



Euphoria[®]

Pump • Fire Fighting Units • Booster Set

PRODUCT CATALOGUE

03.2024 / Rev.5

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Pump • Fire Fighting Units • Booster Set

PUMPS

Pump • Fire Fighting Units • Booster Set

ECO SNT EN 733 NORM PUMPS



ECO SNT Rev.05.03.2024

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 1200 m³/h(*)

Head _____ up to 160 m(*)

Speed _____ up to 3600 rpm(*)

Design 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.

- Complies EU547/2012 regulations.

- In addition to 29 basic sizes conforming with EN 733, there are 17 additional sizes. Dimensions of additional sizes may differ from other suppliers.

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____

Special Application _____



- ECO SNT 40-315, 50-315, 65-315, 80-315, 100-315, 125-250 pumps are given with 3000 rpm only for fire fighting application.

- Suction and discharge flanges conform to EN 1092-2 / 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 piping 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 ECO SNT type pumps are normally non-maintenance, "life time grease lubricated" ball bearings. In case of demand, oil lubrication or re-greasable bearing can be supplied.

- Oil lubrication bearings are used in pumps with 65 mm shaft end

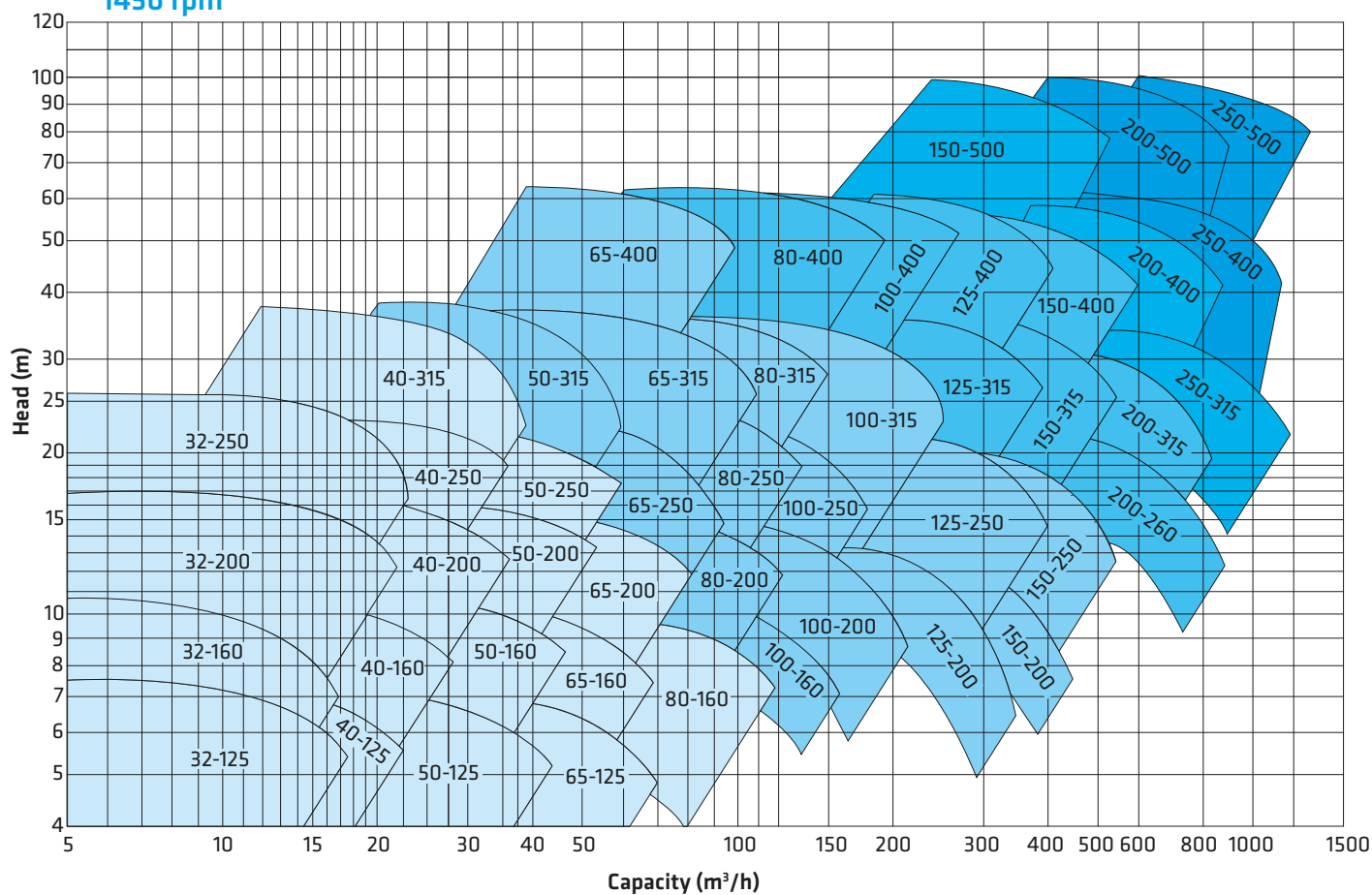
Shaft Sealing

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

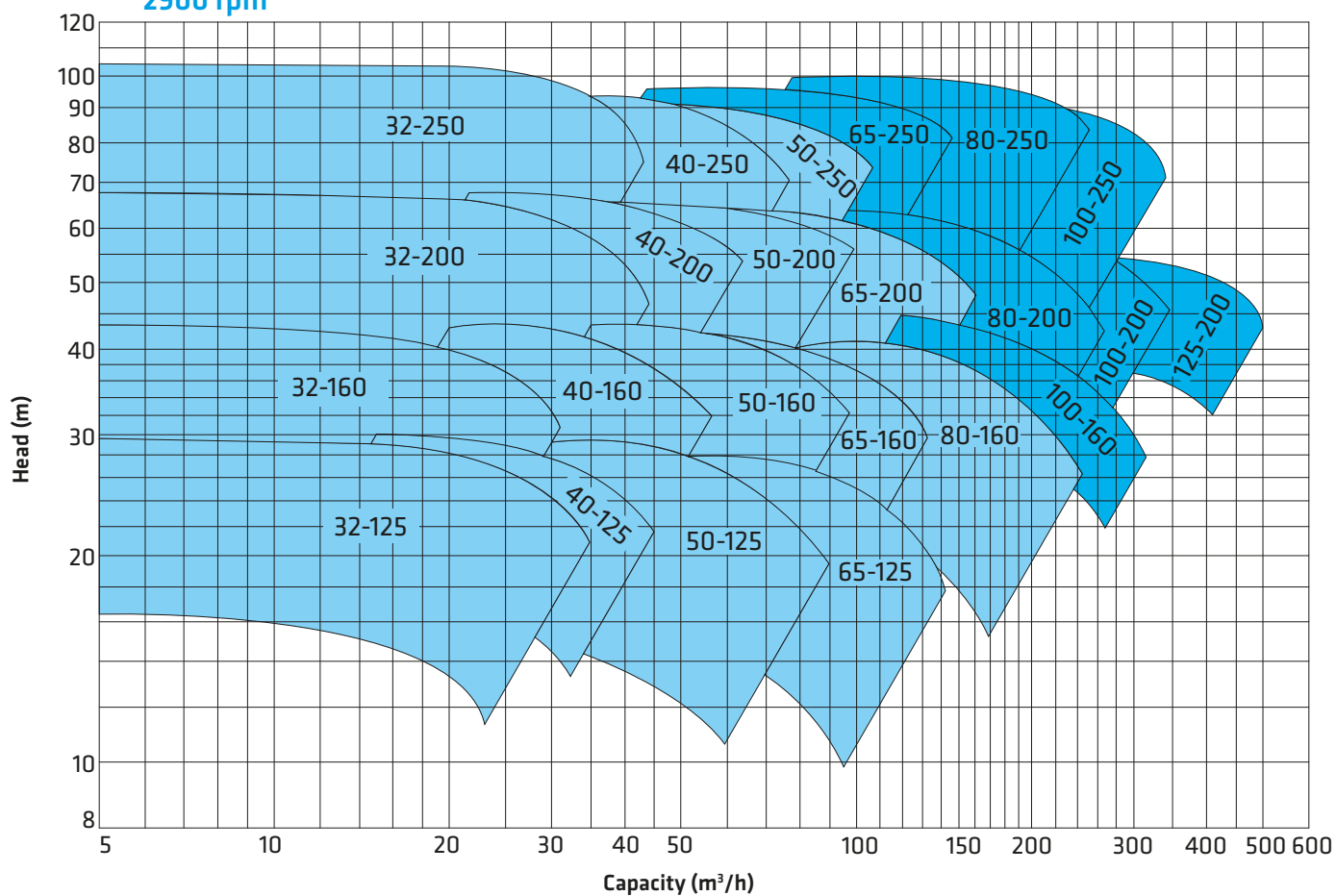
- Depending on customer request, mechanical seals are available. In this case, pump shaft is always stainless steel.

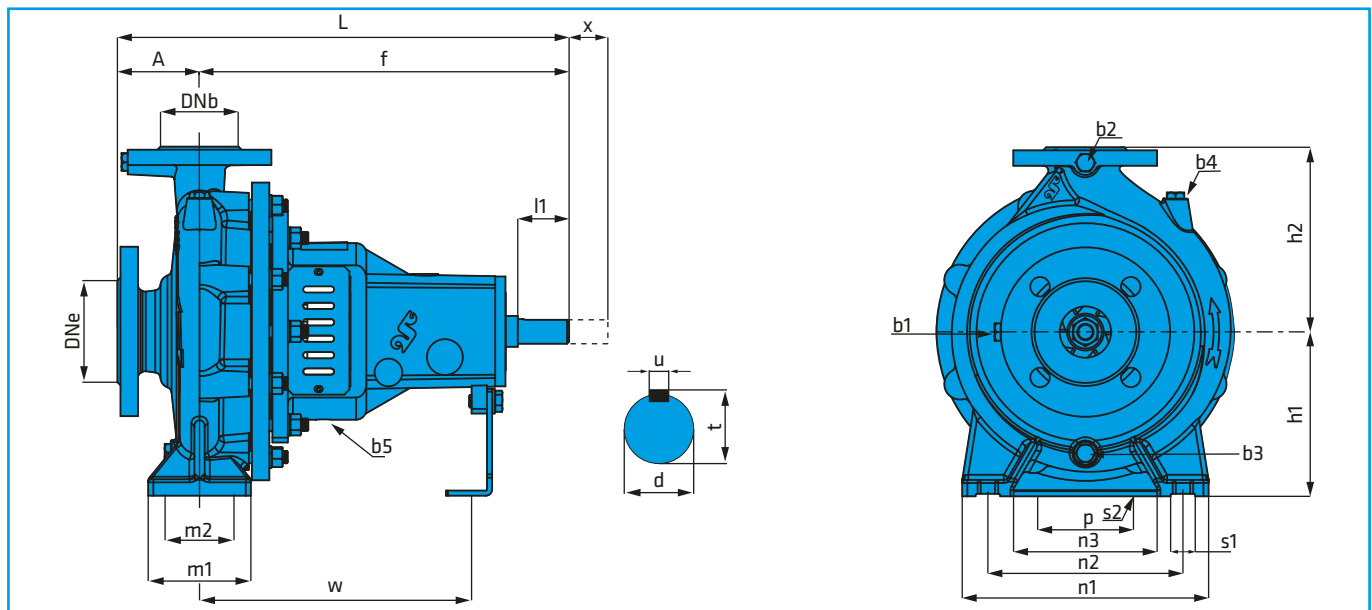
ECO SNT 100 - 250 - XXX

1450 rpm



2900 rpm

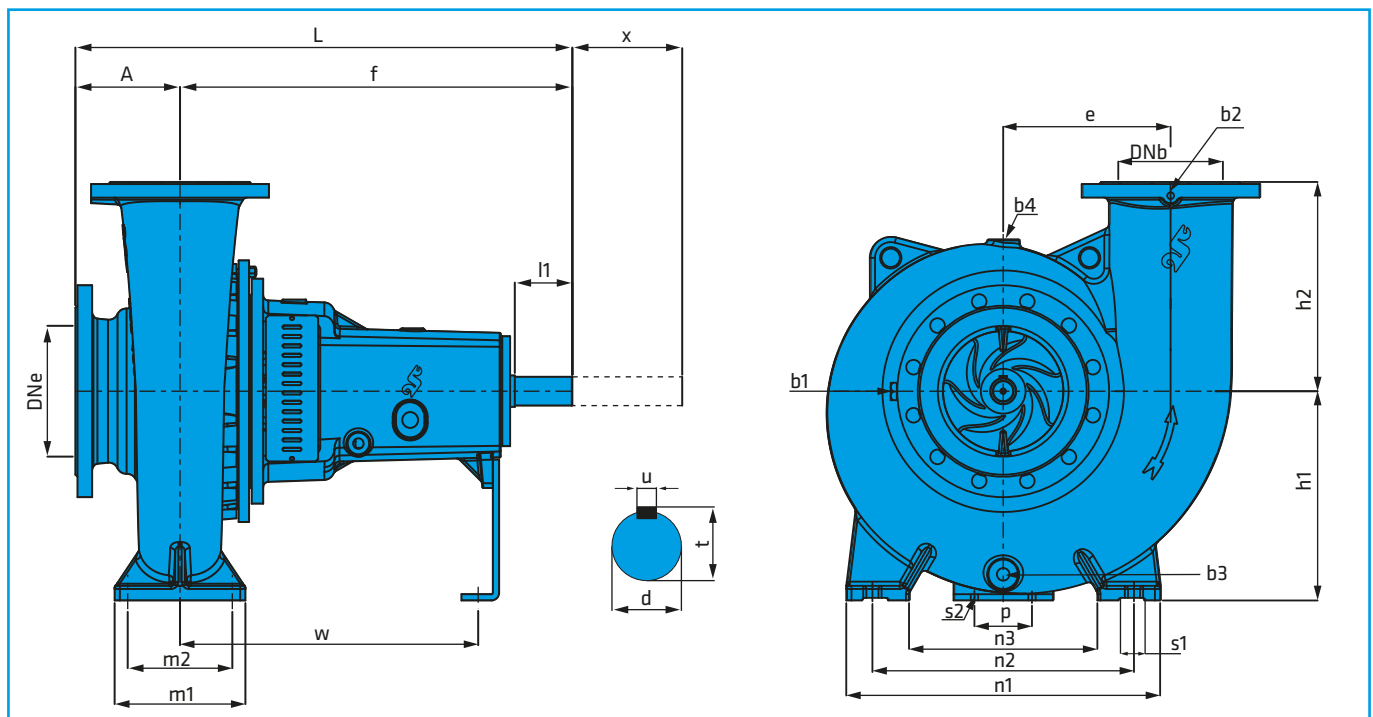




				DIMENSIONS (mm)																									
Pump Types		Form	Overall Dimensions							Foot Dimensions								Shaft End				Support Connections					Weight	Space	
EN 733	Other		DN	e	A	f	L	h1	h2	m1	m2	n1	n2	n3	s1	p	s2	w	d	l1	t	u	b1	b2	b3	b4	b5	(kg)	x(*)
32-125		F1	50	32	80	360	440	112	140	100	70	190	140	90	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	30	100
32-160		F1	50	32	80	360	440	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	33	100
32-200		F2	50	32	80	360	440	160	180	100	70	240	190	140	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	42	100
	32-250	F2	50	32	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	50	100
40-125		F1	65	40	80	360	440	112	140	100	70	210	160	110	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	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	1/4"	1/4"	1/4"	1/4"	3/8"	35	100
40-200		F2	65	40	100	360	460	160	180	100	70	265	212	165	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	43	100
40-250		F2	65	40	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	52	100
	40-315	F2	65	40	100	360	460	200	250	125	95	345	280	190	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	64	100
50-125		F1	65	50	100	360	460	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	36	100
50-160		F1	65	50	100	360	460	160	180	100	70	265	212	165	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	37	100
50-200		F2	65	50	100	360	460	160	200	100	70	265	212	165	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	46	100
50-250		F2	65	50	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	1/4"	1/4"	1/4"	1/4"	3/8"	52	100
	50-315	F2	65	50	125	470	595	225	280	125	95	345	280	190	19	110	14	340	32	80	35	10	1/4"	1/4"	1/4"	1/4"	3/8"	84	100
65-125		F1	80	65	100	360	460	160	180	125	95	280	212	150	14	110	14	260	24	50	27	8	1/4"	1/4"	3/8"	3/8"	3/8"	42	100
65-160		F1	80	65	100	360	460	160	200	125	95	280	212	150	14	110	14	260	24	50	27	8	1/4"	1/4"	3/8"	3/8"	3/8"	42	100
65-200		F2	80	65	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	1/4"	1/4"	3/8"	3/8"	3/8"	50	140
65-250		F2	80	65	100	470	570	200	250	160	120	360	280	200	19	110	14	340	32	80	35	10	1/4"	1/4"	3/8"	3/8"	3/8"	73	140
65-315		F2	80	65	125	470	595	225	280	160	120	400	315	240	19	110	14	340	32	80	35	10	1/4"	1/4"	3/8"	3/8"	3/8"	91	140
	65-400	F2	100	65	125	470	595	260	355	160	120	435	355	275	19	110	14	340	32	80	35	10	1/4"	1/4"	3/8"	3/8"	3/8"	109	140
80-160		F1	100	80	125	360	485	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	1/4"	1/4"	3/8"	3/8"	3/8"	47	140
80-200		F1	100	80	125	470	595	180	250	125	95	345	280	215	14	110	14	340	32	80	35	10	1/4"	1/4"	3/8"	3/8"	3/8"	62	140
80-250		F2	100	80	125	470	595	200	280	160	120	400	315	240	19	110	14	340	32	80	35	10	1/4"	1/4"	3/8"	3/8"	3/8"	77	140
80-315		F2	100	80	125	470	595	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	1/4"	1/4"	3/8"	3/8"	3/8"	101	140
	80-400	F2	100	80	125	530	655	280	355	160	120	435	355	275	19	110	14	360	42	110	45	12	1/4"	1/4"	3/8"	3/8"	3/8"	158	140
	100-160	F1	125	100	125	470	595	200	280	160	120	360	280	200	19	110	14	340	32	80	35	10	1/4"	1/4"	3/8"	3/8"	3/8"	69	140
100-200		F1	125	100	125	470	595	200	280	160	120	360	280	200	19	110	14	340	32	80	35	10	1/4"	1/4"	3/8"	3/8"	3/8"	74	140
100-250		F2	125	100	140	470	610	225	280	160	120	400	315	240	19	110	14	340	32	80	35	10	1/4"	1/4"	3/8"	3/8"	3/8"	86	140
100-315		F2	125	100	140	470	610	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	1/4"	1/4"	3/8"	3/8"	3/8"	111	140
100-400		F2	125	100	140	530	670	280	355	200	150	500	400	300	23	110	14	360	42	110	45	12	1/4"	1/4"	3/8"	3/8"	3/8"	174	140
	125-200	F1	150	125	140	470	610	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	1/4"	1/4"	1/2"	1/2"	3/8"	90	140
125-250		F2	150	125	140	470	610	250	355	160	120	400	315	240	19	110	14	340	32	80	35	10	1/4"	1/4"	1/2"	1/2"	3/8"	97	140
125-315		F1	150	125	140	530	670	280	355	200	150	500	400	300	23	110	14	360	42	110	45	12	1/4"	1/4"	1/2"	1/2"	3/8"	159	140
125-400		F2	150	125	140	530	670	315	400	200	150	500	400	300	23	110	14	360	42	110	45	12	1/4"	1/4"	1/2"	1/2"	3/8"	188	140
	150-200	F1	200	150	160	470	630	280	355	200	150	500	400	300	23	110	14	340	32	80	35	10	1/4"	1/4"	1/2"	1/2"	3/8"	116	140
	150-250	F2	200	150	160	470	630	280	375	200	150	500	400	300	23	110	14	340	32	80	35	10	1/4"	1/4"	1/2"	1/2"	3/8"	132	140
150-315		F1	200	150	160	530	690	280	400	200	150	550	450	350	23	110	14	360	42	110	45	12	1/4"	1/4"	1/2"	1/2"	3/8"	168	140
150-400		F2	200	150	160	530	690	315	450	200	150	550	450	350	23	110	14	360	42	110	45	12	1/4"	1/4"	1/2"	1/2"	3/8"	201	140
	200-260	F1	250	200	200	560	760	315	450	250	200	600	500	360	23	110	14	390	42	110	45	12	1/4"	1/4"	1/2"	1/2"	3/8"	244	250
	200-315	F1	250	200	200	545	745	315	450	250	200	600	500	360	23	110	14	375	42	110	45	12	1/4"	1/4"	1/2"	1/2"	3/8"	220	200
	250-315	F1	250	250	250	750	1000	355	525	300	240	660	550	400	27	110	14	570	55	110	59	16	1/4"	1/4"	1/2"	1/2"	1/2"	371	250

(*) 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)

(*) b1, b2 and b4 holes are not drilled in ductile iron, cast steel and stainless steel volute casings.

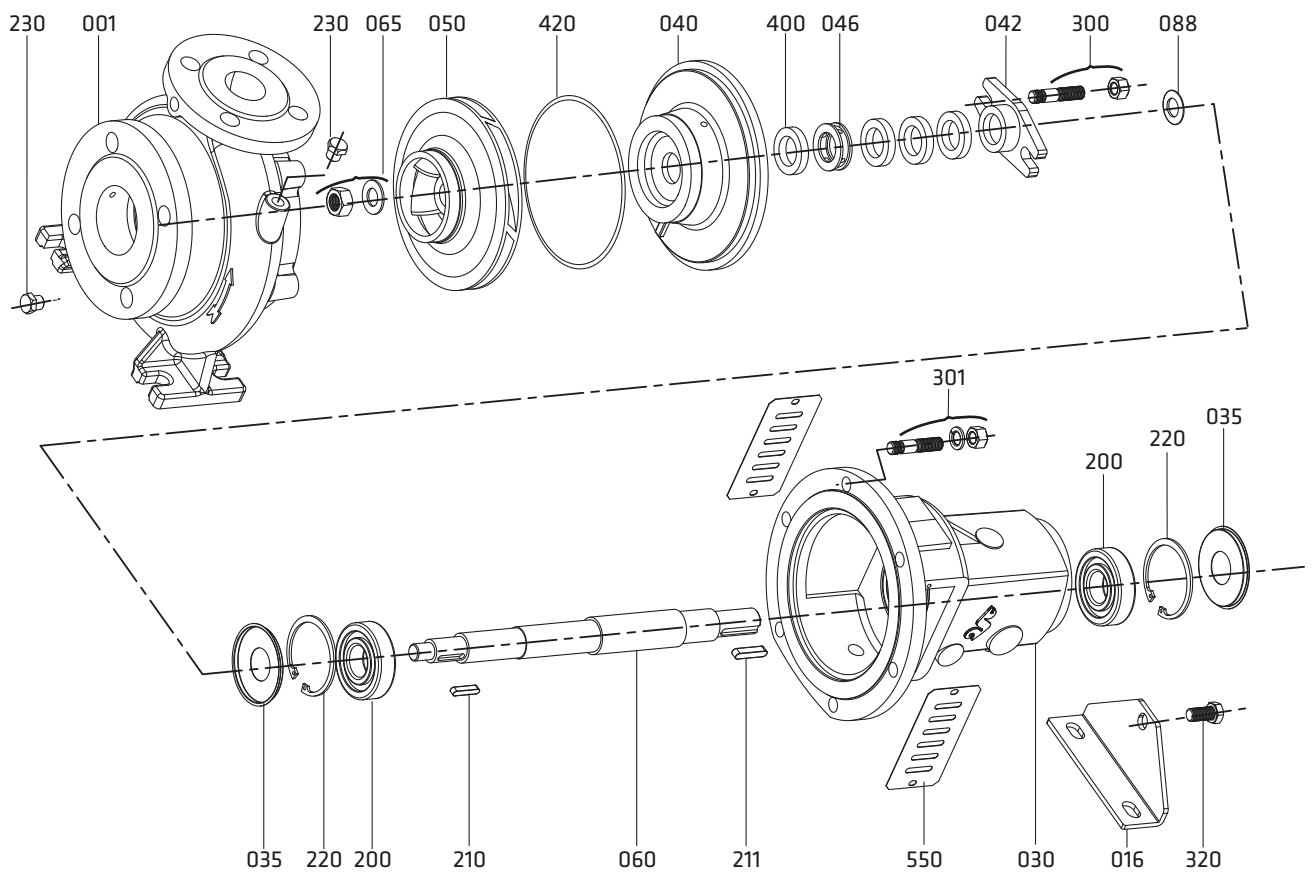


		DIMENSIONS (mm)																							Weight	Space			
Pump Types	Form	Overall Dimensions								Foot Dimensions								Shaft End				Support Connections							
		DNe	DNb	A	f	L	h1	h2	e	m1	m2	n1	n2	n3	s1	p	s2	w	d	l1	t	u	b1	b2	b3	b4	b5	(kg)	x(*)
150-500	F2	200	150	200	750	950	400	450	350	250	200	720	600	435	27	140	20	560	55	110	59	16	1/4"	1/4"	3/4"	3/4"	1/2"	430	250
200-400	F2	250	200	200	750	950	400	400	320	250	200	600	500	360	23	140	20	560	55	110	59	16	1/4"	1/4"	3/4"	3/4"	1/2"	394	250
200-500	F2	250	200	200	800	1000	450	475	370	300	200	720	600	435	27	140	20	560	65	140	69	18	1/4"	1/4"	3/4"	3/4"	1/2"	540	250
250-400	F2	300	250	230	800	1030	450	480	350	300	240	720	600	435	27	140	20	560	65	140	69	18	1/4"	1/4"	3/4"	3/4"	1/2"	430	250
250-500	F2	300	250	225	800	1025	475	500	400	300	240	720	600	435	27	140	20	560	65	140	69	18	1/4"	1/4"	3/4"	3/4"	1/2"	620	250

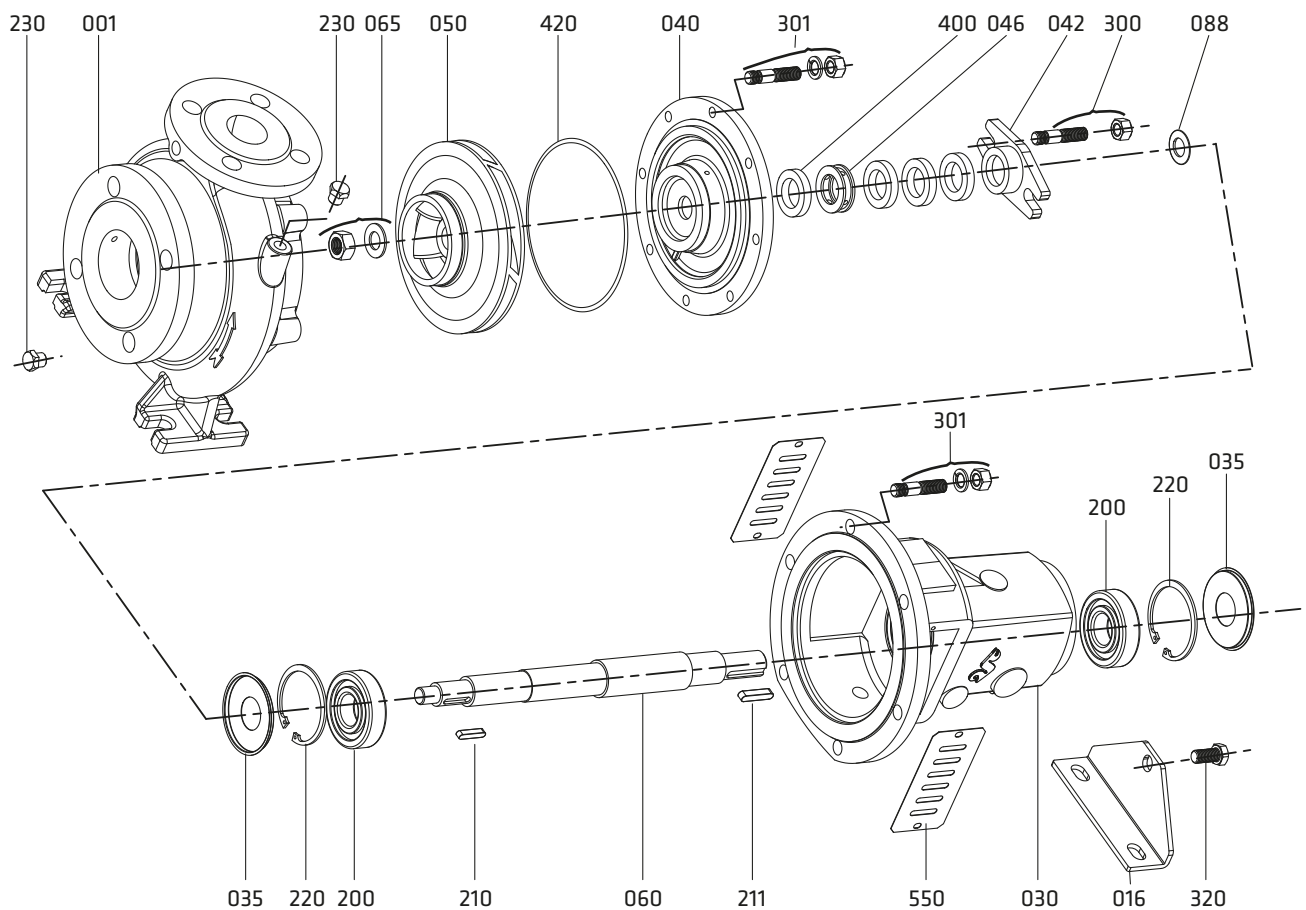
(*) Gap necessary for the withdrawal of the pump rotor from the driven end without the need for dismantling the motor and pipework (spacer coupling application)

(*) b1, b2 and b4 holes are not drilled in ductile iron, cast steel and stainless steel volute casings.

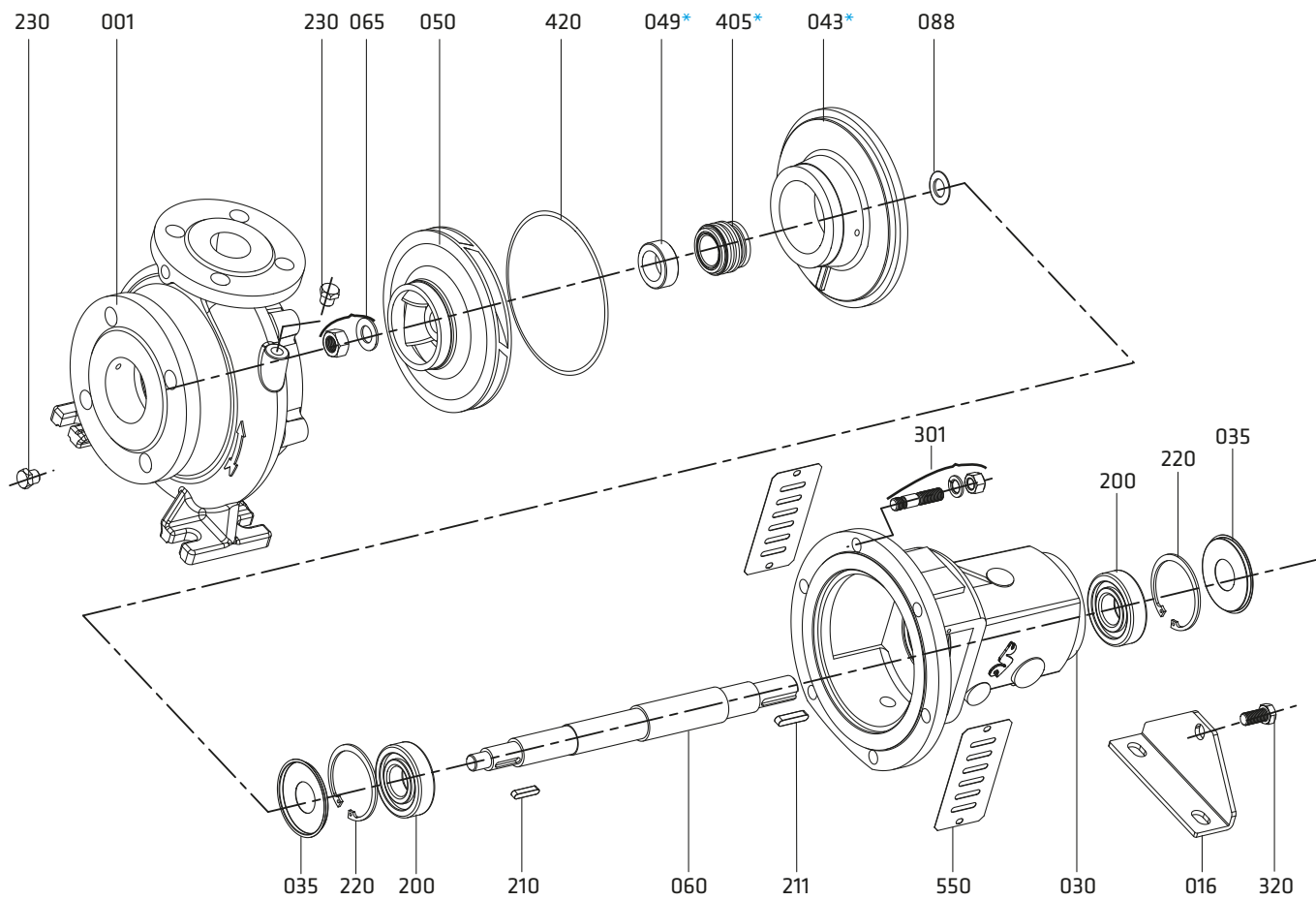
Form: F1 (Soft Packing Seal Pump)



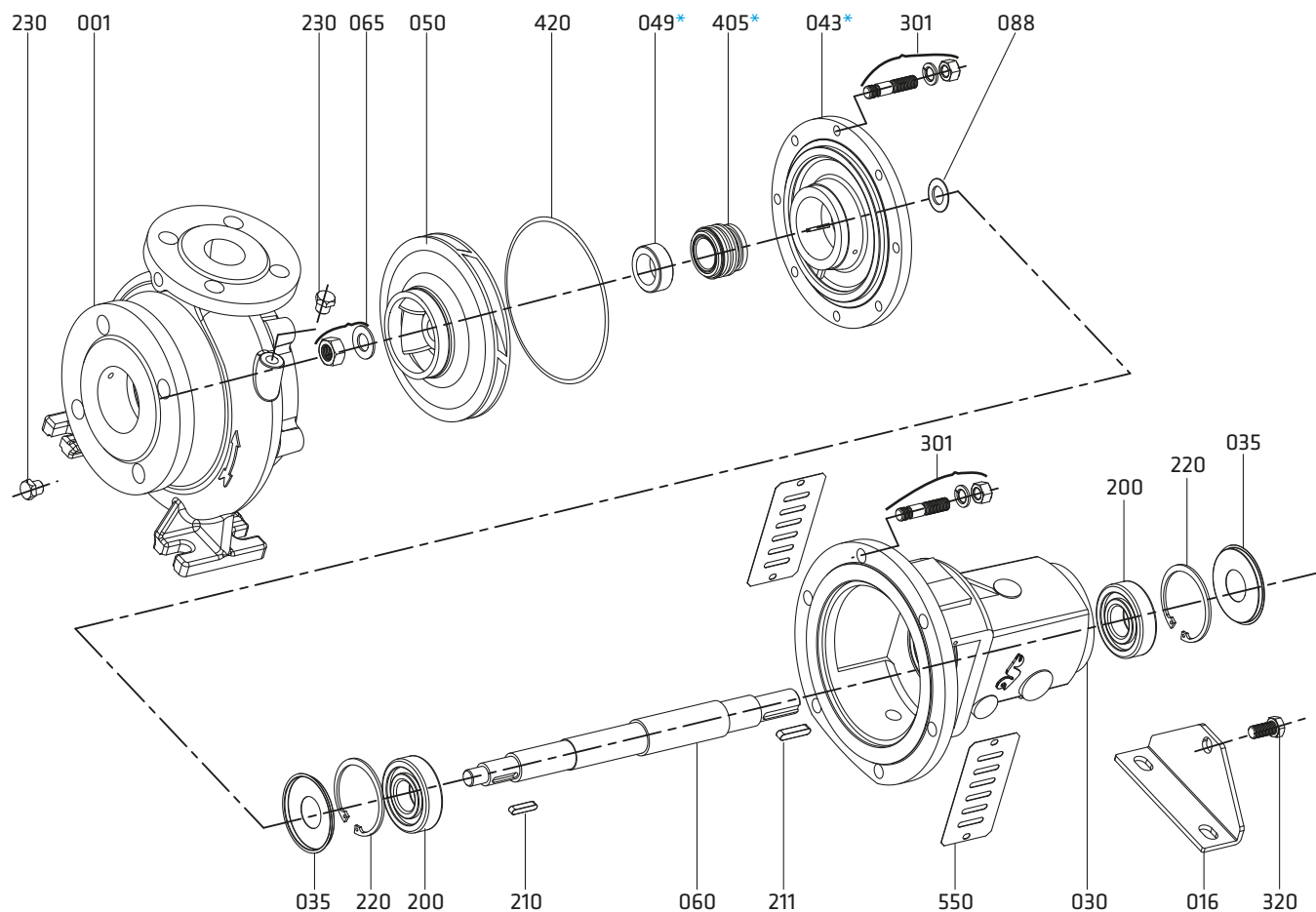
Form: F2 (Soft Packing Seal Pump)



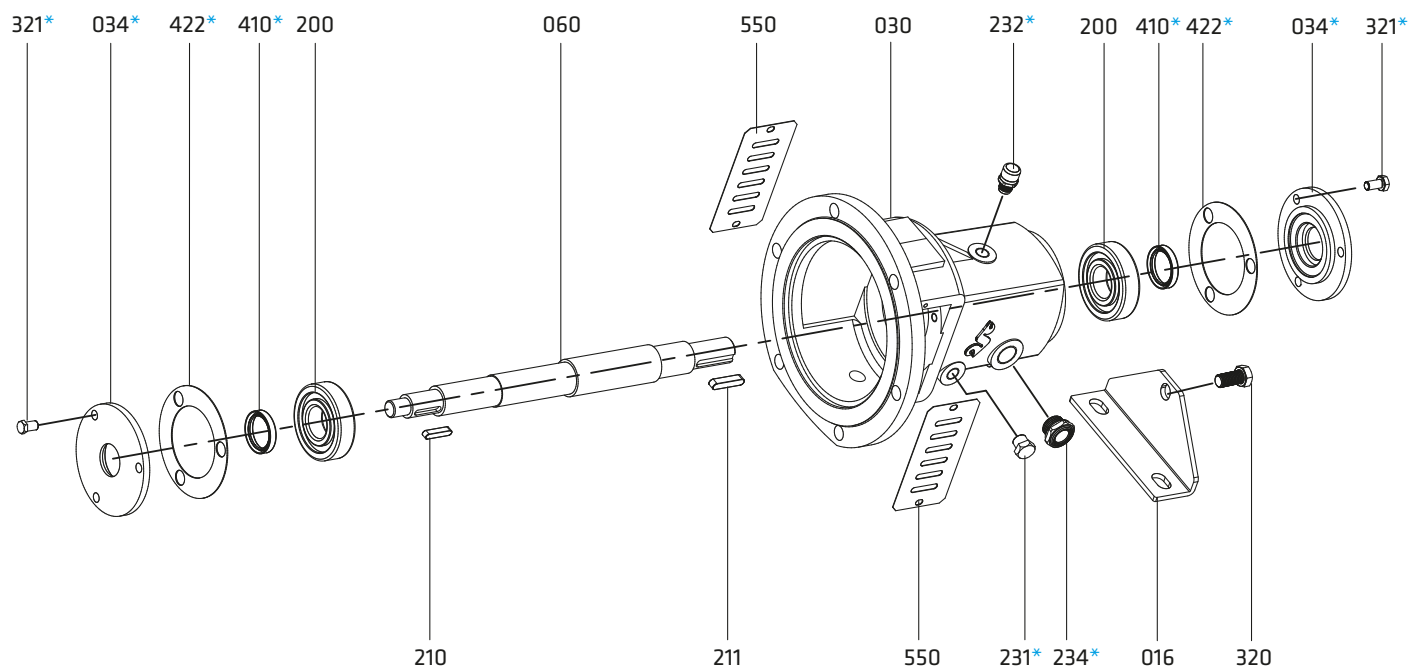
Form: F1 (Mechanical Seal Pump)



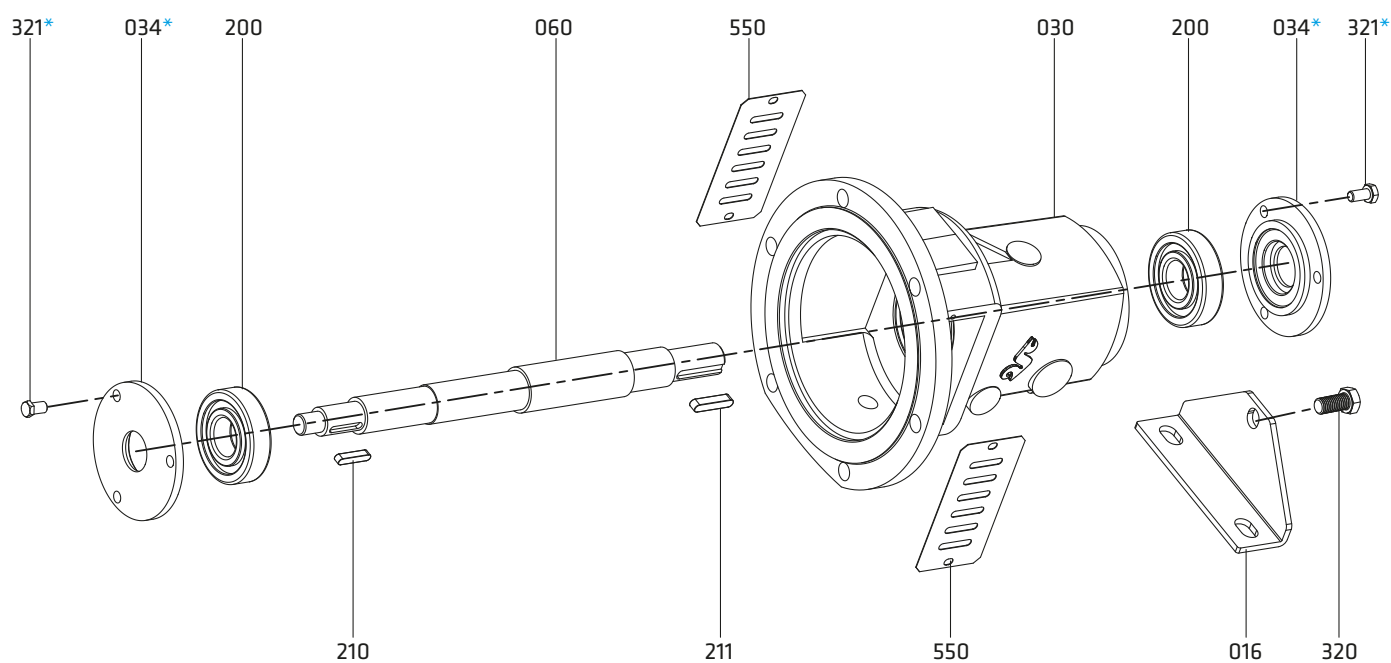
Form: F2 (Mechanical Seal Pump)



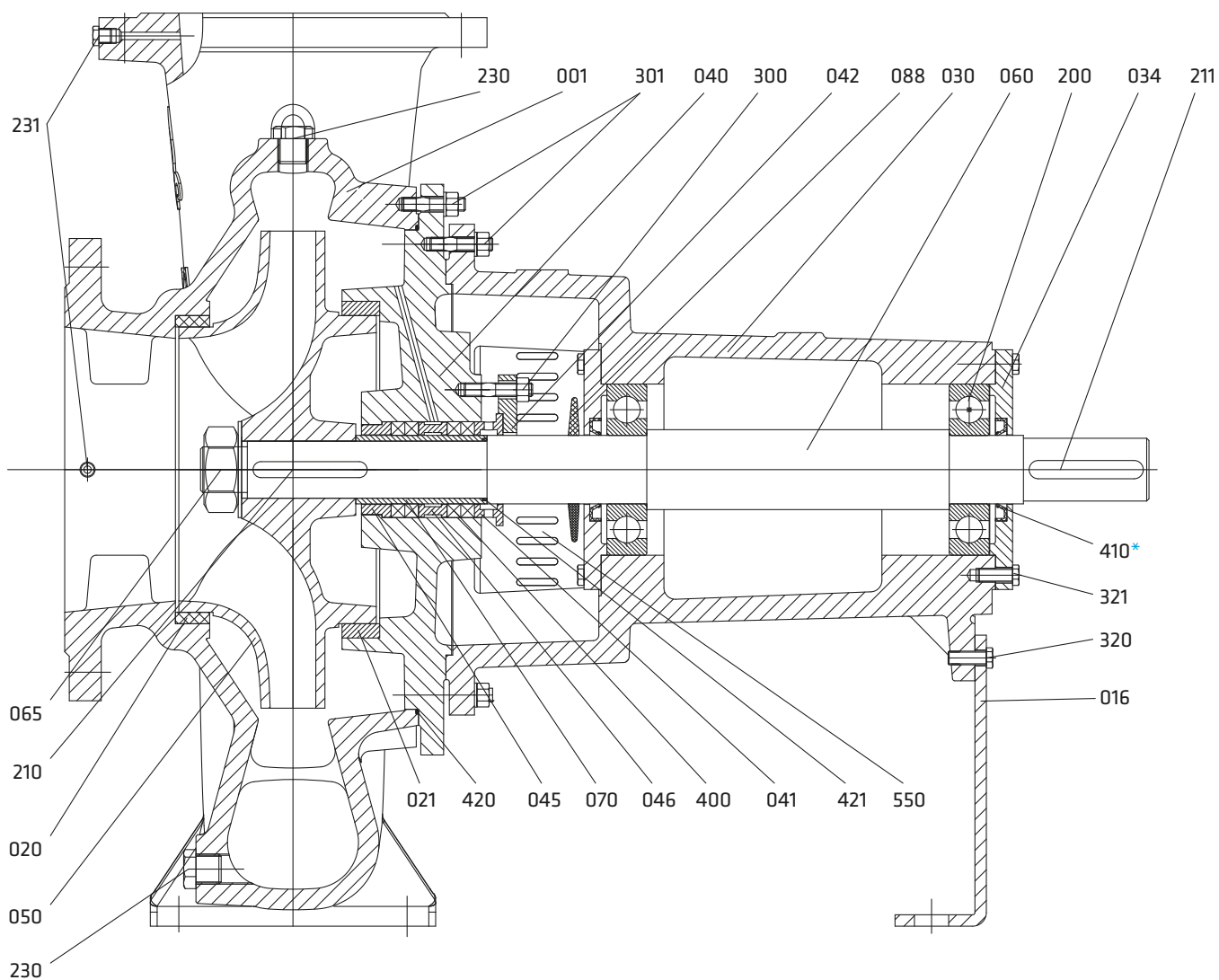
Oil Lubrication Bearing Housing



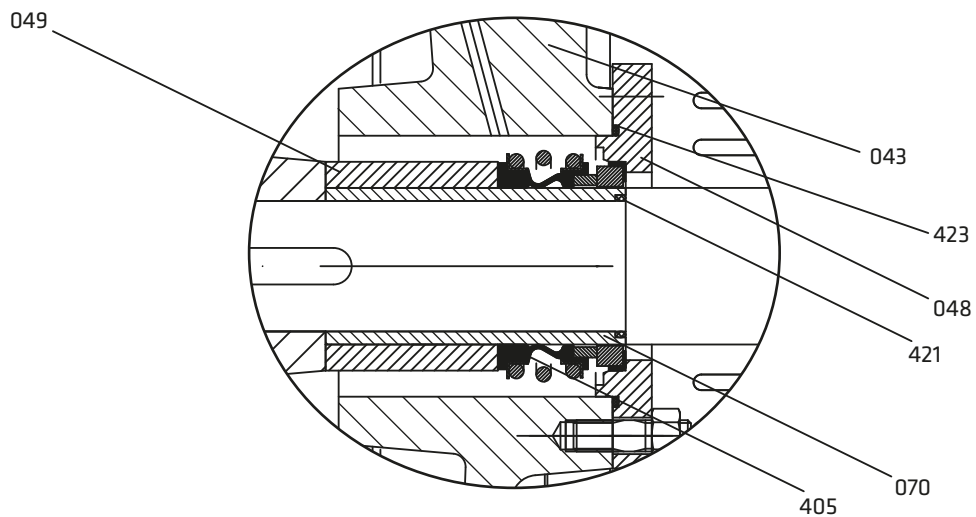
Re-greasable Bearing Housing



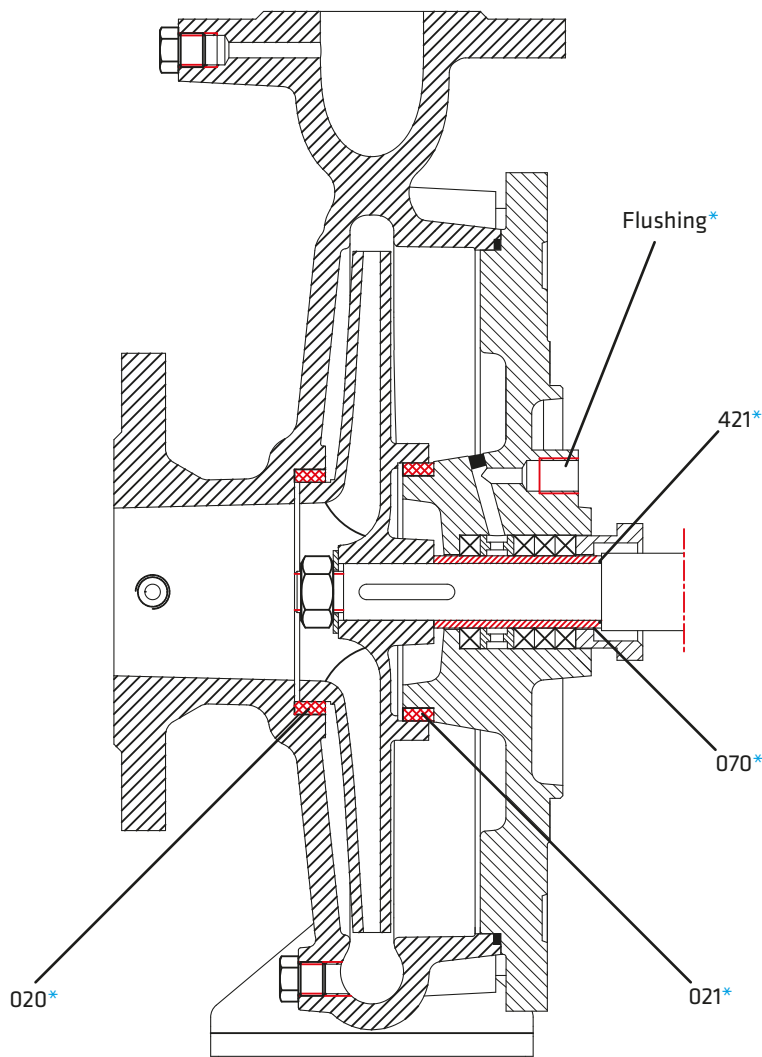
Cross Section of ECO SNT 150-500, 200-400, 200-500, 250-315, 250-400 and 250-500



ECO SNT 150-500, 200-400, 200-500, 250-315, 250-400 and 250-500 for mechanical sealing application



Optional Applications



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
041	Gland Sleeve
045	Sleeve
042	Gland
043*	Mechanical Seal Cover
046	Lantern Ring
048	Cover
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
423	O-ring
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.

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

● Standard manufacturing

○ Optional

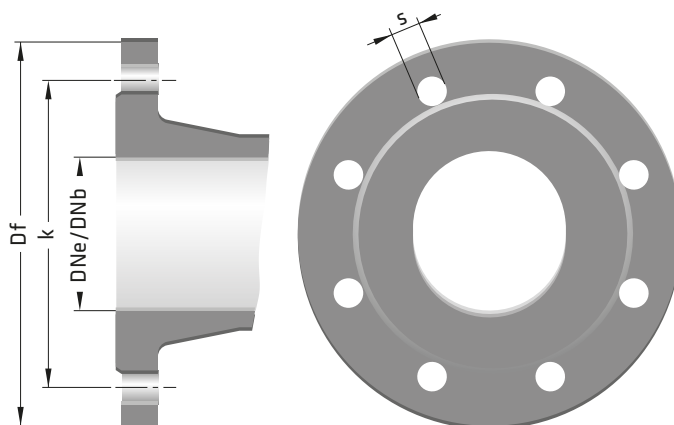
Material Equivalents

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 (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

DNe/DNb	Suction & Discharge (PN 16)			
	Df	k	s	n
32	140	100	18	4
40	150	110	18	4
50	165	125	18	4
65	185	145	18	4
80	200	160	18	8
100	220	180	18	8
125	250	210	18	8
150	285	240	22	8
200	340	295	22	12
250	405	355	26	12
300	460	410	26	12

"n" number of holes



Pump • Fire Fighting Units • Booster Set

ECO SNM

CLOSED COUPLED CENTRIFUGAL PUMPS



ECO SNM Rev.05.03.2024



Handled Liquids

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

Technical Data

Discharge Flange _____ DN 32.....DN 200 mm

Capacity _____ up to 900 m³/h(*)

Head _____ up to 100 m(*)

Speed _____ up to 3600 rpm(*)

Design 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 closed-coupled, volute casing, single stage, end suction centrifugal pump with closed impeller.

- Volute casing dimensions comply with EN 733.

- Complies EU547/2012 regulations.

- Suction and discharge flanges conform to EN 1092-2 / PN 16. In case of request, ANSI/ASME flanges can be supplied.

Pump Designation

Pump Type _____

Vertical _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____

Special Application _____

ECO SNM-V 100 - 250 - XXX

- Pumps are closed coupled with electric motors of IEC frame sizes with high efficiency class. (IE3-IE4)

- 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 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.

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

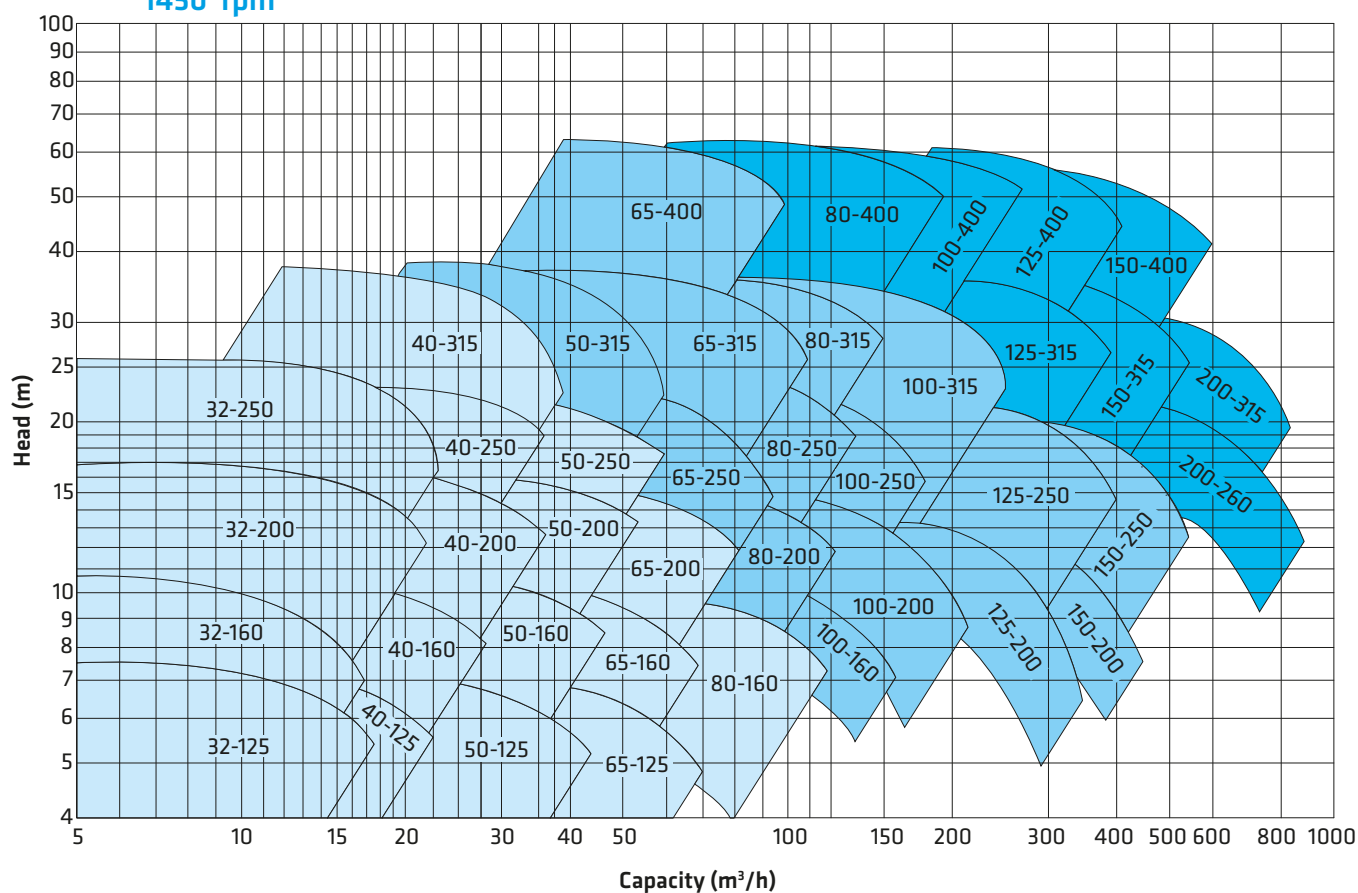
- When the elbow is mounted on the suction of the pump, the name is changed to ECO SNM-V. In this case, the pump is always installed vertically.

- The electrical motor powers of ECO SNM-V pumps are limited because of its installation type.

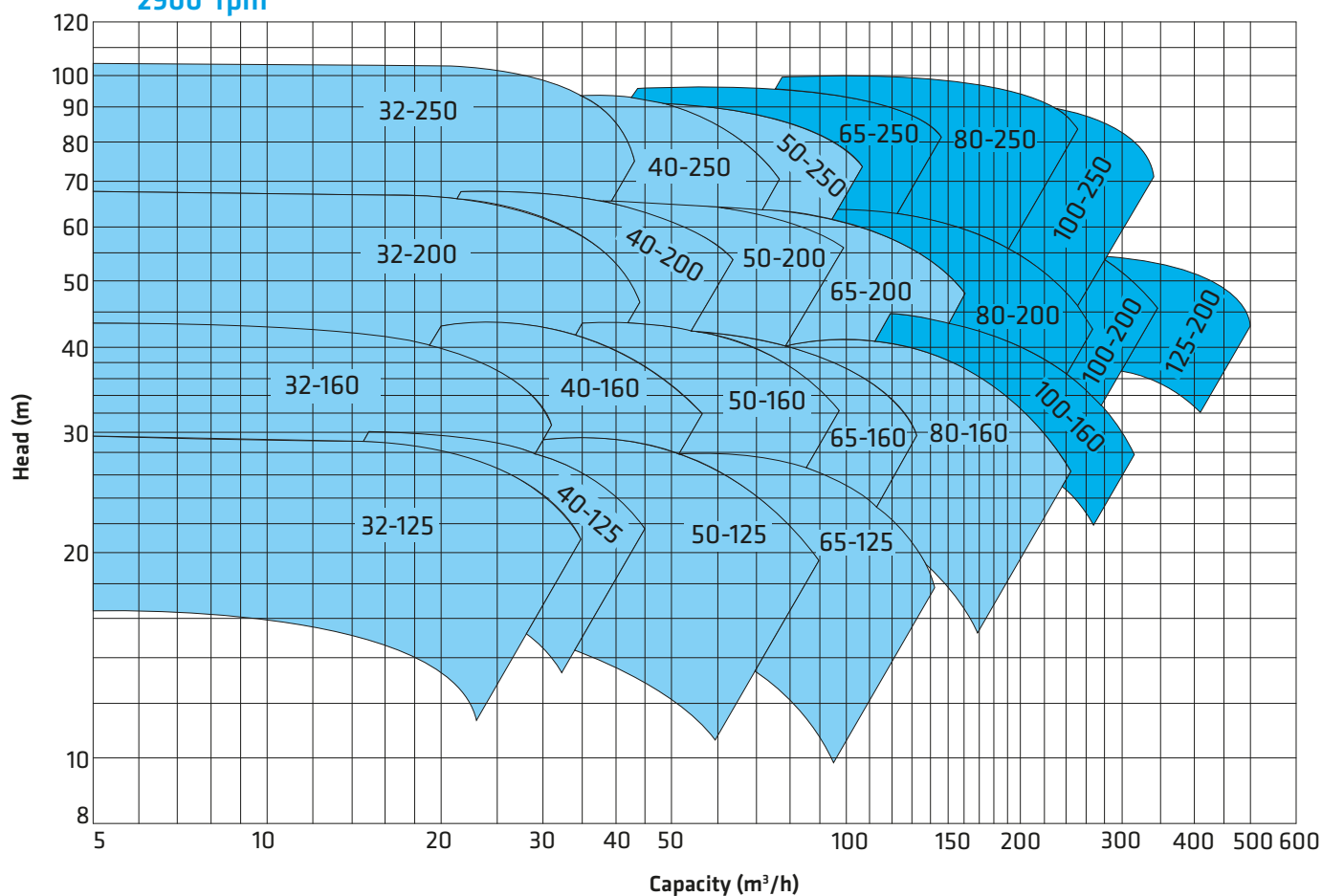
Shaft Sealing

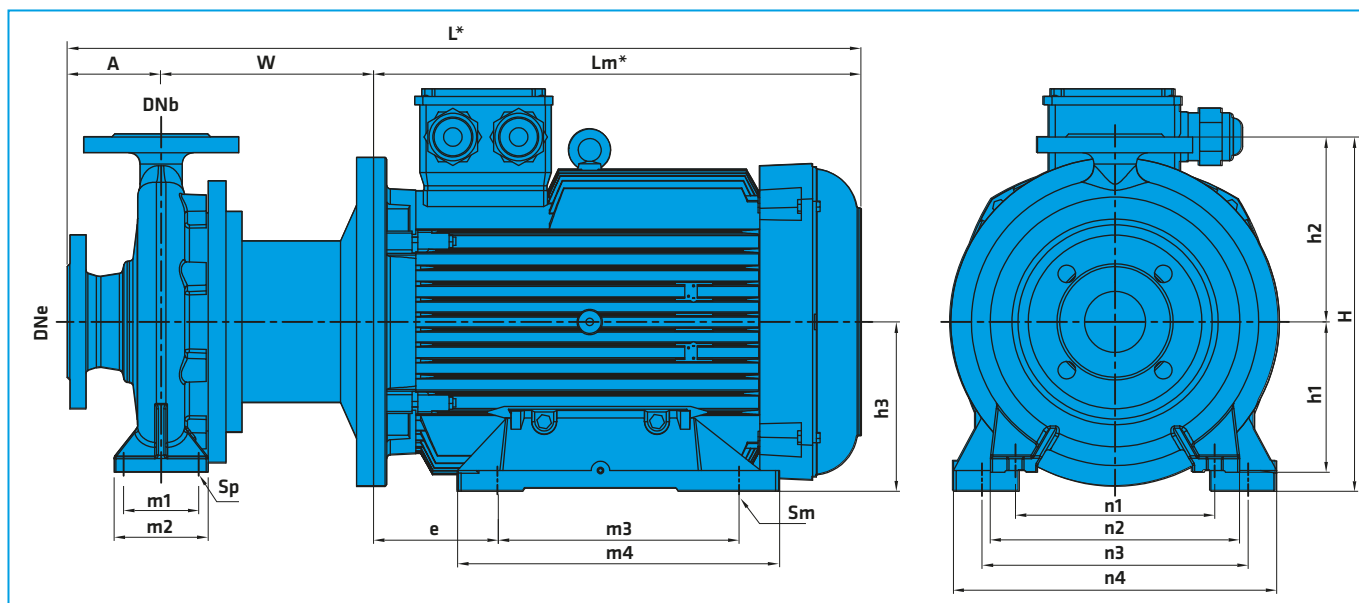
- Different mechanical seals are available according to customer request or liquid type.

1450 rpm



2900 rpm





* Differs according to motor manufacturer.

2900 rpm (2 Pole Motor)

FORM	Pump Type	MOTOR		ECO SNM INSTALLATION DIMENSIONS (mm)																				
		kW	IEC	DNe	DNb	A	W	Lm*	L*	H	h1	h2	h3	e	m1	m2	m3	m4	n1	n2	n3	n4	Sp	Sm
F1	32-125	1,5	90L	50	32	80	156	266	503	252	112	140	90	56	70	100	125	158	140	190	140	190	14	10
F1	32-125	2,2	90L	50	32	80	156	266	503	252	112	140	90	56	70	100	125	158	140	190	140	190	14	10
F1	32-125	3	100L	50	32	80	179	292	551	252	112	140	100	63	70	100	140	178	140	190	160	192	14	12
F1	32-125	4	112M	50	32	80	179	336	595	252	112	140	112	70	70	100	140	176	140	190	190	220	14	12
F1	32-160	2,2	90L	50	32	80	156	267	503	292	132	160	90	56	70	100	125	158	190	240	140	190	14	10
F1	32-160	3	100L	50	32	80	179	292	551	292	132	160	100	63	70	100	140	178	190	240	160	192	14	12
F1	32-160	4	112M	50	32	80	179	336	595	292	132	160	112	70	70	100	140	176	190	240	190	220	14	12
F1	32-160	5,5	132S	50	32	80	189	360	629	292	132	160	132	89	70	100	140	180	190	240	216	252	14	12
F2	32-200	5,5	132S	50	32	80	189	360	629	340	160	180	132	89	70	100	140	180	190	240	216	252	14	12
F2	32-200	7,5	132M	50	32	80	189	396	665	340	160	180	132	89	70	100	178	218	190	240	216	252	14	12
F2	32-200	11	160M	50	32	80	226	466	772	340	160	180	160	108	70	100	210	311	190	240	254	298	14	15
F2	32-250	7,5	132M	50	32	100	189	396	685	405	180	225	132	89	95	125	178	218	250	320	216	252	14	12
F2	32-250	11	160M	50	32	100	226	466	792	405	180	225	160	108	95	125	210	311	250	320	254	298	14	15
F2	32-250	15	160L	50	32	100	226	466	792	405	180	225	160	108	95	125	210	311	250	320	254	298	14	15
F2	32-250	18,5	160L	50	32	100	226	466	792	405	180	225	160	108	95	125	210	311	250	320	254	298	14	15
F2	32-250	22	180M	50	32	100	226	519	845	405	180	225	180	121	95	125	241	343	250	320	279	344	14	15
F1	40-125	2,2	90L	65	40	80	156	267	503	252	112	140	90	56	70	100	125	158	160	210	140	190	14	10
F1	40-125	3	100L	65	40	80	179	292	551	252	112	140	100	63	70	100	140	178	160	210	160	192	14	12
F1	40-125	4	112M	65	40	80	179	335	594	252	112	140	112	70	70	100	140	176	160	210	190	220	14	12
F1	40-125	5,5	132S	65	40	80	189	360	629	252	112	140	132	89	70	100	140	180	160	210	216	252	14	12
F1	40-160	4	112M	65	40	80	179	336	595	292	132	160	112	70	70	100	140	176	190	240	190	220	14	12
F1	40-160	5,5	132S	65	40	80	189	361	629	292	132	160	132	89	70	100	140	180	190	240	216	252	14	12
F1	40-160	7,5	132M	65	40	80	189	396	665	292	132	160	132	89	70	100	178	218	190	240	216	252	14	12
F2	40-200	7,5	132M	65	40	100	189	396	685	340	160	180	132	89	70	100	178	218	212	265	216	252	14	12
F2	40-200	11	160M	65	40	100	226	466	792	340	160	180	160	108	70	100	210	311	212	265	254	298	14	15
F2	40-200	15	160L	65	40	100	226	466	792	340	160	180	160	108	70	100	210	311	212	265	254	298	14	15
F2	40-200	18,5	160L	65	40	100	226	466	792	340	160	180	160	108	70	100	210	311	212	265	254	298	14	15
F2	40-250	15	160L	65	40	100	226	466	792	405	180	225	160	108	70	125	210	311	250	320	254	298	14	15
F2	40-250	18,5	160L	65	40	100	226	466	792	405	180	225	160	108	70	125	210	311	250	320	254	298	14	15
F2	40-250	22	180M	65	40	100	226	519	845	405	180	225	180	121	70	125	241	343	250	320	279	344	14	15
F2	40-250	30	200L	65	40	100	226	555	881	425	180	225	200	133	70	125	305	365	250	320	318	388	14	19
F1	50-125	3	100L	65	50	100	179	292	571	292	132	160	100	63	70	100	140	178	190	240	160	192	14	12
F1	50-125	4	112M	65	50	100	179	336	615	292	132	160	112	70	70	100	140	176	190	240	190	220	14	12
F1	50-125	5,5	132S	65	50	100	189	361	650	292	132	160	132	89	70	100	140	180	190	240	216	252	14	12
F1	50-125	7,5	132M	65	50	100	189	396	685	292	132	160	132	89	70	100	178	218	190	240	216	252	14	12
F1	50-160	5,5	132S	65	50	100	189	360	649	340	160	180	132	89	70	100	140	180	212	265	216	252	14	12
F1	50-160	7,5	132M	65	50	100	189	396	685	340	160	180	132	89	70	100	178	218	212	265	216	252	14	12
F1	50-160	11	160M	65	50	100	226	466	792	340	160	180	160	108	70	100	210	311	212	265	254	298	14	15
F1	50-160	15	160L	65	50	100	226	466	792	340	160	180	160	108	70	100	210	311	212	265	254	298	14	15
F2	50-200	11	160M	65	50	100	226	466	792	360	160	200	160	108	70	100	210	311	212	265	254	298	14	15
F2	50-200	15	160L	65	50	100	226	466	792	360	160	200	160	108	70	100	210	311	212	265	254	298	14	15
F2	50-200	18,5	160L	65	50	100	226	466	792	360	160	200	160	108	70	100	210	311	212	265	254	298	14	15
F2	50-200	22	180L	65	50	100	226	519	845	380	160	200	180	121	70	100	241	343	212	265	279	344	14	15

2900 rpm (2 Pole Motor)

FORM	Pump Type	MOTOR		ECO SNM INSTALLATION DIMENSIONS (mm)																				
		kW	IEC	DNe	DNb	A	W	Lm*	L*	H	h1	h2	h3	e	m1	m2	m3	m4	n1	n2	n3	n4	Sp	Sm
F2	50-250	18,5	160L	65	50	100	226	466	792	405	180	225	160	108	95	125	210	311	250	320	254	298	14	15
F2	50-250	22	180M	65	50	100	226	519	845	405	180	225	180	121	95	125	241	343	250	320	279	344	14	15
F2	50-250	30	200L	65	50	100	226	555	881	425	180	225	200	133	95	125	305	365	250	320	318	388	14	19
F2	50-250	37	200L	65	50	100	226	555	881	425	180	225	200	133	95	125	305	365	250	320	318	388	14	19
F1	65-125	4	112M	80	65	100	179	336	615	340	160	180	112	70	95	125	140	176	212	280	190	220	14	12
F1	65-125	5,5	132S	80	65	100	189	360	649	340	160	180	132	89	95	125	140	180	212	280	216	252	14	12
F1	65-125	7,5	132M	80	65	100	189	396	685	340	160	180	132	89	95	125	178	218	212	280	216	252	14	12
F1	65-125	11	160M	80	65	100	226	466	792	340	160	180	160	108	95	125	210	311	212	280	254	298	14	15
F1	65-160	7,5	132M	80	65	100	189	396	685	360	160	200	132	89	95	125	178	218	212	280	216	252	14	12
F1	65-160	11	160M	80	65	100	226	466	792	360	160	200	160	108	95	125	210	311	212	280	254	298	14	15
F1	65-160	15	160L	80	65	100	226	466	792	360	160	200	160	108	95	125	210	311	212	280	254	298	14	15
F2	65-200	15	160L	80	65	100	226	466	792	405	180	225	160	108	95	125	210	311	250	320	254	298	14	15
F2	65-200	18,5	160L	80	65	100	226	466	792	405	180	225	160	108	95	125	210	311	250	320	254	298	14	15
F2	65-200	22	180M	80	65	100	226	519	845	405	180	225	180	121	95	125	241	343	250	320	279	344	14	15
F2	65-200	30	200L	80	65	100	226	555	881	425	180	225	200	133	95	125	305	365	250	320	318	388	14	19
F2	65-250	30	200L	80	65	100	246	555	901	450	200	250	200	133	120	160	305	365	280	360	318	388	19	19
F2	65-250	37	200L	80	65	100	246	555	901	450	200	250	200	133	120	160	305	365	280	360	318	388	19	19
F2	65-250	45	225M	80	65	100	248	625	973	475	200	250	225	149	120	160	311	383	280	360	356	442	19	19
F2	65-250	55	250M	80	65	100	294	753	1147	500	200	250	250	168	120	160	349	409	280	360	406	506	19	24
F1	80-160	11	160M	100	80	125	226	466	817	405	180	225	160	108	95	125	210	311	250	320	254	298	14	15
F1	80-160	15	160L	100	80	125	226	466	817	405	180	225	160	108	95	125	210	311	250	320	254	298	14	15
F1	80-160	18,5	160L	100	80	125	226	466	817	405	180	225	160	108	95	125	210	311	250	320	254	298	14	15
F1	80-160	22	180M	100	80	125	226	519	870	405	180	225	180	121	95	125	241	343	250	320	279	344	14	15
F1	80-160	30	200L	100	80	125	226	555	906	425	180	225	200	133	95	125	305	365	250	320	318	388	14	19
F1	80-200	22	180M	100	80	125	234	519	878	430	180	250	180	121	95	125	279	343	280	345	279	344	14	15
F1	80-200	30	200L	100	80	125	246	555	916	450	180	250	200	133	95	125	305	365	280	345	318	388	14	19
F1	80-200	37	200L	100	80	125	246	555	916	450	180	250	200	133	95	125	305	365	280	345	318	388	14	19
F1	80-200	45	225M	100	80	125	238	625	988	475	180	250	225	149	95	125	311	383	280	345	356	442	14	19
F2	80-250	37	200L	100	80	125	246	555	926	480	200	280	200	133	120	160	305	365	315	400	318	388	19	19
F2	80-250	45	225M	100	80	125	248	625	998	505	200	280	225	149	120	160	311	383	315	400	356	442	19	19
F2	80-250	55	250M	100	80	125	294	753	1172	530	200	280	250	168	120	160	349	409	315	400	406	506	19	24
F2	80-250	75	280M	100	80	125	294	885	1304	560	200	280	280	188	120	160	419	500	315	400	457	554	19	24
F2	80-250	90	280M	100	80	125	294	885	1304	560	200	280	280	188	120	160	419	500	315	400	457	554	19	24
F1	100-160	22	180M	125	100	125	244	519	888	480	200	280	180	121	120	160	279	343	280	360	279	344	19	15
F1	100-160	30	200L	125	100	125	246	555	926	480	200	280	200	133	120	160	305	365	280	360	318	388	19	19
F1	100-160	37	200L	125	100	125	246	555	926	480	200	280	200	133	120	160	305	365	280	360	318	388	19	19
F1	100-200	30	200L	125	100	125	246	555	926	480	200	280	200	133	120	160	305	365	280	360	318	388	19	19
F1	100-200	37	200L	125	100	125	246	555	926	480	200	280	200	133	120	160	305	365	280	360	318	388	19	19
F1	100-200	45	225M	125	100	125	248	625	998	505	200	280	225	149	120	160	311	383	280	360	356	442	19	19
F1	100-200	55	250M	125	100	125	294	754	1173	530	200	280	250	168	120	160	349	409	280	360	406	506	19	24
F2	100-250	45	225M	125	100	140	248	625	1013	505	225	280	225	149	120	160	311	383	315	400	356	442	19	19
F2	100-250	55	250M	125	100	140	294	753	1187	530	225	280	250	168	120	160	349	409	315	400	406	506	19	24
F2	100-250	75	280M	125	100	140	294	885	1319	560	225	280	280	188	120	160	419	500	315	400	457	554	19	24
F2	100-250	90	280M	125	100	140	294	885	1319	560	225	280	280	188	120	160	419	500	315	400	457	554	19	24
F1	125-200	55	250M	150	125	140	294	753	1187	565	250	315	250	168	120	160	349	409	315	400	406	506	19	24
F1	125-200	75	280M	150	125	140	294	885	1319	595	250	315	280	188	120	160	419	500	315	400	457	554	19	24
F1	125-200	90	280M	150	125	140	294	885	1319	595	250	315	280	188	120	160	419	500	315	400	457	554	19	24

1450 rpm (4 Pole Motor)

FORM	Pump Type	MOTOR		ECO SNM INSTALLATION DIMENSIONS (mm)																				
		kW	IEC	DNe	DNb	A	W	Lm*	L*	H	h1	h2	h3	e	m1	m2	m3	m4	n1	n2	n3	n4	Sp	Sm
F1	32-125	0,37	71M	50	32	80	136	222	439	252	112	140	71	45	70	100	90	106	140	190	112	128	14	7
F1	32-125	0,55	80M	50	32	80	156	244	480	252	112	140	80	50	70	100	100	120	140	190	125	165	14	10
F1	32-160	0,37	71M	50	32	80	136	222	439	292	132	160	71	45	70	100	90	106	190	240	112	128	14	7
F1	32-160	0,55	80M	50	32	80	156	244	480	292	132	160	80	50	70	100	100	120	190	240	125	165	14	10
F1	32-160	0,75	80M	50	32	80	156	244	480	292	132	160	80	50	70	100	100	120	190	240	125	165	14	10
F2	32-200	0,75	80M	50	32	80	156	244	480	340	160	180	80	50	70	100	100	120	190	240	125	165	14	10
F2	32-200	1,1	90L	50	32	80	156	267	503	340	160	180	90	56	70	100	125	158	190	240	140	190	14	10
F2	32-200	1,5	90L	50	32	80	156	267	503	340	160	180	90	56	70	100	125	158	190	240	140	190	14	10
F2	32-250	1,1	90L	50	32	100	156	267	523	405	180	225	90	56	95	125	125	158	250	320	140	190	14	10
F2	32-250	1,5	90L	50	32	100	156	267	523	405	180	225	90	56	95	125	125	158	250	320	140	190	14	10
F2	32-250	2,2	100L	50	32	100	179	292	571	405	180	225	100	63	95	125	140	178	250	320	160	192	14	12
F2	32-250	3	100L	50	32	100	179	292	571	405	180	225	100	63	95	125	140	178	250	320	160	192	14	12
F1	40-125	0,37	71M	65	40	80	136	223	439	252	112	140	71	45	70	100	90	106	160	210	112	128	14	7
F1	40-125	0,55	80M	65	40	80	156	243	479	252	112	140	80	50	70	100	100	120	160	210	125	165	14	10
F1	40-160	0,55	80M	65	40	80	156	243	479	292	132	160	80	50	70	100	100	120	190	240	125	165	14	10
F1	40-160	0,75	80M	65	40	80	156	243	479	292	132	160	80	50	70	100	100	120	190	240	125	165	14	10
F1	40-160	1,1	90L	65	40	80	156	267	503	292	132	160	90	56	70	100	125	158	190	240	140	190	14	10

FORM	Pump Type	MOTOR		ECO SNM INSTALLATION DIMENSIONS (mm)																				
		kW	IEC	DNe	DNb	A	W	Lm*	L*	H	h1	h2	h3	e	m1	m2	m3	m4	n1	n2	n3	n4	Sp	Sm
F2	40-200	1,1	90L	65	40	100	156	266	523	340	160	180	90	56	70	100	125	158	212	265	140	190	14	10
F2	40-200	1,5	90L	65	40	100	156	266	523	340	160	180	90	56	70	100	125	158	212	265	140	190	14	10
F2	40-200	2,2	100L	65	40	100	179	292	571	340	160	180	90	63	70	100	140	178	212	265	160	192	14	12
F2	40-250	2,2	100L	65	40	100	179	292	571	405	180	225	100	63	70	125	140	178	250	320	160	192	14	12
F2	40-250	3	100L	65	40	100	179	292	571	405	180	225	100	63	70	125	140	178	250	320	160	192	14	12
F2	40-250	4	112M	65	40	100	179	335	614	405	180	225	112	63	70	125	140	176	250	320	190	220	14	12
F2	40-315	3	100L	65	40	100	177	292	569	450	200	250	100	63	95	125	140	178	280	345	160	192	14	12
F2	40-315	4	112M	65	40	100	177	335	612	450	200	250	112	70	95	125	140	176	280	345	190	220	14	12
F2	40-315	5,5	132M	65	40	100	187	396	683	450	200	250	132	89	95	125	178	218	280	345	216	252	14	12
F2	40-315	7,5	132M	65	40	100	187	396	683	450	200	250	132	89	95	125	178	218	280	345	216	252	14	12
F1	50-125	0,55	80M	65	50	100	156	244	500	292	132	160	80	50	70	100	100	120	190	240	125	165	14	10
F1	50-125	0,75	80M	65	50	100	156	244	500	292	132	160	80	50	70	100	100	120	190	240	125	165	14	10
F1	50-125	1,1	90L	65	50	100	156	267	523	292	132	160	90	56	70	100	125	158	190	240	140	190	14	10
F1	50-160	0,75	80M	65	50	100	156	243	500	340	160	180	80	50	70	100	100	120	212	265	125	165	14	10
F1	50-160	1,1	90L	65	50	100	156	267	523	340	160	180	90	56	70	100	125	158	212	265	140	190	14	10
F1	50-160	1,5	90L	65	50	100	156	267	523	340	160	180	90	56	70	100	125	158	212	265	140	190	14	10
F1	50-160	2,2	100L	65	50	100	179	292	571	340	160	180	100	63	70	100	140	178	212	265	160	192	14	12
F2	50-200	1,1	90L	65	50	100	156	267	523	360	160	200	90	56	70	100	125	158	212	265	140	190	14	10
F2	50-200	1,5	90L	65	50	100	156	267	523	360	160	200	90	56	70	100	125	158	212	265	140	190	14	10
F2	50-200	2,2	100L	65	50	100	179	292	571	360	160	200	100	63	70	100	140	178	212	265	160	192	14	12
F2	50-200	3	100L	65	50	100	179	292	571	360	160	200	100	63	70	100	140	178	212	265	160	192	14	12
F2	50-250	2,2	100L	65	50	100	179	292	571	405	180	225	100	63	95	125	140	178	250	320	160	192	14	12
F2	50-250	3	100L	65	50	100	179	292	571	405	180	225	100	63	95	125	140	178	250	320	160	192	14	12
F2	50-250	4	112M	65	50	100	179	336	615	405	180	225	112	70	95	125	140	176	250	320	190	220	14	12
F2	50-250	5,5	132M	65	50	100	189	396	685	405	180	225	132	89	95	125	178	218	250	320	216	252	14	12
F2	50-315	5,5	132M	65	50	125	214	396	735	505	225	280	132	89	95	125	178	218	280	345	216	252	14	12
F2	50-315	7,5	132M	65	50	125	214	396	735	505	225	280	132	89	95	125	178	218	280	345	216	252	14	12
F2	50-315	11	160M	65	50	125	244	466	835	505	225	280	160	108	95	125	254	311	280	345	254	298	14	15
F1	65-125	0,55	80M	80	65	100	156	243	500	340	160	180	80	50	95	125	100	120	212	280	125	165	14	10
F1	65-125	0,75	80M	80	65	100	156	243	500	340	160	180	80	50	95	125	100	120	212	280	125	165	14	10
F1	65-125	1,1	90L	80	65	100	156	267	523	340	160	180	90	56	95	125	125	158	212	280	140	190	14	10
F1	65-160	1,1	90L	80	65	100	156	267	523	360	160	200	90	56	95	125	125	158	212	280	140	190	14	10
F1	65-160	1,5	90L	80	65	100	156	267	523	360	160	200	90	56	95	125	125	158	212	280	140	190	14	10
F1	65-160	2,2	100L	80	65	100	179	292	571	360	160	200	100	63	95	125	140	178	212	280	160	192	14	12
F2	65-200	1,5	90L	80	65	100	156	266	523	405	180	225	90	56	95	125	125	158	250	320	140	190	14	10
F2	65-200	2,2	100L	80	65	100	179	292	571	405	180	225	100	63	95	125	140	178	250	320	160	192	14	12
F2	65-200	3	100L	80	65	100	179	292	571	405	180	225	100	63	95	125	140	178	250	320	160	192	14	12
F2	65-200	4	112M	80	65	100	179	336	615	405	180	225	112	70	95	125	140	176	250	320	190	220	14	12
F2	65-250	3	100L	80	65	100	189	292	581	450	200	250	100	63	120	160	140	178	280	360	160	192	19	12
F2	65-250	4	112M	80	65	100	189	336	625	450	200	250	112	70	120	160	140	176	280	360	190	220	19	12
F2	65-250	5,5	132M	80	65	100	214	396	710	450	200	250	132	89	120	160	178	218	280	360	216	252	19	12
F2	65-250	7,5	132M	80	65	100	214	396	710	450	200	250	132	89	120	160	178	218	280	360	216	252	19	12
F2	65-315	5,5	132M	80	65	125	214	396	735	505	225	280	132	89	120	160	178	218	315	400	216	252	19	12
F2	65-315	7,5	132M	80	65	125	214	396	735	505	225	280	132	89	120	160	178	218	315	400	216	252	19	12
F2	65-315	11	160M	80	65	125	244	466	835	505	225	280	160	108	120	160	254	311	315	400	254	298	19	15
F2	65-315	15	160L	80	65	125	244	466	835	505	225	280	160	108	120	160	254	311	315	400	254	298	19	15
F2	65-400	15	160L	100	65	125	244	466	835	615	260	355	160	108	120	160	254	311	355	435	254	298	19	15
F2	65-400	18,5	180M	100	65	125	244	519	888	615	260	355	180	121	120	160	279	343	355	435	279	344	19	15
F2	65-400-																							

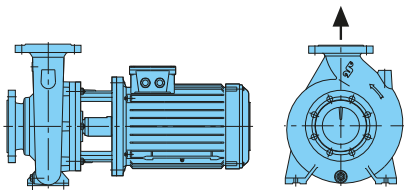
FORM	Pump Type	MOTOR		ECO SNM INSTALLATION DIMENSIONS (mm)																				
		kW	IEC	DNe	DNb	A	W	Lm*	L*	H	h1	h2	h3	e	m1	m2	m3	m4	n1	n2	n3	n4	Sp	Sm
F2	100-250	5,5	132M	125	100	140	214	396	750	505	225	280	132	89	120	160	178	218	315	400	216	252	19	12
F2	100-250	7,5	132M	125	100	140	214	396	750	505	225	280	132	89	120	160	178	218	315	400	216	252	19	12
F2	100-250	11	160M	125	100	140	244	466	850	505	225	280	160	108	120	160	254	311	315	400	254	298	19	15
F2	100-250	15	160L	125	100	140	244	466	850	505	225	280	160	108	120	160	254	311	315	400	254	298	19	15
F2	100-315	15	160L	125	100	140	244	466	850	565	250	315	160	108	120	160	254	311	315	400	254	298	19	15
F2	100-315	18,5	180M	125	100	140	244	519	903	565	250	315	180	121	120	160	279	343	315	400	279	344	19	15
F2	100-315	22	180L	125	100	140	244	519	903	565	250	315	180	121	120	160	279	343	315	400	279	344	19	15
F2	100-315	30	200L	125	100	140	246	555	941	565	250	315	200	133	120	160	305	365	315	400	318	388	19	19
F2	100-400	22	180L	125	100	140	245	519	904	635	280	355	180	121	150	200	279	343	400	500	279	344	19	15
F2	100-400	30	200L	125	100	140	245	555	940	635	280	355	200	133	150	200	305	365	400	500	318	388	19	19
F2	100-400	37	225M	125	100	140	305	625	1070	635	280	355	200	133	150	200	305	365	400	500	318	388	19	19
F2	100-400	45	225M	125	100	140	305	625	1070	635	280	355	225	149	150	200	311	383	400	500	356	442	19	19
F2	100-400	55	250M	125	100	140	305	746	1195	635	280	355	250	168	150	200	349	421	400	500	406	506	19	24
F2	100-400	75	280M	125	100	140	305	885	1330	635	280	355	280	190	150	200	419	498	400	500	457	554	19	24
F2	100-400	90	280M	125	100	140	305	885	1330	635	280	355	280	190	150	200	419	498	400	500	457	554	19	24
F1	125-200	7,5	132M	150	125	140	214	396	750	565	250	315	132	89	120	160	178	218	315	400	216	252	19	12
F1	125-200	11	160M	150	125	140	244	466	850	565	250	315	160	108	120	160	254	311	315	400	254	298	19	15
F2	125-250	15	160L	150	125	140	244	466	850	605	250	355	160	108	120	160	254	311	315	400	254	298	19	15
F2	125-250	18,5	180M	150	125	140	244	519	903	605	250	355	180	121	120	160	279	343	315	400	279	344	19	15
F2	125-250	22	180L	150	125	140	244	519	903	605	250	355	180	121	120	160	279	343	315	400	279	344	19	15
F1	125-315	11	160M	150	125	140	256	466	862	635	280	355	160	108	150	220	254	311	400	500	254	298	23	15
F1	125-315	15	160L	150	125	140	256	466	862	635	280	355	160	108	150	220	254	311	400	500	254	298	23	15
F1	125-315	18,5	180M	150	125	140	256	519	915	635	280	355	180	121	150	220	279	343	400	500	279	344	23	15
F1	125-315	22	180L	150	125	140	256	519	915	635	280	355	180	121	150	220	279	343	400	500	279	344	23	15
F1	125-315	30	200L	150	125	140	256	555	951	635	280	355	200	133	150	220	305	365	400	500	318	388	23	19
F1	125-315	37	225M	150	125	140	316	625	1081	635	280	355	225	149	150	220	305	365	400	500	356	442	23	19
F1	125-315	45	225M	150	125	140	316	625	1081	635	280	355	225	149	150	220	305	365	400	500	356	442	23	19
F2	125-400	37	225M	150	125	140	316	625	1081	715	315	400	225	149	150	200	311	383	400	500	356	442	23	19
F2	125-400	45	225M	150	125	140	316	625	1081	715	315	400	225	149	150	200	311	383	400	500	356	442	23	19
F2	125-400	55	250M	150	125	140	316	753	1209	715	315	400	250	168	150	200	349	409	400	500	406	506	23	24
F2	125-400	75	280M	150	125	140	316	869	1325	715	315	400	280	180	150	200	419	501	400	500	457	554	23	24
F2	125-400	90	280M	150	125	140	316	869	1325	715	315	400	280	180	150	200	419	501	400	500	457	554	23	24
F1	150-200	11	160M	200	150	160	244	466	870	635	280	355	160	108	150	200	254	311	400	500	254	298	23	15
F1	150-200	15	160L	200	150	160	244	466	870	635	280	355	160	108	150	200	254	311	400	500	254	298	23	15
F2	150-250	15	160L	200	150	160	244	466	870	655	280	375	160	108	150	200	254	311	400	500	254	298	23	15
F2	150-250	18,5	180M	200	150	160	244	519	923	655	280	375	180	121	150	200	279	343	400	500	279	344	23	15
F2	150-250	22	180L	200	150	160	244	519	923	655	280	375	180	121	150	200	279	343	400	500	279	344	23	15
F2	150-250	30	200L	200	150	160	246	555	961	655	280	375	200	133	150	200	305	365	400	500	318	388	23	19
F1	150-315	18,5	180M	200	150	160	258	753	1229	680	280	400	180	168	150	200	349	409	450	550	279	344	23	24
F1	150-315	22	180L	200	150	160	258	753	1229	680	280	400	180	168	150	200	349	409	450	550	279	344	23	24
F1	150-315	30	200L	200	150	160	258	555	971	680	280	400	200	133	150	200	305	365	450	550	318	388	23	19
F1	150-315	37	225M	200	150	160	318	625	1101	680	280	400	225	149	150	200	311	383	450	550	356	442	23	19
F1	150-315	45	225M	200	150	160	318	625	1101	680	280	400	225	149	150	200	311	383	450	550	356	442	23	19
F1	150-315	55	250M	200	150	160	318	753	1229	680	280	400	250	168	150	200	349	409	450	550	406	506	23	24
F2	150-400	45	225M	200	150	160	315	625	1101	765	315	450	225	149	150	200	311	383	450	550	356	442	23	19
F2	150-400	55	250M	200	150	160	315	746	1222	765	315	450	250	168	150	200	349	421	450	550	406	506	23	24
F2	150-400	75	280M	200	150	160	315	885	1361	765	315	450	280	190	150	200	419	498	450	550	457	554	23	24
F2	150-400	90	280M	200	150	160	315	885	1361	765	315	450	280	190	150	200	419	498	450	550	457	554	23	24
F1	200-260	30	200M	250	200	200	286	555	1041	765	315	450	200	133	200	250	305	365	500	600	318	388	23	15
F1	200-260	37	225M	250	200	200	346	655	1201	765	315	450	225	133	200	250	311	383	500	600	356	442	23	19
F1	200-260	45	225M	250	200	200	346	655	1201	765	315	450	225	133	200	250	311	383	500	600	356	442	23	19
F1	200-315	37	225M	250	200	200	336	655	1191	765	315	450	225	95	200	250	311	383	500	600	356	442	23	19
F1	200-315	45	225M	250	200	200	336	655	1191	765	315	450												

1000 rpm (6 Pole Motor)

FORM	Pump Type	MOTOR		ECO SNM INSTALLATION DIMENSIONS (mm)																				
				kW	IEC	DNe	DNb	A	W	Lm*	L*	H	h1	h2	h3	e	m1	m2	m3	m4	n1	n2	n3	n4
F1	200-260	7,5	160M	250	200	200	286	466	952	765	315	450	160	108	200	250	210	254	500	600	234	298	23	19
F1	200-260	11	160L	250	200	200	286	466	952	765	315	450	160	108	200	250	254	311	500	600	234	298	23	15
F1	200-315	11	160M	250	200	200	276	466	942	765	315	450	160	108	200	250	254	311	500	600	234	298	23	19
F1	200-315	15	180M	250	200	200	276	519	995	765	315	450	180	129	200	250	279	343	500	600	279	344	23	19
F1	200-315	18,5	200M	250	200	200	276	555	1031	765	315	450	200	103	200	250	305	365	500	600	314	388	23	15

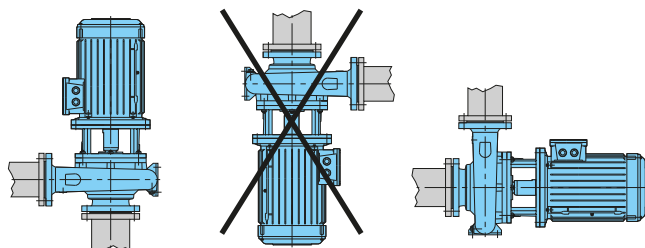
Installation Arrangements

ECO SNM / ECO SNM-V pumps can be installed in different arrangements



Horizontal installation on ground

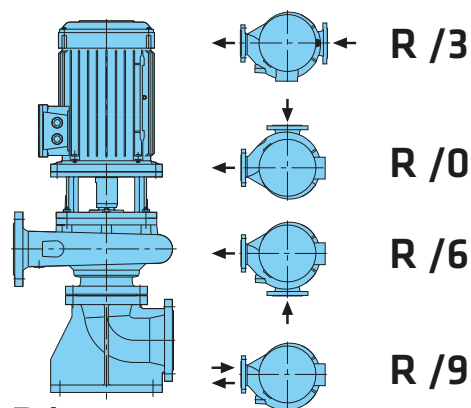
Horizontal position on a base plate



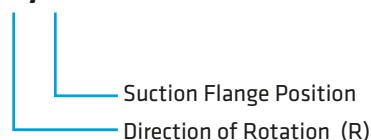
Installation on perpendicular pipes

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

ECO SNM



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.

