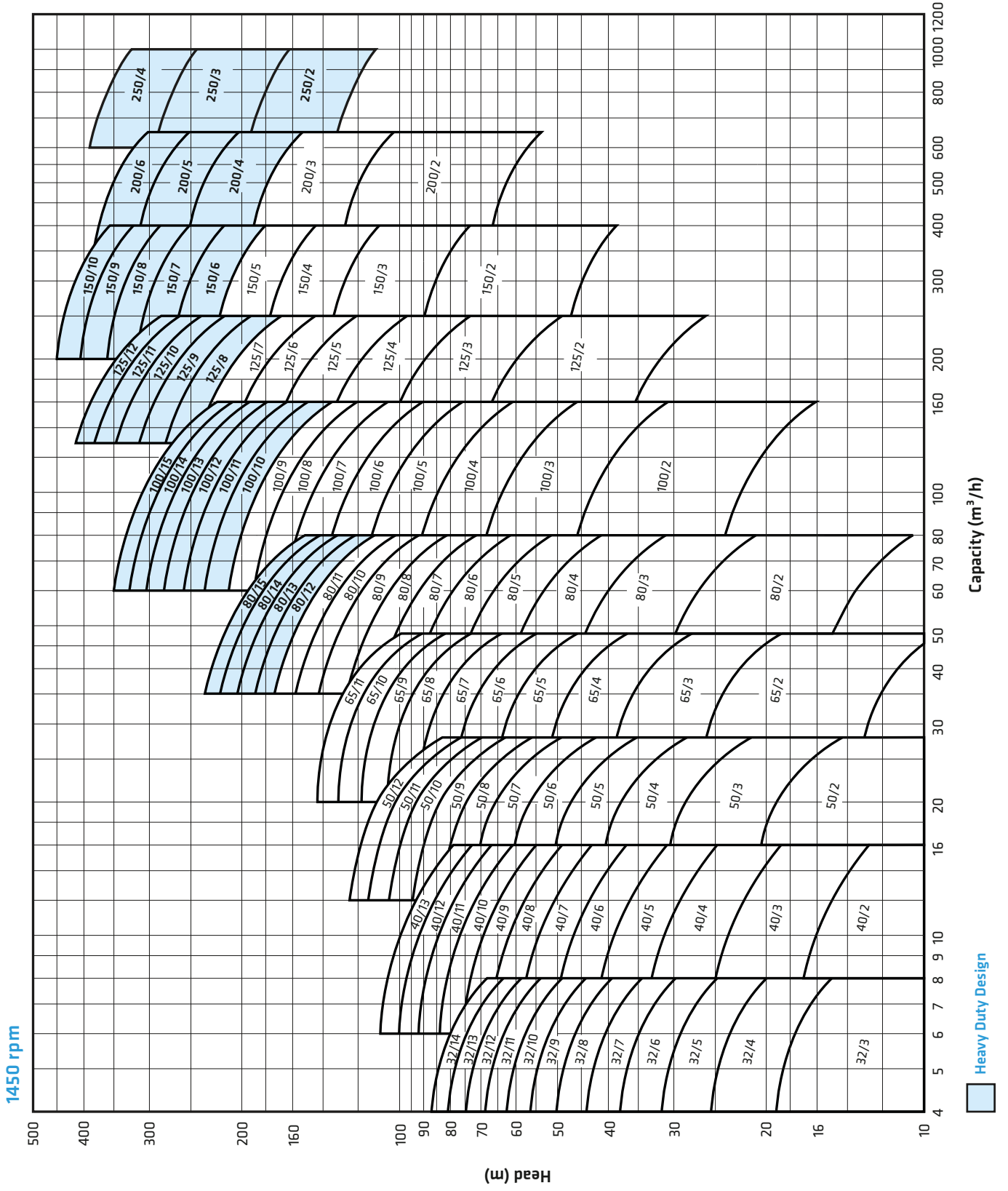
Heavy Duty Design Discharge \_\_\_\_\_

Nozzle (DN-mm) Number of \_\_\_\_\_

Stages \_\_\_\_\_

Motor pole \_\_\_\_\_

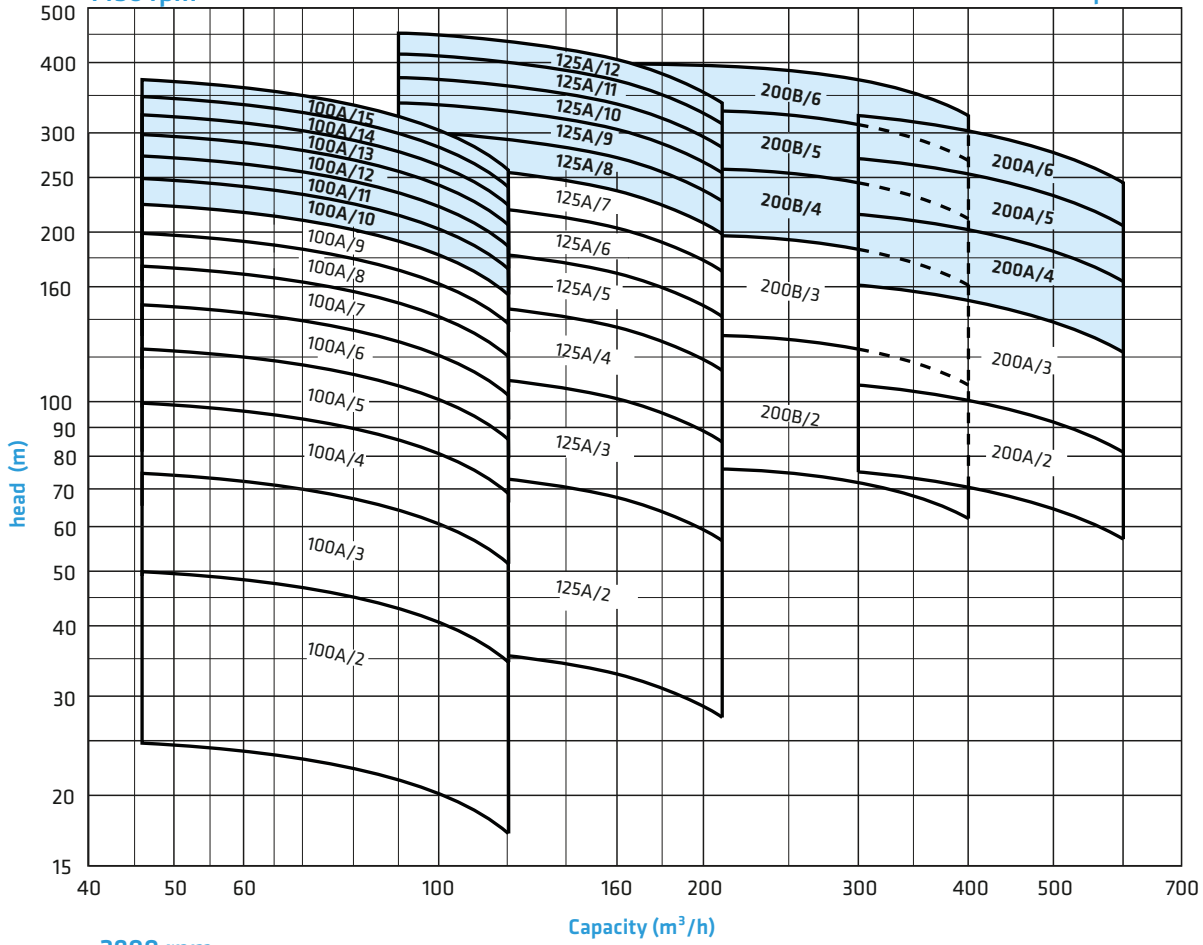
Motor power P2 \_\_\_\_\_



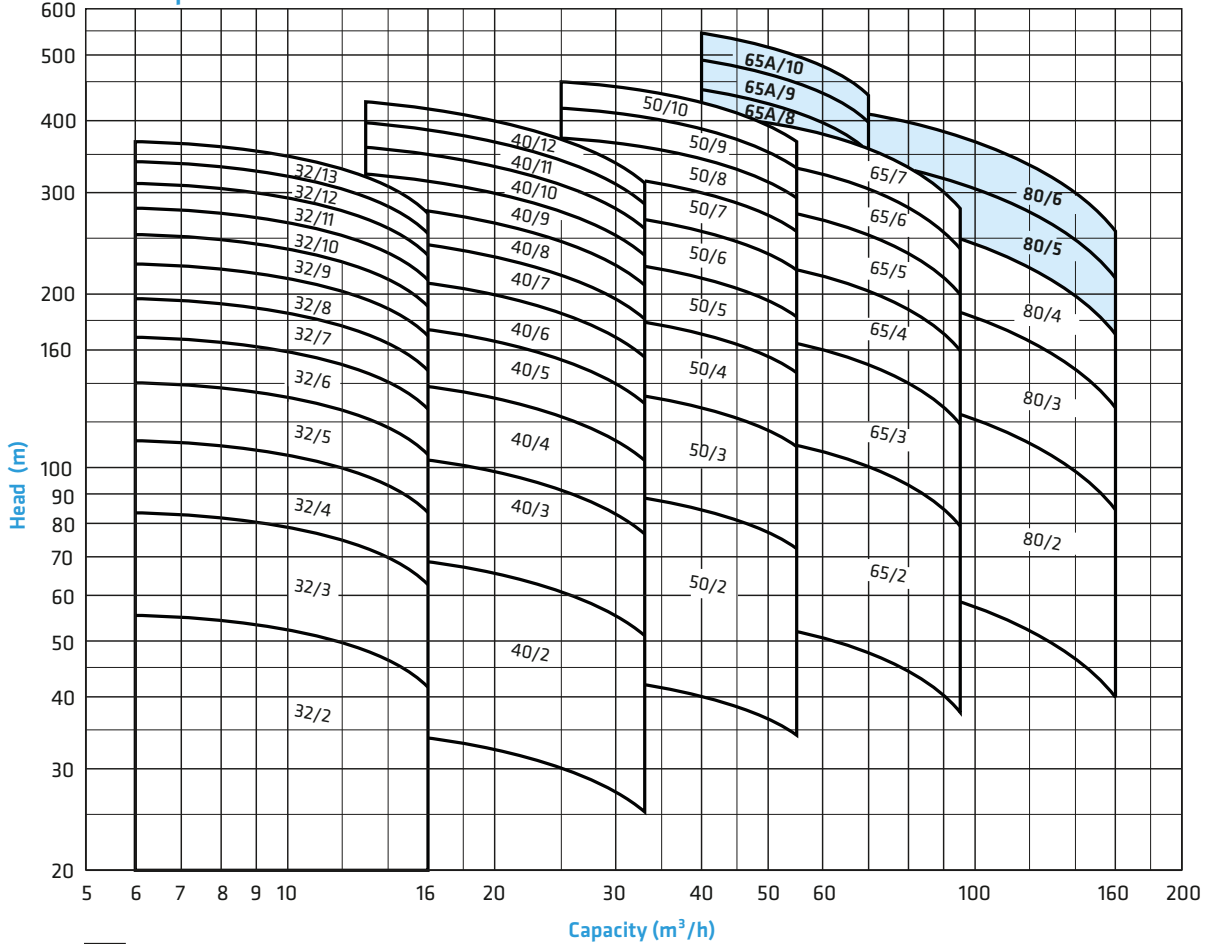
# Field Chart

1450 rpm

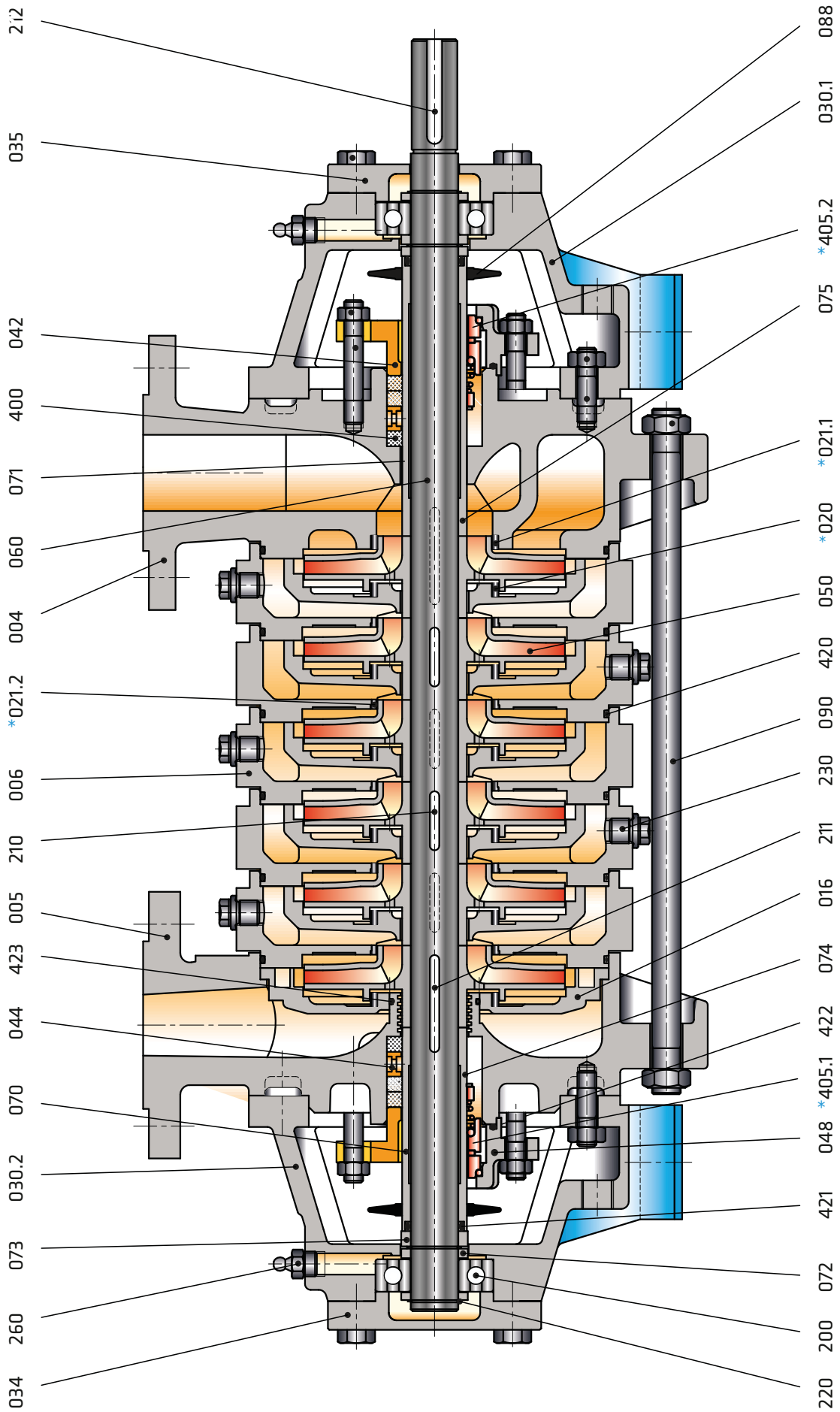
Narrow Impellers



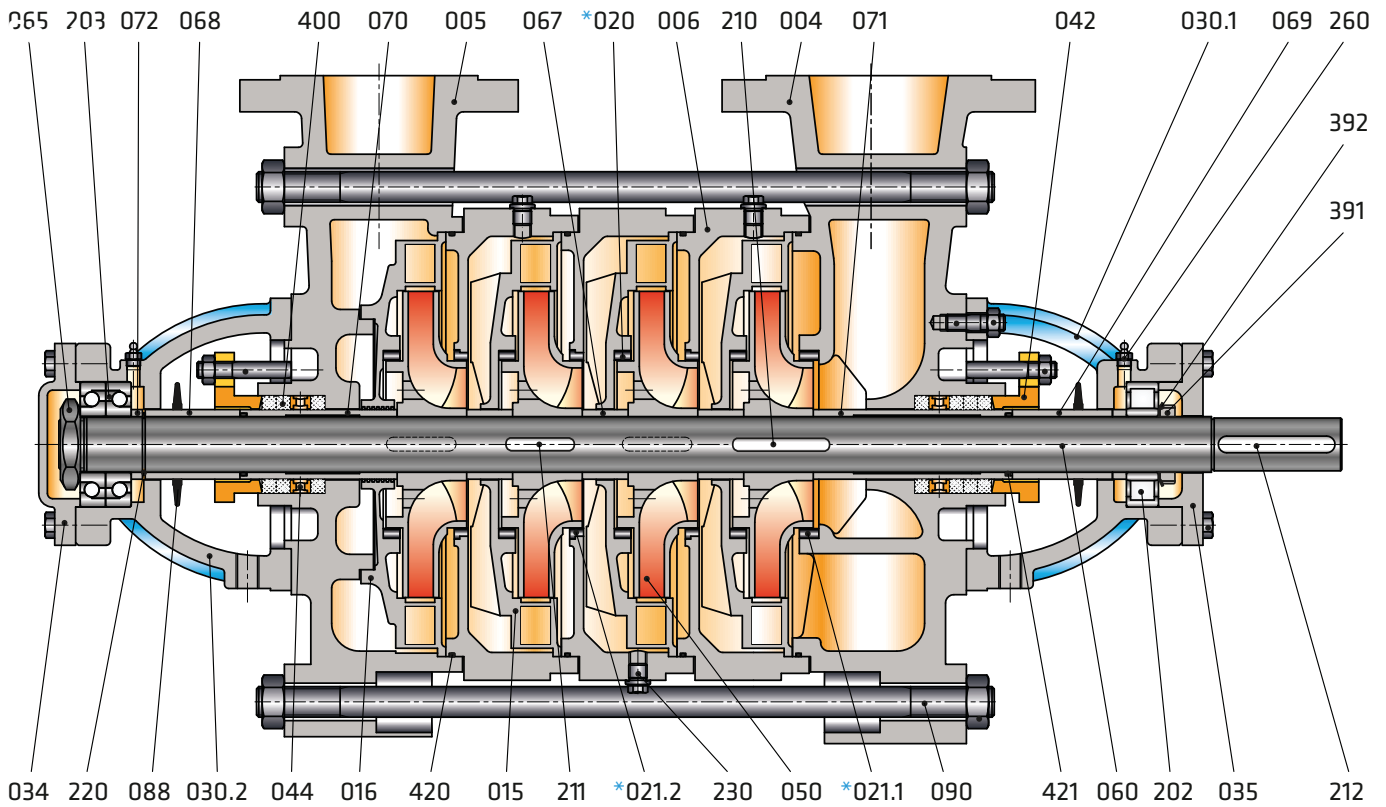
2900 rpm



Heavy Duty Design



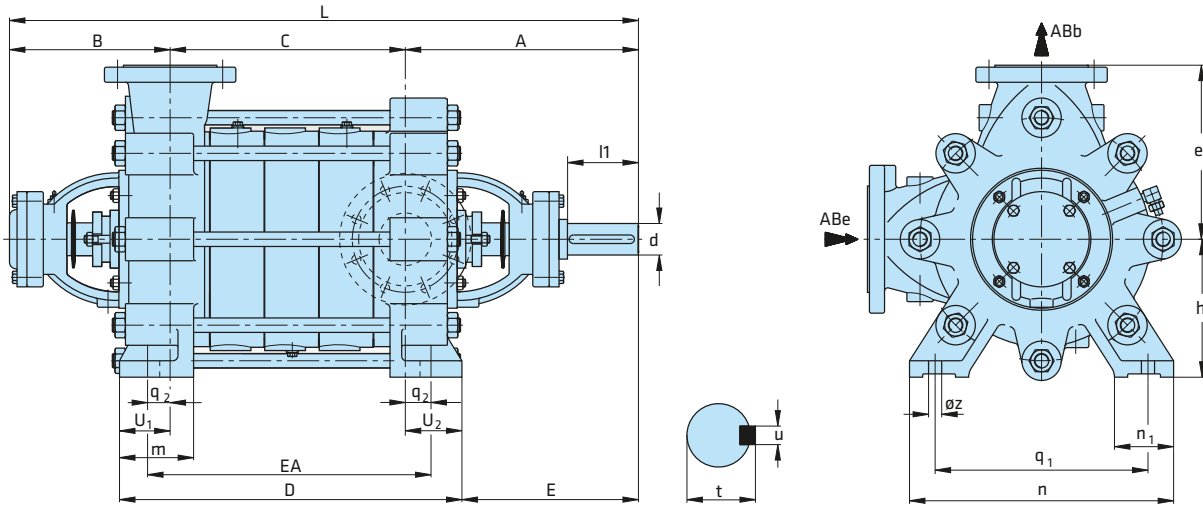
## BL-H - 80 - 100 - 125 - 150 - 200 - 250



### Part List

004	Suction Casing	072	Spacer Sleeve (discharge side)
005	Discharge Casing	073	Spacer Sleeve
006	Stage Casing	074	Mechanical Seal Sleeve (discharge)
015	Diffuser	075	Mechanical Seal Sleeve (suction)
016	Final Stage Diffuser	088	Thrower
*020	Wear Ring (stage casing)	090	Casing Tiebolt
*021.1	Wear Ring (suction casing)	200	Ball Bearing
*021.2	Wear Ring (stage casing)	202	Cylindrical Roller Bearing
030.1	Bearing Housing (suction casing)	203	Angular Contact Ball Bearing
030.2	Bearing Housing (discharge casing)	210	Impeller Key
034	Bearing End Cover	211	Stage Key
035	Bearing Cover (coupling side)	212	Coupling Key
042	Stuffing Box Gland	220	Retaining Ring
044	Lantern Ring	230	Drain Plug
048	Mechanical Seal Cover	260	Grease Nipple
050	Impeller	391	Shaft Nut
060	Shaft	392	Lock Washer
065	Shaft Nut	400	Stuffing Box Packing
067	Interstage Sleeve	*405.1	Mechanical Seal (Discharge)
068	Spacer Sleeve (discharge side)	*405.2	Mechanical Seal (Suction)
069	Spacer Sleeve (suction side)	420	O-Ring (stage casing)
070	Shaft Protecting Sleeve (discharge side)	421	O-Ring (shaft protecting sleeve)
071	Shaft Protecting Sleeve (suction side)	422	O-Ring (mechanical seal cover)
		423	O-Ring (discharge casing)

\* Optional



“C” according to the number of stages (mm)

Pump Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
32	71	114	157	200	243	286	329	372	415	458	501	544	587	630	
40	78	133	188	243	298	353	408	463	518	573	628	683	738		
50	90	152	214	276	338	400	462	524	586	648	710	772			
65	107	178	249	320	391	462	533	604	675	746	817				
80	112	195	278	361	444	527	610	693	776	859	942	1025	1108	1191	1274
100	133	233	333	433	533	633	733	833	933	1033	1133	1233	1333	1433	1533
125	165	280	395	510	625	740	855	970	1085	1200	1315	1430			
150	218	363	508	653	798	943	1088	1233	1378	1523					
200	267	437	607	777	947	1117									
250		520	722	924											

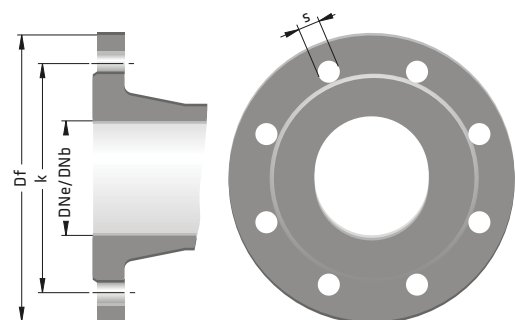
Pump Type	Dimensions (mm)																	
	ABe	ABb	A	B	EA	D	L	E	e	h	m	n	n1	q1	q2	øz	u1	u2
32	40	32	241	165	C+170	C+205	C+406	145	152	132	60	192	55	136	85	15	98,5	106,5
40	50	40	238	165	C+173	C+219	C+403	134	175	160	60	232	55	175	86,5	15	109,5	109,5
50	65	50	254	175	C+183	C+230	C+429	145	190	160	60	256	60	200	91,5	15	117	113
65	80	65	271	195	C+190	C+234	C+466	150	215	180	60	294	60	240	95	15	124	120
80	100	80	321	250	C+84	C+124	C+571	259	265	210	85	410	90	340	42	15	62	62
100	125	100	389	285	C+104	C+140	C+674	319	300	250	90	450	90	370	48	15	70	70
125	150	125	412	300	C+110	C+124	C+712	332	375	300	105	560	105	450	55	20	83	83
150	200	150	486	360	C+130	C+208	C+846	381	425	350	130	655	110	550	65	26	103	105
200	250	200	515	385	C+138	C+210	C+900	410	500	400	130	675	120	550	65	27	105	105
250	300	250	708	444	C+148	C+260	C+1152	577	627	472	155	775	150	625	74	32	130	129

Note : All rights reserved.

  Heavy Duty Design

## Flange Dimensions

EN 1092 - 2	DNe/DNb	Suction & Discharge (PN 16)				Suction & Discharge (PN 40)			
		Df	k	s	n	Df	k	s	n
		32	140	100	19	4	140	100	19
40	150	110	19	4	150	110	19	4	
50	165	125	19	4	165	125	19	4	
65	185	145	19	4	185	145	19	8	
80	200	160	19	8	200	160	19	8	
100	220	180	19	8	235	190	23	8	
125	250	210	19	8	270	220	28	8	
150	285	240	23	8	300	250	28	8	
200	340	295	23	12	375	320	31	12	
250	405	355	28	12	450	385	34	12	
300	460	410	28	12	515	450	34	16	



“ n “ number of holes

## Standard Application

Pump Type	Shaft End				Weight (kg)	
	d1	l1	v	u	G1	g
32	24	60	27	8	44	6
40	24	60	27	8	58	9,5
50	28	65	31	8	89	13
65	32	65	35	10	92	20
80	38	80	41	10	128	26
100	42	110	45	12	177	42
125	48	110	51,5	14	330	75
150	55	110	59	16	580	120
200	70	140	74,5	20	920	200

Pump weight = G1 + (s x g) (s : number of stage)

## Maximum number of stages according to shaft material

Pump Type	1.4462 / 1.4021		1.4301 / 1.4401	
	1450 rpm (1750 rpm)	2900 rpm (3500 rpm)	1450 rpm (1750 rpm)	2900 rpm (3500 rpm)
32	14(14)	13(9)	14(14)	13(8)
40	13(13)	12(8)	13(13)	7(3)
50	12(12)	10(6)	12(10)	7(2)
65	11(11)	7(4)	11(8)	5(2)
80	11(11)	4(2)	11(8)	3(N/A)
100	9(7)	-	6(4)	-
125	7(5)	-	4(2)	-
150	5(3)	-	3(N/A)	-
200	3(2)	-	3(N/A)	-

## Heavy Duty Design

Pump Type	Shaft End				Weight (kg)	
	d1	l1	v	u	G1	g
65A	38	65	41	10	105	20
80	42	80	45	12	146	26
100	48	110	51,5	14	205	42
125	55	110	59	16	370	75
150	65	110	69	18	630	120
200	70	140	74,5	20	945	200
250	100	220	106	28	1250	320

Pump weight = G1 + (s x g) (s : number of stage)

## Maximum number of stages according to shaft material

Pump Type	1.4462 / 1.4021		1.4301 / 1.4401	
	1450 rpm (1750 rpm)	2900 rpm (3500 rpm)	1450 rpm (1750 rpm)	2900 rpm (3500 rpm)
65A	-	10(7)	-	N/A
80	15(15)	6(3)	15(N/A)	N/A
100	15(11)	-	N/A(N/A)	-
125	12(8)	-	8(N/A)	-
150	10(6)	-	7(N/A)	-
200	6(4)	-	5(N/A)	-
250	4(3)	-	4(N/A)	-

## Bearing Type

### Standard Application

#### 1450 rpm (1750 rpm)

Pump Type	Number of Stages	Bearing Type	
		Suciton	Discharge
32	2...14(14)	6305	6305
40	2...13(13)	6305	6305
50	2...12(12)	6306	6306
65	2...11(11)	6307	6307
80	2...11(11)	NU 308	3308
100	2...9(7)	NU 309	3309
125	2...7(5)	NU 310	3310
150	2...5(3)	NU 312	3312
200	2...3(2)	NU 315	2x7315

#### 2900 rpm (3500 rpm)

Pump Type	Number of Stages	Bearing Type		Number of Stages	Bearing Type	
		Suciton	Discharge		Suction	Discharge
32	2...9(6)	6305	6305	10(7)...13(9)	NU 305	6405
40	2...6(4)	6305	6305	7(5)...12(8)	NU 305	6405
50	2...5(3)	6306	6306	6(4)...10(6)	NU 306	6406
65	2...4(2)	6307	6307	5(3)...7(4)	NU 307	6407
80	-	-	-	2(2)...4(2)	NU 308	3308

### Heavy Duty Design

#### 1450 rpm (1750 rpm)

Pump Type	Number of Stages	Bearing Type	
		Suction	Discharge
80	11(11)...15(15)	NU 309	2 x 7309
100	9(9)...15(11)	NU 310	2 x 7310
125	7(7)...12(8)	NU 312	2 x 7312
150	5(5)...10(6)	NU 314	2 x 7314
200	3(3)...6(4)	NU 316	2 x 7316
250	2(2)...4(3)	NU 321	2 x 7321

#### 2900 rpm (3500 rpm)

Pump Type	Number of Stages	Bearing Type	
		Suction	Discharge
65A	8(N/A)...10(N/A)	NU 308	2 x 7308
80	5(N/A)...6(N/A)	NU 309	2 x 7309

PART LIST	0.6025	0.7040	0.7043	1.0619	1.4308	1.4309	1.4408	1.4409	1.4500	1.4517	1.4469	1.4317	1.4008	2.1050.01	2.0975.01	2.1096.01	1.0503	1.4021	1.4021+QT	1.4301	1.4404	1.4460	1.4462	
Suction Casing	●	○	○		○	○	○	○	○	○	○	○	○	○										
Discharge Casing	●	○	○		○	○	○	○	○	○	○	○	○	○										
Stage Casing	●	○	○		○	○	○	○	○	○	○	○	○	○										
Diffuser	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○							○	
Shaft																		●	○	○	○			○
Bearing Housing	●	○	○	○	○	○	○	○																
Wear Ring	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
Spacer Sleeve																	●	○	○	○	○			○
Shaft Protecting Sleeve																	●	○	○	○	○			○
Interstage Sleeve																	●	○	○	○	○			○
Mechanical Seal (*)	EN 12756																							

(\*) Optional :Depending on customer requirement or request different types and brands of mechanical seals are applicable. ● Standard manufacturing ○ Optional

Material Equivalents

Description	DIN / EN	AISI / SAE / ASTM	
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Cast Steel (low carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Cast Steel (low carbon)	1.4409	GX2CrNiMo19-11-2	A351 CF3M
Austenitic Cast Steel	1.4500	GX7NiCrMoCuNb25-20	A351 CN7M
Austenitic - Ferritic Cast Steel (duplex)	1.4517	GX2CrNiMoCuN25-6-3-3	A890 CD4MCuN
Austenitic - Ferritic Cast Steel (super duplex)	1.4469	GX2CrNiMoN26-7-4	A890 CE3MN
Martenzitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martenzitic Stainless Cast Steel	1.4008	GX7CrNiMo12-1	A217 CA15
Cast Bronze (tin alloy)	2.1050.01	G-CuSn10	B427 C90700
Cast Bronze (nickel alloy)	2.0975.01	G-CuAl10Ni	B148 C95500
Cast Bronze (lead)	2.1096.01	G-CuSn5ZnPb	B584 C83600
Carbon Steel	1.0503	C45	AISI 1045
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel (heat treated)	1.4021	X20Cr13	A276 Type 420+QT
Chrome Nickel Steel	1.4301	X5CrNi18-10	A276 Type 304
Chrome Nickel Steel (low carbon)	1.4404	X2CrNiMo17-12-2	A276 Type 316L
Duplex (austenitic-ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (austenitic-ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205

Flange Positions

Clockwise rotation viewed from driver (Suction flange is on the motor side)

**R 3/0**

Discharge Flange Position (D)

Suction Flange Position (S)

Direction of Rotation (R/L)

Counter clockwise rotation viewed from driver (Discharge flange is on the motor side)

Direction of rotation viewed from driver end

R : Right

L : Left



**IMPPUMPS®**  
Intelligent Motor Pumps

## DL / DL-V

### DOUBLE SUCTION PUMPS



#### Handled Liquids

Clean or slightly contaminated low viscosity liquids without solid & fibrous particles.

#### Technical Data

Discharge Flange	DN 65.....DN 600 mm
Capacity	up to 6000 m <sup>3</sup> /h
Head	up to 180 m
Speed	up to 2900 rpm
Operating Temperature	-10 °C' to +110 °C*
Casing Pressure (Pmax)	16 bar - 25 bar*

(Pmax: Suction Pressure + Shut off Head)

(\*) The Material of pumps differ according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

#### Design Features

- Horizontal or vertical manufacturing option. Axial split case, single stage, double suction centrifugal pumps.
- Suction and discharge flanges are on the same axis on the bottom casing. Split case design permits easy disassembly of the rotor group for maintenance or repair without distorting pump alignment and suction / discharge piping.
- Suction and Discharge Flanges are conform to EN 1092-2/PN 16 or PN25. (EN 1092-1 / PN 16 or PN 25 for steel or stainless steel casing)

#### Pump Designation

Pump Type

Vertical Installation

Discharge Nozzle (DN-mm) Nominal

Impeller Diameter (mm)

Motor pole

Motor power P2



- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.

- Impeller is of double suction design. This feature increases pump suction performance in addition with providing the balance of hydraulic axial forces resulting higher bearing lifes and higher reliability.

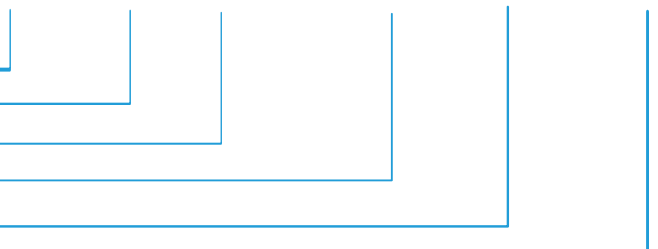
- In standard construction, the direction of rotation is clockwise when it is looked from drive end. In this case, suction flange is on right and discharge flange is on left. Upon request the direction of rotation can be reversed. This time the position of the suction and discharge flanges are also reversed.

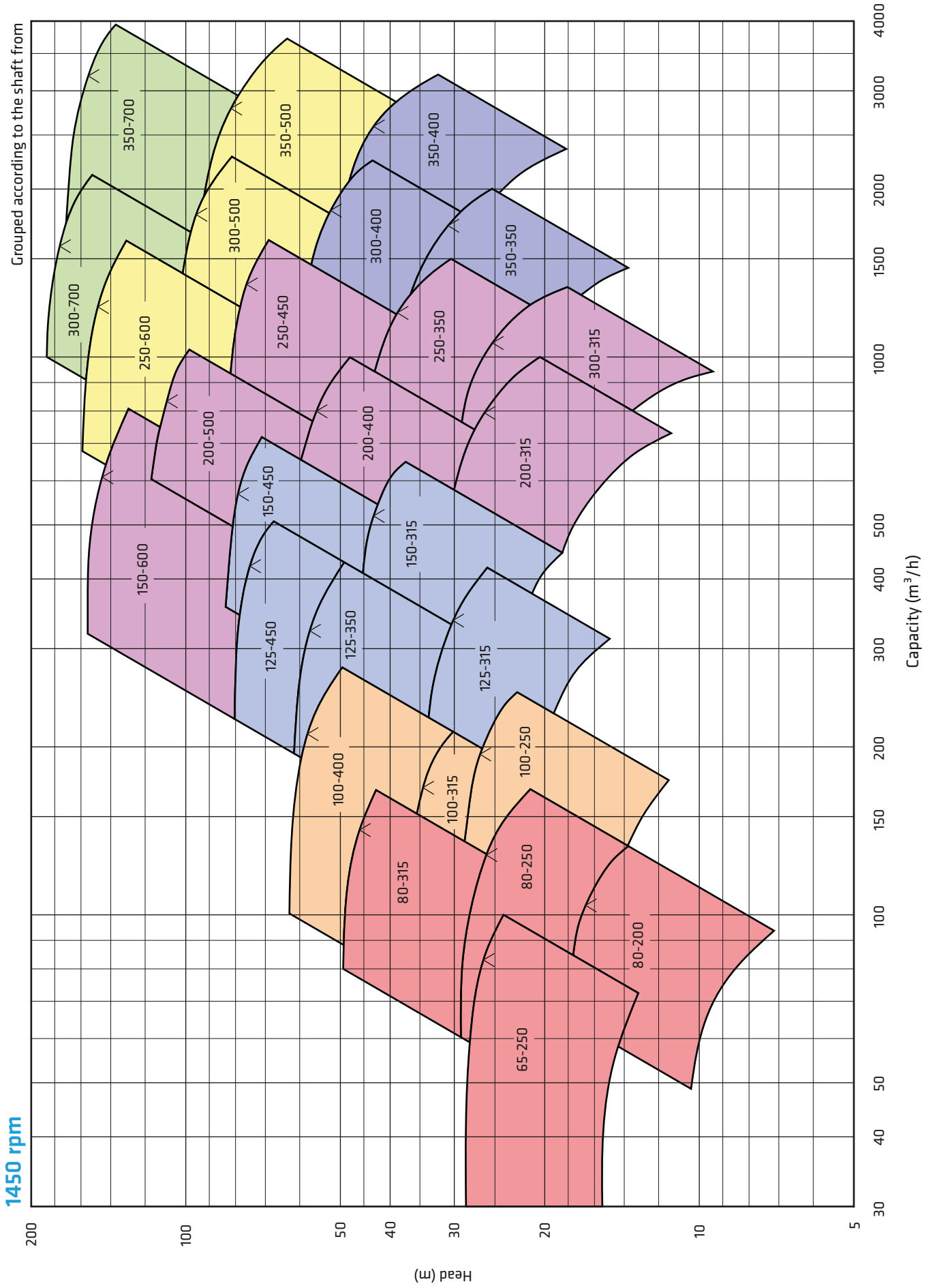
- Grease lubricated ball bearings are used in horizontal installation. In case of vertical installation, pumping liquid lubricated journal bearings on top and grease lubricated ball bearings on bottom are used.