ECO SNM-V Type Pumps

Pump Type	MOTOR			rpm
	kW	IEC		
32-125	0.37	71M	1450	
32-125	0.55	80M	1450	
32-125	1.5	90S	2900	
32-125	2.2	90L	2900	
32-125	3	100L	2900	
32-125	4	112M	2900	
32-160	0.37	71M	1450	
32-160	0.55	80M	1450	
32-160	0.75	80M	1450	
32-160	2.2	90L	2900	
32-160	3	100L	2900	
32-160	4	112M	2900	
32-160	5.5	132S	2900	
32-200	0.75	80M	1450	
32-200	1.1	90S	1450	
32-200	1.5	90L	1450	
32-250	1.1	90S	1450	
32-250	1.5	90L	1450	
32-250	2.2	100L	1450	
32-250	3	100H	1450	
40-125	0.37	71M	1450	
40-125	0.55	80M	1450	
40-125	2.2	90L	2900	
40-125	3	100L	2900	
40-125	4	112M	2900	
40-125	5.5	132S	2900	
40-160	0.55	80M	1450	
40-160	0.75	80M	1450	
40-160	1.1	90S	1450	
40-160	4	112M	2900	
40-160	5.5	132S	2900	
40-160	7.5	132S	2900	
40-200	1.1	80M	1450	
40-200	1.5	90S	1450	
40-200	2.2	100L	1450	
40-250	2.2	100L	1450	
40-250	3	100H	1450	
40-250	4	112M	1450	

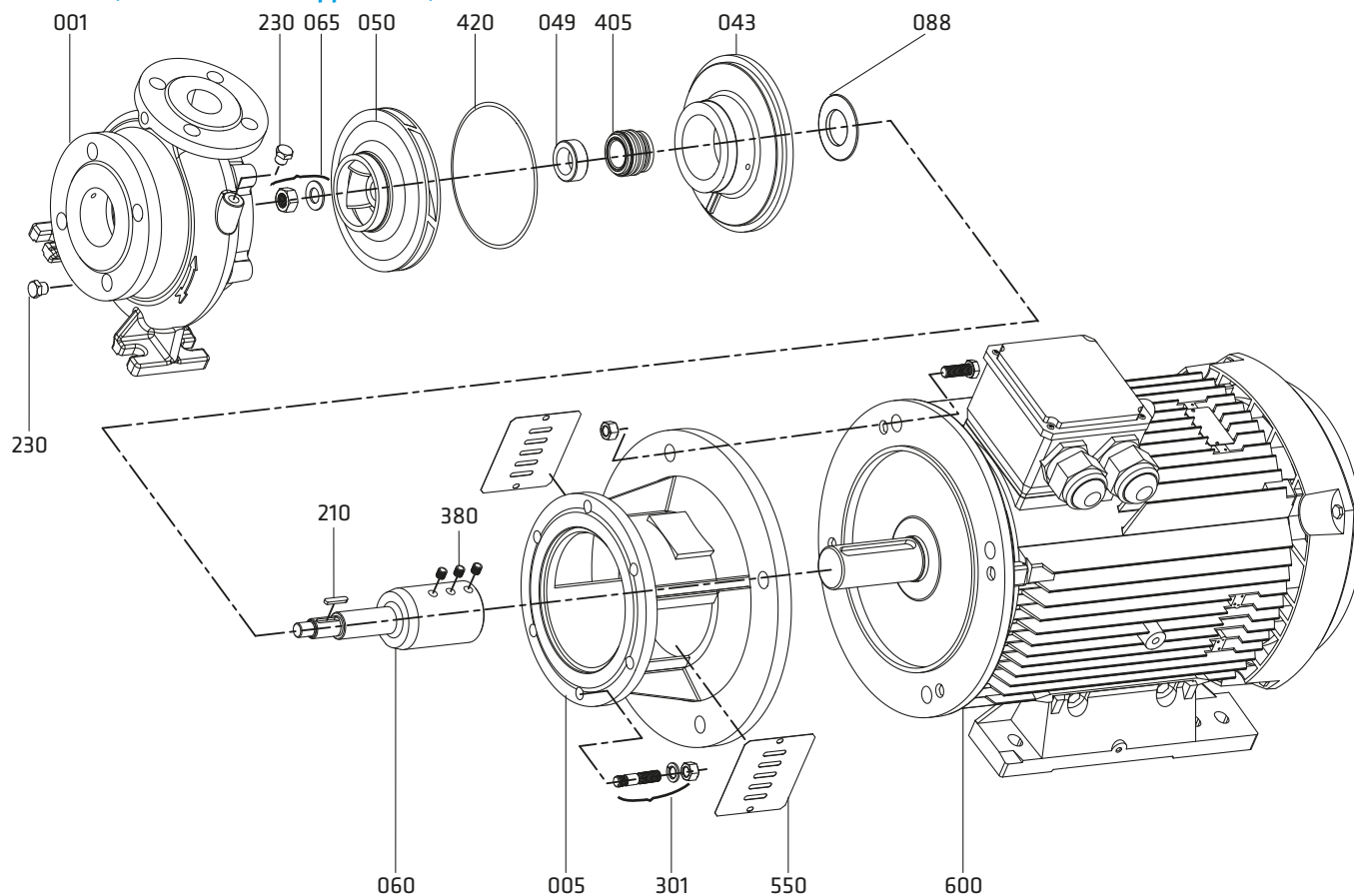
Pump Type	MOTOR			rpm
	kW	IEC		
50-125	0.55	80M	1450	
50-125	0.75	80M	1450	
50-125	1.1	80M	1450	
50-125	3	100L	2900	
50-125	4	112M	2900	
50-125	5.5	132S	2900	
50-125	7.5	132S	2900	
50-160	0.75	80M	1450	
50-160	1.1	90S	1450	
50-160	1.5	90L	1450	
50-160	2.2	100L	1450	
50-160	5.5	132S	2900	
50-160	7.5	132S	2900	
50-160	11	160M	2900	
50-160	15	160M	2900	
50-200	1.1	90S	1450	
50-200	1.5	90L	1450	
50-200	2.2	100L	1450	
50-200	3	100H	1450	
50-250	2.2	100L	1450	
50-250	3	100H	1450	
50-250	4	112M	1450	
50-250	5.5	132S	2900	
50-250	7.5	132S	2900	
50-250	11	160M	2900	
65-125	0.55	80M	1450	
65-125	0.75	80M	1450	
65-125	1.1	90S	1450	
65-125	1.5	90L	1450	
65-125	4	112M	2900	
65-125	5.5	132S	2900	
65-125	7.5	132S	2900	
65-125	11	160M	2900	
65-160	1.1	90S	1450	
65-160	1.5	90L	1450	
65-160	2.2	100L	1450	
65-160	7.5	132S	2900	
65-160	11	160M	2900	
65-160	15	160M	2900	

Pump Type	MOTOR			rpm
	kW	IEC		
65-200	1.5	90S	1450	
65-200	2.2	100L	1450	
65-200	3	100H	1450	
65-200	4	112M	1450	
65-200	15	160M	2900	
65-200	18.5	160L	2900	
65-200	22	180M	2900	
65-200	30	200L	2900	
65-250	3	100H	1450	
65-250	4	112M	1450	
65-250	5.5	132S	1450	
65-250	7.5	132M	1450	
65-315	5.5	132S	1450	
65-315	7.5	132M	1450	
65-315	11	160M	1450	
65-315	15	160H	1450	
80-160	1.5	90L	1450	
80-160	2.2	100L	1450	
80-160	3	100H	1450	
80-160	11	160M	2900	
80-160	15	160M	2900	
80-160	18.5	160H	2900	
80-160	22	180M	2900	
80-160	30	200L	2900	
80-200	3	100H	1450	
80-200	4	112M	1450	
80-200	5.5	132S	1450	
80-250	4	112M	1450	
80-250	5.5	132S	1450	
80-250	7.5	132M	1450	
80-250	11	160M	1450	
80-315	11	160M	1450	
80-315	15	160H	1450	
80-315	18.5	180M	1450	
100-160	3	100H	1450	
100-160	4	112M	1450	
100-160	5.5	132S	1450	

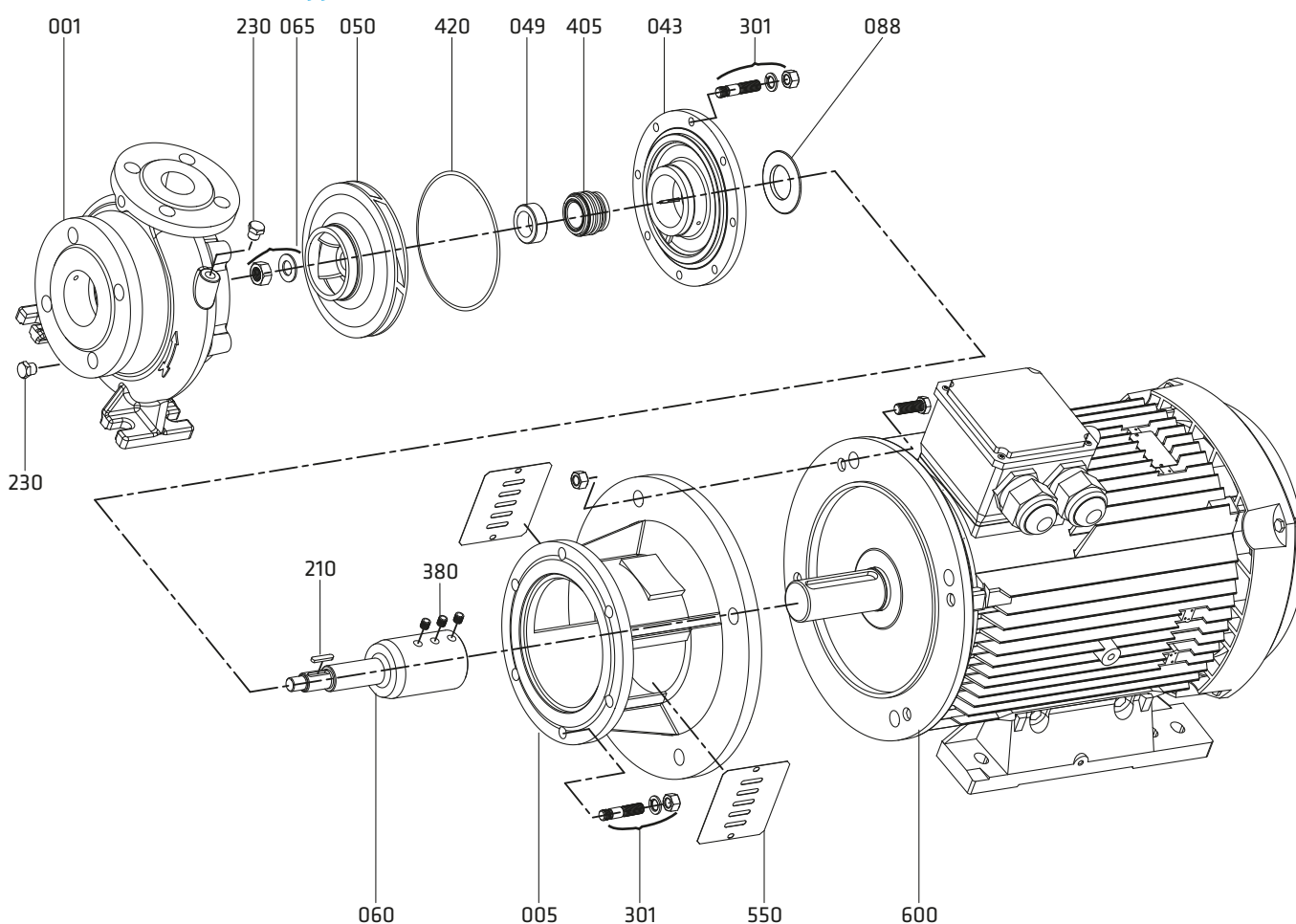
Pump Type	MOTOR			rpm
	kW	IEC		
100-200	4	112M	1450	
100-200	5.5	132S	1450	
100-200	7.5	132M	1450	
100-250	5.5	132S	1450	
100-250	7.5	132M	1450	
100-250	11	160M	1450	
100-250	15	160H	1450	
100-315	15	160H	1450	
100-315	18.5	180M	1450	
100-315	22	180L	1450	
100-315	30	200L	1450	
125-200	5.5	132S	1450	
125-200	7.5	132M	1450	
125-200	11	160M	1450	
125-250	15	160H	1450	
125-250	18.5	180M	1450	
125-250	22	180L	1450	

Assembly Drawings

Form: F1 (Slide - Fit Shaft Application)



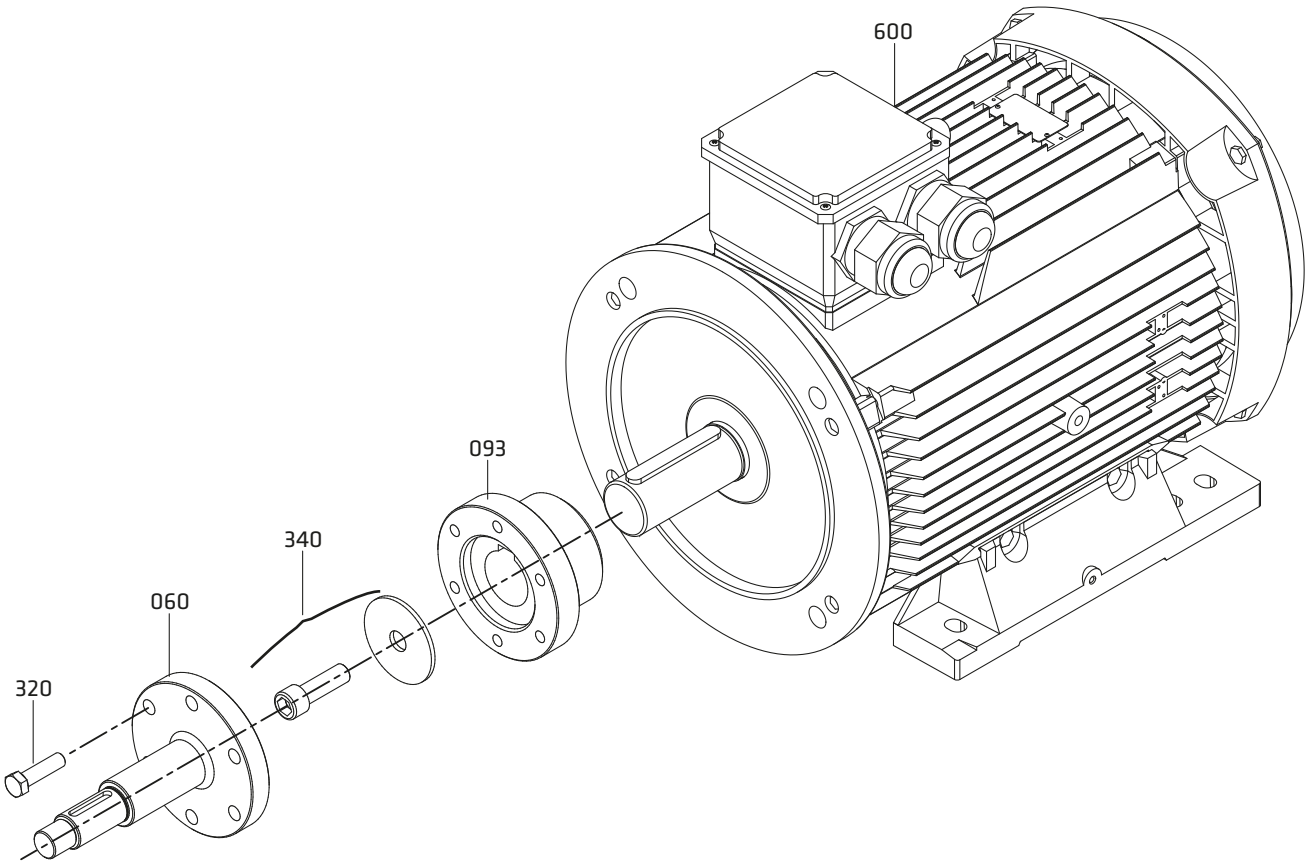
Form: F2 (Slide - Fit Shaft Application)



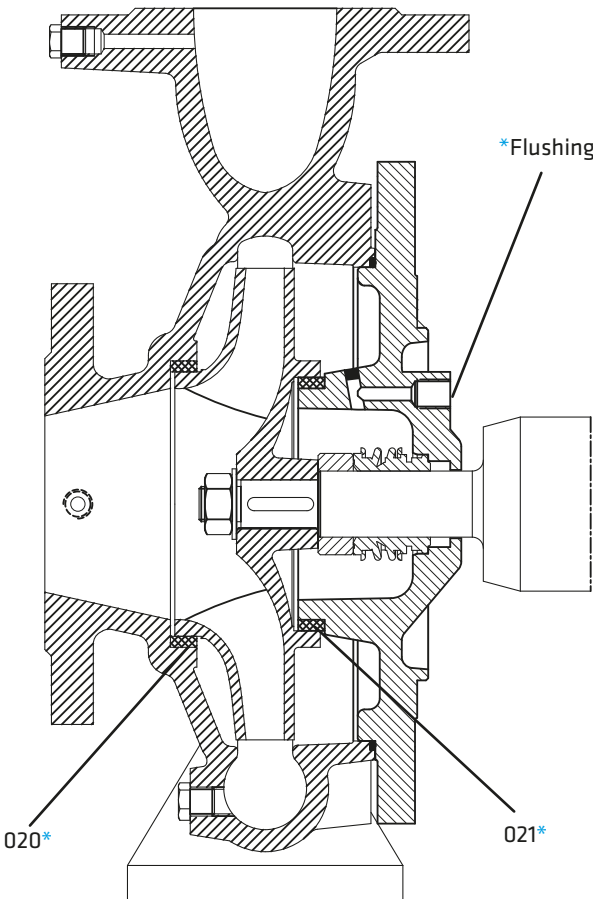
Rigid Coupling Application

ECO SNM

For motor shaft diameters of Ø60 mm or bigger.



Optional Applications



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

Material Option

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

○ Optional

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

Material Equivalents

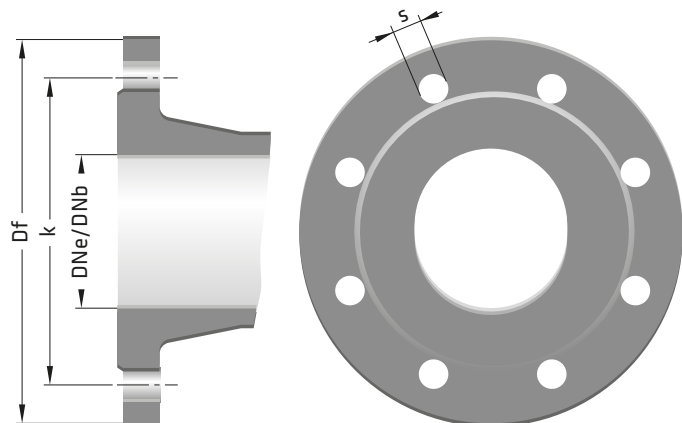
Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	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
Martensitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martensitic 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	18	4
40	150	110	18	4
50	165	125	18	4
65	185	145	18	4
80	200	160	18	8
100	220	180	18	8
125	250	210	18	8
150	285	240	22	8
200	340	295	22	12
250	405	355	26	12

"n" number of holes



Pump • Fire Fighting Units • Booster Set

ECO SNL IN-LINE PUMPS



ECO SNL Rev.05.03.2024

Handled Liquids

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

Technical Data

Discharge Flange _____ DN 40.....DN 200 mm

Capacity _____ up to 850 m³/h(*)

Head _____ up to 100 m(*)

Speed _____ up to 3600 rpm(*)

Design 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

•In-line, closed-coupled, volute casing, single stage centrifugal pump with closed impeller.

•Complies EU547/2012 regulations.

•Suction and discharge flanges conform to EN 1092-2 / PN 16. In case of request, ANSI/ASME flanges can be supplied.

Pump Designation

Pump Type _____

Suction and Discharge Nozzle (DN-mm)* _____

Nominal Impeller Diameter (mm) _____

Special Application _____

*excluding 200 - 340



•Pumps are closed coupled with electric motors of IEC frame sizes with high efficiency class. (IE3-IE4)

•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 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.

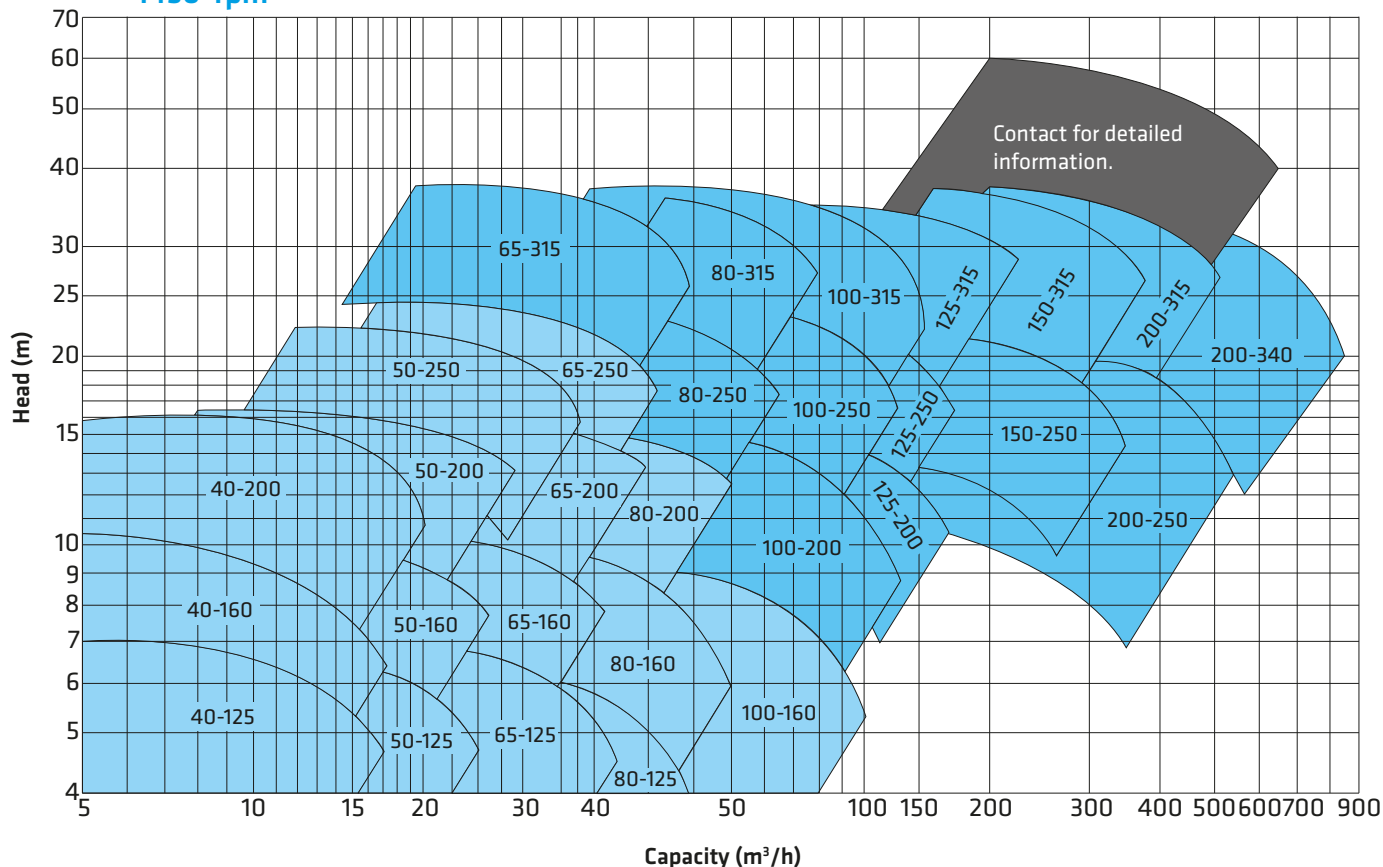
•For 200-340 model pump; discharge flange is DN 200, while suction flange is DN 300.

Shaft Sealing

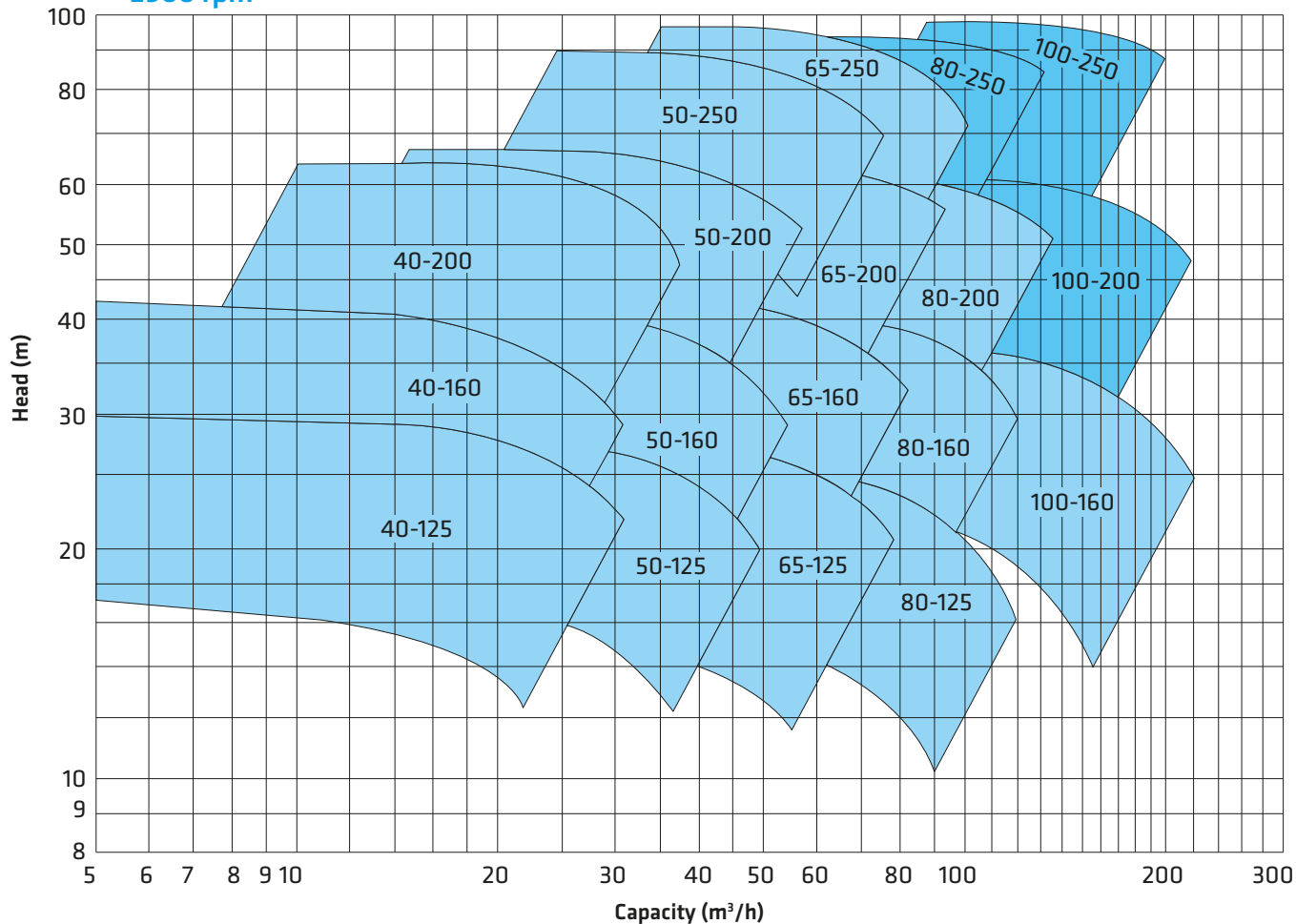
•Different mechanical seals are available according to customer request or liquid type.

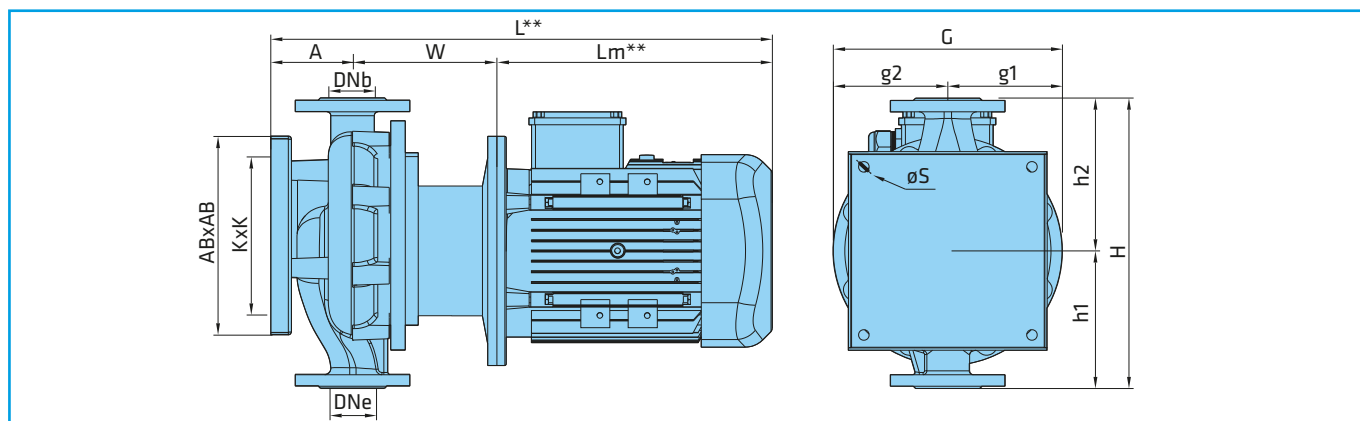
ECO SNL 100 - 250 - XXX

1450 rpm



2900 rpm





** Dimensions differ due to motor manufacturer.

2900 rpm (2 Pole Motor)

FORM	Pump Type	MOTOR		DNe DNb	ECO SNL DIMENSIONS (mm)														Bottom Plate (*)
		kW	IEC		mm	A	W	Lm**	L**	H	h1	h2	G	g1	g2	ABxAB	KxK	øS	
F1	40-125	1,5	90L	40	109	156	267	532	300	140	160	210	110	100	170	130	14	T0	
F1	40-125	2,2	90L	40	109	156	267	532	300	140	160	210	110	100	170	130	14	T0	
F1	40-125	3	100L	40	109	179	292	580	300	140	160	210	110	100	200	160	14	T1	
F1	40-125	4	112M	40	109	179	336	624	300	140	160	210	110	100	200	160	14	T1	
F1	40-160	2,2	90L	40	103	156	267	526	340	160	180	245	130	115	170	130	14	T0	
F1	40-160	3	100L	40	103	179	292	574	340	160	180	245	130	115	200	160	14	T1	
F1	40-160	4	112M	40	103	179	336	618	340	160	180	245	130	115	200	160	14	T1	
F1	40-160	5,5	132S	40	103	189	361	652	340	160	180	245	130	115	200	160	14	T1	
F2	40-200	5,5	132S	40	107	189	361	657	380	180	200	275	140	135	260	220	14	T2	
F2	40-200	7,5	132M	40	107	189	396	692	380	180	200	275	140	135	260	220	14	T2	
F2	40-200	11	160M	40	107	226	466	799	380	180	200	275	140	135	260	220	14	T2	
F1	50-125	2,2	90L	50	133	156	267	556	360	160	200	220	120	100	200	160	14	T1	
F1	50-125	3	100L	50	133	179	292	604	360	160	200	220	120	100	200	160	14	T1	
F1	50-125	4	112M	50	133	179	335	647	360	160	200	220	120	100	200	160	14	T1	
F1	50-125	5,5	132S	50	133	189	361	683	360	160	200	220	120	100	200	160	14	T1	
F1	50-160	4	112M	50	138	179	336	653	340	160	180	255	135	120	200	160	14	T1	
F1	50-160	5,5	132S	65	138	189	361	687	340	160	180	255	135	120	200	160	14	T1	
F1	50-160	7,5	132M	65	138	189	396	723	340	160	180	255	135	120	200	160	14	T1	
F2	50-200	7,5	132M	65	122	189	396	707	425	200	225	280	145	135	260	220	14	T2	
F2	50-200	11	160M	65	122	226	466	814	425	200	225	280	145	135	260	220	14	T2	
F2	50-200	15	160L	65	122	226	466	814	425	200	225	280	145	135	260	220	14	T2	
F2	50-200	18,5	160L	65	122	226	466	814	425	200	225	280	145	135	260	220	14	T2	
F2	50-250	15	160L	65	117	226	466	809	475	225	250	340	175	165	260	220	14	T2	
F2	50-250	18,5	160L	65	117	226	466	809	475	225	250	340	175	165	260	220	14	T2	
F2	50-250	22	180M	65	117	226	519	862	475	225	250	340	175	165	260	220	14	T2	
F2	50-250	30	200L	65	124	226	555	905	475	225	250	340	175	165	320	270	18	T3	
F1	65-125	3	100L	65	163	179	292	634	340	160	180	250	140	110	200	160	14	T1	
F1	65-125	4	112M	65	163	179	336	678	340	160	180	250	140	110	200	160	14	T1	
F1	65-125	5,5	132S	65	163	189	361	712	340	160	180	250	140	110	200	160	14	T1	
F1	65-125	7,5	132M	65	163	189	396	748	340	160	180	250	140	110	200	160	14	T1	
F1	65-160	5,5	132S	65	147	189	361	696	380	180	200	280	150	130	260	220	14	T2	
F1	65-160	7,5	132M	65	147	189	396	732	380	180	200	280	150	130	260	220	14	T2	
F1	65-160	11	160M	65	147	226	466	839	380	180	200	280	150	130	260	220	14	T2	
F1	65-160	15	160L	65	147	226	466	839	380	180	200	280	150	130	260	220	14	T2	
F2	65-200	11	160M	65	132	226	466	824	475	225	250	300	155	145	260	220	14	T2	
F2	65-200	15	160L	65	132	226	466	824	475	225	250	300	155	145	260	220	14	T2	
F2	65-200	18,5	160L	65	132	226	466	824	475	225	250	300	155	145	260	220	14	T2	
F2	65-200	22	180M	65	132	226	519	877	475	225	250	300	155	145	260	220	14	T2	
F2	65-250	18,5	160L	65	132	226	466	824	475	225	250	345	180	165	260	220	14	T2	
F2	65-250	22	180M	65	132	226	519	877	475	225	250	345	180	165	260	220	14	T2	
F2	65-250	30	200L	65	139	226	555	920	475	225	250	345	180	165	320	270	18	T3	
F2	65-250	37	200L	65	139	226	555	920	475	225	250	345	180	165	320	270	18	T3	
F1	80-125	4	112M	80	172	179	336	687	400	180	220	280	160	120	260	220	14	T2	
F1	80-125	5,5	132S	80	172	179	361	712	400	180	220	280	160	120	260	220	14	T2	
F1	80-125	7,5	132M	80	172	179	396	748	400	180	220	280	160	120	260	220	14	T2	
F1	80-125	11	160M	80	172	217	466	855	400	180	220	280	160	120	260	220	14	T2	
F1	80-160	7,5	132M	80	162	189	396	748	425	200	225	295	160	135	260	220	14	T2	
F1	80-160	11	160M	80	162	226	466	854	425	200	225	295	160	135	260	220	14	T2	
F1	80-160	15	160L	80	162	226	466	854	425	200	225	295	160	135	260	220	14	T2	
F2	80-200	15	160L	80	152	226	466	844	475	225	250	315	170	145	260	220	14	T2	
F2	80-200	18,5	160L	80	152	226	466	844	475	225	250	315	170	145	260	220	14	T2	
F2	80-200	22	180M	80	152	226	519	897	475	225	250	315	170	145	260	220	14	T2	
F2	80-200	30	200L	80	159	226	555	940	475	225	250	315	170	145	320	270	18	T3	

2900 rpm (2 Pole Motor)

FORM	Pump Type	MOTOR		DNe DNb mm	ECO SNL DIMENSIONS (mm)													Bottom Plate (*)
		kW	IEC		A	W	Lm*	L*	H	h1	h2	G	g1	g2	ABxAB	KxK	øS	
F2	80-250	30	200L	80	184	246	555	985	560	280	280	375	195	180	320	270	18	T3
F2	80-250	37	200L	80	184	246	555	985	560	280	280	375	195	180	320	270	18	T3
F2	80-250	45	225M	80	184	248	625	1057	560	280	280	375	195	180	320	270	18	T3
F2	80-250	55	250M	80	189	294	746	1236	560	280	280	375	195	180	400	350	18	T4
F1	100-160	11	160M	100	224	226	466	916	475	175	300	370	200	170	320	270	18	T3
F1	100-160	15	160L	100	224	226	466	916	475	175	300	370	200	170	320	270	18	T3
F1	100-160	18,5	160L	100	224	226	466	916	475	175	300	370	200	170	320	270	18	T3
F1	100-160	22	180M	100	224	226	519	969	475	175	300	370	200	170	320	270	18	T3
F1	100-160	30	200L	100	224	226	555	1005	475	175	300	370	200	170	320	270	18	T3
F1	100-200	22	180M	100	202	244	519	965	550	250	300	350	190	160	260	220	14	T2
F1	100-200	30	200L	100	209	246	555	1010	550	250	300	350	190	160	320	270	18	T3
F1	100-200	37	200L	100	209	246	555	1010	550	250	300	350	190	160	320	270	18	T3
F1	100-200	45	225M	100	209	248	625	1082	550	250	300	350	190	160	320	270	18	T3
F2	100-250	37	200L	100	204	246	555	1005	580	280	300	380	205	175	320	270	18	T3
F2	100-250	45	225M	100	204	248	625	1077	580	280	300	380	205	175	320	270	18	T3
F2	100-250	55	250M	100	209	294	754	1257	580	280	300	380	205	175	400	350	18	T4
F2	100-250	75	280M	100	209	294	886	1389	580	280	300	380	205	175	400	350	18	T4
F2	100-250	90	280M	100	209	294	886	1389	580	280	300	380	205	175	400	350	18	T4

1450 rpm (4 Pole Motor)

F1	40-125	0,37	71M	40	109	136	222	467	300	140	160	210	110	100	170	130	14	T0
F1	40-125	0,55	80M	40	109	156	243	509	300	140	160	210	110	100	170	130	14	T0
F1	40-160	0,37	71M	40	103	136	222	462	340	160	180	245	130	115	170	130	14	T0
F1	40-160	0,55	80M	40	103	156	243	503	340	160	180	245	130	115	170	130	14	T0
F1	40-160	0,75	80M	40	103	156	243	503	340	160	180	245	130	115	170	130	14	T0
F2	40-200	0,55	80M	40	103	156	244	503	380	180	200	275	140	135	200	160	14	T1
F2	40-200	0,75	80M	40	103	156	244	503	380	180	200	275	140	135	200	160	14	T1
F2	40-200	1,1	90L	40	103	156	267	526	380	180	200	275	140	135	200	160	14	T1
F2	40-200	1,5	90L	40	103	156	267	526	380	180	200	275	140	135	200	160	14	T1
F1	50-125	0,37	71M	50	133	136	222	492	360	160	200	220	120	100	200	160	14	T1
F1	50-125	0,55	80M	50	133	156	243	533	360	160	200	220	120	100	200	160	14	T1
F1	50-125	0,75	80M	50	133	156	243	533	360	160	200	220	120	100	200	160	14	T1
F1	50-160	0,55	80M	50	138	156	244	538	340	160	180	255	135	120	170	130	14	T0
F1	50-160	0,75	80M	50	138	156	244	538	340	160	180	255	135	120	170	130	14	T0
F1	50-160	1,1	90L	50	138	156	267	561	340	160	180	255	135	120	170	130	14	T0
F2	50-200	1,1	90L	50	118	156	267	541	425	200	225	280	145	135	200	160	14	T1
F2	50-200	1,5	90L	50	118	156	267	541	425	200	225	280	145	135	200	160	14	T1
F2	50-200	2,2	100L	50	118	179	292	589	425	200	225	280	145	135	200	160	14	T1
F2	50-250	2,2	100L	50	117	179	292	588	475	225	250	340	175	165	260	220	14	T2
F2	50-250	3	100L	50	117	179	292	588	475	225	250	340	175	165	260	220	14	T2
F2	50-250	4	112M	50	117	179	336	632	475	225	250	340	175	165	260	220	14	T2
F1	65-125	0,37	71M	65	163	136	222	522	340	160	180	140	110	140	200	160	14	T1
F1	65-125	0,55	80M	65	163	156	244	563	340	160	180	140	110	140	200	160	14	T1
F1	65-125	0,75	80M	65	163	156	244	563	340	160	180	140	110	140	200	160	14	T1
F1	65-125	1,1	90L	65	163	156	266	585	340	160	180	140	110	140	200	160	14	T1
F1	65-160	0,75	80M	65	143	156	244	543	380	180	200	150	130	150	200	160	14	T1
F1	65-160	1,1	90L	65	143	156	267	566	380	180	200	150	130	150	200	160	14	T1
F1	65-160	1,5	90L	65	143	156	267	566	380	180	200	150	130	150	200	160	14	T1
F1	65-160	2,2	100L	65	143	179	292	614	380	180	200	150	130	150	200	160	14	T1
F2	65-200	1,1	90L	65	132	156	267	555	475	225	250	300	155	145	260	220	14	T2
F2	65-200	1,5	90L	65	132	156	267	555	475	225	250	300	155	145	260	220	14	T2
F2	65-200	2,2	100L	65	132	179	292	603	475	225	250	300	155	145	260	220	14	T2
F2	65-200	3	100L	65	132	179	292	603	475	225	250	300	155	145	260	220	14	T2
F2	65-250	2,2	100L	65	132	179	292	603	475	225	250	345	180	165	260	220	14	T2
F2	65-250	3	100L	65	132	179	292	603	475	225	250	345	180	165	260	220	14	T2
F2	65-250	4	112M	65	132	179	336	647	475	225	250	345	180	165	260	220	14	T2
F2	65-250	5,5	132M	65	132	189	396	717	475	225	250	345	180	165	260	220	14	T2
F2	65-315	5,5	132M	65	169	215	396	780	560	280	280	420	220	200	400	350	18	T4
F2	65-315	7,5	132M	65	169	215	396	780	560	280	280	420	220	200	400	350	18	T4
F2	65-315	11	160M	65	169	245	466	880	560	280	280	420	220	200	400	350	18	T4
F1	80-125	0,55	80M	80	172	146	245	563	400	180	220	280	160	120	260	220	14	T2
F1	80-125	0,75	80M	80	172	146	245	563	400	180	220	280	160	120	260	220	14	T2
F1	80-125	1,1	90L	80	172	146	268	586	400	180	220	280	160	120	260	220	14	T2
F1	80-160	1,1	90L	80	158	156	267	581	425	200	225	295	160	135	200	160	14	T1
F1	80-160	1,5	90L	80	158	156	267	581	425	200	225	295	160	135	200	160	14	T1
F1	80-160	2,2	100L	80	158	179	292	629	425	200	225	295	160	135	200	160	14	T1
F2	80-200	1,5	90L	80	152	156	267	575	475	225	250	315	170	145	260	220	14	T2
F2	80-200	2,2	100L	80	152	179	282	623	475	225	250	315	170	145	260	220	14	T2
F2	80-200	3	100L	80	152	179	282	623	475	225	250	315	170	145	260	220	14	T2
F2	80-200	4	112M	8	152	179	336	667	475	225	250	315	170	145	260	220	14	T2
F2	80-250	3	100L	80	184	189	292	665	560	280	280	375	195	180	320	270	18	T3
F2	80-250	4	112M	80	184	189	336	709	560	280	280	375	195	180	320	270	18	T3
F2	80-250	5,5	132M	80	184	214	396	794	560	280	280	375	195	180	320	270	18	T3
F2	80-250	7,5	132M	80	184	214	396	794	560	280	280	375	195	180	320	270	18	T3

1450 rpm (4 Pole Motor)

ECO SNL

FORM	Pump Type	MOTOR		DNe	DNb	ECO SNL DIMENSIONS (mm)														Bottom Plate (*)
		kW	IEC			mm	mm	A	W	Lm**	L**	H	h1	h2	G	g1	g2	ABxAB	KxK	
F2	80-315	5,5	132M	80	80	194	215	396	805	595	280	315	425	220	205	400	350	18	T4	
F2	80-315	7,5	132M	80	80	194	215	396	805	595	280	315	425	220	205	400	350	18	T4	
F2	80-315	11	160M	80	80	194	245	466	905	595	280	315	425	220	205	400	350	18	T4	
F2	80-315	15	160L	80	80	194	245	466	905	595	280	315	425	220	205	400	350	18	T4	
F1	100-160	1,5	90L	100	100	224	156	267	647	475	175	300	370	200	170	320	270	18	T3	
F1	100-160	2,2	100L	100	100	224	179	292	695	475	175	300	370	200	170	320	270	18	T3	
F1	100-160	3	100L	100	100	224	179	292	695	475	175	300	370	200	170	320	270	18	T3	
F1	100-200	3	100L	100	100	202	189	292	683	550	250	300	350	190	160	260	220	14	T2	
F1	100-200	4	112M	100	100	202	189	336	727	550	250	300	350	190	160	260	220	14	T2	
F1	100-200	5,5	132M	100	100	202	214	396	812	550	250	300	350	190	160	260	220	14	T2	
F2	100-250	4	112M	100	100	204	189	336	729	580	280	300	380	205	175	320	270	18	T3	
F2	100-250	5,5	132M	100	100	204	214	396	814	580	280	300	380	205	175	320	270	18	T3	
F2	100-250	7,5	132M	100	100	204	214	396	814	580	280	300	380	205	175	320	270	18	T3	
F2	100-250	11	160M	100	100	204	244	466	914	580	280	300	380	205	175	320	270	18	T3	
F2	100-315	7,5	132M	100	100	199	215	396	810	670	315	355	455	240	215	400	350	18	T4	
F2	100-315	11	160M	100	100	199	245	466	910	670	315	355	455	240	215	400	350	18	T4	
F2	100-315	15	160L	100	100	199	245	466	910	670	315	355	455	240	215	400	350	18	T4	
F2	100-315	18,5	180M	100	100	199	245	519	963	670	315	355	455	240	215	400	350	18	T4	
F1	125-200	4	112M	125	125	220	213	336	769	560	280	280	390	210	180	400	350	18	T4	
F1	125-200	5,5	132M	125	125	220	238	396	854	560	280	280	390	210	180	400	350	18	T4	
F1	125-200	7,5	132M	125	125	220	238	396	854	560	280	280	390	210	180	400	350	18	T4	
F2	125-250	5,5	132M	125	125	220	239	396	854	630	315	315	410	215	195	400	350	18	T4	
F2	125-250	7,5	132M	125	125	220	239	396	854	630	315	315	410	215	195	400	350	18	T4	
F2	125-250	11	160M	125	125	220	269	466	954	630	315	315	410	215	195	400	350	18	T4	
F2	125-250	15	160L	125	125	220	269	466	954	630	315	315	410	215	195	400	350	18	T4	
F2	125-315	11	160M	125	125	200	240	396	835	710	355	355	490	260	230	400	350	18	T4	
F2	125-315	15	160L	125	125	200	240	396	835	710	355	355	490	260	230	400	350	18	T4	
F2	125-315	18,5	180M	125	125	200	270	519	988	710	355	355	490	260	230	400	350	18	T4	
F2	125-315	22	180L	125	125	200	270	519	988	710	355	355	490	260	230	400	350	18	T4	
F2	125-315	30	200L	125	125	200	272	555	1026	710	355	355	490	260	230	400	350	18	T4	
F2	150-250	11	160M	150	150	223	290	466	974	710	355	355	470	250	220	400	350	18	T4	
F2	150-250	15	160L	150	150	223	290	466	974	710	355	355	470	250	220	400	350	18	T4	
F2	150-250	18,5	180M	150	150	223	290	519	1032	710	355	355	470	250	220	400	350	18	T4	
F2	150-250	22	180L	150	150	223	290	519	1032	710	355	355	470	250	220	400	350	18	T4	
F1	150-315	15	160L	150	150	224	304	490	1018	755	355	400	545	295	250	443	380	23	T5	
F1	150-315	18,5	180M	150	150	224	304	519	1047	755	355	400	545	295	250	443	380	23	T5	
F1	150-315	22	180L	150	150	224	304	519	1047	755	355	400	545	295	250	443	380	23	T5	
F1	150-315	30	200L	150	150	224	304	555	1083	755	355	400	545	295	250	443	380	23	T5	
F1	150-315	37	225M	150	150	224	364	701	1289	755	355	400	545	295	250	443	380	23	T5	
F1	150-315	45	225M	150	150	224	364	701	1289	755	355	400	545	295	250	443	380	23	T5	
F2	200-250	11	160M	200	200	263	324	466	1053	850	400	450	525	290	235	443	380	23	T5	
F2	200-250	15	160L	200	200	263	324	466	1053	850	400	450	525	290	235	443	380	23	T5	
F2	200-250	18,5	180M	200	200	263	324	519	1106	850	400	450	525	290	235	443	380	23	T5	
F2	200-250	22	180L	200	200	263	324	519	1106	850	400	450	525	290	235	443	380	23	T5	
F2	200-250	30	200L	200	200	263	326	555	1144	850	400	450	525	290	235	443	380	23	T5	
F1	200-315	22	180L	200	200	243	356	519	1118	850	400	450	540	300	240	443	380	23	T5	
F1	200-315	30	200L	200	200	243	356	555	1154	850	400	450	540	300	240	443	380	23	T5	
F1	200-315	37	225M	200	200	243	416	701	1360	850	400	450	540	300	240	443	380	23	T5	
F1	200-315	45	225M	200	200	243	416	701	1360	850	400	450	540	300	240	443	380	23	T5	
F1	200-315	55	250M	200	200	243	416	755	1414	850	400	450	540	300	240	443	380	23	T5	
F1	200-315	75	280M	200	200	243	416	885	1544	850	400	450	540	300	240	443	380	23	T5	
F1	200-340	37	200L	250	200	340	271	555	1166	1050	450	600	631	292	339	580	500	23	-	
F1	200-340	45	225M	250	200	340	331	625	1296	1050	450	600	631	292	339	580	500	23	-	
F1	200-340	55	250M	250	200	340	329	755	1424	1050	450	600	631	292	339	580	500	23	-	
F1	200-340	75	280M	250	200	340	329	886	1555	1050	450	600	631	292	339	580	500	23	-	

SNL series 1450 rpm (4 Pole Motor)

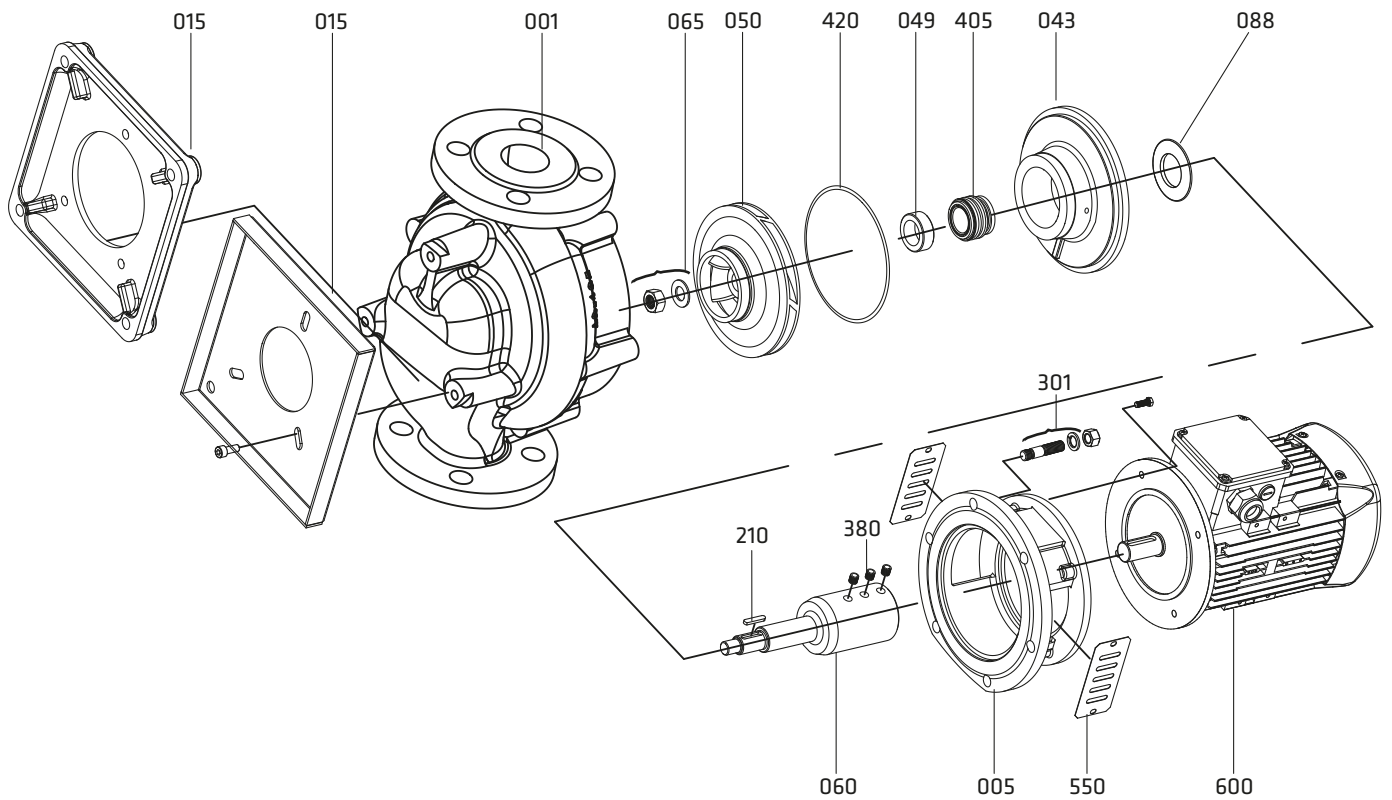
SNL

FORM	Pump Type	MOTOR		DNe DNb mm	SNL DIMENSIONS (mm)														Bottom Plate (**)
		kW	IEC		A	W	Lm*	L*	H	h1	h2	G	g1	g2	ABxAB	KxK	øS		
F1	150-400	37	225S	150	225	360	625	1210	800	400	400	604	314	290	440	380	23	T5	
F1	150-400	45	225M	150	225	360	625	1210	800	400	400	604	314	290	440	380	23	T5	
F1	150-400	55	250M	150	225	360	644	1229	800	400	400	604	314	290	440	380	23	T5	
F1	150-400	75	280M4	150	225	360	885	1470	800	400	400	604	314	290	440	380	23	T5	
F1	150-400	90	280M4	150	225	360	885	1470	800	400	400	604	314	290	440	380	23	T5	
F1	200-400	37	225S	200	245	400	625	1270	900	400	500	618	328	290	440	380	23	T5	
F1	200-400	45	225M	200	245	400	625	1270	900	400	500	618	328	290	440	380	23	T5	
F1	200-400	55	250M	200	245	400	644	1289	900	400	500	618	328	290	440	380	23	T5	
F1	200-400	75	280M4	200	245	400	885	1530	900	400	500	618	328	290	440	380	23	T5	
F1	200-400	90	280M4	200	245	400	885	1530	900	400	500	618	328	290	440	380	23	T5	

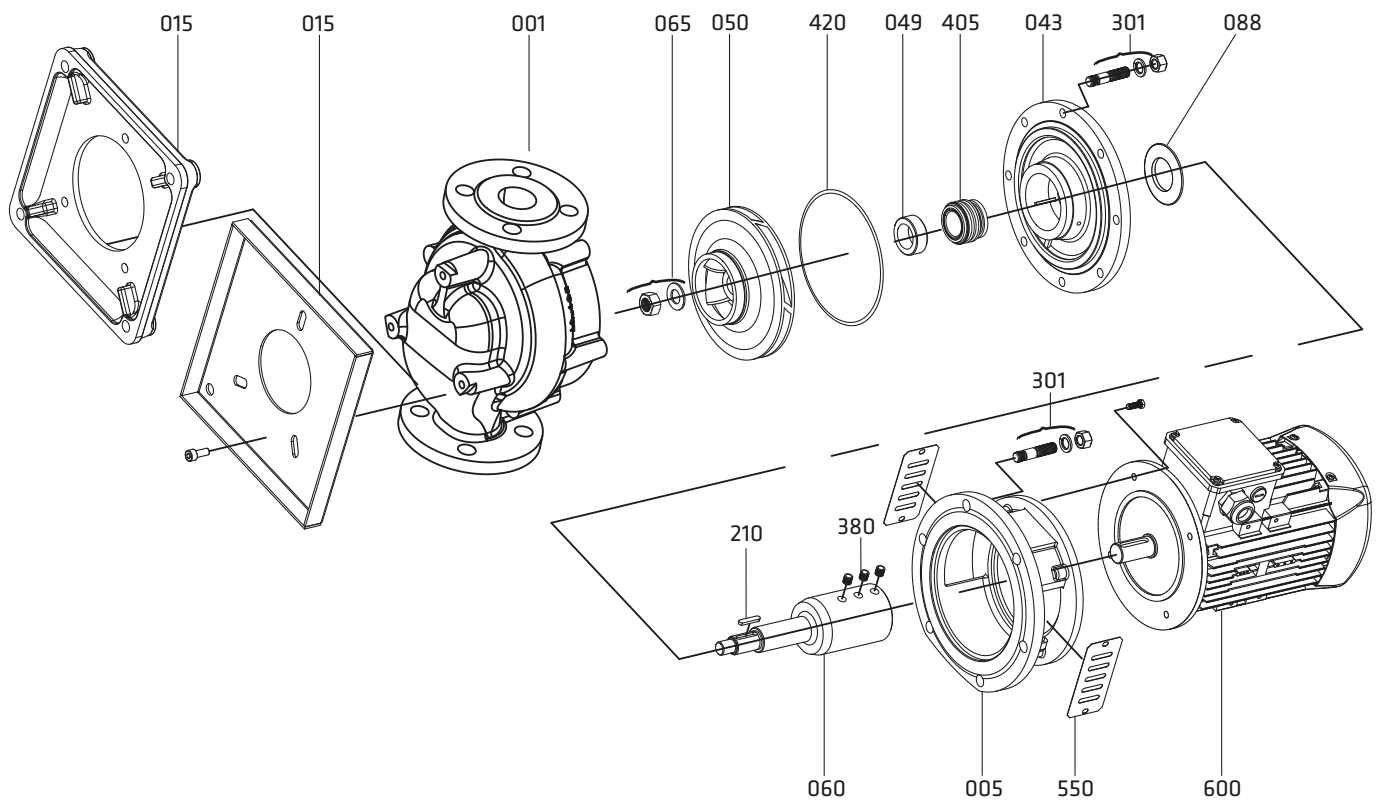
1- (*) Optional. Rights reserved to change without notice.

2- Base plate (foot) may differ for marine sector. Please consult to sales depertment for more information.

Form: F1 (Slide - fit shaft application)



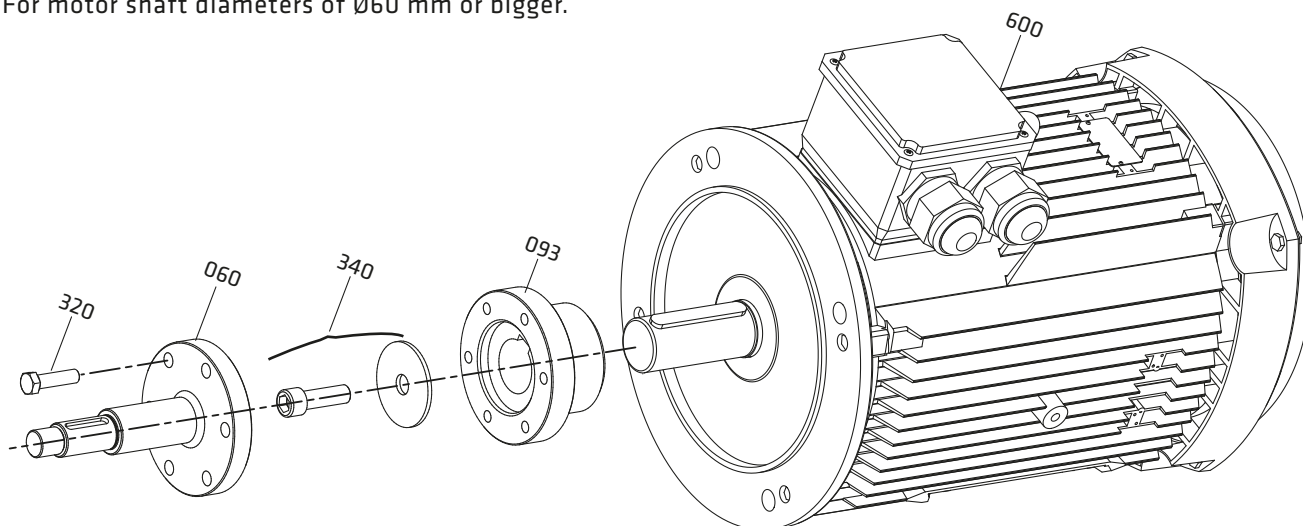
Form: F2 (Slide - fit shaft application)



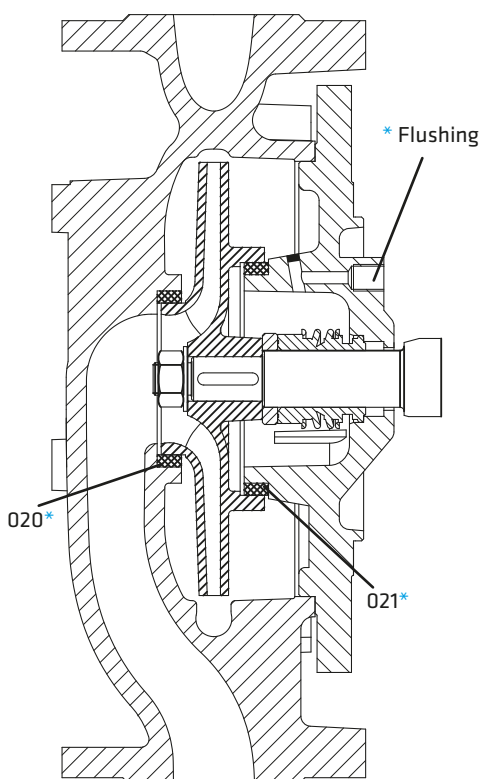
Rigid Coupling Application

ECO SNL

For motor shaft diameters of Ø60 mm or bigger.



Optional Applications

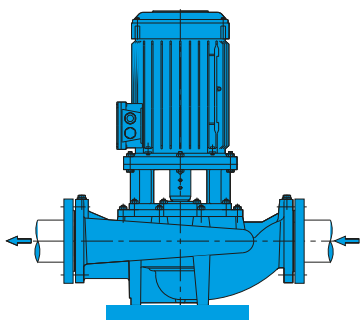


Part List

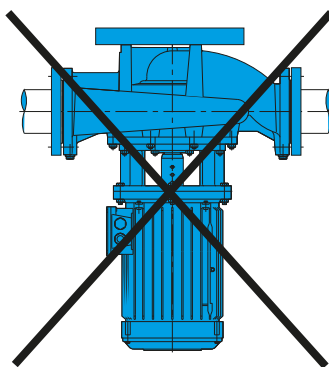
001	Volute Casing
005	Motor Pedestal
015	Bottom Plate
020*	Wear Ring (Casing)
021*	Wear Ring (Seal Cover)
043	Mechanical Seal Cover
049	Mechanical Seal Spacer Sleeve
050	Impeller
060	Shaft
065	Impeller Nut and Washer
088	Thrower
093	Rigid Coupling
210	Impeller Key
230	Screw
301	Stud, Washer and Nut
320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

(*) Optional

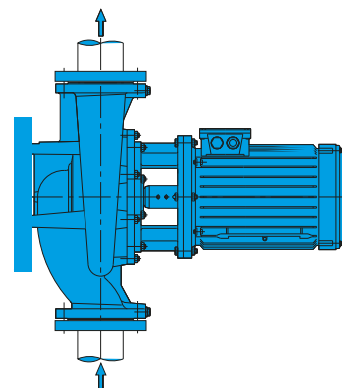
Installation Arrangements



Standard installation type to horizontal pipe. (on ground)



The axis of motor below the horizontal line is **not** admissible.



Please consult to Pompa in case of installation to vertical pipes.

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																	●	○	○	○	○	○
Motor Pedestal	●	○	○	○	○	○	○	○														
Wear Ring	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Mech Seal Spacer Sleeve																	●	○	○	○		○
Mechanical Seal (*)	EN 12756																					
Bottom Plate	According to pump types, steel or cast iron material can be used. Contact company for non-standard application.																					

(*) 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

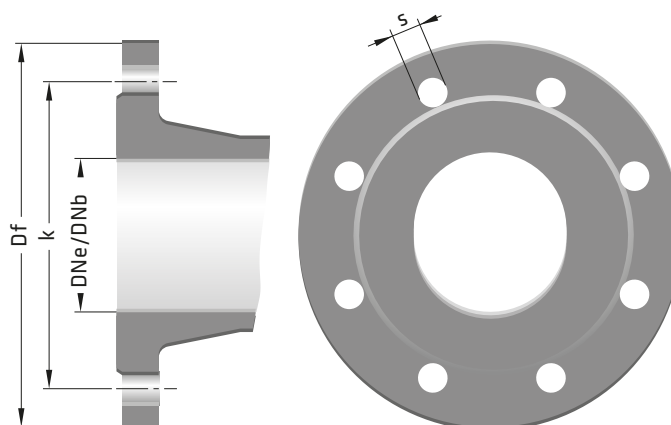
Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	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)			
	Df	k	s	n
40	150	110	18	4
50	165	125	18	4
65	185	145	18	4
80	200	160	18	8
100	220	180	18	8
125	250	210	18	8
150	285	240	22	8
200	340	295	22	12
250	405	355	26	12

" n " number of holes



Pump • Fire Fighting Units • Booster Set

ECO SKY

THERMAL OIL PUMPS

ECO SKY Rev.05.03.2024

Handled Liquids

Heat transfer oil or low viscosity industrial oil without aggressive solid particles.

Technical Data

Discharge Flange _____ DN 32.....DN 150 mm

Capacity _____ up to 550 m³/h*

Head _____ up to 105 m*

Design Temperature _____ up to 350 °C

Cooling Method _____ With Air

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, air cooled centrifugal pumps with closed impeller.
- Main dimensions conform to EN 733 standard.
- Suction and discharge flanges conform to EN 1092-2 / PN 16.
- 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.

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____



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

•Axial thrust is balanced by impeller balancing holes system.

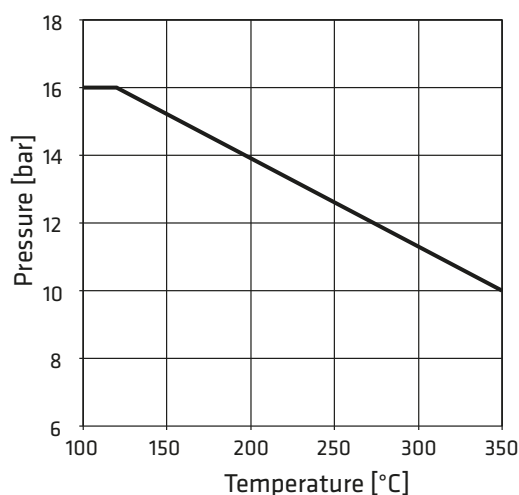
•Direction of rotation is clockwise viewed from drive end.

•Bearings of ECO SKY type pumps are “grease lubricated” ball bearings.

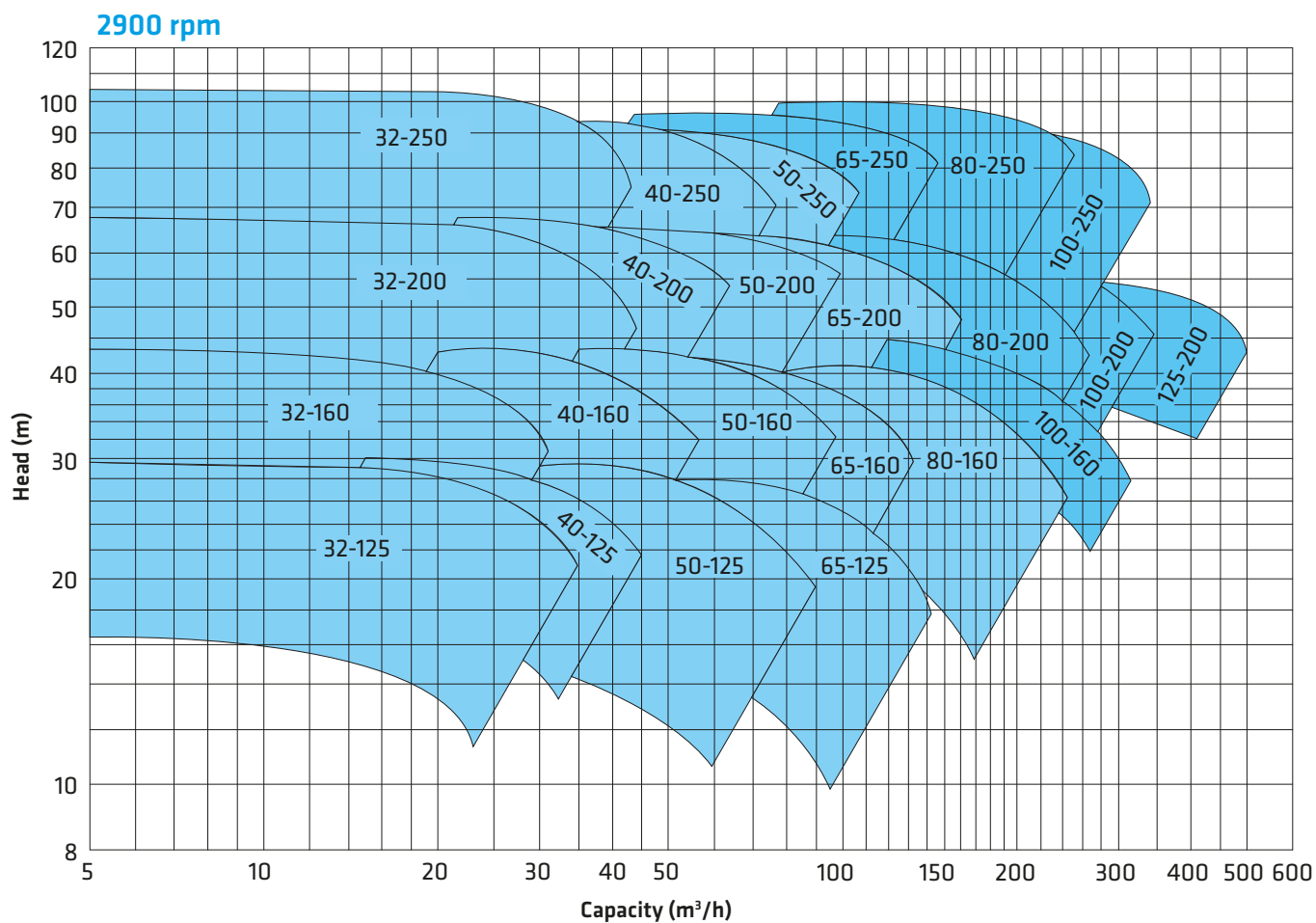
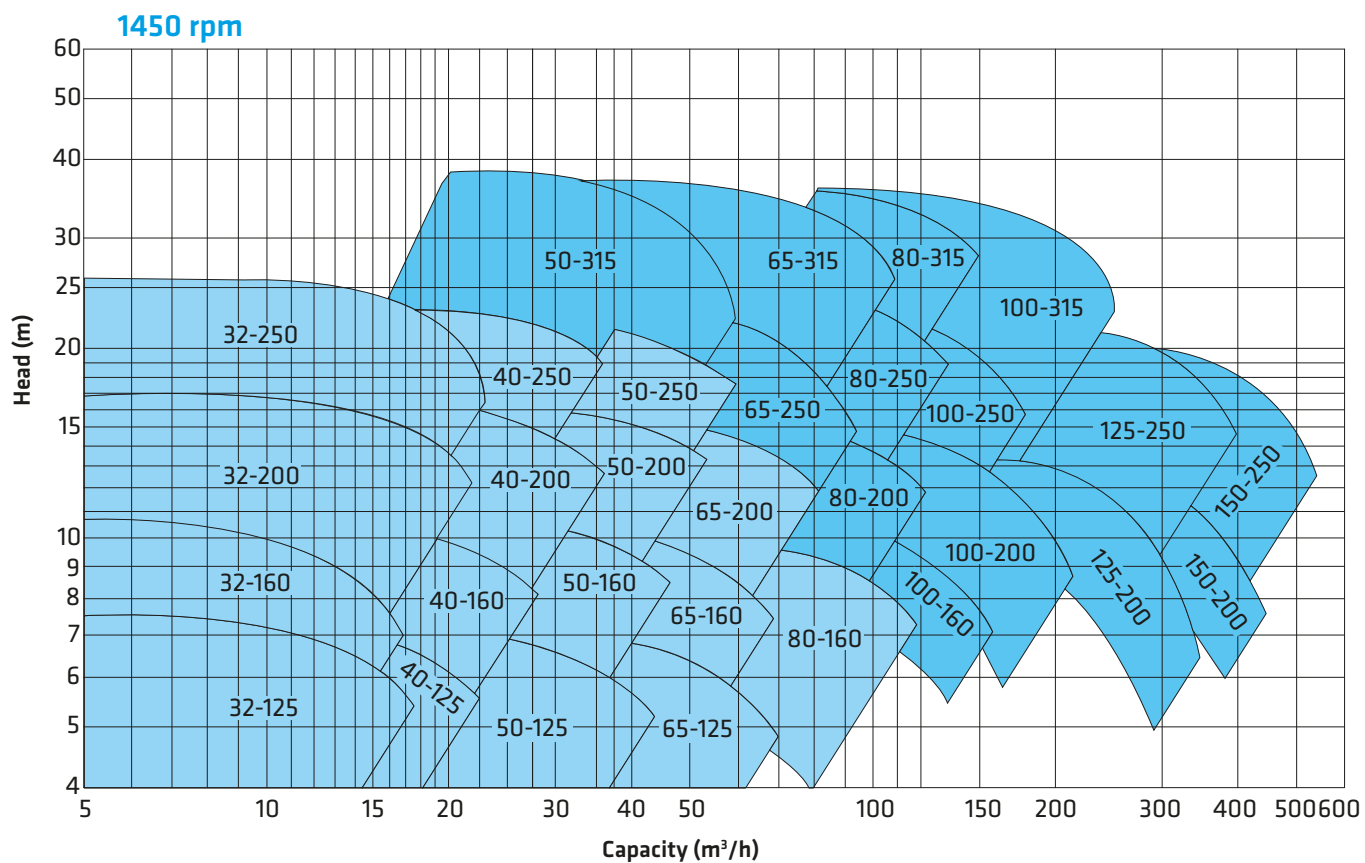
Shaft Sealing

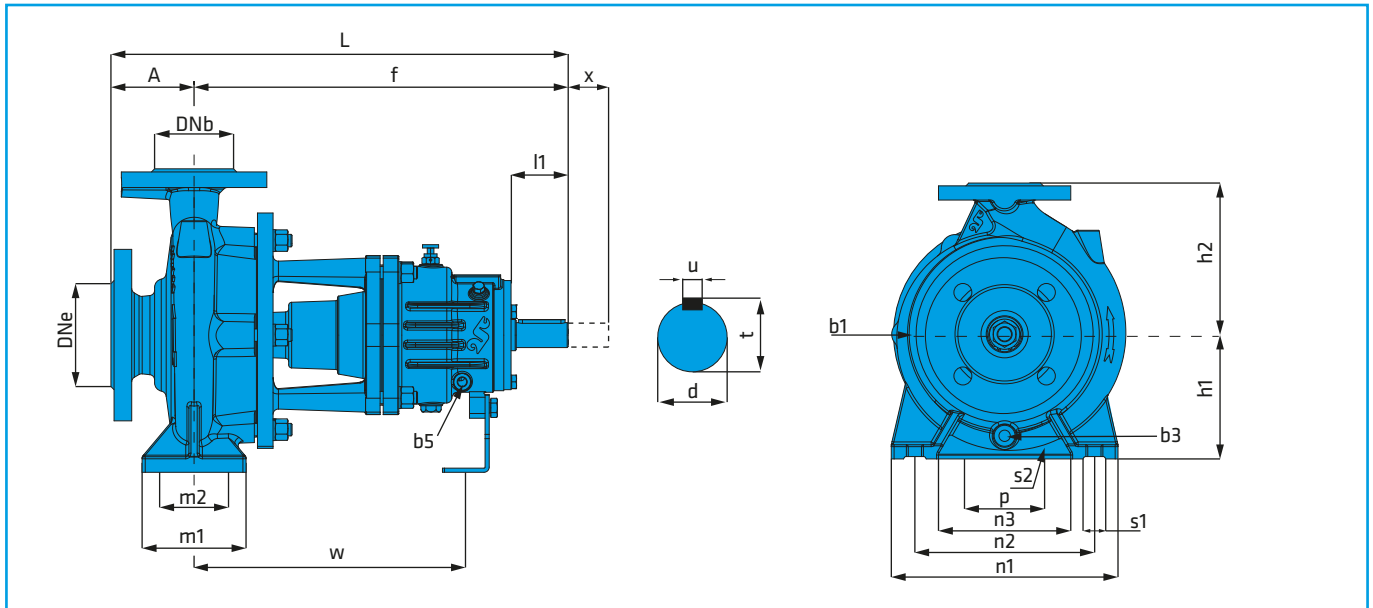
•High temperature resistant mechanical seals are used.