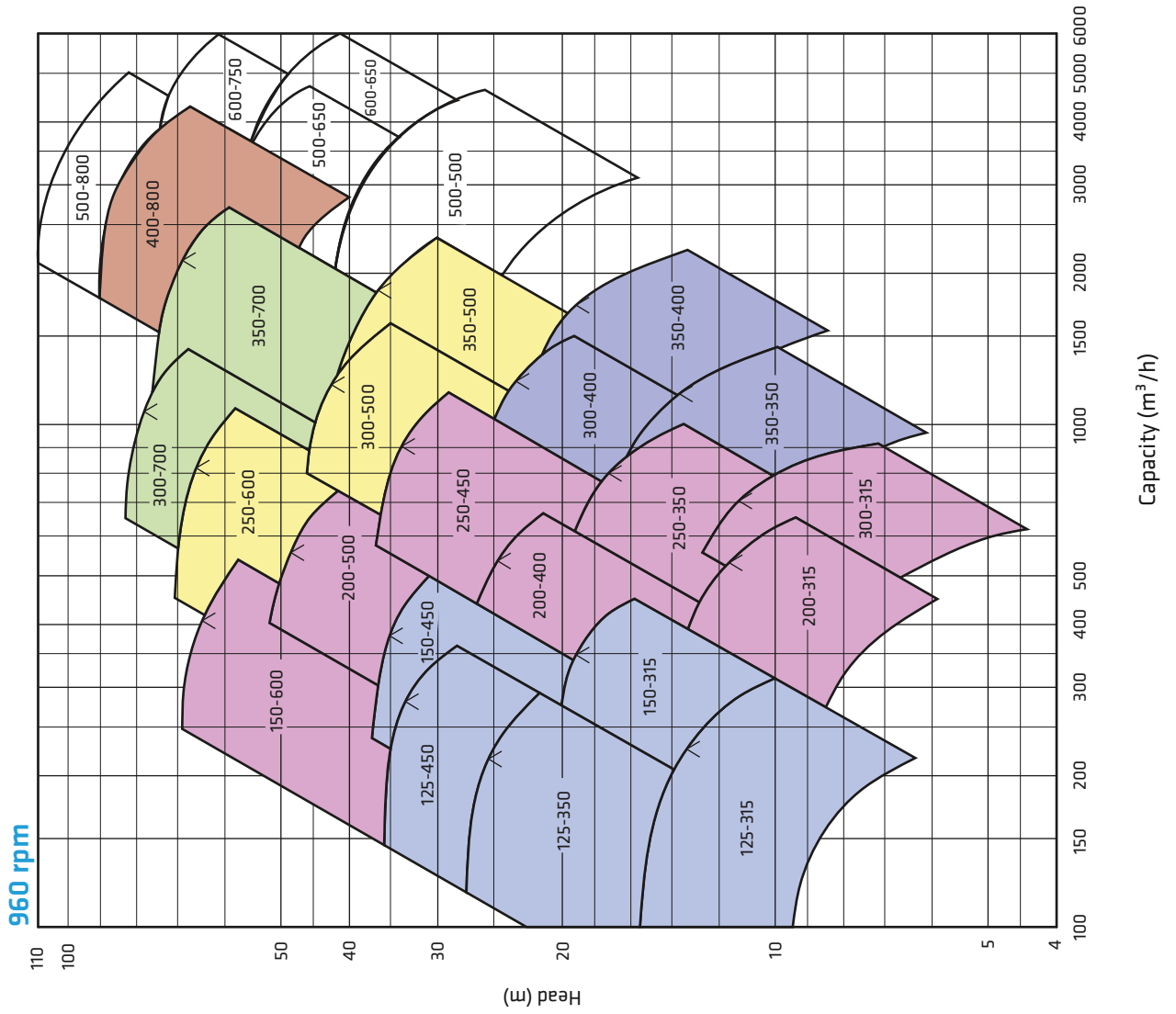
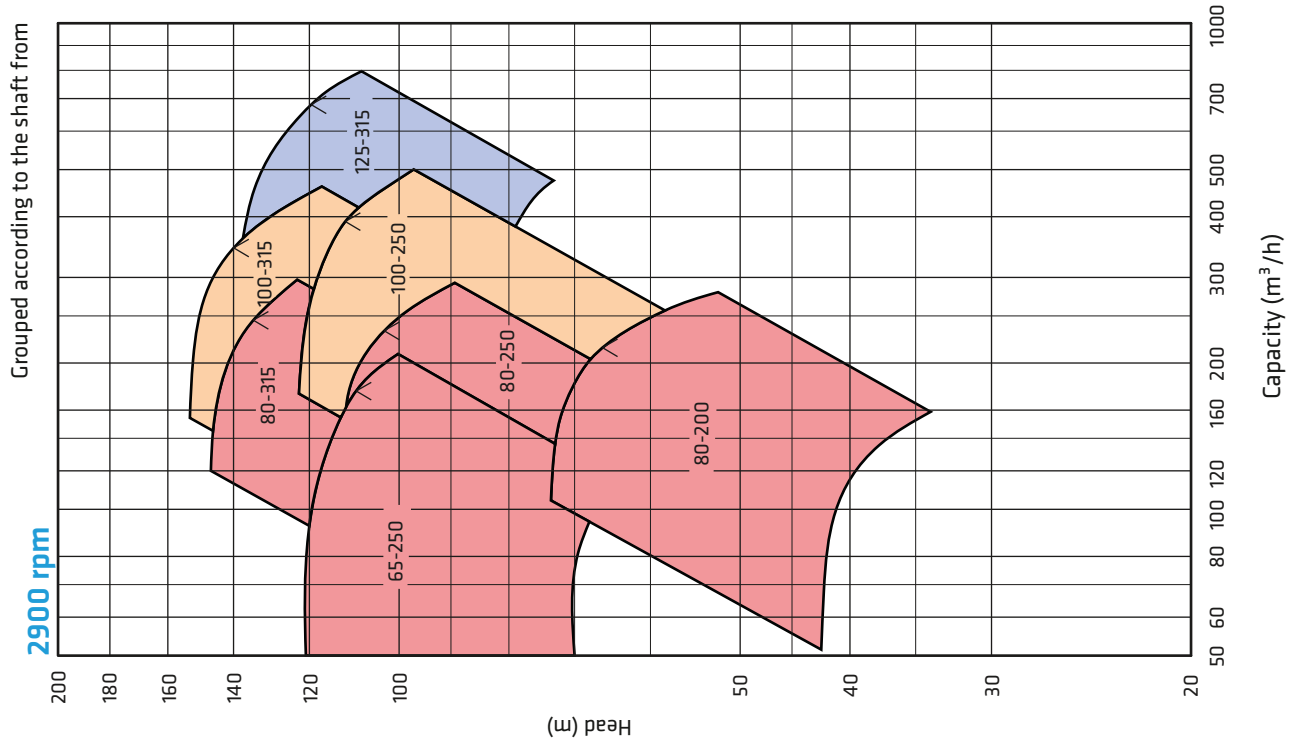
#### Shaft Sealing

- Depending on request or requirement, pumps with soft packing or single, double and cartridge type mechanical seals can be supplied.

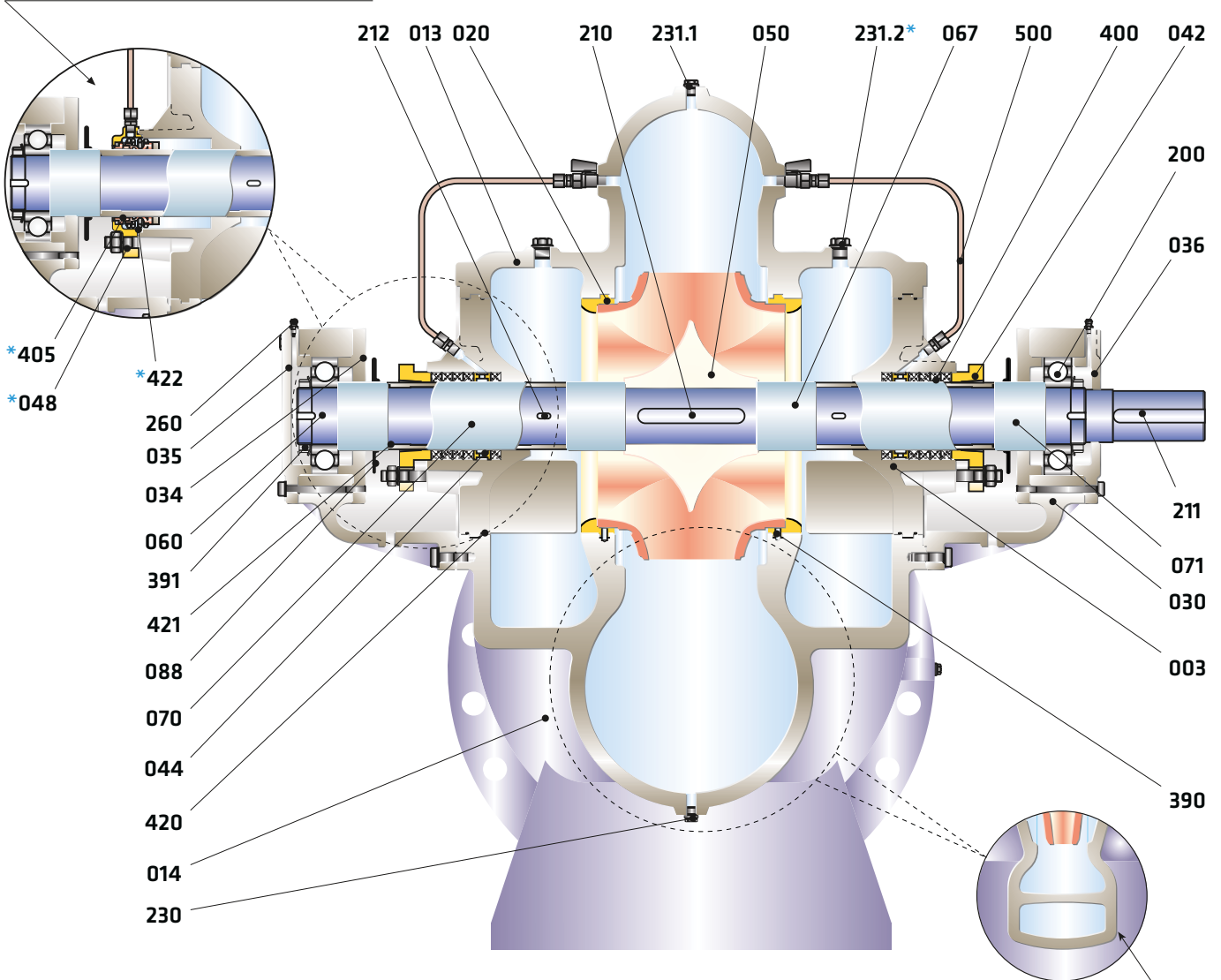
# DL - V 200 - 500 / 4 / 30.0







\* Mechanical Seal Application



Part List

003	Stuffing Box	200	Ball Bearing
013	Volute Casing (top half)	210	Impeller Key
014	Volute Casing (bottom half)	211	Coupling Key
020	Wear Ring	212	Spacer Sleeve Key
030	Bearing Bracket	230	Drain Plug
034	Bearing Cover (inboard)	231.1	Air Plug
035	Bearing Cover (outboard)	*231.2	Air Plug
036	Bearing Cover (coupling)	260	Grease Nipple
042	Stuffing Box Gland	390	Pin
044	Lantern Ring	391	Shaft Nut & Lock Washer
*048	Mechanical Seal Cover	400	Stuffing Box Packing
050	Impeller	*405	Mechanical Seal
060	Pump Shaft	420	O-Ring
067	Spacer Sleeve	421	O-Ring
070	Shaft Protecting Sleeve	*422	O-Ring
071	Shaft Protecting Sleeve	500	Flushing Pipe
088	Thrower		

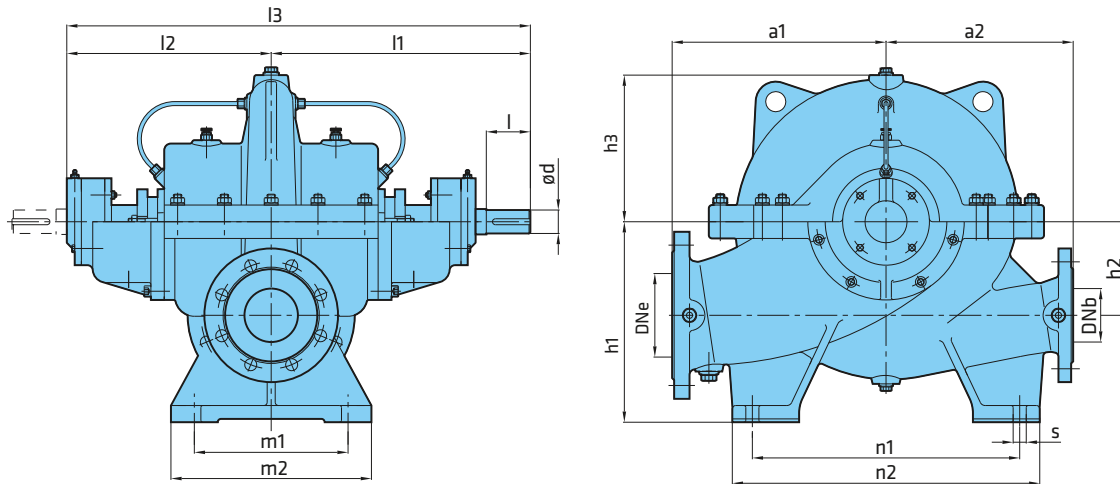
\*\* Double Volute Application

( \* ) Optional

( \*\* ) Double Volute Design Is

Applied to :

DL 200-500, 250-600,  
300-500, 300-700,  
350-500, 350-700



Pump Type	Dimensions (mm)																			Weight (kg)
	PNe	PNb	DNe	DNb	ød	l	l1	l2	l3	a1	a2	h1	h2	h3	n1	n2	m1	m2	s	
65-250	16	16	100	65	35	80	400	310	710	320	280	300	140	200	400	460	230	300	20	165
80-200	16	16	125	80	35	80	400	310	710	320	280	300	140	200	400	460	230	300	20	165
80-250	16	16	125	80	35	80	400	310	710	320	280	300	140	200	400	460	230	300	20	175
80-315	16	16	125	80	35	80	400	310	710	360	300	300	140	260	400	460	230	300	20	197
100-250	16	16	150	100	42	90	450	350	800	360	310	355	170	235	400	480	280	340	20	220
100-315	16	16	150	100	42	90	450	350	800	360	310	355	170	250	400	480	280	340	20	230
100-400	16	16	150	100	42	90	450	350	800	420	370	355	170	300	460	540	280	340	20	290
125-315	16	16	200	125	55	120	555	420	975	420	370	400	200	280	460	540	320	380	22	330
125-350	16	16	200	125	55	120	555	420	975	470	450	400	200	300	540	660	320	380	22	380
125-450	16	16	200	125	55	120	555	420	975	500	450	400	200	350	540	640	320	380	22	410
150-315	16	16	200	150	55	120	555	420	975	470	400	400	200	310	540	640	320	380	22	395
150-450	16	16	200	150	55	120	555	420	975	500	450	400	200	365	540	640	320	380	22	430
150-600	25	25	250	150	65	130	645	500	1145	500	500	560	300	445	540	640	360	420	22	800
200-315	16	16	250	200	65	130	645	500	1145	500	450	500	240	315	540	640	360	420	22	570
200-400	16	16	250	200	65	130	645	500	1145	500	450	500	240	360	540	640	360	420	22	575
200-500	16	16	250	200	65	130	645	500	1145	550	500	560	300	380	620	720	360	420	22	700
250-350	16	16	300	250	65	130	645	500	1145	600	500	600	300	390	620	720	360	420	22	682
250-450	16	16	300	250	65	130	645	500	1145	600	500	600	300	415	620	720	360	420	22	780
250-600	25	25	300	250	80	170	720	540	1260	650	550	600	300	430	620	710	415	485	26	1190
300-315	16	16	350	300	65	130	645	500	1145	600	500	630	300	400	620	700	360	420	22	700
300-400	16	16	400	300	75	140	770	615	1385	700	550	710	350	450	720	800	420	520	26	1125
300-500	16	16	400	300	85	170	755	585	1340	700	750	710	350	425	700	800	420	520	26	1500
300-700	25	25	400	300	100	180	865	675	1540	750	800	710	350	470	720	880	420	520	26	1650
350-350	16	16	400	350	75	140	770	615	1385	700	550	670	350	450	720	800	420	520	26	1100
350-400	16	16	500	350	75	140	770	615	1385	800	600	800	380	500	800	960	500	600	26	1400
350-500	16	16	500	350	80	170	755	585	1340	800	600	800	400	435	740	900	500	600	26	1435
350-700	25	25	500	350	100	180	865	675	1540	850	750	850	450	525	720	880	500	600	26	2000
400-800	16	16	600	400	105	220	1035	810	1845	900	900	880	450	565	950	1120	630	740	26	3400
500-500	16	16	600	500																
500-650	16	16	600	500																
500-800	16	16	600	500																
600-650	16	16	700	600																
600-750	16	16	700	600																

Contact for detailed information

Note: All rights reserved due to dimension change.

PART LIST	10	30	35	20	60	6L	70	7L	8M	7D	7S	8N	80	4C	4A	40	80	8T	60	7L	7E	7D	
	0.6025	0.7040	0.7043	1.0619	1.4308	1.4309	1.4408	1.4409	1.4500	1.4517	1.4469	1.4317	1.4008	2.1050.01	2.0975.01	2.1096.01	1.4021	1.4021+QT	1.4301	1.4404	1.4460	1.4462	
Volute Casing(**)	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○							
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○						○	
Shaft																	●	○	○	○			○
Bearing Housing	●	○	○	○	○	○	○	○															
Wear Ring (Casing)	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○							
Shaft Protecting Sleeve																	●	○	○	○			○
Mechanical Seal (*)	EN 12756																						

(\*) Optional :Depending on customer requirement or request different types and brands of mechanical seals are applicable.

● Standard manufacturing

(\*\*) 0.7040 material is used in standard production for types which has PN 25 casing pressure class

○ Optional

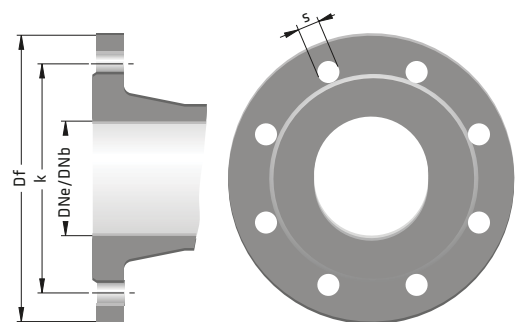
## Material Equivalents

Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Cast Steel (low carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Cast Steel (low carbon)	1.4409	GX2CrNiMo19-11-2	A351 CF3M
Austenitic Cast Steel	1.4500	GX7NiCrMoCuNb25-20	A351 CN7M
Austenitic - Ferritic Cast Steel (duplex)	1.4517	GX2CrNiMoCuN25-6-3-3	A890 CD4MCuN
Austenitic - Ferritic Cast Steel (super duplex)	1.4469	GX2CrNiMoN26-7-4	A890 CE3MN
Martenzitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martenzitic Stainless Cast Steel	1.4008	GX7CrNiMo12-1	A217 CA15
Cast Bronze (tin alloy)	2.1050.01	G-CuSn10	B427 C90700
Cast Bronze (nickel alloy)	2.0975.01	G-CuAl10Ni	B148 C95500
Cast Bronze (Leaded)	2.1096.01	G-CuSn5ZnPb	B584 C83600
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel(heat treated)	1.4021	X20Cr13	A276 Type 420+QT
Chrome Nickel Steel	1.4301	X5CrNi18-10	A276 Type 304
Chrome Nickel Steel (low carbon)	1.4404	X2CrNiMo17-12-2	A276 Type 316L
Duplex (austenitic-ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (austenitic-ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205

## Flange Dimensions

EN 1092 - 2	DNe/DNb	Suction & Discharge (PN 16)				Suction & Discharge (PN 25)			
		Df	k	s	n	Df	k	s	n
	65	185	145	19	4	185	145	19	8
	80	200	160	19	8	200	160	19	8
	100	220	180	19	8	235	190	23	8
	125	250	210	19	8	270	220	28	8
	150	285	240	23	8	300	250	28	8
	200	340	295	23	12	360	310	28	12
	250	405	355	28	12	425	370	31	12
	300	460	410	28	12	485	430	31	16
	350	520	470	28	16	555	490	34	16
	400	580	525	31	16	620	550	37	16
	500	715	650	34	20	730	660	37	20
	600	840	770	37	20	845	770	41	20
	700	910	840	37	24	960	875	41	24

" n " number of holes





**IMPPUMPS**<sup>®</sup>  
Intelligent Motor Pumps

## PC / PC-VM

### WASTE WATER AND PROCESS PUMPS



#### Handled Liquids

Domestic and industrial waste water, raw sewage, viscous and corrosive liquids, liquids with fibrous and solid substances.

#### Technical Data

Discharge Flange \_\_\_\_\_ DN 40...DN 300 mm

Capacity \_\_\_\_\_ up to 1600 m<sup>3</sup>/h

Head \_\_\_\_\_ up to 95 m

Speed \_\_\_\_\_ up to 2900 rpm

Operating Temperature \_\_\_\_\_ -10 °C up to +110 °C

Casing Pressure (Pmax) \_\_\_\_\_ 10 bar (16 bar)\*

(Pmax: Suction Pressure + Shut off Head)

(\* ) The Material of pumps differ according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

#### Desing Features

•Horizontal / Vertical, wide volute casing, single stage, end suction, centrifugal pumps with enclosed, semi-open or vortex type impeller.

•18 basic sizes covering wide range of operational area.

#### Pump Designation

Pump Type \_\_\_\_\_

Vertical Installation \_\_\_\_\_

Discharge Nozzle (DN-mm) \_\_\_\_\_

Nominal Impeller Diameter (mm) \_\_\_\_\_

Impeller Type \_\_\_\_\_



•Due to the back-pull-out design, the complete bearing assembly including impeller and casing cover can be dismantled without removing the volute casing from the pipe system. (With spacer coupling application, also possible to take out the rotor group without dismantling the electric motor.)

•Discharge flanges conform to EN 1092-2 / PN 10. (EN 1092-1 / PN 10 for steel or stainless steel casing)

•All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.

•Axial thrust is balanced by impeller back ribs.

•Direction of rotation is clockwise viewed from drive end.

•Bearings of PC type pumps are "life time grease lubricated" ball bearing up to 150-315 size. For bigger sizes oil lubricated bearings are used. In vertical design (PC-VM) always grease lubricated bearings are used.

#### Shaft Sealing

•In standard production soft packed stuffing boxes are used.

•Depending on customer request, mechanical seals are available. In this case, pump shaft is always stainless steel.

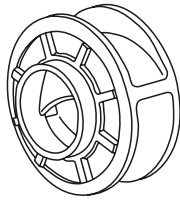
•Only mechanical seal is applied for vertical type installation.

## PC -VM 250-315 AB

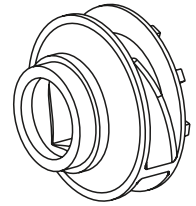
## Impeller Type

PC / PC-VM

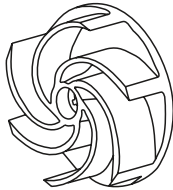
**B Type Impeller:** Enclosed type impellers with wide channels capable of pumping large size solid particles without clogging, for big capacity and low pressure. It is mainly used for 4 pole motors.



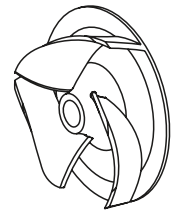
**D Type Impeller:** It is also enclosed type like B type but suitable for high speed motors (2 pole). It is convenient for high pressure, small capacity and smaller size solid particles.



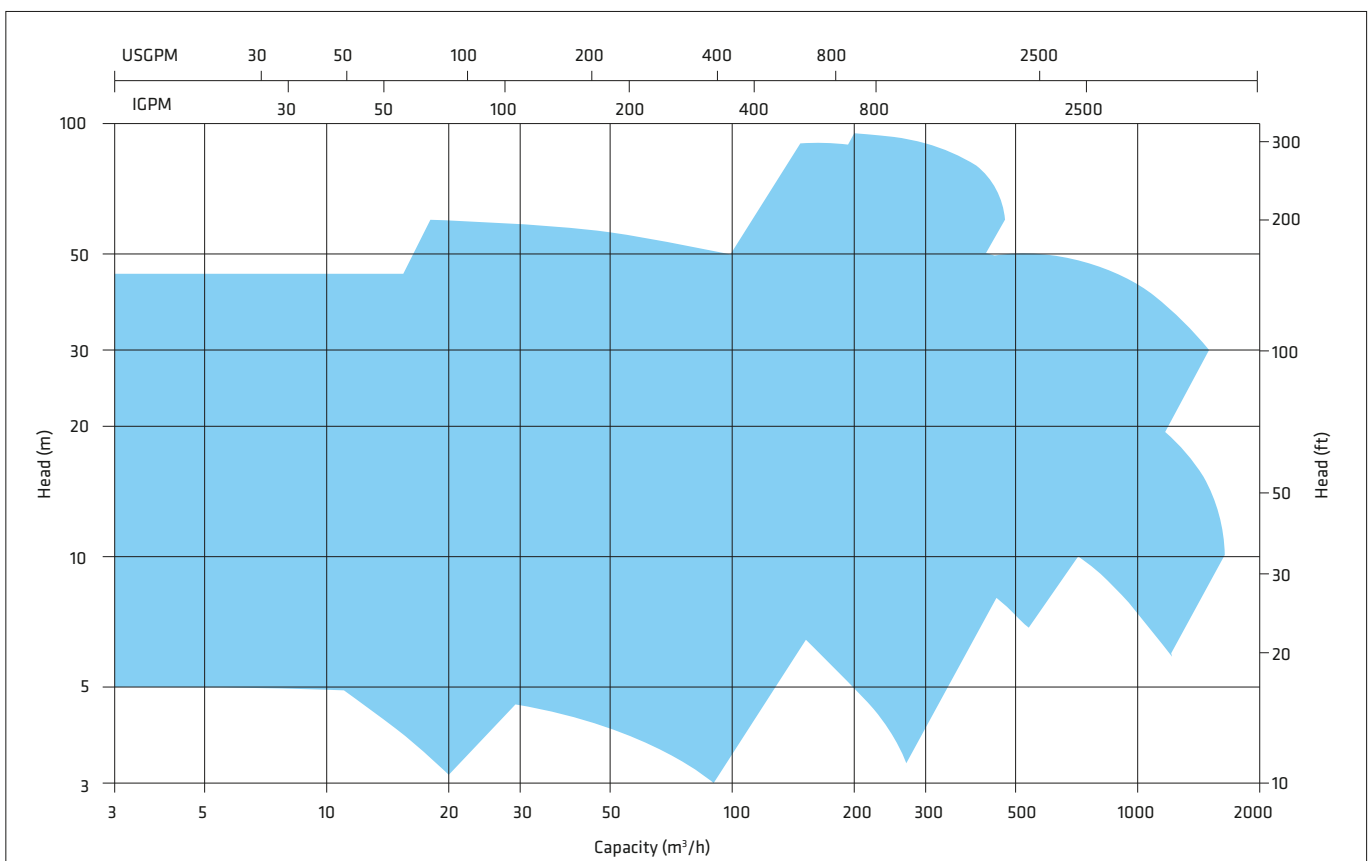
**VX Type Impeller:** Semi-open free vortex type impeller is placed on top of the volute. It creates a forced vortex motion in the casing. It is mostly suitable for fibrous materials. They are suitable for low head applications but pump efficiency is lower compare to other impeller types. The increased clearances limit the head that can be generated and reduce the attainable efficiency. Recessed type impellers are also possible for some models. With this type of design solid particles up to pump flanges size can pass through the pump. Please ask for more information.

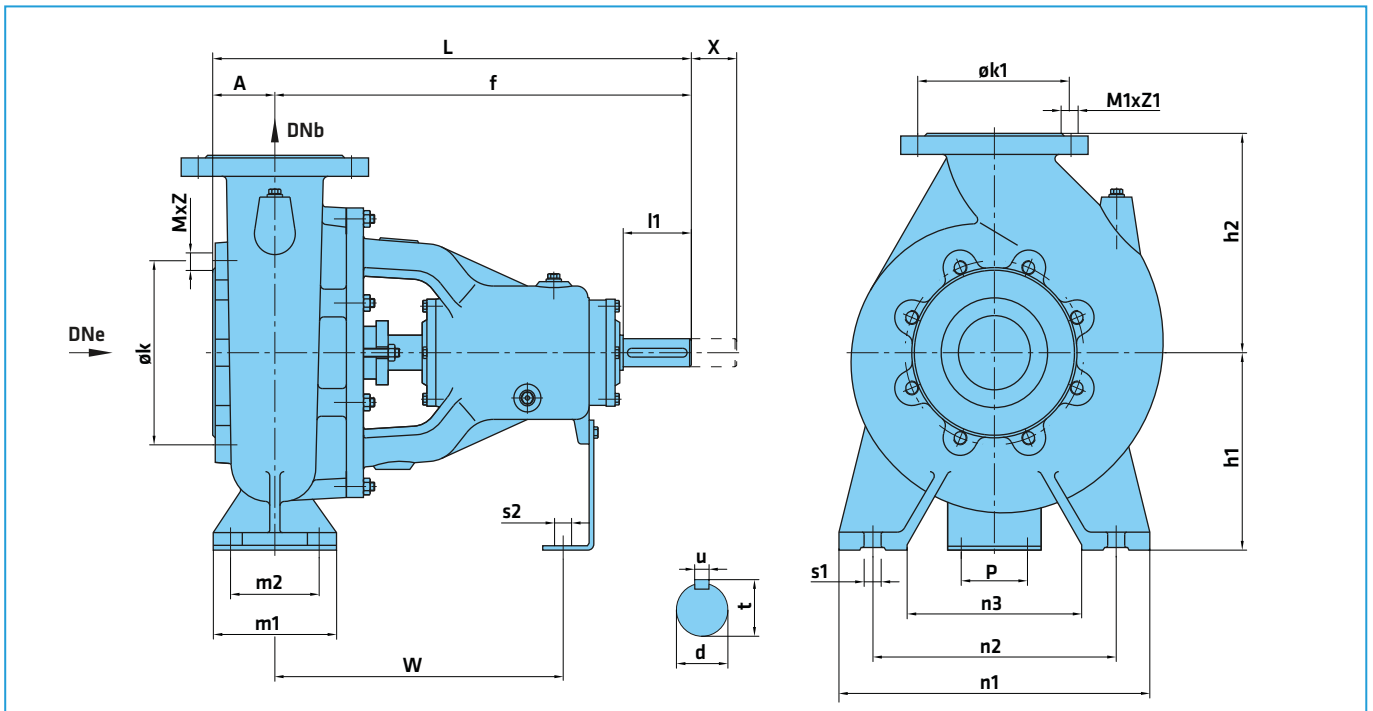


**AB Type Impeller:** Semi-open type impellers with wide channels capable of pumping large size solid particles without clogging, for big capacity and low pressure. It is more suitable for 4 pole motors. Designed for aggressive applications. Impeller works against a wear plate. Clearance between the wear plate and impeller blades is between 0.25 - 0.40 mm.



## Field Chart



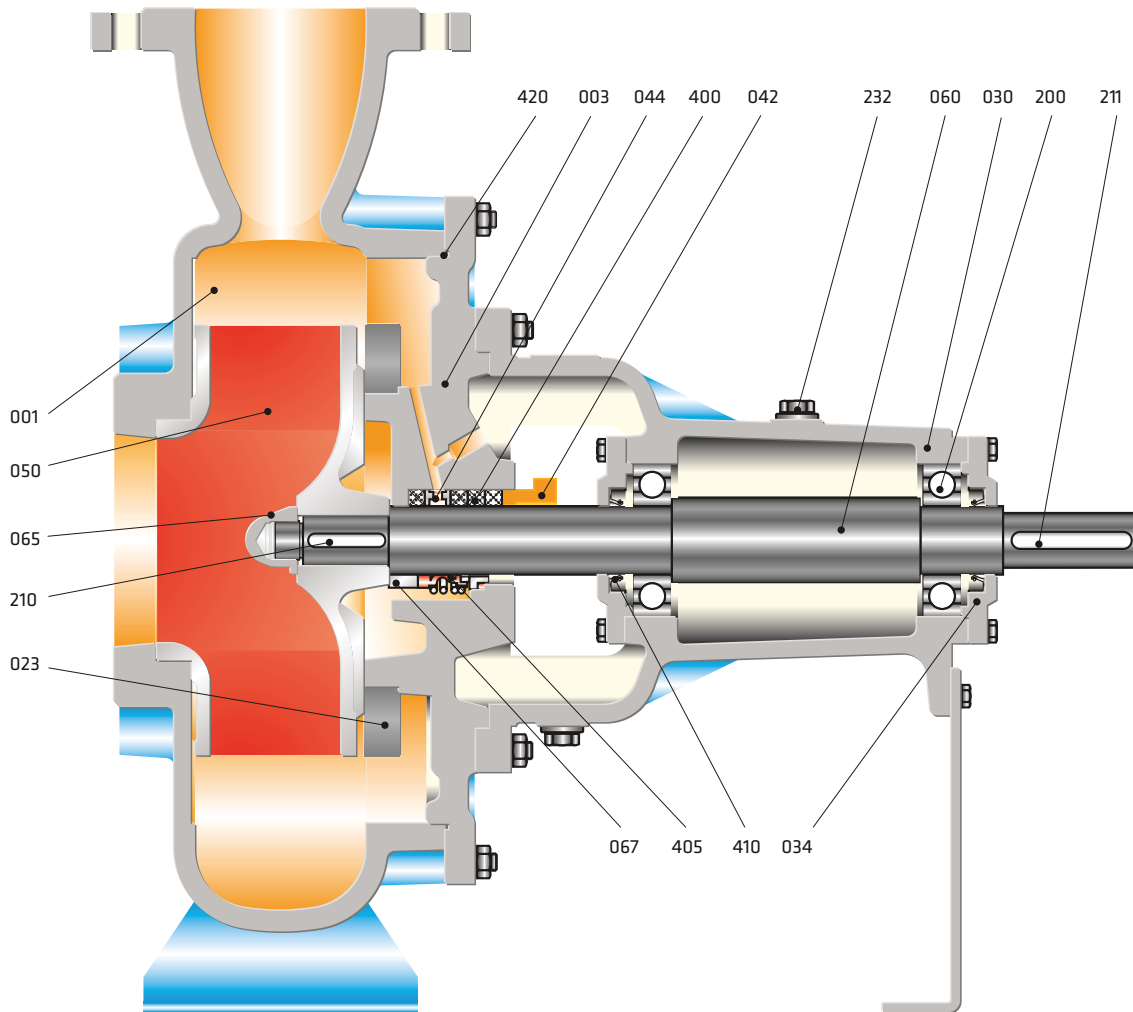


Pump Type	DN		Overall Dimensions (mm)				Support & Foot Dimensions (mm)						Shaft (mm)				Flange Dimensions		Weight (kg)							
	DNc	DNb	A	f	L	h1	h2	m1	m2	n1	n2	n3	s1	P	s2	W	d	l1		t	u	x**	k	MxZ	k1	M1xZ1
40-160	50	40	82	348	430	160	180	100	70	240	190	140	14	110	14	247	24	50	27	8	140	125	M16x4	110	18x4	50
50-160	65	50	100	350	450	160	180	100	70	270	212	160	14	110	14	270	24	50	27	8	140	145	M16x4	125	18x4	50
50-200	65	50	105	370	475	160	200	100	95	270	210	160	14	110	14	270	24	50	27	8	140	145	M16x4	125	18x4	60
65-200	80	65	108	372	480	180	225	125	95	330	255	190	14	110	14	260	24	50	27	8	140	160	M16x8	145	18x4	65
80-160	100	80	83	384	467	180	180	120	85	310	250	190	14	110	14	288	24	50	27	8	140	180	M16x8	160	18x8	60
80-200	100	80	83	488	571	180	220	125	90	350	280	215	18	110	14	358	32	80	35	10	140	180	M16x8	160	18x8	70
80-315	100	80	55	480	535	250	310	125	95	400	315	240	18	110	14	350	32	80	35	10	140	180	M16x8	160	18x8	75
100-240	125	100	82	492	574	225	250	160	110	370	280	205	20	110	14	357	32	80	35	10	140	210	M16x8	180	18x8	100
100-270	125	100	97	500	597	275	310	160	110	430	345	270	20	110	14	371	32	80	35	10	140	210	M16x8	180	18x8	110
100-315	125	100	97	500	597	275	310	160	110	430	345	270	20	110	14	371	32	80	35	10	140	210	M16x8	180	18x8	120
150-315	150	150	119	638	757	280	355	200	150	500	400	300	23	110	14	445	42	110	45	12	200	240	M20x8	240	23x8	170
150-500	150	150	126	782	908	425	600	250	200	720	600	435	28	140	20	562	55	110	59	16	200	240	M20x8	240	23x8	580
200-315	200	200	165	707	872	355	450	250	200	600	500	360	24	110	14	543	48	110	51	12	250	295	M20x8	295	23x8	315
200-400	200	200	142	757	899	380	530	250	200	600	500	360	24	140	20	536	55	110	59	16	250	295	M20x8	295	23x8	370
200-500	150	200	126	968	1094	425	600	300	240	720	580	435	28	140	20	700	70	140	74,5	20	170	240	M20x8	295	23x8	600
250-315	200	250	145	1003	1148	335	475	300	230	680	540	400	27	140	20	730	70	140	74,5	20	265	295	M20x12	350	23x12	430
300-400	300	300	201	974	1175	400	560	300	240	720	600	435	27	140	20	730	75	140	79,5	20	285	400	M20x12	400	23x12	675
300-500	300	300	201	974	1175	450	600	300	230	800	660	520	27	140	20	700	75	140	79,5	20	300	400	M20x12	400	23x12	750