Pressure & Temperature Limits



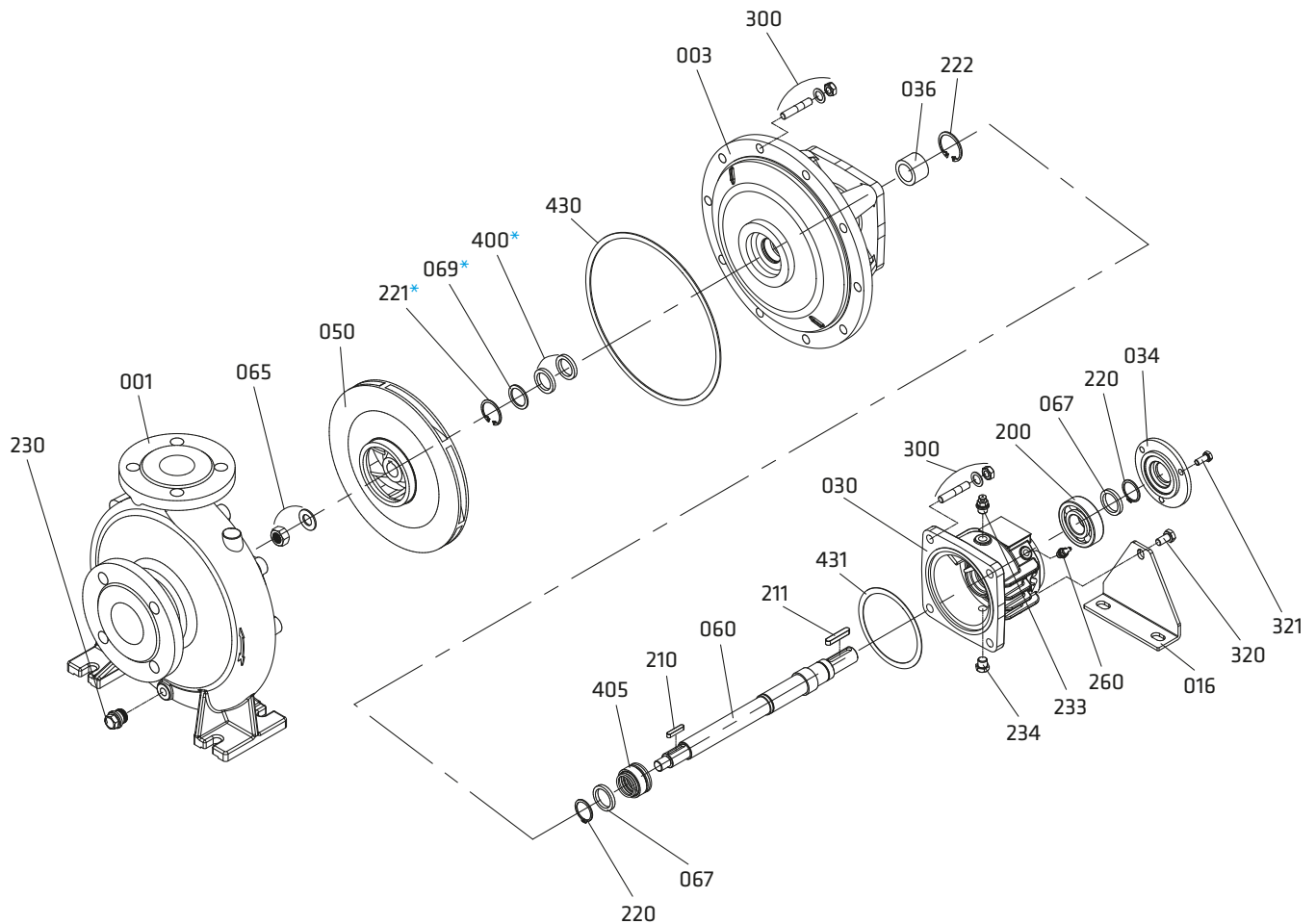
ECO SKY 100 - 250





DIMENSIONS (mm)																								Weight (kg)	Spacer x*
Pump Type		Overall Dimensions							Support & Foot Dimensions								Shaft End				Auxiliary Connections				
EN 733	Other	DNe	DNb	A	f	L	h1	h2	m1	m2	n1	n2	n3	s1	p	s2	w	d	l1	t	u	b3	b5		
32-125		50	32	80	360	440	112	140	100	70	190	140	90	14	110	14	260	24	50	27	8	¼"	⅜"		
32-160		50	32	80	360	440	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	¼"	⅜"		
32-200		50	32	80	360	440	160	180	100	70	240	190	140	14	110	14	260	24	50	27	8	¼"	⅜"		
	32-250	50	32	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	¼"	⅜"		
40-125		65	40	80	360	440	112	140	100	70	210	160	110	14	110	14	260	24	50	27	8	¼"	⅜"		
40-160		65	40	80	360	440	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	¼"	⅜"		
40-200		65	40	100	360	460	160	180	100	70	265	212	165	14	110	14	260	24	50	27	8	¼"	⅜"		
40-250		65	40	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	¼"	⅜"		
50-125		65	50	100	360	460	132	160	100	70	240	190	140	14	110	14	260	24	50	27	8	¼"	⅜"		
50-160		65	50	100	360	460	160	180	100	70	265	212	165	14	110	14	260	24	50	27	8	¼"	⅜"		
50-200		65	50	100	360	460	160	200	100	70	265	212	165	14	110	14	260	24	50	27	8	¼"	⅜"		
50-250		65	50	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	¼"	⅜"		
	50-315	65	50	125	470	595	225	280	125	95	345	280	190	19	110	14	340	32	80	35	10	¼"	⅜"		
65-125		80	65	100	360	460	160	180	125	95	280	212	150	14	110	14	260	24	50	27	8	⅜"	⅜"		
65-160		80	65	100	360	460	160	200	125	95	280	212	150	14	110	14	260	24	50	27	8	⅜"	⅜"		
65-200		80	65	100	360	460	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	⅜"	⅜"		
65-250		80	65	100	470	570	200	250	160	120	360	280	200	19	110	14	340	32	80	35	10	⅜"	⅜"		
65-315		80	65	125	470	595	225	280	160	120	400	315	240	19	110	14	340	32	80	35	10	⅜"	⅜"		
80-160		100	80	125	360	485	180	225	125	95	320	250	190	14	110	14	260	24	50	27	8	⅜"	⅜"		
80-200		100	80	125	470	595	180	250	125	95	345	280	215	14	110	14	340	32	80	35	10	⅜"	⅜"		
80-250		100	80	125	470	595	200	280	160	120	400	315	240	19	110	14	340	32	80	35	10	⅜"	⅜"		
80-315		100	80	125	470	595	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	⅜"	⅜"		
	100-160	125	100	125	470	595	200	280	160	120	360	280	200	19	110	14	340	32	80	35	10	⅜"	⅜"		
100-200		125	100	125	470	595	200	280	160	120	360	280	200	19	110	14	340	32	80	35	10	⅜"	⅜"		
100-250		125	100	140	470	610	225	280	160	120	400	315	240	19	110	14	340	32	80	35	10	⅜"	⅜"		
100-315		125	100	140	470	610	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	⅜"	⅜"		
	125-200	150	125	140	470	610	250	315	160	120	400	315	240	19	110	14	340	32	80	35	10	½"	⅜"		
125-250		150	125	140	470	610	250	355	160	120	400	315	240	19	110	14	340	32	80	35	10	½"	⅜"		
	150-200	200	150	160	470	630	280	355	200	150	500	400	300	23	110	14	340	32	80	35	10	½"	⅜"		
	150-250	200	150	160	470	630	280	375	200	150	500	400	300	23	110	14	340	32	80	35	10	½"	⅜"		

(*) 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)



Part List

001	Volute Casing	221*	Circlip
003	Casing Cover	230	Screw
016	Support Foot	233	Breather
030	Bearing Housing	234	Screw
034	Bearing Cover	260	Grease Nipple
036	Sleeve Bearing	300	Stud Bolt, Washer and Nut
050	Impeller	320	Screw
060	Shaft	321	Screw
065	Impeller Nut and Washer	400*	Soft Packing
067	Spacer Sleeve	405	Mechanical Seal
069*	Seal Sleeve	430	Gasket
200	Ball Bearing	431	Gasket
210	Impeller Key		
211	Coupling Key		
220	Circlip		

(*) 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)	A 536 Gr. 60-40-18
Chrome Nickel Moly. Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Nickel Steel (low carbon)	1.4404	X2CrNiMo17-12-2	A276 Type 316L

Material Options

Part List	10	30	70	80	7L
	0.6025	0.7040	1.4408	1.4021	1.4404
Volute Casing		●	○		
Casing Cover		●	○		
Impeller	●	○	○		
Shaft				●	○
Bearing House		●	○		
Mechanical Seal	EN 12756				

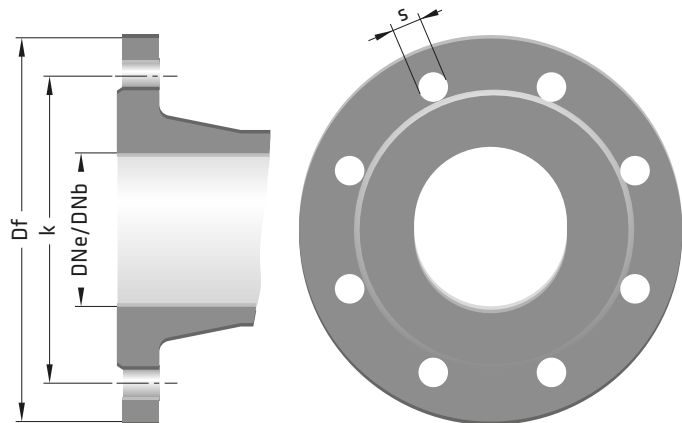
● Standard manufacturing
○ Optional

Flange Dimensions

EN 1092 - 2

DNe/DNb	Suction & Discharge (PN 16)			
	Df	k	s	n
32	140	100	18	4
40	150	110	18	4
50	165	125	18	4
65	185	145	18	4
80	200	160	18	8
100	220	180	18	8
125	250	210	18	8
150	285	240	22	8
200	340	295	22	12

"n" number of holes





Pump • Fire Fighting Units • Booster Set

ECO SNV

PROSES PUMPS (SUMP DESIGN)



ECO SNV Rev.05 03.2024

Handled Liquids

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

Technical Data

Discharge Flange _____ DN 32....DN 200 mm

Capacity _____ up to 900 m³/h

Head _____ up to 60 m

Speed _____ up to 1500 rpm

Design Temperature _____ up to +95 °C

Casing Pressure (Pmax) _____ 10 bar

Design Features

- Vertical, volute casing, single stage, end suction centrifugal sump pumps with enclosed type impeller.
- Up to 4 m. column length.
- Discharge pipe is extended up to base plate for easy installation.
- Suction and discharge flanges conform to EN 1092-2 / PN 16.
- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.
- Axial thrust is balanced by impeller balancing holes system.

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____

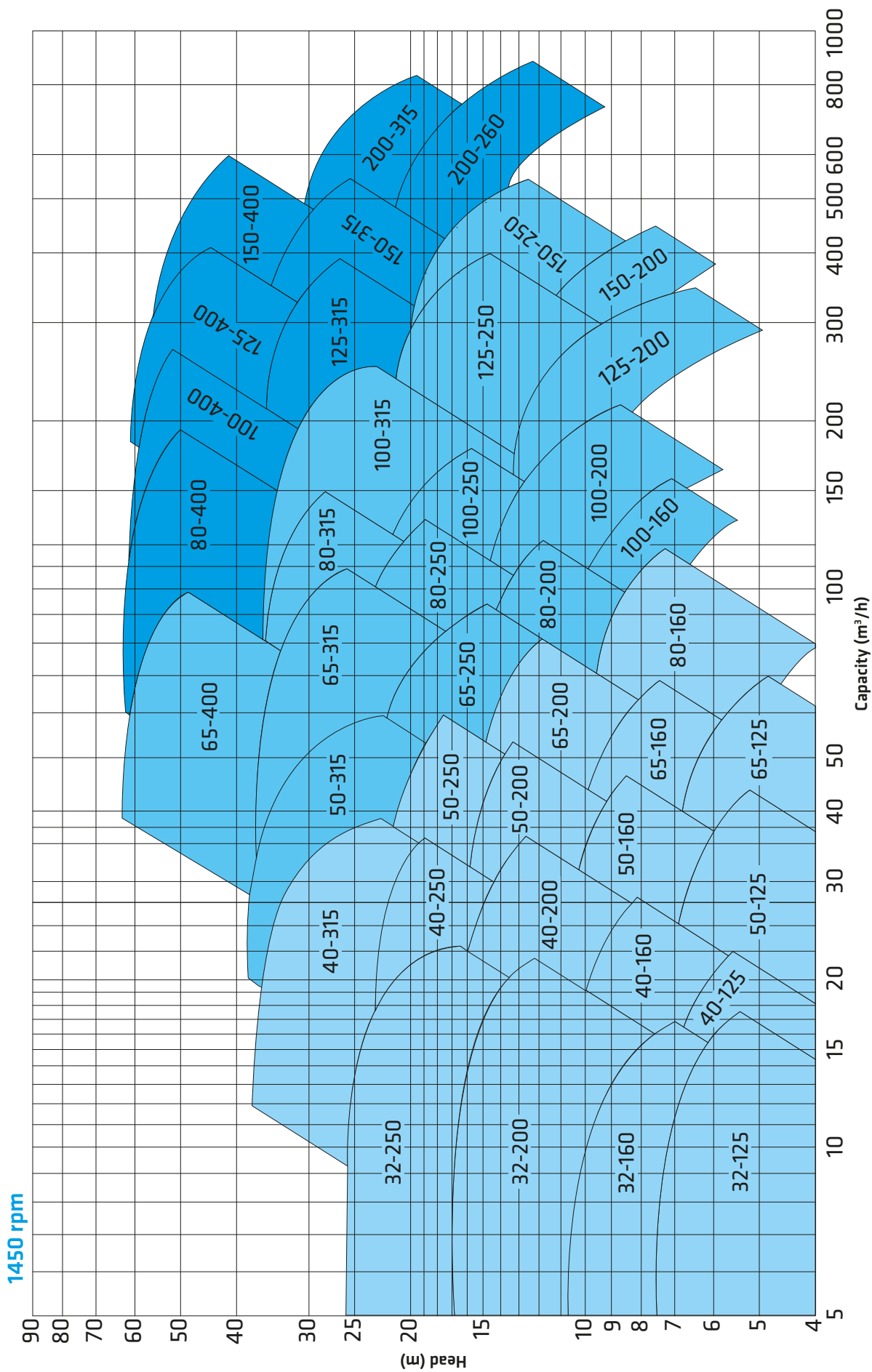


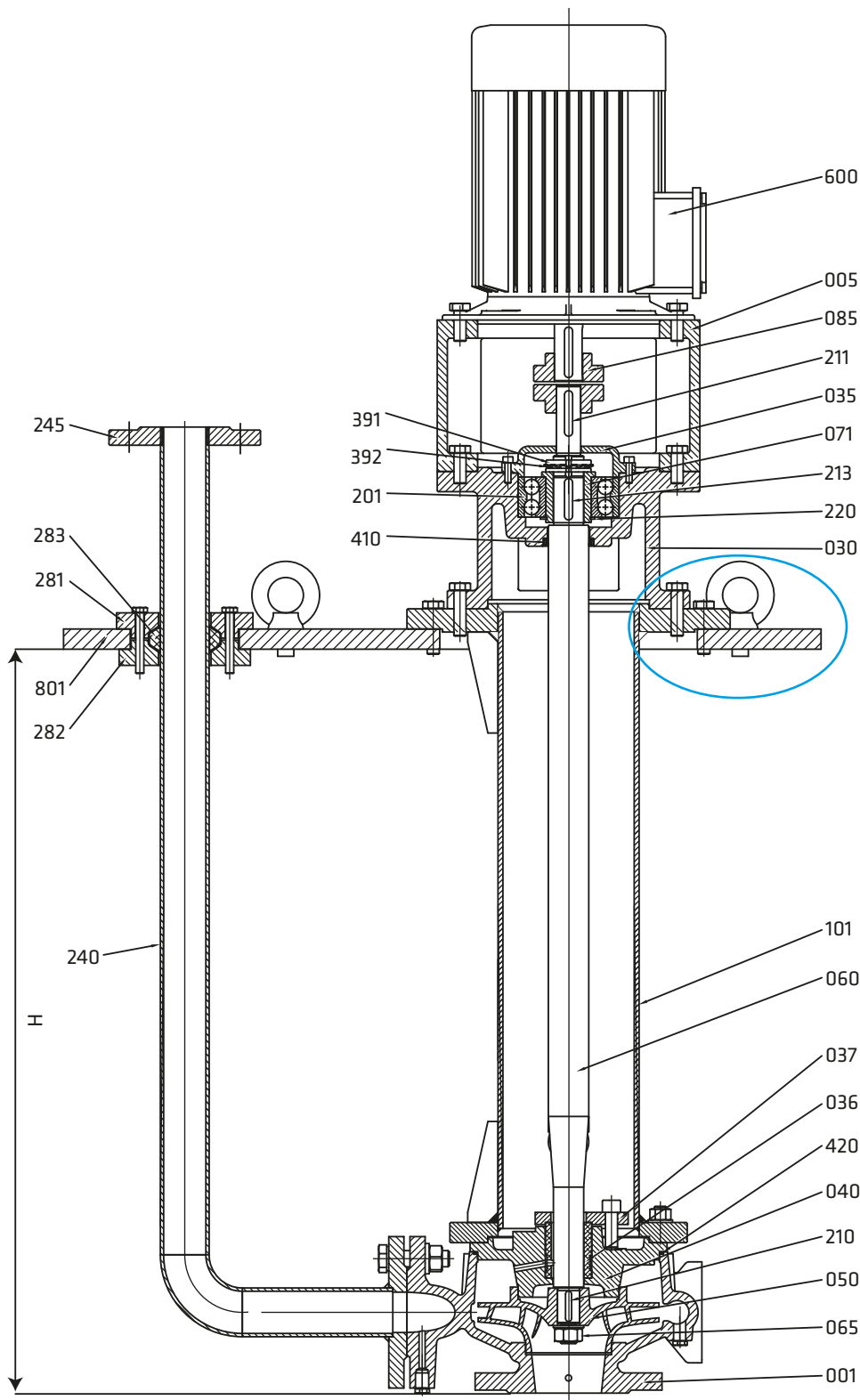
- Direction of rotation is clockwise viewed from driver.
- Bearings of ECO SNV type pumps are grease lubricated. Bottom and internal slide bearings are lubricated by the pumping liquid.
- Discharge flange is screw mounted on to the discharge pipe.
- Head is calculated at the discharge of the volute casing.

Shaft Sealing

- No sealing is required.

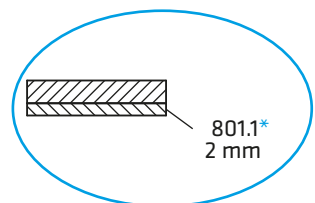
ECO SNV 100 - 250





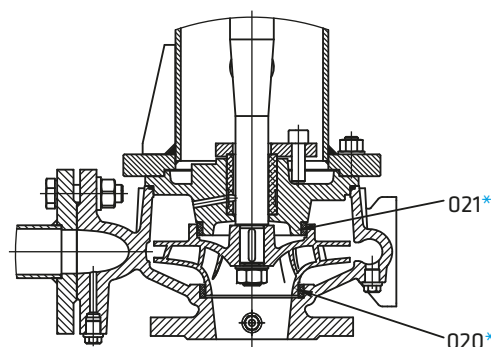
Part List

001	Volute Casing
011	Motor Pedestal
020*	Wear Ring (Casing)
021*	Wear Ring (Seal Cover)
005	Bearing Housing
085	Bearing Cover
211	Slide Bearing
035	Slide Bearing Cover
071	Casing Cover
040	Impeller
050	Shaft
060	Impeller Nut
065	Intermediate Bearing Sleeve
071	Flexible Coupling
085	Column Pipe
101	Double Row Ball Bearing
201	Impeller Key
210	Coupling Key
211	Bearing Sleeve Key
213	Circlip
220	Discharge Pipe
240	Discharge Flange
245	Top Fixing Flange
281	Bottom Fixing Flange
282	Rubber Gasket
283	Shaft end nut
391	Lock Washer
392	Lip Seal
410	O-Ring
420	Electric Motor
600	Baseplate
801	Stainless Steel Plate
801.1*	



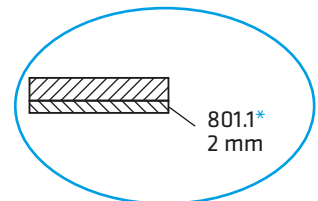
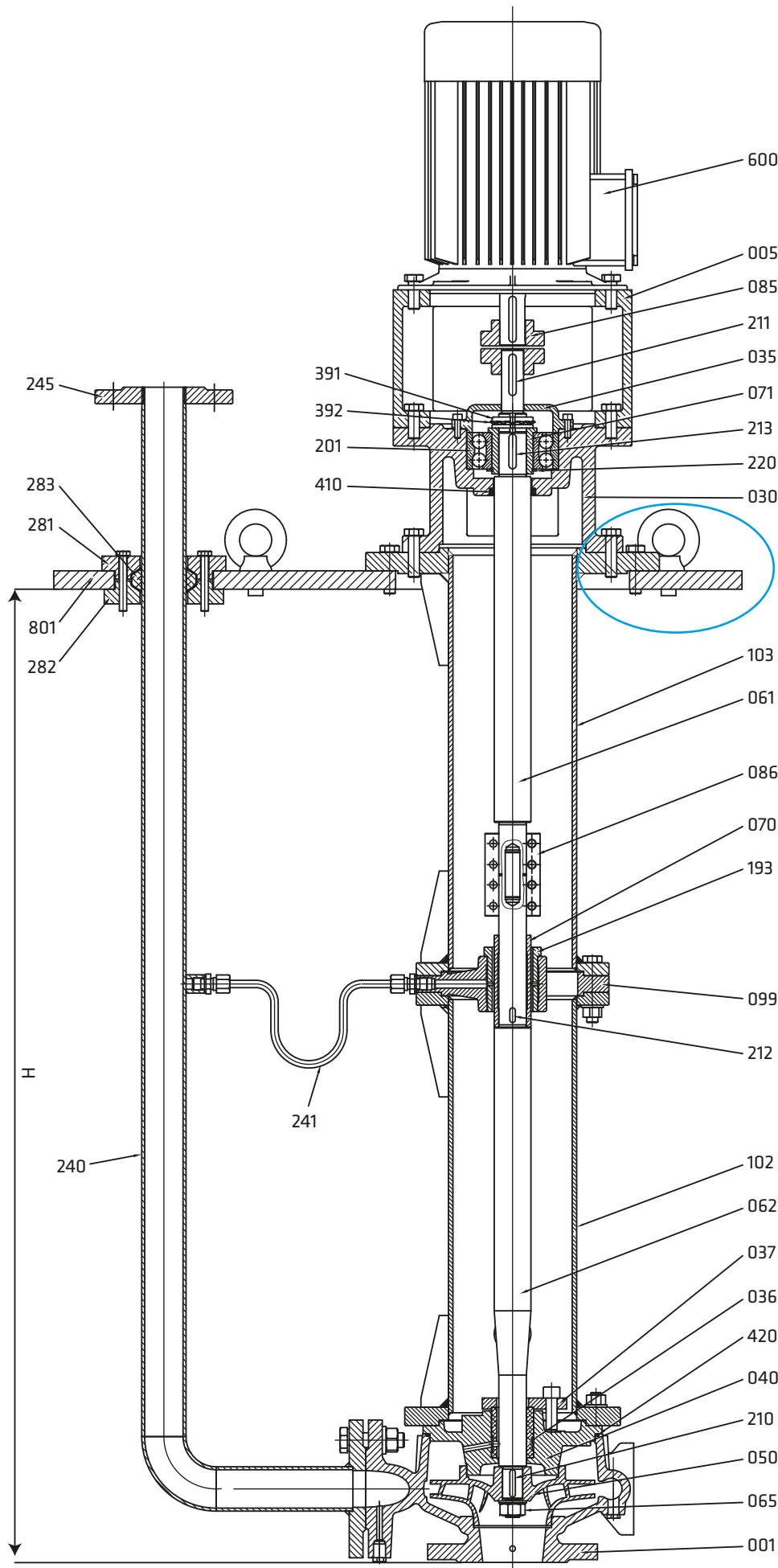
*Optional

Stainless steel pump base plate can be asked for stainless steel pump as shown in the figure. 2 mm stainless steel plate is added at the bottom of steel baseplate.



Part List

001	Volute Casing
011	Motor Pedestal
020*	Wear Ring (Casing)
021*	Wear Ring (Seal Cover)
030	Bearing Housing
035	Bearing Cover
036	Slide Bearing
037	Slide Bearing Cover
040	Casing Cover
050	Impeller
061	Shaft (Top)
062	Shaft (Bottom)
065	Impeller Nut and Washer
070	Spacer Sleeve
071	Intermediate Bearing Sleeve
085	Flexible Coupling
086	Rigid Coupling
099	Intermediate Bearing Housing
102	Column Pipe (Bottom)
103	Column Pipe (Top)
193	Intermediate Slide Bearing
201	Double Row Ball Bearing
210	Impeller Key
211	Coupling Key
212	Spacer Sleeve Key
213	Bearing Sleeve Key
220	Circlip
240	Discharge Pipe
241	Cooling Pipe
245	Discharge Flange
281	Top Fixing Flange
282	Bottom Fixing Flange
283	Rubber Gasket
391	Shaft end nut
392	Lock Washer
410	Lip Seal
420	O-Ring
600	Electric Motor
801	Baseplate
801.1*	Stainless Steel Plate



*Optional

Stainless steel pump base plate can be asked for stainless steel pump as shown in the figure. 2 mm stainless steel plate is added at the bottom of steel baseplate.

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	PTFE	Carbon
Volute Casing	●	○	○	○	○	○	○	○	○	○	○	○	○												
Casing Cover	●	○	○	○	○	○	○	○	○	○	○	○	○												
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○							○			
Shaft																	●	○	○	○	○		○		
Bearing Housing	●	○	○	○	○	○	○																		
Column Pipe																●				○	○				
Slide Bearing													○											●	○

● Standard manufacturing
○ Optional

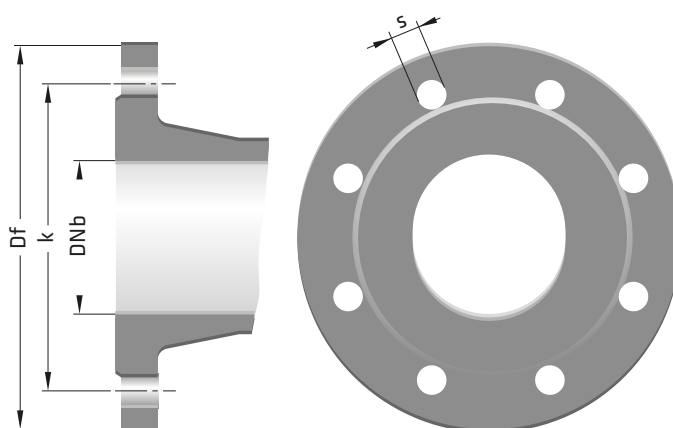
Material Equivalents

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-CuSn5ZnNb	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	Discharge (PN 16)			
	Df	k	s	n
32	140	100	18	4
40	150	110	18	4
50	165	125	18	4
65	185	145	18	4
80	200	160	18	8
100	220	180	18	8
125	250	210	18	8
150	285	240	22	8
200	340	295	22	12

"n" number of holes





Pump • Fire Fighting Units • Booster Set

ECO SNMV-H

VERTICAL CENTRIFUGAL PUMPS



ECO SNMV-H Rev.05 03.2024

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 1200 m³/h(*)

Head _____ up to 160 m(*)

Speed _____ up to 3600 rpm(*)

Design Temperature _____ -10 °C' to +140 °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.

Design Features

- Vertical, radially split volute casing type, single stage, end suction centrifugal pump with closed impeller.
- Suction and discharge flanges conform to EN 1092-2 / PN 16.

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____



- 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 class 6.3.

- Axial thrust is balanced by impeller balancing holes system.

- Direction of rotation is clockwise viewed from drive end.

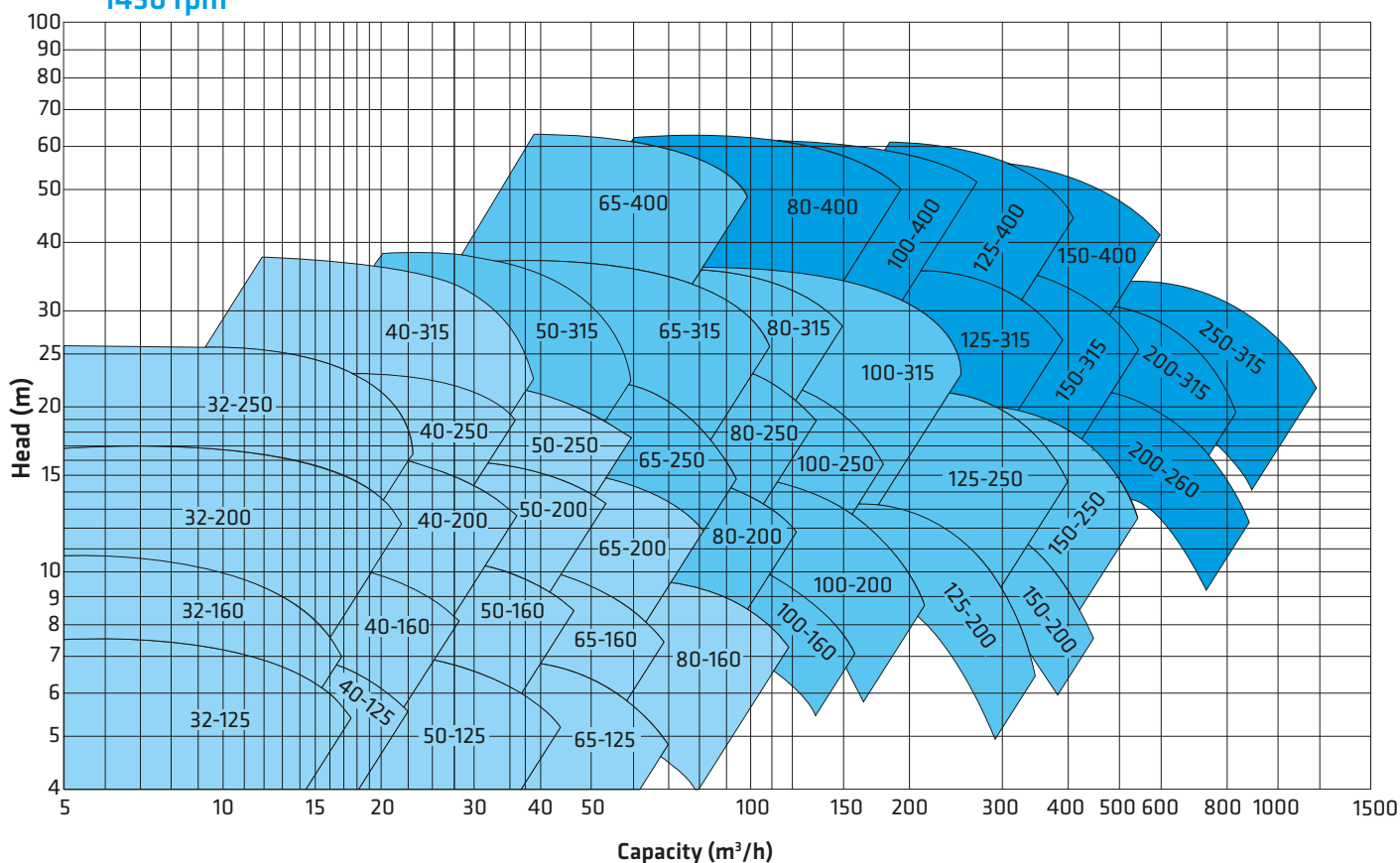
- Bearings of ECO SNMV-H type pumps are life time greased lubricated ball bearings.

Shaft Sealing

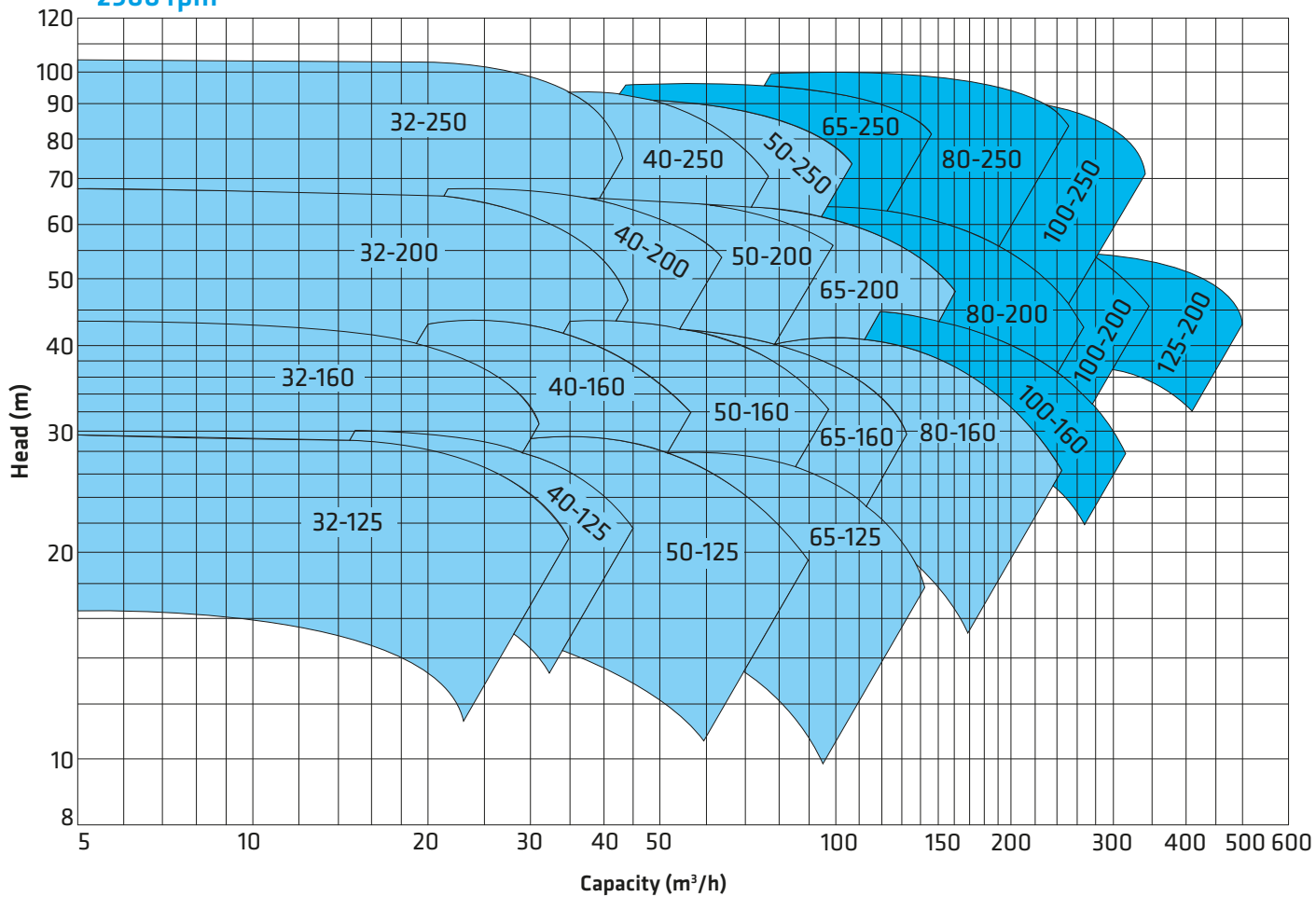
- In standard production mechanical seals are used according to pumped liquid and working conditions.

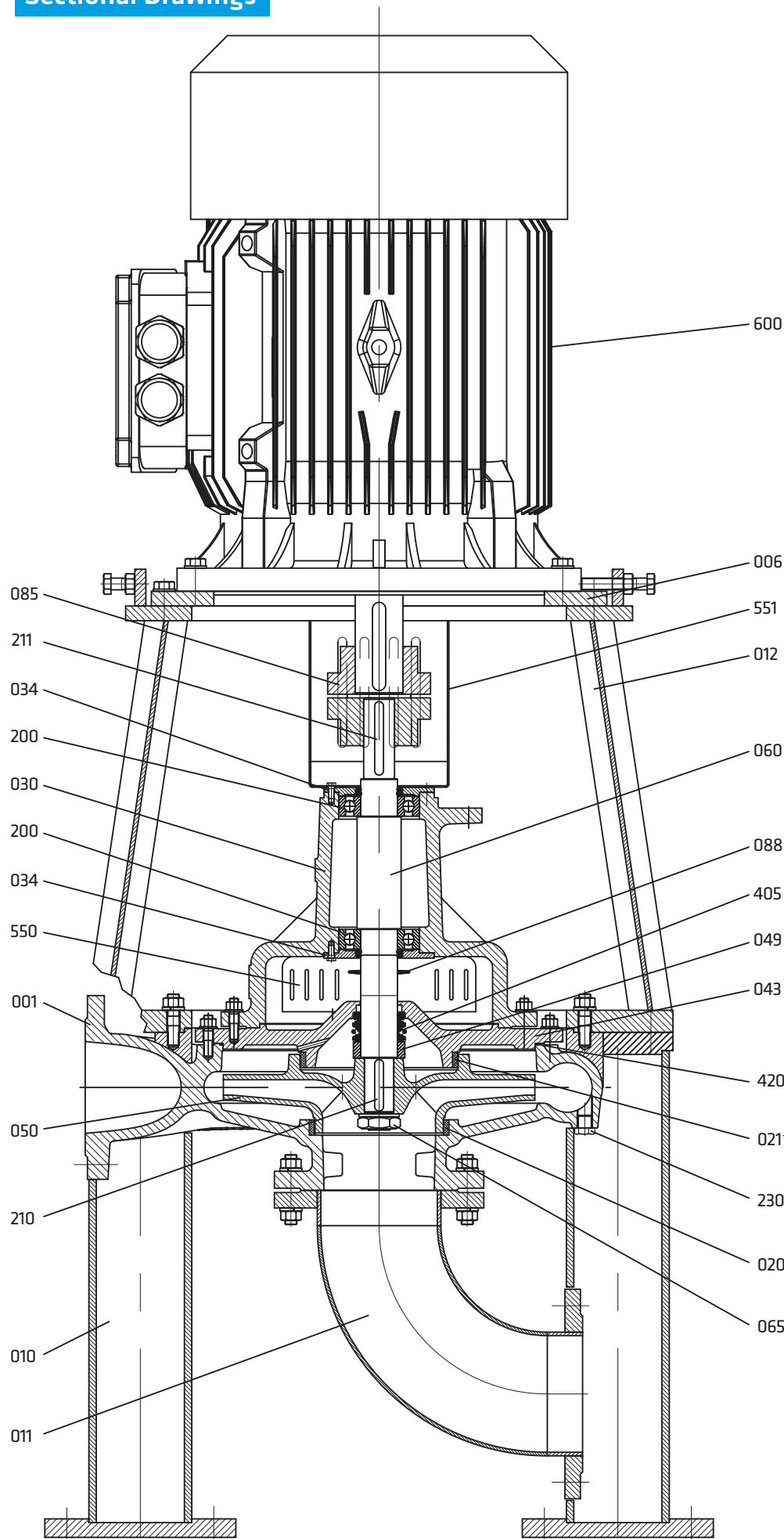
ECO SNMV-H 125 - 315

1450 rpm



2900 rpm





Part List

001	Volute Casing
005	Motor Pedestal
006	Motor Spacer Flange
010	Pump Foot
011	Suction Elbow
020*	Wear Ring (Casing)
021*	Wear Ring (Seal Cover)
030	Bearing Housing
034	Bearing Cover
043	Mechanical Seal Cover
049	Mechanical Seal Spacer Sleeve
050	Impeller
060	Pump Shaft
065	Impeller Nut
085	Coupling
088	Thrower
200	Ball Bearing
210	Impeller Key
211	Coupling Key
230	Drain Plug
405	Mechanical Seal
420	O-Ring
550	Guard
551	Coupling Guard
600	Electric Motor

(*) Optional

Material Options

ECO SNMV-H

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	●	○	○	○	○	○	○	○	○	○	○	○	○	○								
Casing Cover	●	○	○	○	○	○	○	○	○	○	○	○	○	○								
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○						○	
Shaft																	●	○	○	○		○
Bearing Housing	●	○	○	○	○	○	○	○														
Mechanical Seal(*)	EN 12756																					

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

● Standard manufacturing
○ Optional

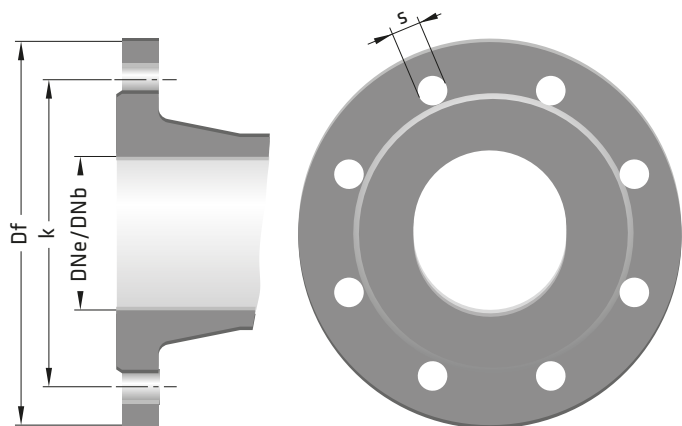
Material Equivalents

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
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 16)			
	Df	k	s	n
32	140	100	18	4
40	150	110	18	4
50	165	125	18	4
65	185	145	18	4
80	200	160	18	8
100	220	180	18	8
125	250	210	18	8
150	285	240	22	8
200	340	295	22	12
250	405	355	26	12
300	460	410	26	12

" n " number of holes



Pump • Fire Fighting Units • Booster Set

ECO SNLV-H

IN-LINE PUMPS



ECO SNLV-H Rev.05.03.2024

Handled Liquids

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

Technical Data

Discharge Flange _____ DN 40.....DN 250 mm

Capacity _____ up to 800 m³/h

Head _____ up to 95 m

Speed _____ up to 2900 rpm

Design Temperature _____ -10 °C' to +140 °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.

Design Features

- Volute casing, single stage, vertical in-line centrifugal pump with closed impeller and with separate own bearing bracket.
- Suction and discharge flanges conform to EN 1092-2 / PN 16.

Pump Designation

Pump Type _____

Suction and Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____



- 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 class 6.3.

- Axial thrust is balanced by impeller balancing holes system.

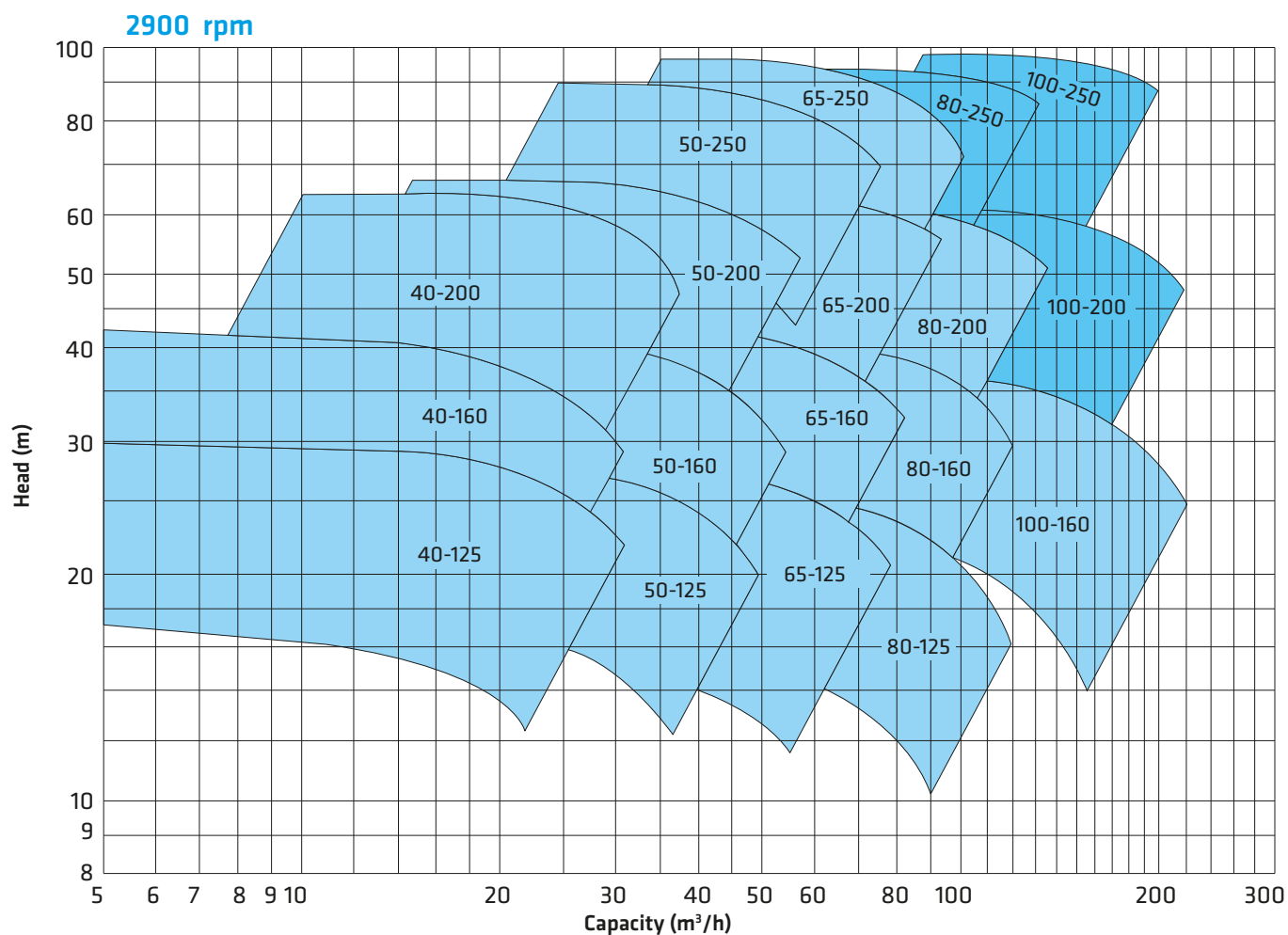
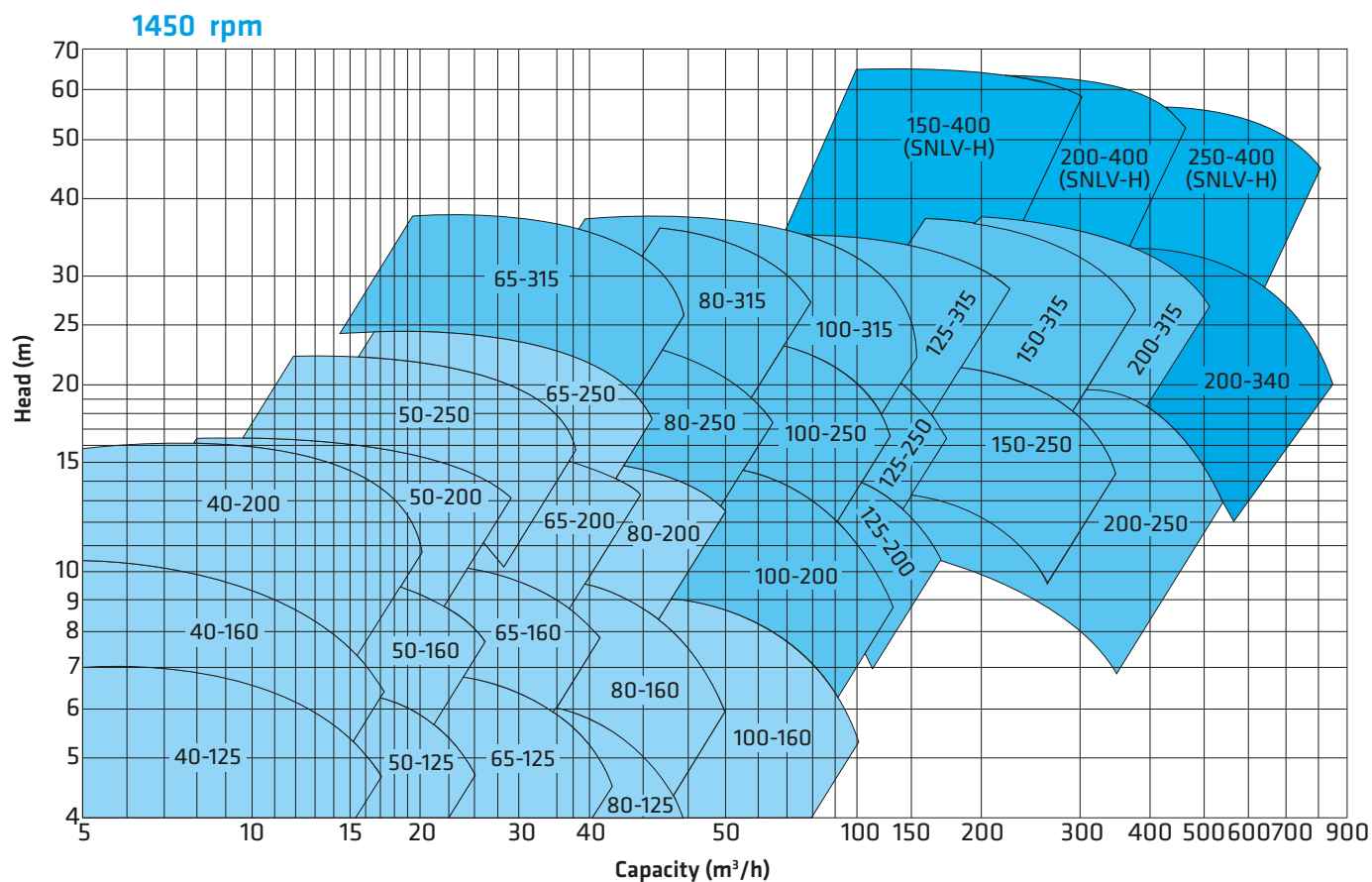
- Direction of rotation is clockwise viewed from drive end.

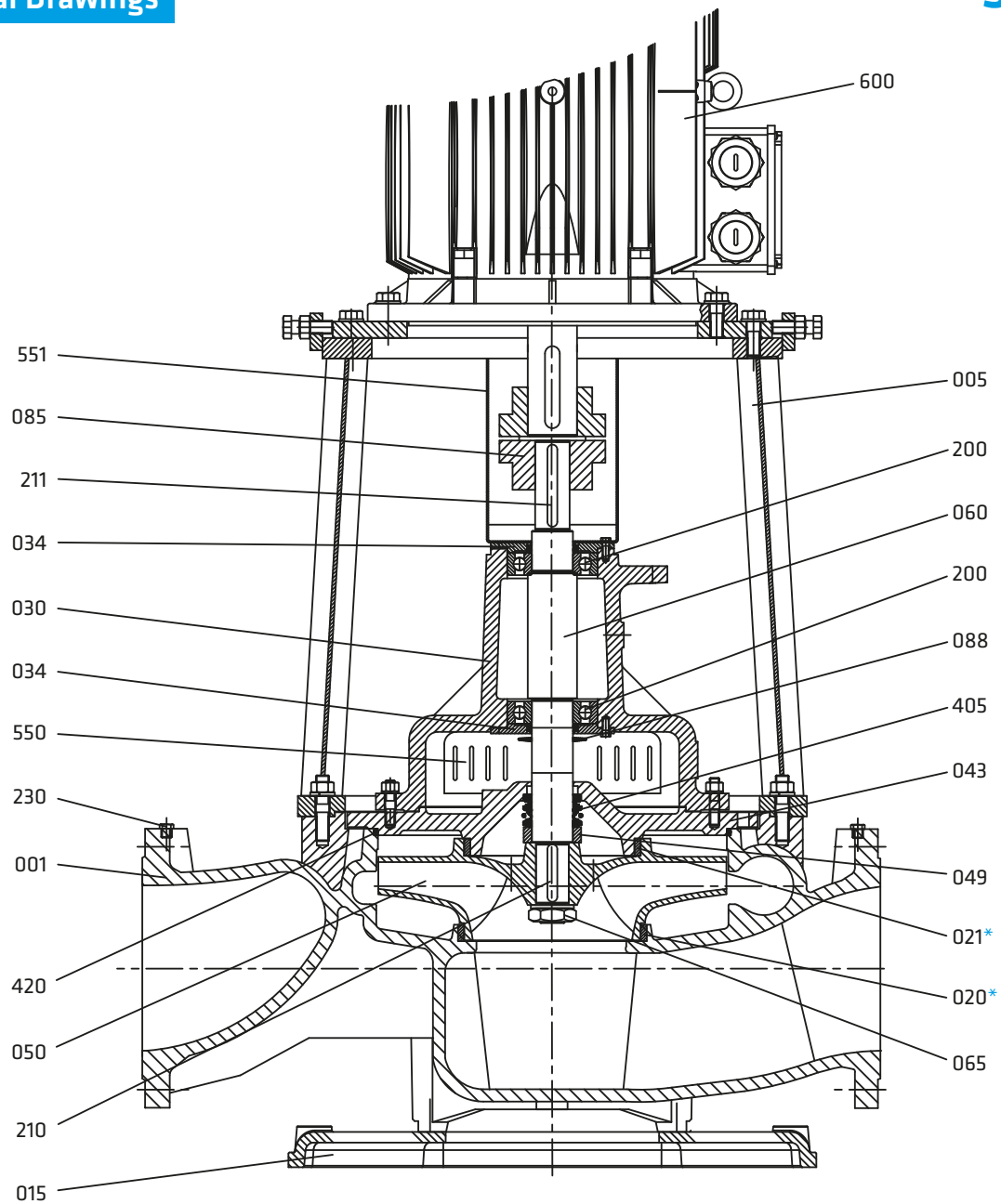
- Bearings of ECO SNLV-H type pumps are life time greased lubricated ball bearings.

Shaft Sealing

- In standard production mechanical seals are used according to pumped liquid and working conditions.

ECO SNLV-H 100 - 250





Part List

001	Volute Casing	085	Coupling
005	Motor Pedestal	088	Thrower
015	Bottom Plate	200	Ball Bearing
020*	Wear Ring (Casing)	210	Impeller Key
021*	Wear Ring (Seal cover)	211	Coupling Key
030	Bearing Housing	230	Drain Plug
034	Bearing Cover	405	Mechanical Seal
043	Mechanical Seal Cover	420	O-Ring
049	Mechanical Seal Spacer Sleeve	550	Guard
050	Impeller	551	Coupling Guard
060	Pump Shaft	600	Electric Motor
065	Impeller Nut		

(*) Optional

Material Options

SNLV-H

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	●	○	○	○	○	○	○	○	○	○	○	○	○	○								
Casing Cover	●	○	○	○	○	○	○	○	○	○	○	○	○	○								
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○					○	
Shaft																	●	○	○	○		○
Bearing Housing	●	○	○	○	○	○	○	○														
Wear Ring	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○						
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

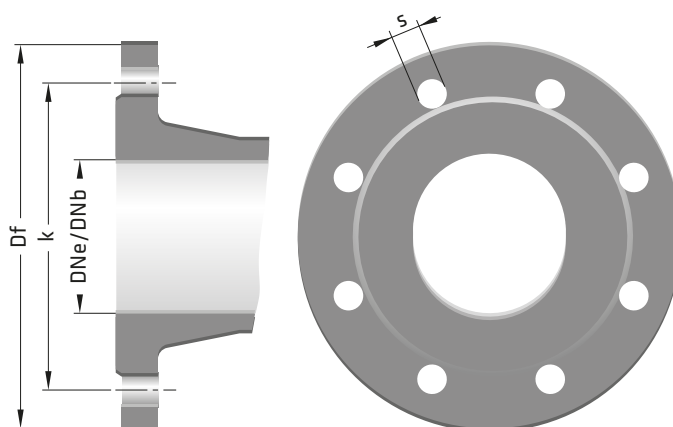
Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	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
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
40	150	110	18	4
50	165	125	18	4
65	185	145	18	4
80	200	160	18	8
100	220	180	18	8
125	250	210	18	8
150	285	240	22	8
200	340	295	22	12
250	405	355	26	12

"n" number of holes



Pump • Fire Fighting Units • Booster Set

SCP

ISO 2858

NORM PROSES PUMPS



SCP Rev.05 03.2024

Handled Liquids

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

Technical Data

Discharge Flange _____ DN 32.....DN 250 mm

Capacity _____ up to 1500 m³/h

Head _____ up to 160 m

Speed _____ up to 2900 rpm

Operating Temperature _____ -10 °C' to +175 °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, radially split volute casing type, single stage, end suction centrifugal pumps with closed or semi-open impeller.

- In addition to 28 basic sizes conforming with ISO 2858, there are 10 additional sizes. Dimensions of additional sizes may differ from other suppliers.

- Heavy duty shaft not in contact with the medium handled (dry shaft)

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter(mm) _____

Impeller Type (A: semi-open) _____



- For casing sealing, confined gaskets are used to prevent blow-out under pressure.

- Suction and discharge flanges conform to EN 1092-2 / PN 16.

- 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 class 6.3.

- For closed impellers, axial thrust is balanced by impeller balancing holes system while for semi-open impellers, it is balanced by back ribs.

- Direction of rotation is clockwise viewed from drive end.

- Bearings of SCP type pumps are always oil lubricated.

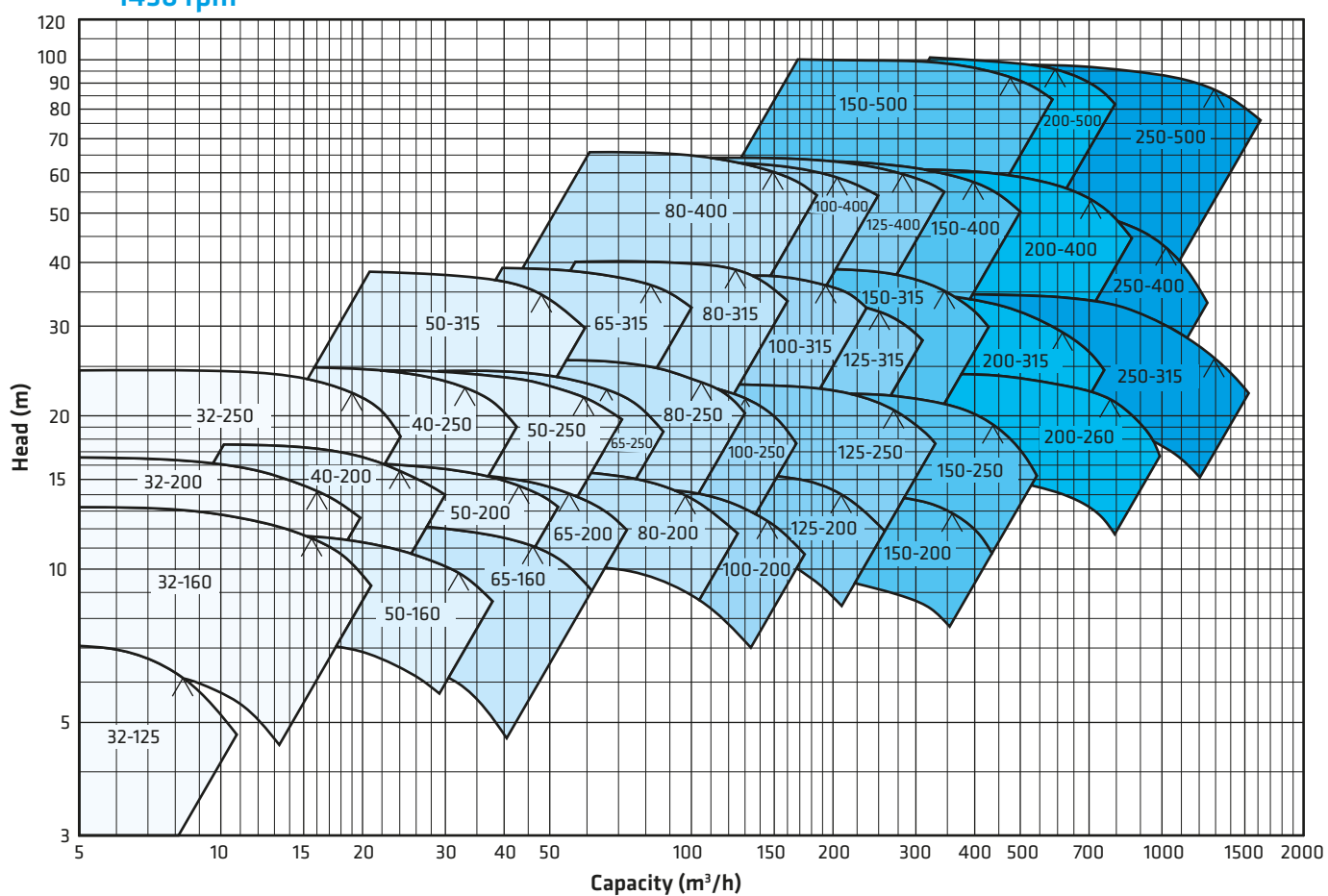
Shaft Sealing

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

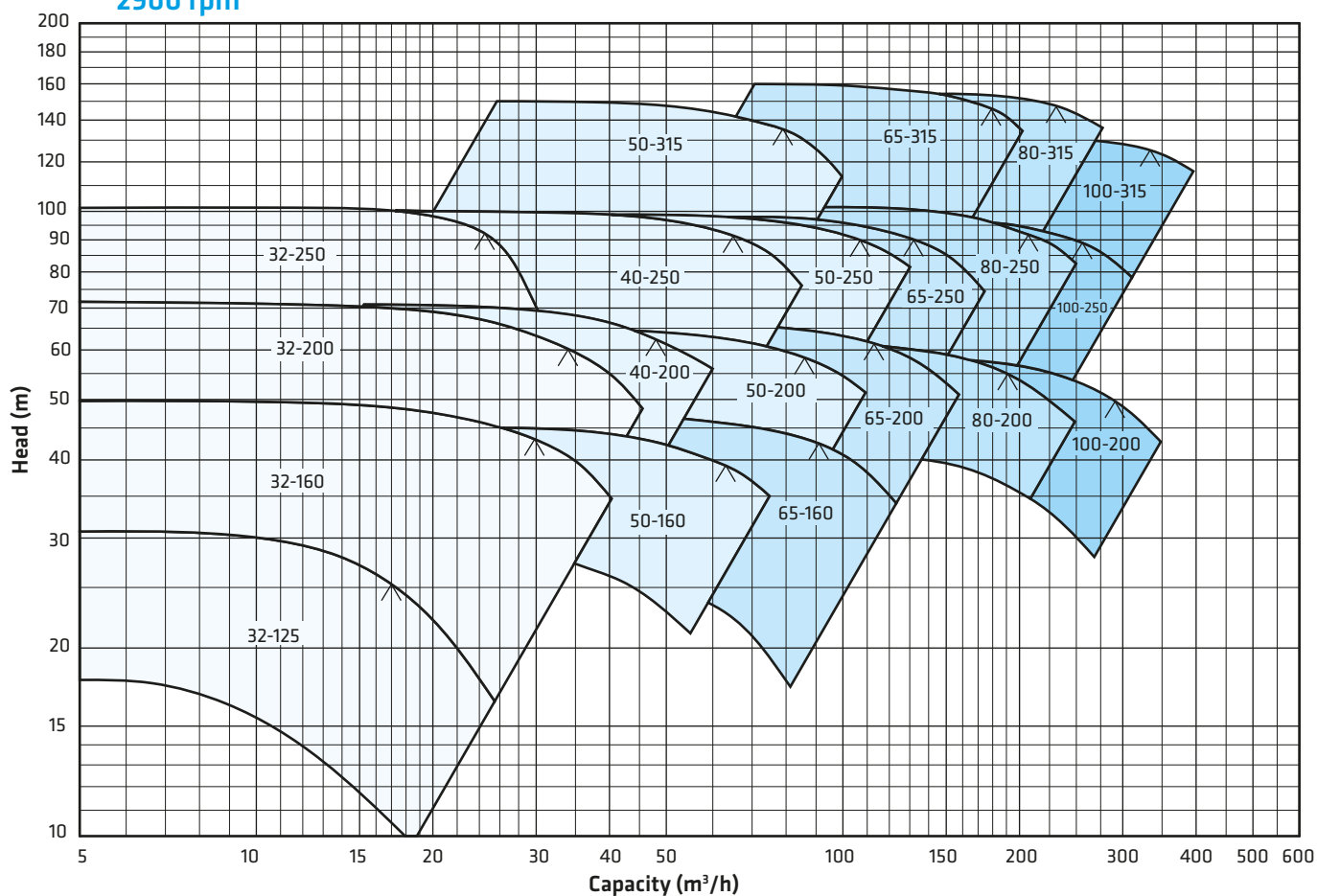
- External seal cooling system may be used if required.

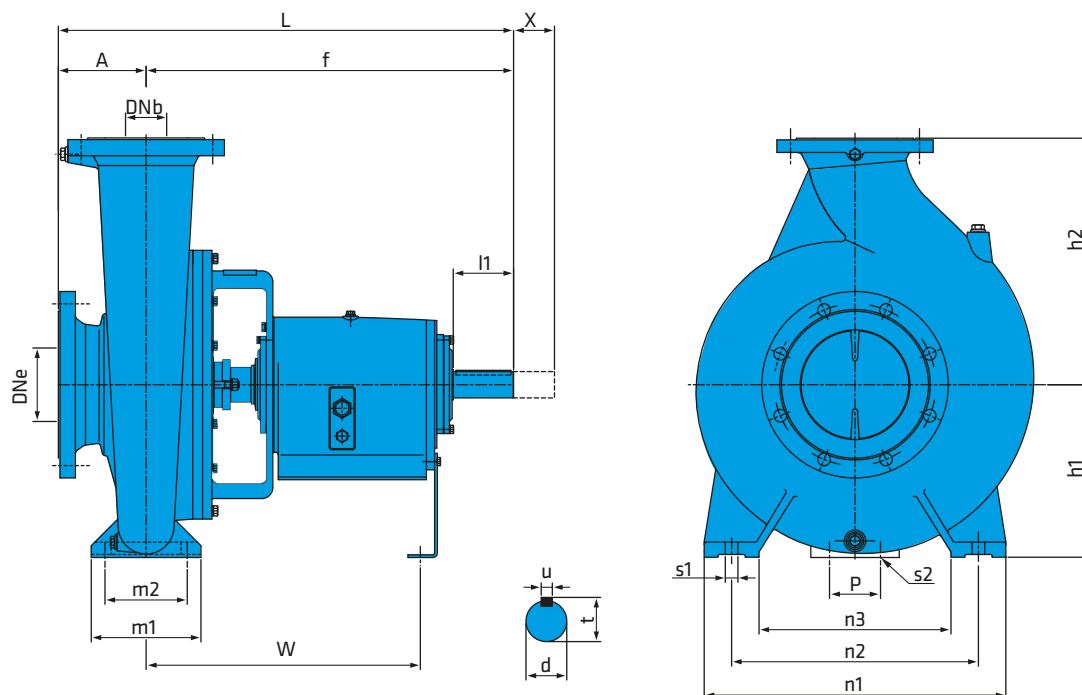
SCP 125 - 315 - A

1450 rpm



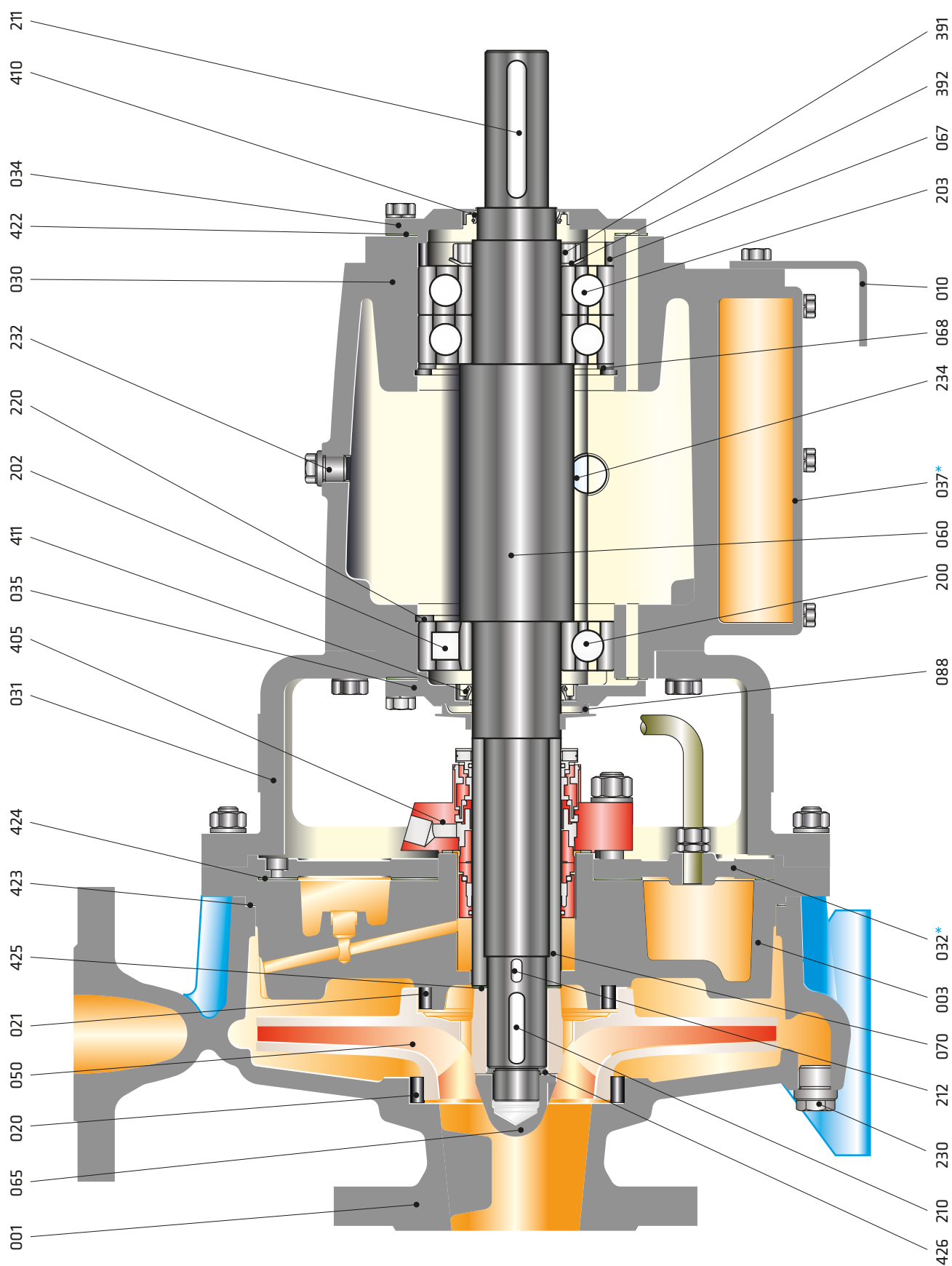
2900 rpm



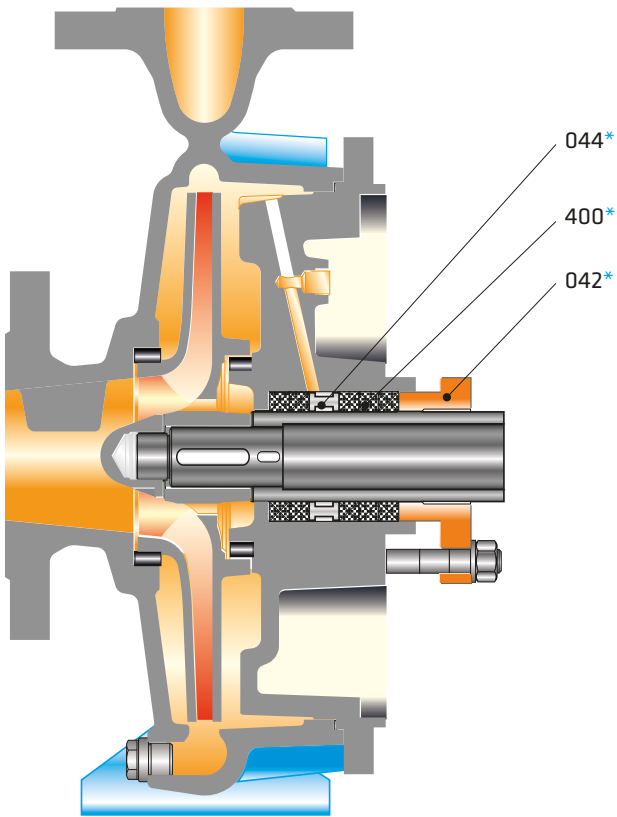


PUMP TYPE		Dimensions (mm)																				
ISO 2858	Additional	Overall Dimensions							Support and Foot Dimensions								Shaft End				Spacer	
		DNe	DNb	A	f	L	h1	h2	m1	m2	n1	n2	n3	s1	p	s2	w	d	l1	t	u	x
32-125		50	32	80	385	465	112	140	100	70	190	140	90	14	110	14	285	24	50	27	8	100
32-160		50	32	80	385	465	132	160	100	70	240	190	140	14	110	14	285	24	50	27	8	100
32-200		50	32	80	385	465	160	180	100	70	240	190	140	14	110	14	285	24	50	27	8	100
32-250		50	32	80	385	465	180	225	125	95	320	250	190	14	110	14	370	32	80	35	10	100
40-200		65	40	100	385	485	160	180	100	70	265	212	165	14	110	14	285	24	50	27	8	100
40-250		65	40	100	500	600	180	225	125	95	320	250	190	14	110	14	370	32	80	35	10	100
50-160		80	50	100	385	485	160	180	100	70	265	212	165	14	110	14	285	24	50	27	8	100
50-200		80	50	100	385	485	160	200	100	70	265	212	165	14	110	14	285	24	50	27	8	100
50-250		80	50	125	500	625	180	225	125	95	320	250	190	14	110	14	370	32	80	35	10	100
50-315		80	50	125	500	625	225	280	125	95	345	280	215	14	110	14	370	32	80	35	10	100
65-160		100	65	100	500	600	160	200	125	95	280	212	150	14	110	14	370	32	80	35	10	140
65-200		100	65	100	500	600	180	225	125	95	320	250	190	14	110	14	370	32	80	35	10	140
65-250		100	65	125	500	625	200	250	160	120	360	280	200	19	110	14	370	32	80	35	10	140
65-315		100	65	125	530	655	225	280	160	120	400	315	240	19	110	14	370	42	110	45	12	140
80-200		125	80	125	500	625	180	250	125	95	345	280	215	14	110	14	370	32	80	35	10	140
80-250		125	80	125	500	625	225	280	160	120	400	315	240	19	110	14	370	32	80	35	10	140
80-315		125	80	125	530	655	250	315	160	120	400	315	240	19	110	14	370	42	110	45	12	140
80-400		125	80	125	530	655	280	355	160	120	435	355	275	19	110	14	370	42	110	45	12	140
100-200		125	100	125	500	625	200	280	160	120	360	280	200	19	110	14	370	32	80	35	10	140
100-250		125	100	140	530	670	225	280	160	120	400	315	240	19	110	14	370	42	110	45	12	140
100-315		125	100	140	530	670	250	315	160	120	400	315	240	19	110	14	370	42	110	45	12	140
100-400		125	100	140	530	670	280	355	200	150	500	400	300	23	110	14	370	42	110	45	12	140
	125-200	150	125	140	500	640	250	315	160	120	400	315	240	19	110	14	370	32	80	35	10	140
125-250		150	125	140	530	670	250	355	160	120	400	315	240	19	110	14	370	42	110	45	12	140
125-315		150	125	140	530	670	280	355	200	150	500	400	300	23	110	14	370	42	110	45	12	140
125-400		150	125	140	530	670	315	400	200	150	500	400	300	23	110	14	370	42	110	45	12	140
	150-200	200	150	160	545	705	280	355	200	150	550	450	350	23	140	14	381	42	110	45	10	180
150-250		200	150	160	530	690	280	375	200	150	550	450	350	23	140	14	366	42	110	45	12	180
150-315		200	150	160	670	830	315	400	200	150	550	450	350	23	140	19	500	48	110	51,5	14	180
150-400		200	150	160	670	830	315	450	200	150	550	450	350	23	140	19	500	48	110	51,5	14	180
	150-500	200	150	200	730	930	400	525	250	200	720	600	435	27	140	19	495	55	110	59	16	140
	200-260	250	200	200	630	830	355	450	250	200	600	500	360	23	140	20	410	48	110	51,55	14	160
	200-315	250	200	200	684	884	355	450	250	200	600	500	360	23	140	20	520	48	110	45	14	160
	200-400	250	200	180	725	905	400	500	250	200	600	500	360	23	140	20	490	55	110	59	16	160
	200-500	250	200	210	925	1135	400	525	300	240	720	600	435	27	140	20	640	70	140	74,5	20	160
	250-315	300	250	230	730	960	400	525	300	240	720	600	435	27	140	20	515	55	110	59	16	200
	250-400	300	250	230	750	980	400	525	300	240	720	600	435	27	140	20	515	55	110	59	16	200
	250-500	300	250	225	940	1165	450	630	300	240	720	600	435	27	140	20	670	70	140	74,5	20	200

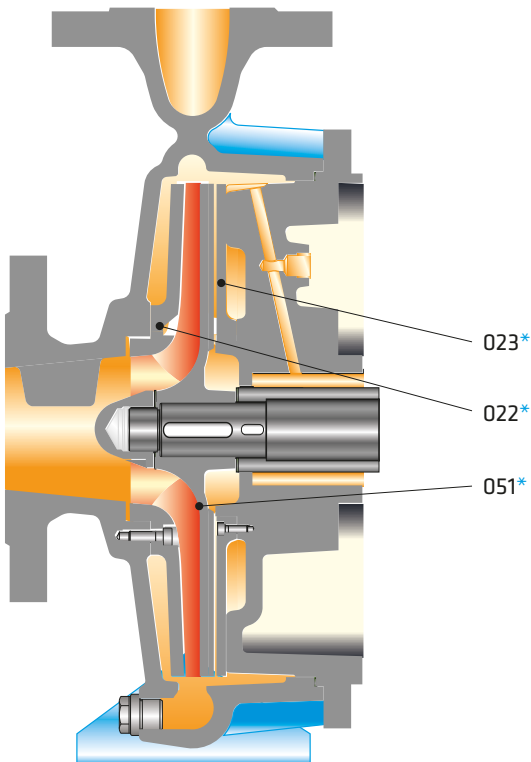
Note: All rights reserved due to dimension change.



Soft Packing Application



Semi-open Impeller Application



Part List

001	Volute Casing
003	Casing Cover
010	Support Foot
020	Wear Ring (Casing)
021	Wear Ring (Casing Cover)
022*	Front Wear Plate
023*	Back Wear Plate
030	Bearing Bracket
031	Bearing Bracket Lantern
032*	Cooling-Heating Jacket Cover
034	Bearing Cover (Outboard)
035	Bearing Cover (Inboard)
037*	Bearing Cooling Cover
042*	Gland
044*	Lantern Ring
050	Impeller
051*	Semi-Open impeller
060	Shaft
065	Impeller Nut
067	Bearing Spacer Sleeve
068	Bearing Spacer Sleeve
070	Shaft Protecting Sleeve
088	Thrower
200	Ball Bearing
202	Cylindrical Roller Bearing
203	Angular Contact Ball Bearing
210	Key (Impeller)
211	Key (Coupling)
212	Shaft Sleeve Key
220	Circlip
230	Drain Plug
232	Oil Filling Plug
234	Oil Sight Gauge
391	Shaft Nut
392	Lock Washer
400*	Soft Packing
405	Mechanical Seal
410	Lip Seal
411	Lip Seal
422	Gasket
423	Gasket
424	Gasket
425	Gasket
426	Gasket

(*) 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	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○						
Casing Cover	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○						
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○					○	
Shaft																	●	○	○	○		○
Bearing Bracket	●	○	○	○	○	○	○	○														
Wear Ring	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○						
Shaft Protecting Sleeve																	●	○	○	○		○
Mechanical Seal (*)	EN 12756																					

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

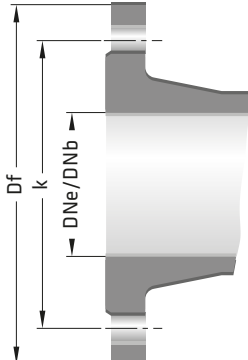
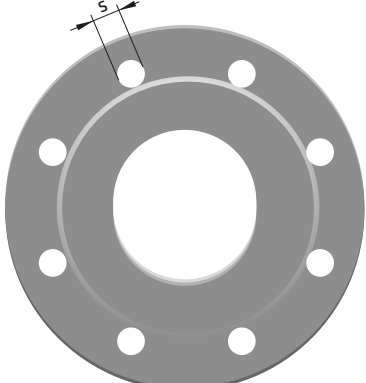
● Standard manufacturing
○ Optional

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
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
	32	140	100	18	4	140	100	18	4
	40	150	110	18	4	150	110	18	4
	50	165	125	18	4	165	125	18	4
	65	185	145	18	4	185	145	18	8
	80	200	160	18	8	200	160	18	8
	100	220	180	18	8	235	190	22	8
	125	250	210	18	8	270	220	26	8
	150	285	240	22	8	300	250	26	8
	200	340	295	22	12	360	310	26	12
	250	405	355	26	12	425	370	30	12
	300	460	410	26	12	485	430	30	16

" n " number of holes

Pump • Fire Fighting Units • Booster Set

SCP-HT

HOT WATER PUMPS

SCP-HT Rev.05.03.2024

Handled Liquids

SCP-HT pumps are specially designed for hot water and geothermal water application.

Technical Data

Discharge Flange _____ DN 32.....DN 250 mm

Capacity _____ up to 1500 m³/h

Head _____ up to 160 m

Speed _____ up to 2900 rpm

Design Temperature _____ up to +230 °C*

Casing Pressure (Pmax) _____ 25 bar (40 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, radially split volute casing type, single stage, end suction centrifugal pumps with closed impeller.
- Heavy duty shaft not in contact with the medium handled (dry shaft)
- For casing sealing, confined gaskets are used to prevent blow-out under pressure.
- Coupling misalignment due to thermal expansions are mainly reduced with centerline mounting design.
- Suction and discharge flanges conform to EN 1092-2 / PN 25.

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____



- 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 class 6.3.

- Axial thrust is balanced by impeller balancing holes system.

- Direction of rotation is clockwise viewed from drive end.

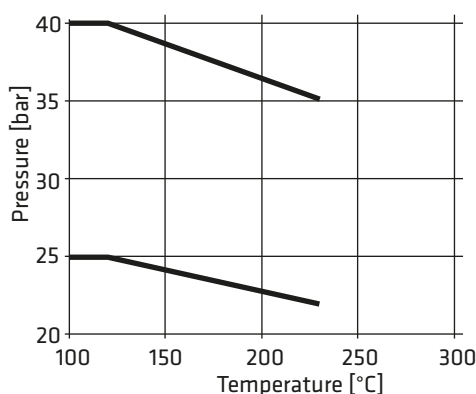
- Bearings of SCP-HT type pumps are always oil lubricated.