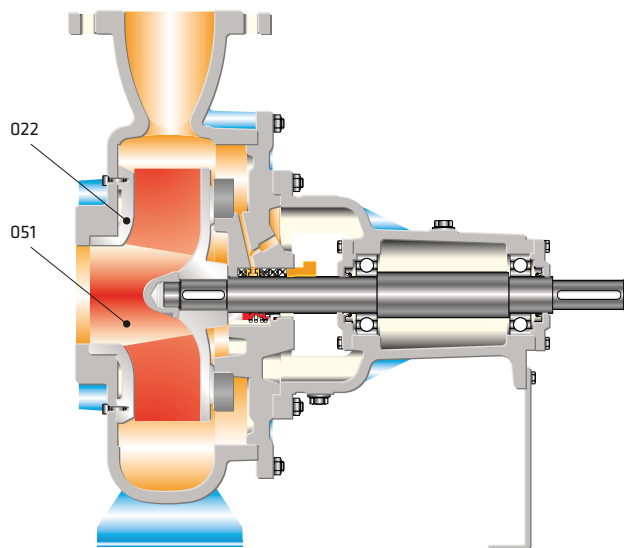
(\*) Dimensions may differ according to bearing housing type (normal, heavy duty etc). We have rights to make change with the dimensions.

(\*\*) Gap necessary for the withdrawal of the pump rotor from the driven end without the need for disconnecting the motor and pipework (spacer coupling application).

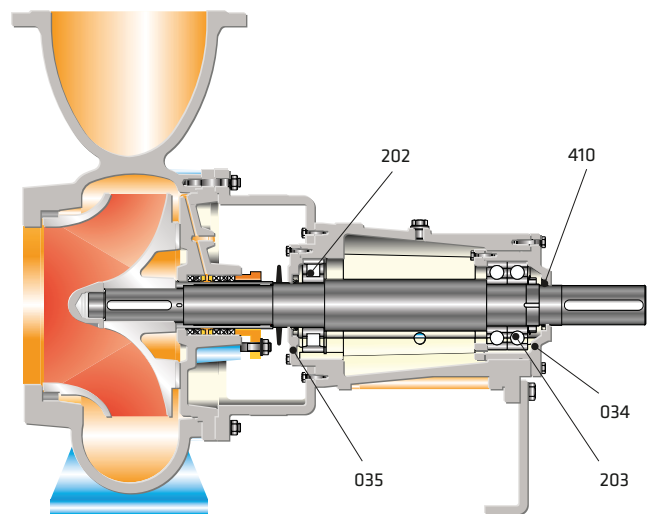
Horizontal Installation (PC)



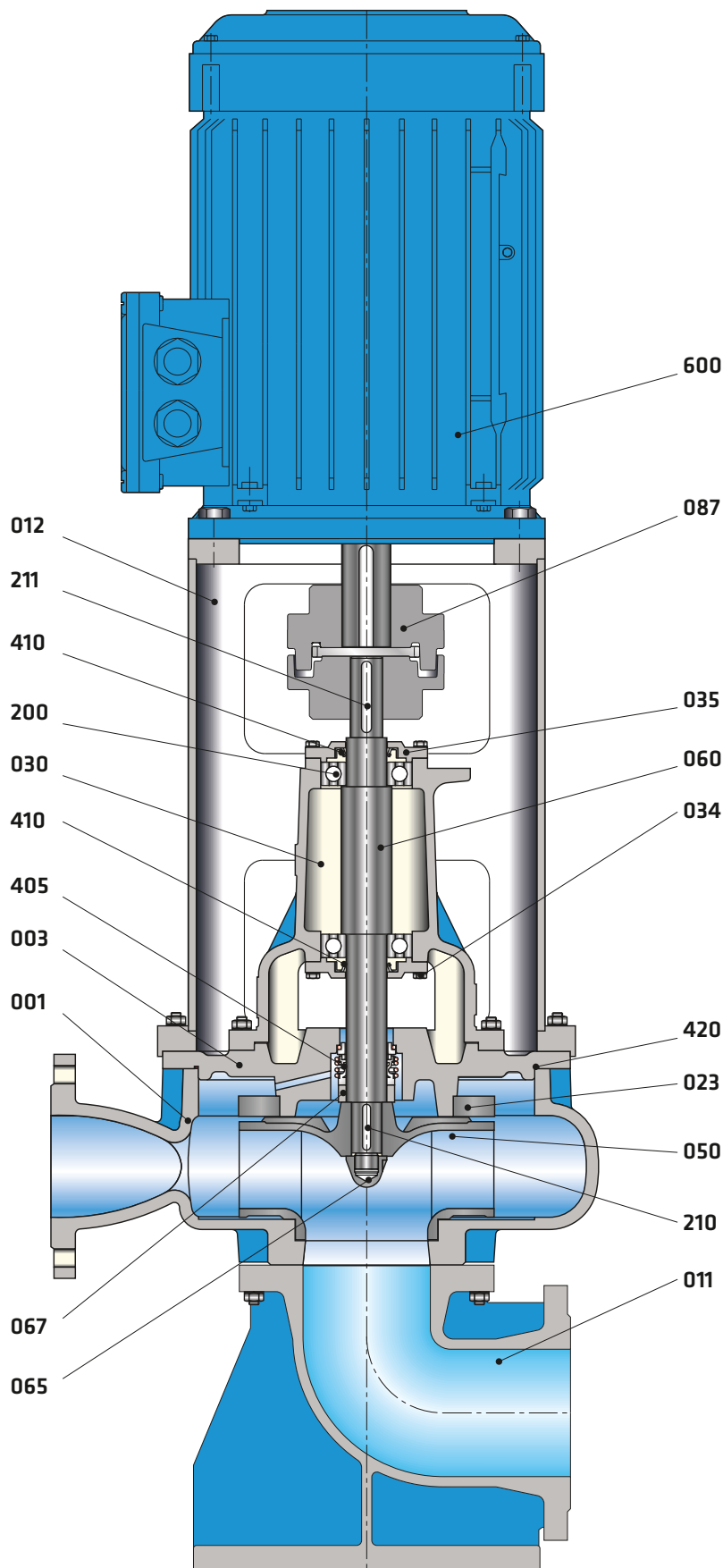
Semi-Open Impeller Application



Heavy Duty Type Bearing Application



Vertical Installation (PC-VM)



Part List

- 001 Volute Casing
- 003 Casing Cover
- 011 Elbow Foot
- 012 Motor Pedestal
- 022 Front Wear Plate
- 023 Back Wear Plate
- 030 Bearing Housing
- 034 Bearing Cover
- 035 Bearing Cover
- 042 Gland
- 044 Lantern Ring
- 050 Impeller
- 051 Semi-open Impeller
- 060 Pump Shaft
- 065 Impeller Nut
- 067 Spacer Sleeve
- 087 Flexible Coupling
- 200 Ball Bearing
- 202 Roller Bearing
- 203 Angular Contact Ball Bearing
- 210 Impeller Key
- 211 Coupling Key
- 232 Oil Filling Plug
- 400 Soft Packing
- 405 Mechanical Seal
- 410 Lip Seal
- 420 O-Ring
- 600 Electric Motor

PART LIST	0.6025	0.7040	0.7043	1.0619	1.4308	1.4309	1.4408	1.4409	1.4500	1.4517	1.4469	1.4317	1.4008	2.1050.01	2.0975.01	2.1096.01	1.0503	1.4021	1.4021+QT	1.4301	1.4404	1.4460	1.4462	
Volute Casing	●	○	○	○	○	○	○	○	○	○	○	○	○	○										
Casing Cover	●	○	○	○	○	○	○	○	○	○	○	○	○	○										
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○							○	
Shaft																	●	○	○	○	○	○		○
Bearing Housing	●	○	○	○	○	○	○	○																
Front Wear Plate	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
Back Wear Plate	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
Spacer Sleeve																	●	○	○	○	○			○
Mechanical Seal (*)	EN 12756																							

(\*) Optional :Depending on customer requirement or request different types and brands of mechanical seals are applicable.

● Standard manufacturing  
○ Optional

### Material Equivalents

Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Cast Steel (low carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Cast Steel (low carbon)	1.4409	GX2CrNiMo19-11-2	A351 CF3M
Austenitic Cast Steel	1.4500	GX7NiCrMoCuNb25-20	A351 CN7M
Austenitic - Ferritic Cast Steel (duplex)	1.4517	GX2CrNiMoCuN25-6-3-3	A890 CD4MCuN
Austenitic - Ferritic Cast Steel (super duplex)	1.4469	GX2CrNiMoN26-7-4	A890 CE3MN
Martenzitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martenzitic Stainless Cast Steel	1.4008	GX7CrNiMo12-1	A217 CA15
Cast Bronze (tin alloy)	2.1050.01	G-CuSn10	B427 C90700
Cast Bronze (nickel alloy)	2.0975.01	G-CuAl10Ni	B148 C95500
Cast Bronze (lead)	2.1096.01	G-CuSn5ZnPb	B584 C83600
Carbon Steel	1.0503	C45	AISI 1045
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel (heat treated)	1.4021	X20Cr13	A276 Type 420+QT
Chrome Nickel Steel	1.4301	X5CrNi18-10	A276 Type 304
Chrome Nickel Steel (low carbon)	1.4404	X2CrNiMo17-12-2	A276 Type 316L
Duplex (austenitic-ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (austenitic-ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205

### Flange Dimensions

DNe/DNb	Suction & Discharge (PN 10)			
	Df	k	s	n
40	150	110	19	4
50	165	125	19	4
65	185	145	19	4
80	200	160	19	8
100	220	180	19	8
125	250	210	19	8
150	285	240	23	8
200	340	295	23	8
250	395	350	23	12
300	445	400	23	12

EN 1092 - 2

" n " number of holes



**IMPPUMPS**<sup>®</sup>  
Intelligent Motor Pumps

## PC - V

**WASTE WATER AND  
PROCESS PUMPS  
(SUMP DESIGN)**



### Handled Liquids

Domestic and industrial waste water, raw sewage, viscous and corrosive liquids, liquids with fibrous and solid substances.

### Technical Data

Discharge Flange \_\_\_\_\_ DN 40....DN 300 mm

Capacity \_\_\_\_\_ up to 1600 m<sup>3</sup>/h

Head \_\_\_\_\_ up to 95 m

Speed \_\_\_\_\_ up to 1450 rpm

Operating Temperature \_\_\_\_\_ up to +95 °C

Casing Pressure (Pmax) \_\_\_\_\_ 10 bar

### Design Features

- Vertical, wide volute casing, single stage, end suction, centrifugal pumps with enclosed, semi-open or vortex type impeller.
- Up to 4 m. column length.
- Discharge pipe is extended up to base plate for easy installation.
- Closed, semi-open or free vortex type impeller design.
- Discharge flanges conform to EN 1092-2 / PN 10. (EN 1092-1 / PN 10 for steel or stainless steel casing)

### Pump Designation

Pump Type \_\_\_\_\_  
 Discharge Nozzle (DN-mm) \_\_\_\_\_  
 Nominal Impeller Diameter (mm) \_\_\_\_\_  
 Impeller Type \_\_\_\_\_

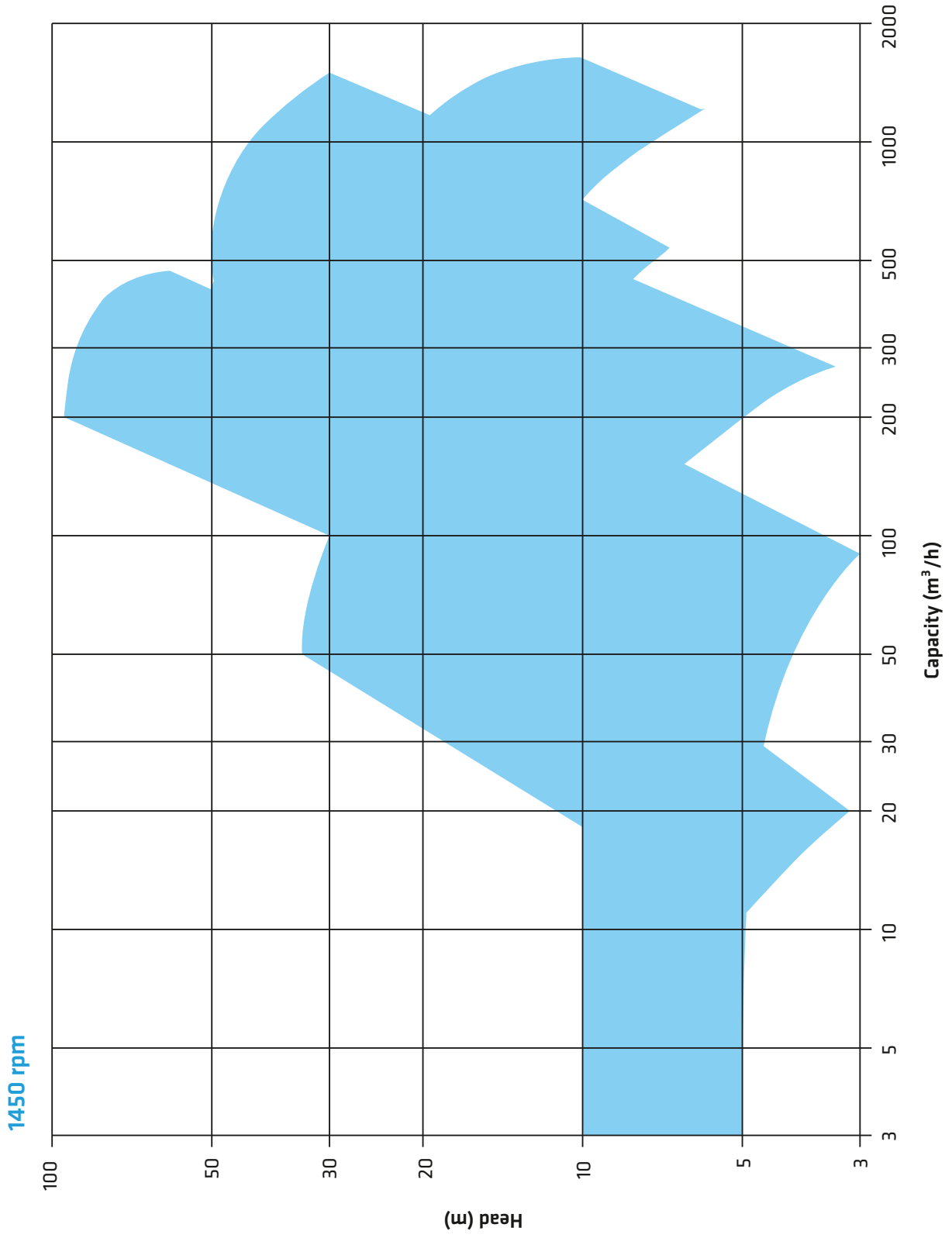


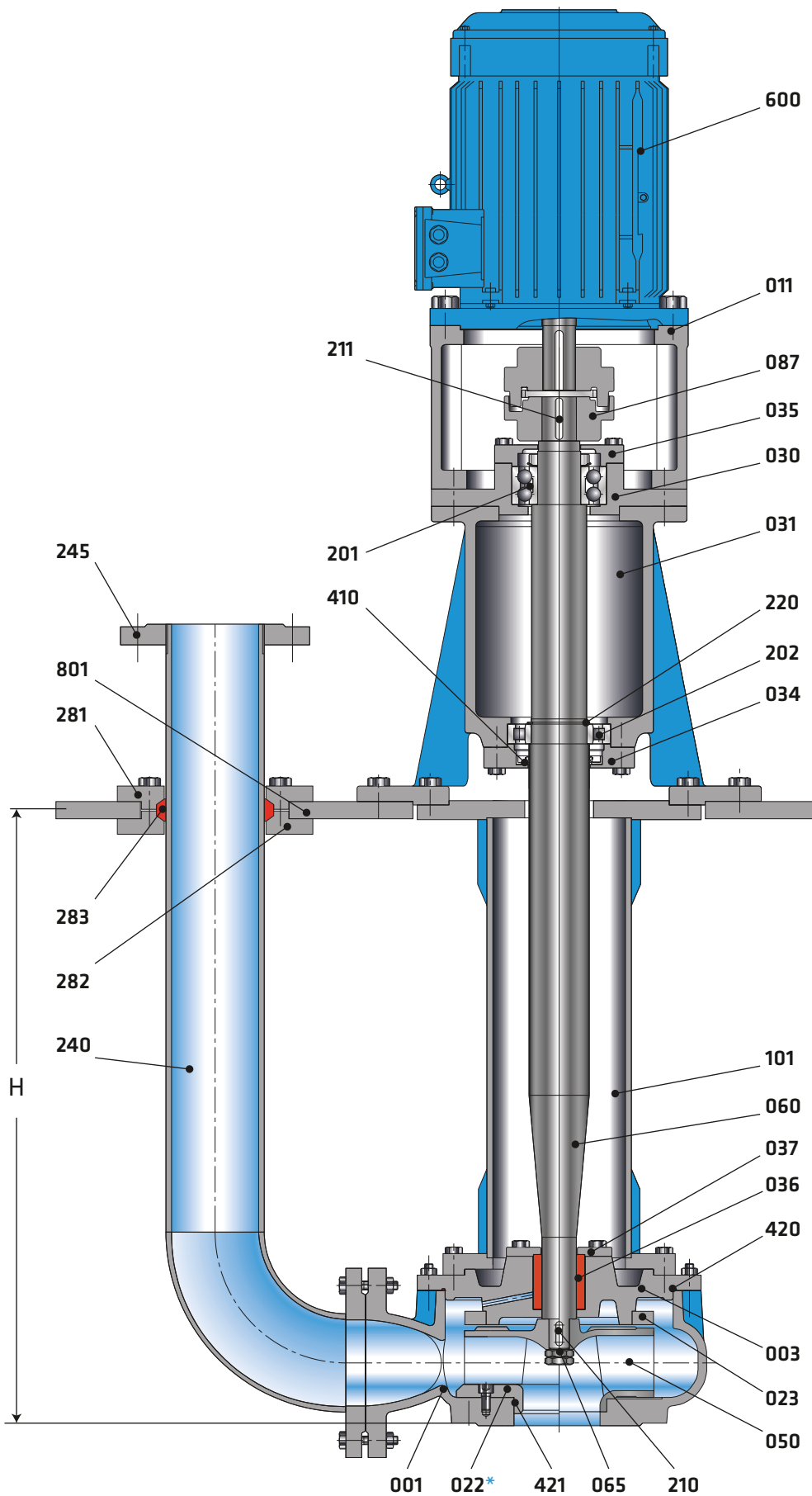
- All impellers are dynamically or statically balanced according to ISO 1940 Class 6.3.
- Axial thrust is balanced by impeller back ribs.
- Direction of rotation is clockwise viewed from drive end.
- Bearings of PC-V type pumps are grease lubricated. Bottom and internal sleeve bearings are lubricated by the pumping liquid. (different lubrication systems can be applied for the sleeve bearings in case of request or requirement. Contact for detailed information)

### Shaft Sealing

- No sealing is required.