Shaft Sealing

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

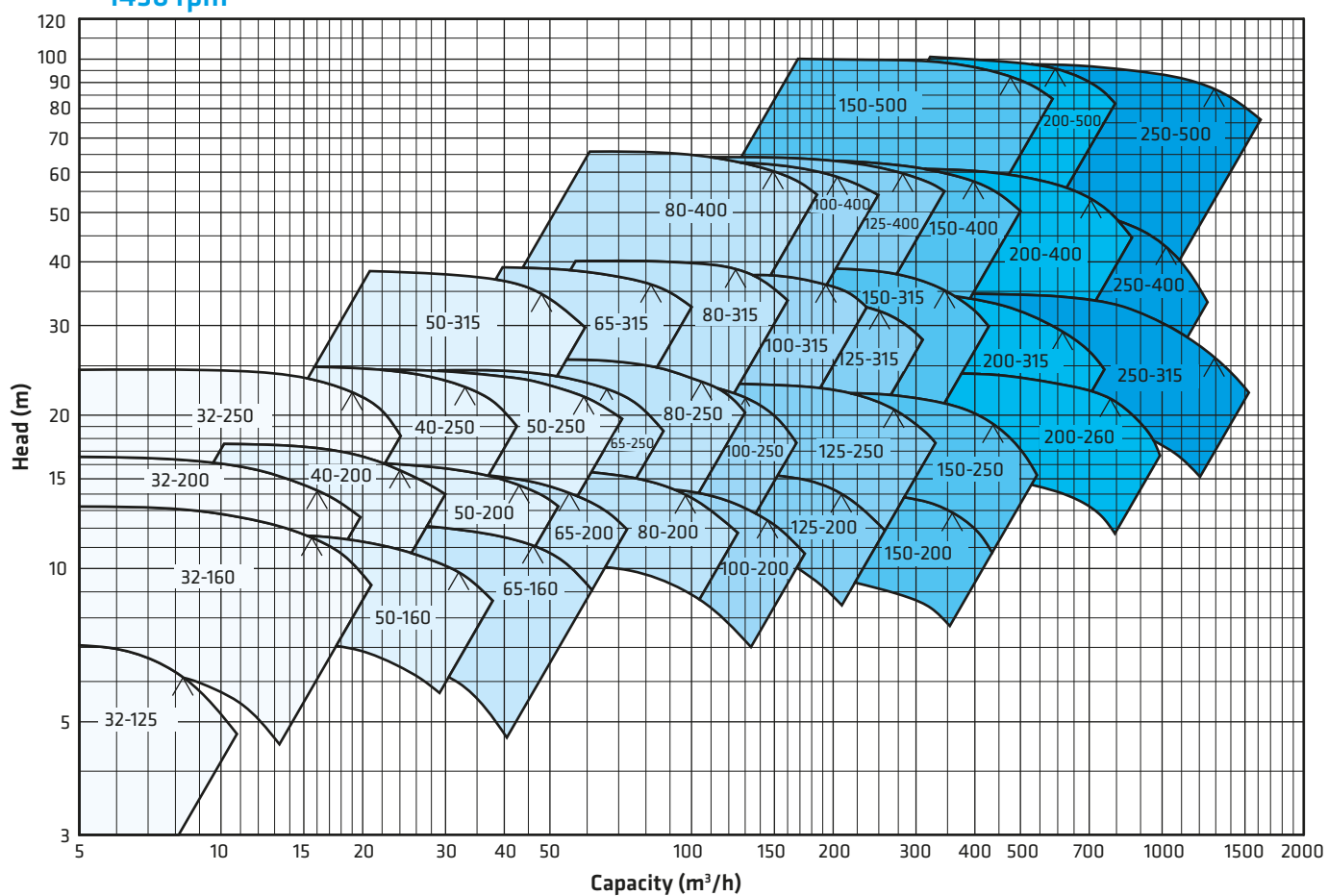
- External seal cooling system may be used if required.

Pressure & Temperature Limits

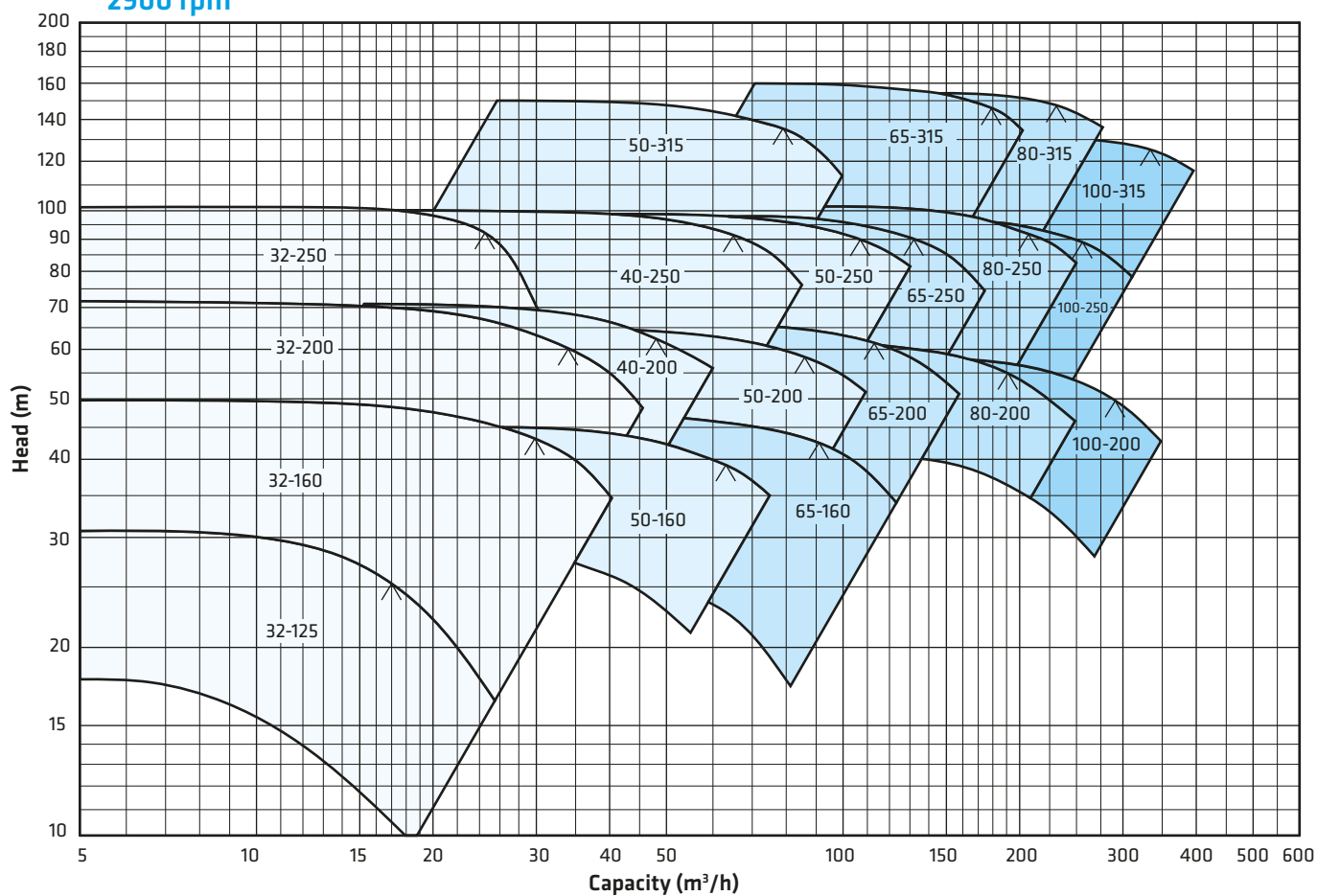


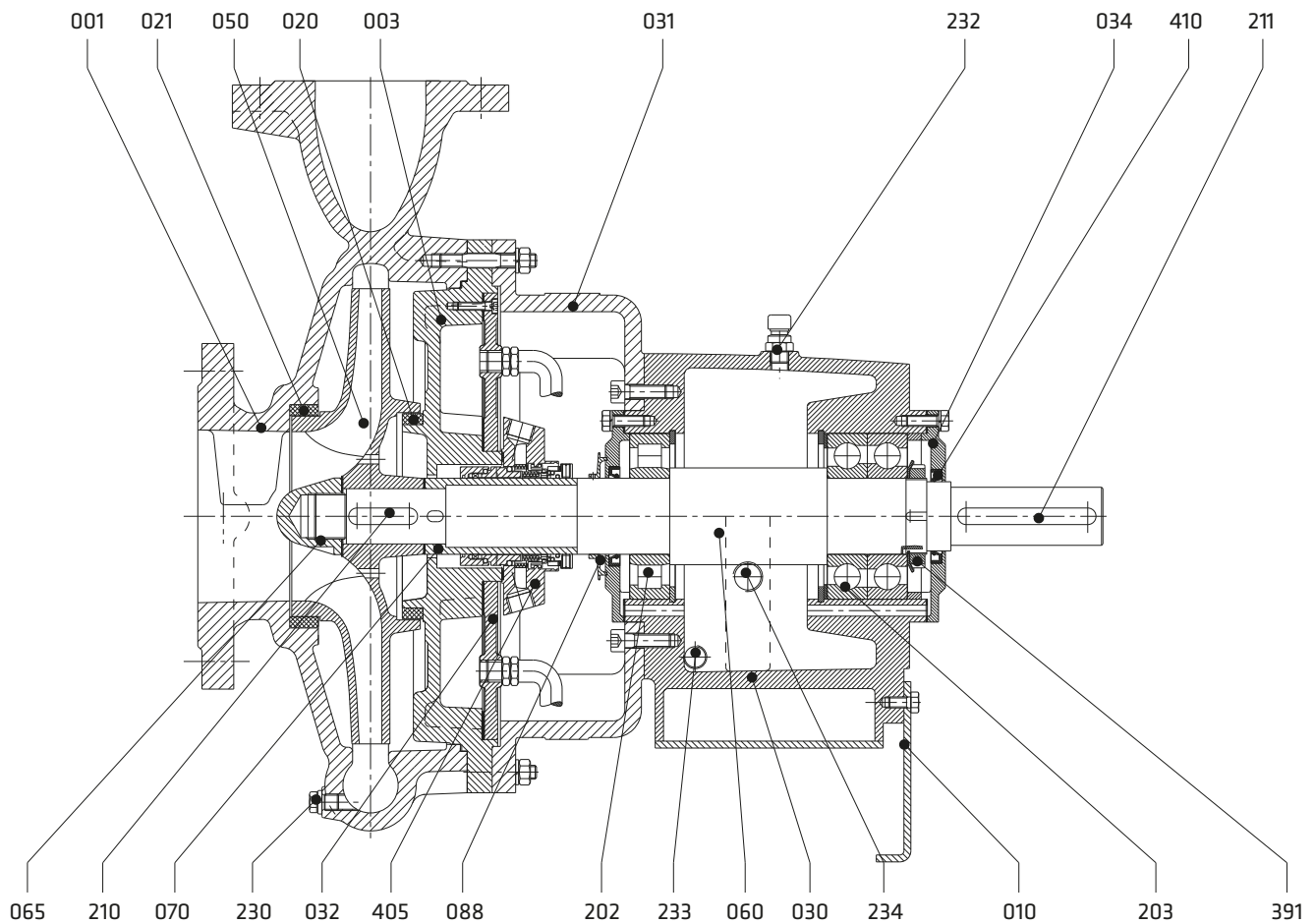
SCP-HT 100 - 250

1450 rpm



2900 rpm



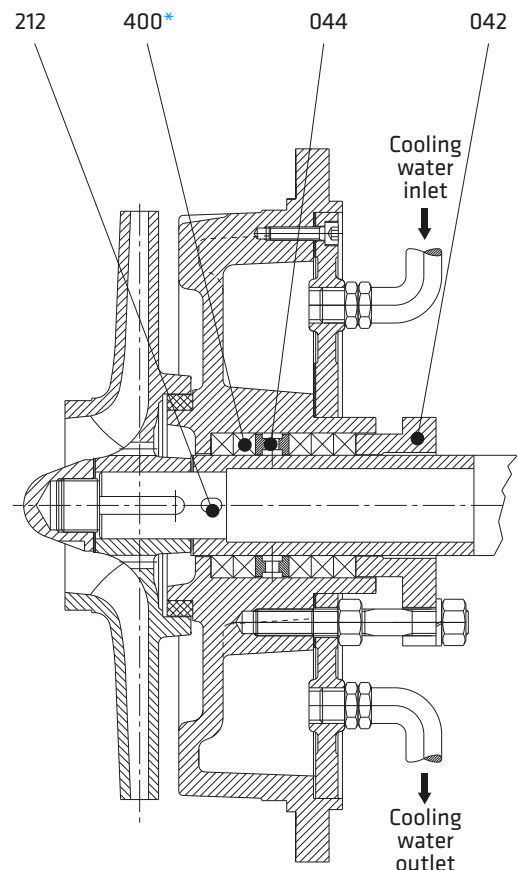


Part List

001	Volute Casing
003	Casing Cover
010	Support Foot
020	Wear Ring (Casing)
021	Wear Ring (Casing Cover)
030	Bearing Bracket
031	Bearing Bracket Lantern
032	Cooling - Heating jacket Cover
034	Bearing Cover
042	Gland
044	Lantern Ring
050	Impeller
060	Shaft
065	Impeller Nut
070	Shaft Protecting Sleeve
088	Thrower
202	Cylindrical Roller Bearing
203	Angular Contact Ball Bearing
210	Impeller Key
211	Key (Coupling)
212	Shaft Sleeve Key
230	Drain Plug
232	Oil Filling Plug
233	Oil Drain Plug
234	Oil Sight Gauge
391	Shaft Nut
400*	Soft Packing Seal
405	Mechanical Seal
410	Lip Seal

(*) Optional

Soft Packing Application



Part List	10	30	20	60	6L	70	7L	8M	7D	7S	8N	80	80	8T	60	7L	7E	7D
	0.6025	0.7040	1.0619	1.4308	1.4309	1.4408	1.4409	1.4500	1.4517	1.4469	1.4317	1.4008	1.4021	1.4021+QT	1.4301	1.4404	1.4460	1.4462
Volute Casing		●	○	○	○	○	○	○	○	○	○	○						
Casing Cover		●	○	○	○	○	○	○	○	○	○	○						
Impeller	●	○	○	○	○	○	○	○	○	○	○	○					○	
Shaft													●	○	○	○		○
Bearing Bracket	●	○	○	○	○	○	○											
Wear Ring	●	○	○	○	○	○	○	○	○	○	○	○						
Shaft Protecting Sleeve													●	○	○	○		○

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

● Standard manufacturing
○ Optional

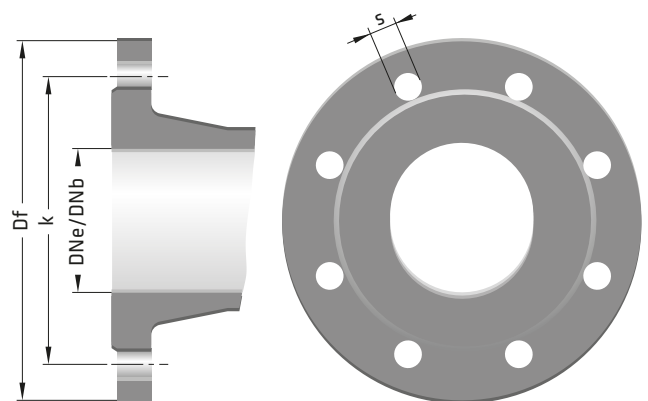
Material Equivalents

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
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
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 25)				Suction & Discharge (PN 40)			
	Df	k	s	n	Df	k	s	n
32	140	100	18	4	140	100	18	4
40	150	110	18	4	150	110	18	4
50	165	125	18	4	165	125	18	4
65	185	145	18	8	185	145	18	8
80	200	160	18	8	200	160	18	8
100	235	190	22	8	235	190	22	8
125	270	220	26	8	270	220	26	8
150	300	250	26	8	300	250	26	8
200	360	310	26	12	375	320	30	12
250	425	370	30	12	450	385	33	12
300	485	430	30	16	515	450	33	16

"n" number of holes



Pump • Fire Fighting Units • Booster Set

SSP-H

Extra Heavy Duty Slurry Pumps

SSP-H Rev.05.03.2024

Handled Liquids

Slurry, highly contaminated, viscous, corrosive and abrasive liquids with solid or fibrous particles.

Technical Data

Discharge Flange _____ DN 25.....DN 350 mm

Capacity _____ up to 3500 m³/h

Head _____ up to 100 m

Temperature Operation _____ -10°C up to +110 °C

Generating Steam Temperature _____ up to 300°C

Note: The Material of pump differs according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

Fields of Application

- Mining and mineral processing
- Sand and gravel processing plants
- Abrasive slurry transfer
- Industrial plants
- Pulp and paper industry
- Cyclone feed
- Mine wastes transfer
- Fly ash and bottom ash transport
- Manure transfer
- Lime mud transport
- Waste water systems
- Chemical slurries
- Filter press applications
- Aggregate plants
- Autoclaved aerated concrete plants

Pump Designation

Pump Type _____

Installation Arrangement Horizontally (H) / Vertically (V) _____

Suction Size (DN-mm) _____

Pump Suction / Discharge Size (inch) _____

Pump Material Selection _____

Frame Type _____



Design Features

• SSP-H pump series are carefully designed by taking into consideration years of production experience of POMPA and field experiences of our customers using process and slurry pumps. Hydraulic efficiency and hardwearing are considerate and optimised while hard solid particles were pumping.

• SSP-H pump series users are offered with advantages of resistant to extensive wear, high reliability, high hydraulic efficiency, cost effective spare parts and continuous spare part supply in short lead time.

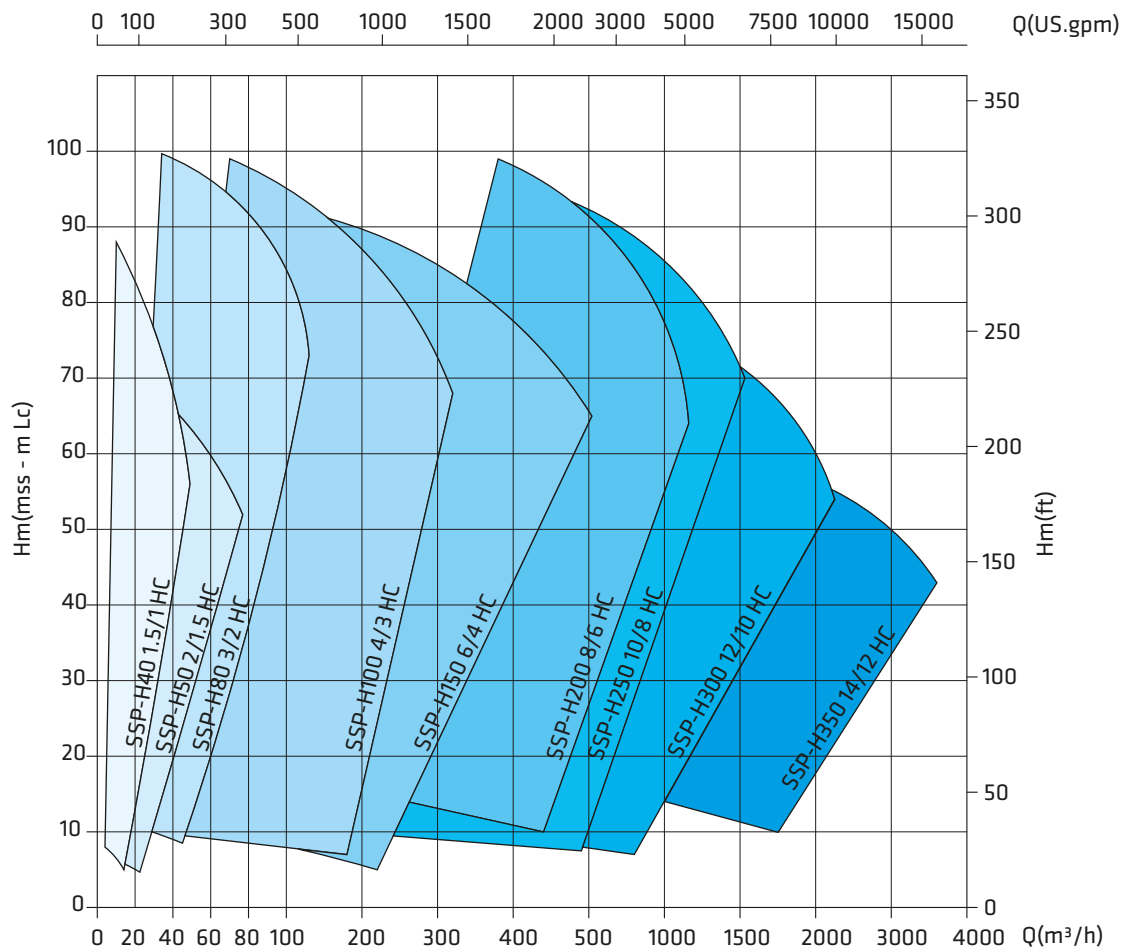
Bearing Design

• SSP-H pump series are produced with extra heavy duty (EHD) design. Grease lubricated bearings of EHD can be replaced with oil lubricated as well.

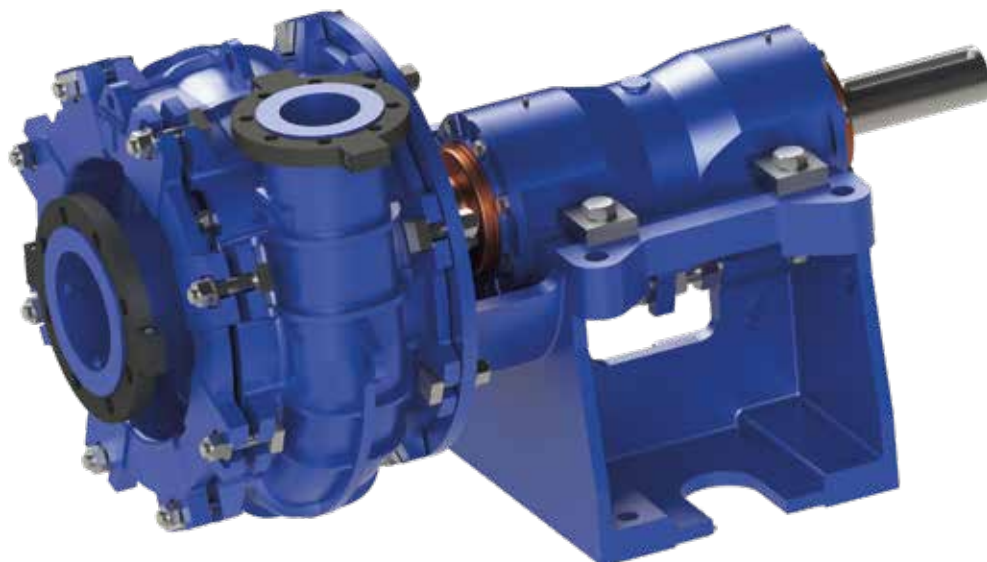
SSP - H 80 3/2 HC K

HORIZONTAL EXTRA HEAVY DUTY SLURRY PUMPS

SSP-H FIELD CHART (HC)

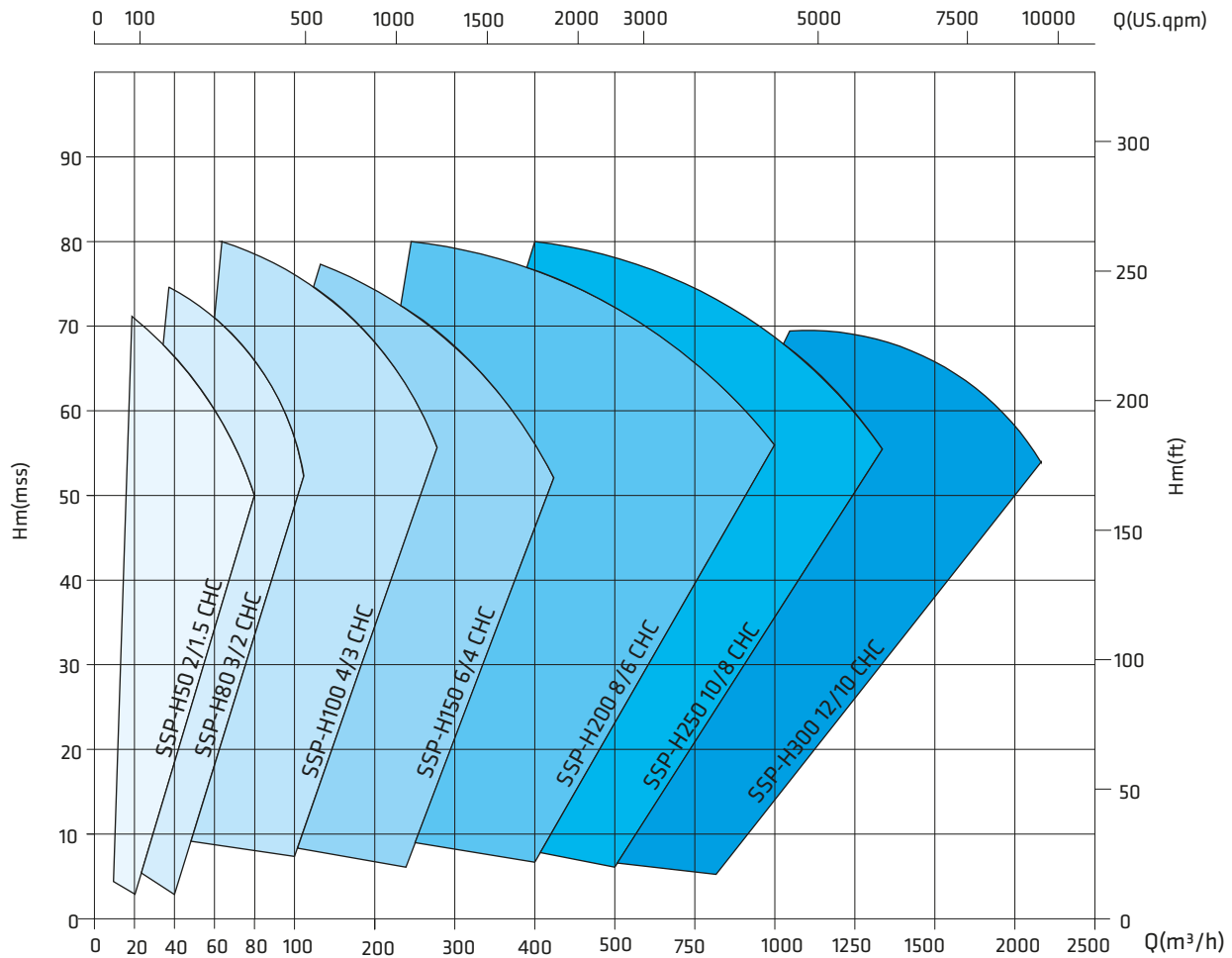


- Impeller and volute of SSP-H HC pumps are high chromium steel casting in standard production. However, different casting material options can be used according to the chemical properties of the fluid.
- SSP-H HC series pump's impeller can be setting with two-way clearance a djustment system.
- There are frame size options for shaft power and applications
- Except H40, H50, H80, H300 and H350, other pumps have 2 different frame sizes according to their motor power.
- In standard production, H 40 an H 50 pumps have open impeller and the others pumps have closed impeller. Pumps with closed impeller can be optionally made as open impeller, vortex impeller or full-recessed vortex impeller.
- Shut-off head is approximately 100m.

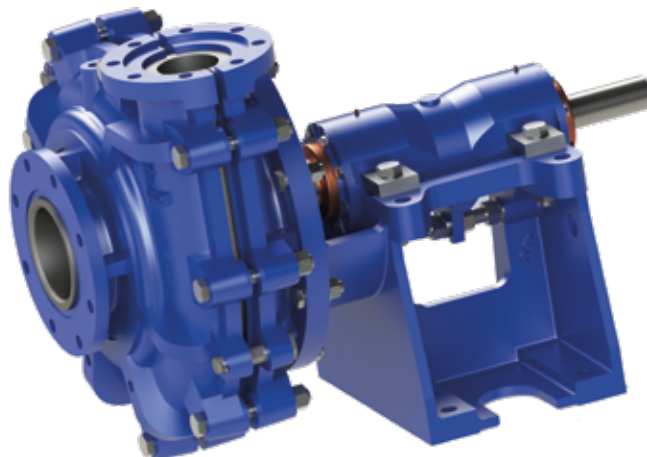


HORIZONTAL EXTRA HEAVY DUTY METAL LINER SLURRY PUMPS

SSP-H FIELD CHART (CHC)

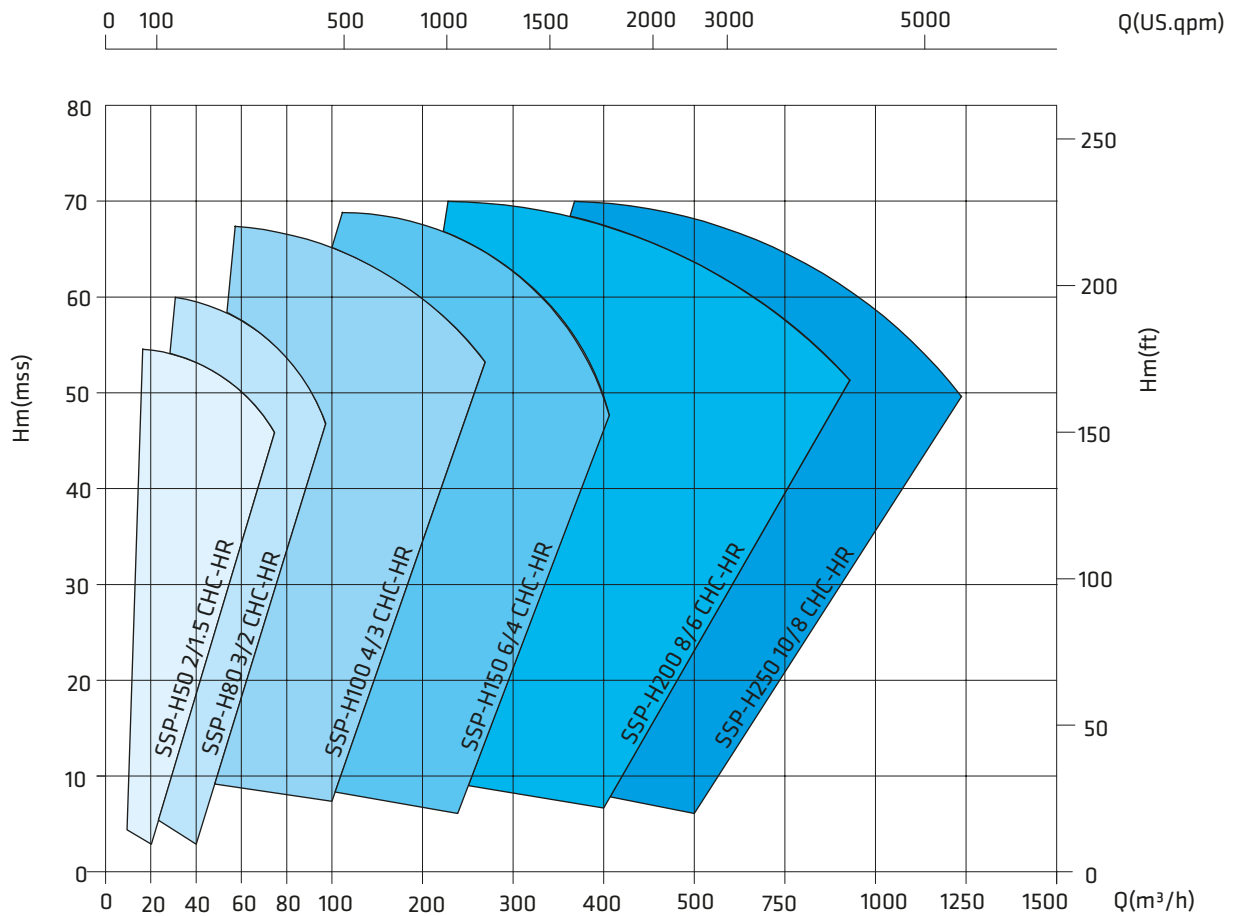


- SSP-H CHC pump series are liner pumps.
- Outer volute is ductile iron with split casing.
- Impeller and volute liner of SSP-H CHC pumps are high chromium steel castings in standard production. However, different casting material options can be used according to the chemical properties of the fluid.
- SSP-H CHC series pump's impeller can be setting with one-way clearance adjustment system.
- There are frame size options for shaft power and applications
- Except H40, H50, H80, and H300, other pumps have 2 different bearing sizes according to their motor power.
- In standard production, H 50 pump have open impeller and the others pumps have closed impeller. Power with closed impeller can optionally be made as open impeller.
- Shut-off head is approximately 80m



HORIZONTAL EXTRA HEAVY DUTY METAL LINER SLURRY PUMPS

SSP-H FIELD CHART (CHC-HR)

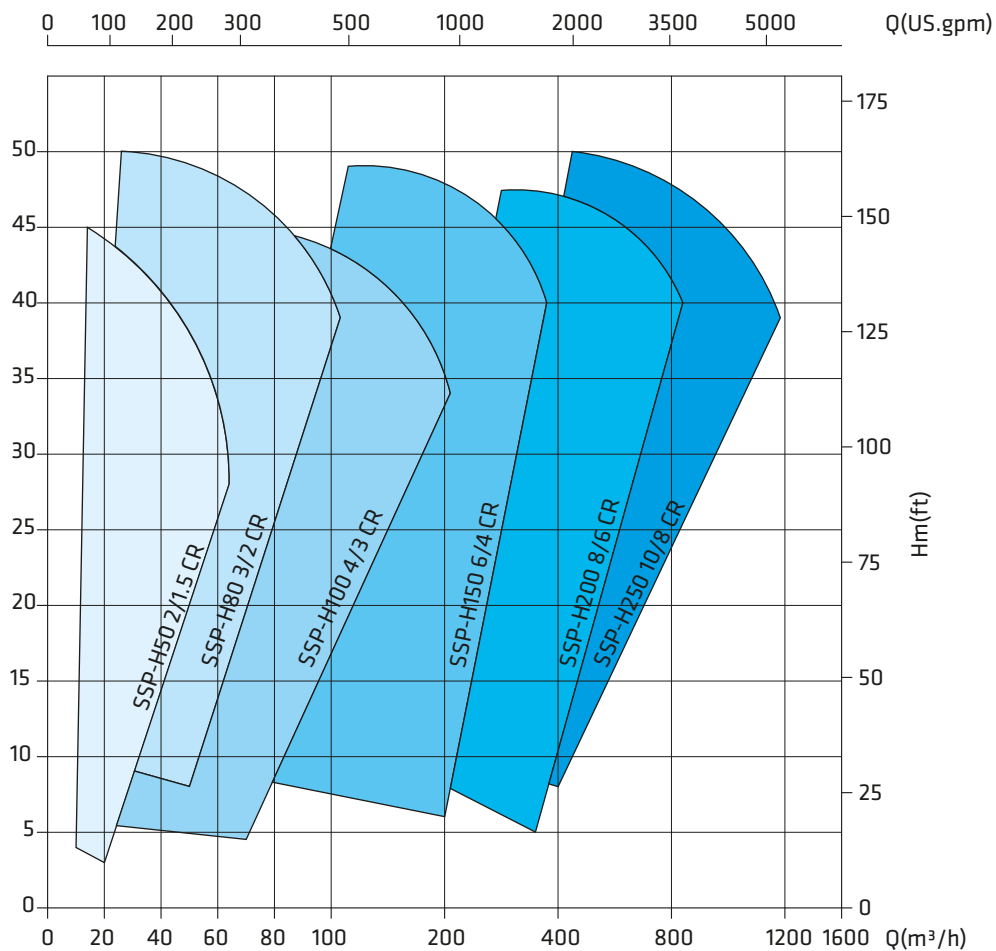


- SSP-H CHC HR pump series are liner pumps.
- Outer volute is ductile iron with split casing.
- Volute liner of SSP-H CHC HR pumps are high chromium steel casting in standard. However, different casting material options can be used according to the chemical properties of the fluid.
- The impeller rubber-coated
- SSP-H CHC HR series pump's impeller can be setting with one-way clearance adjustment system.
- There are frame size options for shaft power and applications
- Except H50 an H80 other pumps have 2 different bearing sizes according to their motor power.
- In standard production, H 50 pump have open impeller and the others pumps have closed impeller.
- Shut-off head is approximately 70 m



HORIZONTAL EXTRA HEAVY DUTY RUBBER LINER SLURRY PUMPS

SSP-H FIELD CHART (CR)

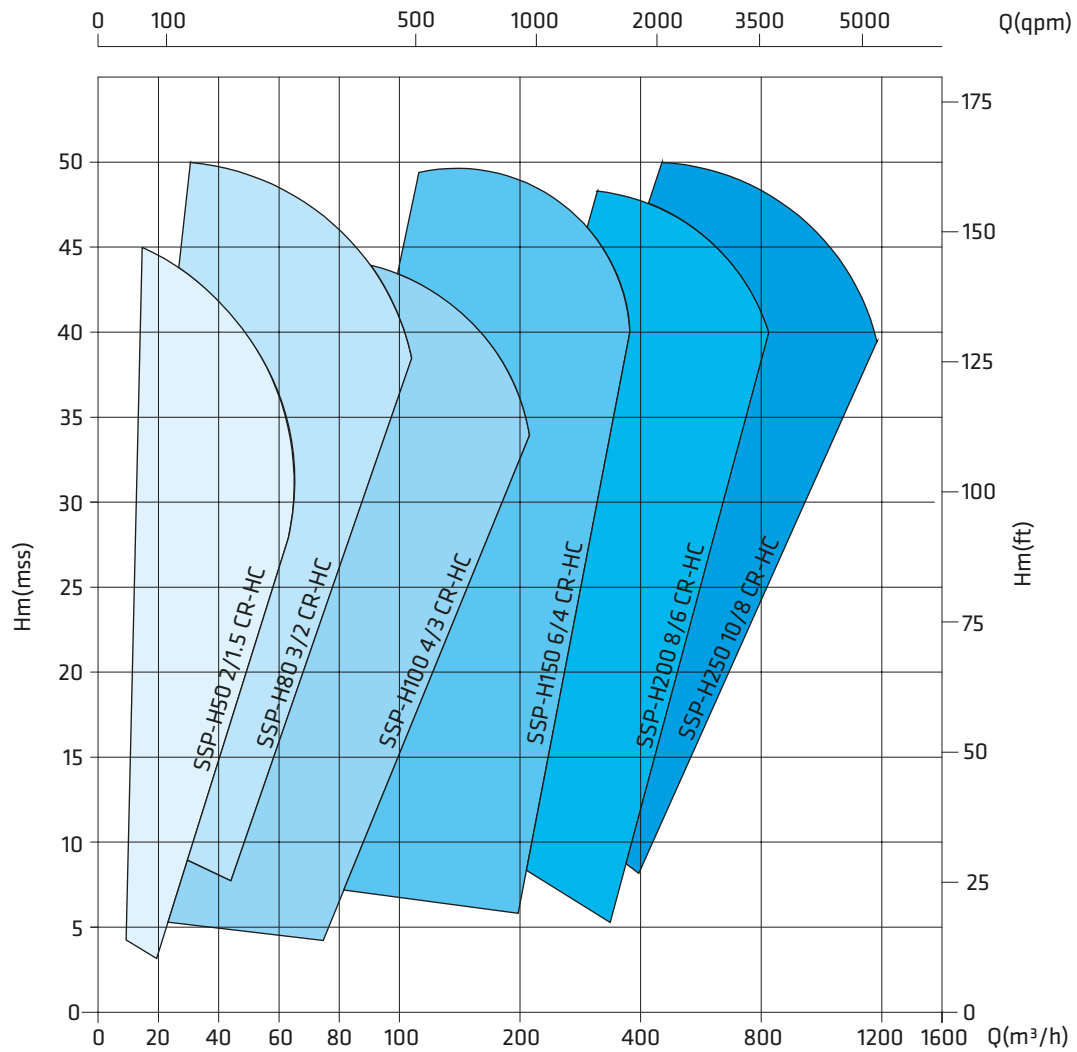


- SSP-H CR pump series are liner pumps.
- Outer volute is ductile iron with split casing. The impeller of the SSP-H CR pumps is rubber-coated and the liner volute is rubber.
- SSP-H CR series pump's impeller can be setting with one-way clearance adjustment system.
- There are frame size options for shaft power and applications
- Except H50 and H80 other pumps have 2 different bearing sizes according to their motor power.
- In standard production, H 50 pump have open impeller and others pumps have closed impeller.
- Shut-off head is approximately 50 m



HORIZONTAL EXTRA HEAVY DUTY RUBBER LINER SLURRY PUMPS

SSP-H FIELD CHART (CR HC)



- SSP-H CR HC pump series are liner pumps.
- Outer volute is ductile iron with split casing.
- Volute liner of the SSP-H CR HC pumps is the rubber.
- SSP-H CR HC series pump's impeller can be setting with one-way clearance adjustment system.
- There are frame size options for shaft power and applications
- Except H50 and H80 other pumps have 2 different bearing sizes according to their motor power.
- In standard production, H 50 pump have open impeller and the others pumps have closed impeller.
- Shut-off head is approximately 50 m.



Impeller Types

As standart manufacturing, SSP-H pump series have horizontal, volute casing, single stage and closed impeller. Semi-open vortex and full-recessed vortex impeller types can be applied in different requirements.



Closed Impeller

Kapalı çark akışkanlardaki küçük ve orta boyutlu katı parçaların transferi gerçekleştirilmektedir. SSP-H serisinde diğer çark tiplerine göre daha yüksek verimliliğe sahiptir. Transfer edilecek akışkanın aşındırıcı özelliğine göre malzeme seçimi ile yüksek performanslı ve uzun ömürlü çözümler sunar. Büyük basma yüksekliklerinde yüksek verimlerde kullanılmaktadır.



Semi-open Impeller

Large and medium solid particles are transferred with semi-open impeller type. It offers high efficient and more durable solutions regarding material selection and abrasive properties of the handled fluid. Semi-open impellers prevent greater efficient loss in use of larger particles. It is preferred low and medium heads.

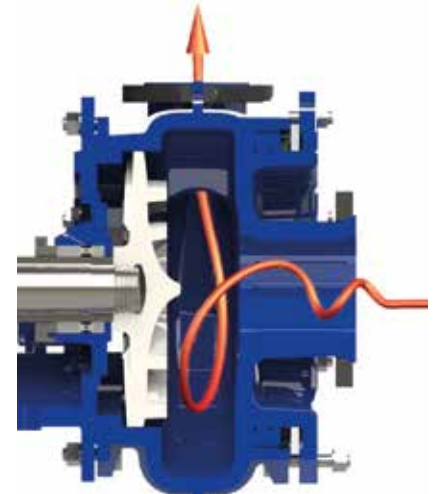
Vortex Impeller

Vortex impellers are used in transfer of fluids containing large solid particles at low head. More life time is offered since large solid particles would have less contact area with the vortex impeller. These impellers are less efficient than the others.

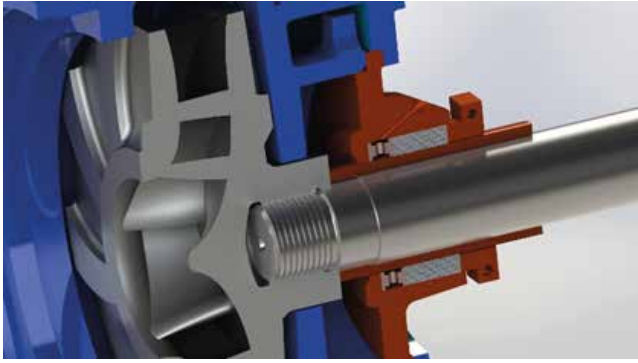


Full-Recessed Vortex Impeller

Full-recessed vortex impellers are applied when large, solid fibrous particles involved in handled fluid. It can pass that solids as large as discharge diameter. Minimum contact area is accomplished between solid particles in fluid and the impeller. These impeller types are preferred for preventing damages to solid particles in fluid. But it's shut-off head and efficiency are less than other type impellers. Applicable only on SSP H HC series pumps.

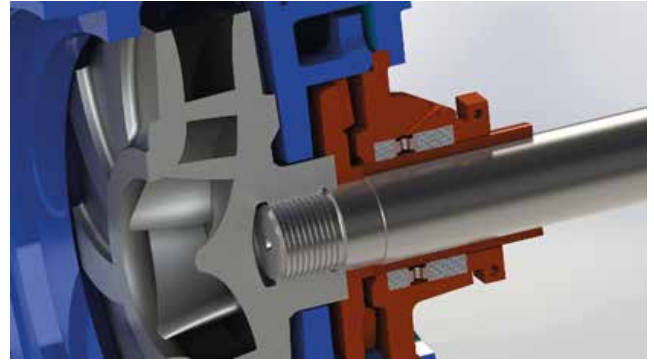


Shaft Sealing



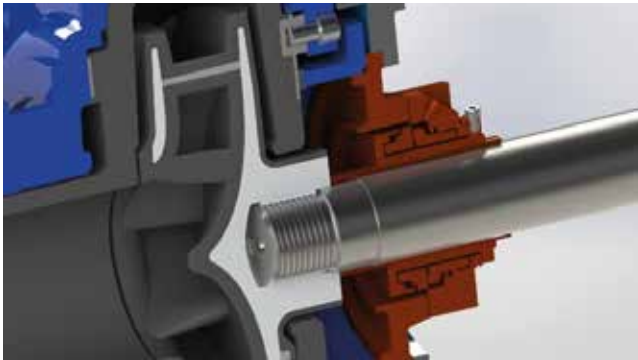
SSP HC, CR, CHC Packing Sealing

- Shaft sleeve and stuffing box sealing can be cooled and lubricated by a external cooling system or the pumping liquid.
- Distance adjustment between wear plate and back vanes of the impeller can set the pressure on sealing.



SSP HC, CR, CHC Hydrodynamic and Packing Sealing

- Hydrodynamic and shaft sleeve and stuffing box sealing can be cooled and lubricated by a external cooling system or the pumping liquid.
- Expeller provides hydrodynamic sealing by depressurizing on stuffing box area. It improves lifetime of shaft sleeve and packing sealing.



SSP HC, CR, CHC Cartridge Type Single Mechanical Sealing

- Hydraulic film between sealing surface elements is formed by pumping fluid or externally injected liquid which is the way of API 682 approved.
- Distance adjustment between wear plate and back vanes of the impeller can set the pressure on cartridge mechanical sealing.

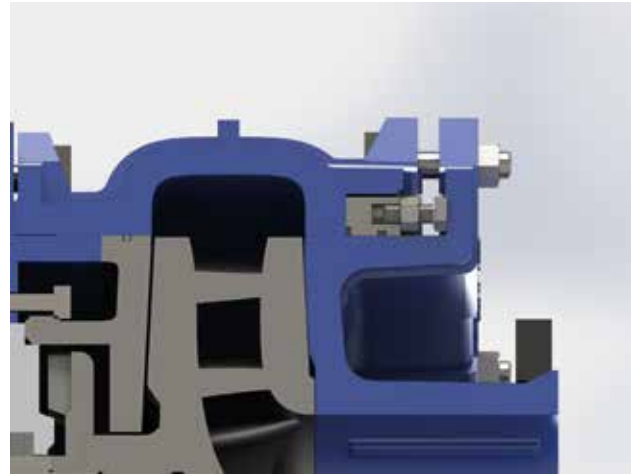
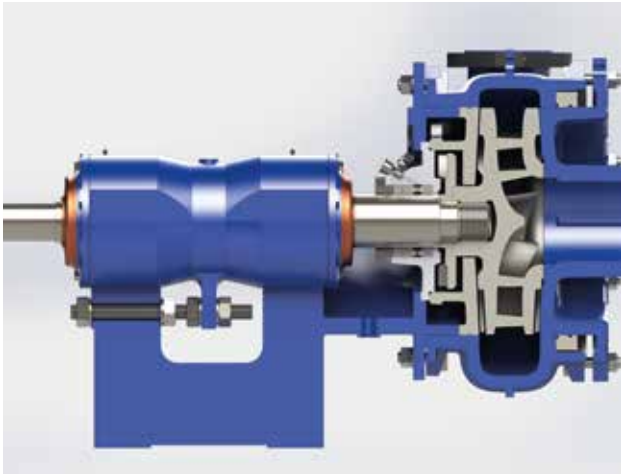


SSP HC, CR, CHC Cartridge Type Double Mechanical Sealing

- Hydraulic film between sealing surface elements is formed by an pressured barrier liquid externally which is the way of API 682 approved.
- Distance adjustment between wear plate and back vanes of the impeller can set the pressure on cartridge mechanical sealing.

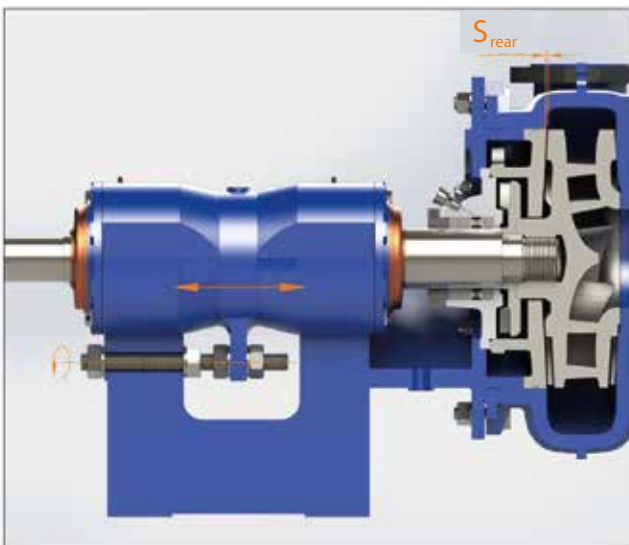
Adjustment Mechanism

General



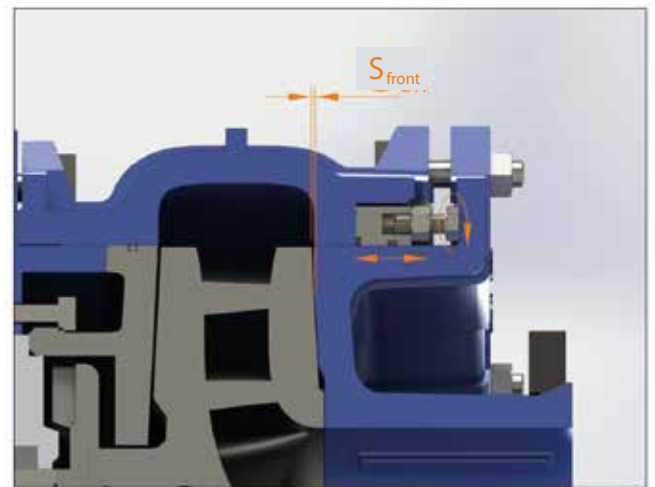
SSP-H pump series have major advantages to transfer fluid that has corrosive and abrasive properties. Even though these properties would have decrease pump performances in time, distance adjustment mechanisms on the SSP-H pump series can optimise the pump performances and improve service time. Only SSP-H HC pump series have two-way clearance adjustment system. SSP-H CHC and CR pump series have one-way clearance adjustment system.

Back-side Clearance



Stud bolts on bearing housing lead the movement of cartridge housing at SSP-H series HC/CR/CHC model pumps. Therefore distance between impeller and wear plate can be controlled. Back-side clearance adjustment keep the pump performance up even wearing happens between the wear plate and the impeller.

Front-side clearance



SSP-H series HC model pumps have front gap adjustment. Stop bolts in front of volute casing can set the gap between inlet port and impeller. Therefore negative effects of wearing optimise and service time of the pump improves. Besides that there is no need disassembly of volute casing and time is saved accordingly.

Sliding Base Frame Application



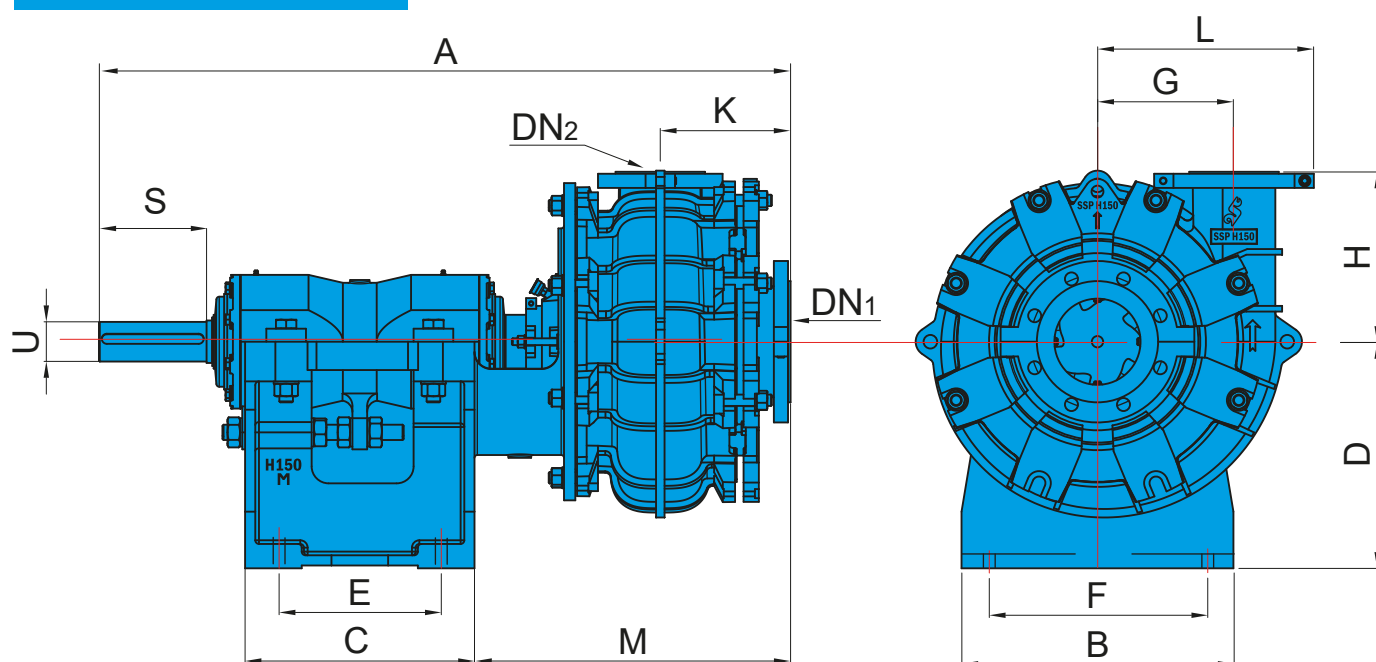
Base Plate Closed



Base Plate Open

SSP-H pump series can be application sliding base frame. The sliding base frame provides maintainability where there is no lift and no enough movement area. using sliding base frame instead of a fixed base has eliminated high risk manual handling and reduced downtime approximately by %50. This reduction in downtime on the HC pump series are due to only having to unbolt the casing bolts to slide the wet end and motor apart to expose wear parts. Since CHC and CR pump series have split type, therefore these series pumps must be removed discharge flanges bolts and the casing bolts to slide the wet end and motor apart expose wear parts. Trapezoidal thread is used to slide the sliding base frame as standart. Wheeled system and hydraulic system applications can also be made.

Dimensions (SSP-H HC)



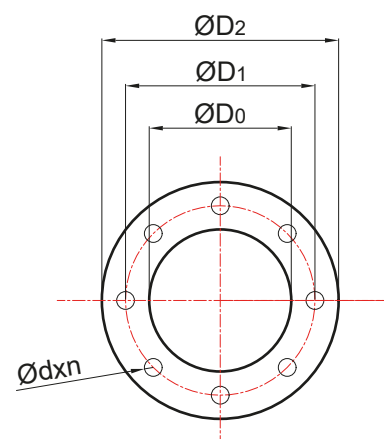
DIMENSIONS (mm)

Pump Type	Key Size														Weight (kg)
	A	B	C	D	E	U	Size	S	F	G	H	K	L	M	
H40 1.5x1 HC J	610	250	204	175	134	28	8x7	80	200	102	150	110	159	292	79
H50 2x1.5 HC J	624	300	204	190	134	28	8x7	80	250	125	185	116	200	306	120
H80 3x2 HC K	825	360	260	230	180	42	12x8	100	290	140	210	175	223	419	208
H100 4x3 HC K	869	410	260	280	180	42	12x8	100	350	185	265	197	285	464	301
H100 4x3 HC L	1027	410	342	280	240	55	16x10	135	350	185	265	197	285	487	356
H150 6x4 HC L	1078	480	342	400	240	55	16x10	135	410	241	300	230	351	538	567
H150 6x4 HC M	1221	480	405	400	300	70	20x12	190	420	241	300	230	351	558	668
H200 8x6 HC M	1312	650	405	520	300	70	20x12	190	580	320	460	275	462	649	1192
H200 8x6 HC N	1570	650	545	520	385	100	28x16	265	580	320	460	275	462	682	1467
H250 10x8 HC N	1613	780	545	620	385	100	28x16	265	640	383	500	300	553	724	1906
H250 10x8 HC P	1736	780	634	620	474	120	32x18	280	640	383	500	300	553	739	2177
H300 12x10 HC P	1813	920	634	650	474	120	32x18	280	780	445	560	360	642	816	2855

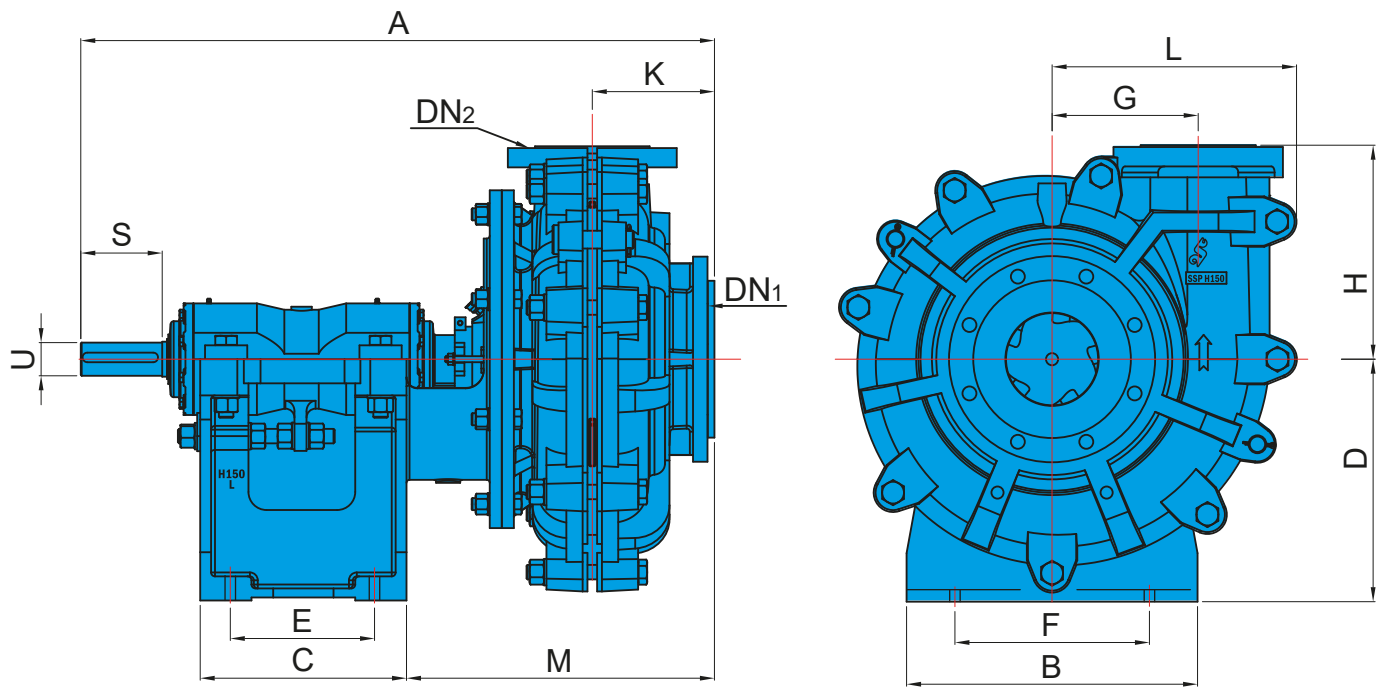
(*) All dimensions (mm)

Pump Type	DN ₁				DN ₂			
	D ₀	D ₁	D ₂	Ød	D ₀	D ₁	D ₂	Ød
H40 1.5x1 HC J	40	110	150	4-Ø18	25	85	115	4-Ø14
H50 2x1.5 HC J	50	125	165	4-Ø18	40	110	150	4-Ø18
H80 3x2 HC K	80	160	200	8-Ø18	50	125	165	4-Ø18
H100 4x3 HC K	100	180	220	8-Ø18	80	160	200	8-Ø18
H100 4x3 HC L	100	180	220	8-Ø18	80	160	200	8-Ø18
H150 6x4 HC L	150	240	285	8-Ø23	100	180	220	8-Ø18
H150 6x4 HC M	150	240	285	8-Ø23	100	180	220	8-Ø18
H200 8x6 HC M	200	295	340	8-Ø23	150	240	285	8-Ø23
H200 8x6 HC N	200	295	340	8-Ø23	150	240	285	8-Ø23
H250 10x8 HC N	250	350	395	12-Ø23	200	295	340	8-Ø23
H250 10x8 HC P	250	350	395	12-Ø23	200	295	340	8-Ø23
H300 12x10 HC P	300	400	445	12-Ø23	250	350	395	12-Ø23

(*) All dimensions (mm)



Dimensions (SSP-H CHC/CHC HR)



DIMENSIONS (mm)

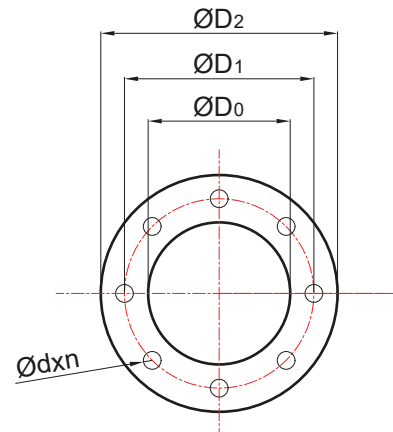
Pump Type	A	B	C	D	E	U	Key Size	S	F	G	H	K	L	M	Weight (kg)
H50 2x1.5-CR J	627	300	204	190	134	28	8x7	80	250	130	200	114	230	309	108
H50 2x1.5-CHC J	627	300	204	190	134	28	8x7	80	250	130	200	114	230	309	126
H80 3x2-CR K	780	360	260	230	180	42	12x8	100	290	140	240	130	260	375	178
H80 3x2-CHC K	780	360	260	230	180	42	12x8	100	290	140	240	130	260	375	212
H100 4x3-CR K	846	410	260	280	180	42	12X8	100	350	185	302	174	330	441	261
H100 4x3-CHC K	846	410	260	280	180	42	12X8	100	350	185	302	174	330	441	341
H100 4x3-CR L	1005	410	342	280	240	55	16X10	135	350	185	302	174	330	465	316
H100 4x3-CHC L	1005	410	342	280	240	55	16X10	135	350	185	302	174	330	465	396
H150 6x4-CR L	1050	480	342	400	240	55	16X10	135	410	241	353	203	403	510	512
H150 6x4-CHC L	1050	480	342	400	240	55	16X10	135	410	241	353	203	403	510	644
H150 6x4-CR M	1194	480	405	400	300	70	20X12	190	410	241	353	203	403	530	613
H150 6x4-CHC M	1194	480	405	400	300	70	20X12	190	410	241	353	203	403	530	745
H200 8x6-CR M	1282	650	405	520	300	70	20X12	190	580	320	510	245	528	619	1168
H200 8x6-CHC M	1282	650	405	520	300	70	20X12	190	580	320	510	245	528	619	1435
H200 8x6-CR N	1540	650	545	520	385	100	28X16	265	580	320	510	245	528	652	1443
H200 8x6-CHC N	1540	650	545	520	385	100	28X16	265	580	320	510	245	528	652	1710
H250 10x8-CR N	1588	780	545	620	385	100	28X16	265	640	383	550	275	638	699	1808
H250 10x8-CHC N	1588	780	545	620	385	100	28X16	265	640	383	550	275	638	699	2205
H250 10x8-CR P	1711	780	634	620	474	120	32X18	280	640	383	550	275	638	714	2079
H250 10x8-CHC P	1711	780	634	620	474	120	32X18	280	640	383	550	275	638	714	2476
H300 12x10-CHC P	1813	920	634	650	474	120	32x18	280	780	444	610	360	665	816	3196

(*) All dimensions (mm)

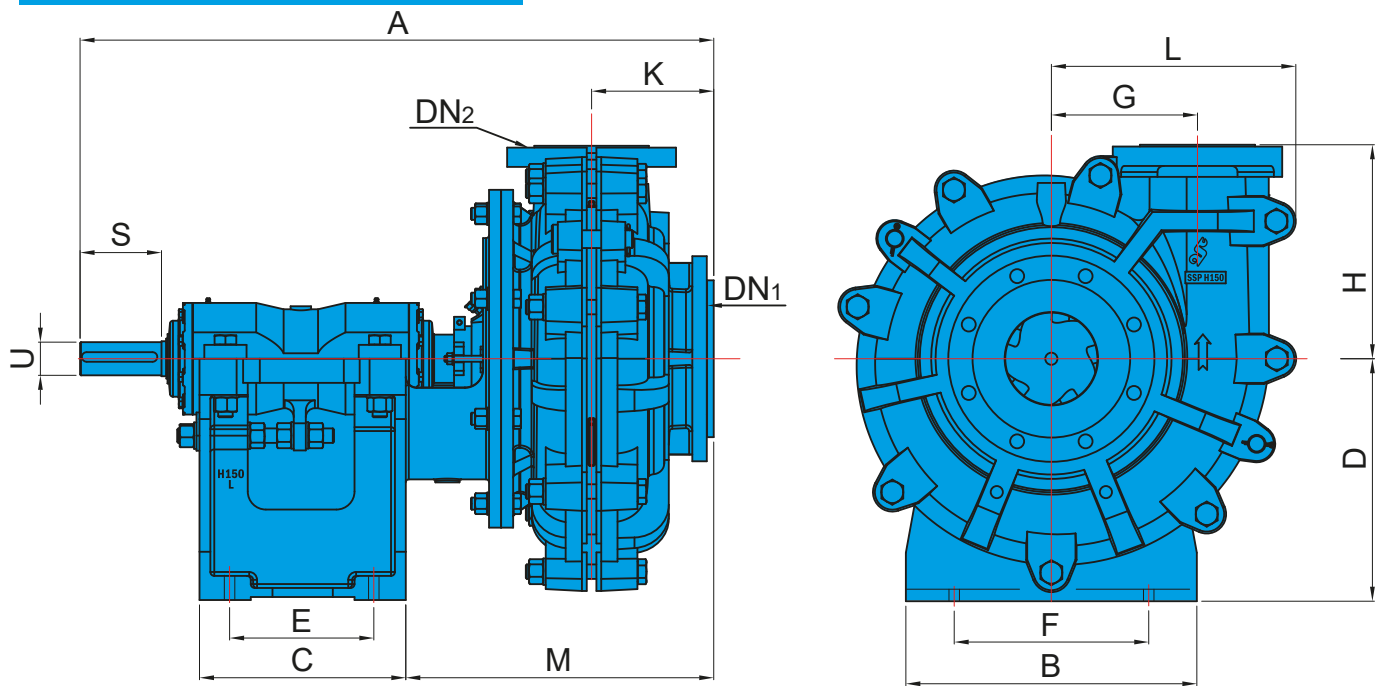
Pump Type	DN ₁				DN ₂			
	D ₀	D ₁	D ₂	Ød	D ₀	D ₁	D ₂	Ød
H50 2x1.5 CHC J	50	145	185	4-Ø18	40	125	165	4-Ø18
H80 3x2 CHC K	80	180	220	8-Ø18	50	145	185	4-Ø18
H100 4x3 CHC K	100	210	250	8-Ø18	80	180	220	8-Ø18
H100 4x3 CHC L	100	210	250	8-Ø18	80	180	220	8-Ø18
H150 6x4 CHC L	150	295	340	8-Ø23	100	210	250	8-Ø18
H150 6x4 CHC M	150	295	340	8-Ø23	100	210	250	8-Ø18
H200 8x6 CHC M	200	350	395	12-Ø23	150	295	340	8-Ø23
H200 8x6 CHC N	200	350	395	12-Ø23	150	295	340	8-Ø23
H250 10x8 CHC N	250	400	445	12-Ø23	200	350	395	12-Ø23
H250 10x8 CHC P	250	400	445	12-Ø23	200	350	395	12-Ø23
H300 12x10 CHC P	300	460	505	16-Ø23	250	400	445	12-Ø23

CHC and CHC HR Flange dimensions are the same.

(*) All dimensions (mm)



Dimensions (SSP-H CR/CR HC)



DIMENSIONS (mm)

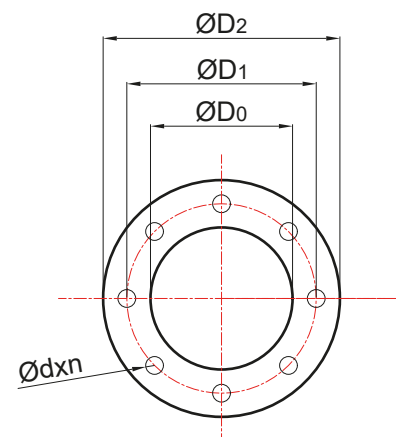
Pump Type	A	B	C	D	E	U	Key Size	S	F	G	H	K	L	M	Weight (kg)
H50 2x1.5-CR J	627	300	204	190	134	28	8x7	80	250	130	200	114	230	309	108
H50 2x1.5-CR HC J	627	300	204	190	134	28	8x7	80	250	130	200	114	230	309	111
H80 3x2-CR K	780	360	260	230	180	42	12x8	100	290	140	240	130	260	375	178
H80 3x2-CR HC K	780	360	260	230	180	42	12x8	100	290	140	240	130	260	375	187
H100 4x3-CR K	846	410	260	280	180	42	12x8	100	350	185	302	174	330	441	261
H100 4x3-CR HC K	846	410	260	280	180	42	12x8	100	350	185	302	174	330	441	275
H100 4x3-CR L	1005	410	342	280	240	55	16x10	135	350	185	302	174	330	465	316
H100 4x3-CR HC L	1005	410	342	280	240	55	16x10	135	350	185	302	174	330	465	330
H150 6x4-CR L	1050	480	342	400	240	55	16x10	135	410	241	353	203	403	510	512
H150 6x4-CR HC L	1050	480	342	400	240	55	16x10	135	410	241	353	203	403	510	544
H150 6x4-CR M	1194	480	405	400	300	70	20x12	190	410	241	353	203	403	530	613
H150 6x4-CR HC M	1194	480	405	400	300	70	20x12	190	410	241	353	203	403	530	645
H200 8x6-CR M	1282	650	405	520	300	70	20x12	190	580	320	510	245	528	619	1168
H200 8x6-CR HC M	1282	650	405	520	300	70	20x12	190	580	320	510	245	528	619	1230
H200 8x6-CR N	1540	650	545	520	385	100	28x16	265	580	320	510	245	528	652	1443
H200 8x6-CR HC N	1540	650	545	520	385	100	28x16	265	580	320	510	245	528	652	1505
H250 10x8-CR N	1588	780	545	620	385	100	28x16	265	640	383	550	275	638	699	1808
H250 10x8-CR HC N	1588	780	545	620	385	100	28x16	265	640	383	550	275	638	699	1909
H250 10x8-CR P	1711	780	634	620	474	120	32x18	280	640	383	550	275	638	714	2079
H250 10x8-CR HC P	1711	780	634	620	474	120	32x18	280	640	383	550	275	638	714	2180

(*) All dimensions (mm)

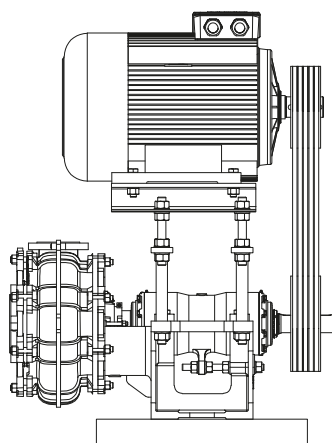
Pump Type	DN ₁				DN ₂			
	D ₀	D ₁	D ₂	Ød	D ₀	D ₁	D ₂	Ød
H50 2x1.5 CHC J	50	145	185	4-Ø18	40	125	165	4-Ø18
H80 3x2 CHC K	80	180	220	8-Ø18	50	145	185	4-Ø18
H100 4x3 CHC K	100	210	250	8-Ø18	80	180	220	8-Ø18
H100 4x3 CHC L	100	210	250	8-Ø18	80	180	220	8-Ø18
H150 6x4 CHC L	150	295	340	8-Ø23	100	210	250	8-Ø18
H150 6x4 CHC M	150	295	340	8-Ø23	100	210	250	8-Ø18
H200 8x6 CHC M	200	350	395	12-Ø23	150	295	340	8-Ø23
H200 8x6 CHC N	200	350	395	12-Ø23	150	295	340	8-Ø23
H250 10x8 CHC N	250	400	445	12-Ø23	200	350	395	12-Ø23
H250 10x8 CHC P	250	400	445	12-Ø23	200	350	395	12-Ø23

CR and CR HC Flange dimensions are the same.

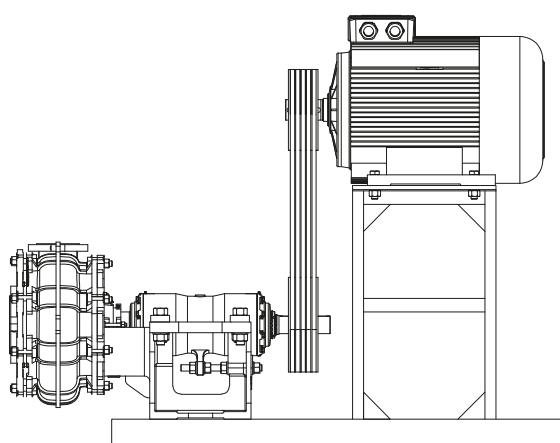
(*) All dimensions (mm)



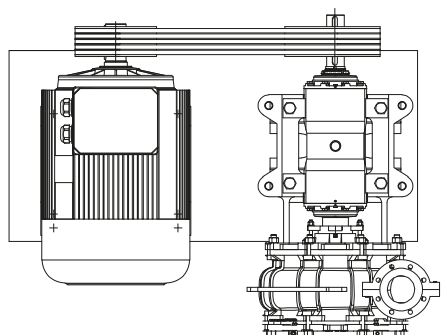
TP01



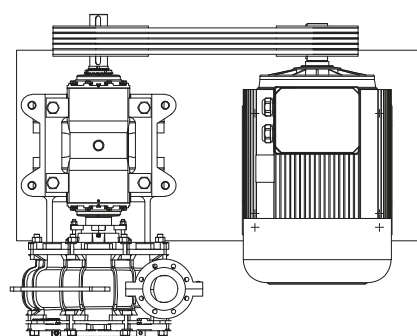
TP02



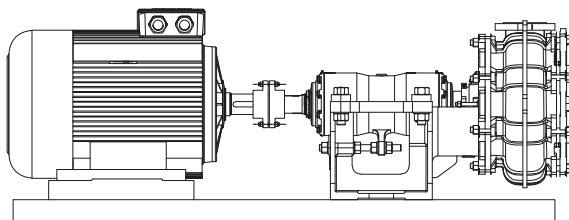
TP03



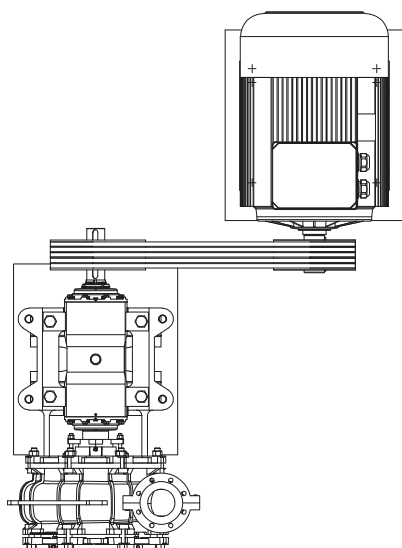
TP04



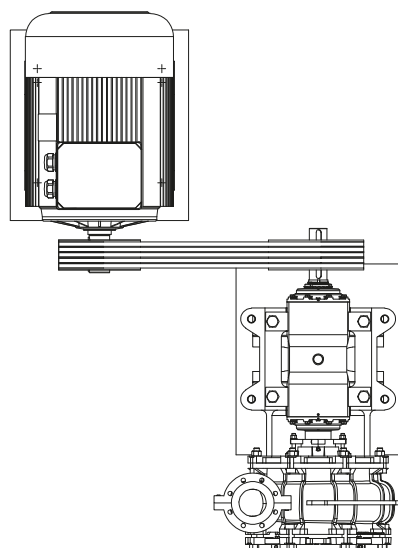
TP05



TP06



TP07



Material Options (HC)

PART LIST	0.6025	0.7040	0.7043	0.7050	1.0619	1.0037	1.3505	1.4317	1.4525	1.4308	1.4412	1.4527	1.4468	1.4517	1.4469	5.5610	2.1050.01	2.0975.01	2.1096.01	2.0975	1.4021	1.4021(QT)	1.4301	1.4404	1.4460	1.4462	1.0503
Volute Casing	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Impeller	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Back Wear Plate	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Expeller Ring	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Stuffing Box	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Expeller	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Bearing Housing	●	○	○	○																							
Cartridge Housing	●	○	○	○																							
Shaft																					●	○	○	○	○	○	○
Shaft Sleeve							●														○	○	○	○	○	○	○
Pump Flanges	○	○	○	○		●										○											
Bolt, Nut and Washer																							●	○			

● Standard manufacturing
○ Optional

PART LIST	EPDM	VITON	NR
O-Ring	○	○	●
Gasket	○	○	●

Material Options (CHC)

PART LIST	0.6025	0.7040	0.7043	0.7050	1.0619	1.0037	1.3505	1.4317	1.4525	1.4308	1.4412	1.4527	1.4468	1.4517	1.4469	5.5610	2.1050.01	2.0975.01	2.1096.01	2.0975	1.4021	1.4021(QT)	1.4301	1.4404	1.4460	1.4462	1.0503
Volute Casing	○	●	○	○	○			○	○	○	○	○	○	○	○	○	○	○	○	○							
Inner Volute Lining	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○	○						
Impeller	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○	○						
Back Wear Plate	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○	○						
Expeller Ring	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○	○						
Stuffing Box	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○	○						
Expeller	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○	○						
Bearing Housing	●	○	○	○																							
Cartridge Housing	●	○	○	○																							
Shaft																					●	○	○	○	○	○	○
Shaft Sleeve							●														○	○	○	○	○	○	○
Bolt, Nut and Washer																							●	○			

● Standard manufacturing
○ Optional

PART LIST	EPDM	VITON	NR
O-Ring	○	○	●
Gasket	○	○	●

Material Options (CHC-HR)

PART LIST	0.6025	0.7040	0.7043	0.7050	1.0619	1.0037	1.3505	1.4317	1.4525	1.4308	1.4412	1.4527	1.4468	1.4517	1.4469	5.5610	2.1050.01	2.0975.01	2.1096.01	2.0975	1.4021	1.4021(QT)	1.4301	1.4404	1.4460	1.4462	1.0503
Volute Casing	○	●	○	○	○			○	○	○	○	○	○	○	○	○	○	○	○	○							
Inner Volute Lining	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Impeller	○	●	○	○	○			○	○	○	○	○	○	○	○	○	○	○	○	○							
Back Wear Plate	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Expeller Ring	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Stuffing Box	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Expeller	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Bearing Housing	●	○	○	○																							
Cartridge Housing	●	○	○	○																							
Shaft																					●	○	○	○	○	○	○
Shaft Sleeve							●														○	○	○	○	○	○	○
Bolt, Nut and Washer																							●	○			

● Standard manufacturing
○ Optional

PART LIST	NR	CR	IIR	NBR	PU	UR	CSM	FKM	CIIR	EPDM
Impeller (Coating)	●	○	○	○	○	○	○	○	○	○
O-Ring	●							○		○
Gasket	●							○		○

Material Options (CR)

PART LIST	0.6025	0.7040	0.7043	0.7050	1.0619	1.0037	1.3505	1.4317	1.4525	1.4308	1.4412	1.4527	1.4468	1.4517	1.4469	5.5610	2.1050.01	2.0975.01	2.1096.01	2.0975	1.4021	1.4021(QT)	1.4301	1.4404	1.4460	1.4462	1.0503
Volute Casing	○	●	○	○	○			○	○	○	○	○	○	○	○	○	○	○	○	○							
Impeller (Cast)	○	●	○	○	○			○	○	○	○	○	○	○	○	○	○	○	○	○							
Expeller Ring	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Stuffing Box	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Expeller	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Bearing Housing	●	○	○	○																							
Cartridge Housing	●	○	○	○																							
Shaft																					●	○	○	○	○	○	○
Shaft Sleeve							●														●	○	○	○	○	○	○
Bolt, Nut and Washer																							●	○			

● Standard manufacturing
○ Optional

PART LIST	NR	CR	IIR	NBR	PU	UR	CSM	FKM	CIIR	EPDM
Inner Volute Lining	●	○	○	○	○	○	○	○	○	○
Impeller (Coating)	●	○	○	○	○	○	○	○	○	○
O-Ring	●							○		○
Gasket	●							○		○

Material Options (CR-HC)

PART LIST	0.6025	0.7040	0.7043	0.7050	1.0619	1.0037	1.3505	1.4317	1.4525	1.4308	1.4412	1.4527	1.4468	1.4517	1.4469	5.5610	2.1050.01	2.0975.01	2.1096.01	2.0975	1.4021	1.4021(QT)	1.4301	1.4404	1.4460	1.4462	1.0503
Volute Casing	○	●	○	○	○			○	○	○	○	○	○	○	○	○	○	○	○	○							
Impeller (Cast)	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Expeller Ring	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Stuffing Box	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Expeller	○	○	○	○	○			○	○	○	○	○	○	○	○	●	○	○	○	○							
Bearing Housing	●	○	○	○																							
Cartridge Housing	●	○	○	○																							
Shaft																					●	○	○	○	○	○	○
Shaft Sleeve							●														○	○	○	○	○	○	○
Bolt, Nut and Washer																							●	○			

● Standard manufacturing
○ Optional

PART LIST	NR	CR	IIR	NBR	PU	UR	CSM	FKM	CIIR	EPDM
Inner Volute Lining	●	○	○	○	○	○	○	○	○	○
O-Ring	●							○		○
Gasket	●							○		○

Material Equivalents

Description	DIN 17007	EN-DIN	AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG 25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG 40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG 40.3)	A536 60-40-18
Nodular Cast Iron	0.7050	EN-GJS-500-7 (GGG 50)	A536 88-55-06
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Steel	1.0037	St 37-2	A238Gr.C
Bearing Steel	1.3505	100Cr6	52100
Martenzitic Stainless Cast Steel	1.4317	G-X 4 CrNi 13 4	A743 CA-6NM
Martenzitic Stainless Cast Steel	1.4525	G-X 5 CrNiCu 16 4	A747 CB7Cu-2
Chrome Nickel Cast Steel (Heat Treated)	1.4308	G-X 6 CrNi 19 10	A743 CF-8
Austenitic Cast Steel (Heat Treated)	1.4412	C-X 5 CrNiMo 19 11 3	A743 CG-3M
Austenitic Cast Steel (Heat Treated)	1.4527	C-X 4 NiCrCuMo 30 20 4	A743 CN-7M
Duplex Steel (Austenitic-Ferritic, Heat Treated)	1.4468	G-X 2 CrNiMoN 25 6 3	A890 3A
Duplex Steel (Austenitic-Ferritic, Heat Treated)	1.4517	G-X 2 CrNiMoN 25 6 3 3	A890 1B
Duplex Steel (Austenitic-Ferritic, Heat Treated)	1.4469	G-X 2 CrNiMo 26 7 4	A890 5A
Wear Resistant Casts	5.5610	EN-GJN-HV600 (XCr23)	A532 Class III Type A
Cast Bronze (Tin Alloy)	2.1050.01	CuSn10	B427 C90700
Cast Bronze (Nickel Alloy)	2.0975.01	CuAl 10Ni	B148 C95500
Cast Bronze (Leaded)	2.1096.01	CuSn5ZnPb	B584 C83600
Cast Aluminium Bronze	2.0975	CuAl10 Fe5Ni5	B505 C95800
Carbon Steel	1.0503	C45	AISI 1045
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel (Heat Treated)	1.4021(QT)	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 316
Duplex (Austenitic-Ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (Austenitic-Ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205

RUBBER MATERIALS

Natural Rubber	NR	Urethane	UR
Neoprene	CR	Hypalon	CSM
Synthetic Rubber (Butyl)	IIR	Viton	FKM
Nitril Rubber	NBR	Chlorobutyl	CIIR
Polyurethane	PU	Ethylene Propylene Diene	EPDM



Pump • Fire Fighting Units • Booster Set

SSP-V

Extra Heavy Duty Slurry Pumps

SSP-V Rev.05.03.2024

Handled Liquids

Slurry, highly contaminated, viscous, corrosive and abrasive liquids with solid or fibrous particles

Technical Data

Discharge Flange _____ DN 50.....DN 250 mm

Capacity _____ up to 1000 m³/h

Head _____ up to 40 m

Temperature Operation _____ -10°C up to +110 °C

Generating Steam Temperature _____ up to 300°C

Note: The Material of pump differs according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

Fields of Application

- Mining and mineral processing
- Sand and gravel processing plants
- Abrasive slurry transfer
- Industrial plants
- Pulp and paper industry
- Cyclone feed
- Mine wastes transfer
- Fly ash and bottom ash transport
- Manure transfer
- Lime mud transport
- Waste water systems
- Chemical slurry transfer

Pump Designation

Pump Type _____

Installation Arrangement Horizontally (H) / Vertically (V) _____

Discharge Nozzle (DN-mm) _____

Pump Suction / Discharge Size (inch) _____

Pump Material Selection _____



Design Features

- SSP-V pump series are carefully designed by taking into consideration years of production experience of POMPA and field experiences of our customers using process and slurry pumps. Hydraulic efficiency and hardwearing are considerate and optimised while hard solid particles were pumping.
- SSP-V pump series users are offered with advantages of resistant to extensive wear, high reliability, high hydraulic efficiency, cost effective spare parts and continuous spare part supply in short lead time.

Bearing Design

- SSP-V pump series are produced with extra heavy duty (EHD) design. EHD bearings are greased lubricated.

SSP - V 80 3/2 HC

Features

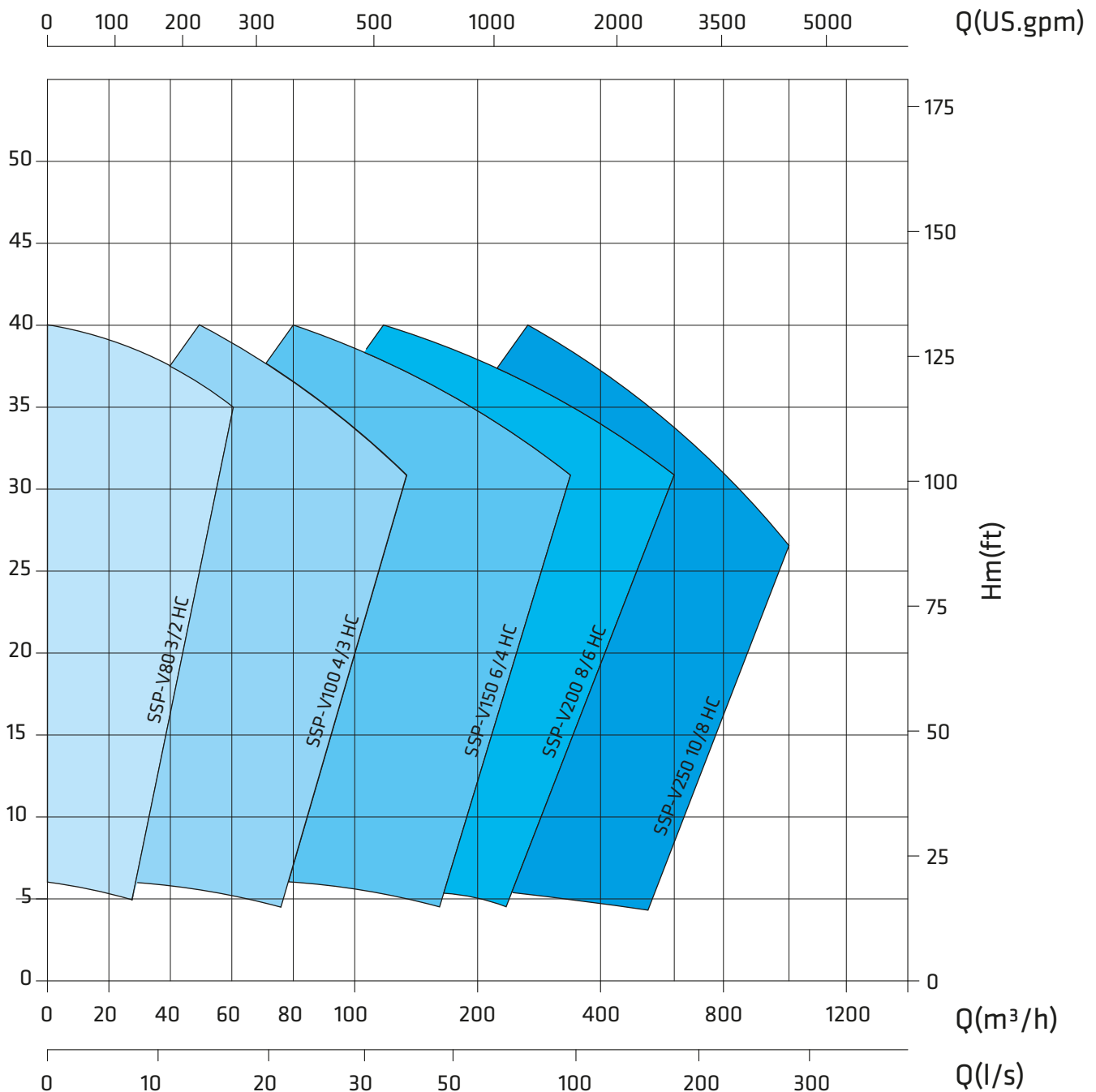
SSP-V pump series, the bearing group is designed for encountering loads on long column lengths and keeping bearing life much higher than L_{10} nominal bearing life. Corrosive and abrasive properties decrease pump performances in time, distance adjustment between suction side and wear plate on the SSP-V pump series can optimise the pump performances and improve service time. These distance adjustment mechanism does not require any disassemble and distance can be adjusted easily by loosening bolts.

ATTENTION

- HC models in figures have casting volute casing, impeller and wear plates. These parts can be manufactured by rubber and rubber coating.
- Pump and motor connect with belt & pulley. In case of demand, coupling is used for direct connection between motor and pump
- Please get confirmation from our company for dimension of column lengths at pump installation.

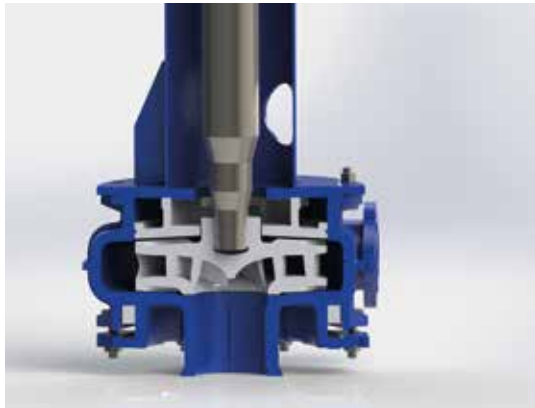
Vertical Shaft Extra Heavy Duty Slurry Pumps

SSP-V Field Chart (HC series)



Impeller Types

SSP-V series HC model pumps are centrifugal pumps that have vertical shaft, volute casing, single stage and closed impeller. Semi-open or vortex impeller types can be applied for different requirements. Besides that, mixer feature can be applied on suction side by extending shaft length and helps to avoid clogging by solid particles at suction side



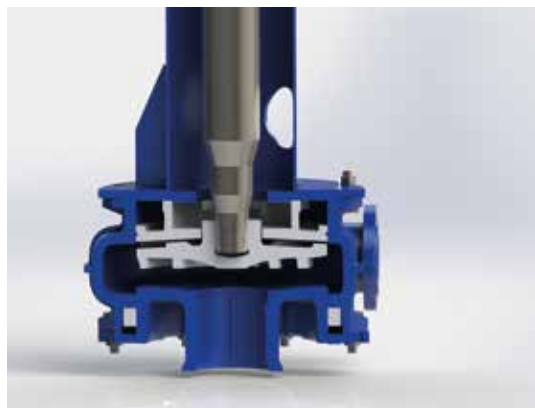
Standard Impeller

Small and medium solid particles are transferred with standard impeller type. On the other hand these impeller types are more efficient than the others. It offers high efficient and more durable solutions regarding material selection and abrasive properties of the handled fluid. It is used for high demanding heads and more efficiency.



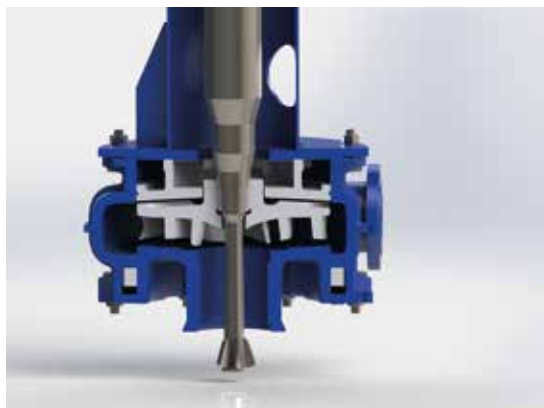
Semi-open Impeller

Large and medium solid particles are transferred with semi-open impeller type. It offers high efficient and more durable solutions regarding material selection and abrasive properties of the handled fluid. Semi-open impellers prevent greater efficient loss in use of larger particles. It is preferred low and medium heads.



Vortex Impeller

Vortex impellers are used in transfer of fluids containing large solid particles at low head. More life time is offered since large solid particles would have less contact area with the vortex impeller. These impellers are less efficient than the others.



Impeller with Mixer

Add-on mixer provides a homogeneous mixture that has high amount of solid particles at suction side of the pump and prevents over wearing and clogging. Homogeneous fluid that contains high amount of solid particles improves impeller performance due to mixing effect. Mixer in the image is the application on semi-open impeller and same application can be applied on standard and vortex impellers as well.

Recessed Vortex Impeller

Recessed Vortex impellers are applied when large, solid and fibrous particles involved in handled fluid. Minimum contact area is accomplished between solid particles in fluid and the impeller. These impeller types are preferred for preventing damages to solid particles in fluid.

Efficiency of type impellers are quite low however they have advantages for some some applications where other type impellers cannot be used.

SSP-V Material Options (HC Serisi)

PART LIST	0.6025	0.7040	0.7043	0.7050	1.0619	1.0037	1.4317	1.4525	1.4527	1.4308	1.4412	1.4517	1.4468	1.4469	5.5610	2.1050.01	2.0975.01	2.1096.01	2.0975	1.4021	1.4021(QT)	1.4301	1.4404	1.4460	1.4462	1.0503
Volute Casing	○	○	○	○	○		○	○	○	○	○	○	○	○	●	○	○	○	○							
Impeller	○	○	○	○	○		○	○	○	○	○	○	○	○	●	○	○	○	○							
Back Wear Plate	○	○	○	○	○		○	○	○	○	○	○	○	○	●	○	○	○	○							
Suction Side	○	○	○	○	○		○	○	○	○	○	○	○	○	●	○	○	○	○							
Column Pipe (*)						●																	○	○		
Base Plate						●																	○	○		
Discharge Pipe (*)						●																	○	○		
Cartridge Housing	●	○	○	○																						
Shaft																				●	○	○	○	○	○	○
Bolt, Nut and Washer																						●	○			

(*) Note: Discharge and column pipes can be made of 1.0037 + NBR optionally.

● Standard manufacturing
○ Optional

PART LIST	EPDM	VITON	NBR
O-Ring	●	○	○
Gasket	●	○	○

Material Equivalents

Description	DIN 17007	EN-DIN	AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG 25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG 40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG 40.3)	A536 60-40-18
Nodular Cast Iron	0.7050	EN-GJS-500-7 (GGG 50)	A536 88-55-06
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Steel	1.0037	St 37-2	A238Gr.C
Martenzitic Stainless Cast Steel	1.4317	G-X 4 CrNi 13 4	A743 CA-6NM
Martenzitic Stainless Cast Steel	1.4525	G-X 5 CrNiCu 16 4	A747 CB7Cu-2
Chrome Nickel Cast Steel (Heat Treated)	1.4308	G-X 6 CrNi 19 10	A743 CF-8
Austenitic Cast Steel (Heat Treated)	1.4412	C-X 5 CrNiMo 19 11 3	A743 CG-3M
Austenitic Cast Steel (Heat Treated)	1.4527	C-X 4 NiCrCuMo 30 20 4	A743 CN-7M
Duplex Steel (Austenitic-Ferritic, Heat Treated)	1.4468	G-X 2 CrNiMoN 25 6 3	A890 3A
Duplex Steel (Austenitic-Ferritic, Heat Treated)	1.4517	G-X 2 CrNiMoN 25 6 3 3	A890 1B
Duplex Steel (Austenitic-Ferritic, Heat Treated)	1.4469	G-X 2 CrNiMo 26 7 4	A890 5A
Wear Resistant Casts	5.5610	EN-GJN-HV600 (XCr23)	A532 Class III Type A
Cast Bronze (Tin Alloy)	2.1050.01	CuSn10	B427 C90700
Cast Bronze (Nickel Alloy)	2.0975.01	CuAl 10Ni	B148 C95500
Cast Bronze (Leaded)	2.1096.01	CuSn5ZnPb	B584 C83600
Cast Aluminium Bronze	2.0975	CuAl10 Fe5Ni5	B505 C95800
Carbon Steel	1.0503	C45	AISI 1045
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel (Heat Treated)	1.4021(QT)	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 316
Duplex (Austenitic-Ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (Austenitic-Ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205

Pump • Fire Fighting Units • Booster Set

SPO

API 610 12th Edition ISO 13709 Process Pumps



SPO Rev.05.03.2024

Application Areas and Pumped Liquids

Petroleum industry, power plants and chemical industry. Fuel oil, motorin, gasoline, LPG, lubricants, kerosene, etc.

Technical Data

Discharge Flange _____ NPS 1" -NPS 10"

Capacity _____ up to 1000 m³/h

Head _____ up to 350 m

Speed _____ up to 3600 m

Design Temperature _____ up to +350 °C(*)

Design Pressure _____ 51 bar (*)

Design Type _____ OH2

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

Design Features

- According to API 610 12th edition (ISO 13709).
- Center line volute casing design for high pressure and temperature.
- Tangential outlet design for high efficiency at the volute casing.
- For special application double volute casing can be applied.
- 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.

Pump Designation

Pump Type _____

Discharge Nozzle (inch) _____

Suction Nozzle (inch) _____

Nominal Impeller Diameter (inch) _____



• The suction and discharge flanges are capable for handling the forces and moments which are mentioned in API 610.

• In standard manufacturing, pump flanges are as per ANSI/ASME

• The material of casing gasket is spiral wound gasket for handling high pressure.

• In case of pumping hot liquid there is cooling devices on bearing housing and special construction for mechanical seal.

• Heavy duty type shaft and bearings.

• All impellers are balanced dynamically or statically according to ISO 1940 grade 2.5.

• In case of preventive maintenance, temperature and vibration sensors can be applied.

• For high bearing life time, the constant level oilers are supplied in order to keep oil level in proper level.

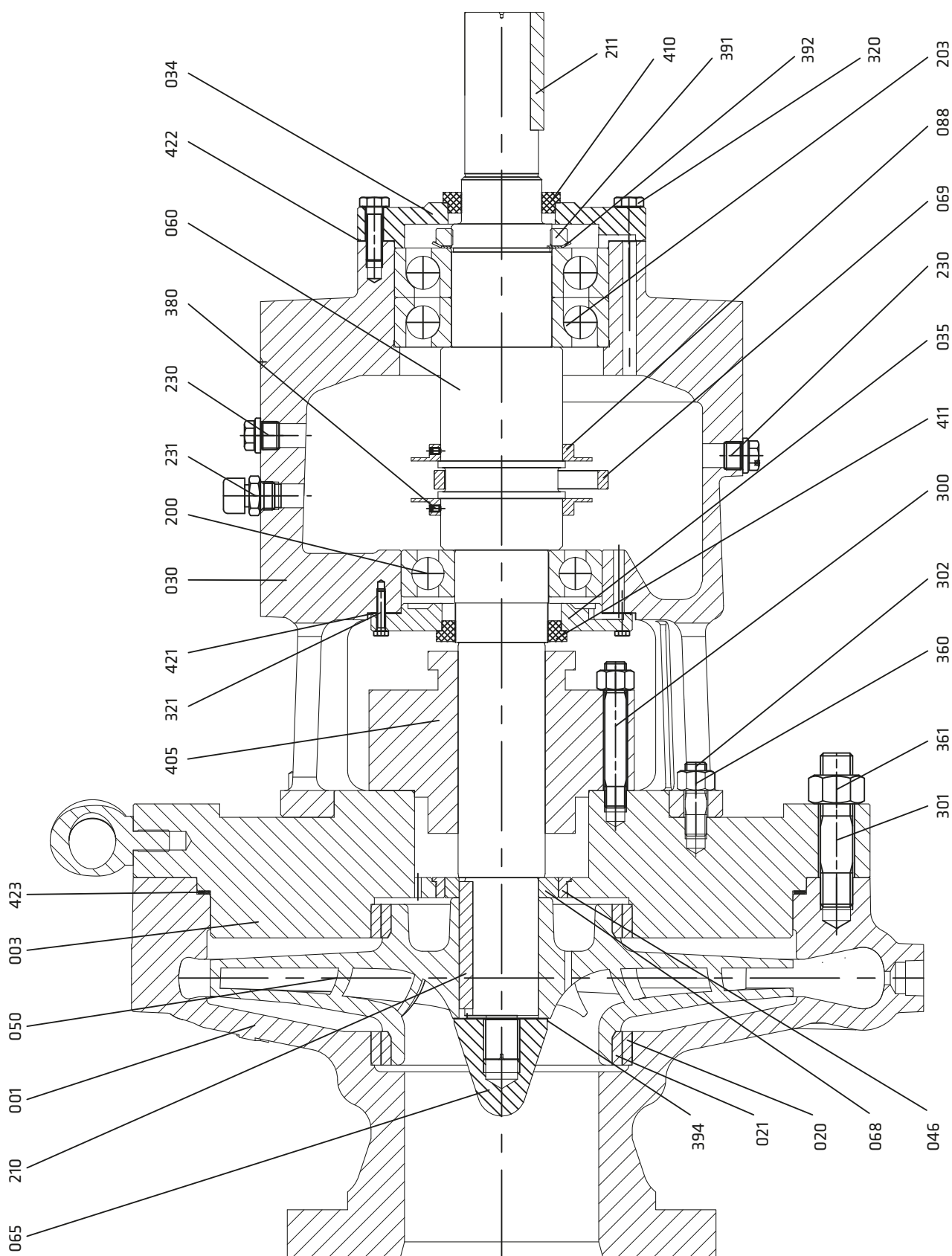
• Oil ring is used in standart production and these rings prevent oil foaming.

• The base plate construction is highly rigid as defined in to API 610 standard.

Shaft Sealing

• Mechanical seal cover is designed according to API 610. This mechanical seal cover is suitable to assemble every kind of mechanical seal according to API 682.

SPO 6 - 4 - 17



423	CASING GASKET	230	SCREW
422	GASKET	211	COUPLING KEY
421	GASKET	210	IMPELLER KEY
411	LIP SEAL	203	ANGULAR BALL BEARING
410	LIP SEAL	200	BALL BEARING
405	MECHANICAL SEAL	088	THROWER
394	LOCK WASHER	069	OIL RING
392	LOCK WASHER	068	SHAFT SLEEVE
391	LOCK NUT	065	IMPELLER NUT
380	SETSCREW	060	SHAFT
361	CASING NUT	050	IMPELLER
360	NUT	046	THROUTLING BUSH
321	SCREW	035	BEARING COVER
320	SCREW	034	BEARING COVER
302	STUD	030	BEARING HOUSING
301	CASING STUD	021	WEAR RING (CASING COVER)
300	STUD	020	WEAR RING (CASING)
231	OIL FILLING PLUG AND BREATHER	003	CASING COVER
		001	VOLUTE CASING

Material Options

Part No		API 610 MATERIAL CLASS				
		S-5	S-6	S-8	C-6	A-8
001	VOLUTE CASING	STEEL			%12 Chrome	316 SS
050	IMPELLER	STEEL	%12 Chrome	316 SS	%12 Chrome	316 SS
003	CASING COVER	STEEL			%12 Chrome	316 SS
060	SHAFT	AISI 4140		316 SS	420 SS	316 SS
030	BEARING HOUSING	STEEL				
065	IMPELLER NUT	STEEL	316 SS			
034	BEARING COVER	STEEL				
035	BEARING COVER	STEEL				
069	OIL RING	Bronze				
411	LIP SEAL	Bronze / Viton				
410	LIP SEAL	Bronze / Viton				
046	THROUTLING BUSH	420 SS		316 SS	420 SS	316 SS
020	WEAR RING (CASING)	%12 Chrome	%12 Chrome	316 SS	%12 Chrome	316 SS
021	WEAR RING (CASING COVER)	%12 Chrome	%12 Chrome	316 SS	%12 Chrome	316 SS
423	CASING	316 SS Spiral Wound				
301/361	STUD AND NUT (CASING)	AISI 4140				



Pump • Fire Fighting Units • Booster Set

SDS / SDS-V

DOUBLE SUCTION PUMPS



SDS / SDS-V Rev.05.03.2024

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 m³/h

Head _____ up to 180 m

Speed _____ up to 2900 rpm

Design 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.

Pump Designation

Pump Type _____

Vertical Installation _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____



- 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.

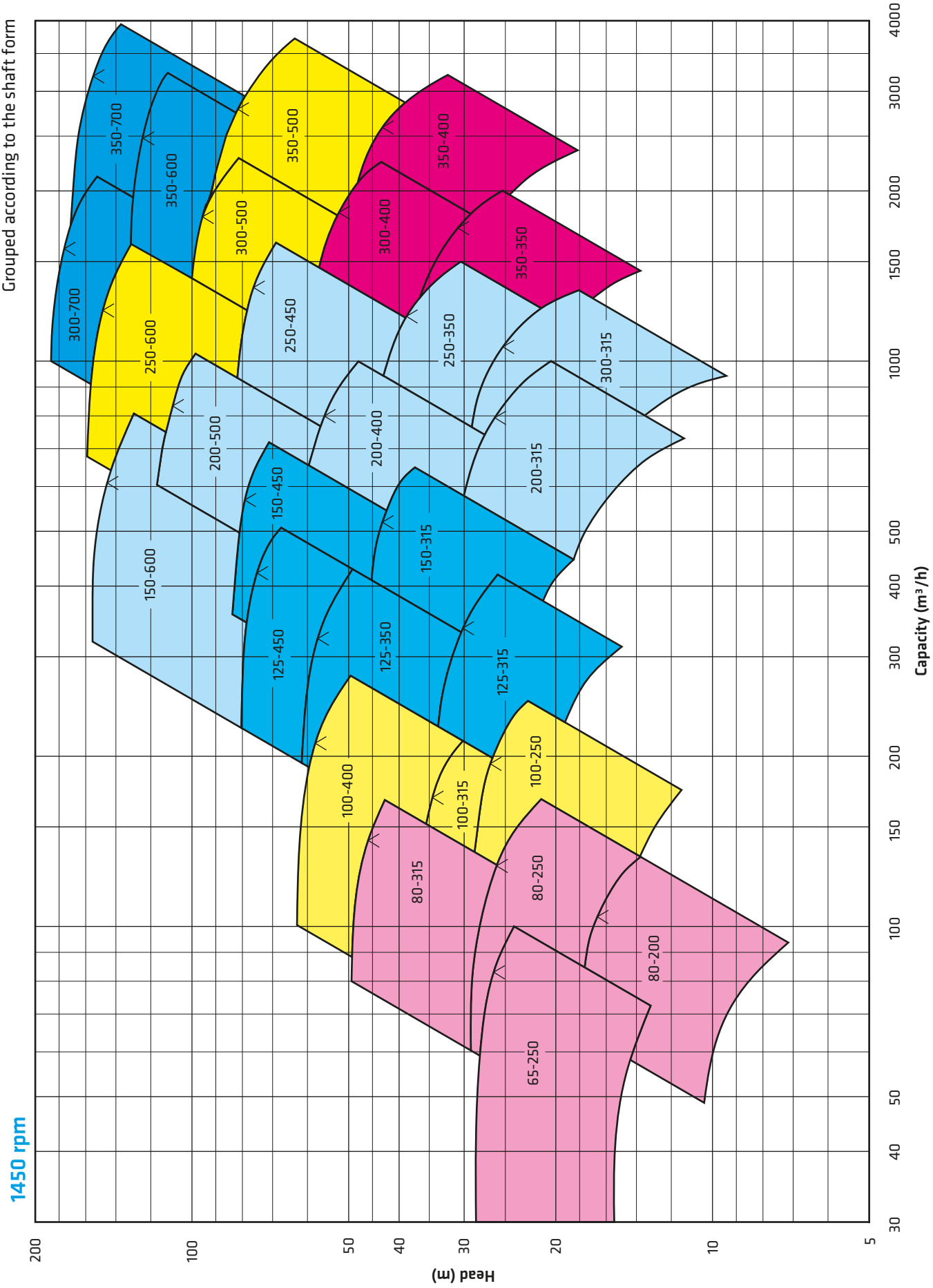
- In standard construction, the direction of rotation is clockwise when it is looked from drive end. In this case, suction flange is on right and discharge flange is on left. Upon request the direction of rotation can be reversed. This time the position of the suction and discharge flanges are also reversed.

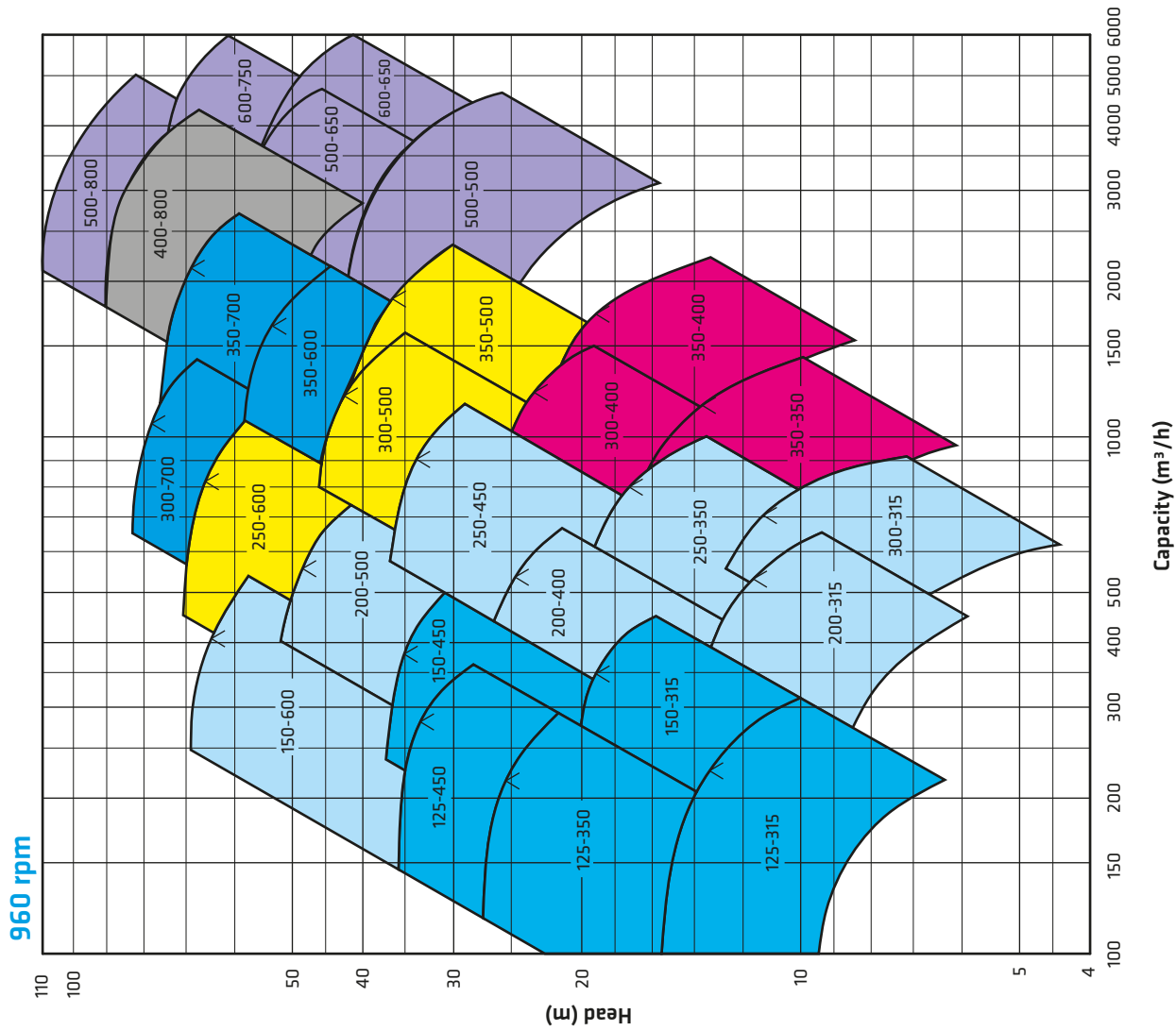
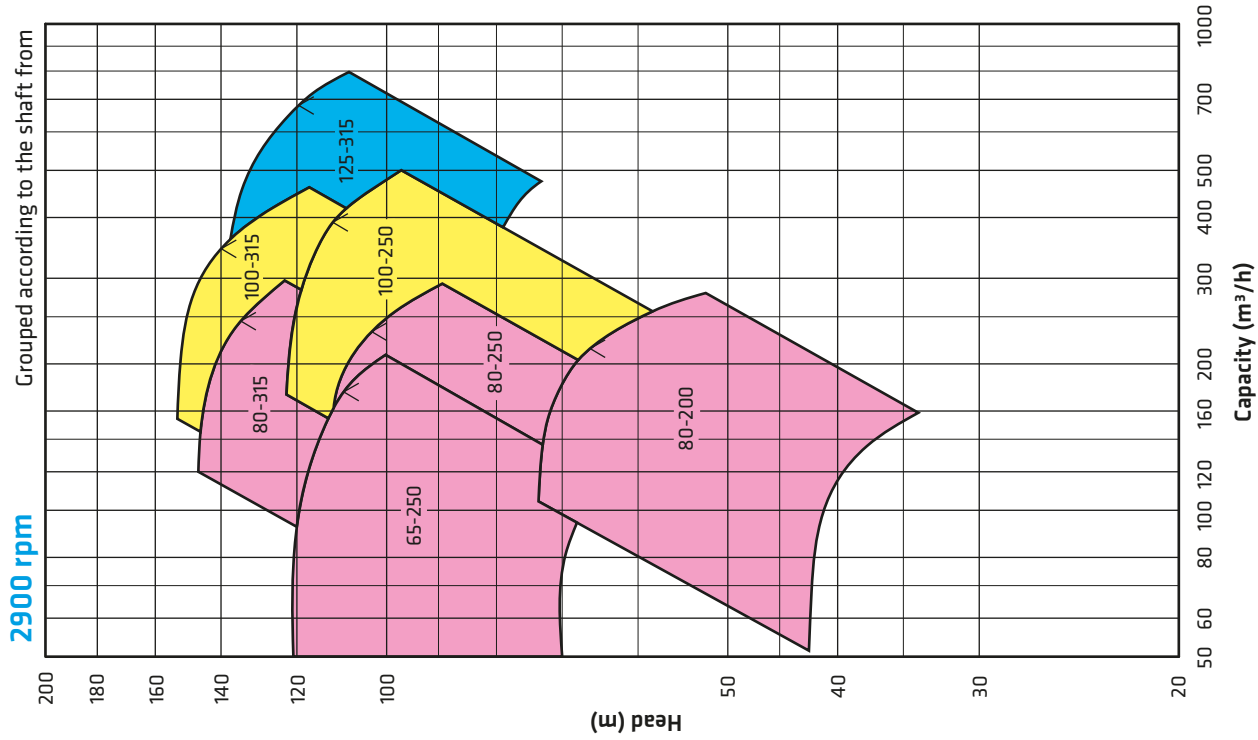
- Grease lubricated ball bearings are used in horizontal installation. In case of vertical installation, pumping liquid lubricated journal bearings on top and grease lubricated ball bearings on bottom are used.

Shaft Sealing

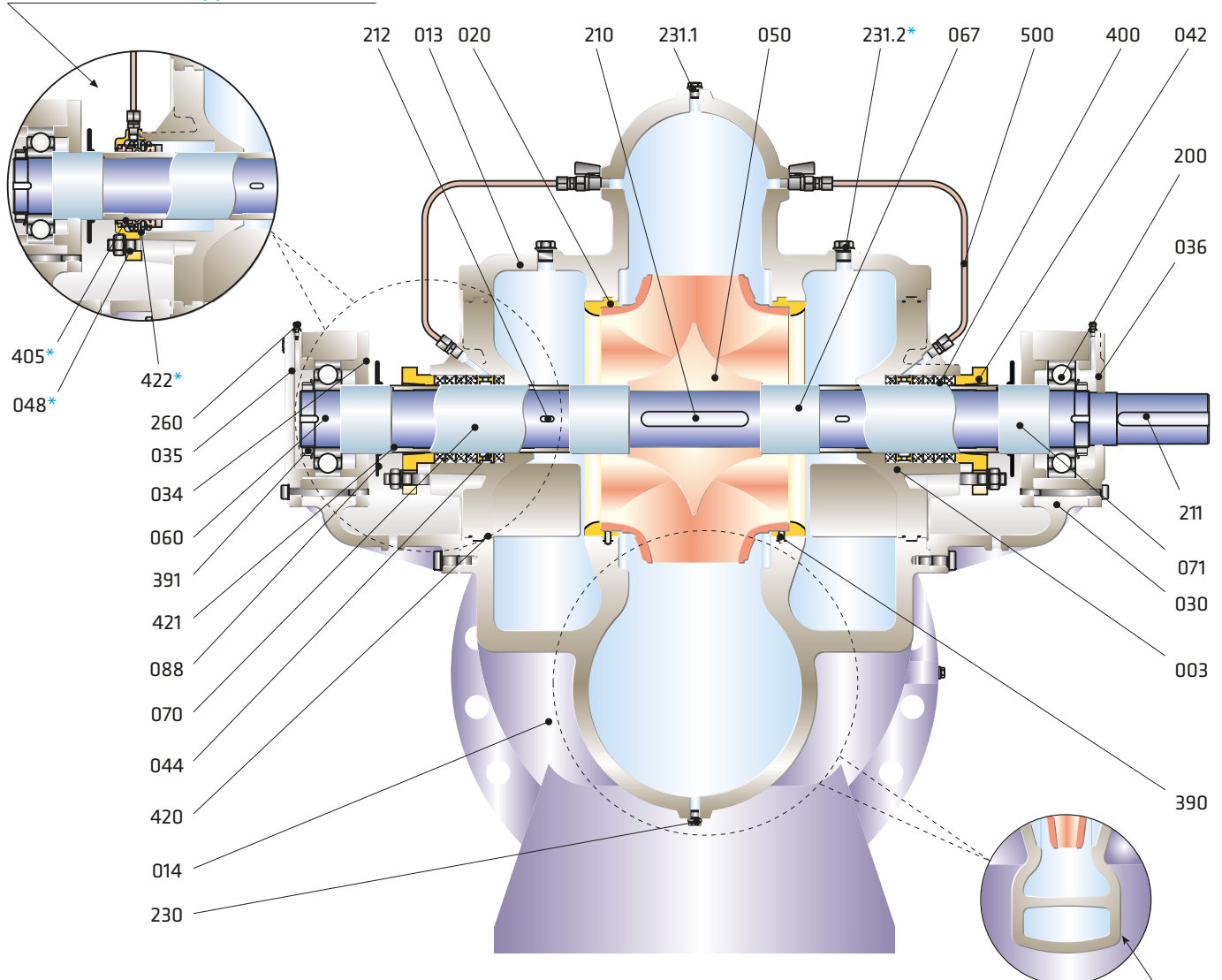
- Depending on request or requirement, pumps with soft packing or single, double and cartridge type mechanical seals can be supplied.

SDS - V 200 - 500





* Mechanical Seal Application



Part List

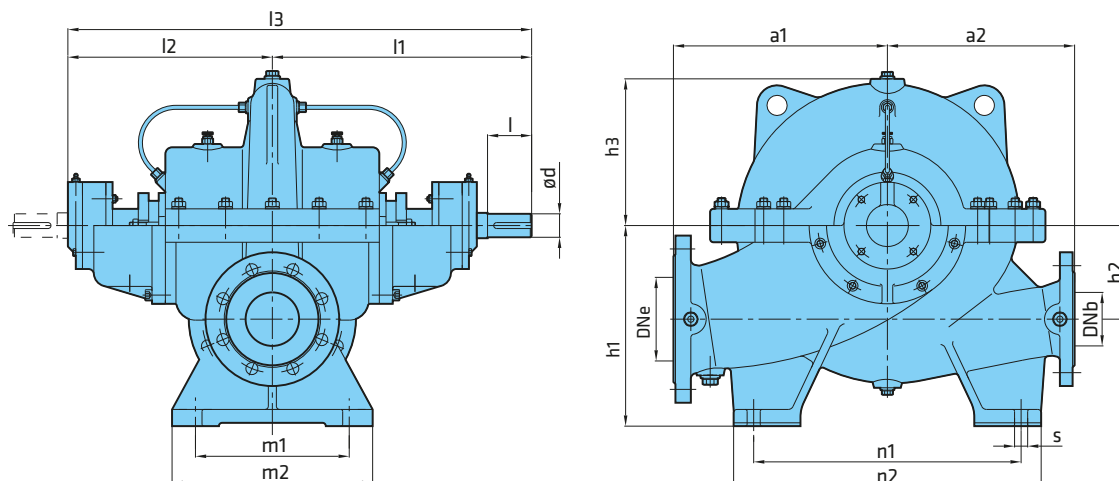
003	Stuffing Box	200	Ball Bearing
013	Volute Casing (top half)	210	Impeller Key
014	Volute Casing (bottom half)	211	Coupling Key
020	Wear Ring	212	Spacer Sleeve Key
030	Bearing Bracket	230	Drain Plug
034	Bearing Cover (inboard)	231.1	Air Plug
035	Bearing Cover (outboard)	231.2*	Air Plug
036	Bearing Cover (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		

(*) Optional

** Double Volute Application

** Double Volute Design is Applied to:

SDS 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	75	400	305	705	320	280	300	140	200	400	460	230	300	20	165
80-200	16	16	125	80	35	75	400	305	705	320	280	300	140	200	400	460	230	300	20	165
80-250	16	16	125	80	35	75	400	305	705	320	280	300	140	200	400	460	230	300	20	175
80-315	16	16	125	80	35	75	400	305	705	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	315	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	550	500	560	300	445	540	640	320	420	22	800
200-315	16	16	250	150	65	130	645	500	1145	500	450	560	240	315	540	640	320	420	22	395
200-400	16	16	250	200	65	130	645	500	1145	500	450	500	240	360	540	640	320	420	22	430
200-500	16	16	250	200	65	130	645	500	1145	550	500	560	300	380	620	720	320	420	22	700
250-350	16	16	300	250	65	130	645	500	1145	600	500	600	300	390	620	720	320	420	22	682
250-450	16	16	300	250	65	130	645	500	1145	600	500	600	300	415	620	720	320	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	320	420	22	700
300-400	16	16	400	300	75	140	770	615	1385	700	550	710	350	400	720	800	420	520	26	1125
300-500	16	16	400	300	75	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	450	700	800	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
350-600	25	25	500	350	100	180	900	715	1615	700	700	730	470	503	750	900	520	600	28	1900
350-700	25	25	500	350	100	180	865	675	1540	850	750	850	450	525	720	880	500	600	28	2000
400-800	16	16	600	400	105	220	1035	810	1845	900	900	880	400	565	950	1120	630	740	26	3400
500-500	16	16	600	500	Contact for detailed information															
500-650	16	16	600	500																
500-800	16	16	600	500																
600-650	16	16	700	600																
600-750	16	16	700	600																

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																	●	○	○	○		○

Depending on customer requirement or request different types and brands of mechanical seals are applicable.

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

● Standard manufacturing
○ Optional

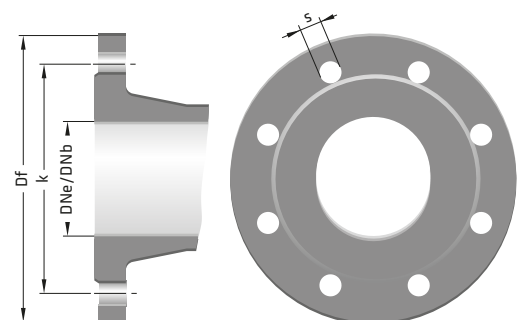
Material Equivalents

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
Martensitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martensitic 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

DNe/DNb	Suction & Discharge (PN 16)				Suction & Discharge (PN 25)			
	Df	k	s	n	Df	k	s	n
65	185	145	18	4	185	145	18	8
80	200	160	18	8	200	160	18	8
100	220	180	18	8	235	190	22	8
125	250	210	18	8	270	220	26	8
150	285	240	22	8	300	250	26	8
200	340	295	22	12	360	310	26	12
250	405	355	26	12	425	370	30	12
300	460	410	26	12	485	430	30	16
350	520	470	26	16	555	490	33	16
400	580	525	30	16	620	550	36	16
500	715	650	33	20	730	660	36	20
600	840	770	36	20	845	770	39	20
700	910	840	36	24	960	875	42	24

"n" number of holes



Pump • Fire Fighting Units • Booster Set

SKM

MULTISTAGE CENTRIFUGAL PUMPS



SKM Rev.05.03.2024



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 m³/h

Head _____ up to 550 m

Speed _____ up to 2900 rpm

Design 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)

- In standard production, suction flange is placed on the right side when viewed from motor 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 SKM 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

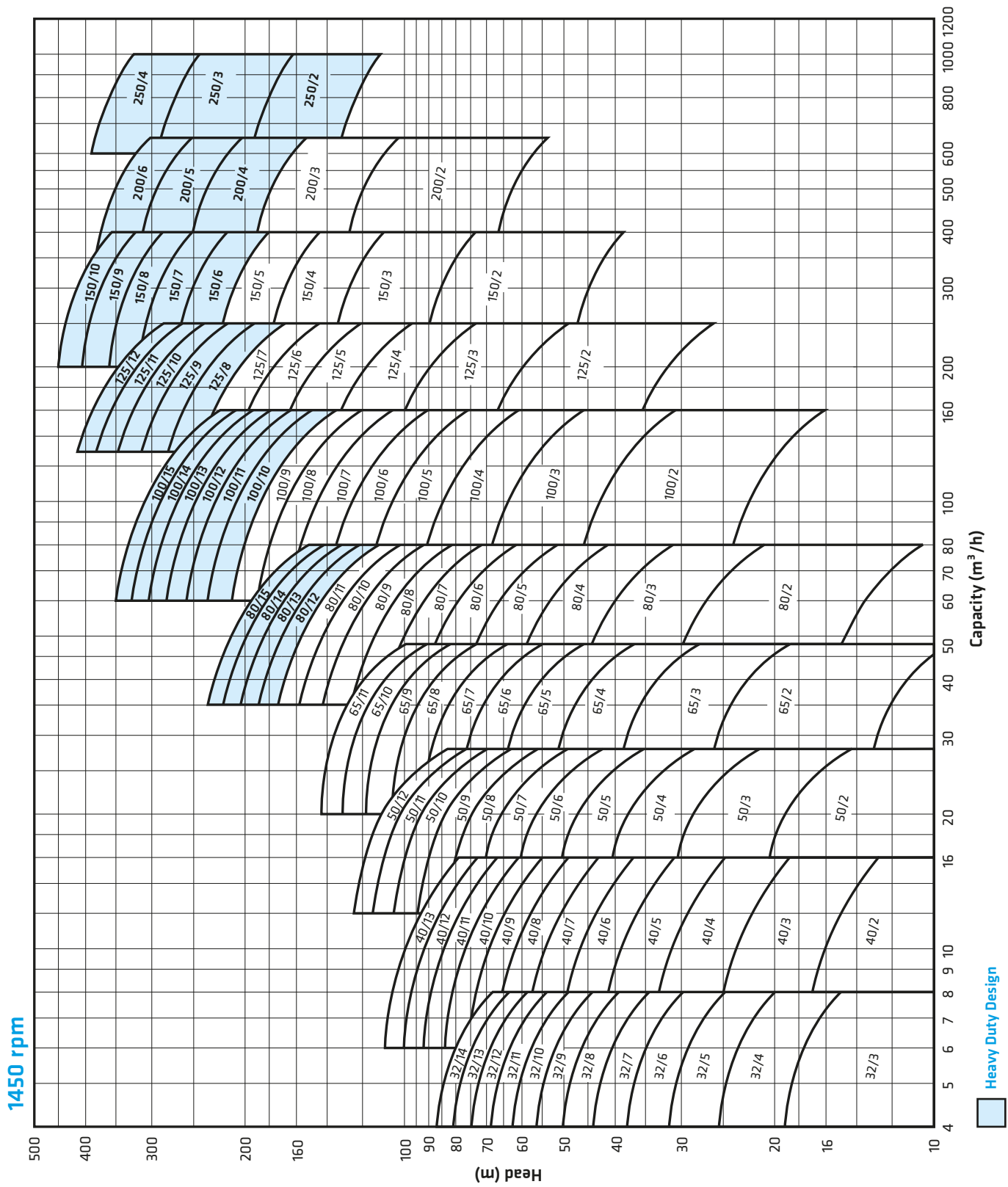
Pump Type _____

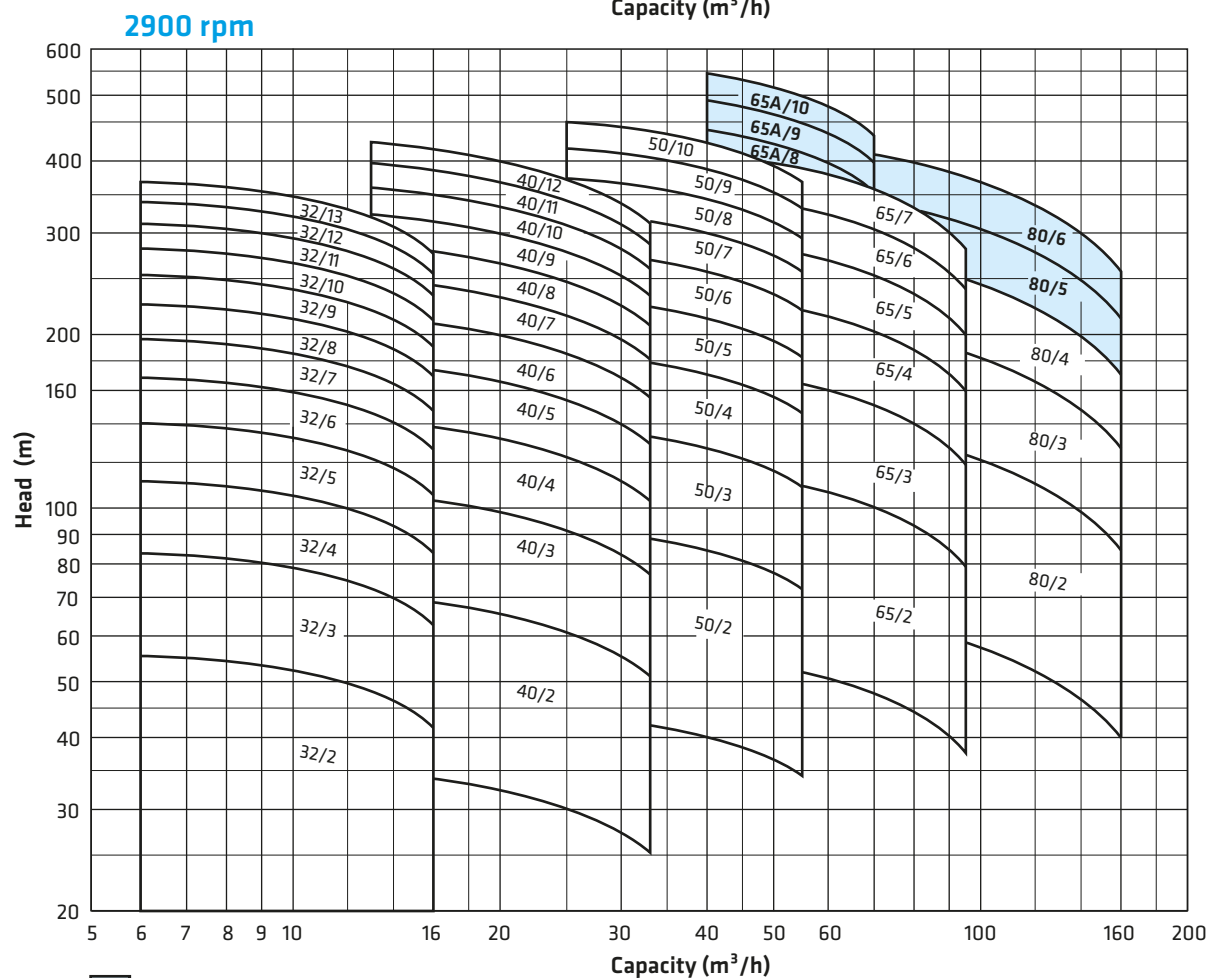
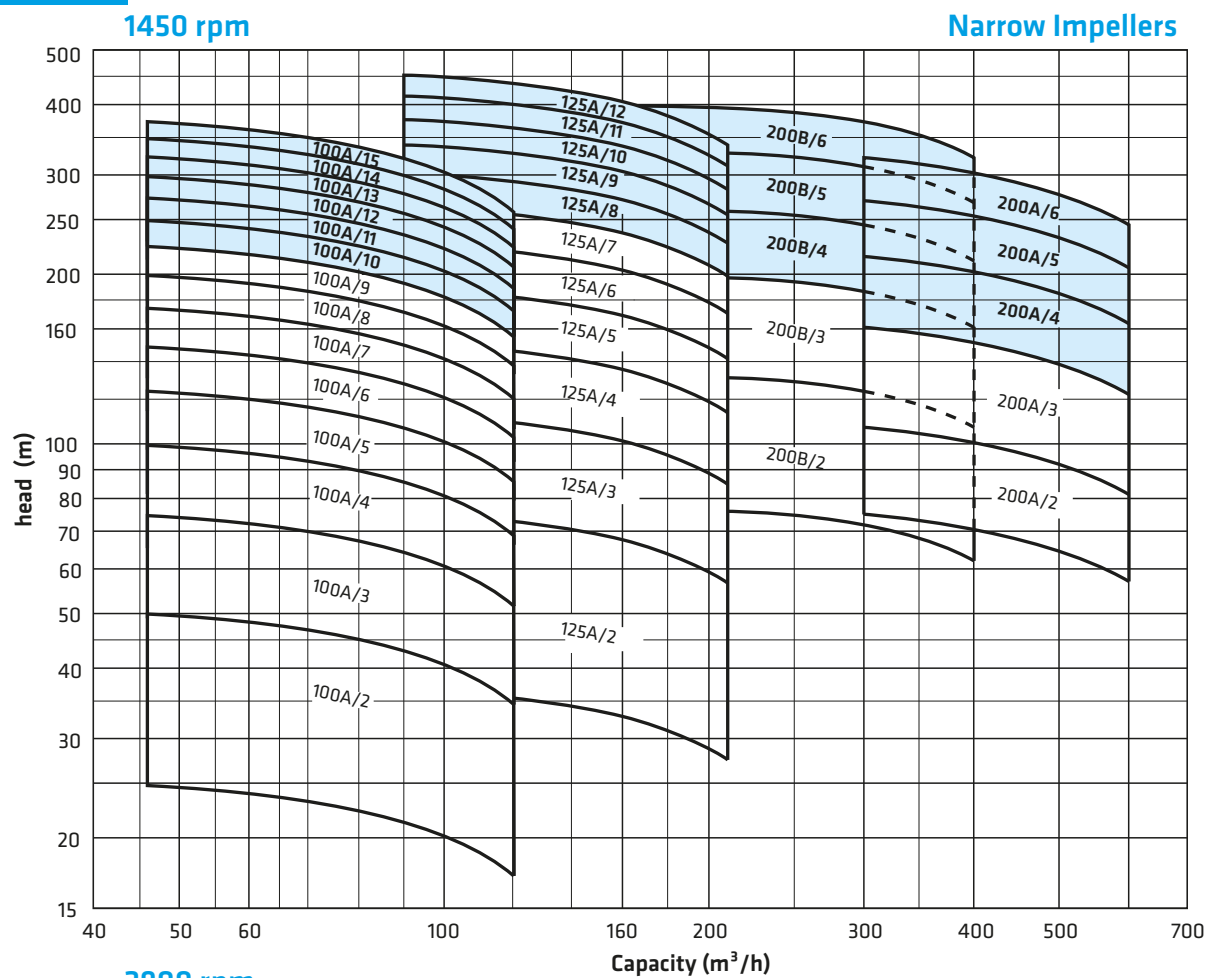
Heavy Duty Design _____

Discharge Nozzle (DN-mm) _____

Number of Stages _____

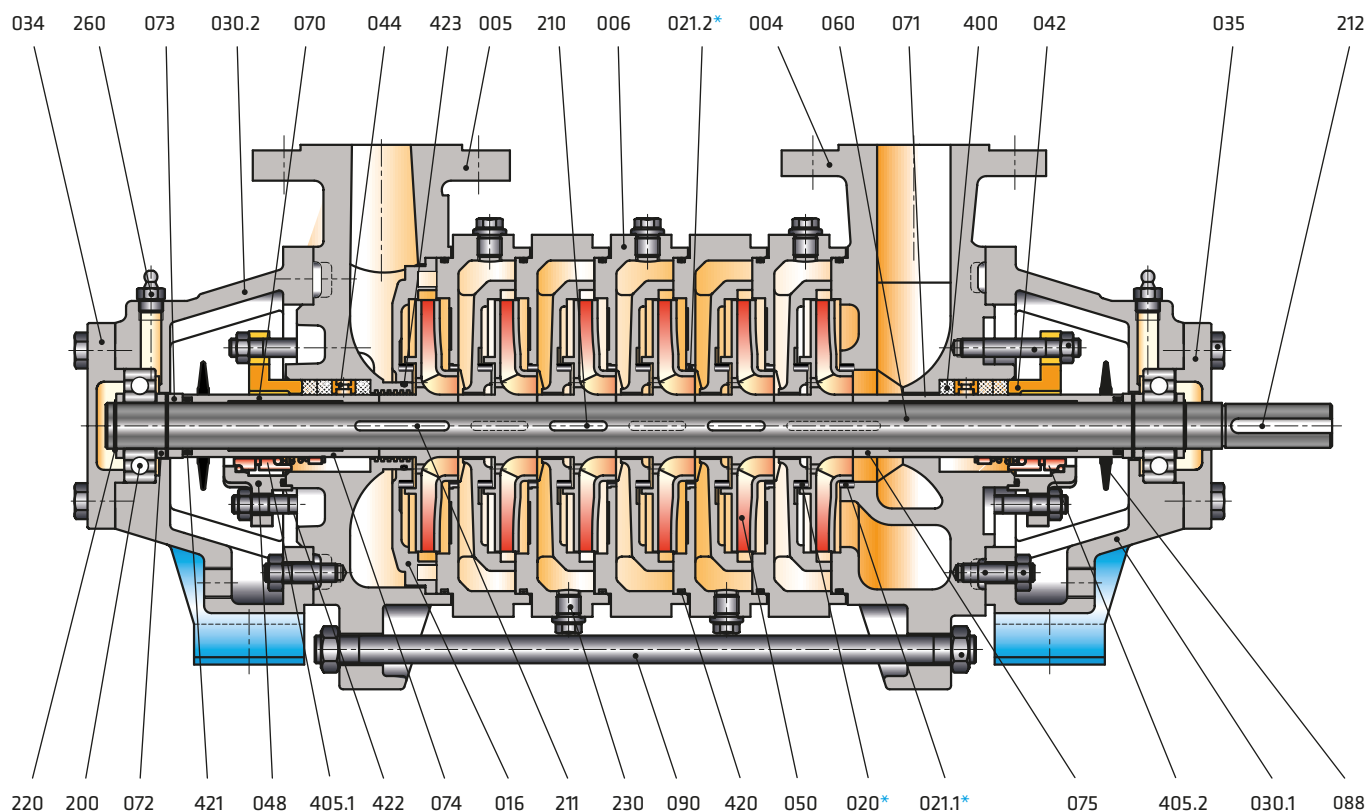
SKM - K 100 / 6



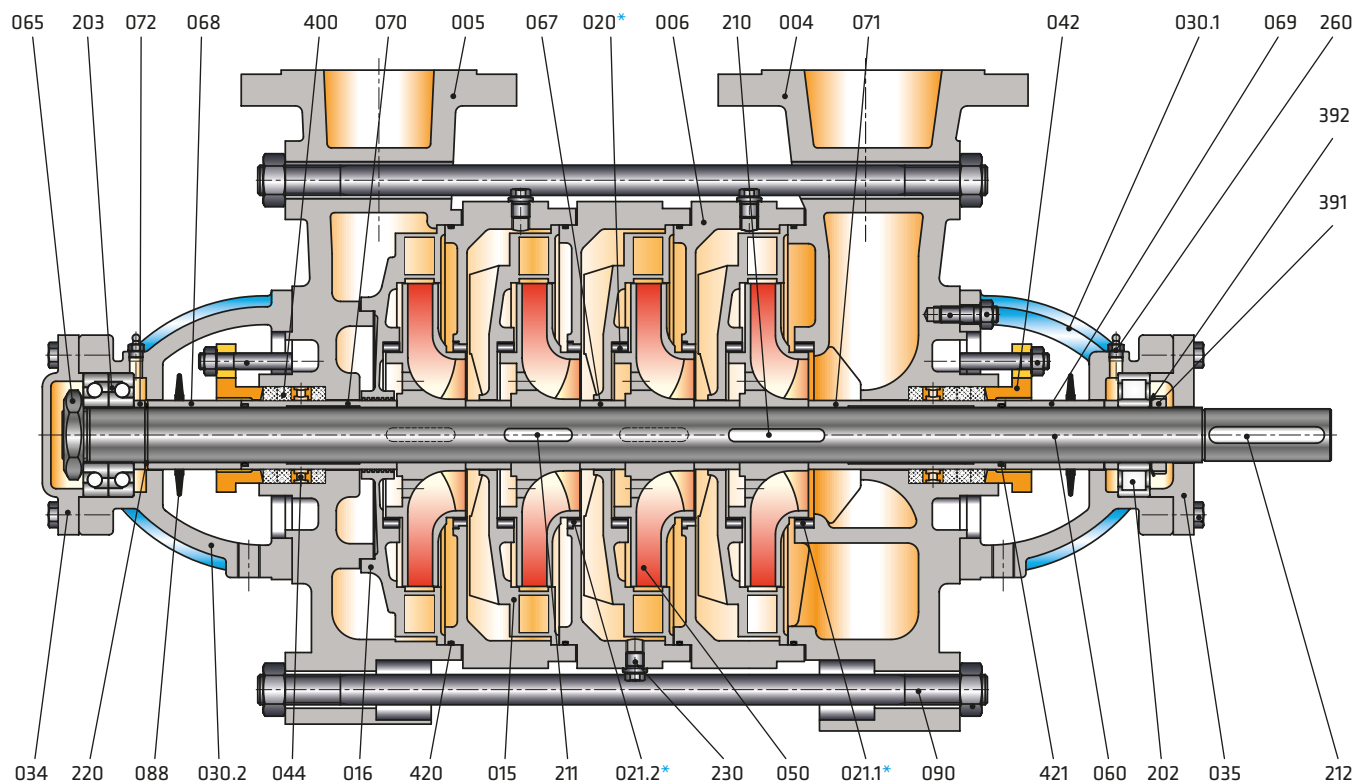


Heavy Duty Design

SKM - 32 - 40 - 50 - 65 Series



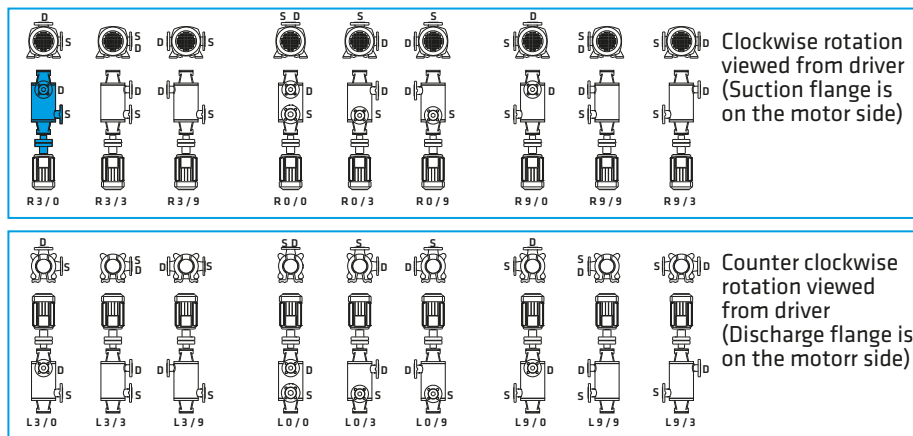
SKM - 80 - 100 - 125 - 150 - 200 - 250 Series



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

Flange Positions



R 3/0

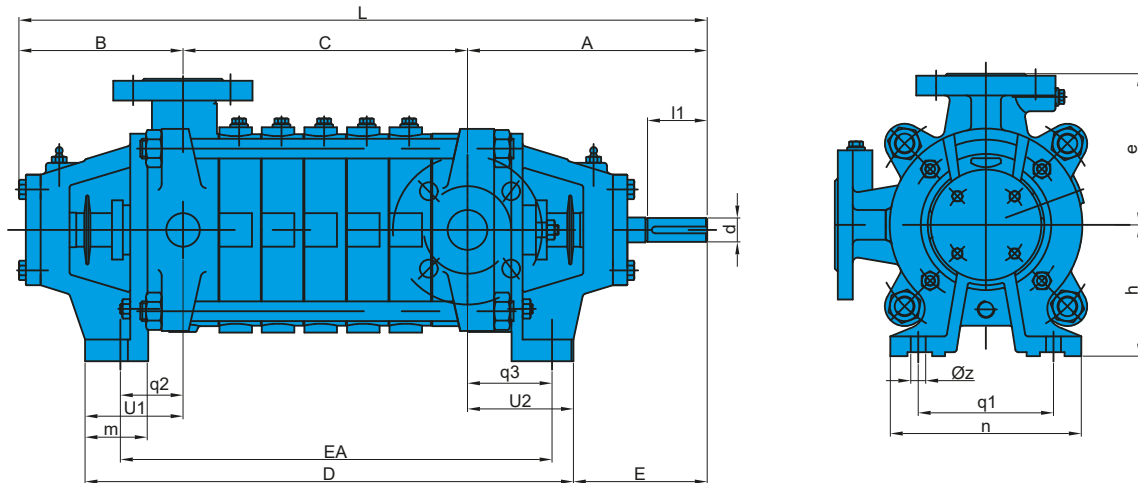
Discharge Flange Position (D)
Suction Flange Position (S)
Direction of Rotation (R/L)

Direction of rotation viewed from driver end
R : Right
L : Left

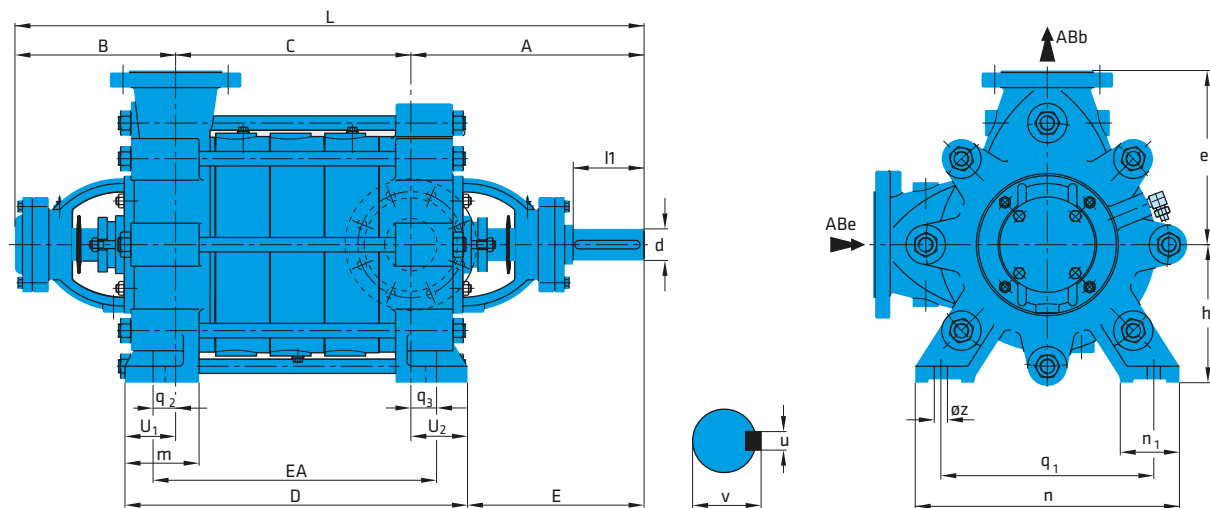
Dimensions

SKM

For SKM - 32 - 40 - 50 - 65 series



For SKM - 80 - 100 - 125 - 150 - 200 - 250 series



"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		518	720	922											

*There maybe difference upto 73mm for "C" dimension, caused by casting.

Pump Type	ABe	ABb	A	B	EA	D	L	E	e	h	m	n	n1	q1	q2	q3	Øz	u1	u2
32	40	32	241	165	C+148	C+205	C+406	145	152	132	60	192	55	136	63	85	15	98,5	106,5
40	50	40	238	165	C+160	C+219	C+403	134	175	160	60	232	55	175	80	80	15	109,5	109,5
50	65	50	254	175	C+231	C+230	C+429	145	190	160	60	256	60	200	117,5	113,5	15	117	113
65	80	65	271	195	C+238	C+234	C+466	150	215	180	60	294	60	240	121	117	15	124	120
80	100	80	321	250	C+84	C+124	C+571	259	265	210	85	410	90	340	42	42	15	62	62
100	125	100	389	285	C+96	C+140	C+674	319	300	250	90	450	90	370	48	48	15	70	70
125	150	125	412	300	C+108	C+124	C+712	332	375	300	105	560	105	450	55	55	20	83	83
150	200	150	486	360	C+130	C+208	C+846	381	425	350	130	655	110	550	65	65	26	103	105
200	250	200	515	385	C+130	C+210	C+900	410	500	400	130	675	120	550	65	65	27	105	105
250	300	250	708	444	C+148	C+260	C+1152	552	627	472	155	775	150	625	74	74	32	130	129

Note : All rights reserved.

 Heavy Duty Design

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 / 1.4404	
	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 / 1.4404	
	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	
		Suction	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	
		Suction	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																	●	○	○	○	○		○

Depending on customer requirement or request different types and brands of mechanical seals are applicable.

● Standard manufacturing
○ Optional

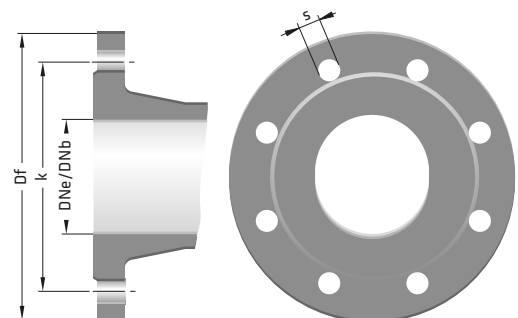
Material Equivalents

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

EN 1092 - 2	DNe/DNb	Suction (PN 16)				Discharge (PN 40)			
		Df	k	s	n	Df	k	s	n
	32	140	100	18	4	140	100	18	4
	40	150	110	18	4	150	110	18	4
	50	165	125	18	4	165	125	18	4
	65	185	145	18	4	185	145	18	8
	80	200	160	18	8	200	160	18	8
	100	220	180	18	8	235	190	22	8
	125	250	210	18	8	270	220	26	8
	150	285	240	22	8	300	250	26	8
	200	340	295	22	12	375	320	30	12
	250	405	355	26	12	450	385	33	12
	300	460	410	26	12	515	450	33	16

"n" number of holes



Pump • Fire Fighting Units • Booster Set

SKM-E

MULTISTAGE PUMPS (END SUCTION)



SKM-E Rev.05.03.2024

Handled Liquids

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

Technical Data

Discharge Flange _____ DN 40....DN 150 mm

Capacity _____ up to 400 m³ /h

Head _____ up to 450 m

Speed _____ up to 2900 rpm

Design 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 impellers and diffusers in end suction design.
- 7 Models from DN 40 up to DN 150 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)

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Number of Stages _____

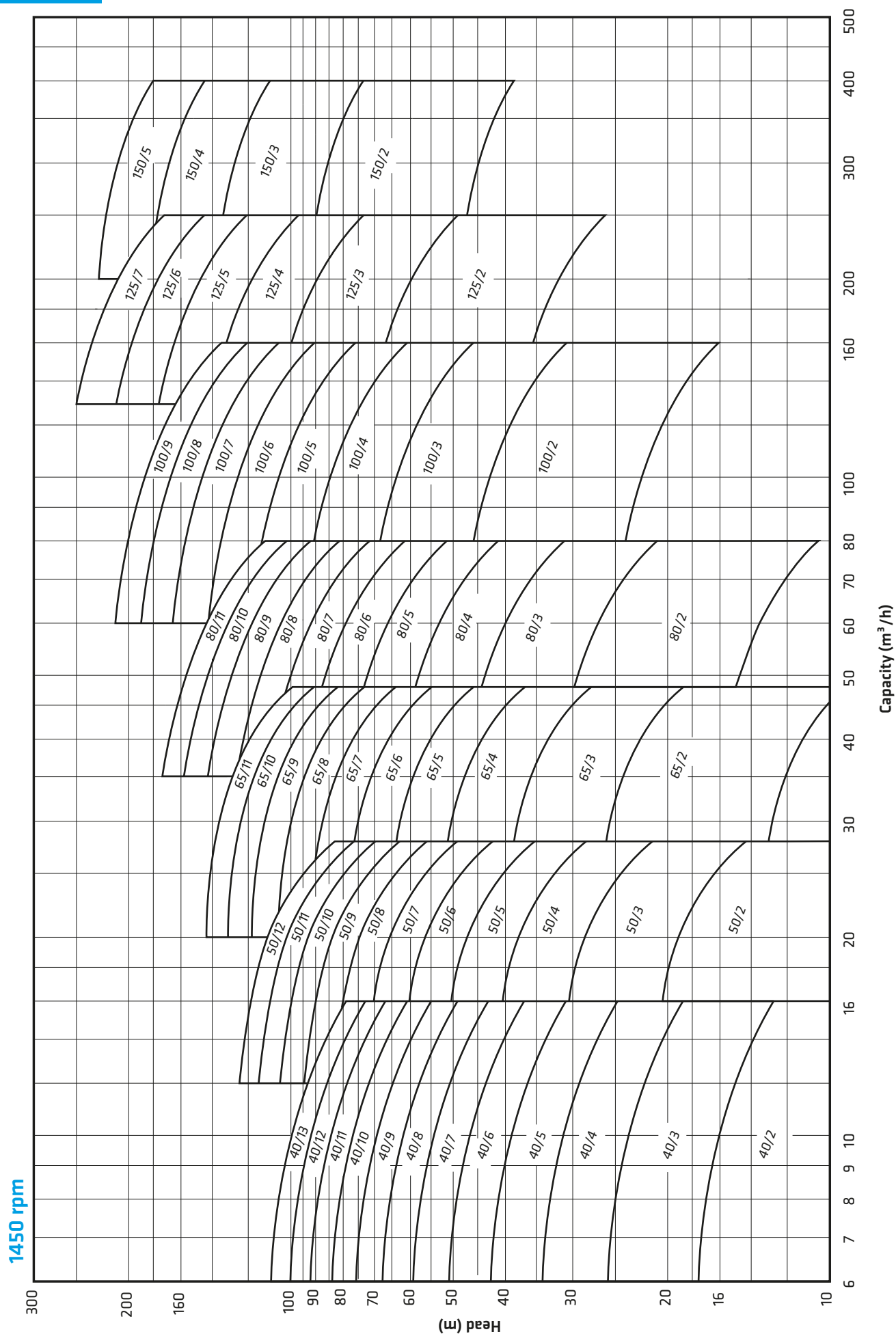


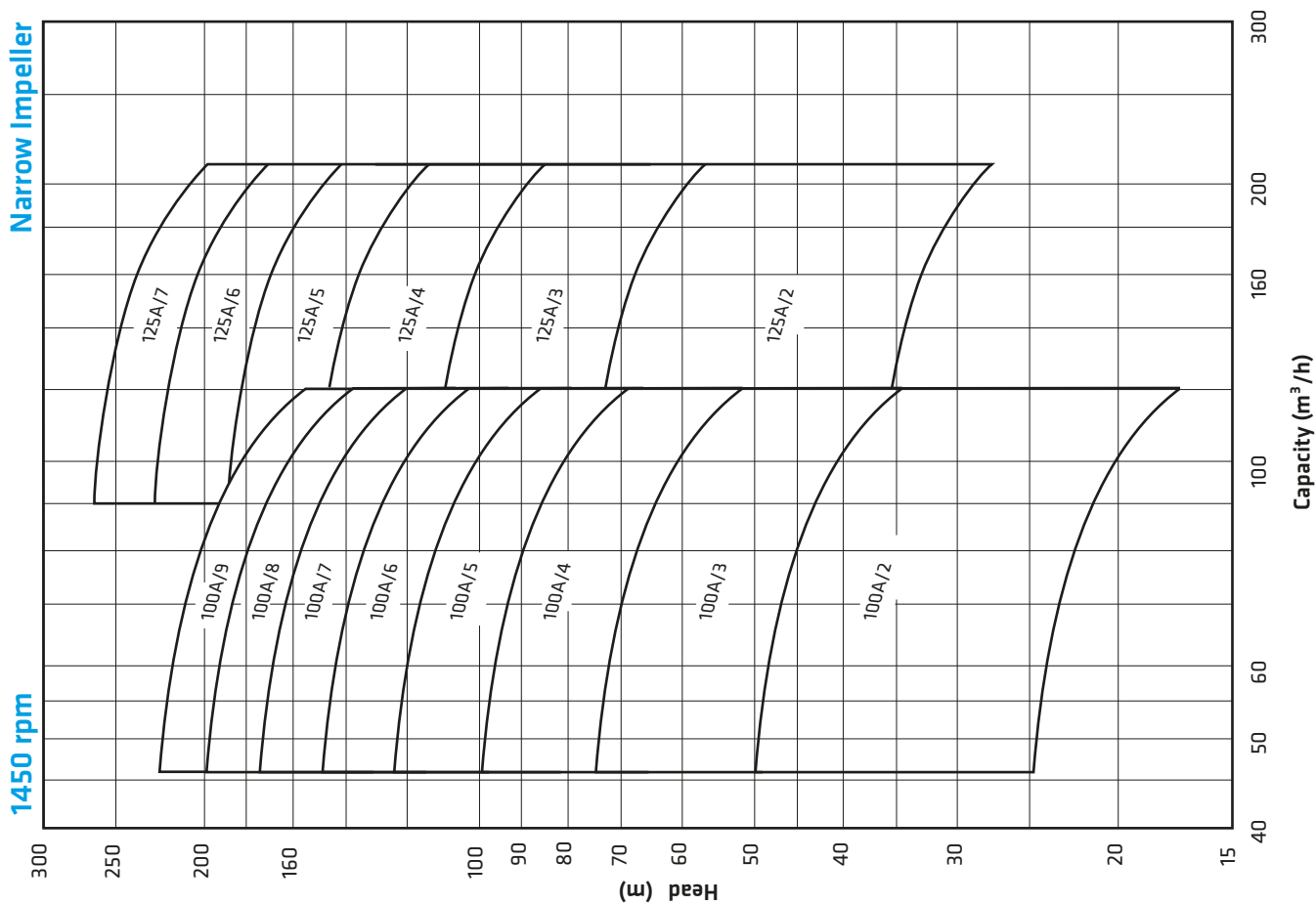
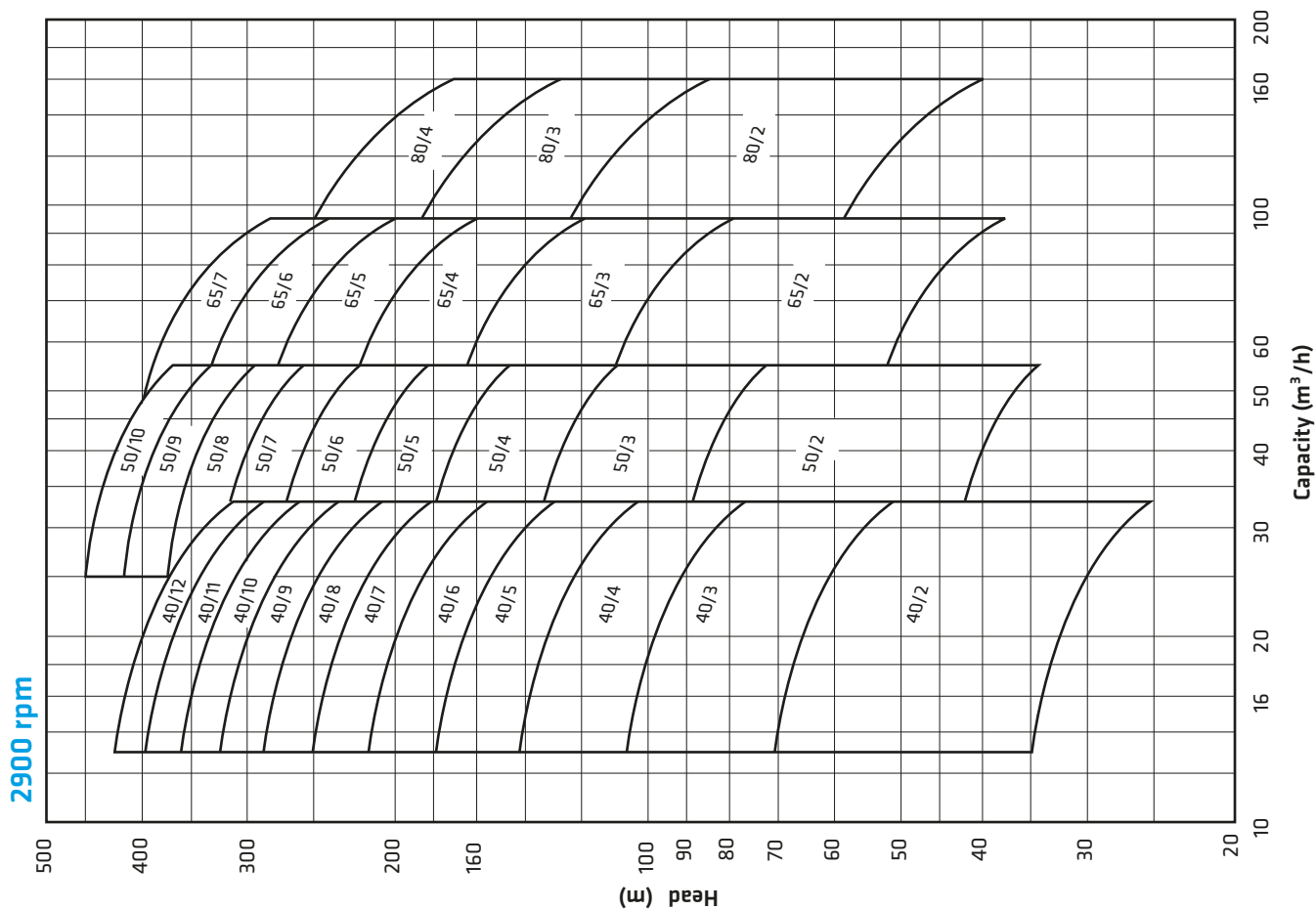
- Discharge flange is on top for standard production, upon request different discharge flange positions can be applied.
- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.
- Axial thrust is balanced by impeller balancing holes system.
- Direction of rotation is always counter clockwise viewed from drive end. That's why these pumps can not be accoupled directly with diesel engines.
- Bearings of SKM-E type pumps are grease lubricated. Journal bearing used in the suction side is lubricated by the pumping liquid.

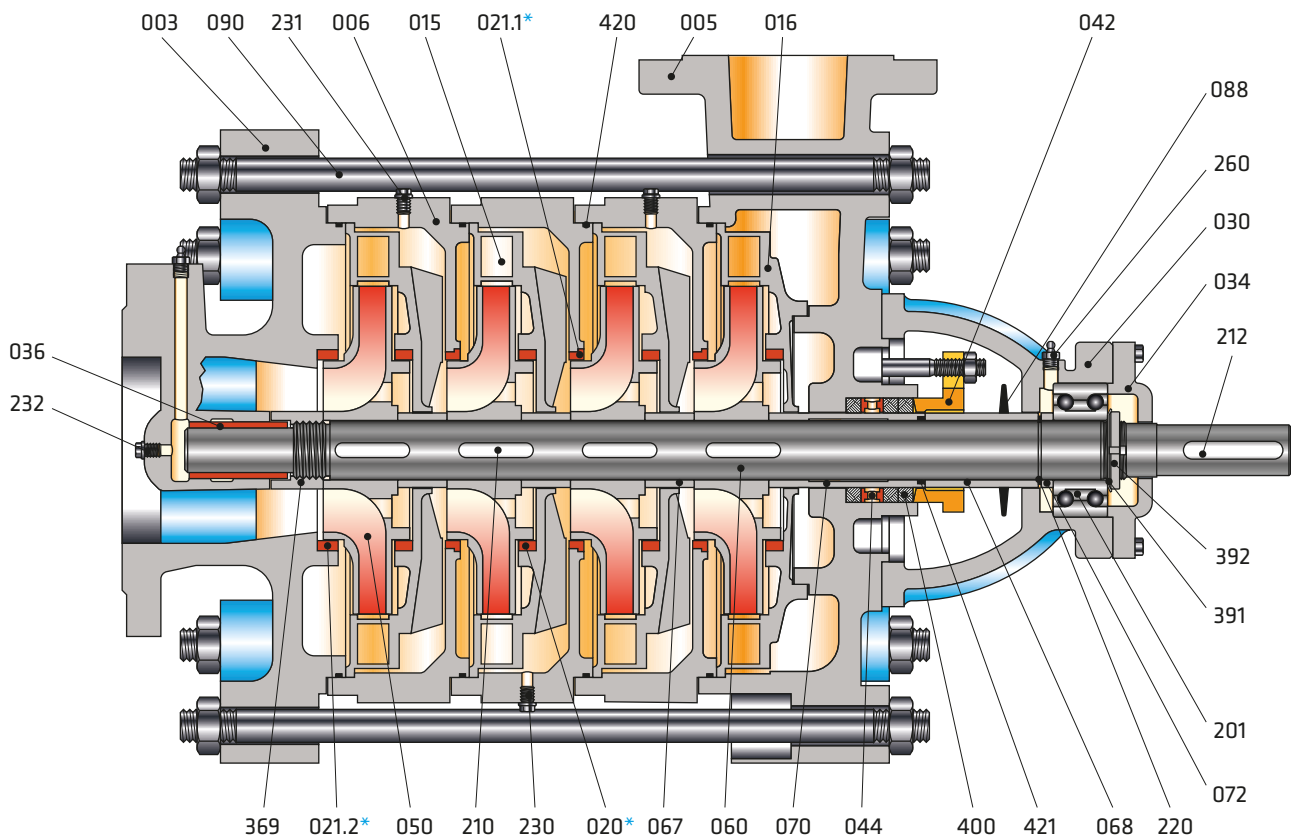
Shaft Sealing

- 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.