## PC-V 250 - 315 AB





Part List

- 001 Volute Casing
- 003 Casing Cover
- 011 Motor Pedestal
- 023 Back Wear Plate
- \*022 Front Wear Ring
- 030 Bearing Housing (top)
- 031 Bearing Housing (bottom)
- 034 Bearing Cover (bottom)
- 035 Bearing Cover (top)
- 036 Sleeve Bearing
- 037 Sleeve Bearing Cover
- 050 Impeller
- 060 Shaft
- 065 Impeller Nut
- 087 Flexible Coupling
- 101 Column Pipe
- 201 Double Row Ball Bearing
- 202 Cylindrical Roller Bearing
- 210 Impeller Key
- 211 Coupling Key
- 220 Circlip
- 240 Discharge Pipe
- 245 Discharge Flange
- 281 Top Fixing Flange
- 282 Bottom Fixing Flange
- 283 Rubber Gasket
- 410 Oil Seal
- 420 O-Ring
- 421 O-Ring
- 600 Electric Motor
- 801 Base Plate

(\* ) Optional

PART LIST	0.6025	0.7040	1.0619	1.4308	1.4309	1.4408	1.4409	1.4500	1.4517	1.4469	1.4317	1.4008	2.1050.01	2.0975.01	2.1096.01	1.0037	1.0503	1.4021	1.4021+QT	1.4301	1.4404	1.4460	1.4462	Tungsten Carbide	
	Volute Casing	●	○	○	○	○	○	○	○	○	○	○	○	○											
Casing Cover	●	○	○	○	○	○	○	○	○	○	○	○	○												
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○								○		
Shaft																	●	○	○	○	○			○	
Bearing Housing	●	○	○	○	○	○	○																		
Column Pipe																●				○	○				
Front Wear Plate	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○										
Back Wear Plate	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○										
Sleeve Bearing													●												○

● Standard manufacturing  
○ Optional

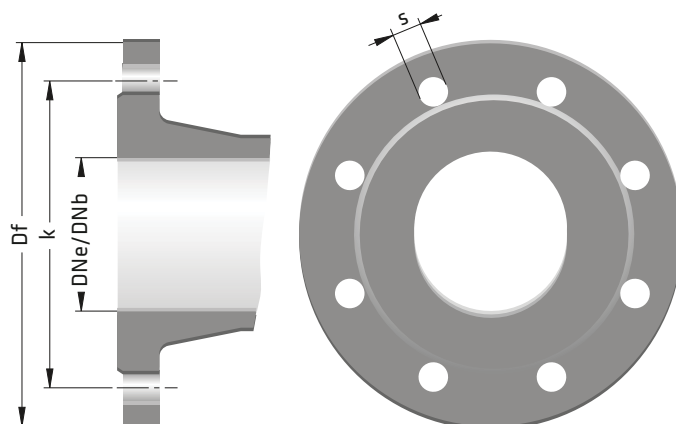
## Material Equivalents

Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Cast Steel (low carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Cast Steel (low carbon)	1.4409	GX2CrNiMo19-11-2	A351 CF3M
Austenitic Cast Steel	1.4500	GX7NiCrMoCuNb25-20	A351 CN7M
Austenitic - Ferritic Cast Steel (duplex)	1.4517	GX2CrNiMoCuN25-6-3-3	A890 CD4MCuN
Austenitic - Ferritic Cast Steel (super duplex)	1.4469	GX2CrNiMoN26-7-4	A890 CE3MN
Martenzitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martenzitic Stainless Cast Steel	1.4008	GX7CrNiMo12-1	A217 CA15
Cast Bronze (tin alloy)	2.1050.01	G-CuSn10	B427 C90700
Cast Bronze (nickel alloy)	2.0975.01	G-CuAl10Ni	B148 C95500
Cast Bronze (lead)	2.1096.01	G-CuSn5ZnPb	B584 C83600
Steel	1.0037	St37	A 29 1015
Carbon Steel	1.0503	C45	AISI 1045
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel (heat treated)	1.4021	X20Cr13	A276 Type 420+QT
Chrome Nickel Steel	1.4301	X5CrNi18-10	A276 Type 304
Chrome Nickel Steel (low carbon)	1.4404	X2CrNiMo17-12-2	A276 Type 316L
Duplex (austenitic-ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (austenitic-ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205

## Flange Dimensions

DNe/DNb	Suction & Discharge (PN 10)			
	Df	k	s	n
40	150	110	19	4
50	165	125	19	4
65	185	145	19	4
80	200	160	19	8
100	220	180	19	8
125	250	210	19	8
150	285	240	23	8
200	340	295	23	8
250	395	350	23	12
300	445	400	23	12

"n" number of holes





**IMPPUMPS**<sup>®</sup>  
Intelligent Motor Pumps

**C**

## SUBMERSIBLE SEWAGE PUMPS

### Handled Liquids

Domestic and industrial waste water, raw sewage, liquids with fibrous and solid substances.

### Technical Data

Discharge Flange \_\_\_\_\_ DN 50.....DN 300 mm

Capacity \_\_\_\_\_ up to 1600 m<sup>3</sup>/h

Head \_\_\_\_\_ up to 95 m

Speed \_\_\_\_\_ up to 2900 rpm

Operating Temperature \_\_\_\_\_ up to +40 °C

Casing Pressure (Pmax) \_\_\_\_\_ 10 bar

### Design Features

- Vertical, wide volute casing, single stage, end suction submersible type centrifugal pump with enclosed, semi-open or vortex types impeller.

- 20 basic sizes covering wide range of operational area.

- Electric motor isolation class is IP 68.

### Pump Designation

Pump Type \_\_\_\_\_

Discharge Nozzle (DN-mm) \_\_\_\_\_

Impeller Nominal Diameter (mm) \_\_\_\_\_

Impeller Type \_\_\_\_\_

**C 100 - 240 B**



- Discharge flanges conform to EN 1092-2 / PN 10. (EN 1092-1 / PN 10 for steel or stainless steel casing)

- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.

- Axial thrust is balanced by impeller back ribs.

- In case of request motor cooling jacket is also applicable (for pumps bigger than 12 HP)

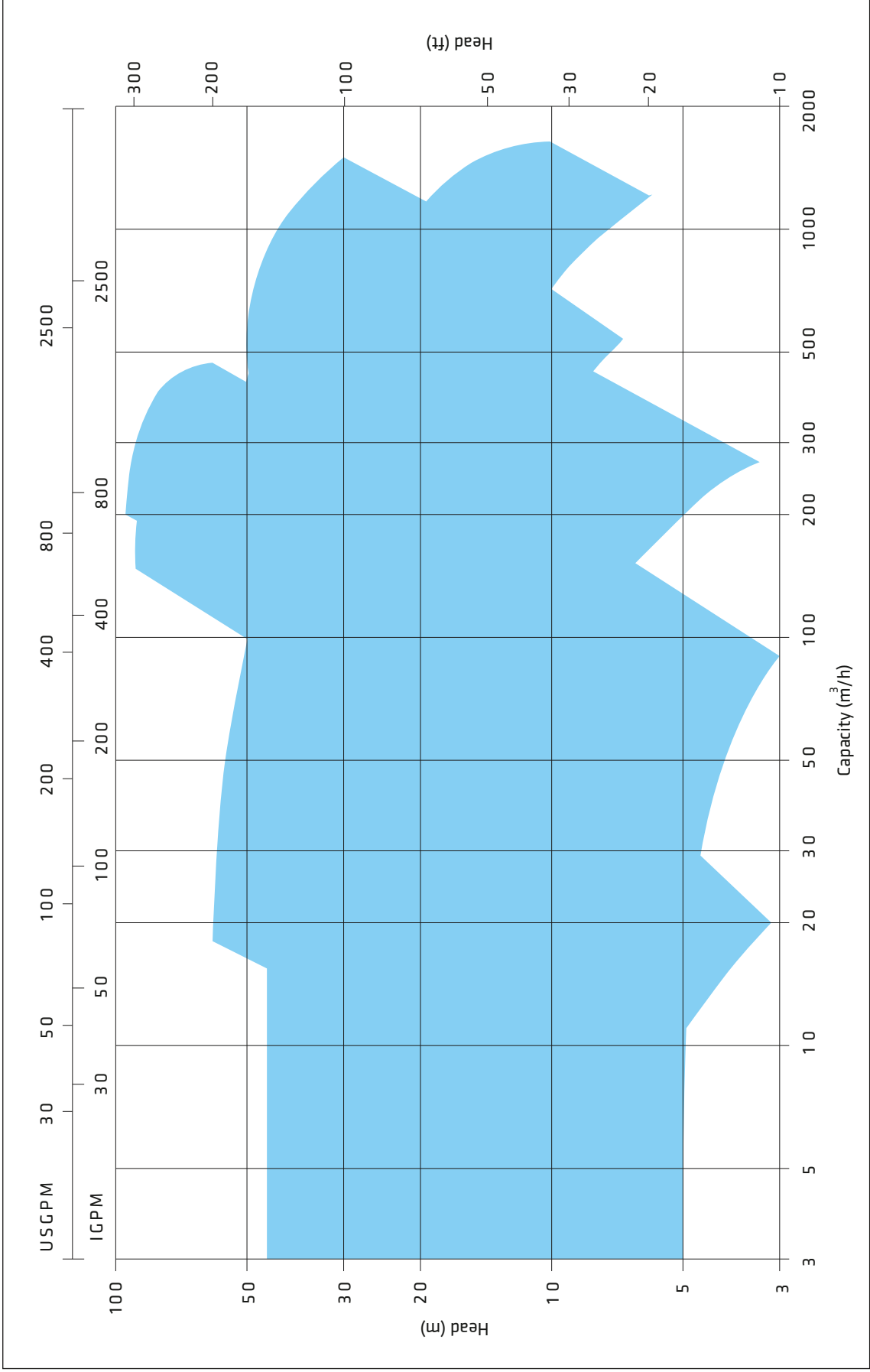
- Bearings of C type pumps are "life time grease lubricated" ball bearings.

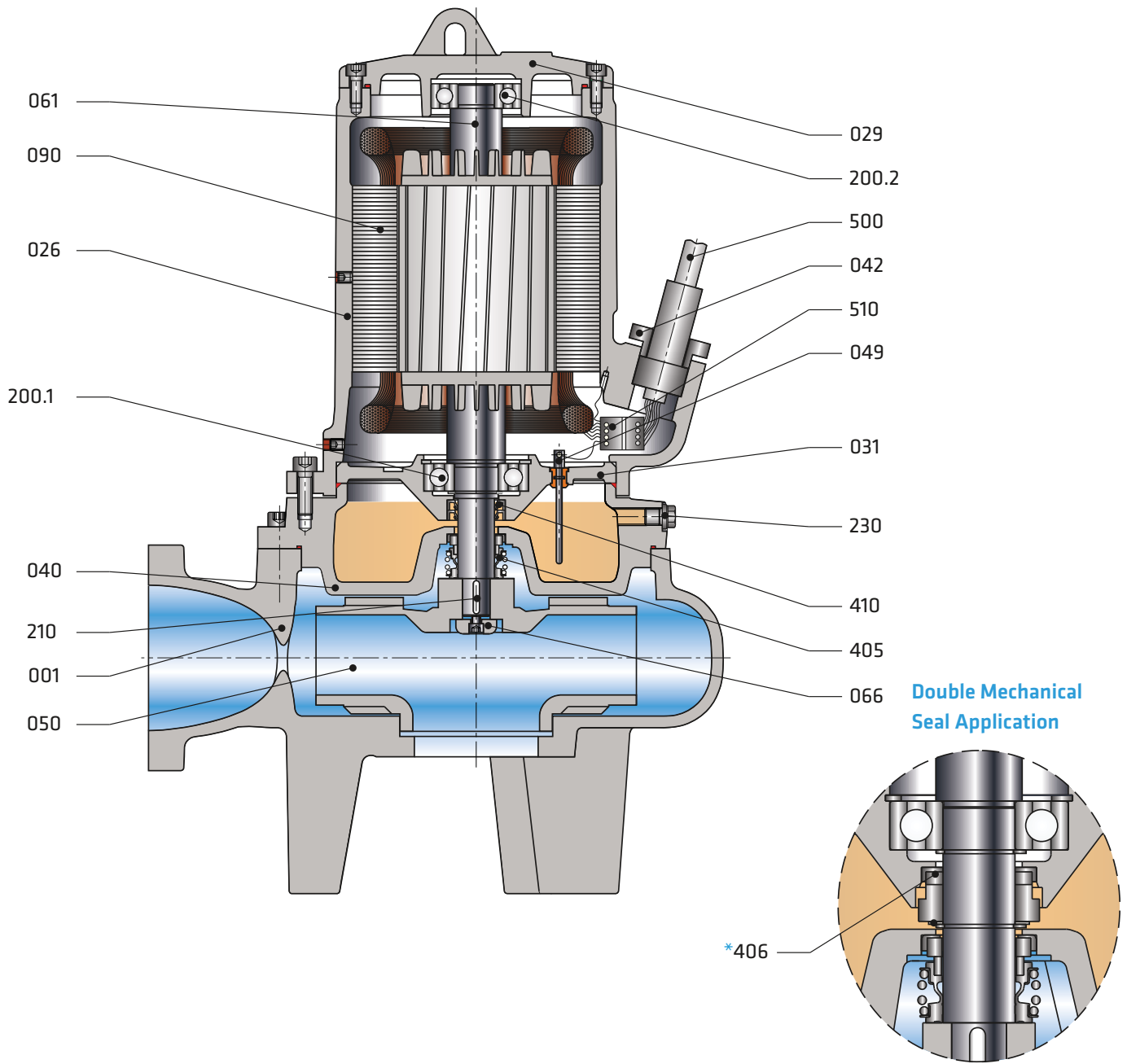
### Shaft Sealing

- For pumps bigger than 12 HP, always double mechanical seal is applied while for pumps up to 12 HP, single mechanical seal is applied as standard.

- In case of request, double mechanical seal can also be applied for pumps up to 12HP.

# Field Chart



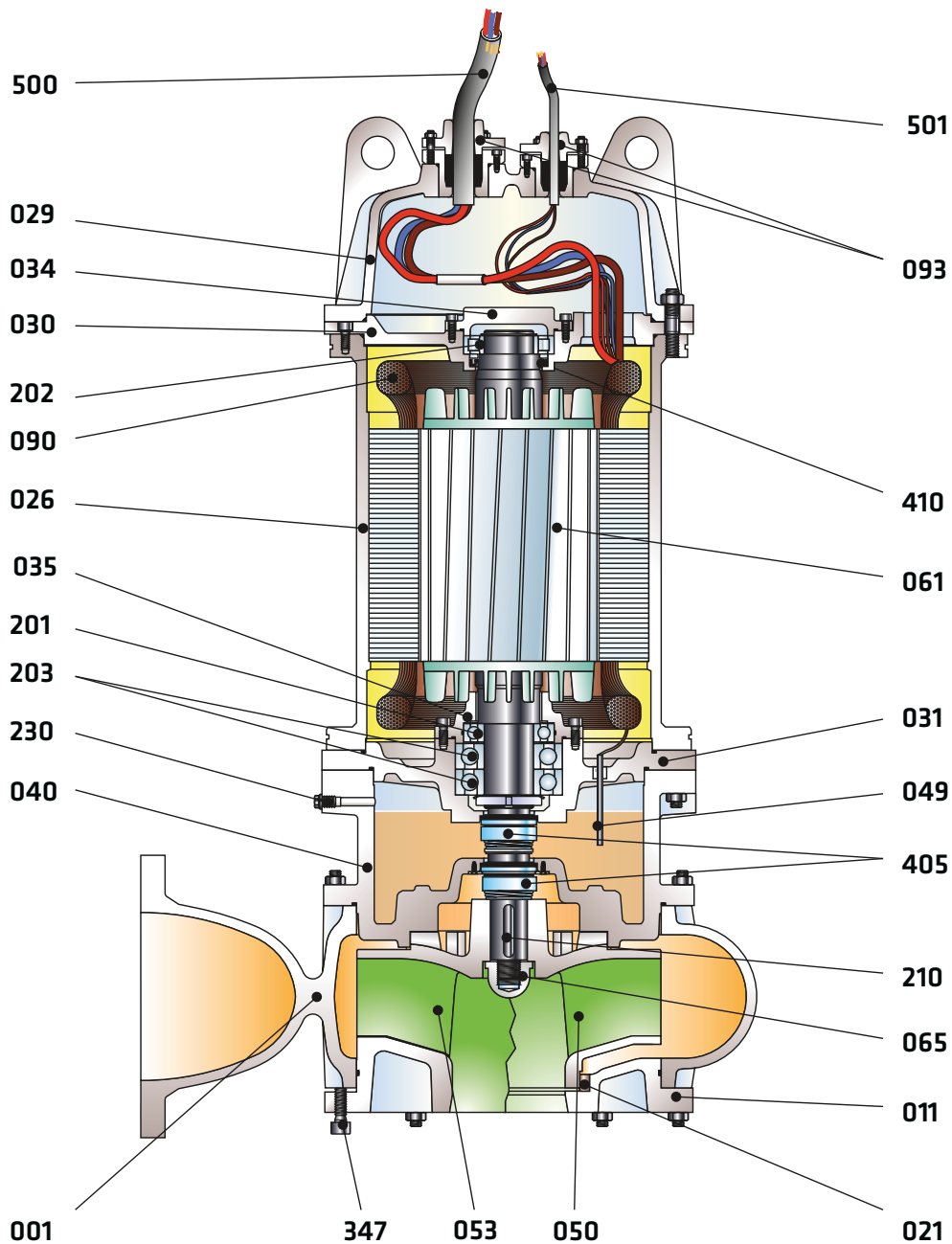


Part List

001	Volute Casing	090	Stator
026	Motor Casing	200.1	Bottom Bearing
029	Top Cover	200.2	Top Bearing
031	Bearing Housing	210	Impeller Key
040	Oil Chamber	230	Oil Plug
042	Gland	405	Mechanical Seal
049	Water Leakage Electrode	*406	Mechanical Seal
050	Impeller	410	Oil Seal
061	Rotor Shaft	500	Energy and Control Cable with Plug
066	Impeller Nut	510	Socket