SKM-E 100 / 6



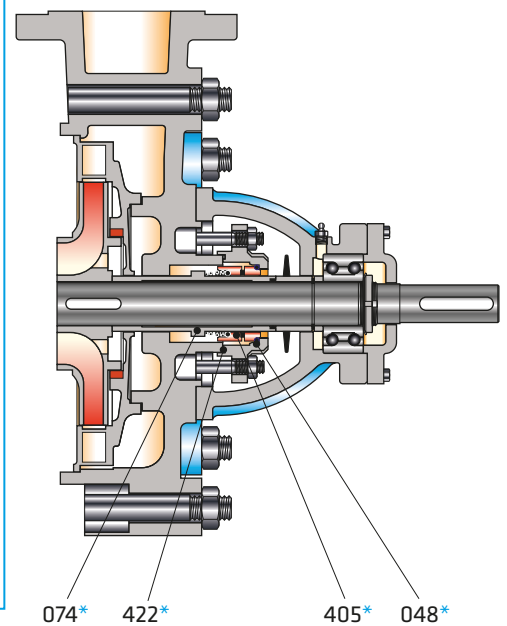


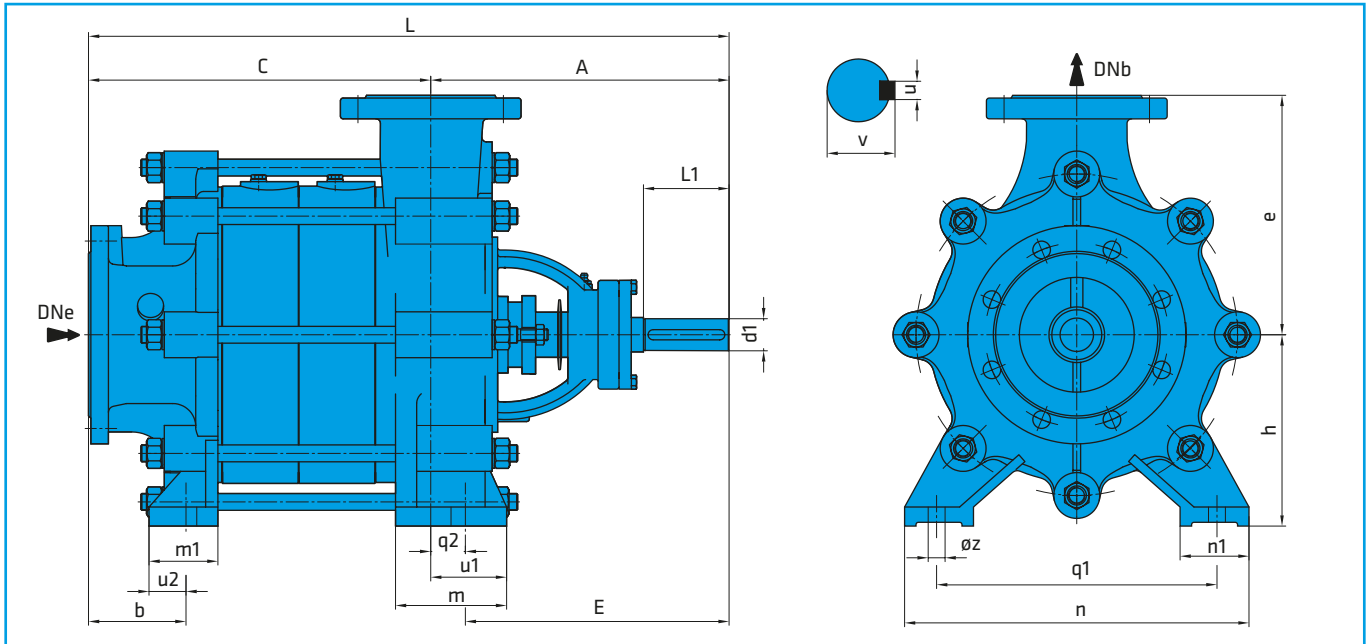


Part List

003	Suction Casing	074*	Shaft Sleeve (Mechanical Seal)
005	Discharge Casing	088	Thrower
006	Stage Casing	090	Tiebolt
015	Diffuser	201	Double Row Ball Bearing
016	Last Stage Diffuser	210	Impeller Key
020*	Wear Ring (Diffuser)	212	Coupling Key
021.1*	Wear Ring (Stage Casing)	220	Retaining Ring
021.2*	Wear Ring (Suction Casing)	230	Drain Plug
030	Bearing Housing	231	Filling Plug
034	Bearing Cover	232	Plug
036	Sleeve Bearing	260	Grease Nipple
042	Stuffing Box Gland	369	Shaft Nut
044	Lantern Ring	391	Lock Washer
048*	Mechanical Seal Cover	392	Shaft Nut
050	Impeller	400	Soft Packing
060	Shaft	405*	Mechanical Seal
067	Interstage Sleeve	420	O-Ring
068	Spacer Sleeve (Discharge side)	421	O-Ring
070	Shaft Sleeve (Soft packing)	422*	O-Ring
072	Spacer Sleeve (Bearing)		

(*) Optional





"C" according to the number of stages (mm)

Pump Type	2	3	4	5	6	7	8	9	10	11	12	13
40	187	242	297	352	407	462	517	572	627	682	737	792
50	212	274	336	398	460	522	584	646	708	770	832	
65	247	318	389	460	531	602	673	744	815	886		
80	280	363	446	529	612	695	778	861	944	1027		
100	347	447	547	647	747	847	947	1047				
125	364	479	594	709	824	939						
150	437	582	727	872								

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
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)	-

Bearing Type

Pump Type	Bearing Type
40	6305
50	6306
65	6307
80	3308
100	3309
125	3310
150	3312

(*) There maybe difference upto 73mm for "C" dimension, caused by casting

Pump Type	Dimensions (mm)																	Shaft				Weight (kg)	
	DNe	DNb	A	b	L	E	e	h	m	m1	n	n1	q1	q2	øz	u1	u2	d1	l1	v	u	G	g
40	65	40	237	23	C+237	147	175	160	60	75	232	55	175	90	15	109	20	24	60	27	8	54	9,5
50	80	50	258	23	C+259	160	190	160	60	85	256	60	200	98	15	115	20	28	65	31	8	82	13
65	100	65	275	38	C+275	170	215	180	60	85	294	60	240	121	15	125	25	32	65	35	10	85	20
80	125	80	331	75	C+331	289	265	210	85	85	410	90	340	42	15	62	25	38	80	41	10	113	26
100	150	100	397	105	C+397	349	300	250	90	90	450	90	370	48	15	70	30	42	110	45	12	150	42
125	200	125	410	70	C+410	355	375	300	110	112	572	105	450	55	23	80	30	48	110	51,5	14	264	75
150	200	150	475	60	C+475	410	425	350	130	135	655	110	550	65	23	103	30	55	110	59	16	455	120

Note: All rights reserved.

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

Flange Dimensions

EN 1092 - 2	DNe/DNb	Suction (PN 16)				Discharge (PN 40)			
		Df	k	s	n	Df	k	s	n
	40	150	110	18	4	150	110	18	4
	50	165	125	18	4	165	125	18	4
	65	185	145	18	4	185	145	18	8
	80	200	160	18	8	200	160	18	8
	100	220	180	18	8	235	190	22	8
	125	250	210	18	8	270	220	26	8
	150	285	240	22	8	300	250	26	8
	200	340	295	22	12	375	320	30	12

"n" number of holes

The image shows two technical drawings of the flange. The left drawing is a side view showing the flange's profile with dimensions Df (total thickness), k (flange thickness), and DNe/DNb (inner diameter). The right drawing is a top view showing the flange's circular shape with dimensions s (hole spacing) and n (number of holes).

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	PTFE
Suction Casing	●	○	○		○	○	○	○	○	○	○	○	○	○										
Discharge Casing	●	○	○		○	○	○	○	○	○	○	○	○	○										
Stage Casing	●	○	○		○	○	○	○	○	○	○	○	○	○										
Diffuser	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○						○		
Shaft																		●	○	○	○		○	
Bearing Housing	●	○	○	○	○	○	○	○																
Wear Ring	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
Spacer Sleeve																	●	○	○	○	○		○	
Shaft Sleeve																	●	○	○	○	○		○	
Interstage Sleeve																	●	○	○	○	○		○	
Sleeve Bearing																								●

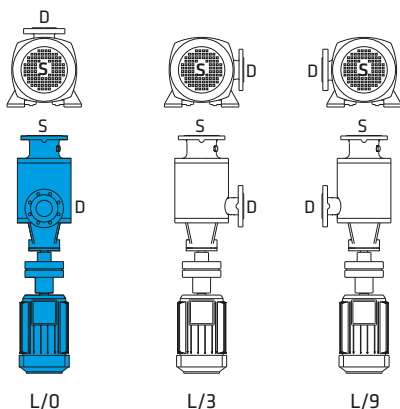
Depending on customer requirement or request different types and brands of mechanical seals are applicable.

● Standard manufacturing
○ Optional

Material Equivalent

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



Direction of rotation is counter clockwise viewed from driver end.
(Discharge flange is on motor side)

Explanation :

L/O

Discharge Flange (D)
Direction of Rotation (L)

Viewed from drive end.

L: Left

Pump • Fire Fighting Units • Booster Set

SKMV-H

MULTISTAGE PUMPS (VERTICAL)



SKMV-H Rev.05.03.2024

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 400 m³/h

Head _____ up to 450 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

- Vertical ring section, multistage, centrifugal pumps with closed impellers and diffusers.
- 8 models from DN 32 up to DN 150 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)
- SKMV-H pumps are short coupled with electric motors of IEC frame sizes with high efficiency class. (IE3 - IE4)

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Number of Stage _____



- Pump and motor shafts are connected to each other with flexible coupling.

- 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 always counter clockwise viewed from drive end.

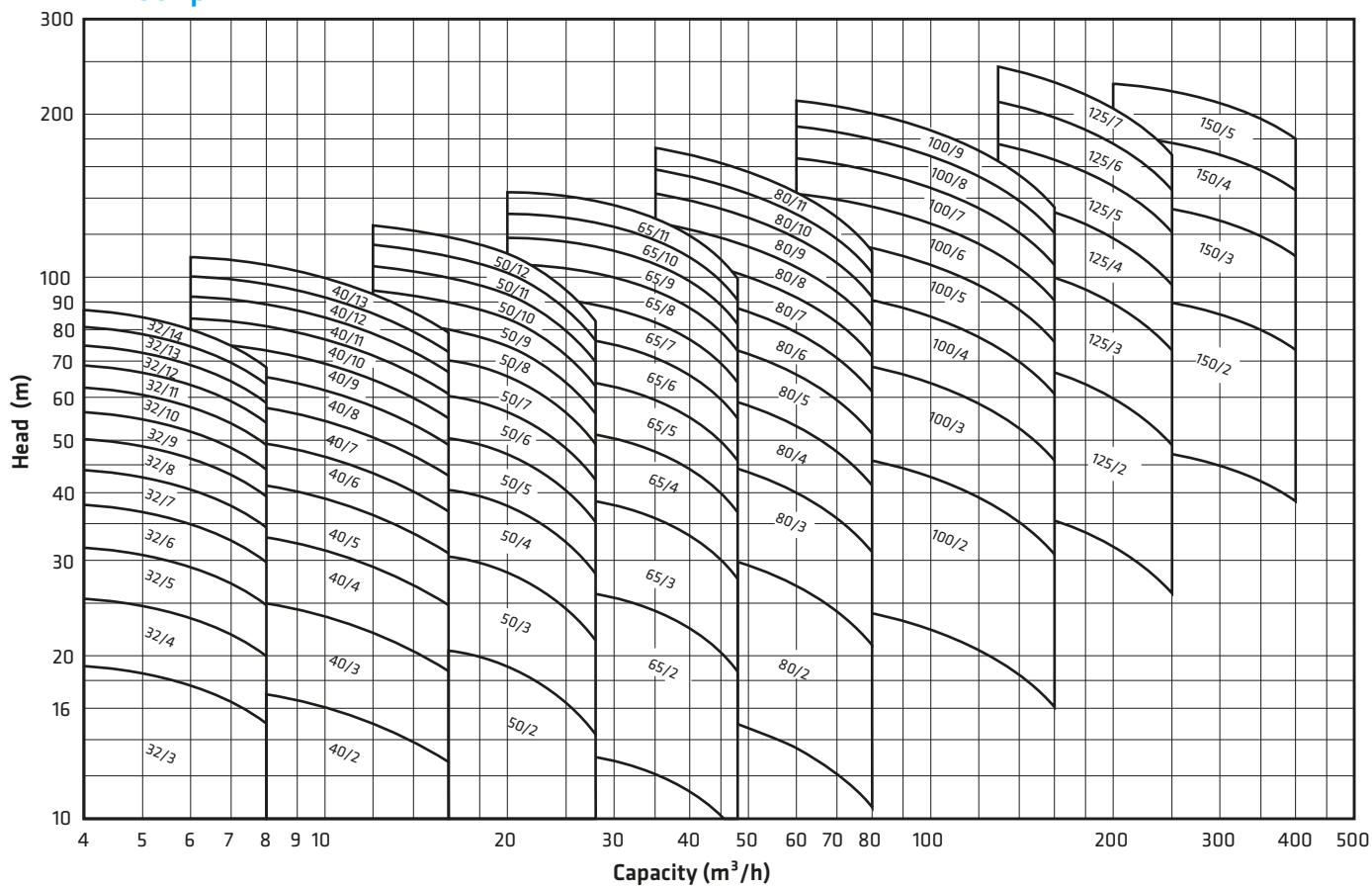
- Bearings of SKMV-H type pumps are grease lubricated. Journal bearings used in the suction side is lubricated by the pumping liquid.

Shaft Sealing

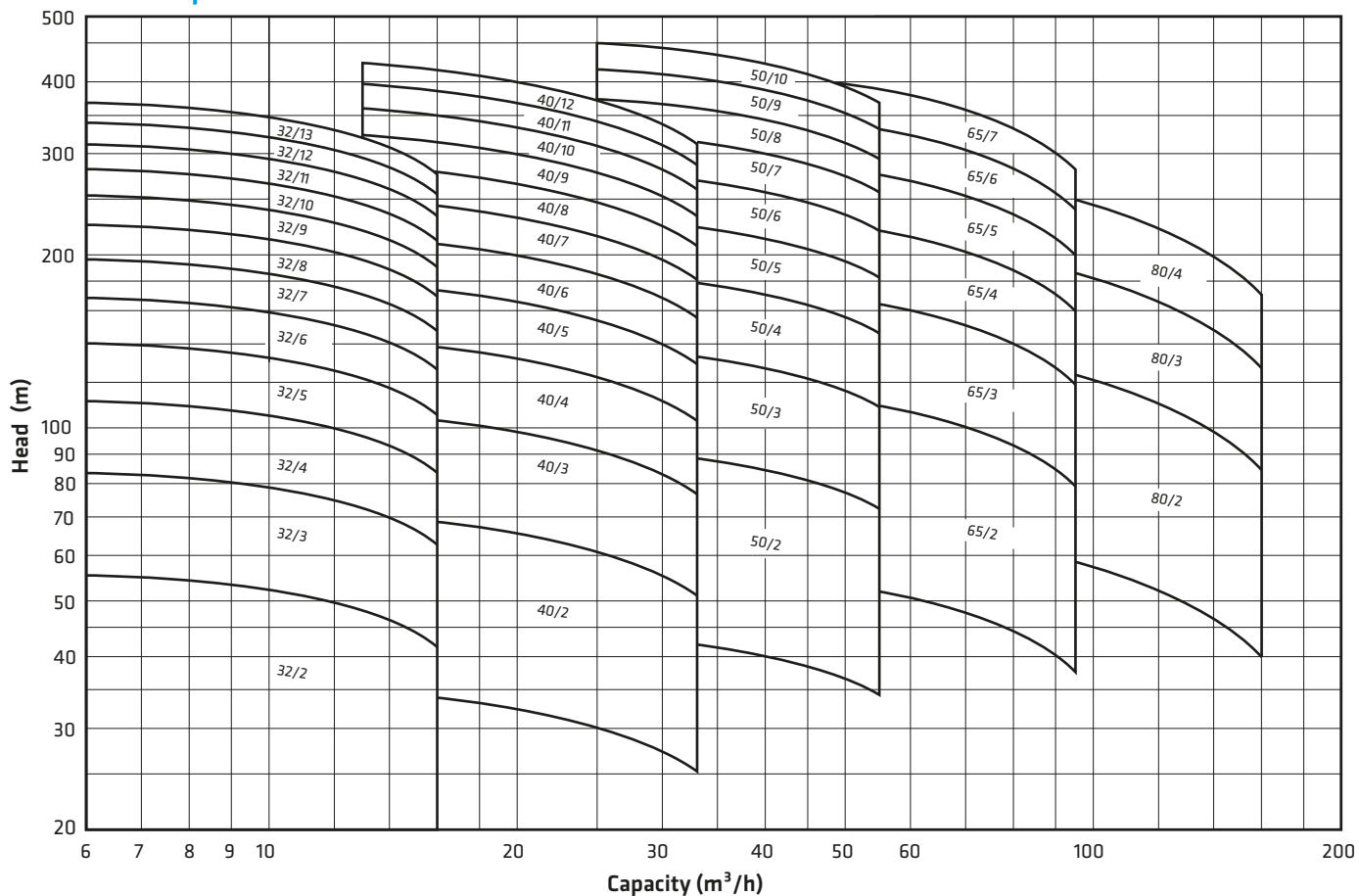
- Depending on request or requirement, pumps with soft packing or mechanical seals can be supplied.

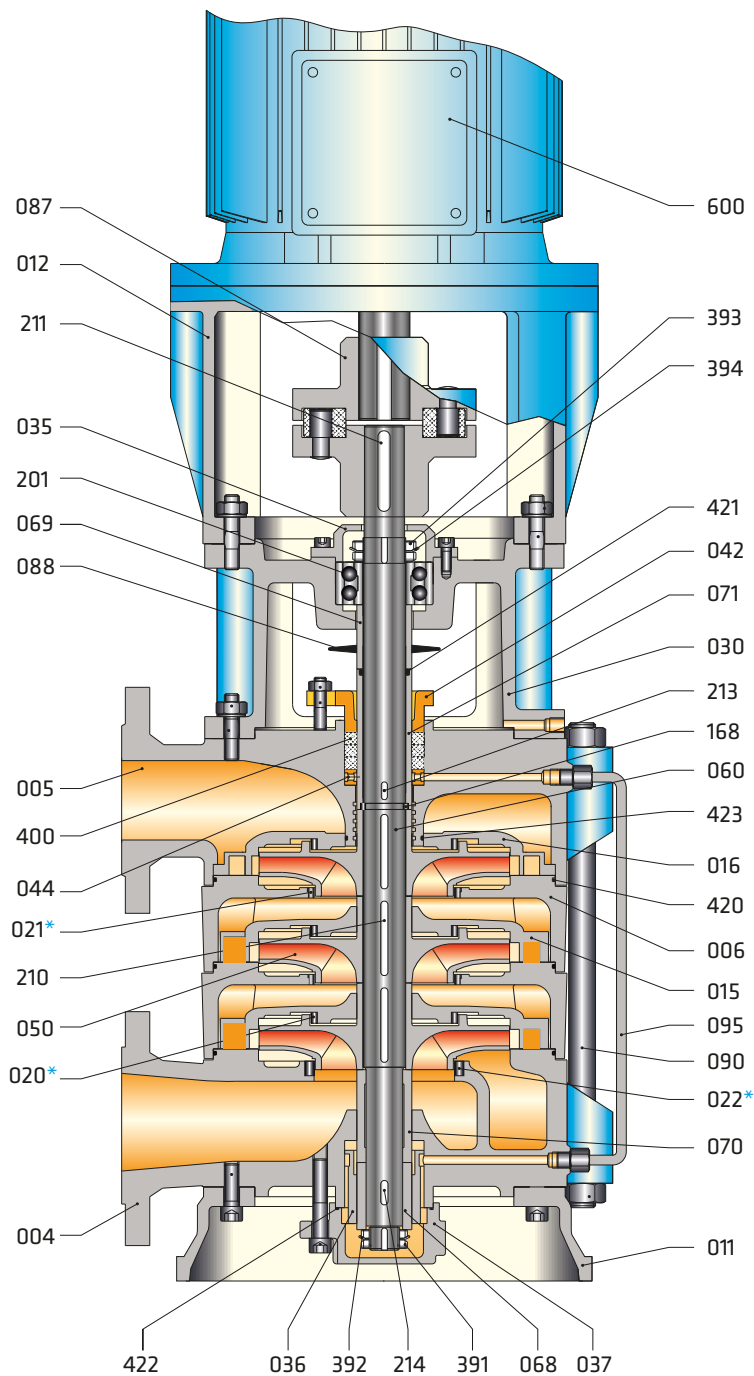
SKMV-H 100 / 6

1450 rpm

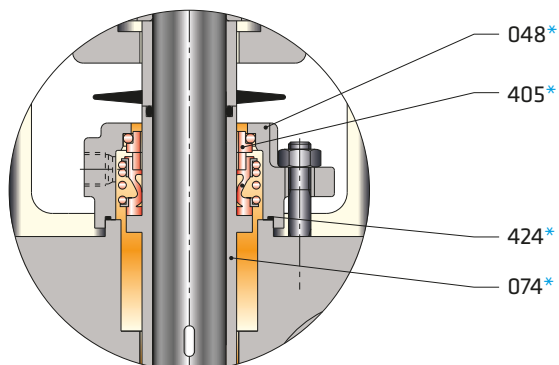


2900 rpm





Mechanical Seal Application

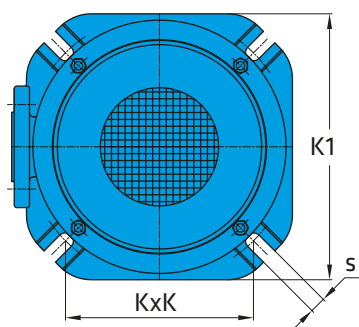


Part List

004	Suction Casing
005	Discharge Casing
006	Stage Casing
011	Pump Foot
012	Motor Pedestal
015	Diffuser
016	Last Stage Diffuser
020*	Wear Ring (Diffuser)
021*	Wear Ring (Stage Casing)
022*	Wear Ring (Suction Casing)
030	Bearing Housing
035	Bearing Cover
036	Sleeve Bearing
037	Sleeve Bearing Cover
042	Gland
044	Lantern Ring
048*	Mechanical Seal Cover
050	Impeller
060	Pump Shaft
068	Shaft Sleeve (Sleeve Bearing)
069	Spacer Sleeve (Bearing)
070	Shaft Sleeve (Suction Casing)
071	Shaft Protecting Sleeve (Soft Packing)
074*	Shaft Protecting Sleeve (Mechanical Seal)
087	Flexible Coupling
088	Thrower
090	Tiebolt
095	Sleeve Bearing Flushing Pipe
168	Split Ring
201	Double Row Ball Bearing
210	Key (Impeller)
211	Key (Coupling)
213	Key (Shaft Protecting Sleeve)
214	Key (Sleeve Bearing)
391	Shaft End Nut
392	Lock Washer
393	Shaft End Nut
394	Lock Washer
400	Soft Packing
405*	Mechanical Seal
420	O-Ring
421	O-Ring
422	O-Ring
423	O-Ring
424*	O-Ring
425*	O-Ring
426*	O-Ring
427*	O-Ring
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599*	O-Ring
600	Electric Motor

(*) Optional

Y View

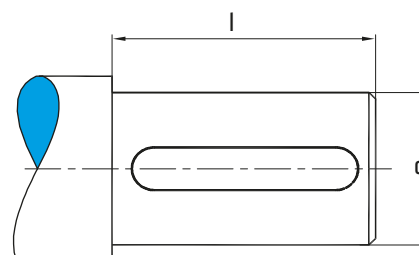
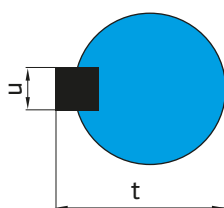
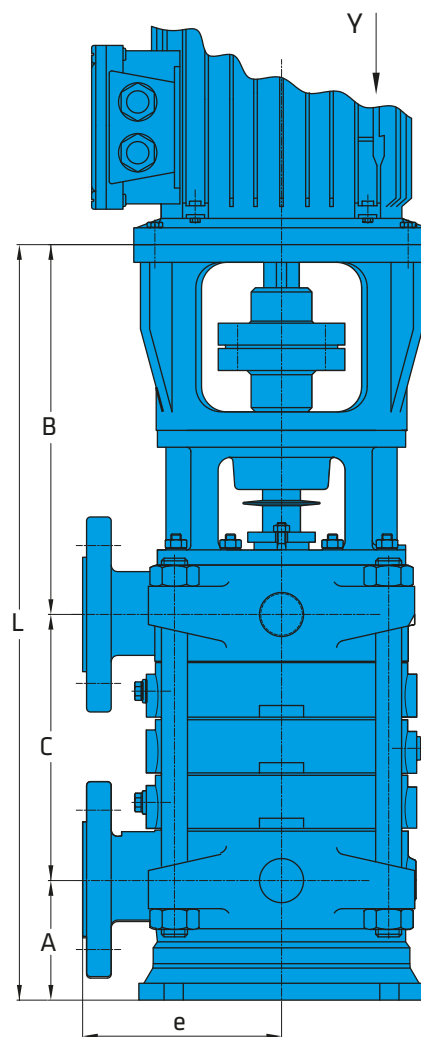


Bearing Type

Pump Type	Bearing Type
32	3305
40	3305
50	3306
65	3307
80	3308
100	3309
125	3310
150	3312

Shaft End Dimensions

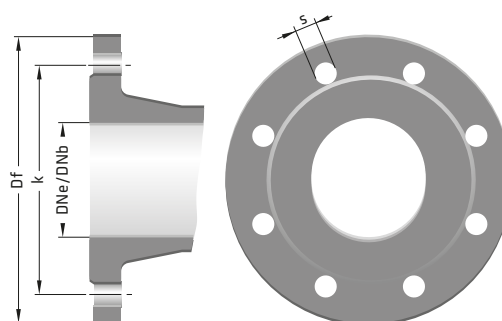
Pump Type	d	l	t	u
32	22	50	25	6
40	22	50	25	6
50	28	65	31	8
65	32	65	35	10
80	38	80	41	10
100	42	110	45	12
125	48	110	51,5	14
150	55	110	59	16



Flange Dimensions

DNe/DNb	Suction (PN 16)				Discharge (PN 40)			
	Df	k	s	n	Df	k	s	n
32	140	100	18	4	140	100	18	4
40	150	110	18	4	150	110	18	4
50	165	125	18	4	165	125	18	4
65	185	145	18	4	185	145	18	8
80	200	160	18	8	200	160	18	8
100	220	180	18	8	235	190	22	8
125	250	210	18	8	270	220	26	8
150	285	240	22	8	300	250	26	8
200	340	295	22	12	375	320	30	12

"n" number of holes



1450 rpm

Pump Type	Motor No	Dimensions (mm)										C (mm)													
		IEC	DNe	DNb	L	A	B	e	KxK	K1	s	Number of Stages													
											1	2	3	4	5	6	7	8	9	10	11	12	13	14	
32	80	40	32	399+C	105	298	155	212	300	18	71	114	157	200	243	286	329	372	415	458	501	544	587	630	
32	90	40	32	399+C	105	298	155	212	300	18	71	114	157	200	243	286	329	372	415	458	501	544	587	630	
32	100	40	32	409+C	105	308	155	212	300	18	71	114	157	200	243	286	329	372	415	458	501	544	587	630	
40	90	50	40	405+C	103	302	175	212	300	18	78	133	188	243	298	353	408	463	518	573	628	683	738	-	
40	100	50	40	415+C	103	312	175	212	300	18	78	133	188	243	298	353	408	463	518	573	628	683	738	-	
40	112	50	40	415+C	103	312	175	212	300	18	78	133	188	243	298	353	408	463	518	573	628	683	738	-	
40	132	50	40	435+C	103	332	175	212	300	18	78	133	188	243	298	353	408	463	518	573	628	683	738	-	
50	100	65	50	453+C	114	340	190	247	350	18	90	152	214	276	338	400	462	524	586	648	710	772	-	-	
50	112	65	50	453+C	114	340	190	247	350	18	90	152	214	276	338	400	462	524	586	648	710	772	-	-	
50	132	65	50	473+C	114	360	190	247	350	18	90	152	214	276	338	400	462	524	586	648	710	772	-	-	
50	160	65	50	503+C	114	390	190	247	350	18	90	152	214	276	338	400	462	524	586	648	710	772	-	-	
65	100	80	65	505+C	135	368	215	247	350	18	107	178	249	320	391	462	533	604	675	746	817	-	-	-	
65	112	80	65	505+C	135	368	215	247	350	18	107	178	249	320	391	462	533	604	675	746	817	-	-	-	
65	132	80	65	525+C	135	388	215	247	350	18	107	178	249	320	391	462	533	604	675	746	817	-	-	-	
65	160	80	65	555+C	135	420	215	247	350	18	107	178	249	320	391	462	533	604	675	746	817	-	-	-	
65	180	80	65	555+C	135	420	215	247	350	18	107	178	249	320	391	462	533	604	675	746	817	-	-	-	
80	132	100	80	568+C	145	423	265	247	350	23	112	195	278	361	444	527	610	693	776	859	942	-	-	-	
80	160	100	80	598+C	145	453	265	247	350	23	112	195	278	361	444	527	610	693	776	859	942	-	-	-	
80	180	100	80	598+C	145	453	265	247	350	23	112	195	278	361	444	527	610	693	776	859	942	-	-	-	
80	200	100	80	598+C	145	453	265	247	350	23	112	195	278	361	444	527	610	693	776	859	942	-	-	-	
80	225	100	80	628+C	145	483	265	247	350	23	112	195	278	361	444	527	610	693	776	859	942	-	-	-	
100	160	125	100	675+C	170	504	300	318	450	23	133	233	333	433	533	633	733	833	933	-	-	-	-	-	
100	180	125	100	675+C	170	504	300	318	450	23	133	233	333	433	533	633	733	833	933	-	-	-	-	-	
100	200	125	100	675+C	170	504	300	318	450	23	133	233	333	433	533	633	733	833	933	-	-	-	-	-	
100	225	125	100	705+C	170	534	300	318	450	23	133	233	333	433	533	633	733	833	933	-	-	-	-	-	
100	250	125	100	705+C	170	534	300	318	450	23	133	233	333	433	533	633	733	833	933	-	-	-	-	-	
100	280	125	100	705+C	170	534	300	318	450	23	133	233	333	433	533	633	733	833	933	-	-	-	-	-	
125	200	150	125	717+C	178	538	375	424	600	27	165	280	395	510	625	740	855	-	-	-	-	-	-	-	
125	225	150	125	747+C	178	568	375	424	600	27	165	280	395	510	625	740	855	-	-	-	-	-	-	-	
125	250	150	125	747+C	178	568	375	424	600	27	165	280	395	510	625	740	855	-	-	-	-	-	-	-	
125	280	150	125	747+C	178	568	375	424	600	27	165	280	395	510	625	740	855	-	-	-	-	-	-	-	
125	315	150	125	777+C	178	598	375	424	600	27	165	280	395	510	625	740	855	-	-	-	-	-	-	-	
150	250	200	150	888+C	265	623	425	424	600	27	218	363	508	653	798	-	-	-	-	-	-	-	-	-	
150	280	200	150	888+C	265	623	425	424	600	27	218	363	508	653	798	-	-	-	-	-	-	-	-	-	
150	315	200	150	918+C	265	653	425	424	600	27	218	363	508	653	798	-	-	-	-	-	-	-	-	-	

*There maybe difference upto 73mm for "C" dimension, caused by casting.

2900 rpm

Pump Type	Motor No IEC	Dimensions (mm)										C (mm) Number of Stage												
		DNe	DNb	L	A	B	e	KxK	K1	s	1	2	3	4	5	6	7	8	9	10	11	12	13	
32	112	40	32	409+C	105	306	155	212	300	18	71	114	157	200	243	286	329	372	415	458	501	544	544	
32	132	40	32	429+C	105	326	155	212	300	18	71	114	157	200	243	286	329	372	415	458	501	544	544	
32	160	40	32	459+C	105	356	155	212	300	18	71	114	157	200	243	286	329	372	415	458	501	544	544	
40	132	50	40	435+C	103	332	175	212	300	18	78	133	188	243	298	353	408	463	518	573	628	683	-	
40	160	50	40	465+C	103	362	175	212	300	18	78	133	188	243	298	353	408	463	518	573	628	683	-	
40	180	50	40	465+C	103	362	175	212	300	18	78	133	188	243	298	353	408	463	518	573	628	683	-	
40	200	50	40	465+C	103	362	175	212	300	18	78	133	188	243	298	353	408	463	518	573	628	683	-	
40	225	50	40	495+C	103	392	175	212	300	18	78	133	188	243	298	353	408	463	518	573	628	683	-	
50	160	65	50	503+C	114	389	190	247	350	18	90	152	214	276	338	400	462	524	586	648	-	-	-	
50	180	65	50	503+C	114	389	190	247	350	18	90	152	214	276	338	400	462	524	586	648	-	-	-	
50	200	65	50	503+C	114	389	190	247	350	18	90	152	214	276	338	400	462	524	586	648	-	-	-	
50	225	65	50	503+C	114	389	190	247	350	18	90	152	214	276	338	400	462	524	586	648	-	-	-	
50	250	65	50	533+C	114	419	190	247	350	18	90	152	214	276	338	400	462	524	586	648	-	-	-	
65	160	80	65	555+C	135	420	215	247	350	18	107	178	249	320	391	462	533	-	-	-	-	-	-	
65	180	80	65	555+C	135	420	215	247	350	18	107	178	249	320	391	462	533	-	-	-	-	-	-	
65	200	80	65	555+C	135	420	215	247	350	18	107	178	249	320	391	462	533	-	-	-	-	-	-	
65	225	80	65	555+C	135	420	215	247	350	18	107	178	249	320	391	462	533	-	-	-	-	-	-	
65	250	80	65	615+C	135	480	215	247	350	18	107	178	249	320	391	462	533	-	-	-	-	-	-	
65	280	80	65	615+C	135	480	215	247	350	18	107	178	249	320	391	462	533	-	-	-	-	-	-	
80	200	100	80	598+C	145	453	265	247	350	23	112	195	278	361	-	-	-	-	-	-	-	-	-	
80	225	100	80	598+C	145	453	265	247	350	23	112	195	278	361	-	-	-	-	-	-	-	-	-	
80	250	100	80	628+C	145	483	265	247	350	23	112	195	278	361	-	-	-	-	-	-	-	-	-	
80	280	100	80	628+C	145	483	265	247	350	23	112	195	278	361	-	-	-	-	-	-	-	-	-	

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	PTFE
Suction Casing	●	○	○		○	○	○	○	○	○	○	○	○	○										
Discharge Casing	●	○	○		○	○	○	○	○	○	○	○	○	○										
Stage Casing	●	○	○		○	○	○	○	○	○	○	○	○	○										
Diffuser	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○						○		
Shaft																		●	○	○	○		○	
Bearing Housing	●	○	○	○	○	○	○	○																
Wear Ring (Casing)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○								
Shaft Sleeve																	●	○	○	○	○		○	
Shaft Pro. Sleeve																	●	○	○	○	○		○	
Spacer Sleeve																	●	○	○	○	○		○	
Sleeve Bearing																								●

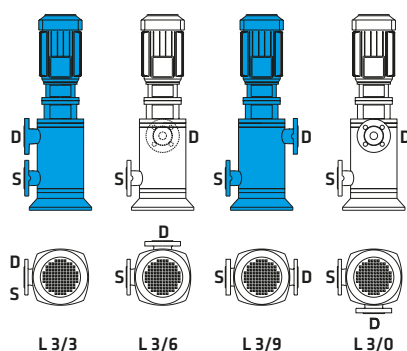
Depending on customer requirement or request different types and brands of mechanical seals are applicable.

● 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



Explanation :

L 3 / 9

└─ Discharge Flange Position (D)
└─ Suction Flange Position (S)
└─ Direction of Rotation (L)

Direction of rotation viewed from drive end

L : Left

Attention :

In the absence of specific request, pumps are supplied with the following nozzle arrangement:

. L 3/9 : up to 2 stages

. L 3/3 : 3 or more stages

Pump • Fire Fighting Units • Booster Set

C

SUBMERSIBLE SEWAGE PUMPS

C Rev.05.03.2024

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 m³/h

Head _____ up to 95 m

Speed _____ up to 2900 rpm

Design Temperature _____ up to +40 °C*

Casing Pressure (Pmax) _____ 10 bar

(*) For higher temperatures, please contact with POMPA.

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.

- Discharge flanges conform to EN 1092-2 / PN 10 for pumps with DN 80 and DN 100 discharge diameter, flanges are manufactured as per EN 1092-2 (PN 6)

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Impeller Nominal Diameter (mm) _____

Impeller Type _____



- 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 having bigger than 200 frame motor)

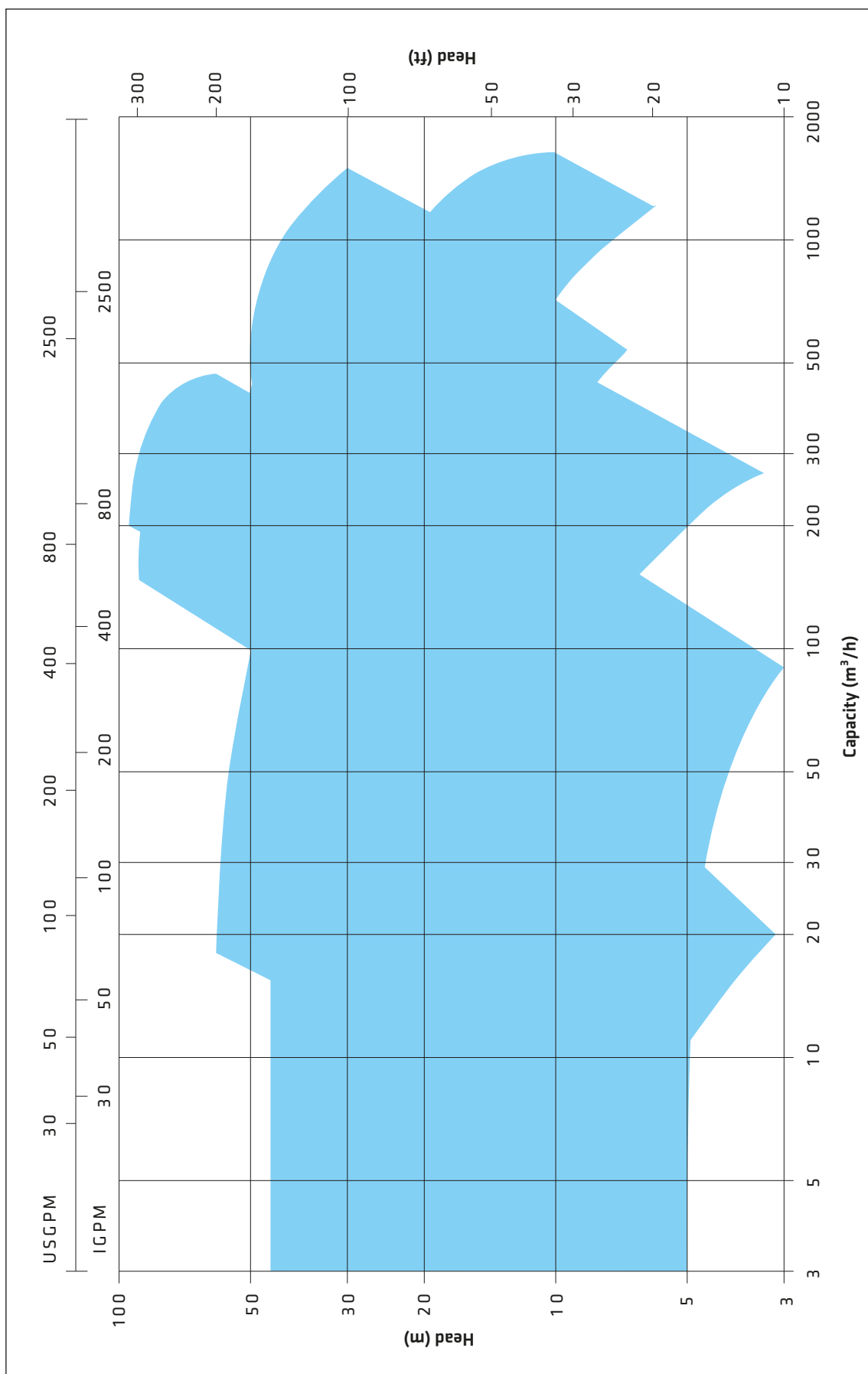
- Bearings of C type pumps are "life time grease lubricated" ball bearings.

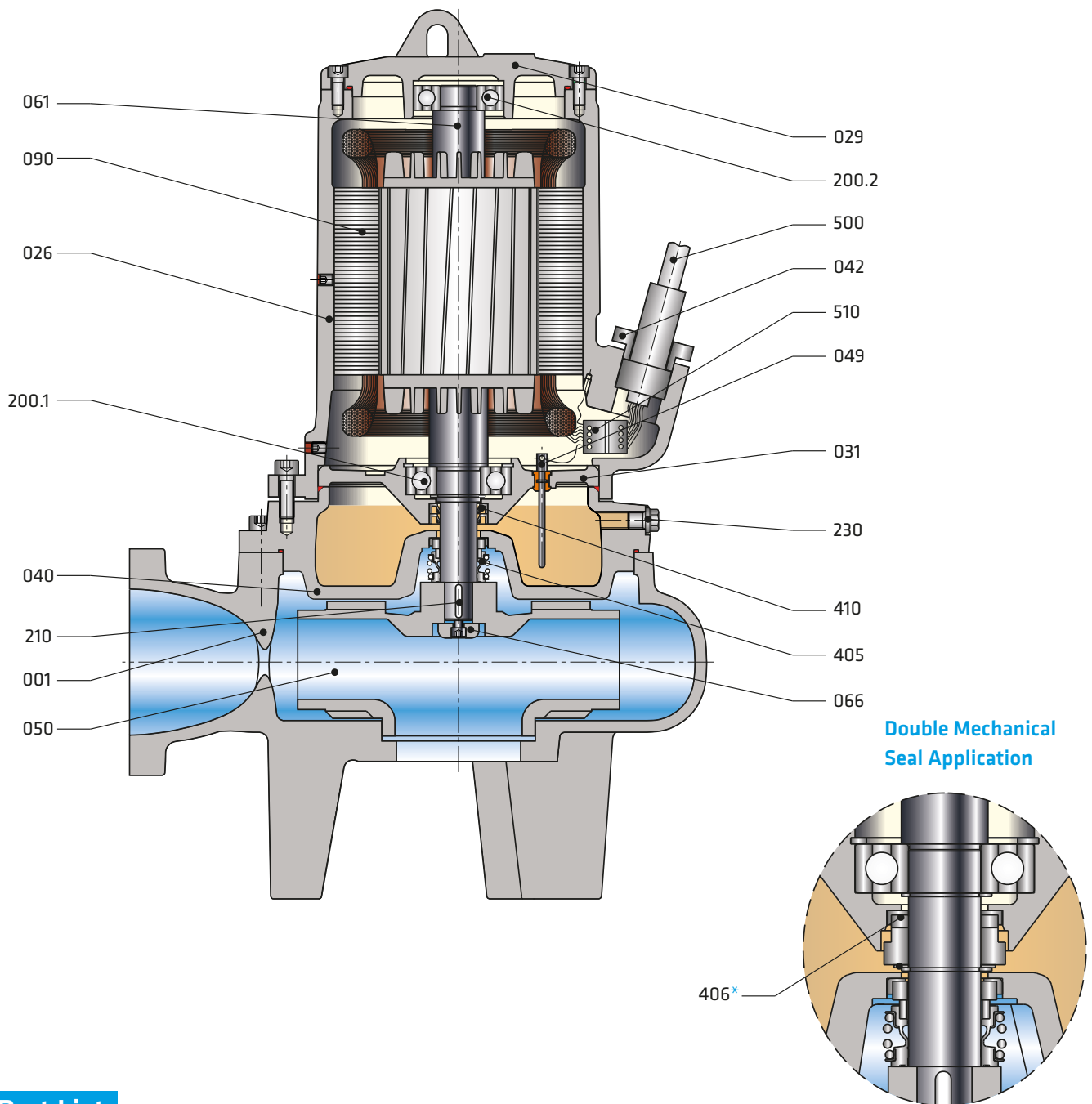
Shaft Sealing

- 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.

C 100 - 240 B

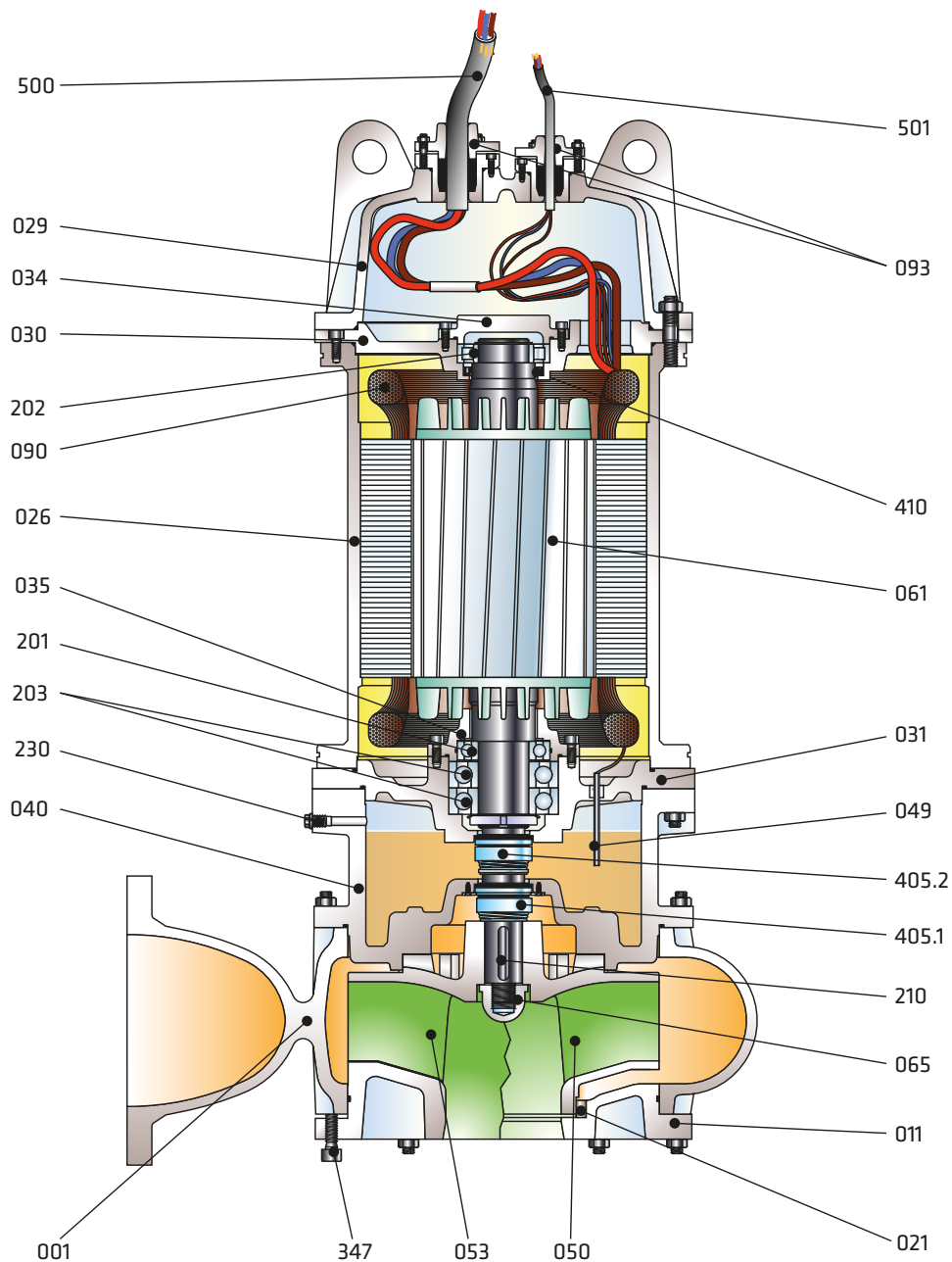




Part List

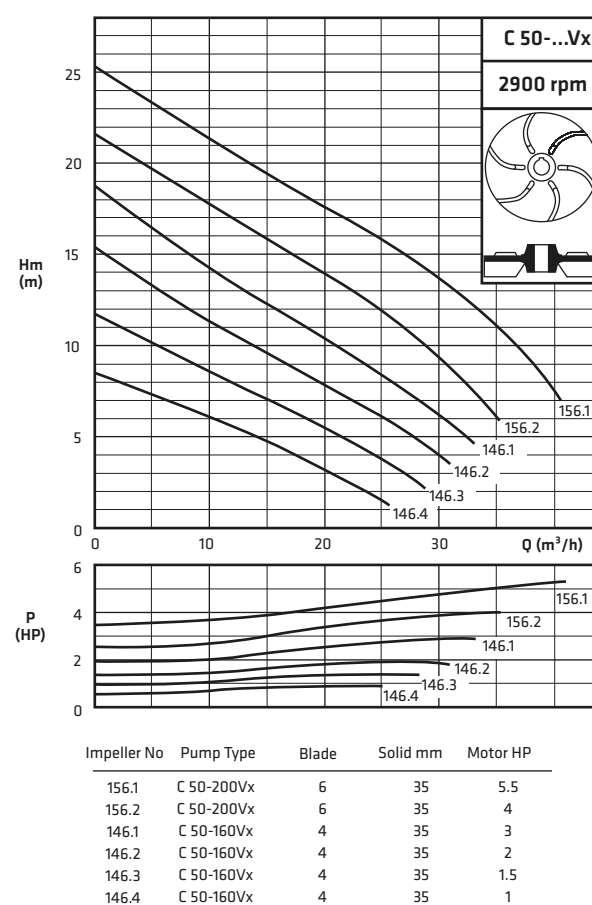
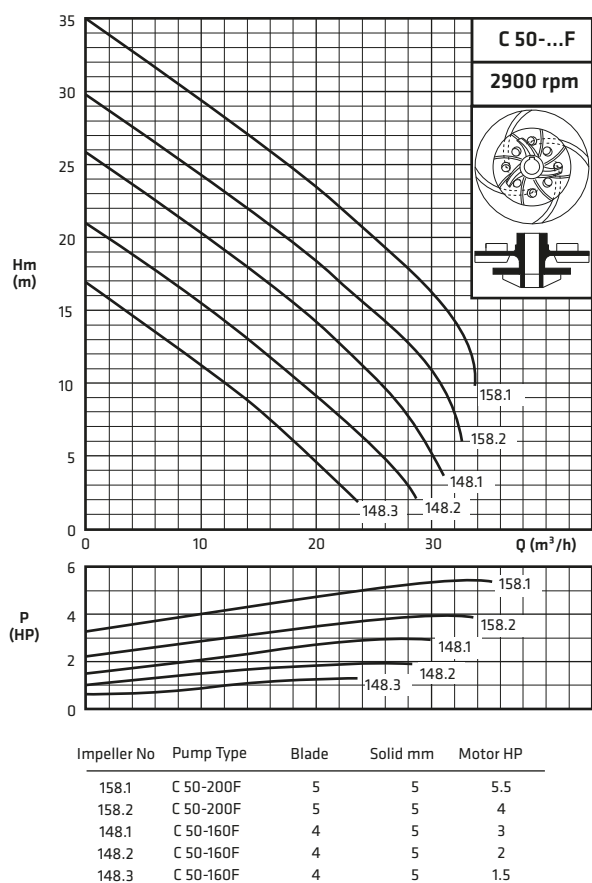
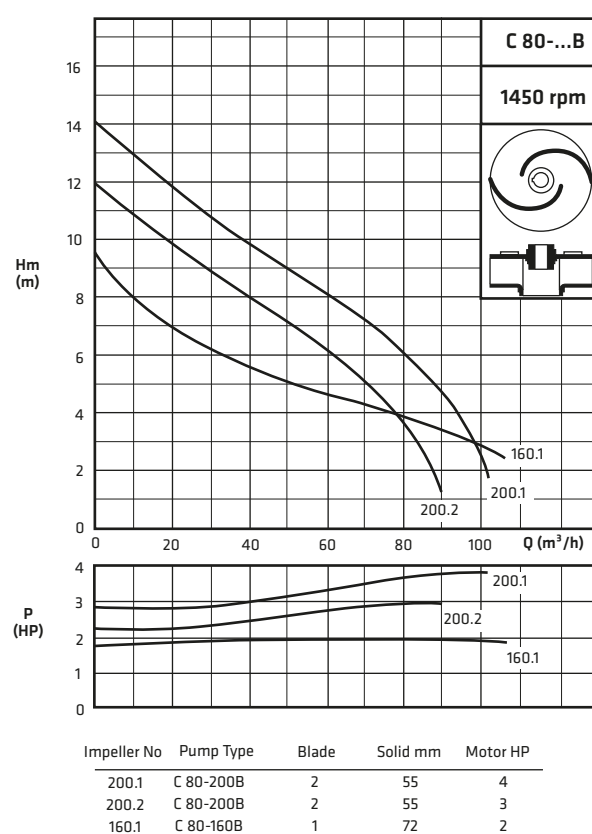
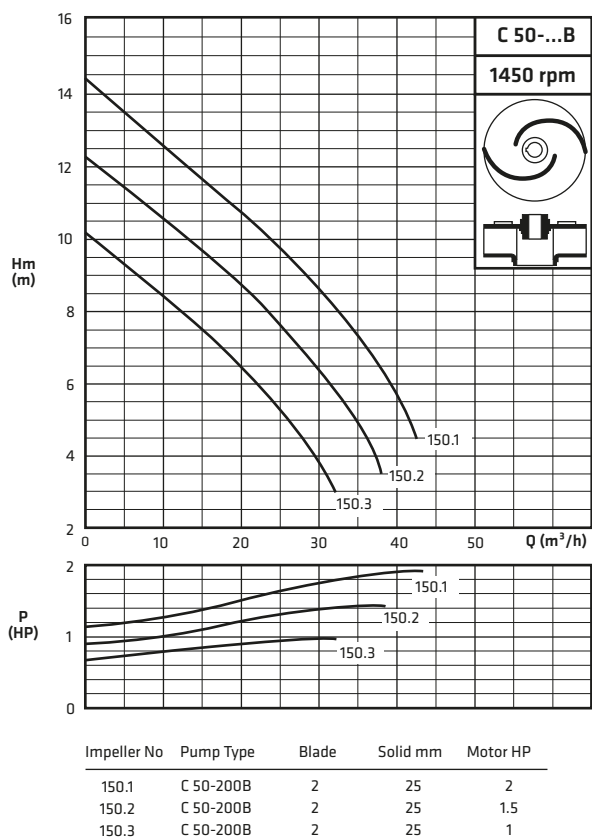
001	Volute Casing	090	Stator
026	Motor Casing	200.1	Bottom Bearing
029	Top Cover	200.2	Top Bearing
031	Bearing Housing	210	Impeller Key
040	Oil Chamber	230	Oil Plug
042	Gland	405	Mechanical Seal
049	Water Leakage Electrode	406*	Mechanical Seal
050	Impeller	410	Oil Seal
061	Rotor Shaft	500	Energy and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

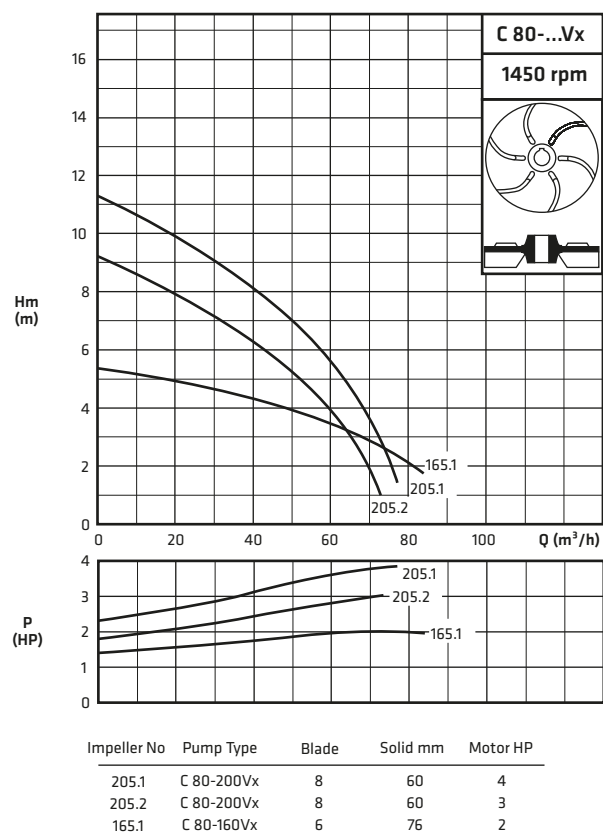
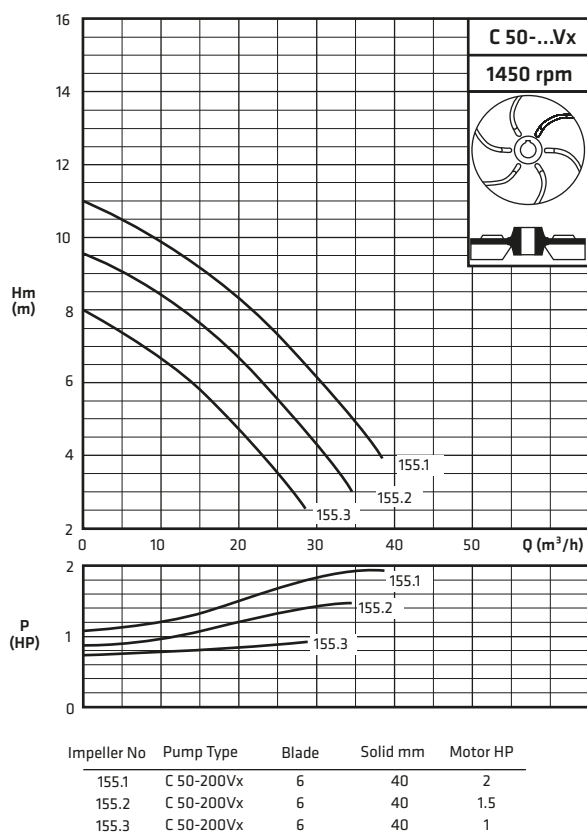
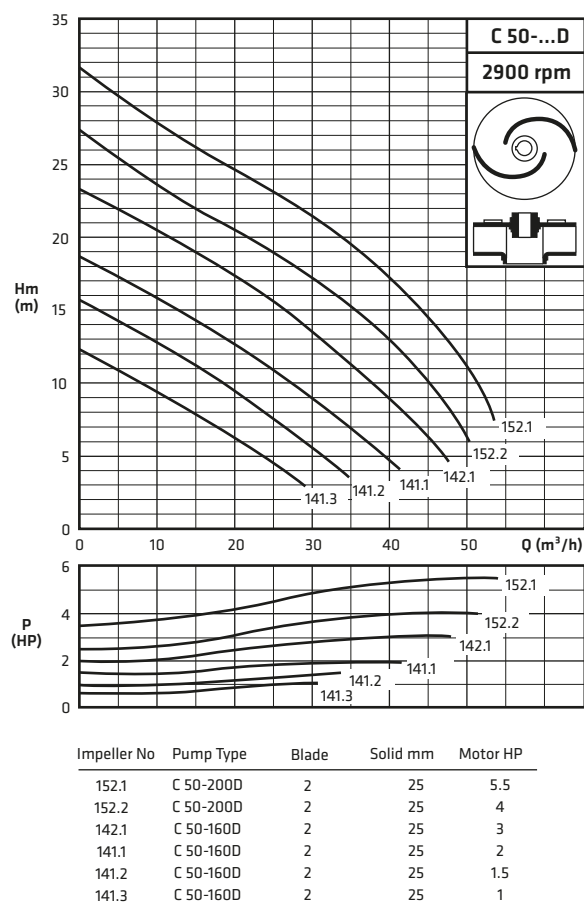
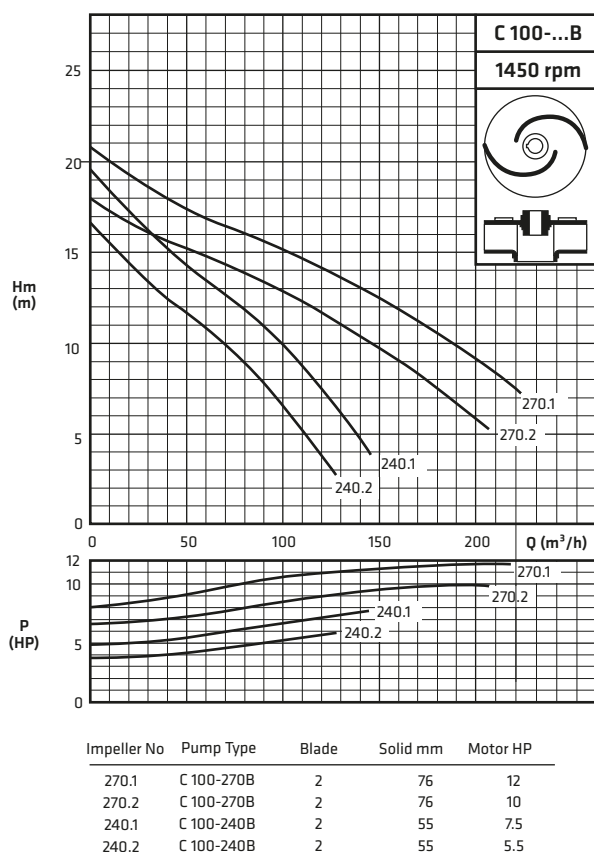
(*) Optional



Part List

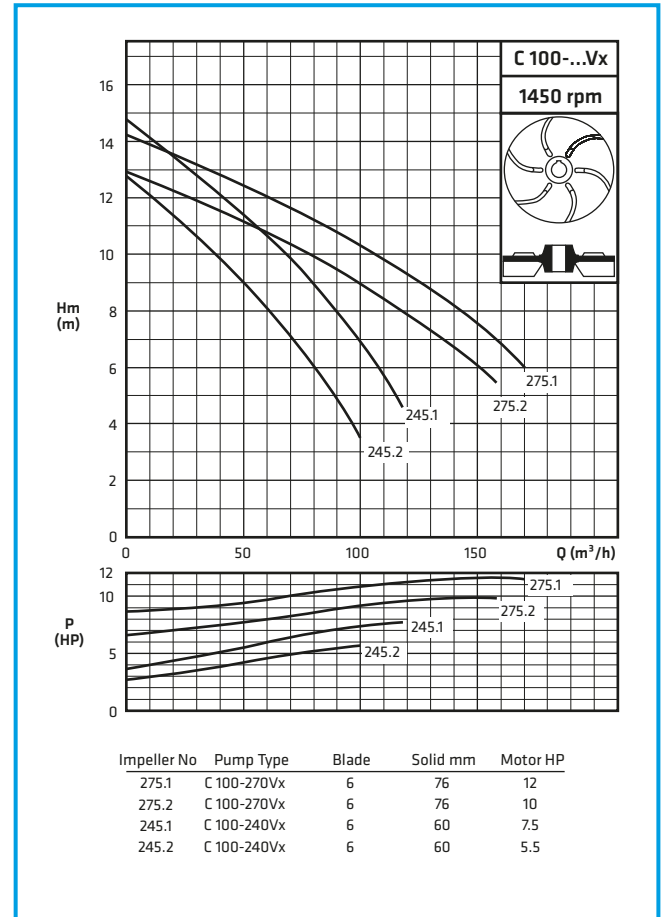
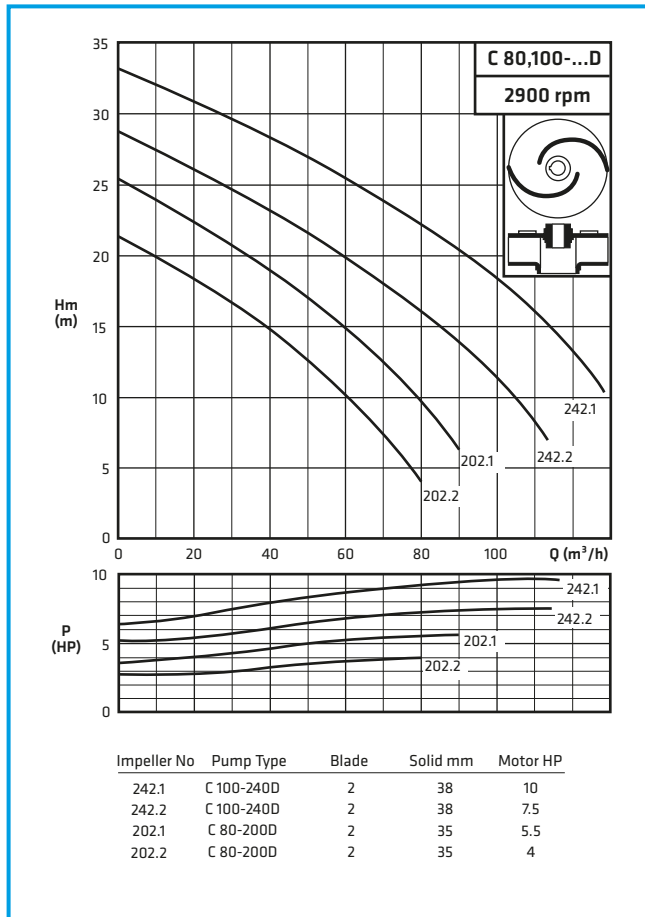
001	Volute Casing	049	Water Leakage Electrode	210	Impeller Key
011	Bottom Cover	050	Closed Impeller	230	Oil Plug
021	Wear Ring	053	Semi-open Impeller	347	Adjustment Bolt
026	Motor Casing	061	Rotor Shaft	405.1	Mechanical Seal (Product Side)
029	Top Cover	065	Impeller Nut	405.2	Mechanical Seal (Oil Side)
030	Top Bearing Housing	090	Stator	410	Oil Seal
031	Bottom Bearing Housing	093	Gasket Compress Cover	500	Energy Cable
034	Top Bearing Cover	201	Bottom Bearing	501	Control Cable
035	Bottom Bearing Cover	202	Bottom Bearing		
040	Oil Chamber	203	Angular Contact Ball Bearing		





Field Chart

C



Material Options

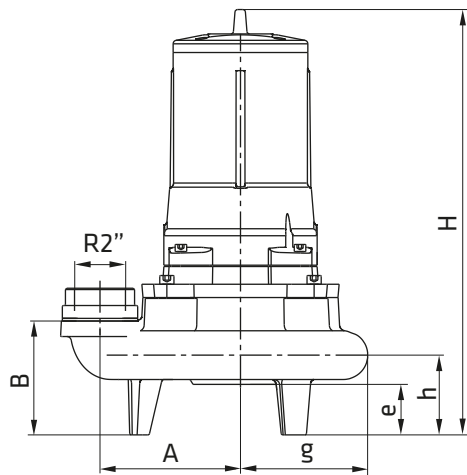
PART LIST	0.6025	0.7040	1.0619	1.4308	1.4309	1.4408	1.4409	1.4517	1.4317	2.1050.01	2.0975.01	1.4021
Volute Casing	●	○	○	○	○	○	○	○	○	○		
Motor Casing	●	○		○		○						
Impeller	●	○	○	○	○	○	○	○	○	○	○	
Rotor Shaft												●
Oil Chamber	●	○										

● Standard manufacturing
○ Optional

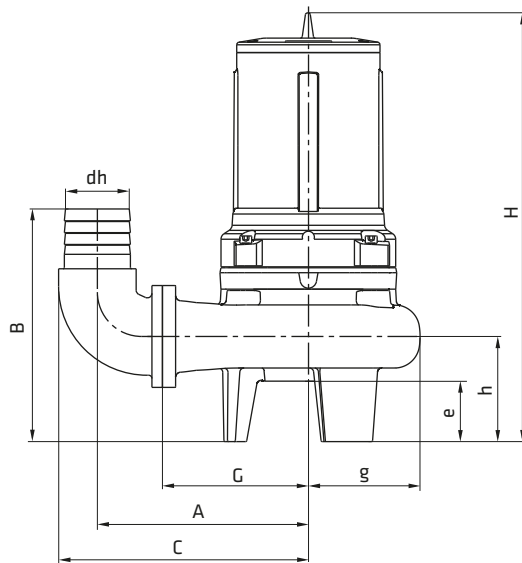
Material Equivalents

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
Martensitic 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

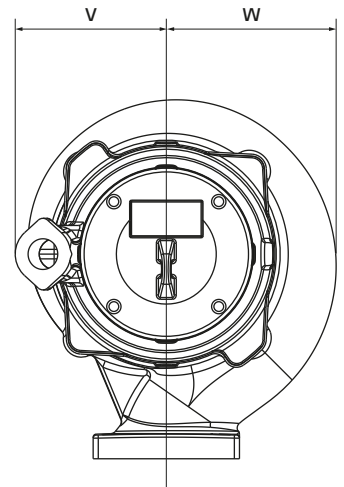
Dimensions



C 50 Hose Connection



C 80-100 Hose Connection



Pump Type	Impeller Type	MOTOR			DISCHARGE		PUMP DIMENSIONS (mm)									Oil (ml)	Weight (kg)
		Power - HP	IEC No	DN	d	R"	A	B	C	h	H	G	g	v	w		
50-160	Vx	-	1	80	50	2"	139	131	-	90	430	185	114	130	125	750	29
50-160	Vx	-	1,5	80	50	2"	139	131	-	90	430	185	114	130	125	750	34
50-160	Vx	-	2	90	50	2"	139	131	-	90	475	185	114	138	125	750	38
50-160	Vx	-	3	90	50	2"	139	131	-	90	475	185	114	138	125	750	41
50-160	D	-	1	80	50	2"	139	131	-	90	430	185	114	130	125	750	32
50-160	D	-	1,5	80	50	2"	139	131	-	90	430	185	114	130	125	750	34
50-160	D	-	2	90	50	2"	139	131	-	90	475	185	114	138	125	750	39
50-160	D	-	3	90	50	2"	139	131	-	90	475	185	114	138	125	750	41
50-160	F	-	1,5	80	50	2"	139	131	-	90	412	185	114	130	125	750	33
50-160	F	-	2	90	50	2"	139	131	-	90	457	185	114	138	125	750	38
50-160	F	-	3	90	50	2"	139	131	-	90	457	185	114	138	125	750	40
50-200	Vx	1	-	80	50	2"	160	129	-	90	438	205	144	130	152	750	41
50-200	Vx	1,5	-	90	50	2"	160	129	-	90	483	205	144	138	152	750	45
50-200	Vx	2	-	90	50	2"	160	129	-	90	483	205	144	138	152	750	47
50-200	Vx	-	4	100	50	2"	160	129	-	90	524	205	144	148	152	1000	54
50-200	Vx	-	5,5	100	50	2"	160	129	-	90	524	205	144	158	152	1000	59
50-200	B	1	-	80	50	2"	160	129	-	90	438	205	144	130	152	750	41
50-200	B	1,5	-	90	50	2"	160	129	-	90	483	205	144	138	152	750	46
50-200	B	2	-	90	50	2"	160	129	-	90	483	205	144	138	152	750	48
50-200	D	-	4	100	50	2"	160	129	-	90	524	205	144	148	152	1000	54
50-200	D	-	5,5	100	50	2"	160	129	-	90	524	205	144	158	152	1000	60
50-200	F	-	4	100	50	2"	160	129	-	90	496	205	144	138	152	1000	52
50-200	F	-	5,5	100	50	2"	160	129	-	90	496	205	144	135	152	1000	58
80-160	Vx	2	-	90	80	-	262	287	304	133	540	180	130	138	146	1000	58
80-160	B	2	-	90	80	-	262	287	304	133	540	180	130	138	146	1000	58
80-200	Vx	4	-	100	80	-	282	286	324	132	573	200	150	148	168	1000	62
80-200	Vx	3	-	100	80	-	282	286	324	132	573	200	150	148	168	1000	58
80-200	B	4	-	100	80	-	282	286	324	132	573	200	150	148	168	1000	64
80-200	B	3	-	100	80	-	282	286	324	132	573	200	150	148	168	1000	60
80-200	D	-	4	100	80	-	282	286	324	132	573	200	150	148	168	1000	59
80-200	D	-	5,5	100	80	-	282	286	324	132	573	200	150	158	168	1000	65
100-240	Vx	5,5	-	100	100	-	324	356	383	162	603	225	170	158	186	1000	80
100-240	Vx	7,5	-	132	100	-	324	356	383	162	657	225	170	190	186	2000	101
100-240	B	5,5	-	100	100	-	324	356	383	162	603	225	170	158	186	1000	82
100-240	B	7,5	-	132	100	-	324	356	383	162	657	225	170	190	186	2000	104
100-240	D	-	7,5	132	100	-	324	356	383	162	657	225	170	190	186	2000	94
100-240	D	-	10	132	100	-	324	356	383	162	657	225	170	190	186	2000	103
100-270	Vx	10	-	132	100	-	359	364	418	170	678	260	211	198	228	2000	123
100-270	Vx	12	-	132	100	-	359	364	418	170	678	260	211	198	228	2500	123
100-270	B	10	-	132	100	-	359	364	418	170	678	260	211	198	228	2500	126
100-270	B	12	-	132	100	-	359	364	418	170	678	260	211	198	228	2500	126

Technical Data

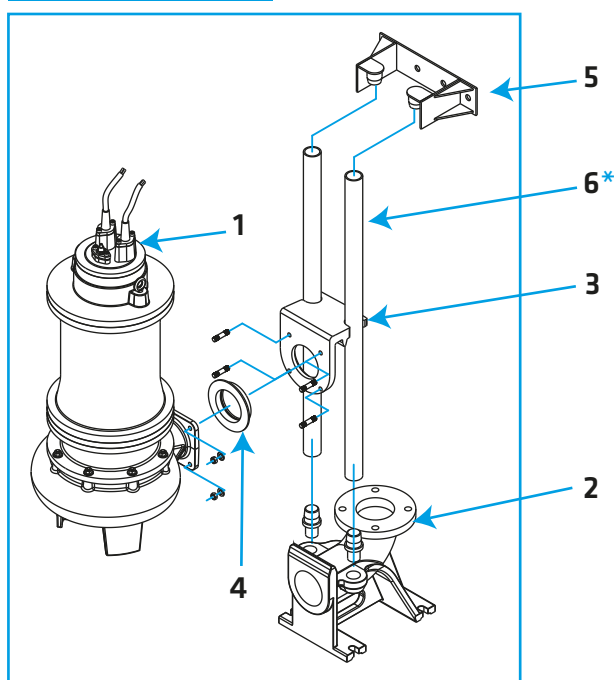
Pump Type	Impeller Type	Rated Power (kW)		
		Rated Speed		
		1000 (rpm)	1500 (rpm)	3000 (rpm)
50-240	D	-	-	5,5
50-240	D	-	-	7,5
50-240	D	-	-	11
50-270	Vx	-	3	-
50-270	Vx	-	4	-
50-270	Vx	-	5,5	-
50-270	Vx	-	7,5	-
80-270	D	-	-	11
80-270	D	-	-	15
80-270	D	-	-	18,5
80-270	D	-	-	22
80-270	D	-	-	30
80-315	AB	7,5	11	-
80-315	AB	-	15	-
80-315	AB	-	18,5	-
100-270	D	-	-	11
100-270	D	-	-	15
100-270	D	-	-	18,5
100-270	D	-	-	22
100-270	D	-	-	30
100-270	B	-	11	-
100-270	B	-	15	-
100-270	B	-	18,5	-
100-315	AB	7,5	11	-
100-315	AB	11	15	-
100-315	AB	-	18,5	-
100-315	AB	-	22	-
100-315	AB	-	30	-
100-315	B	-	11	-
100-315	B	-	15	-
100-315	B	-	18,5	-
100-315	B	-	22	-
100-315	B	-	30	-

Pump Type	Impeller Type	Rated Power (kW)		
		Rated Speed		
		1000 (rpm)	1500 (rpm)	3000 (rpm)
150-315	AB	7,5	11	-
150-315	AB	11	15	-
150-315	AB	15	18,5	-
150-315	AB	18,5	22	-
150-315	AB	-	30	-
150-315	AB	-	37	-
150-315	AB	-	45	-
150-315	AB	-	55	-
150-315	B	7,5	11	-
150-315	B	11	15	-
150-315	B	15	18,5	-
150-315	B	18,5	22	-
150-315	B	-	30	-
150-315	B	-	37	-
150-315	B	-	45	-
150-315	B	-	55	-
150-500	AB	45	75	-
150-500	AB	55	90	-
150-500	AB	-	110	-
150-500	AB	-	132	-
150-500	AB	-	160	-
150-500	AB	-	185	-
150-500	AB	-	200	-
200-315	AB	15	-	-
200-315	AB	18,5	30	-
200-315	AB	22	37	-
200-315	AB	-	45	-
200-315	AB	-	55	-
200-315	AB	-	75	-
200-315	G2K	15	22	-
200-315	G2K	18,5	30	-
200-315	G2K	22	37	-
200-315	G2K	-	45	-
200-315	G2K	-	55	-

Pump Type	Impeller Type	Rated Power (kW)		
		Rated Speed		
		1000 (rpm)	1500 (rpm)	3000 (rpm)
200-400	B	30	-	-
200-400	B	37	55	-
200-400	B	45	75	-
200-400	B	55	90	-
200-400	B	-	110	-
200-400	B	-	132	-
200-400	B	-	160	-
200-500	AB	45	110	-
200-500	AB	55	132	-
200-500	AB	-	160	-
200-500	AB	-	185	-
250-315	AB	18,5	30	-
250-315	AB	22	37	-
250-315	AB	30	45	-
250-315	AB	37	55	-
250-315	AB	-	75	-
250-315	AB	-	90	-
300-400	AB	30	110	-
300-400	AB	37	132	-
300-400	AB	45	160	-
300-400	AB	55	185	-
300-400	AB	75	200	-
300-400	AB	90	250	-
300-400	B	30	110	-
300-400	B	37	132	-
300-400	B	45	160	-
300-400	B	55	185	-
300-400	B	75	200	-
300-400	B	-	250	-
300-500	B	90	-	-
300-500	B	110	-	-
300-500	B	132	-	-
300-500	B	160	-	-

Note: Please contact for further information.

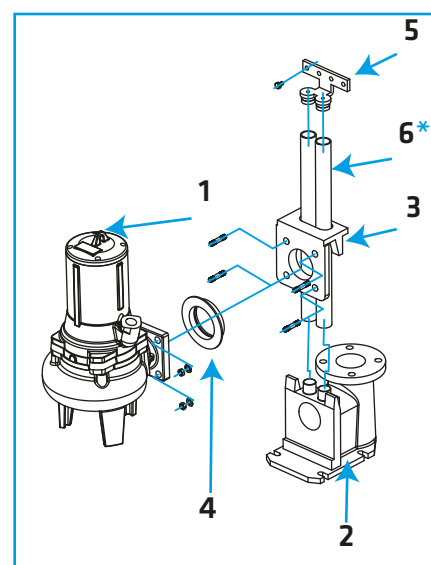
Guide Rail Pipe



Part List

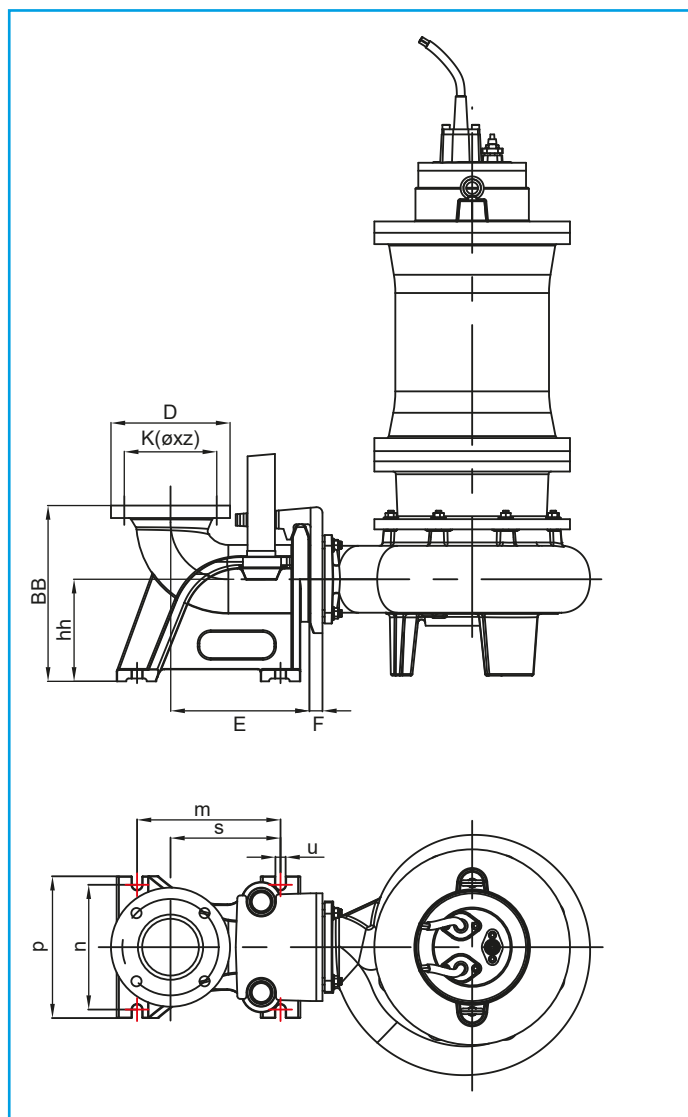
- 1- Pump
- 2- Elbow
- 3- Flange
- 4- Rubber
- 5- Upper Guide
- 6- Guide Rail Pipe*

(*) Scope out of POMPA.

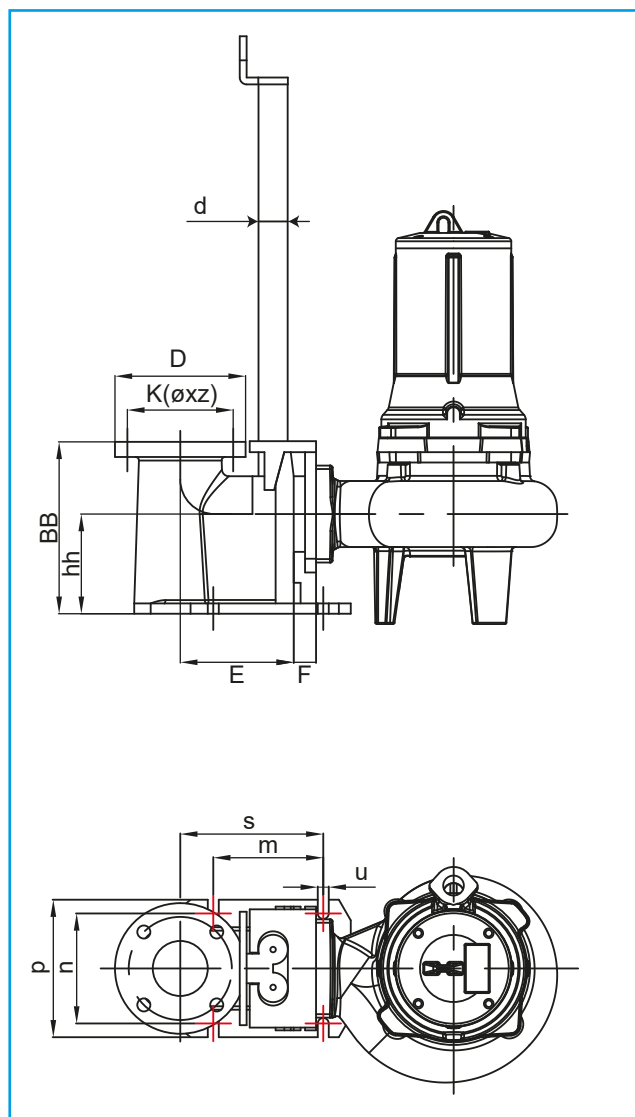


Dimensions

DN 100 and above



DN 50 and DN 80



Elbow No.	Guide Rail Pipe System Dimensions											Rail Pipe Diameter
	F	E	hh	BB	s	m	u	p	n	D	K	d
50	29	126	101	167	150	130	12	145	108	150	125(ø18/4 pcs.)	¾"
80	30	165	145	250	208	160	16	200	160	190	150(ø18/4 pcs.)	1 ¼"
100	21	245	180	310	193	253	18	250	220	190	170(ø18/4 pcs.)	1 ½"
150	33	371	270	466	295	385	27	375	330	285	240(ø22/8 pcs.)	2"
200	53	488	300	650	389	510	33	510	450	340	295(ø22/8 pcs.)	2"
250	55	610	365	800	485	635	41	640	565	395	350(ø23/12 pcs.)	2 ½"
300	65	730	445	965	580	760	46	750	660	445	400(ø23/12 pcs.)	2 ½"

Impeller Type

C

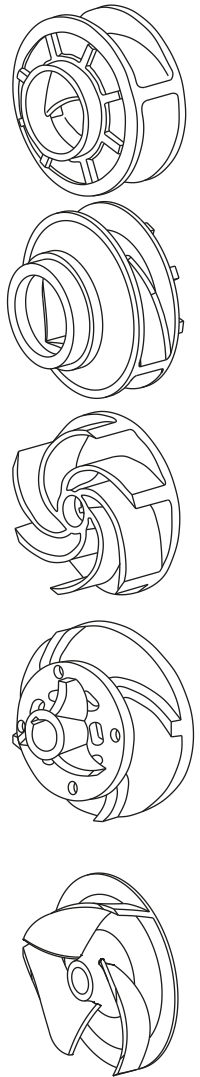
B and G2K Type Impeller: Enclosed type impellers with wide channels capable of pumping large size solid particles without clogging, for big capacity and low pressure. It is mainly used for 4 pole motors.

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.

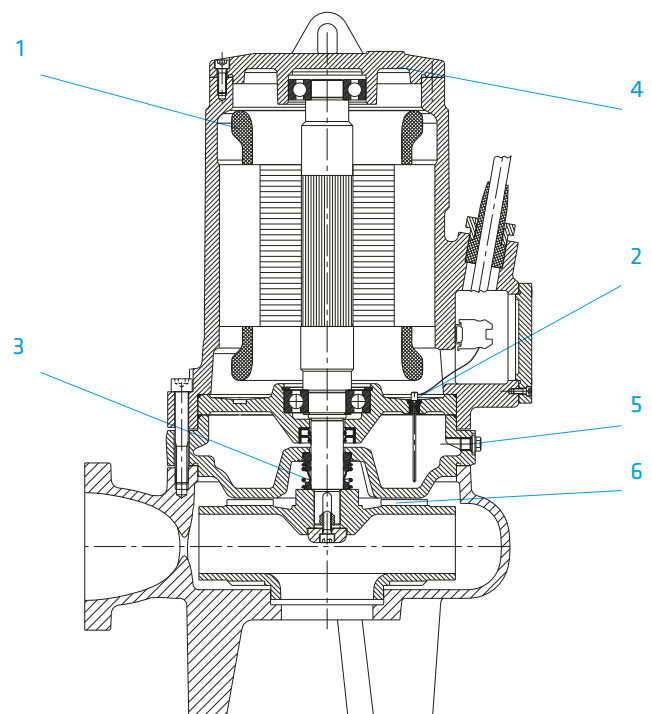
VX Type Impeller: Semi-open free vortex type impeller is placed on top of the volute. It creates a forced vortex motion in the casing. It is mostly suitable for fibrous materials. They are suitable for low head applications but pump efficiency is lower compare to other impeller types. The increased clearances 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.



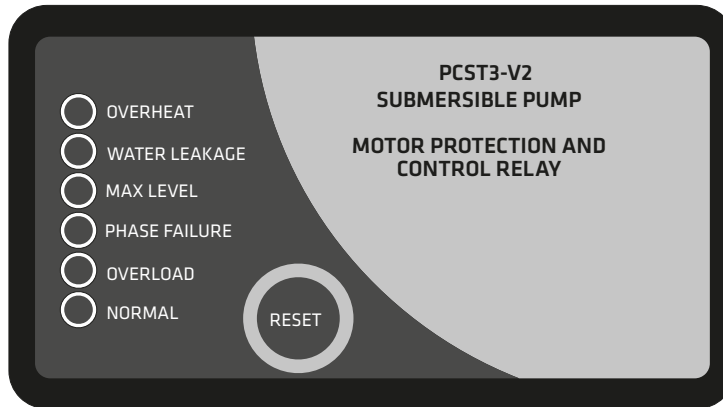
PCST3-V2 MOTOR PROTECTION AND CONTROL RELAY

C

Standart PCST3-V2 Motor Protection and Control Relay is an indispensable part of Standart 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 Standart C type pumps. If it is damaged, do not try to operate the motor without it.