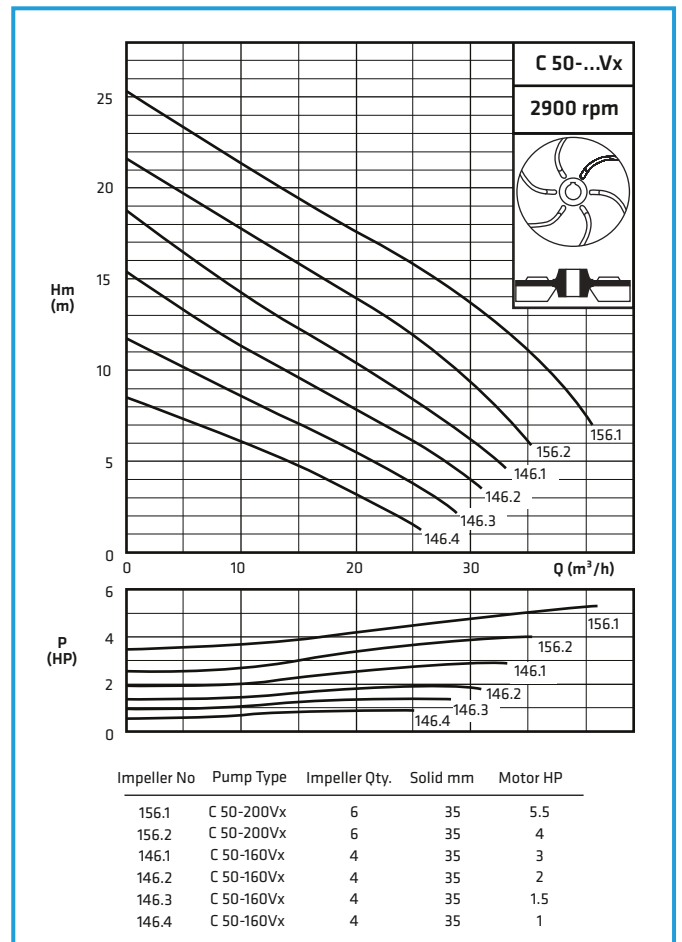
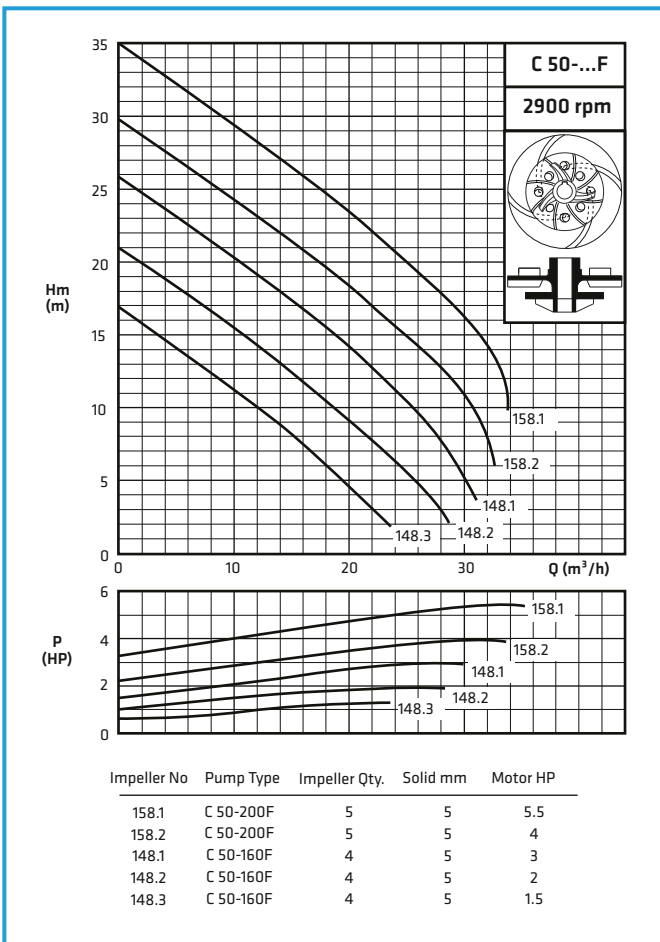
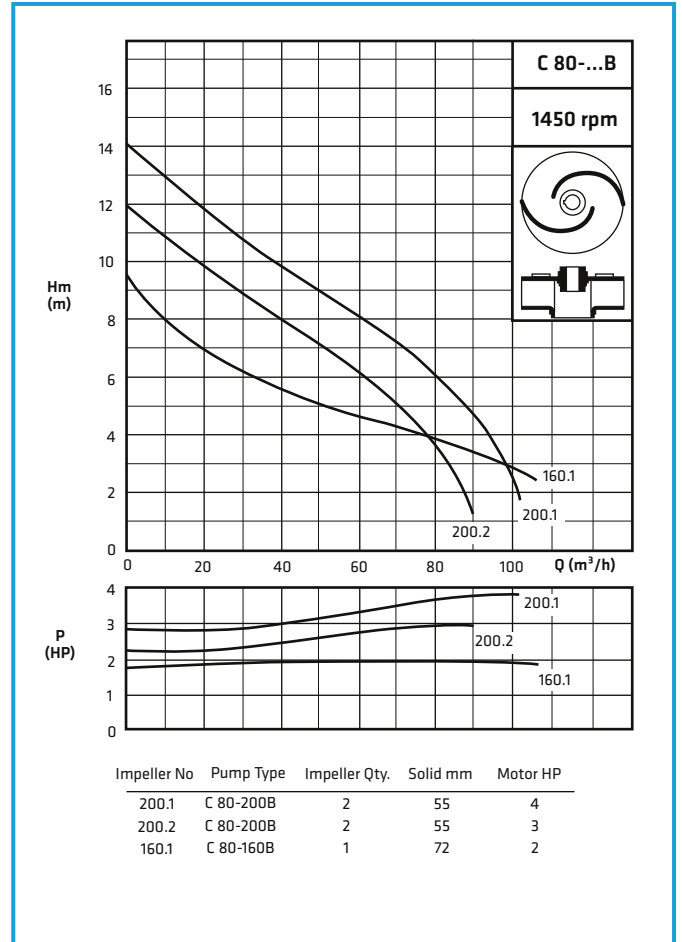
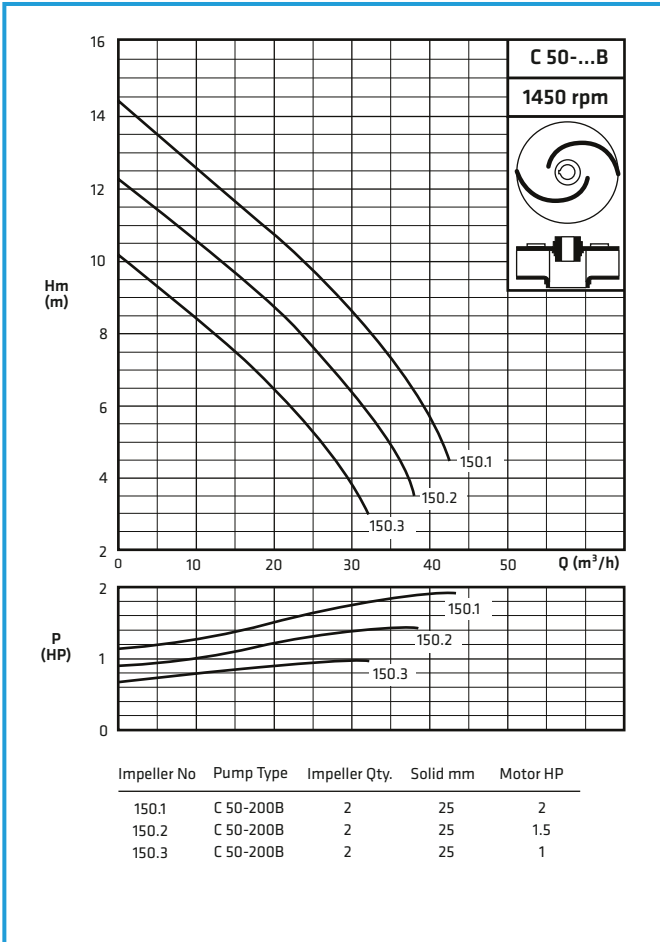
\* Optional

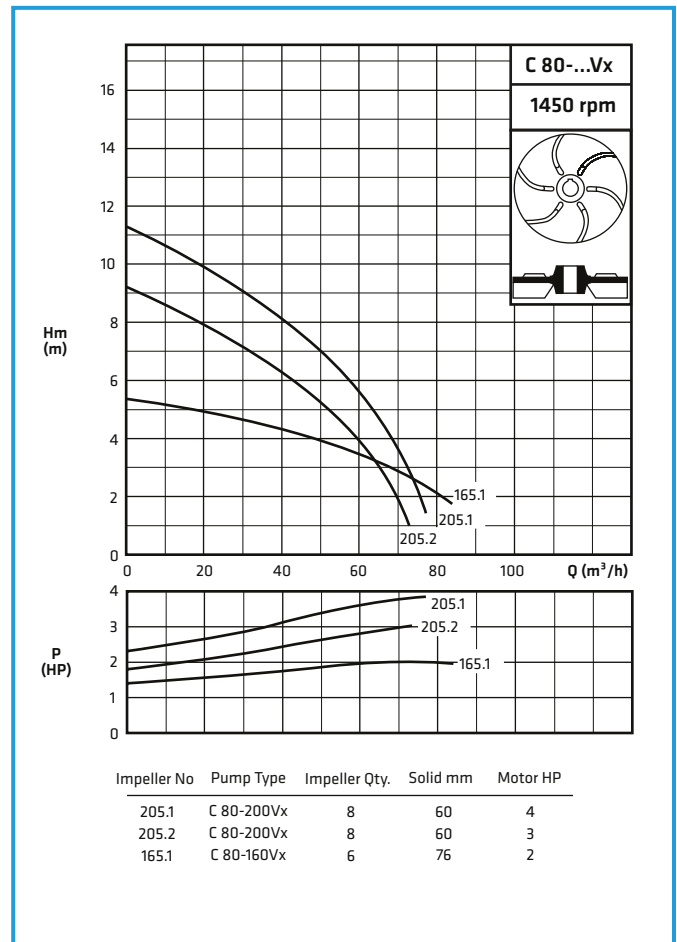
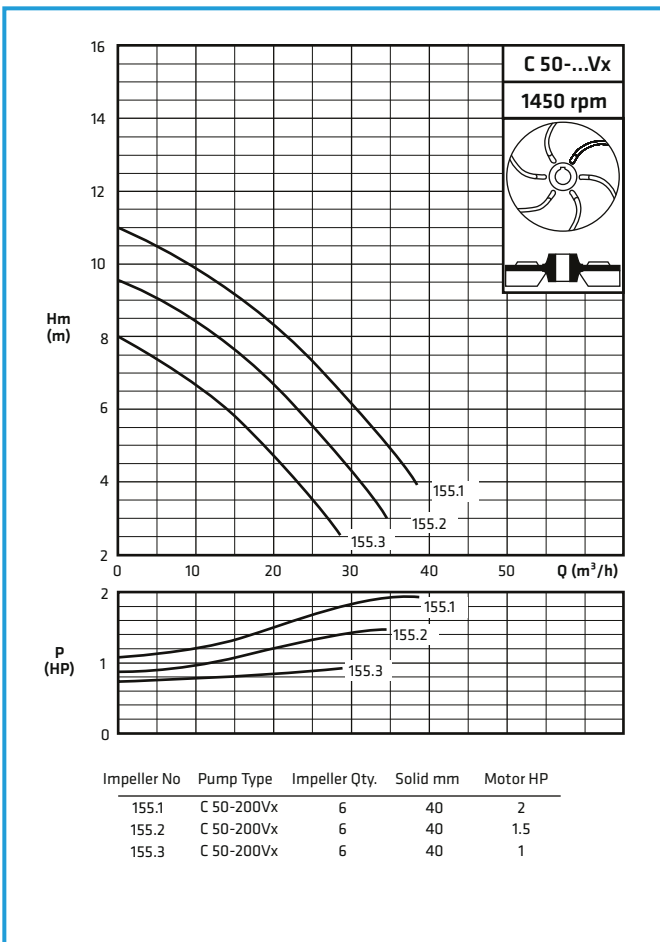
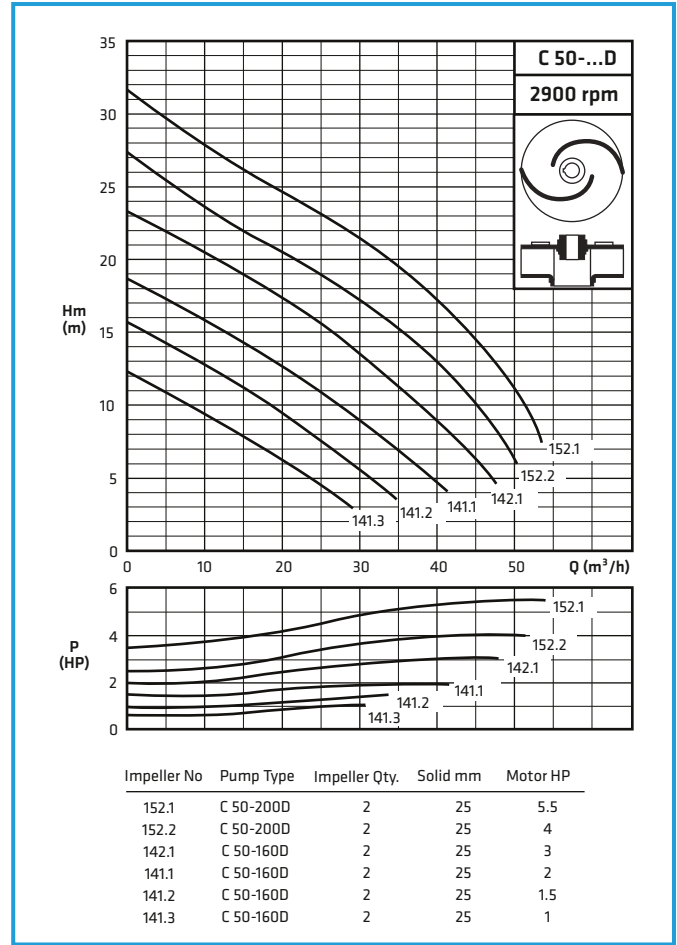
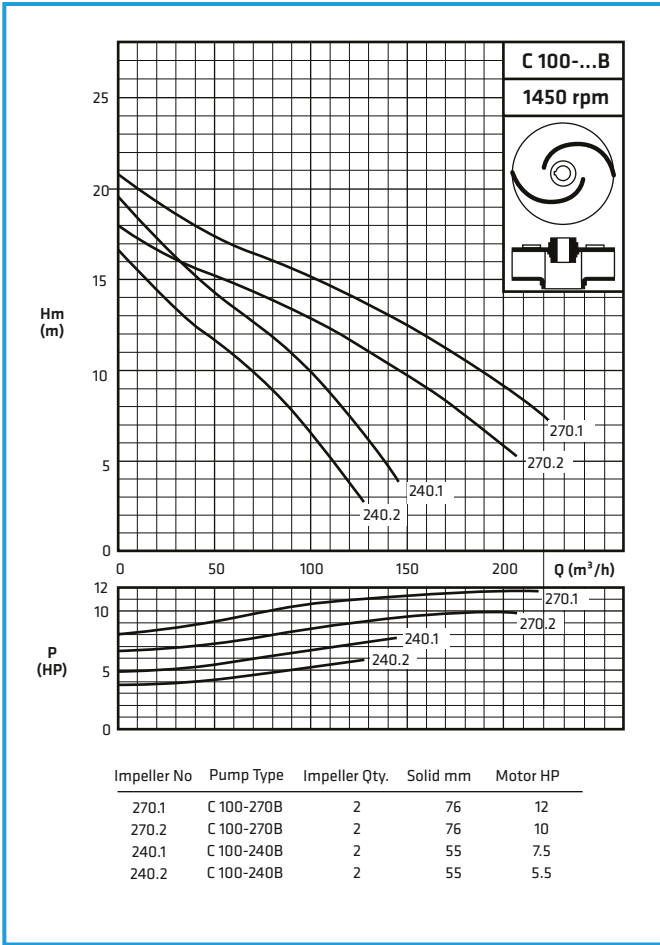
## Sectional Drawing (bigger than 12 HP)