Optional Motor Protections

- Humidity Sensor
- Bearing Thermal Sensor (PTC or/and PT100)

Pump • Fire Fighting Units • Booster Set



PACKAGE TYPE WASTE WATER PUMPING STATION

Conflux Rev.05.03.2024



Package Type Waste Water Pumping Station

Package type waste water pumping stations consist of submersible pump, valves, float switches and control unit is suitable and a good solution for places with lower elevation of main waste water pipeline. They can be used everywhere safely where there is no sewer system or not possible (not economic) to build a sewer system.

They present an environmental approach with preventing pollution of underground waters. They also prevent developing of odor. Their design permits easy installation and provide long life with corrosion resistant materials.

Technical Data

• Tank Volume	: 300 - 500 liter
• Number of Pumps	: 1 main or 1 main + 1 spare
• Piping Diameter	: DN 50
• Material	: Fiberglass composite with polyester added
• Equipments	: Connection pipes, rail pipes, valves, check valve and çekvalfleri, basket grid
• Water Temperature (max)	: 40 °C

Package Types



Conflux 300-1



Conflux 300-2



Conflux 500-2

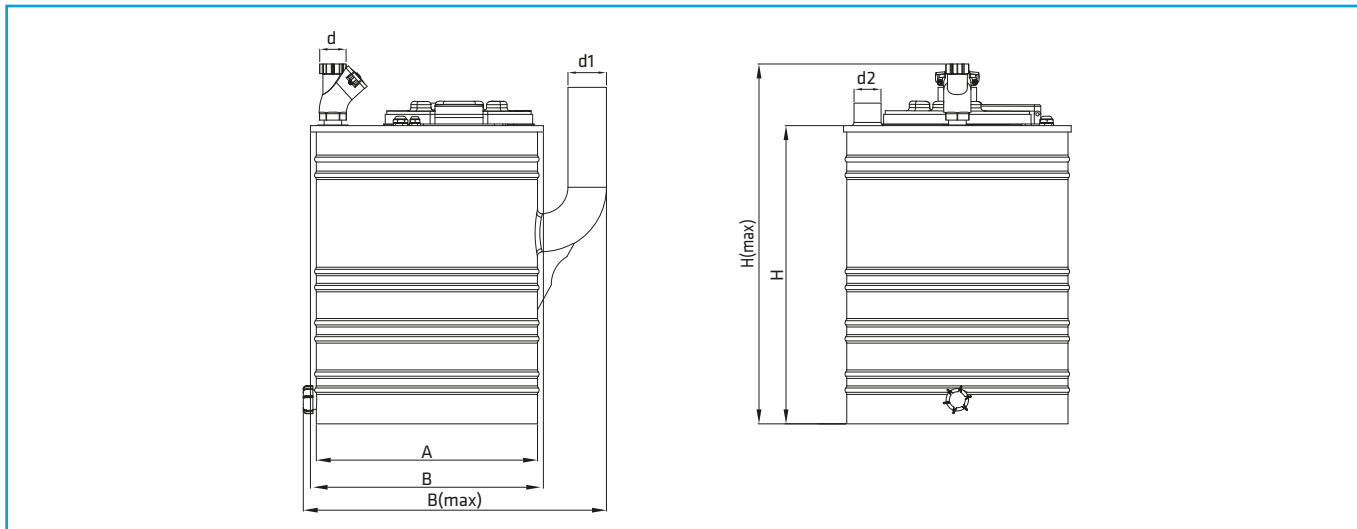
Pump Designation

Conflux 500 - 2 x 1.5 - 50

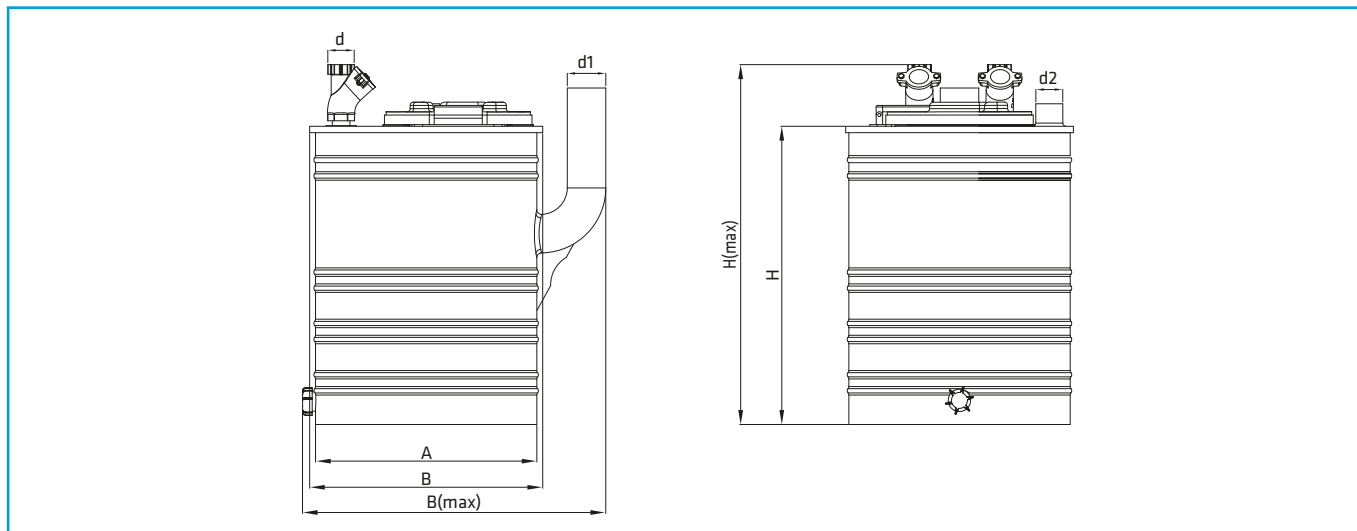
Model	_____
Capacity (Liter)	_____
Number of Pumps	_____
Motor Power (kW)	_____
Discharge Diameter (DN)	_____

Dimensions

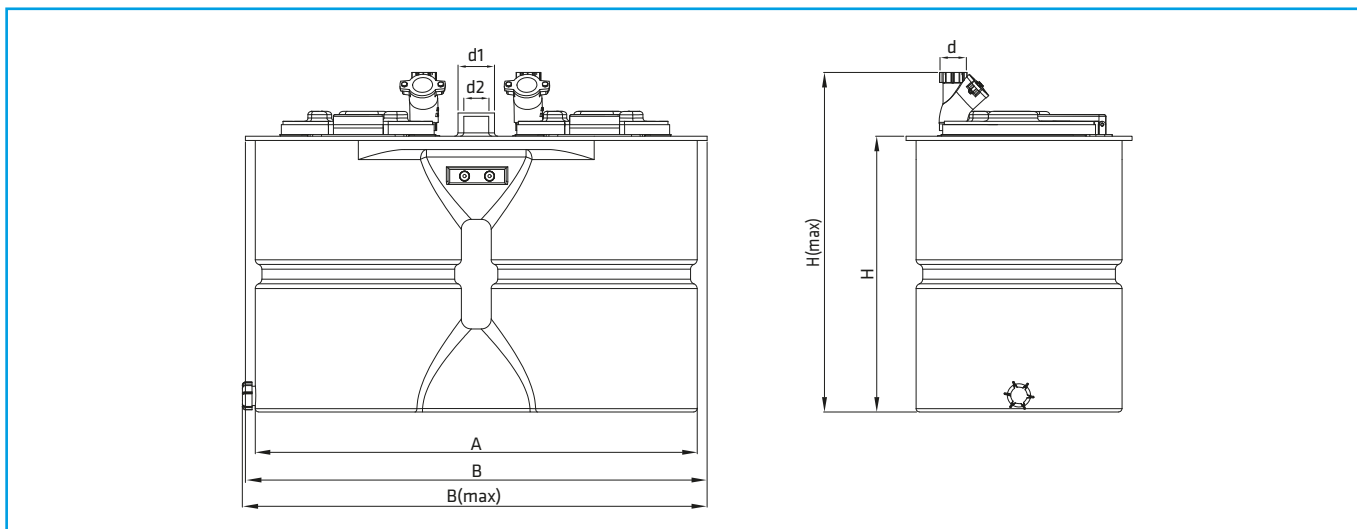
Conflux 300-1



Conflux 300-2



Conflux 500-2



Package Type	Conflux Dimension Table							
	A	B	B(max)	H	H(max)	d	d1	d2
Conflux 300-1	690	710	950	930	1125	2"	4"	3"
Conflux 300-2	690	710	950	930	1125	2"	4"	3"
Conflux 500-2	1330	1390	1400	830	1025	2"	4"	3"

Pump • Fire Fighting Units • Booster Set

PC / PC-VM

WASTE WATER AND PROCESS PUMPS



PC / PC-VM Rev.05.03.2024

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 m³/h

Head _____ up to 95 m

Speed _____ up to 2900 rpm

Design 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.

•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

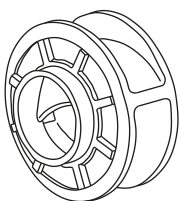
•In standard production soft packed stuffing boxes are used.

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

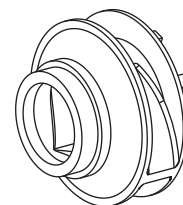
•Only mechanical seal is applied for vertical type installation.

PC -VM 250-315 AB

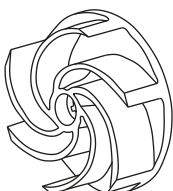
B Type Impeller: Enclosed type impellers with wide channels capable of pumping large size solid particles without clogging, for big capacity and low pressure. It is mainly used for 4 pole motors.



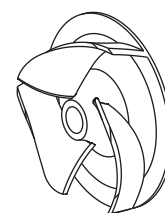
D Type Impeller: It is also enclosed type like B type but suitable for high speed motors (2 pole). It is convenient for high pressure, small capacity and smaller size solid particles.



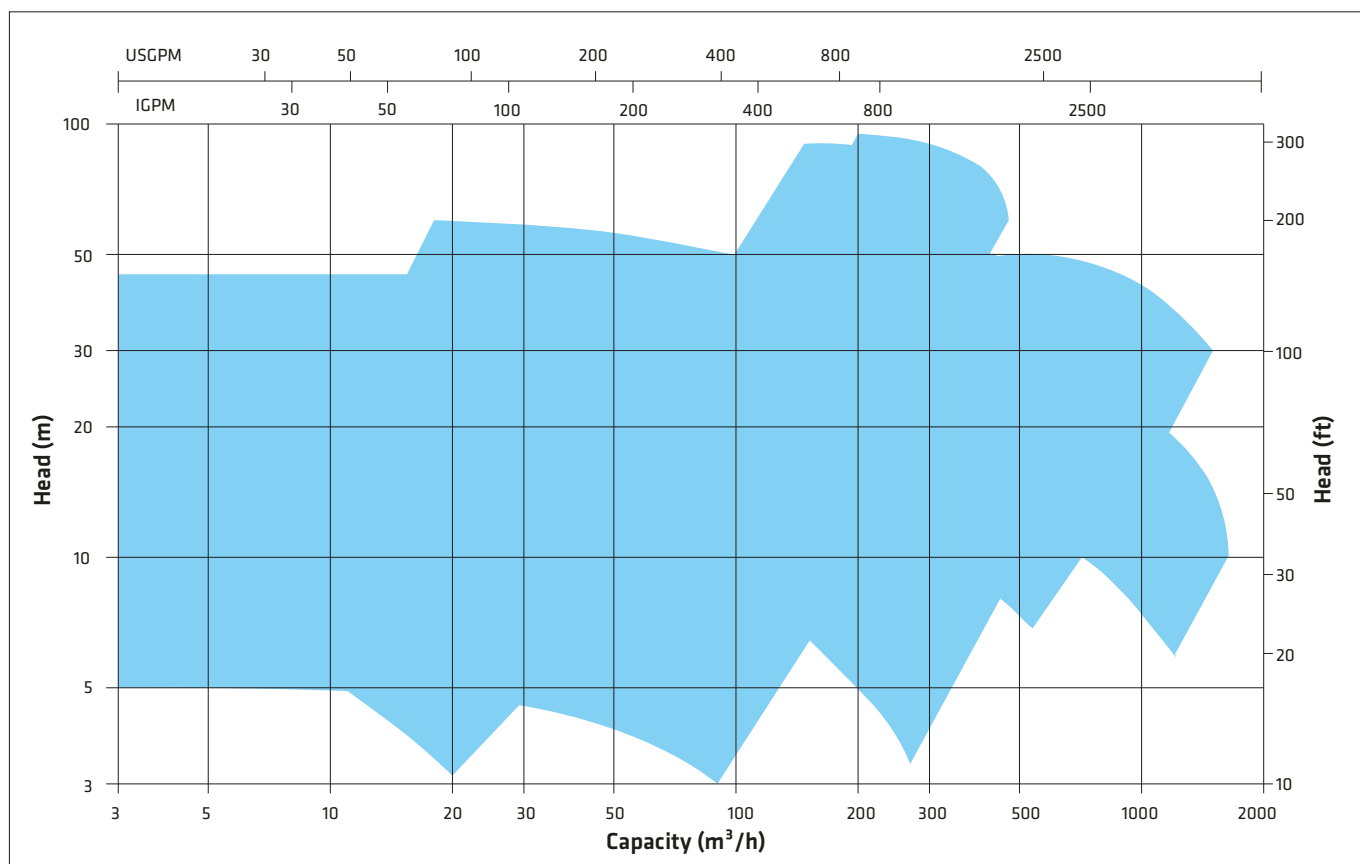
VX Type Impeller: Semi-open free vortex type impeller is placed on top of the volute. It creates a forced vortex motion in the casing. It is mostly suitable for fibrous materials. They are suitable for low head applications but pump efficiency is lower compare to other impeller types. The increased clearances 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.

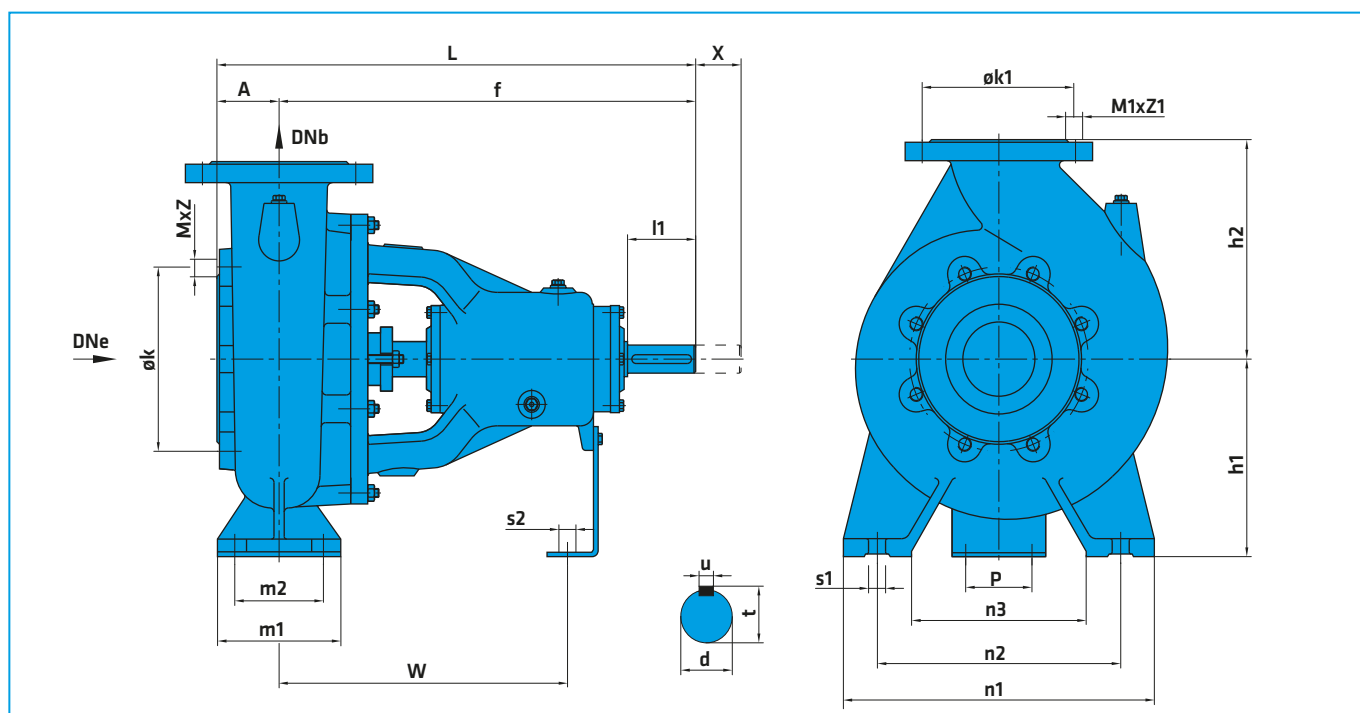


AB Type Impeller: Semi-open type impellers with wide channels capable of pumping large size solid particles without clogging, for big capacity and low pressure. It is more suitable for 4 pole motors. Designed for aggressive applications. Impeller works against a wear plate. Clearance between the wear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



Field Chart



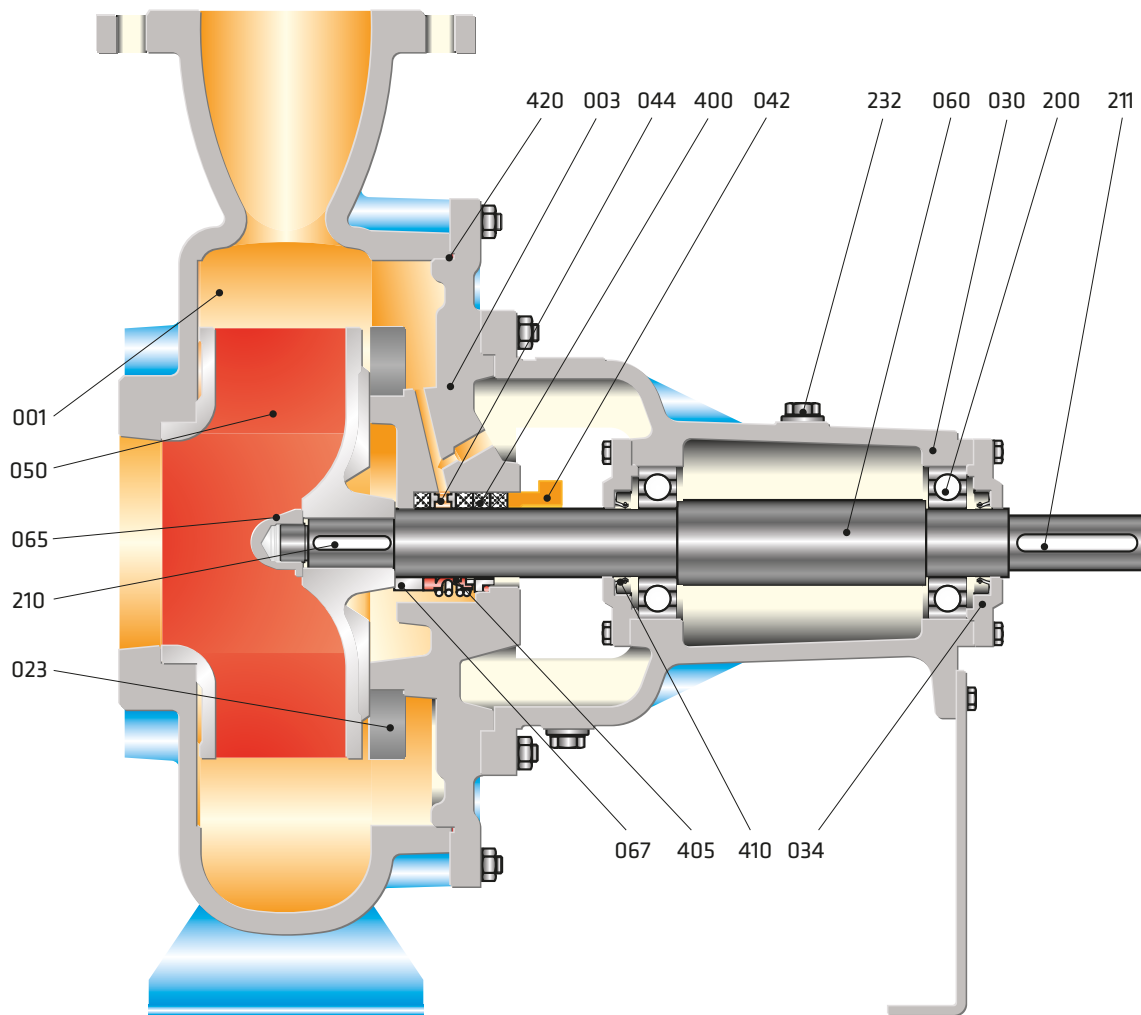


Pump Type			Overall Dimensions (mm)					Support & Foot Dimensions (mm)								Shaft (mm)						Flange Dimensions				Weight (kg)
	DNc	DNb	A	f	L	h1	h2	m1	m2	n1	n2	n3	s1	P	s2	W	d	l1	t	u	x(**)	k	MxZ	k1	M1xZ1	
40-160	50	40	82	348	430	160	180	100	70	240	190	140	14	110	14	247	24	50	27	8	140	125	M16x4	110	18x4	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	M20x8	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

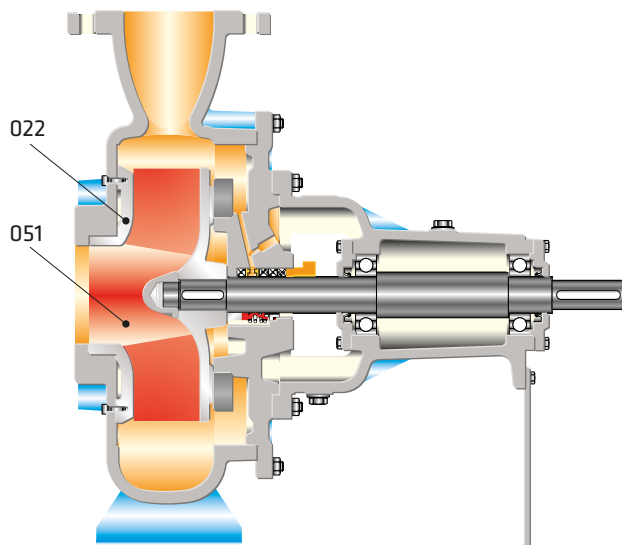
(*) Dimensions may differ according to bearing housing type (normal, heavy duty etc). We have rights to make change with the dimensions.

(**) 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).

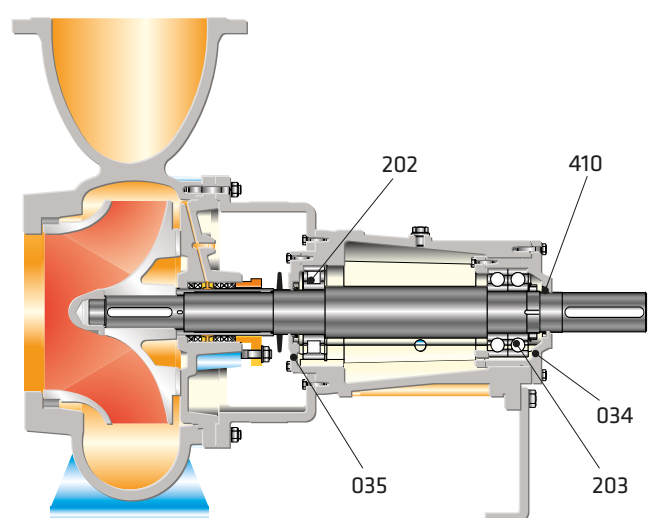
Horizontal Installation (PC)



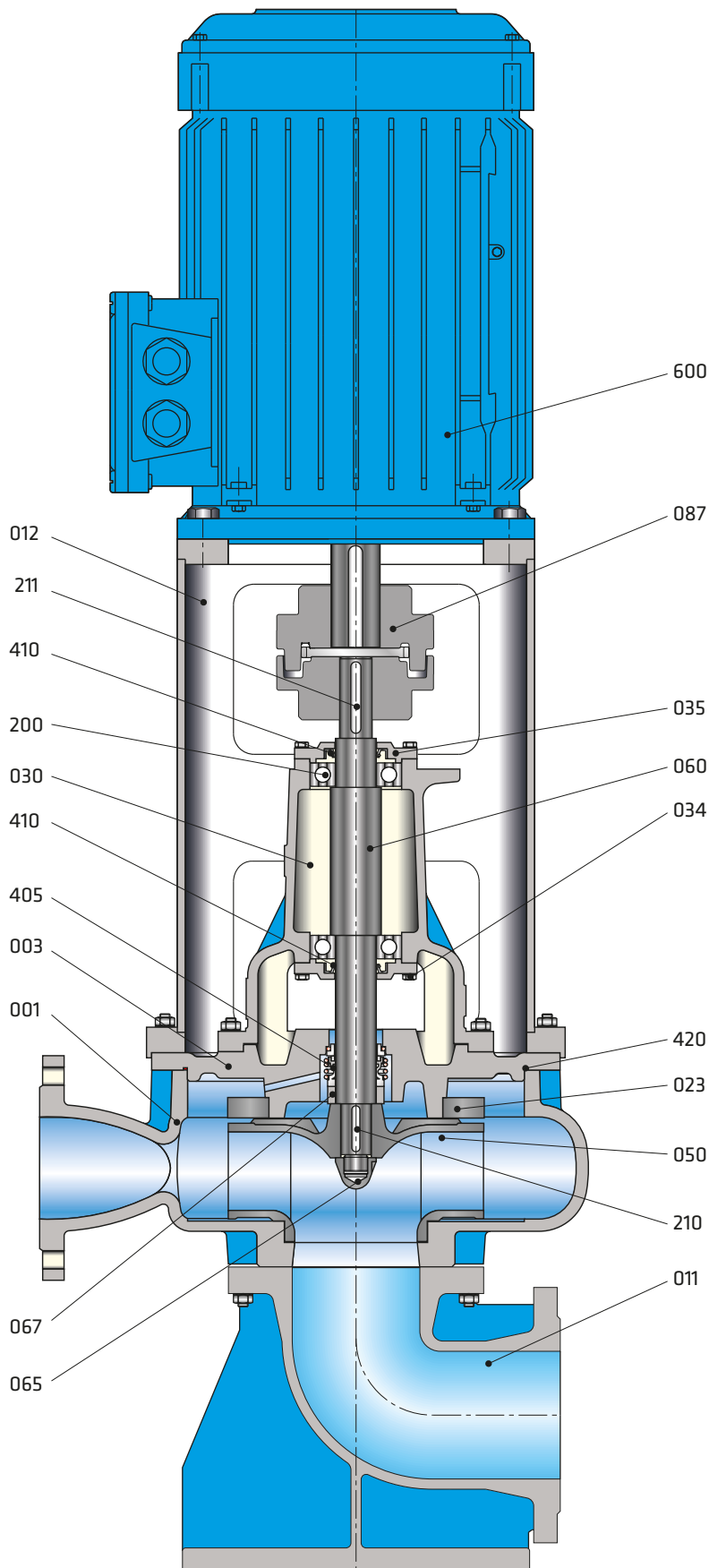
Semi-Open Impeller Application



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																	●	○	○	○	○		○

Depending on customer requirement or request different types and brands of mechanical seals are applicable.

● Standard manufacturing
○ Optional

Material Equivalents

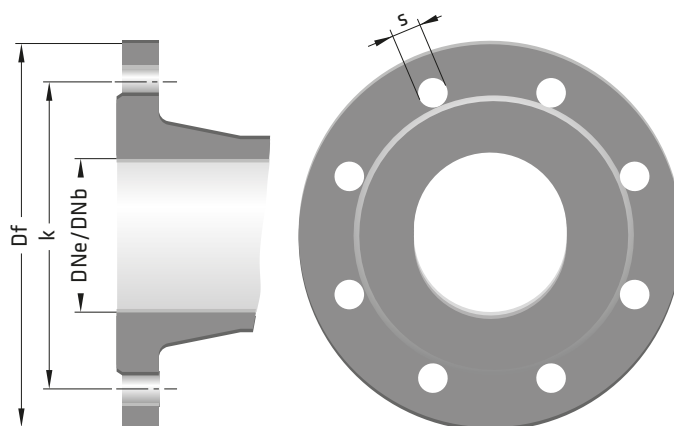
Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	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

EN 1092 - 2

DNe/DNb	Suction & Discharge (PN 10)			
	Df	k	s	n
40	150	110	18	4
50	165	125	18	4
65	185	145	18	4
80	200	160	18	8
100	220	180	18	8
125	250	210	18	8
150	285	240	22	8
200	340	295	22	8
250	395	350	22	12
300	445	400	22	12

" n " number of holes



Pump • Fire Fighting Units • Booster Set

PC - V

WASTE WATER AND PROCESS PUMPS (SUMP DESIGN)



PC-V Rev.05.03.2024

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 m³/h

Head _____ up to 95 m

Speed _____ up to 1450 rpm

Design 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.

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)

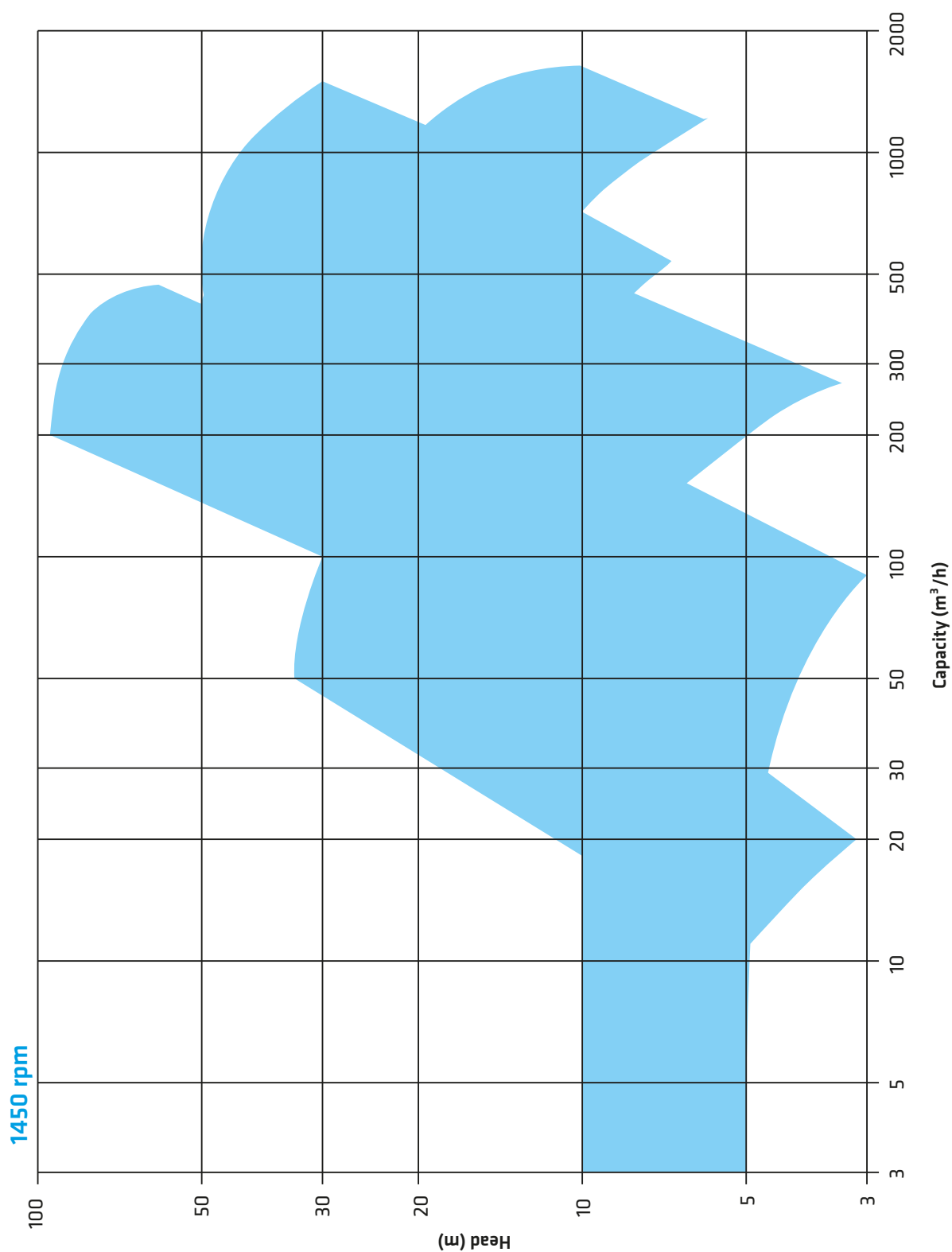
- Discharge flange is screw mounted onto the discharge pipe.

- Head is calculated at the discharge of the volute casing.

Shaft Sealing

- No sealing is required.

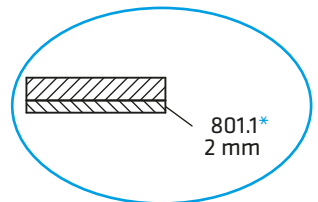
PC-V 250 - 315 AB



Part List

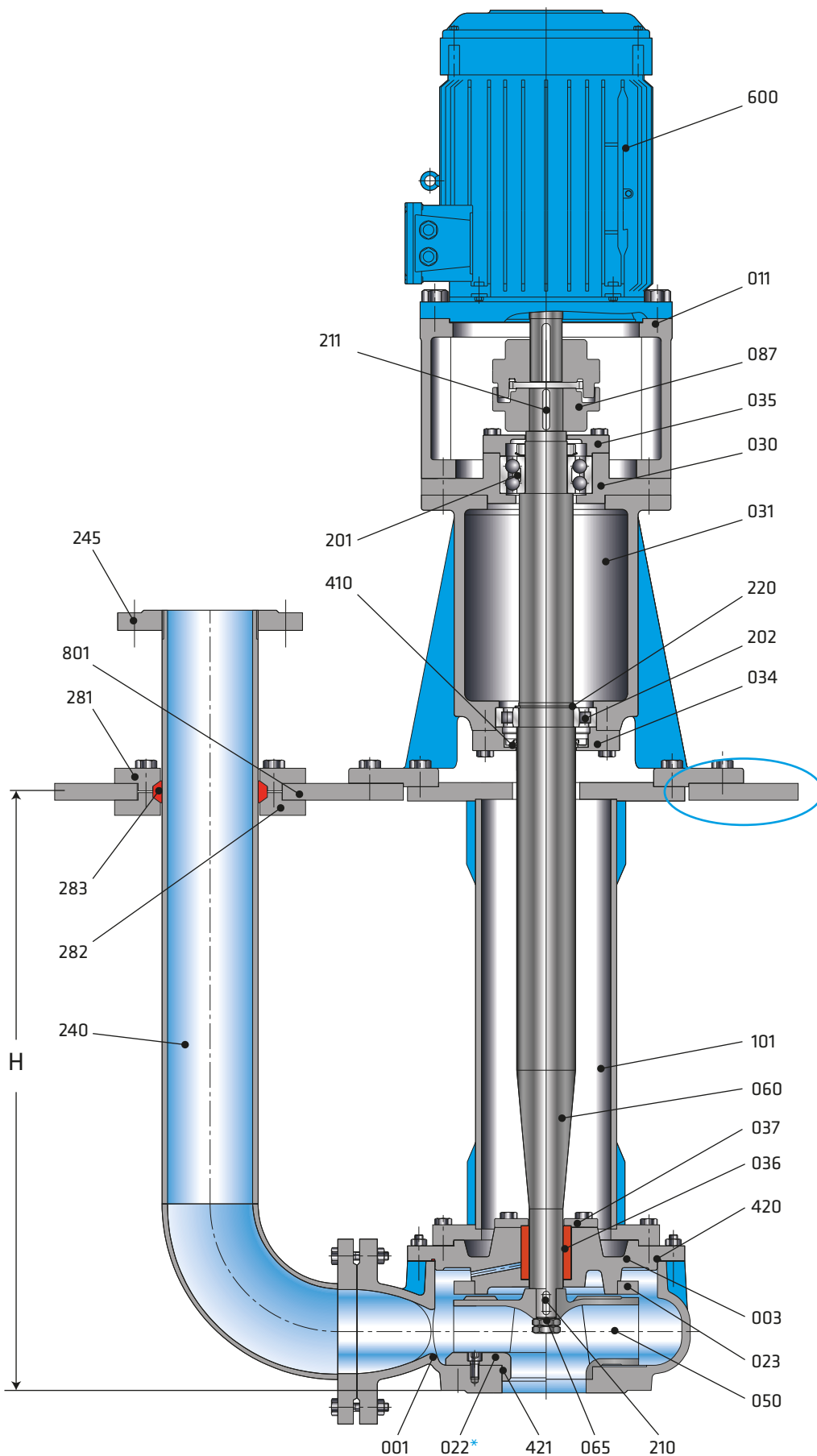
001	Volute Casing
003	Casing Cover
011	Motor Pedestal
023	Back Wear Plate
022*	Front Wear Ring
030	Bearing Housing (Top)
031	Bearing Housing (Bottom)
034	Bearing Cover (Bottom)
035	Bearing Cover (Top)
036	Sleeve Bearing
037	Sleeve Bearing Cover
050	Impeller
060	Shaft
065	Impeller Nut
087	Flexible Coupling
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
801.1*	Stainless Steel Plate

(*) Optional



*Optional

Stainless steel pump base plate can be asked for stainless steel pump as shown in the figure. 2 mm stainless steel plate is added at the bottom of steel baseplate.



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	PTFE
Volute Casing	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Casing Cover	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Shaft	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Bearing Housing	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Column Pipe	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Front Wear Plate	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Back Wear Plate	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Sleeve Bearing	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

● Standard manufacturing
○ Optional

Material Equivalents

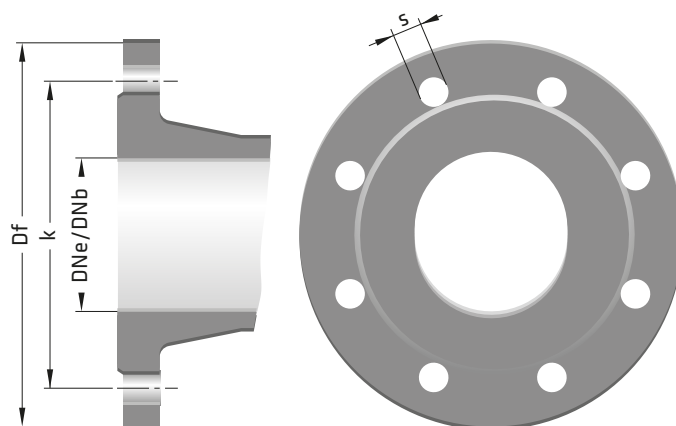
Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	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

EN 1092 - 2

DNe/DNb	Suction & Discharge (PN 10)			
	Df	k	s	n
40	150	110	18	4
50	165	125	18	4
65	185	145	18	4
80	200	160	18	8
100	220	180	18	8
125	250	210	18	8
150	285	240	22	8
200	340	295	22	8
250	395	350	22	12
300	445	400	22	12

"n" number of holes



Pump • Fire Fighting Units • Booster Set

SKM-EVK

MULTISTAGE PROCESS PUMPS (SUMP DESIGN)



SKM-EVK Rev.05.03.2024

Handled Liquids

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

Technical Data

Discharge Flange _____ DN 32....DN 150 mm

Capacity _____ up to 400 m³/h

Head _____ up to 220 m

Speed _____ up to 1450 rpm

Design Temperature _____ up to +95 °C

Casing Pressure (Pmax) _____ 30 bar

Design Features

- Vertical ring section, multistage, centrifugal pumps with closed impellers and diffusers.
- Up to 4 m. column length.
- Suction nozzle flanges conform to EN 1092 - 2 / PN 16 and discharge nozzle flanges conform to EN 1092 - 2 / PN 40 (PN 63)
- 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 counter clockwise viewed from driver.

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____

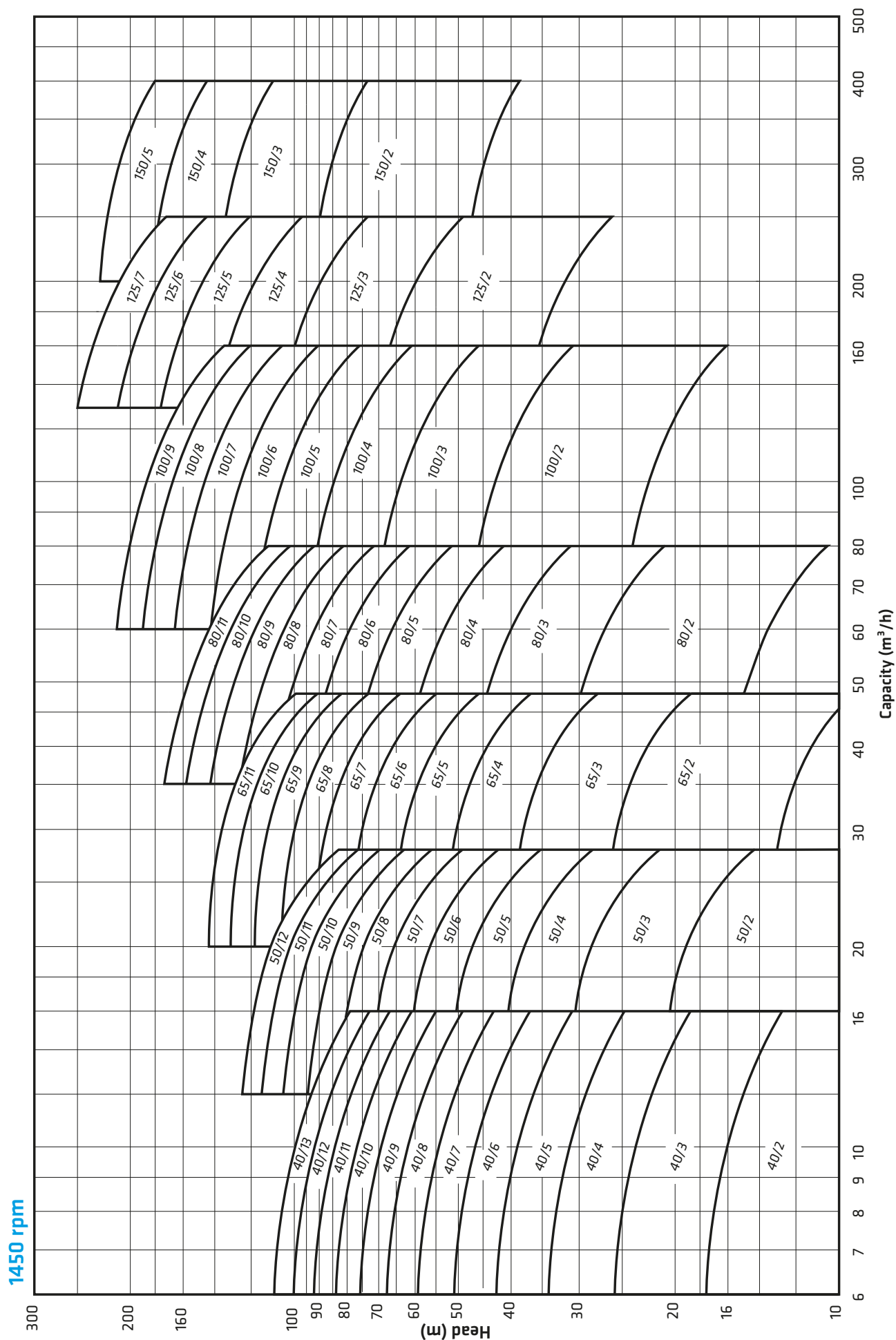


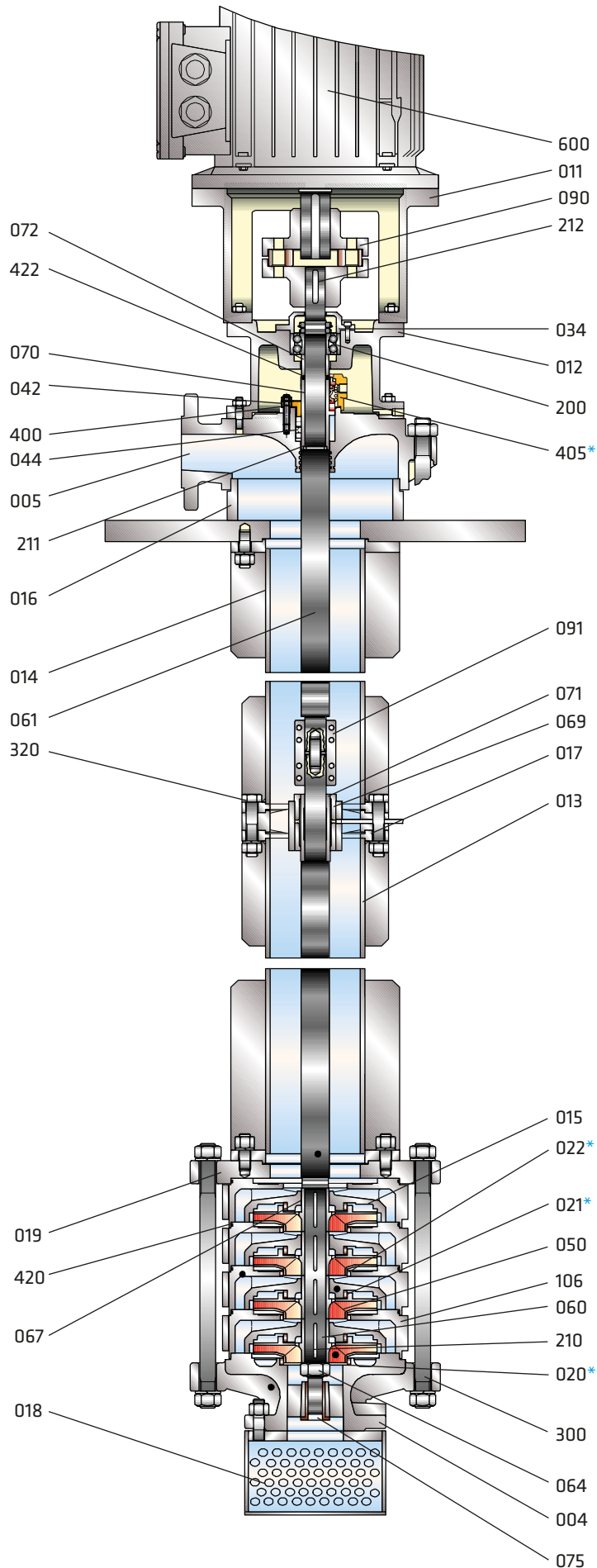
- Bearings of SKM-EVK type pumps are grease lubricated. Bottom and internal sleeve bearings are lubricated by the pumping liquid. (different lubrication systems can be applied for the sleeve bearings in case of request or requirement. Contact for detailed information)

Shaft Sealing

- 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.

SKM-EVK 40 / 3





Part List

004	Suction Casing
005	Discharge Casing
011	Motor Pedestal
012	Bearing Housing
013	Column Pipe (Bottom)
014	Column Pipe (Up)
015	Diffuser
016	Base Plate
017	Intermediate Bearing Housing
018	Filter
019	Casing Flange
020*	Wear Ring (Suction Casing)
021*	Wear Ring (Diffuser)
022*	Wear Ring (Stage)
034	Bearing Housing Cover
042	Gland
044	Lantern Ring
050	Impeller
060	Shaft (Bottom)
061	Shaft (Up)
064	Impeller Nut
067	Interstage Sleeve
069	Intermediate Sleeve Bearing
070	Shaft Protecting Sleeve
071	Intermediate Bearing Sleeve
072	Spacer Sleeve
075	Bottom Sleeve Bearing
090	Flexible Coupling
091	Rigid Coupling
106	Stage Casing
200	Bearing
210	Impeller Key
211	Sleeve Key
212	Coupling Key
300	Stud
320	Screw
400	Soft Packing
405*	Mechanical Seal
420	O-ring
422	O-ring
600	Electrical Motor

(*) Optional

Material Options

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	PTFE
Suction Casing	●	○		○	○	○	○	○	○	○	○	○	○											
Discharge Casing	●	○		○	○	○	○	○	○	○	○	○	○											
Stage Casing	●	○		○	○	○	○	○	○	○	○	○	○											
Diffuser	●	○	○	○	○	○	○	○	○	○	○	○	○											
Impeller	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○							○		
Shaft																	●	○	○	○	○		○	
Bearing Housing	●	○	○	○	○	○	○																	
Wear Ring	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○									
Spacer Sleeve																	●	○	○	○	○		○	
Shaft Protecting Sleeve																	●	○	○	○	○		○	
Interstage Sleeve																	●	○	○	○	○		○	
Sleeve Bearing																								●
Column Pipe																●				○	○			

● Standard manufacturing
○ Optional

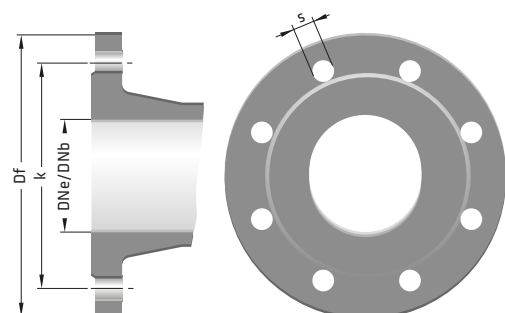
Material Equivalents

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-CuSn5ZnNb	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 (PN 16)				Discharge (PN 40)			
	Df	k	s	n	Df	k	s	n
32	140	100	18	4	140	100	18	4
40	150	110	18	4	150	110	18	4
50	165	125	18	4	165	125	18	4
65	185	145	18	4	185	145	18	8
80	200	160	18	8	200	160	18	8
100	220	180	18	8	235	190	22	8
125	250	210	18	8	270	220	26	8
150	285	240	22	8	300	250	26	8
200	340	295	22	12	375	320	30	12

"n" number of holes



Pump • Fire Fighting Units • Booster Set

SMV

VERTICAL MIXED FLOW COLUMN TYPE PUMPS

SMV Rev.05.03.2024

Handled Liquids

Clean or contaminated lake waters, rivers, dam waters, untreated industrial waters and liquids with fibrous and solid substances.

Technical Data

Discharge Flange _____ DN 200....DN 1000 mm

Capacity _____ up to 5000 m³/h

Head _____ up to 250 m

Speed _____ up to 1800 rpm

Operating Temperature _____ up to +80 °C

Design Features

- Single or multi stage mixed flow pumps.
- It usually consists of group of stages, columns and discharge heads.
- Flow capacity is between 150 - 5000 m³/h and head is up to 250m. New design is needed for larger capacities.
- They are usually mounted vertically.
- There are no venting problems at first motion since stages are in contact with fluid.
- High efficiency and low operating costs.
- Mounting and demounting are easier with flanged column pipes.
- Enclosed or semi-open impeller is used.

Pump Designation

Pump Type _____

Diffuser Rated Diameter _____

Impeller Type _____

Number of Diffuser _____

B: Mixed Flow Closed Impeller; F: Mixed Flow Semi-Open Impeller
F: General's Single Stage



- It can be lubricated with handled liquids or grease. It also can be lubricated with clean water or oil by customer request.
- Discharge head can be placed above ground or underground.
- VHS or V1 electric motor can be used.
- Bronze or rubber intermediate bearing can be selected.

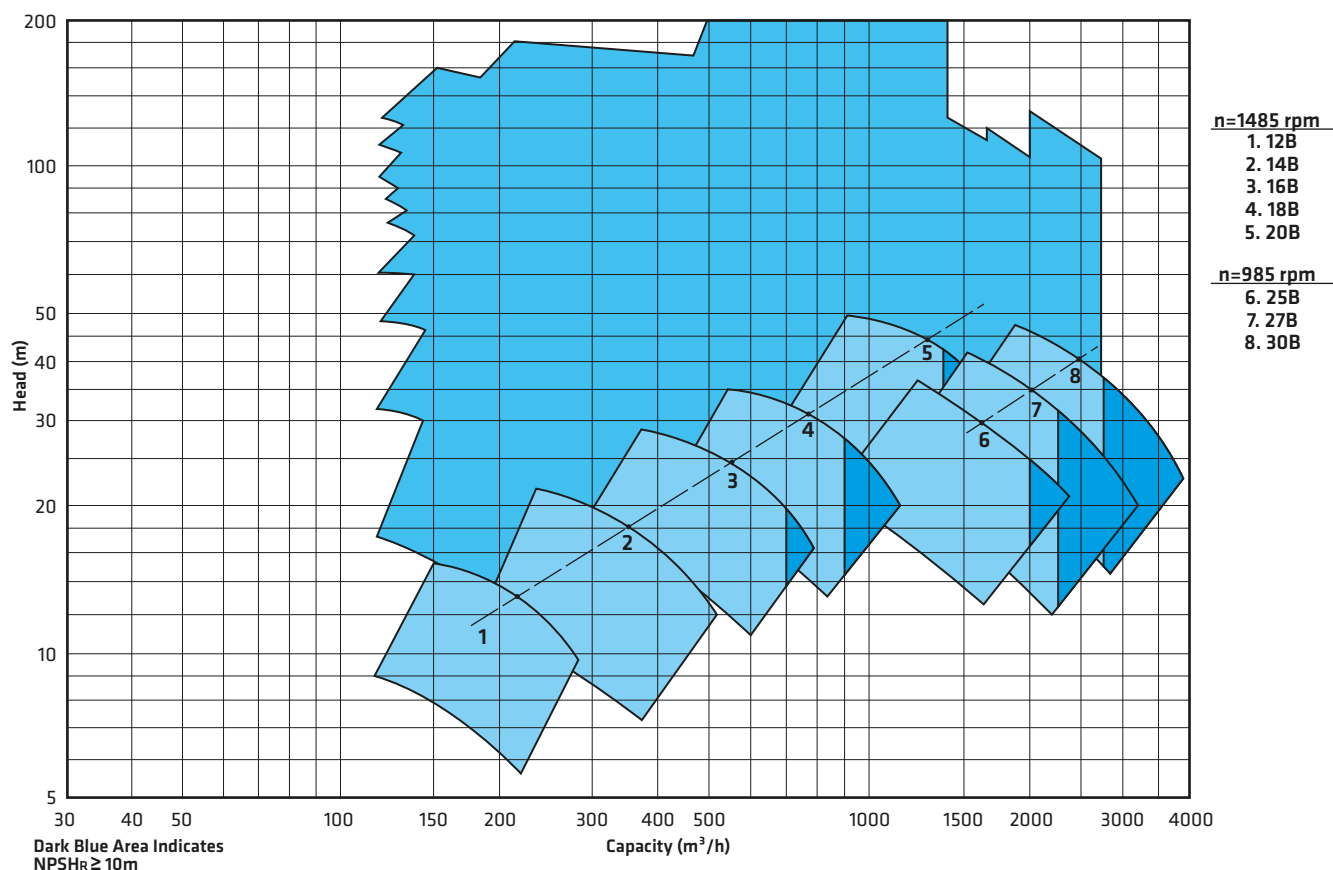
Shaft Sealing

Depending on type of the fluid and operating conditions, soft packing, single, double or cartridge type mechanical seal is used.

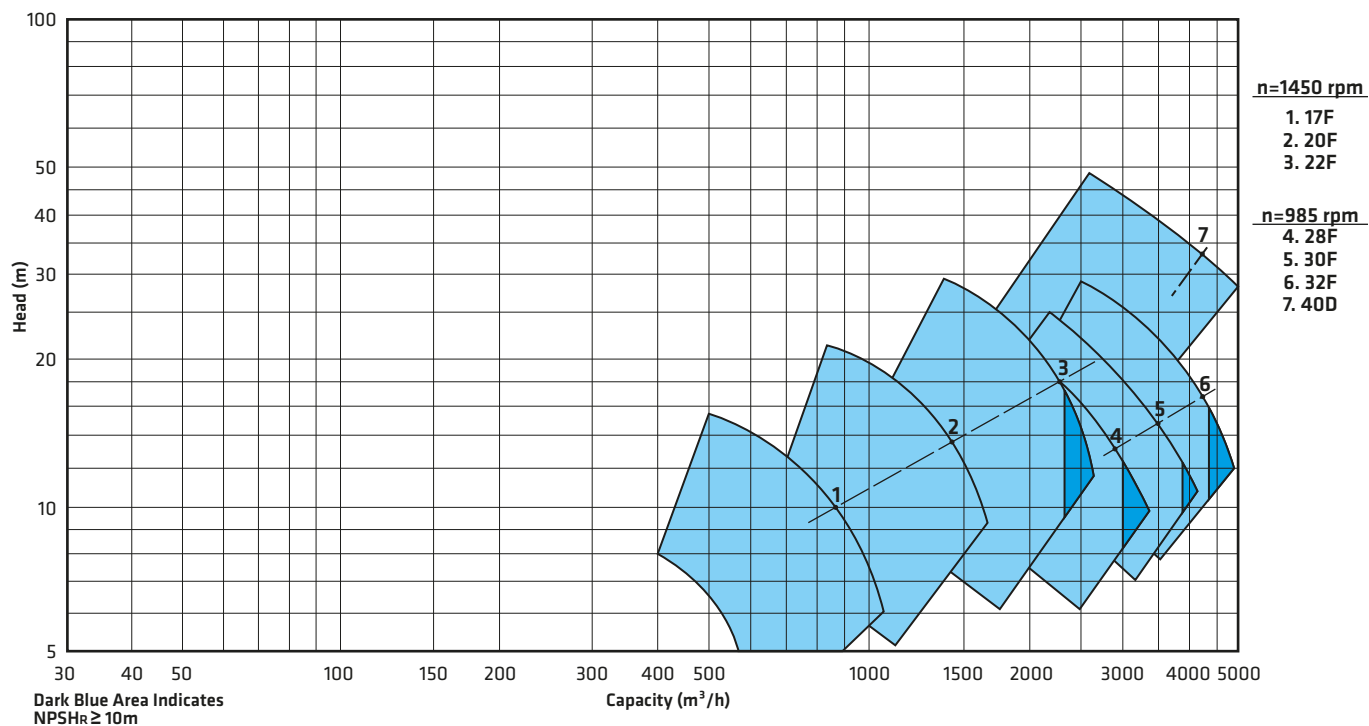
SMV 16 B - 3

Vertical Mixed Flow Column Type Pumps

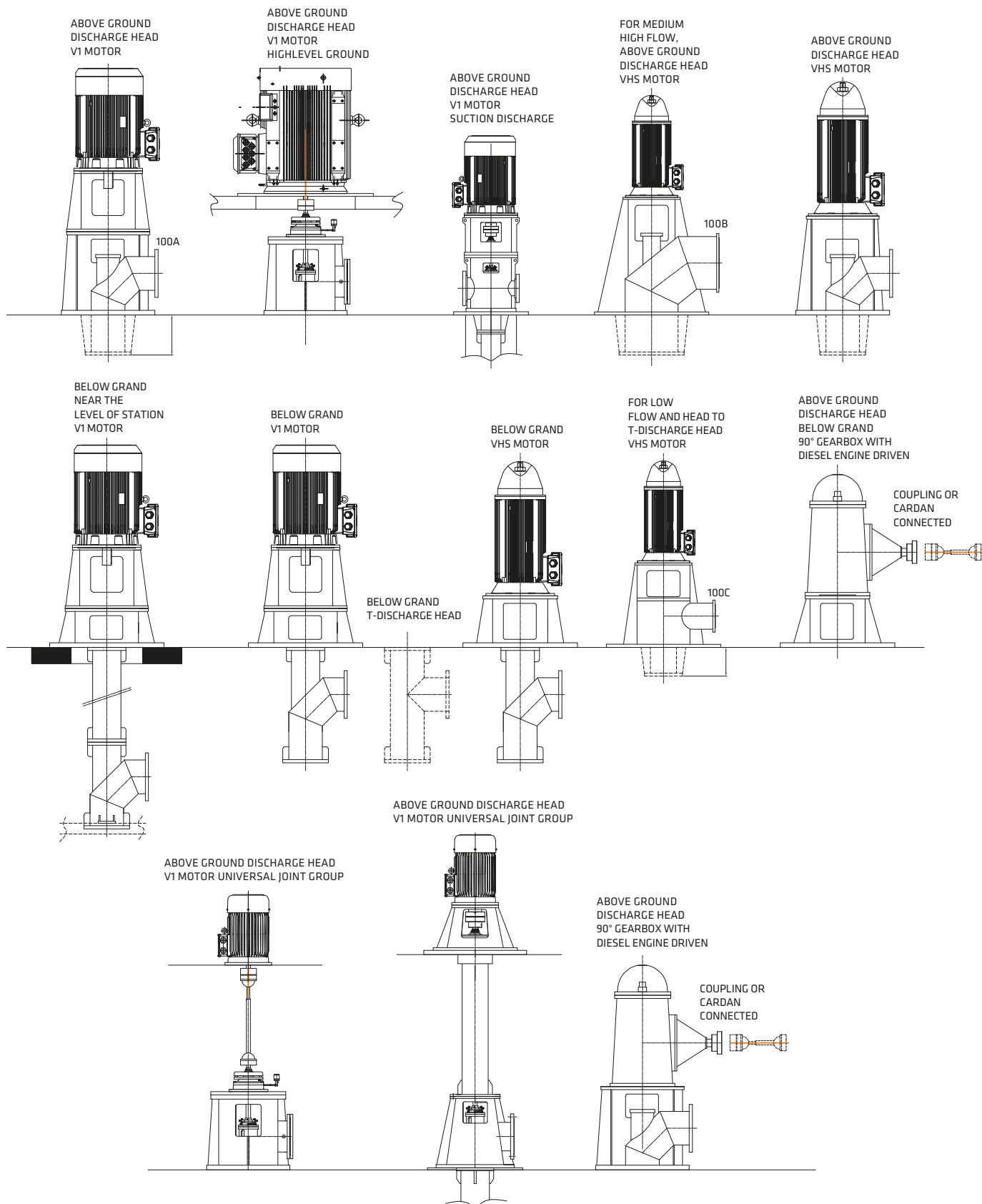
SMV-B



SMV-F

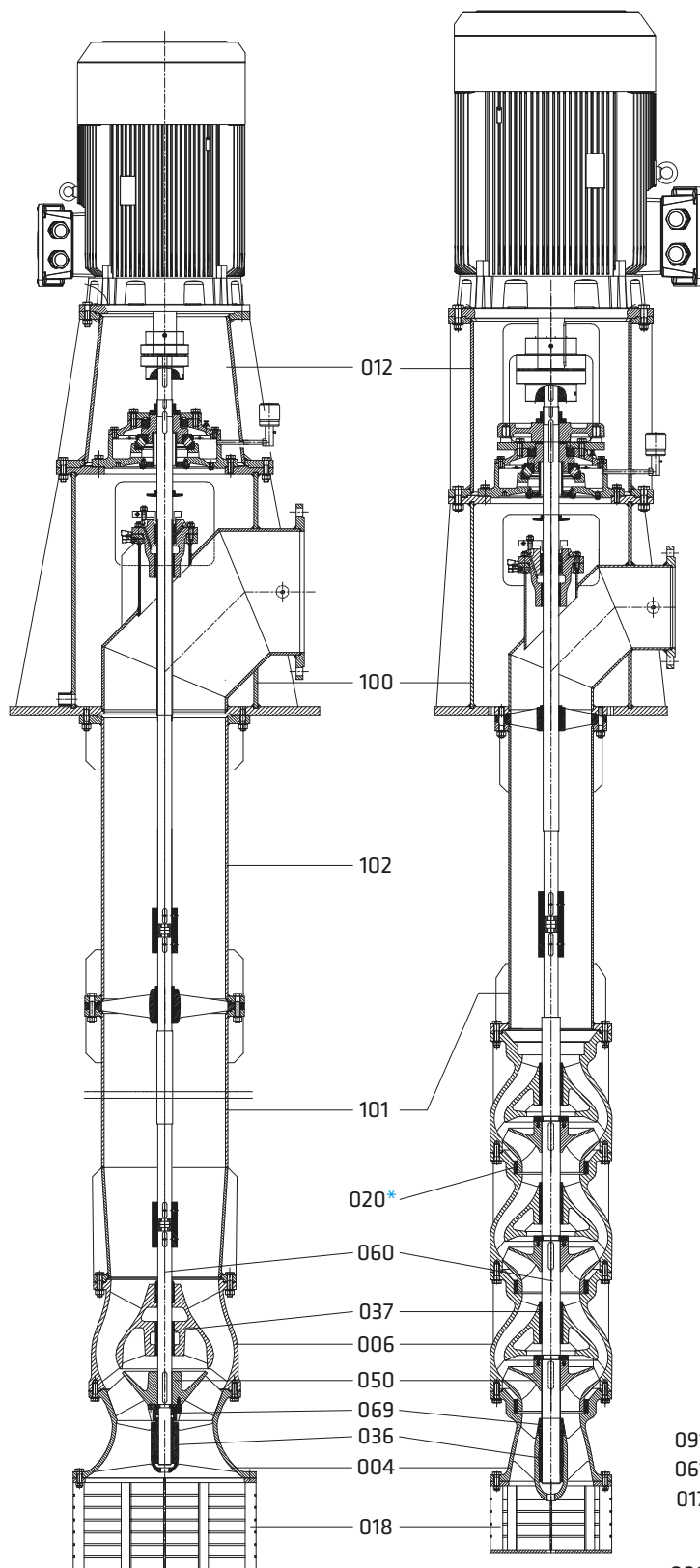


TYPE OF DISCHARGE HEAD AND DRIVERS OF SMV PUMPS

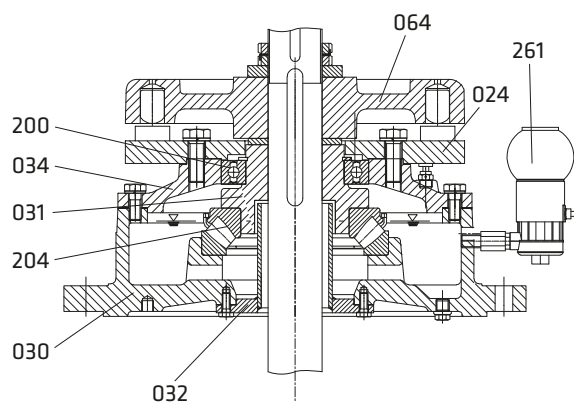


SMV-F / 01

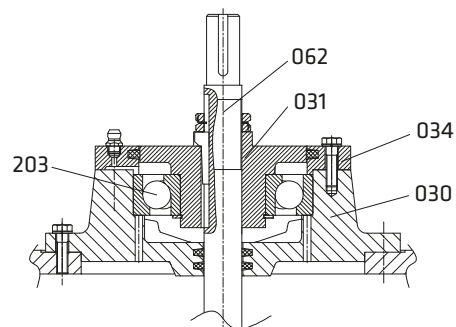
SMV-B / 03



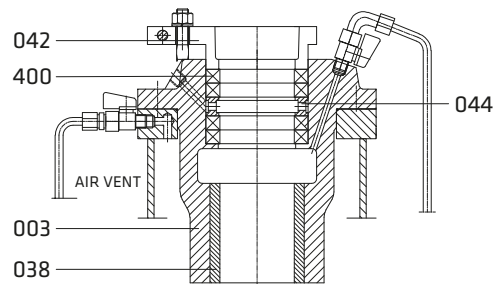
AXIAL THRUST BEARING GROUP



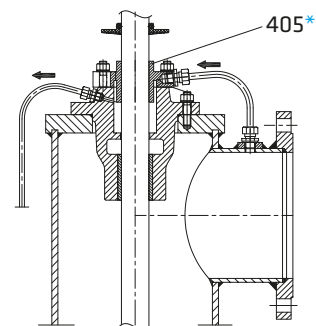
GREASE LUBRICATED BEARING GROUP



SOFT PACKING GROUP

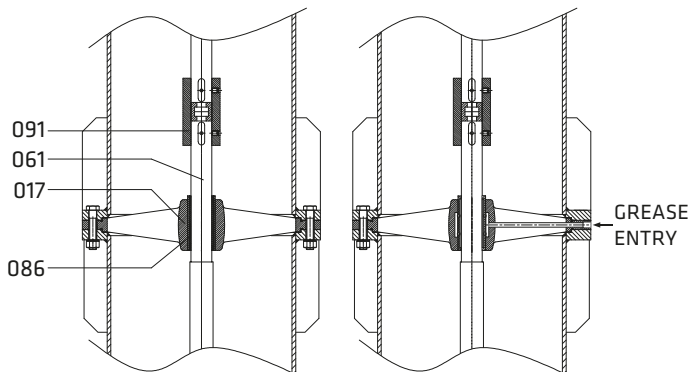


MECHANICAL SEAL GROUP



W/L WATER LUBRICATED BEARING RETAINER

G/L GREASE LUBRICATED BEARING RETAINER

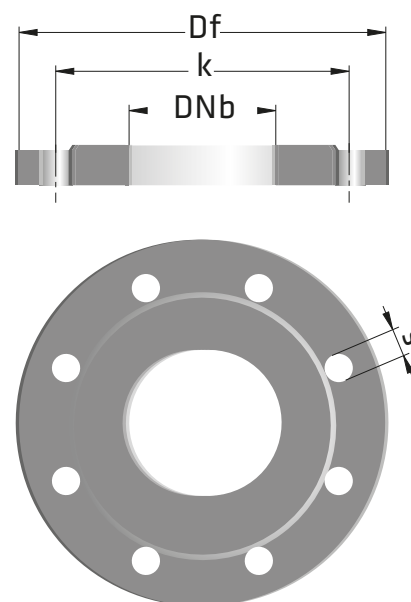


Part List

SMV

BOWL ASSEMBLY		DISCHARGE GROUP	
018	Filter	100	Dispensing Head
004	Suction Ball	003	Staffy Box
036	Suction Ball Bearing	038	Staffy Box Bearing
069	Sand Ring	042	Glend
050	Impeller	400	Soft Packing
006	Diffuser	044	Lantern Ring
037	Diffuser Bearing	MOTOR PEDESTAL GROUP	
020*	Wear Ring	012	Motor Pedestal
060	Pump Shaft	030	Axial Thrust Bearing House
091	Coupling	022	Grease trap
COLUMN GROUP		204	Thrust Bearing
101	Below Column Pipe	200	Radial Bearing
102	Column Pipe	034	Bearing House Cover
017	Bearing Holder	031	Motion Coupling
061	Column Shaft	024	Nail Plate
086	Column Shaft Bearing	064	Pin Carrier Ring
091	Coupling	261	Lubricator
		062	Discharge Head Shaft

(*) Optional



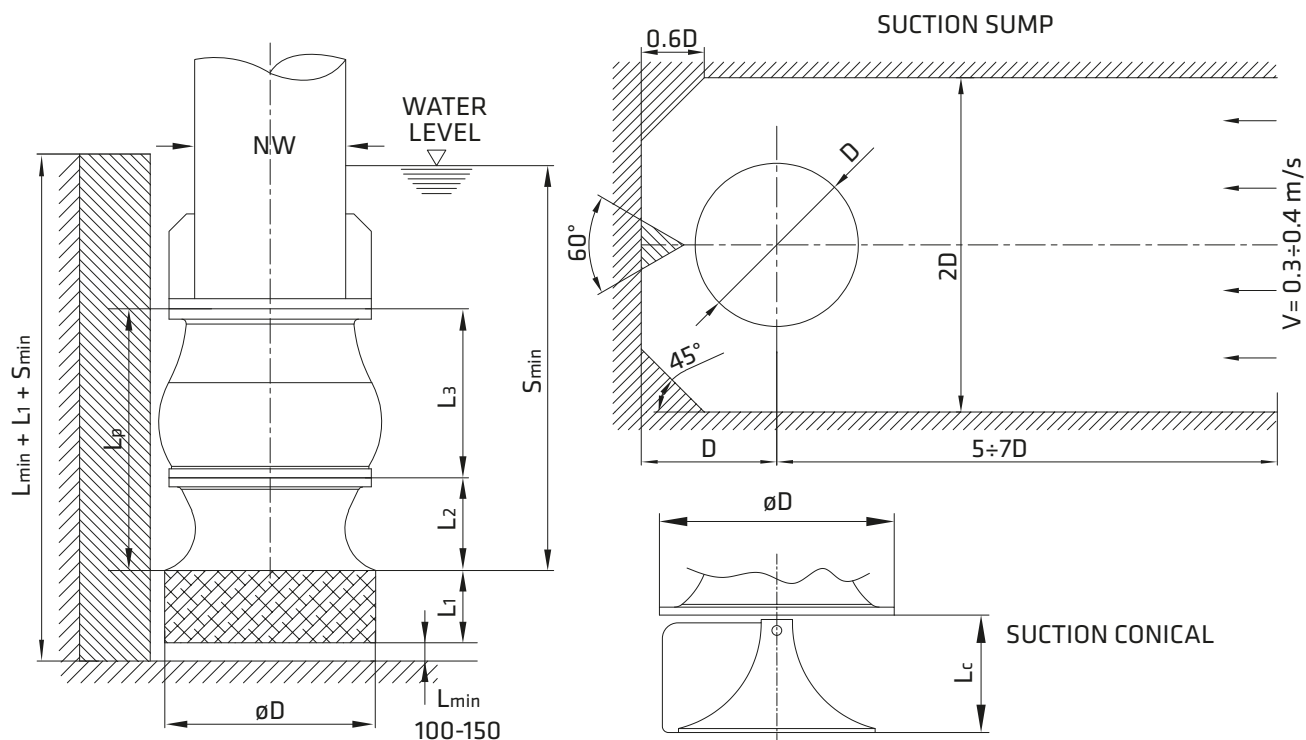
Flange Dimensions

TS EN 1092 - 1	DNb	Discharge (PN 6)				Discharge (PN 10)				Discharge (PN 16)				Discharge (PN 25)			
		Df	k	s	n	Df	k	s	n	Df	k	s	n	Df	k	s	n
	200	320	280	18	8	340	295	22	8	340	295	22	12	360	310	26	12
	250	375	335	18	12	395	350	22	12	405	355	26	12	425	370	30	12
	300	440	395	22	12	445	400	22	12	460	410	26	12	485	430	30	16
	350	490	445	22	12	505	460	22	16	520	470	26	16	555	490	33	16
	400	540	495	22	16	565	515	26	16	580	525	30	16	620	550	36	16
	500	645	600	22	20	670	620	26	20	715	650	34	20	730	660	36	20
	600	755	705	26	20	780	725	30	20	840	770	37	20	845	770	39	20
	700	860	810	26	24	895	840	30	24	910	840	37	24	960	875	42	24
	800	975	920	30	24	1015	950	33	24	1025	950	39	24				
	900	1075	1020	30	24	1115	1050	33	28	1125	1050	39	28				
	1000	1175	1120	30	28	1230	1160	36	28	1255	1170	42	28				

"n" number of holes

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
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



Pump Type	NW	ØD	Smin	Lc	L1	L2	L3	BOWL ASSEMBLY (Lp = L2 + Z • L3)								
								1	2	3	4	5	6	7	8	9
12B	200	290	800	160	200	212	273	485	758	1031	1304	1577	1850	2123	2396	2669
14B	200 250	340	950	180	200	248	320	568	888	1208	1528	1848	2168	2488	2808	
16B	250 300	390	1000	220	230	290	385	675	1060	1445	1830	2215	2600	Z= Number of Diffuser		
18B	300 350	440	1200	220	250	325	420	745	1165	1585	2005	2425				
20B	300 350 400	520	1400	300	300	389	495	878	1373	1868	2363					
25B	400 450 500	650	1500	300	360	480	620	1100	1720	2340						
27B	450 500	700	1600	340	400	515	665	1180	1845	2510						
30B	500 550	750	1800	360	450	555	715	1270	1985	2700						
17F	300 350	520	1300	300	300	240	300	540								
20F	350 400 450	590	1500	300	300	280	350	630								
22F	450 500	620	1700	300	300	325	410	735								
28F	550 600	863	1900	370	400	410	515	925								
30F	600 700	925	2100	500	550	440	552	992								
32F	600 700	980	2200	500	550	465	585	1050								
40D	700 800	950	2300	500	550	490	710	1200								

Pump • Fire Fighting Units • Booster Set

NMT WET ROTOR CIRCULATION PUMPS



NMT Rev.05 03.2024



Handled Liquids

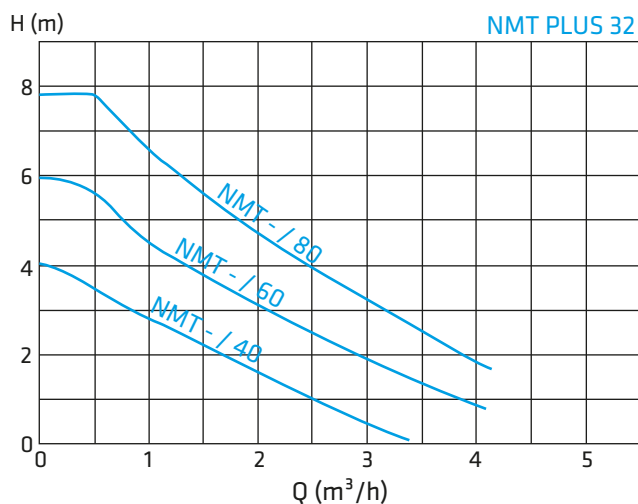
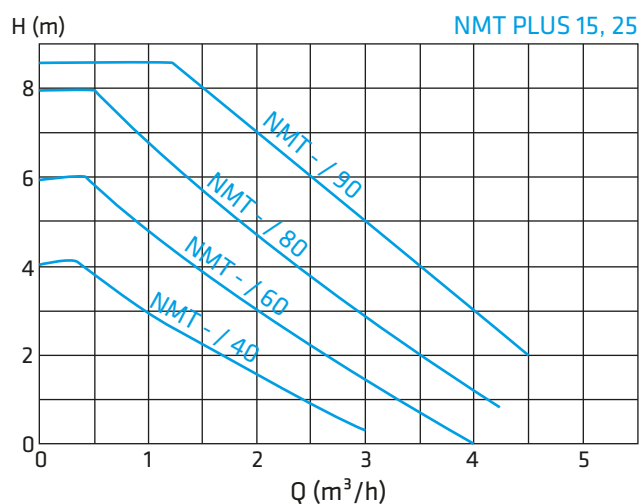
In use for pumping clean water or clean water & anti-freeze mixture liquids in heating systems. Water should be according to current quality standards (such as VDI 2035). Liquid should not be contained with abrasive or explosive mixtures, mineral oil, solid or fibrous particles.