### Part List

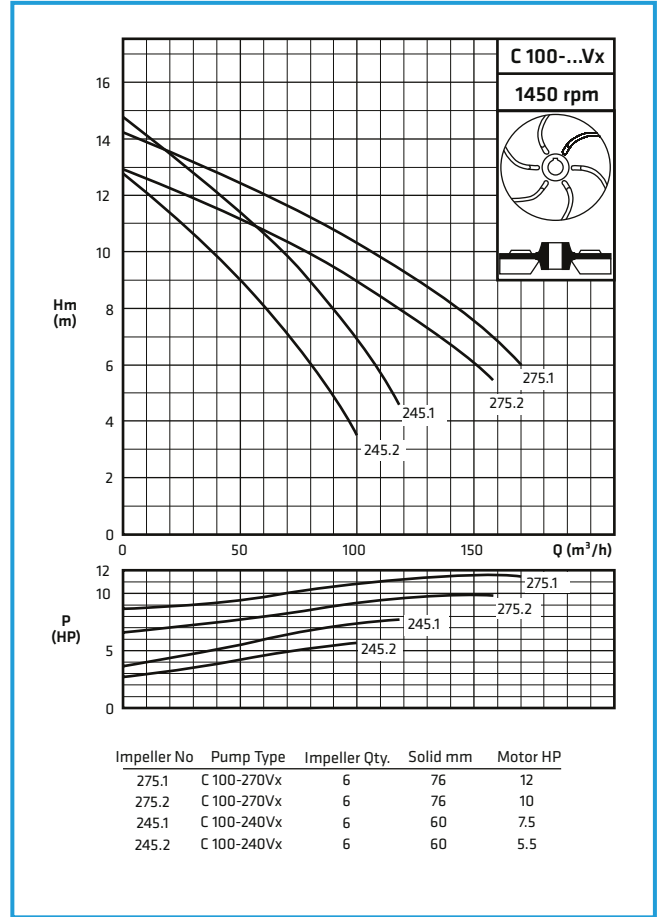
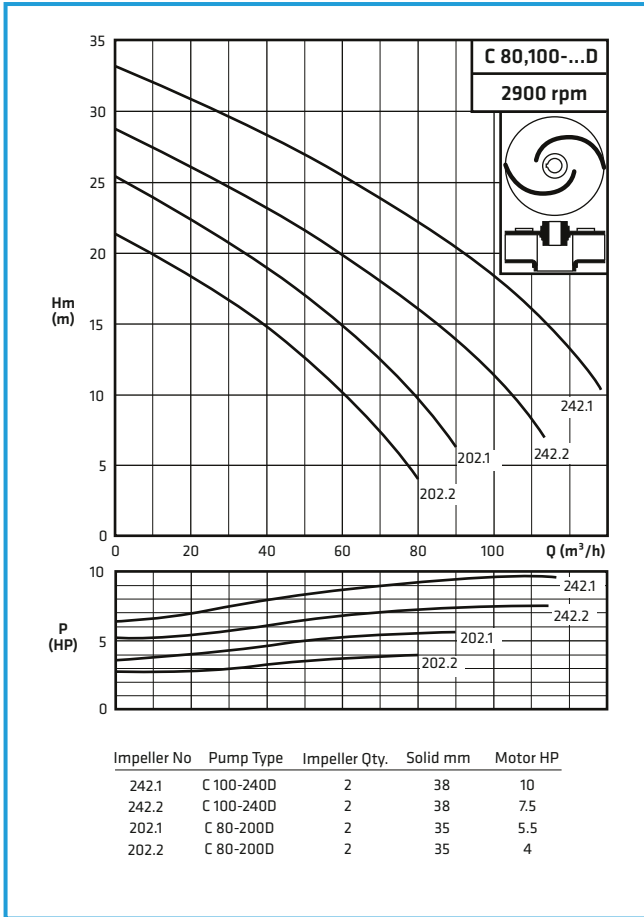
001	Volute Casing	040	Oil Chamber	202	Bottom Bearing
011	Bottom Cover	049	Water Leakage Electrode	203	Angular Contact Ball Bearing
021	Wear Ring	050	Closed Impeller	210	Impeller Key
026	Motor Casing	053	Semi-open Impeller	230	Oil Plug
029	Top Cover	061	Rotor Shaft	347	Adjustment Bolt
030	Top Bearing Housing	065	Impeller Nut	405	Mechanical Seal
031	Bottom Bearing Housing	090	Stator	410	Oil Seal
034	Top Bearing Cover	093	Gasket Compress Cover	500	Energy Cable
035	Bottom Bearing Cover	201	Bottom Bearing	501	Control Cable





## Field Chart

C



## Material Options

PART LIST	0.6025	0.7040	1.0619	1.4308	1.4309	1.4408	1.4409	1.4517	1.4317	2.1050.01	2.0975.01	1.4021
Volute Casing	●	○	○	○	○	○	○	○	○	○		
Motor Casing	●	○		○	○	○						
Impeller	●	○	○	○	○	○	○	○	○	○	○	
Rotor Shaft												●
Oil Chamber	●	○										
Mechanical Seal	EN 12756 / DIN 24960											

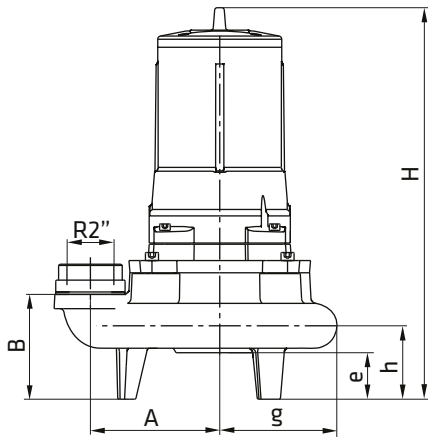
● Standard manufacturing  
○ Optional

## Material Equivalents

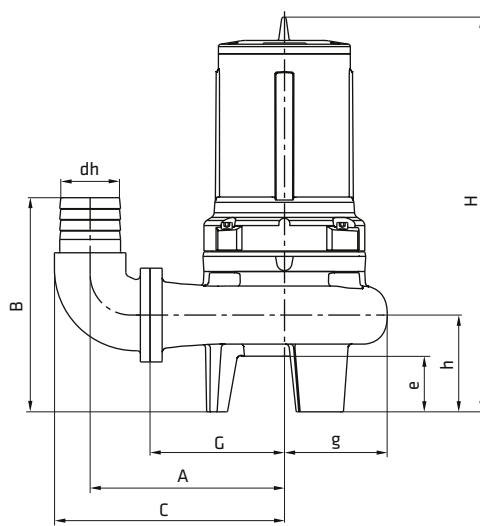
Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Cast Steel (low carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Cast Steel (low carbon)	1.4409	GX2CrNiMo19-11-2	A351 CF3M
Austenitic - Ferritic Cast Steel (duplex)	1.4517	GX2CrNiMoCuN25-6-3-3	A890 CD4MCuN
Martenzitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Cast Bronze (tin alloy)	2.1050.01	G-CuSn10	B427 C90700
Cast Bronze (nickel alloy)	2.0975.01	G-CuAl10Ni	B584 C83600
Chrome Steel	1.4021	X20Cr13	A276 Type 420

# Technical Data (up to 12 HP) According to TS 12599

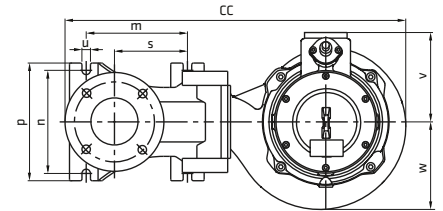
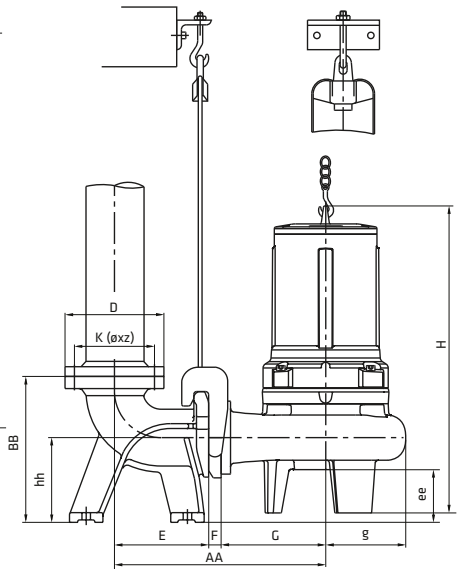
C



C 50 Hose Connection



C 80-100 Hose Connection



C 50-80-100 Auto Coupling Connection

Pump Type	Impeller Type	MOTOR			DISCHARGE		PUMP DIMENSIONS (mm)										Oil (ml)	Weight (kg)
		Power - HP	IEC No	2900	DN	R"	A	B	C	e	h	H	G	g	v	w		
50-160	Vx	-	1	80	50	2"	139	131	-	55	90	430	185	114	130	125	750	29
50-160	Vx	-	1,5	80	50	2"	139	131	-	55	90	430	185	114	130	125	750	34
50-160	Vx	-	2	90	50	2"	139	131	-	55	90	475	185	114	138	125	750	38
50-160	Vx	-	3	90	50	2"	139	131	-	55	90	475	185	114	138	125	750	41
50-160	D	-	1	80	50	2"	139	131	-	55	90	430	185	114	130	125	750	32
50-160	D	-	1,5	80	50	2"	139	131	-	55	90	430	185	114	130	125	750	34
50-160	D	-	2	90	50	2"	139	131	-	55	90	475	185	114	138	125	750	39
50-160	D	-	3	90	50	2"	139	131	-	55	90	475	185	114	138	125	750	41
50-160	F	-	1,5	80	50	2"	139	131	-	55	90	412	185	114	130	125	750	33
50-160	F	-	2	90	50	2"	139	131	-	55	90	457	185	114	138	125	750	38
50-160	F	-	3	90	50	2"	139	131	-	55	90	457	185	114	138	125	750	40
50-200	Vx	1	-	80	50	2"	160	129	-	57	90	438	205	144	130	152	750	41
50-200	Vx	1,5	-	90	50	2"	160	129	-	57	90	483	205	144	138	152	750	45
50-200	Vx	2	-	90	50	2"	160	129	-	57	90	483	205	144	138	152	750	47
50-200	Vx	-	4	100	50	2"	160	129	-	57	90	524	205	144	148	152	1000	54
50-200	Vx	-	5,5	112	50	2"	160	129	-	57	90	529	205	144	158	152	1000	59
50-200	B	1	-	80	50	2"	160	129	-	57	90	438	205	144	130	152	750	41
50-200	B	1,5	-	90	50	2"	160	129	-	57	90	483	205	144	138	152	750	46
50-200	B	2	-	90	50	2"	160	129	-	57	90	483	205	144	138	152	750	48
50-200	D	-	4	100	50	2"	160	129	-	57	90	524	205	144	148	152	1000	54
50-200	D	-	5,5	112	50	2"	160	129	-	57	90	529	205	144	158	152	1000	60
50-200	F	-	4	100	50	2"	160	129	-	57	90	496	205	144	138	152	1000	52
50-200	F	-	5,5	112	50	2"	160	129	-	57	90	501	205	144	135	152	1000	58
80-160	Vx	2	-	90	80	-	262	287	304	62	133	540	180	130	138	146	1000	58
80-160	B	2	-	90	80	-	262	287	304	62	133	540	180	130	138	146	1000	58
80-200	Vx	4	-	100	80	-	282	286	324	70	132	573	200	150	148	168	1000	62
80-200	Vx	3	-	100	80	-	282	286	324	70	132	573	200	150	148	168	1000	58
80-200	B	4	-	100	80	-	282	286	324	70	132	573	200	150	148	168	1000	64
80-200	B	3	-	100	80	-	282	286	324	70	132	573	200	150	148	168	1000	60
80-200	D	-	4	100	80	-	282	286	324	70	132	573	200	150	148	168	1000	59
80-200	D	-	5,5	112	80	-	282	286	324	70	132	578	200	150	158	168	1000	65
100-240	Vx	5,5	-	112	100	-	324	356	383	94	162	608	225	170	158	186	1000	80
100-240	Vx	7,5	-	132	100	-	324	356	383	94	162	657	225	170	190	186	2000	101
100-240	B	5,5	-	112	100	-	324	356	383	94	162	608	225	170	158	186	1000	82
100-240	B	7,5	-	132	100	-	324	356	383	94	162	657	225	170	190	186	2000	104
100-240	D	-	7,5	132	100	-	324	356	383	94	162	657	225	170	190	186	2000	94
100-240	D	-	10	132	100	-	324	356	383	94	162	657	225	170	190	186	2000	103
100-270	Vx	10	-	132	100	-	359	364	418	88	170	678	260	211	198	228	2000	123
100-270	Vx	12	-	132	100	-	359	364	418	88	170	678	260	211	198	228	2500	123
100-270	B	10	-	132	100	-	359	364	418	88	170	678	260	211	198	228	2500	126
100-270	B	12	-	132	100	-	359	364	418	88	170	678	260	211	198	228	2500	126

## Impeller Type

C

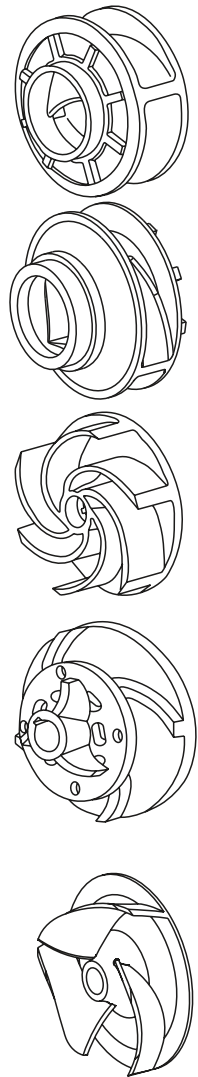
**B Type Impeller:** Enclosed type impellers with wide channels capable of pumping large size solid particles without clogging, for big capacity and low pressure. It is mainly used for 4 pole motors.

**D Type Impeller:** It is also enclosed type like B type but suitable for high speed motors (2 pole). It is convenient for high pressure, small capacity and smaller size solid particles.

**VX Type Impeller:** Semi-open free vortex type impeller is placed on top of the volute. It creates a forced vortex motion in the casing. It is mostly suitable for fibrous materials. They are suitable for low head applications but pump efficiency is lower compare to other impeller types. The increased clearances limit the head that can be generated and reduce the attainable efficiency. Recessed type impellers are also possible for some models. With this type of design solid particles up to pump flanges size can pass through the pump. Please ask for more information.

**F Type Impeller:** Semi-open type impeller with cutter. The cutting system is placed in front of the impeller and it breaks up the solid particles into smaller sizes that makes passing possible through the smaller pipes without sticking. F type impeller is suitable for small capacity, high pressure, but the pump efficiency is also low.

**AB Type Impeller:** Semi-open type impellers with wide channels capable of pumping large size solid particles without clogging, for big capacity and low pressure. It is more suitable for 4 pole motors. Designed for aggressive applications. Impeller works against a wear plate. Clearance between the wear plate and impeller blades is between 0.25 - 0.40 mm.



1 - Temperature SENSOR (130°C) in F class winding head protection for overheating.

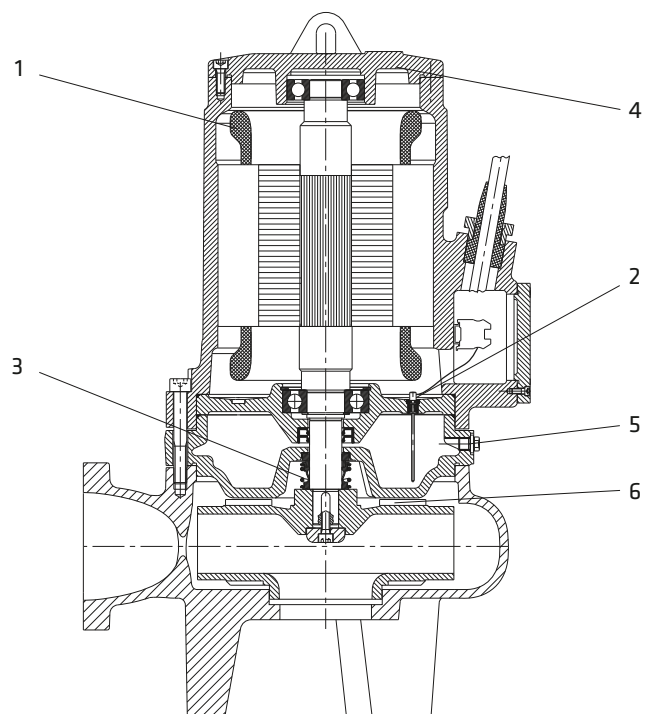
2 - Signaling ELECTRODE in case of leakage into the motor or into the oil chamber.

3 - Mechanical seal running in pumping liquid.

4 - Demountable TOP COVER for easy motor winding.

5 - Oil filling and inspection PLUG.

6 - BACK VANES for reducing axial load and sealing pressure.



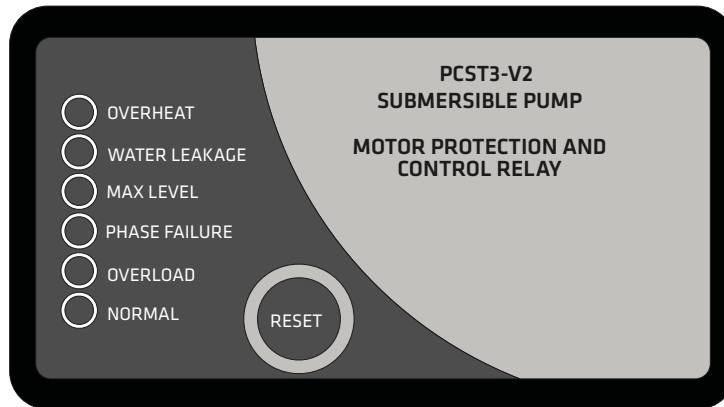
## PCST3-V2 MOTOR PROTECTION AND CONTROL RELAY

C

Standard PCST3-V2 Motor Protection and Control Relay is an indispensable part of Standard C type pumps. It is supplied with the pump and it shall be used to secure smooth operation of motor and the pump.

### FUNCTION:

When the device is switched on, all indicator lights blink in order and the control unit makes a self-check. If there is not any failure, NORMAL indicator light switches on in green indicating it is ready to run the motor.



### OVER HEAT

In case of overheating of motor windings, in which the temperature exceeds 130°C, the red indicator light switches on and the relay shuts down the motor. Indicator light blinks in short periods at alarming position. When motor has cooled down, relay restarts the motor while alarming goes on until the RESET button is pressed. Pressing the RESET button disables the alarm relay and indicator light stops blinking.

### WATER LEAKAGE

In case of water leakage into the motor casing or oil chamber, red indicator light switches on and the relay shuts down the motor. Alarm relay becomes activated and until the RESET button is pressed, alarming goes on by blinking of red indicator light in short periods. When this failure occurs, the pump needs to be overhauled.

### MAX LEVEL

When water level reaches the maximum level, which is set by the user, float switch sends on alarm signal and yellow indicator light starts blinking. This alarm does not affect the current state (run or stop) of the pump. Pressing the RESET button disables the alarm relay and indicator light stops blinking.

### PHASE FAILURE

An external phase protection relay, mounted in the control panel, is connected to PCST3-V2 for checking phase sequence and phase failures. When there is a failure in mains voltage or in phase sequence, the motor is shut down by the relay and red indicator light starts blinking. By the time the failure is fixed, the motor restarts automatically while alarming goes on until the RESET button is pressed.

### OVERLOAD

The relay shuts down the motor, if the current overload limit is exceeded. Meanwhile, alarm relay becomes activated and red indicator light starts blinking. As the failure is fixed, pressing the RESET button will disable the overload and the alarm relay, so the system turns back to normal conditions.

### NORMAL

By the time all red indicator lights on PCST3-V2 switch off, green indicator light switches on, meaning that it is ready to run the motor. In case of failure, green indicator light switches off and the relay shuts down the motor.

PCST3-V2 is an indispensable part of Standard C type pumps. If it is damaged, do not try to operate the motor without it.

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