Technical Data

	NMT PLUS NMTD PLUS	NMT SMART NMTD SMART	NMT SMART F NMTD SMART F	NMT MAX F NMTD MAX F	NMT LAN F NMTD LAN F
• Connection Dimension	15-25-32	25-32	32-40-50	40-50	40-65-80-100
• Connection type	Screwed	Screwed	Flange	Flange	Flange
• Maximum Capacity (m ³ /h)	5	11	11	37,5	78
• Maximum Head (m)	8	12	10	12	18
• Pressure Class (PN)	10	10	10	6 / 10	6 / 10
• Maximum Power (W)	55	180	180	560	1600
• Voltage (V)	1x230	1x230	1x230	1x230	1x230
• Design Temperature (°C)	+5 / +95	+2 / +110	+2 / +110	+2 / +110	-10 / +110
Material Information					
• Casing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
• Impeller	Polyamide	PES	PES	PES	S. Steel
• Shaft	Ceramic	S. Steel	S. Steel	S. Steel	S. Steel
• Bearing	Ceramic	Graphite	Graphite	Graphite	Graphite
• Rotor Can	S. Steel	S. Steel	S. Steel	S. Steel	S. Steel

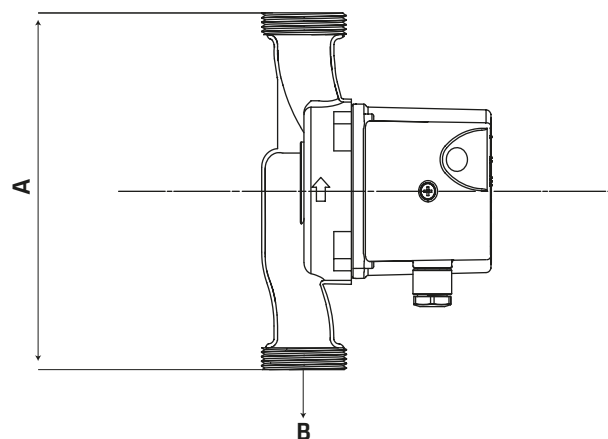
Design Features

- NMT series pumps have variable speed design. Depending on request, they can be supplied as twin type.
- The bearings of the pumps are made of carbon and special hardened steel shaft prevents the wear of the bearings and ensures very quiet operation.
- Good choice for heating systems (Floor Heating – Radiator Heating – Air Conditioning Systems – Solar Systems)
- NMT series pumps, which reduce the electricity consumption to a minimum level, are produced with care as a complete engineering example in terms of efficiency and quality.
- All products (ISO 9001 - CE) are certified and manufactured in European (EU) standards.
- Designed to optimize your energy consumption with features such as variable pressure, constant pressure, constant speed and night mode.
- The full form of ERP regulation is "energy-related products". Purpose of 2009/125 / EC regulation is to reduce energy consumption according to environmental requirements. These environmental requirements are explained in 2013 for EU circulation pumps. From 2013 onwards, this regulation will be practically implemented in the following 2 steps within 7 years.
 - The first phase; EEI max will be 0,23 from 01/08/2015 - Part 2
 - The second phase; EEI max will be 0.23 from 01/01/2020 - Part 2 In this section will cover the replacement of pumps used in heating, ventilation and air conditioning systems.
- Criteria for the best efficient circulators is $EEI \leq 0.20$ - Part 2



Pump Type	EEl	A (mm)	B	Pmax (w)
NMT PLUS 15/40-130	0,16	130	Rp 1/2	20
NMT PLUS 25/40-130	0,16	130	Rp 1	20
NMT PLUS 25/60-130	0,18	130	Rp 1	35
NMT PLUS 25/80-130	0,21	130	Rp 1	55
NMT PLUS 25/90-130	0,23	130	Rp 1	100
NMT PLUS 32/40-180	0,15	180	Rp 1 1/4	20
NMT PLUS 32/60-180	0,17	180	Rp 1 1/4	35
NMT PLUS 32/80-180	0,19	180	Rp 1 1/4	55

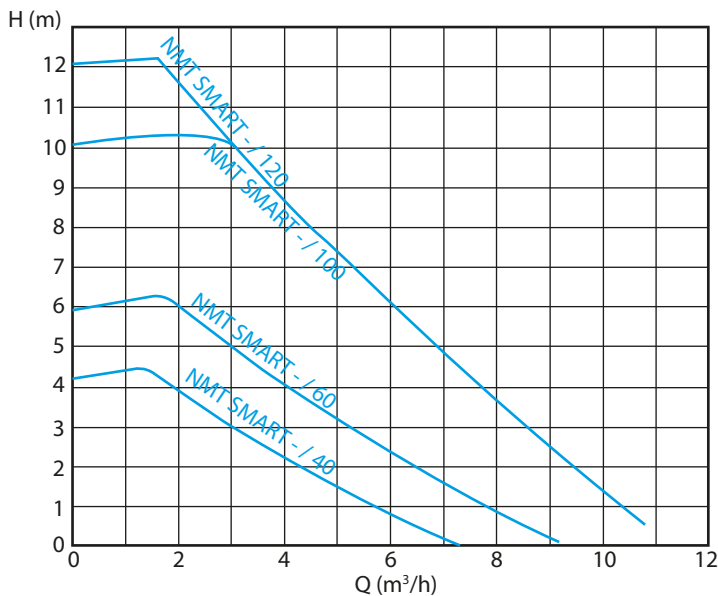
Pump Type	EEl	A (mm)	B	Pmax (w)
NMTD PLUS 25/60-180	0,17	180	Rp 1	2x35
NMTD PLUS 25/80-180	0,19	180	Rp 1	2x55



Pump Designation

NMT D PLUS 25 / 60 - 130

Twin Type _____
 Pump Type _____
 Suction and Discharge Nozzle (DN-mm) _____
 Maximum Head x10 _____
 Connection Length (mm) _____



Pump Type	EEL	A (mm)	B	Pmax (w)
NMT SMART 25/40-180	≤ 0,19	180	Rp 1	70
NMT SMART 25/60-180	≤ 0,21	180	Rp 1	90
NMT SMART 25/100-180	≤ 0,21	180	Rp 1	180
NMT SMART 32/60-180	≤ 0,21	180	Rp 1¼	90
NMT SMART 32/100-180	≤ 0,21	180	Rp 1¼	180
NMT SMART 32/120-180	≤ 0,21	180	Rp 1¼	180

Pump Type	EEL	A (mm)	B	Pmax (w)
NMT SMART 32/40 F	≤ 0,21	220	DN 32	60
NMT SMART 32/60 F	≤ 0,21	220	DN 32	90
NMT SMART 32/100 F	≤ 0,21	220	DN 32	180
NMT SMART 40/60 F	≤ 0,21	220	DN 40	90
NMT SMART 40/100 F	≤ 0,21	220	DN 40	180
NMT SMART 50/100 F	≤ 0,21	240	DN 50	180

Pump Type	EEL	A (mm)	B	Pmax (w)
NMTD SMART 32/60-180	≤ 0,21	180	Rp 1¼	2x90
NMTD SMART 32/100-180	≤ 0,21	180	Rp 1¼	2x180

Pump Type	EEL	A (mm)	B	Pmax (w)
NMTD SMART 40/60 F	≤ 0,21	220	DN 40	2x90
NMTD SMART 40/100 F	≤ 0,21	220	DN 40	2x180

Communication

(*)Smart C : Ethernet, Modbus RTU, Analog control input 0-10 V, 3 Analog input / output, 1 relay output

Pump Designation

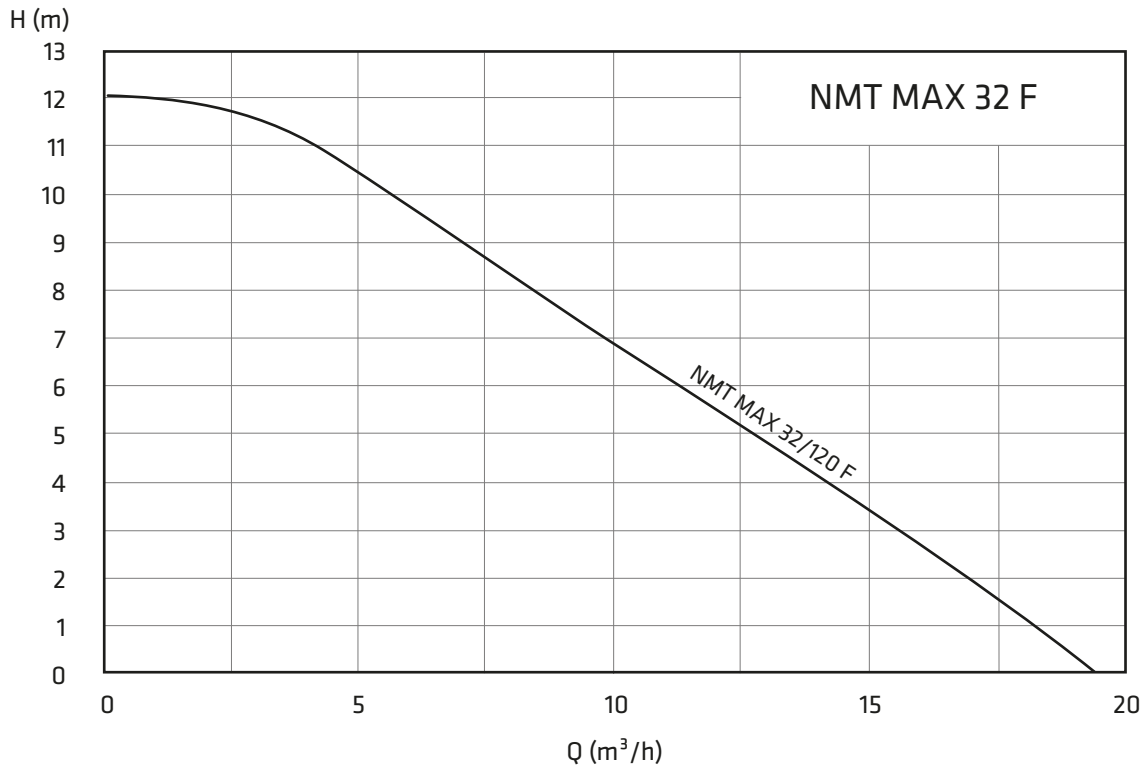
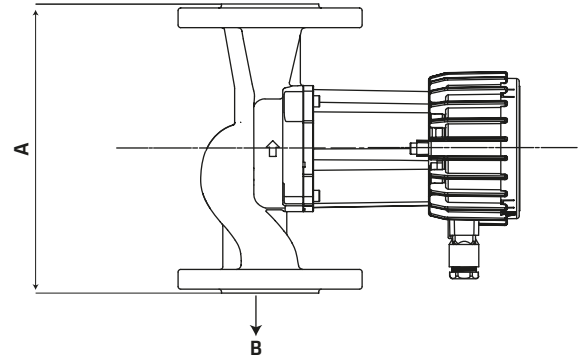
NMT D SMART C 25 / 60 - 180 F

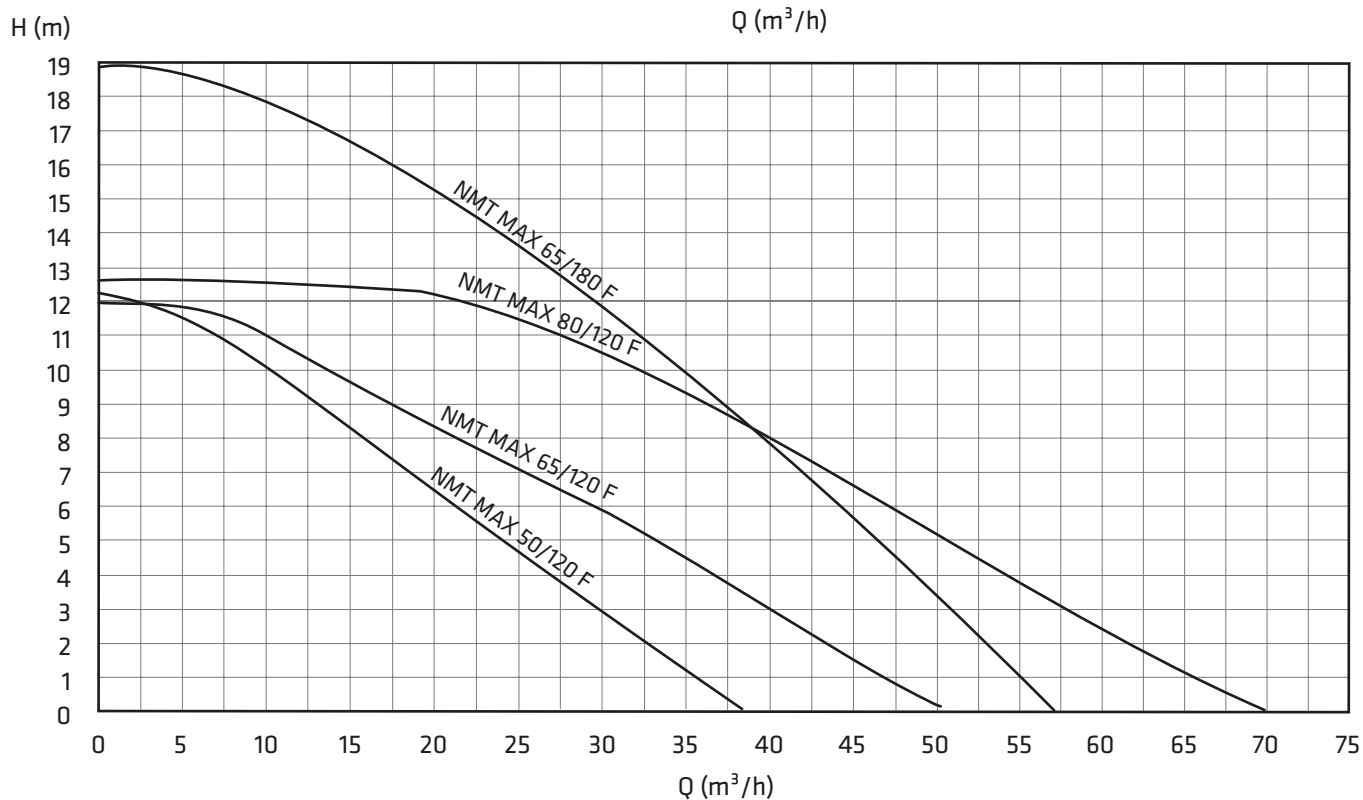
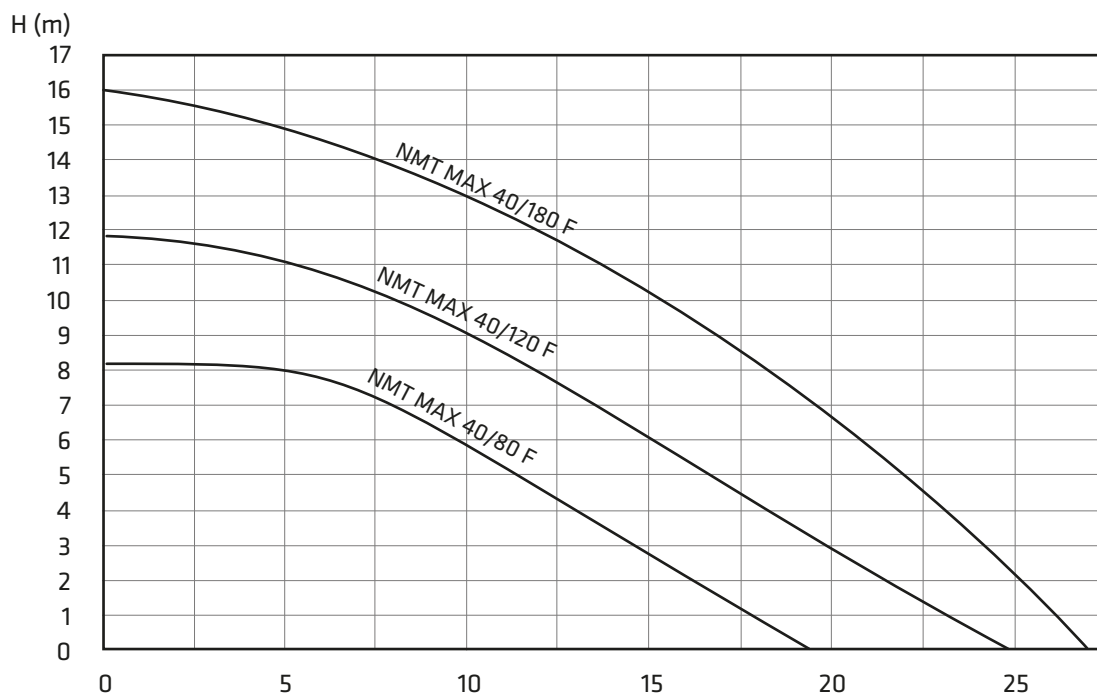
Twin Type _____
 Pump Type _____
 Communication _____
 Suction and Discharge Nozzle (DN-mm) _____
 Maximum Head x10 _____
 Connection Length (mm) _____
 Flanged _____



Pompa Tipleri	EEI	A (mm)	B	PN	Pmax (w)
NMT MAX 32/120 F	≤ 0,20	220	DN 32	6/10	370
NMT MAX 40/80 F	≤ 0,21	250	DN 40	6/10	270
NMT MAX 40/120 F	≤ 0,21	250	DN 40	6/10	480
NMT MAX 40/180 F	≤ 0,21	250	DN 40	6/10	680
NMT MAX 50/120 F	≤ 0,21	280	DN 50	6/10	560
NMT MAX 65/120 F	≤ 0,20	340	DN 65	6/10	810
NMT MAX C 65/180 F	≤ 0,20	340	DN 65	6/10	1550
NMT MAX C 80/120 F	≤ 0,20	360	DN 80	10	1380

Pompa Tipleri	EEI	A (mm)	B	PN	Pmax (w)
NMTD MAX 40/120 F	≤ 0,21	250	DN 40	6/10	2x480
NMTD MAX 50/120 F	≤ 0,21	280	DN 50	6/10	2x560
NMTD MAX 65/120 F	≤ 0,20	340	DN 65	6/10	2x810
NMTD MAX C 80/120 F	≤ 0,20	360	DN 80	10	2x1380





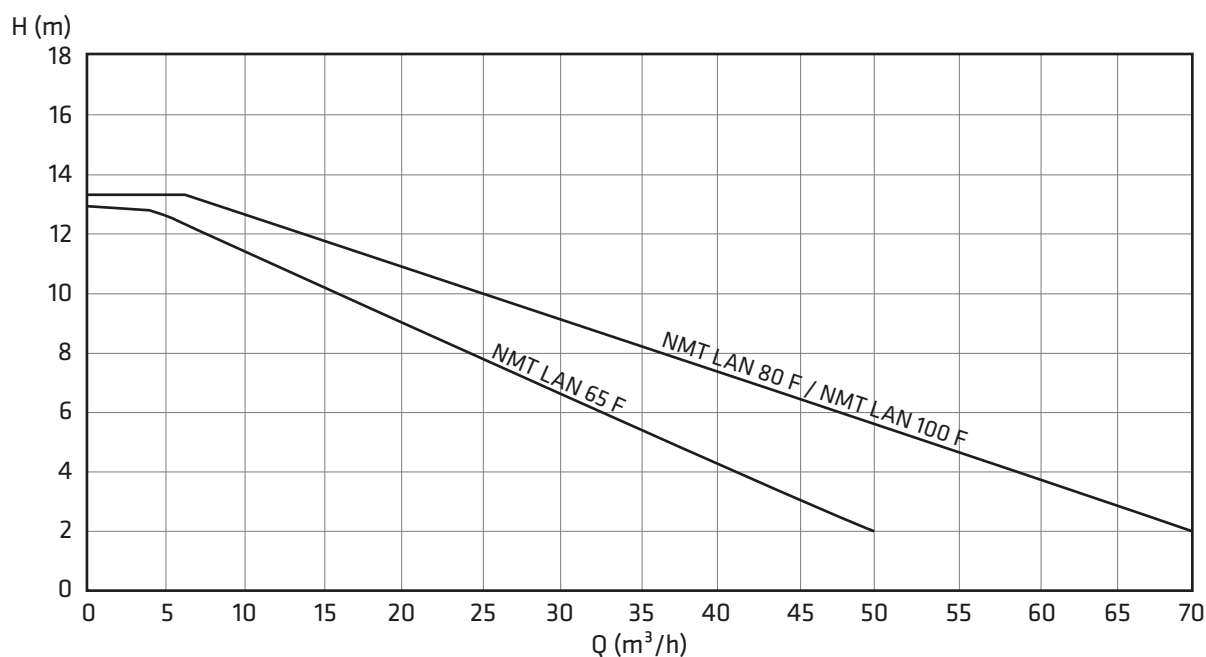
Communication

(*)Max C : Ethernet, Modbus RTU, Analog control input 0-10 V, 3 Analog input / output, 1 relay output

Pump Designation

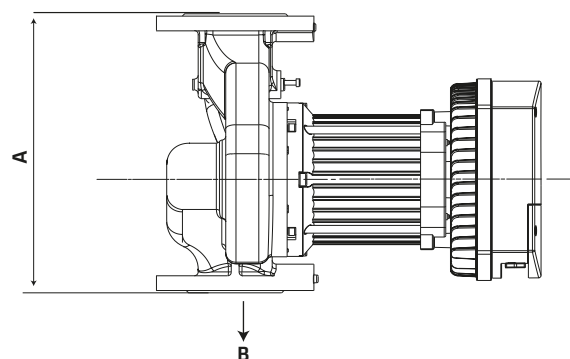
NMT D MAX C 40 / 80 F

Twin Type _____
 Pump Type _____
 Communication _____
 Suction and Discharge Nozzle (DN-mm) _____
 Maximum Head x10 _____
 Flanged _____



Pump Type	EEL	A (mm)	B	PN	Pmax (w)
NMT LAN 100 F	≤ 0,23	360	DN 100	10	1600

Pump Type	EEL	A (mm)	B	PN	Pmax (w)
NMTD LAN 65 F	≤ 0,23	340	DN 65	6/10	2x1100
NMTD LAN 80 F	≤ 0,23	360	DN 80	10	2x1600



Communication

Lan : Ethernet

(*)Lan C : Ethernet, Modbus RTU, Analog control input 0-10 V, 3 Analog input / output, 1 relay output

Pump Designation

NMT D LAN C 40 / 180 F

Twin Type _____
 Pump Type _____
 Communication _____
 Suction and Discharge Nozzle (DN-mm) _____
 Maximum Head x10 _____
 Flanged _____

Pump • Fire Fighting Units • Booster Set

hydropower PUMP as TURBINE

HYDROPOWER Rev.05.03.2024

Application Areas

- Water supply lines
- Pressure regulated water network lines
- Waste water lines
- Geothermal energy plants
- Reverse osmosis applications
- Industrial facilities
- Agricultural irrigation applications
- Advanced test stands

Tecnical Data

Capacity	30 - 4000 m ³ /h
Head	10 - 200 m
Power	up to 500 kW
Speed	4 - 6 - 8 pole synchronous speed
Design type	Norm, double suction or multistage

PaT Designation

HydroPower		DS-V-200-4-5-N					
Model							
	NT: End Suction						
Type	DS: Double Suction						
	KM: Multistage						
Vertical Installation (optional)							
Installed Power (kW)							
Motor/Generator pole number							
Grid	5: 50 hz						
	6: 60 hz						
System	N: On-Grid						
	F: Off-Grid						

Design Features

- Norm, multistage or double suction pump design can be delivered upon request.
- Hydropower, or in other words Pump as Turbine, is an affordable and easy alternative way of turbine usage for energy generation.
- Using turbine for energy resupply is a highly expensive investment for powers less than 150 kw, since the return on investment will cost the customer more than 10 years. The same payback period will be 2-3 years in maximum in Pump as Turbine systems.
- Hydropower can be used in parallel forms to meet the variable water capacity requirements. With these parallel forms, higher capacities become deliverable with more efficient systems.
- Plus, maintenance and operation is simpler and more economic comparing to the hydraulic turbines.
- Hydropower doesn't have any guide vanes for flow regulation. In addition to the by-pass of the excess capacities, more than one pump as turbine can be used to meet various needs through these systems.
- With hydropower
 - It is possible to generate electricity for off-grid regions, especially for drinking water transmission and network regions. Moreover, the losses can be decreased with the help of pressure regulations.
 - It easily generates electricity for on-grid regions by directly connecting to electric networks with or without extra setting needs.
 - It can be used as a driver by directly assembling with another machine.

Hydropower: End Suction Norm



Hydropower / NT

- Horizontal radially split volute casing type, single stage, end suction, pump as turbine systems with closed impeller.
- Designed to work in between 100- 1800 m³/h capacities with 10-120 m net heads.



Hydropower / NT - V

- Vertical radially split volute casing type, single stage, end suction, pump as turbine systems with closed impeller.
- Designed to work in between 100- 1800 m³/h capacities with 10-120 m net heads.

Hydropower: Multistage



Hydropower / KM

- Horizontal ring section, multi stage, pump as turbine systems with closed impeller and diffuser.
- Designed to work in between 30- 500 m³/h capacities with 10-250 m net heads.



Hydropower / KM - V

- Vertical ring section, multi stage, pump as turbine systems with closed impeller and diffuser.
- Designed to work in between 30- 500 m³/h capacities with 10-250 m net heads.

Hydropower: Double Suction



Hydropower / DS

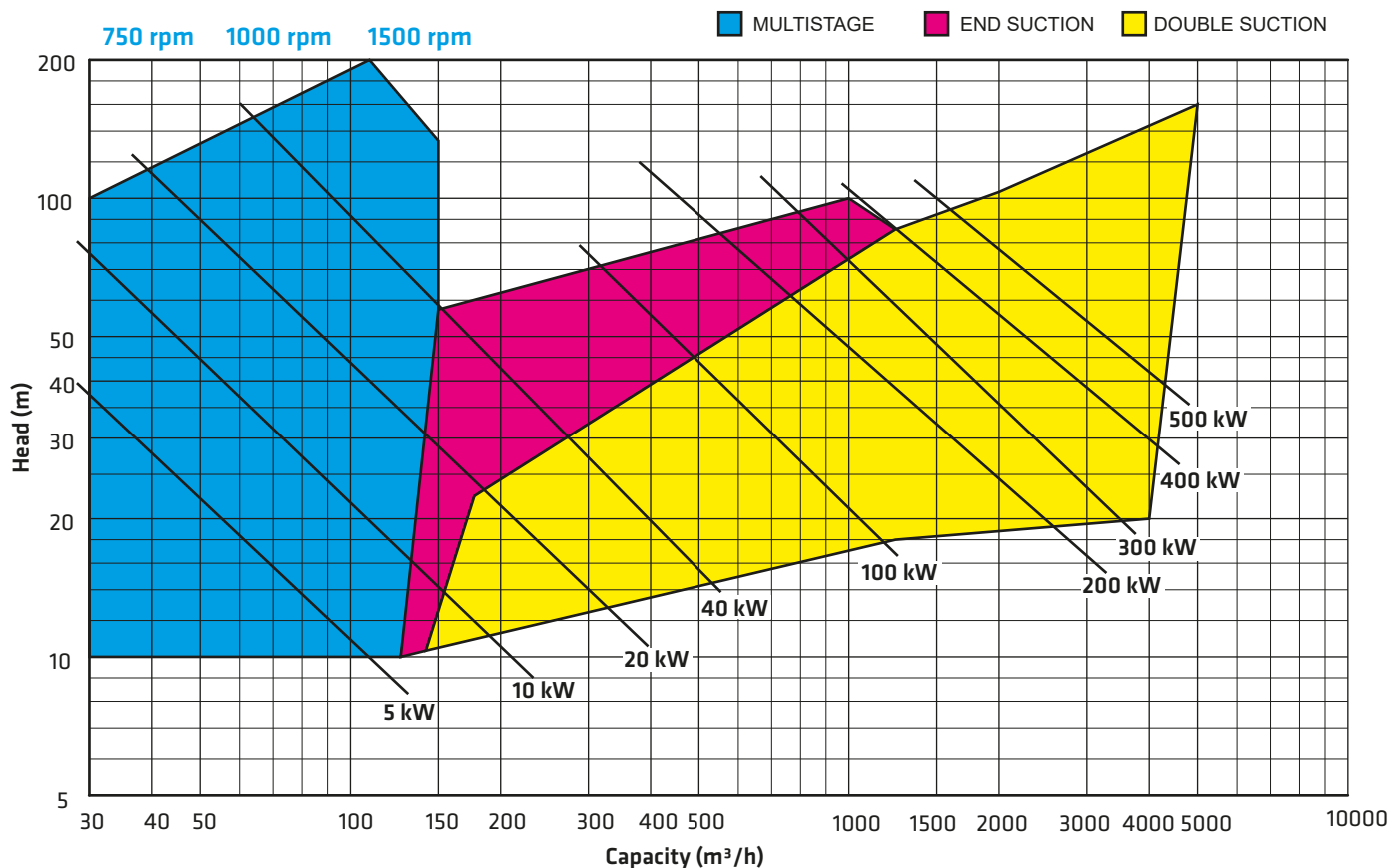
- Horizontal radially, axial split case, single stage, double suction pump as turbine systems.
- Designed to work in between 150- 4000 m³/h capacities with 20-150 m net heads.



Hydropower / DS - V

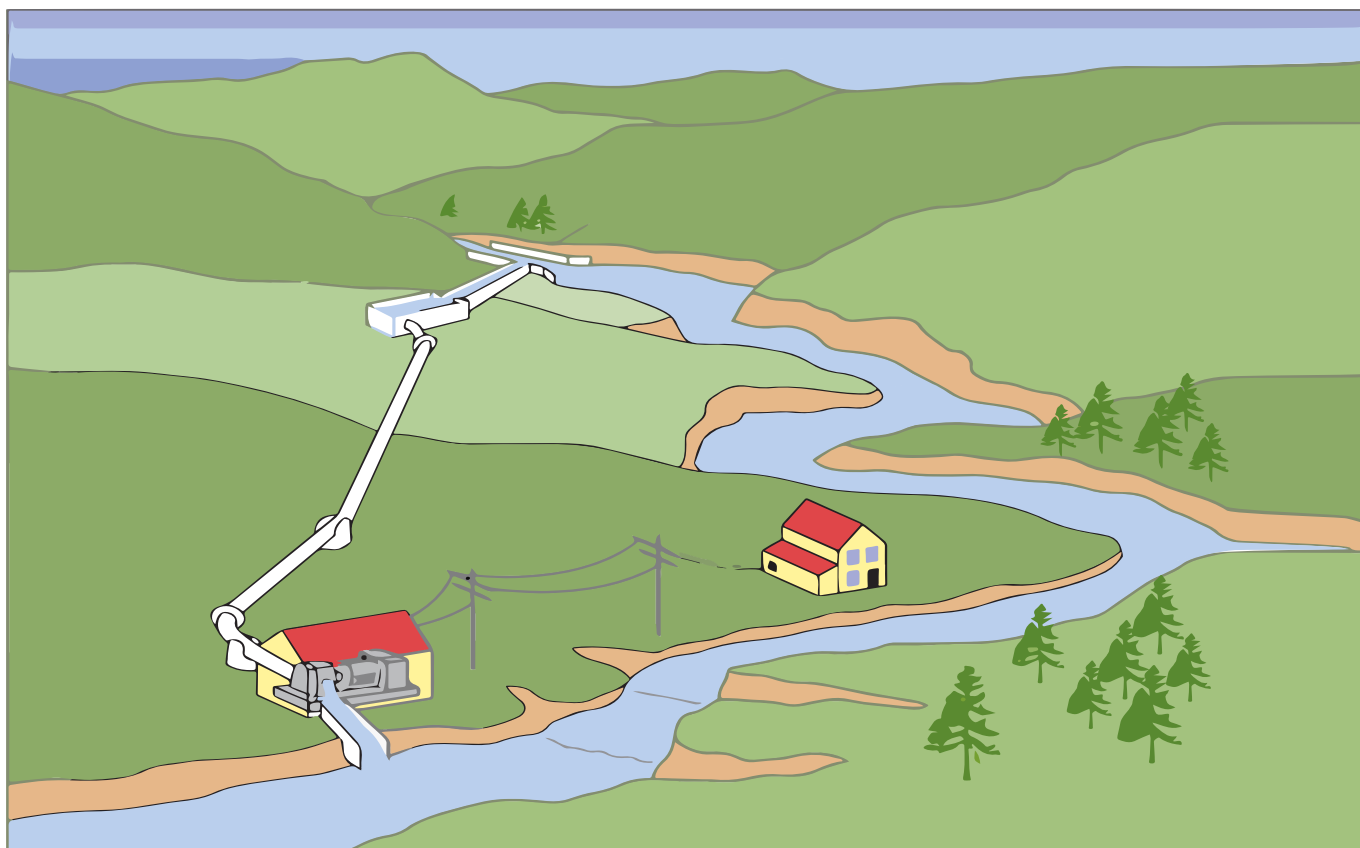
- Vertical radially, axial split case, single stage, double suction pump as turbine systems.
- Designed to work in between 150- 4000 m³/h capacities with 20-150 m net heads.

Field Chart



For more capacity, head or power requirements, please get in contact with our company via our web site.

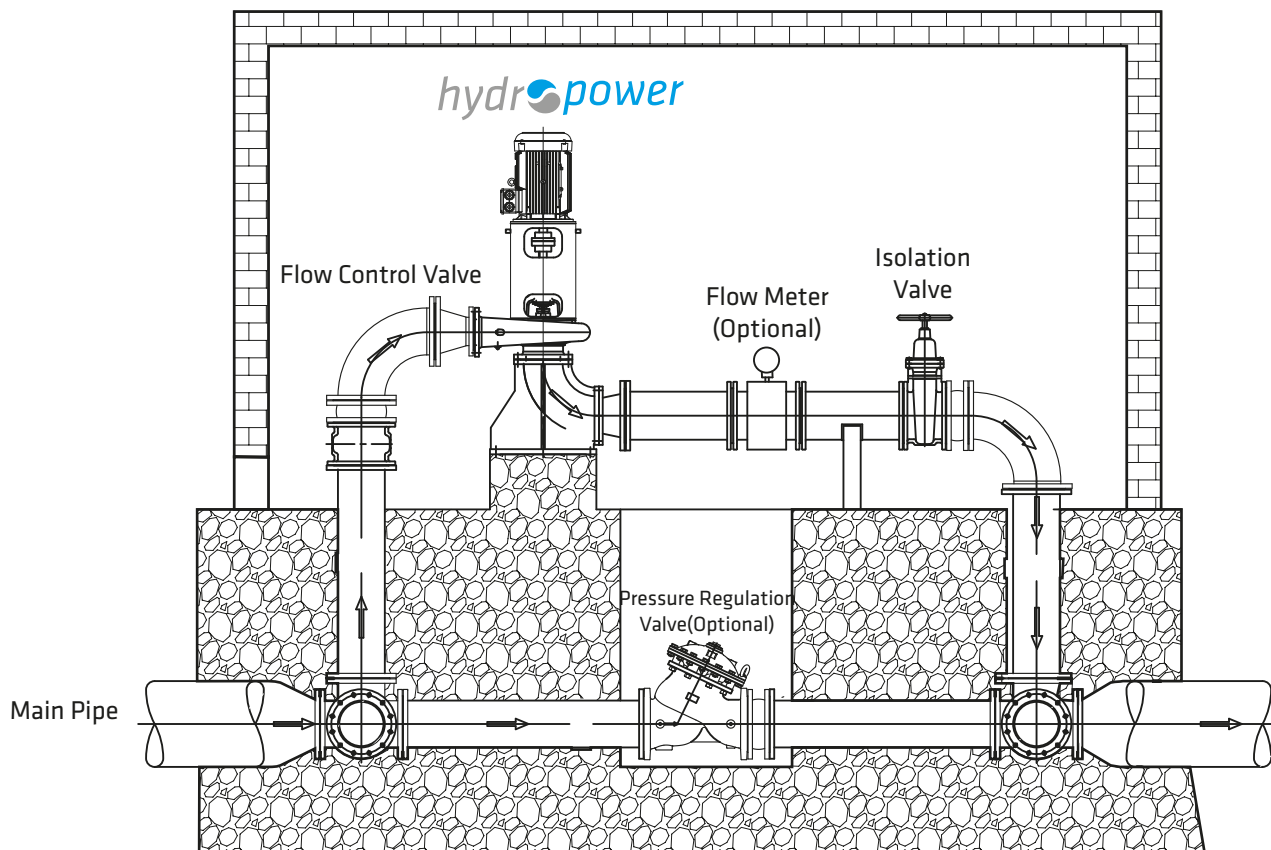
Electric Generation for Isolated (Off-grid) Areas



Generation of Electricity for Drinking Water Needs in off/on-grid regions:

There are so many alternative ways in the market and regulation due to pressure is one of the best ways of controlling losses regarding to resources in literature. To regulate pressure, atmospheric tanks and pressure regulating valves (PRV) can be alternatively used. Since, PRV needs extra investments and underutilizes the broken energy, it will not be a wise option to choose. Instead, it would be better to utilize the idle energy and re-generate it with either hydraulic turbines or pump as turbines, which we call “Hydropower” systems. Standart “Hydropower” series pump as turbines, provide both energy savings and efficient water loss controls where energy is broken in the systems.

Hydropower Installation for a Typical City Drinking Water Piping System



Pump as Turbine Design

In order to calculate the needs, annual water capacity and head requirements should be known by our customers. With these statistical inputs, optimum systems can be designed.

In order to use Pumps as Turbine following issues should be covered:

- Since capacities in pump as turbines at best efficient points would be more than stand alone pumps, the mechanical stress should be carefully considered in these systems.
- Rotating items shouldn't be harmed or discharged while rotating in opposite direction.
- Turbine should not run away during the bypass of excessive water.
- Extra precautions should be taken for cavitation and water hammer risks.
- System should be adoptable to new conditions according to changes in capacities and heads.
- It is generally a good option to use hydropower in parallel forms to maximize the outputs. This rule is eligible for both on-grid and off-grid regions.

GENERAL INFORMATION ABOUT BOOSTER PUMPS

What is booster pump ?

The pressurization systems which takes low pressured water from a tank or directly from city network and provide it with required flow rate and pressure are called booster pumps. Their operations are completely automatic according to intended use.

Depending on the intended use, boosters are generally classified as follows;

- Domestic Water Booster Pumps
- Irrigation System Booster Pumps
- Process Water Booster pumps

According to which Standarts booster pumps should be selected ?

Until today, in Europe, widely accepted standart which describes pressurization systems comprehensively is DIN 1988. Domestic water booster pumps are defined in DIN 1988-5, how and under what conditions they are selected and used are described. The European Union EN 806 standard is valid in the countries of European Union members. However, in some cases it is still being in reference to DIN 1988 norm. Therefore, there is no problem with selections and calculations based on the DIN 1988 standard. Selection and calculation methods in this catalog are taken from DIN 1988-5 and EN 806 standards.

Which parameters should be determined before selecting booster ?

The first condition for long-life booster is selecting according to suitable operating and environmental conditions and determining pump capacities correctly.

In choosing type of booster;

- Positioning of water tank relative to the booster (Does the water come on its own? Or is suction needed?)
- Characteristic of the space where booster will be installed (Is there enough space and air circulation?)
- Correct selection of the number of users and diversity factor
- Properties of the water to be pressurized (hardness, temperature)
- Required head
- Required flow rate and the volume of the expansion tank to be selected

When pump and equipments according to these material and functional characteristics are selected, the right type of booster pump which will be able to work without problems for many years.

How to determine operating pressure range of booster system ?

The pressure in the outlet collector of the booster is the sum of the intake pressure in the inlet collector and the pressure generated by the booster. However, in Turkey boosters are generally supplied from a tank at the same level with the booster and open to atmosphere, so the inlet pressure of the booster is negligible.

While determining operating pressure of booster;

- The static height of the building
- The minimum flow pressure on top floors
- Friction losses in the pipes
- Water meter losses
- Filters and other equipments losses should be calculated.

Minimum pressure of the booster, if there is no special conditions defined by the user, should be approximately 10-15 mwc on the highest settlement or the most critical user

$$H_{bot} = DPe + Pmin\ fl + S (I \times R + DpF) + DPwm + DPap - SPLN$$

(Formula 1)

H_{bot}	: Booster bottom pressure
DPe	: Building height (mWc)
$Pmin\ fl$	: Minimum flow pressure (mWc)
$S (I \times R + DpF)$	: Friction losses in pipes (mWc)
$DPwm$	: Water meter losses (mWc)
$DPap$	: Losses of filter and other equipments if known (mWc)
$SPLN$	: Minimum pressure at the booster inlet (mWc)

SPLN is often neglected in applications that booster is fed from a tank. However on some cases (especially oil filling plants), towers are used as water tanks. On that situation, 15-20 mWc inlet pressure is generated.

Another type of connection is to take water directly from the pressurized network and pressurize it where the network pressure is not enough. If this is the case, inlet pressure must be calculated.

Calculation of total losses in the installation may not always be easy. To do this, it is necessary to know the types, quantities and measurements of any fixtures, valves, pipes and fittings and to calculate the losses in the water flow that will pass through them.

Example of bottom pressure calculation:

Building Height	= 30m
Minimum flow pressure	= 15m
Total loss of installation	= 7,5m
Water meter loss	= 7,5m
Filter and otler losses	= 0 m
Inlet pressure	= 0 m

Let's calculate bottom pressure value of a booster to be selected for an old apartment

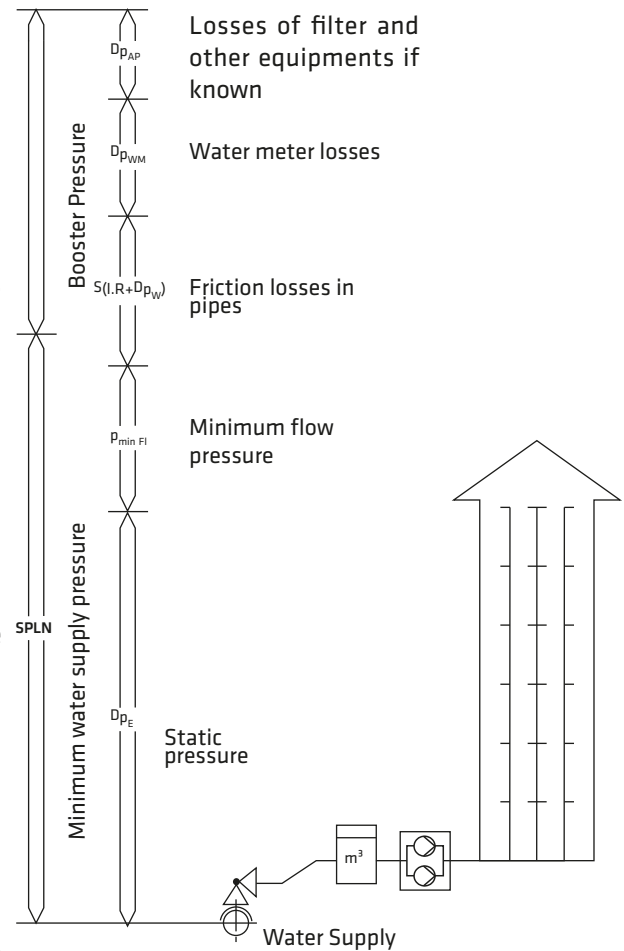


Figure 1

$$H_{bot} = DPe + Pmin\ fl + S (I \times R + DpF) + DPwm + DPap - SPLN$$

$$H_{bot} = 30 + 15 + 7,5 + 7,5 + 0 - 0$$

$$H_{bot} = 60\ mSS$$

The pressure difference called as operating pressure of the booster ($H_{üst} - H_{alt}$) should be as small as possible and the booster should be intended to give a constant pressure. As this value increases, surge pressure in the installation increases and the comfort of use decreases.

Therefore, ($H_{top} - H_{bot}$) 1,5 – 2bar difference as operating range is generally adequate and it is tried to be applied. This difference should not exceed 2.5 bar.

$$H_{top} = H_{bot} + 15\ mWc$$

$$H_{top} = 75\ mWc$$

According to this, our operating pressure is 60-75 mWc.

Another point to be aware of when calculating the required pressure to be ensured by the booster is that static water pressure should not exceed 5 bar (50mWc) at any point in the installation.

To ensure comfortable use of water and proper operation of fixtures, DIN 1988 standart requires the use of pressure reducer or zoning the installation (regional pressurization) if the inlet pressure exceeds 5 bar. (figure 2)

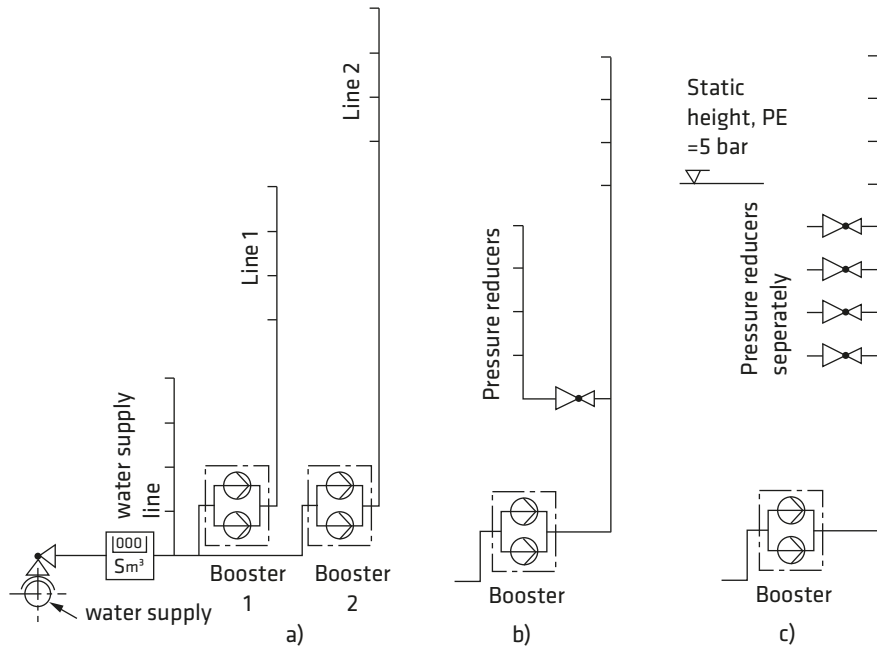


Figure 2

How to determine flow rate of booster system?

Number of flats	Factor of multi-user
4	0,66
5-10	0,45
11-20	0,40
21-50	0,35
51-100	0,30
more than 100	0,25

Table 1

Application Areas	Daily Average. (lt/day)
Corporate housing	150
Luxury housing	200
Luxury Villas	225
Guesthouses	100
Hotels	150
Hospitals	200
Offices	80
Schools	20
Boarding Schools	100
Malls	50

Table 2

Calculation of flow rate has two main criteria. First one is estimated volume of water in unit of time. The other is diversity factor of multi-user systems. We are going to use both criteria when calculating domestic water boosters.

Example of flow rate calculation:

Let's figure out the flow rate of a site where 100 families live in. EN806 standardında belirtilen formüle göre;

$$Q= \frac{A \times B \times T \times f}{1000} \quad \text{(Formula 2)}$$

- *Q=Booster flow rate (m³/h)
- *A=Number of flats
- *B= Number of individuals in the family
- *T= Daily average water consumption of the individual (liter /day)
- *f= Diversity factor

We may take the number of individuals as 4-5 per average family in Turkey. We will use Table 1 for diversity factor and Table 2 for Daily average water consumption. According to this;

$$Q= \frac{100 \times 4 \times 150 \times 0,30}{1000} =18 \text{ m}^3/\text{h}$$

According to this result, we can select a single pump booster that provides 18 m³/h flow rate. However, as in the above example, it is more accurate to select multiple pump boosters in crowded places such as hospitals.

According to DIN standards pumps must be selected with backups. While the selected spare pump is not working, other operating pumps total flow rate should be equal to our calculated booster flow rate, which is 18 m³/h

According to this;

- 2x 18 m³/h or
- 3x 9 m³/h or
- 4x 6 m³/h might be selected

CALCULATION AND SELECTION METHODS OF MEMBRANE EXPANSION/PRESSURED TANKS

Small volume membrane expansion tanks in booster sets, according to producers preference, are used from several liters to 5000 liter capacities. Membrane expansion tanks are produced in various types and capacities such as vertical, horizontal, footed and non-footed. Nowadays, the use of expansion tanks that have membrane made out of Butyl, EPDM or natural rubber separation for water and gas parts has become widespread.

When these tanks are not used or for example their membranes are exploded, irregularities occur in booster's start/stop functions and that causes operation difficulties.

The purpose of using membrane tanks connected to the discharge lines of booster sets is limiting number of switches of booster pumps.

Electric motor manufacturers switch number recommendation is around S=20-30 / hour. That means, more than 20-30 times of start/stop in an hour for motors is not recommended. Continuous start/stop function not only shortens the service life of electrical motor, pump parts and electrical panel equipments but also increases electrical energy consumption due to starting current. Therefore, especially for motors bigger than 3kW, it is advisable to limit switch number.

Absorbing possible system shocks, keeping the pressurized water in a certain amount as a reserve in short power cuts are other purposes of the use of these tanks.

In section 5 of DIN 1988 standard estimated volume calculation for membrane expansion tanks is developed based on calculation of pressure controlled air cushioned expansion tank in DIN 4810 standard.

Accordingly, the nominal volume of the expansion tank to be selected is calculated according to the Formule 3.

$$VE = 0,33 \times V_{max} \times \frac{H_{top} + 1}{(H_{top} - H_{bot}) \times S} \quad \text{(Formula 3)}$$

- VE : Nominal volume of selected tank (liter)
- V_{max} : Flow rate of a pump at H bottom pressure (m³/hour)
- H_{top} : Booster's set top pressure (bar)
- (H_{top} - H_{bot}) : Booster's set operating pressure difference (bar)
- S : Required number of switch (1/ hour)

Example of membrane nominal volume calculation

In an example, the booster set wich has H_{alt} equals to 45 mSS, H_{üst} equals to 65 mSS and 44 m³/hour are given. Also the number of pump in booster set is four wich are working rotatory. The required number of switch is given 30/hour.

- V_{max} = 44 / 4 = 11 m³/saat (maximum flow rate of a pump)
- H_{top} = 6,5 bar
- H_{bot} = 4,5 bar
- S = 30 / hour

The nominal volume of required membrane expansion tank (VE)

$$VE = 0,33 \times 11 \times \frac{6,5 + 1}{(6,5 - 4,5) \times 30} = 0,453 \text{ m}^3 = 453 \text{ lt}$$

The nominal volume of the tank is 500 liters. In the operating conditions of this tank, the useful water volume (VF)

$$VF = VE \times \frac{H_{top} - H_{bot}}{H_{top} + 1} \quad \text{(Formula 4)}$$

$$VF = 500 \times \frac{6,5 - 4,5}{6,5 + 1} = 133 \text{ liters are calculated.}$$

Another criteria in membrane expansion tank selection is pressure class that tank should have.

The zero flow rate pressures of the pumps used in boosters are determining the pressure class of the tank. Tank nominal operating pressure should be higher than zero flow rate pressures of pumps.

The pre-air pressure of the tank is dependent of operating conditions and should be set to a value that 10% lower than the H_{bot} operating pressure.

In the above example booster application with $H_{bot} = 45$ mWc, pre-gas pressure of required membrane expansion tank should be set to approximately 40 mWc = 4 bar.

There are varios methods of connecting membrane tanks to the booster's discharge line. Generally, one side of the pressure collector connects to the tank and the other side to the installation. It is also possible to connect the tank to anywhere on building's installation line.

Important point of making connections is that the connections can be quickly detached for membrane change or equivalent situation and can be isolated from installation by using an additional valve.

ACCORDING TO PUMP TYPES RECOMMENDED MINIMUM TANK VOLUMES			
SB M/T 80 PUMPS	100 lt.	CDLF 4 PUMPS	200 lt.
SB M/T 90 PUMPS	200 lt.	CDLF 8 PUMPS	300 lt.
SB M/T 100 PUMPS	300 lt.	CDLF 12 PUMPS	500 lt.
SB /T 130 PUMPS	500 lt.	CDLF 16 PUMPS	500 lt.
GRV VD PUMPS	200 lt.	CDLF 20 PUMPS	750 lt.
GRV VB PUMPS	300 lt.	CDLF 32 PUMPS	750 lt.
SKMV 32 PUMPS	500 lt.	CDLF 42 PUMPS	1000 lt.
SKMV 40 PUMPS	750 lt.	CDLF 65 PUMPS	2x1000 lt.
SKMV 50 PUMPS	1000 lt.	CDLF 85 PUMPS	2x1500 lt.
SKMV 65 PUMPS	2x1000 lt.		

Table 3

INSTALLATION OF BOOSTERS

Boosters can operate connected to a tank or directly to city network. (Figure 3)

For directly connected to city network boosters, it is precondition that inlet pressure is not surging more than 1 bar and is not lower than 0,5 bar. In networks with unfulfilled regarding conditions, it is not true to connect the booster directly to the city network. Due to inadequacy in network pressures, this system is rarely used in Turkey.

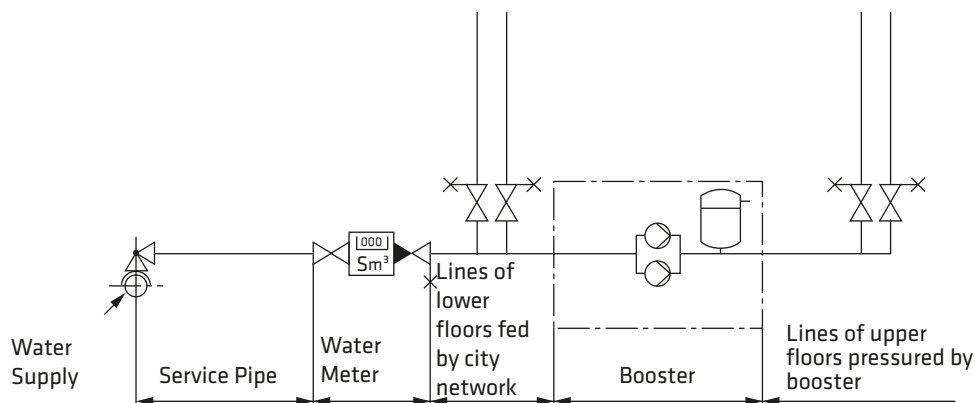


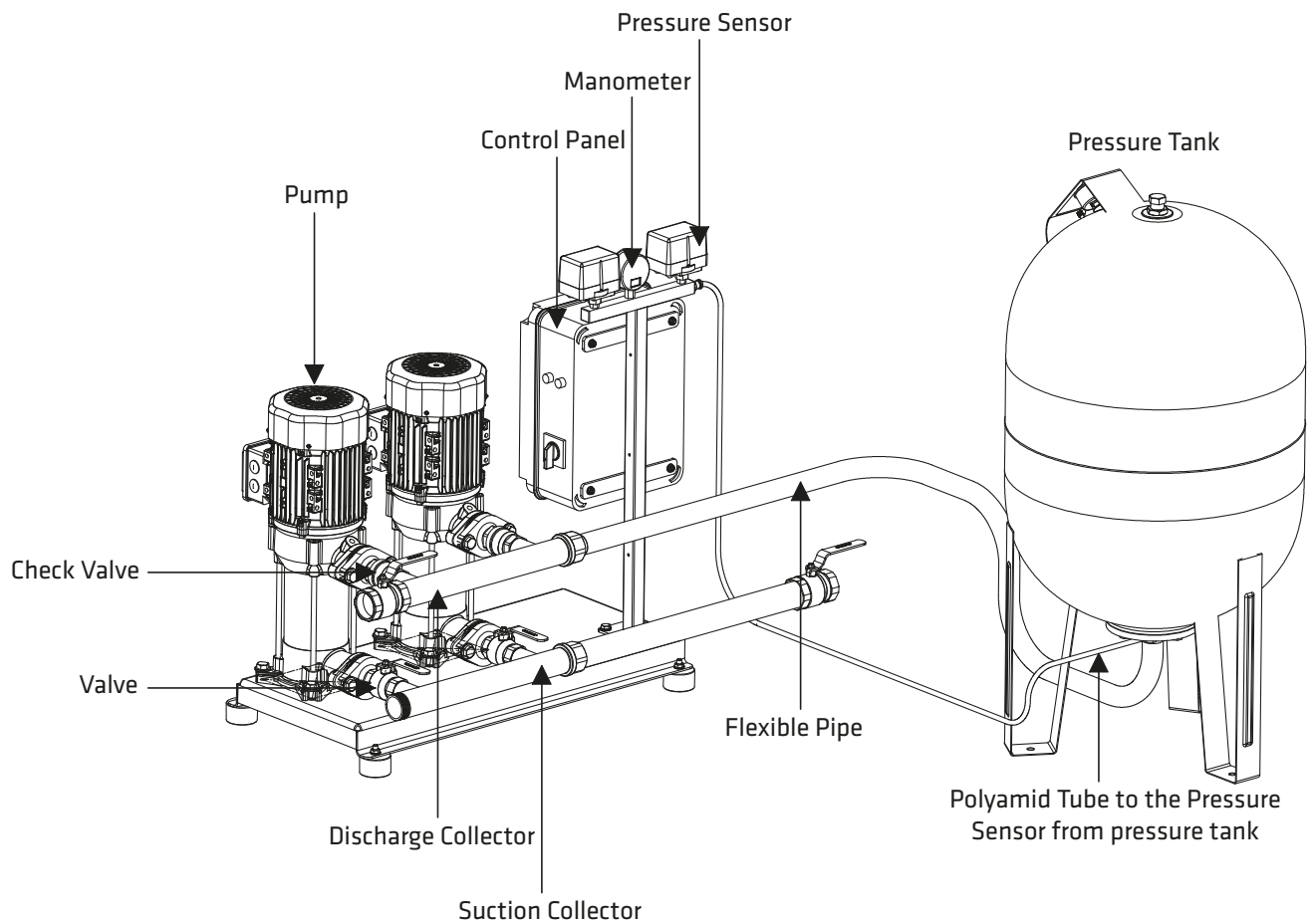
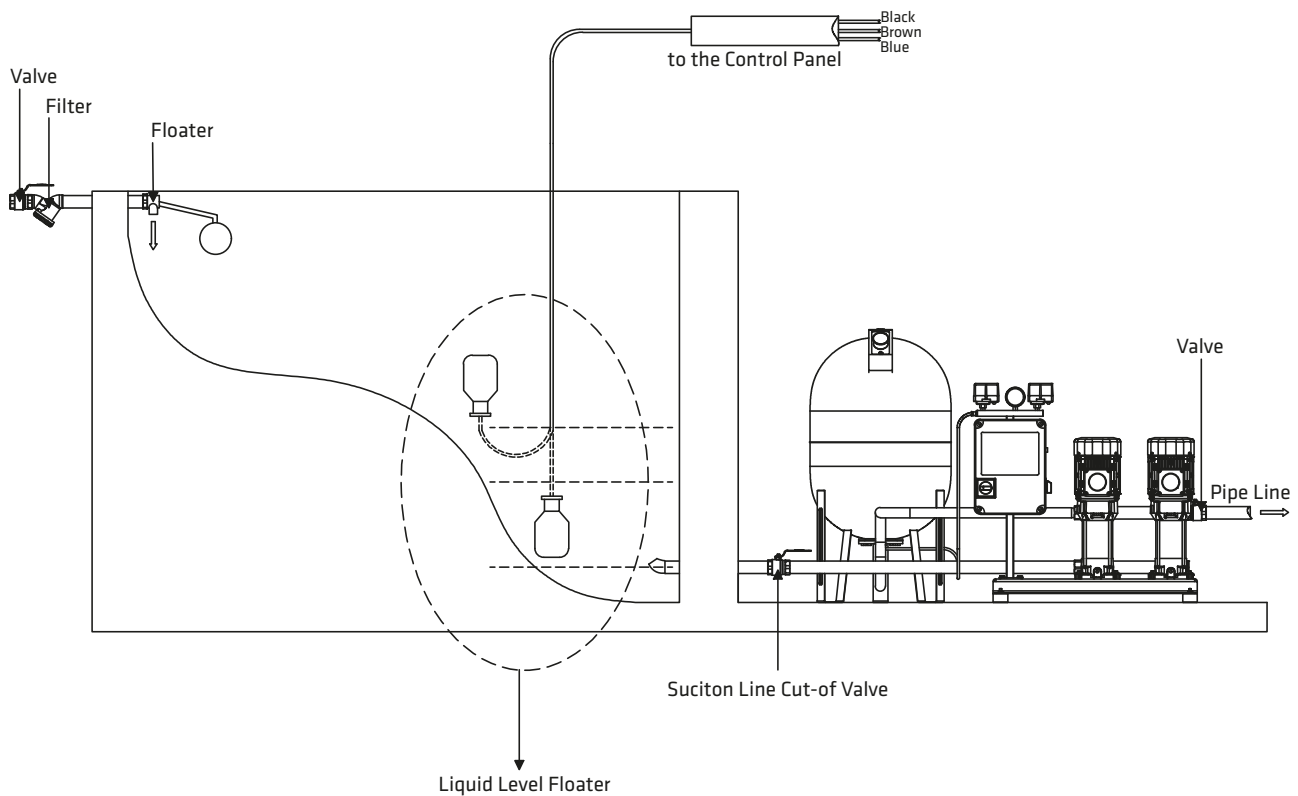
Figure 3

In a booster system that operates by taking water from a tank, the water must be able to flow towards the pump by its own weight and a pre-pressure of about 0.2 bar must be generated at the suction port of the pump.

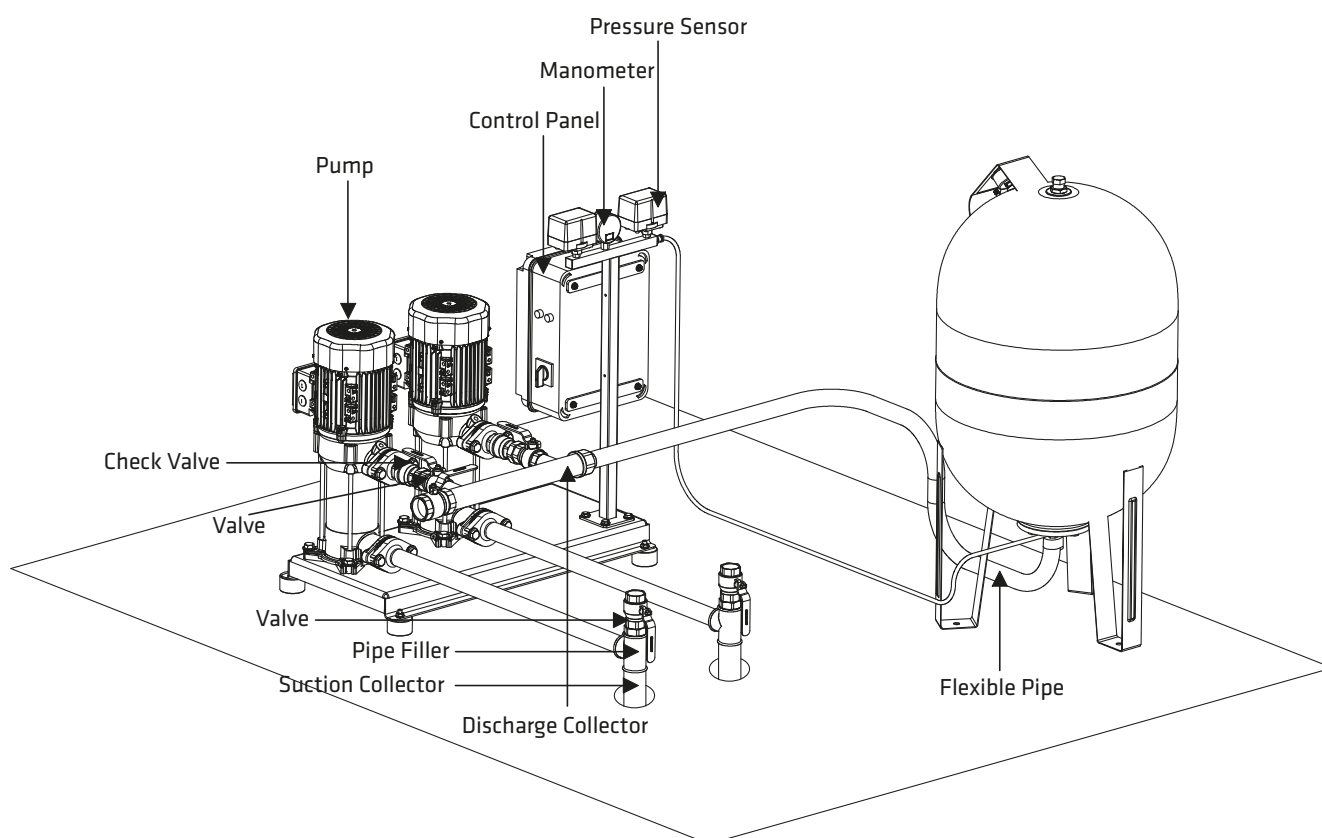
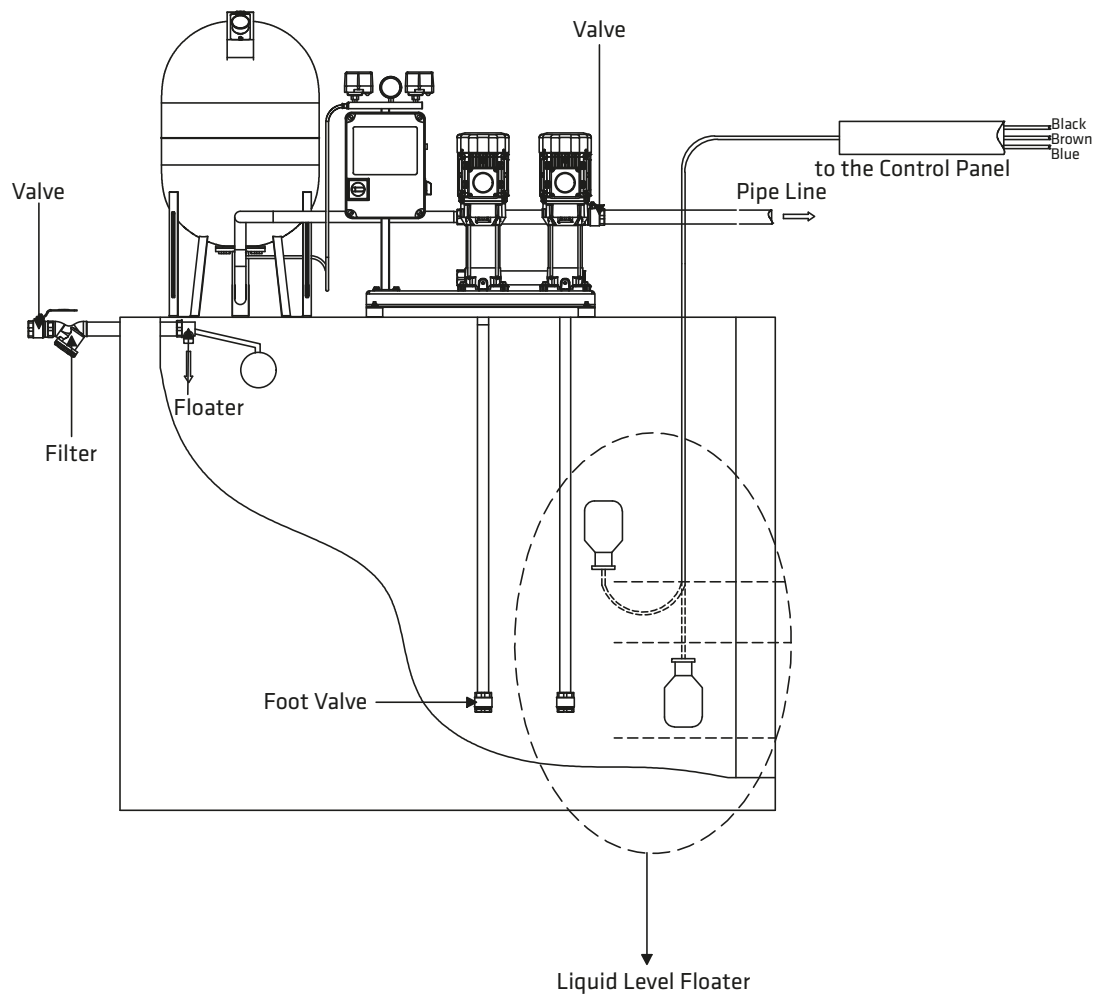
Operation of the booster by suction is actually not correct. However, when this is forced to, the installation should be designed using a pipe whose internal diameter is at least one diameter wider than the suction mouth of the pump. From the shortest possible path, the installation should be determined using the least amount of elbow and fittings. Valve diameter should be kept as large as possible. It is mandatory that each pump has a separate suction line.

Installation Types

Sample Installation with Suction Height



Sample Installation with Suction Depth



Control Panel Options

Two types of panels are used as standard in boosters.

- The first is pressure switch controlled electrical panels. These panels are run/stopped according to pressure signal received from each pump's separated pressure switches. In this type panel boosters, sufficient volume of expansion tank is used for minimizing number of switches.
- The second is frequency controlled electrical panels. Comfort is important in regarding facilities using these panels. Pressure information received from Transmitter is run on the frequency inverter's PFC macro or PLC and keeps the line pressure constant by reducing the pump's rate according to system flow rate. In this type of panel booster, an expansion tank with a lower volume than the first type is used.

Pressure Switch Controlled Panel Properties

- Works with 380-460 V AC 50 Hz / 60 Hz mains voltage.
- Panel frame is made of thermoplastic material with IP 54 protection class or manufactured from DKP sheet and painted with RAL 7032 electrostatic paint.
- Panels have Manuel - 0 - Automatic selector switch.
- Panels in Automatic position;
- Protection with floater against waterless operation
- Protection against phase interruption and imbalance
- There is co-aging execution by changing turns on each operation.
- During panel's protection relay failure, it works via pressure switches on Manuel position against waterless operation.



Figure 7: Front view of pressure switch controlled panel with triple pump

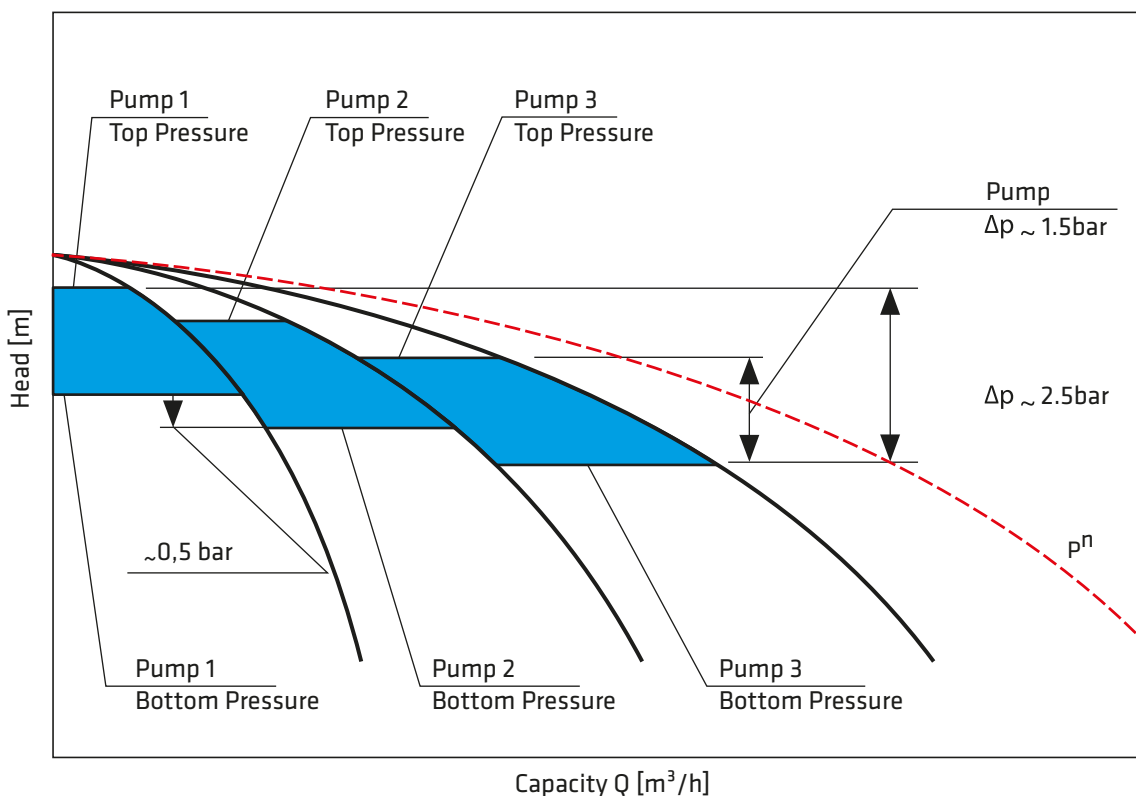


Figure 8. Control Panel With Pressure Sensors

Frequency controlled panel properties

- Works with 380-460 V AC 50 Hz / 60 Hz mains voltage.
- Panel frame is painted with IP 54 protection classed RAL 7032 electrostatic paint
- Panels have ventilation and filter.
- Panel switch can be controlled from front panel.
- Frequency converter device has overheat, motor overheat, motor overcurrent, short circuit, earth leakage, non-overload fault, motor phase loss, over and undervoltage protection and as standard internal EMC and entry shock coil.
- Panel is protected against mains phase loss imbalance and phase reversal.
- During phase fault, user is warned by signal lamps.
- For motors and frequency converter, there are separate thermal motor protection switches and fuses.
- Up to 4 pump applications in the PFC Macro system, system automation is controlled through PFC macro software and advanced LCD panel by an electronic card on the converter.
- When the number of pumps are 5 or more in PLCOPRT system, PLC and touch panel are used. Via software in the PLC, system automation is controlled by touch panel.
- Upon request, optionally, PLC operator system can be provided in all multi pumps.
- Up to 7,5 kW pumps are operated on direct start, 11 kW and above are operated on star-delta start. Optionally, instead of star-delta start soft start can be used.
- For each motor there are separate ON/OFF keys. Moreover, system can be operated as Automatic or Manual by separate switch.
- In AUTO position, in the PFC MACRO system, the pressure information from the 1 pressure sensor at the pumps collector output is input to the converter in 4-20mA as analogue. The control software adjusts the pump speed as to provide outlet pressure to the set pressure value from operator panel. When the required pump capacity is exceeded, a second pump is switched on from the network and the pump running on the converter adapts itself according to the new situation and provides regulation. In each additional pump the situation continues in the same way. When the need for water decreases, the pump goes to standby. It steps in again if needed and continues to work in the same way. When there is a problem with any pump, the pump is switched on automatically. After each standby state, the pump entering the circuit runs in sequence.

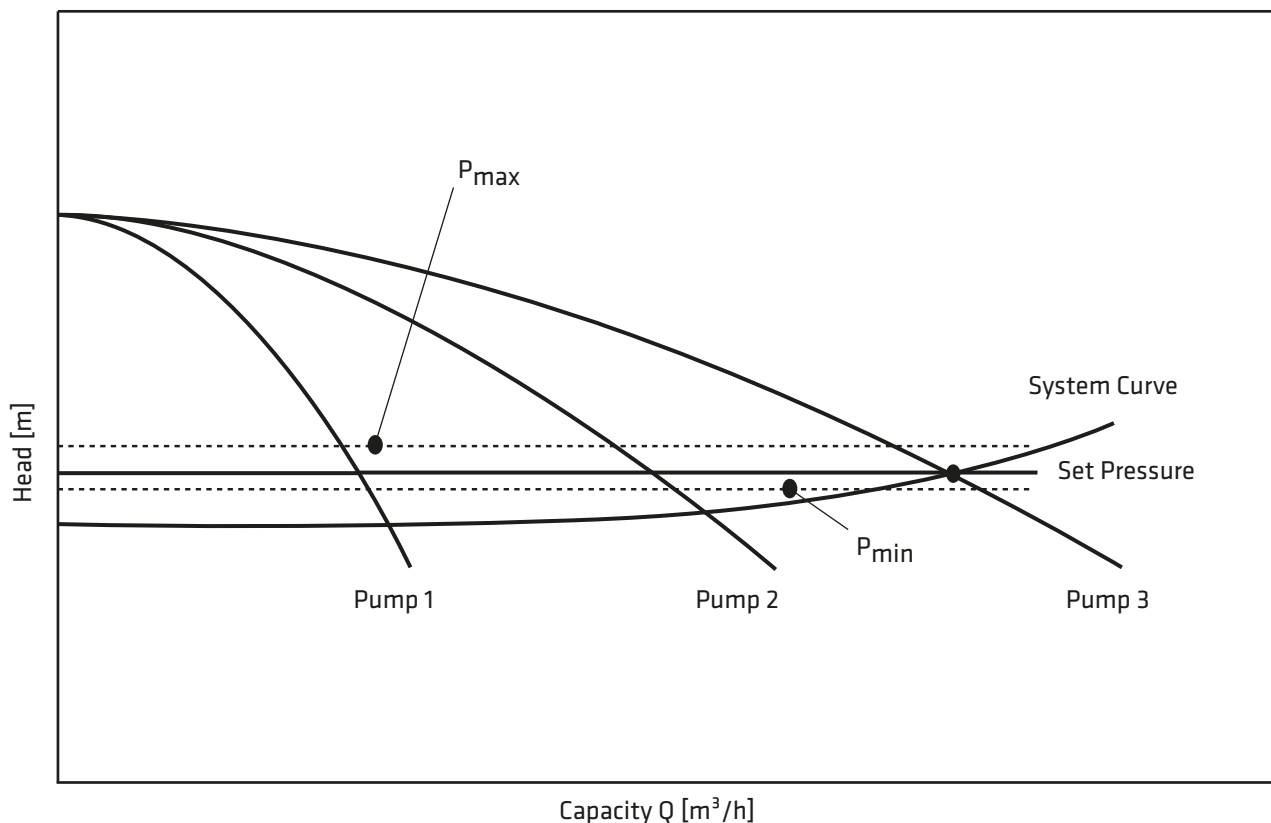


Figure 9. Frequency Controlled Booster

•The operation in PLC OPRT system in AUTO mode is same as above. The pressure sensor is connected to the PLC and the pumps are controlled via the software in the PLC. System information entries are made via the operator touch panel located on the panel.

•In case of a malfunction on the electronic system or on the converter in MANUEL position, the pumps that are switched on are operated directly or star-delta via the contactors on the panel. In this case, the pressure is adjusted by the pressure switches at the outlet of the collector.

- Separate operating and fault lamp for each motor.
- Lamp for converter failure.
- Lamp for phase protection.
- Dry contact output for general failure.
- Panel is delivered as ready to commissioning.
- The input shock coil is available as STANDARD to reduce the harmonic distortion in the mains supplied by the panel.



Figure 10: Front view of frequency controlled panel with double pump

Minimum Pipe and Valve Diameters for Mahing Suction Boosters					
	Suction Pipe	Foot Valve		Suction Pipe	Foot Valve
SB M/T 80	1¼"	1½"	CDLF 4	1½"	2"
SB M/T 90	1½"	2"	CDLF 8	2"	2½"
SB M/T 100	2"	2½"	CDLF 12	2"	2½"
SB T 130	2½"	3"	CDLF 16	2"	2½"
GRV VD	2"	2½"	CDLF 20	2½"	3"
GRV VB	2"	2½"	CDLF 32	2½"	3"
SKMV 32	2"	2½"	CDLF 42	3"	4"
SKMV 40	2½"	3"	CDLF 65	4"	5"
SKMV 50	3"	4"	CDLF 85	4"	5"
SKMV 65	4"	5"			

NOTE: Recommendation for suction pipe diameter is given for steel pipe, if plastic pipe is used diameter of pipe should be increased.

Table 4

Pump • Fire Fighting Units • Booster Set

TH CDLF

STAINLESS BOOSTERS

TH CDLF Rev.05.03.2024



General Information

High pressure, quiet running, compact and low power consumption.

All surfaces that contact with the liquid are stainless steel, In-line (straight pipe attachable) type pumps.

CDLF pumps are suitable for pumping non-abrasive, clean or slightly contaminated, low-viscosity liquids without solid & fibrous particles.

Bearing is provided by tungsten carbide sliding bearings.

Vertical structure saves space.

Technical Data

Capacity ————— up to 110 m³/h

Head ————— up to 160 m

Design Temperature — -10 °C to 120 °C

Casing Pressure ————— 10 - 16 - 25 barv

•Electric motors of high efficiency class conforming to IEC 60034-30 standard are used.

•Booster pumps can be manufactured with valve, check-valve, stainless steel base plate, depending on request.

•The booster pumps can be manufactured as a variable-speed frequency control for convenience.

•At 11 kW and above, the booster pump base plate is NPU iron construction.

Design Features

•TH CDLF booster pumps are manufactured as vertical pump.

•The booster pumps are produced as single, double and triple pumps as a standard according to the desired flow rate. Upon request, up to 6 pumps can be set.

•For Single-pump booster pumps have a water level float (electric floater).

•Phase control system (PCS) is available in single pump, three-phase motorized booster pumps.

•Sequencing, phase control and liquid level control are standard features for multiple pumped booster pumps.

•Booster pumps can operate in two different modes; automatically and manually.

•Electrical materials used in the booster pump panels are selected from reliable and quality brands.

Booster Designation

TH -1 x CDLF 4 / 10

Booster Type ————
Number of Pumps ————
Pump Type ————
Model ————
Number of Stage ————

Material Information

Part Name	Material	
	Standard	Optional
Pump		
Base Plate	GG 25	-
Stage Casing	AISI 304	-
Intermediate Stage	AISI 304	-
Impeller	AISI 304	-
Shaft	AISI 304	-
Tube	AISI 304	-
Panel	Pressure Switch Controlled	Frequency Controlled
Collector	AISI 304	AISI 316 L / Galvanized Steel
Frame	Steel	AISI 316 L
Accessories		
Valve	Brass	AISI 304
Check Valve	Brass	AISI 316

Shaft Sealing:

Mechanical seal is provided. The pump can be changed without separating the installation/facility.

Stainless Steel Impeller:

Highly productive design produced by Sheet Forming Technology

Rotary Connection Flanges:

Hole axis adjustment is easier by means of the rotating structure.

Pump Bearings:

It has a long life and silent structure by means of tungsten carbide bearings.

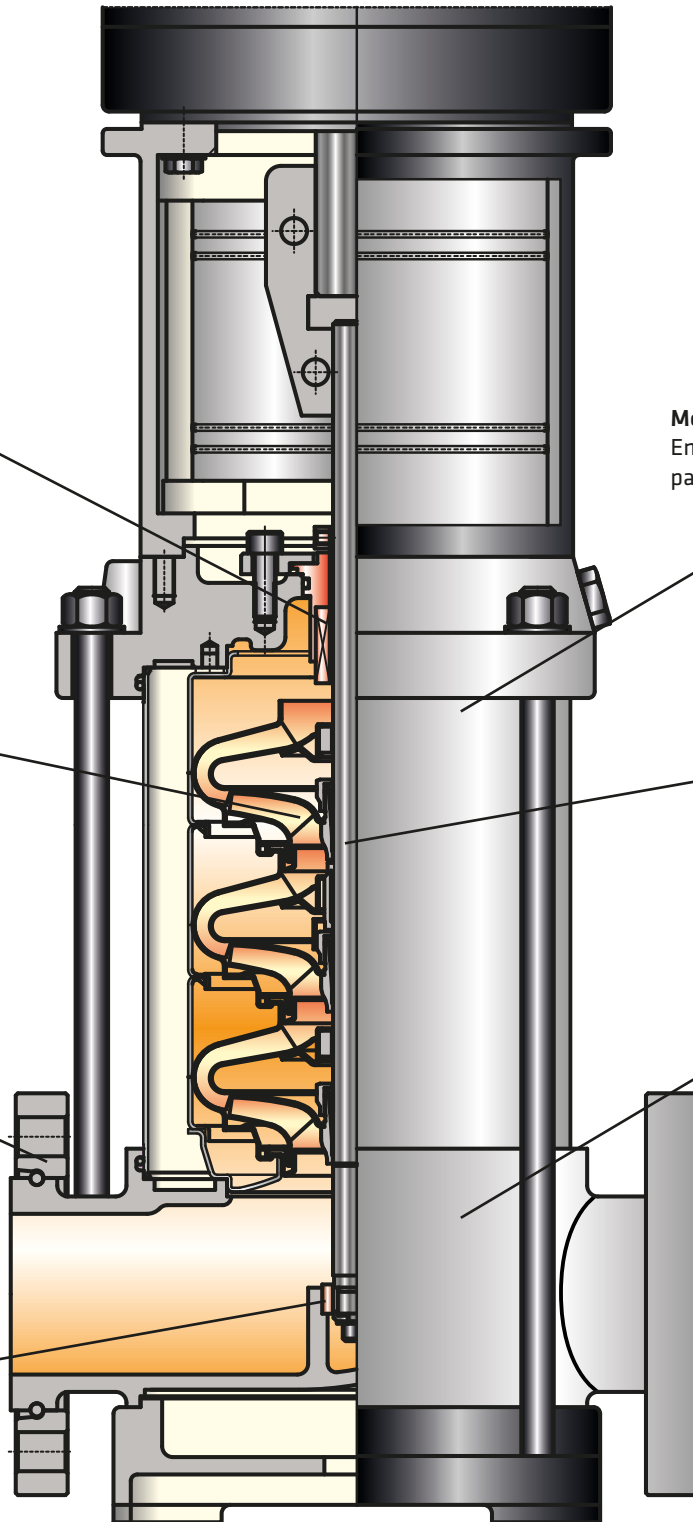
Modular Structure:

Ensures to reduce costs of spare parts and stock.

Connection without key technology makes it easy to remove the impellers during maintenance.

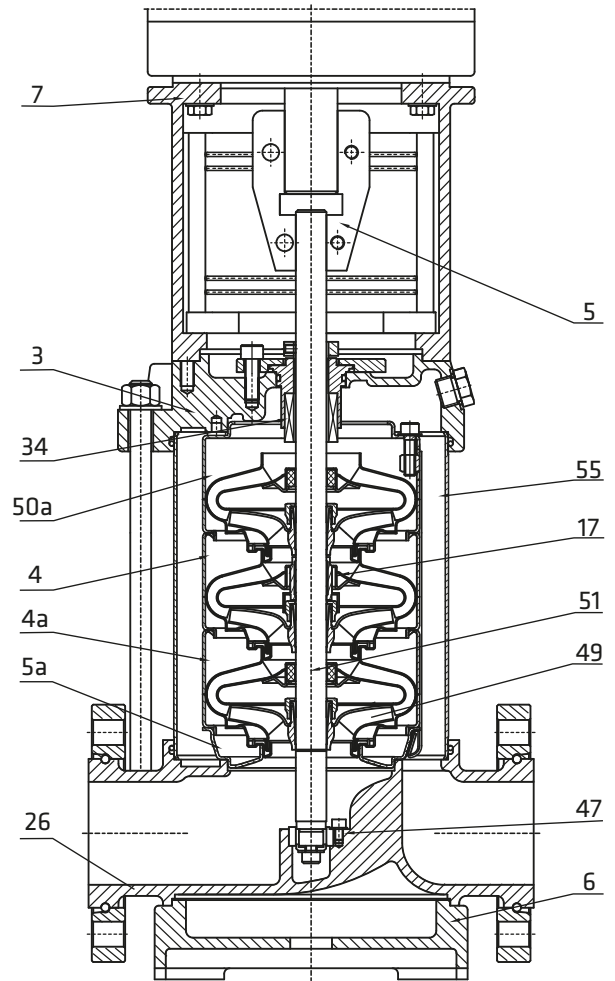
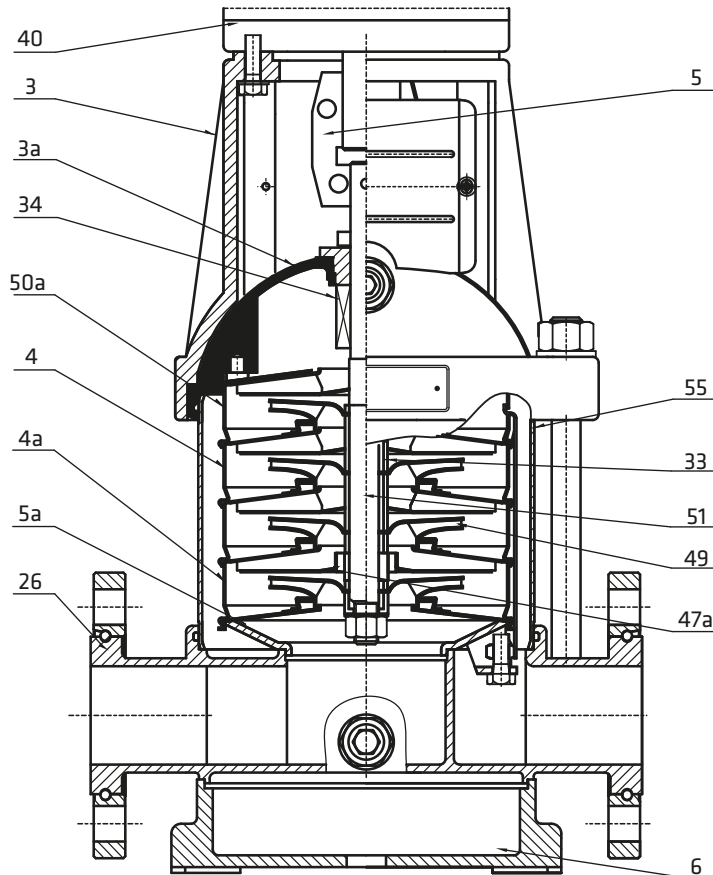
Suction and Discharge Casing:

Stainless steel body in-line design makes it easy for installation.



CDLF 4,8,12,16,20

CDLF 32,42,65,85



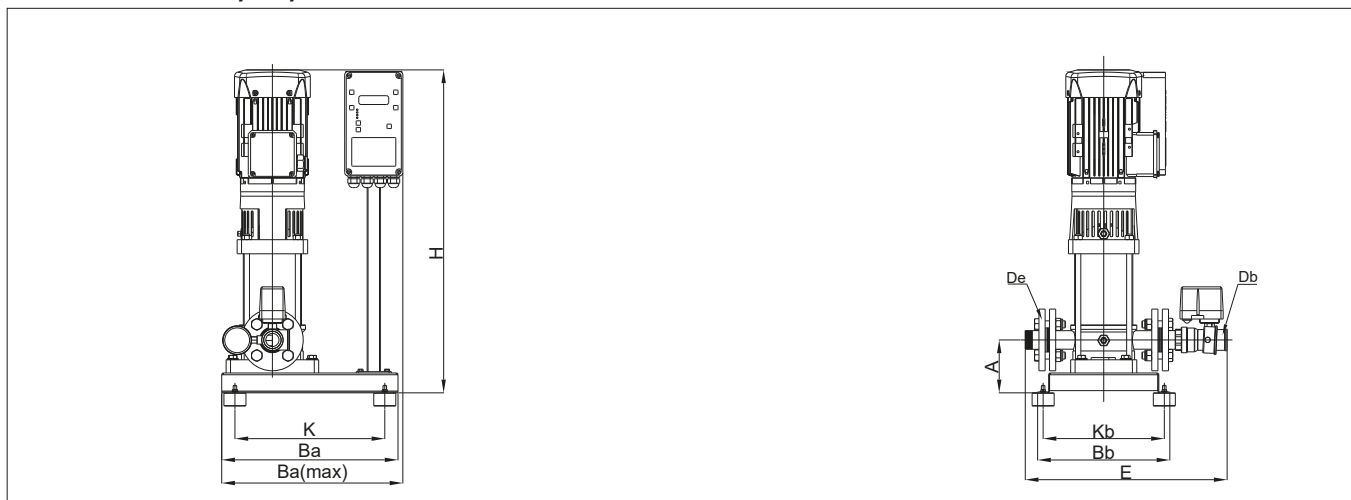
Part List

3	Upper Body	Cast Iron (GG 25)
3a	Liner	Stainless Steel (AISI 304)
4	Diffuser	Stainless Steel (AISI 304)
4a	Lower Diffuser	Stainless Steel (AISI 304)
5	Coupling	Carbon Steel
5a	Inducer	Stainless Steel (AISI 304)
6	Baseplate	Cast Iron (GG 25)
26	Suction and Discharge Casing	Stainless Steel (AISI 304)
33	Sleeve	Stainless Steel (AISI 304)
34	Mechanical Seal	-
40	Electric Motor	-
47a	Bearing	Tungsten carbide
49	Impeller	Stainless Steel (AISI 304)
50a	Upper Diffuser	Stainless Steel (AISI 304)
51	Pump Shaft	Stainless Steel (AISI 304)
55	Cover Plate	Stainless Steel (AISI 304)

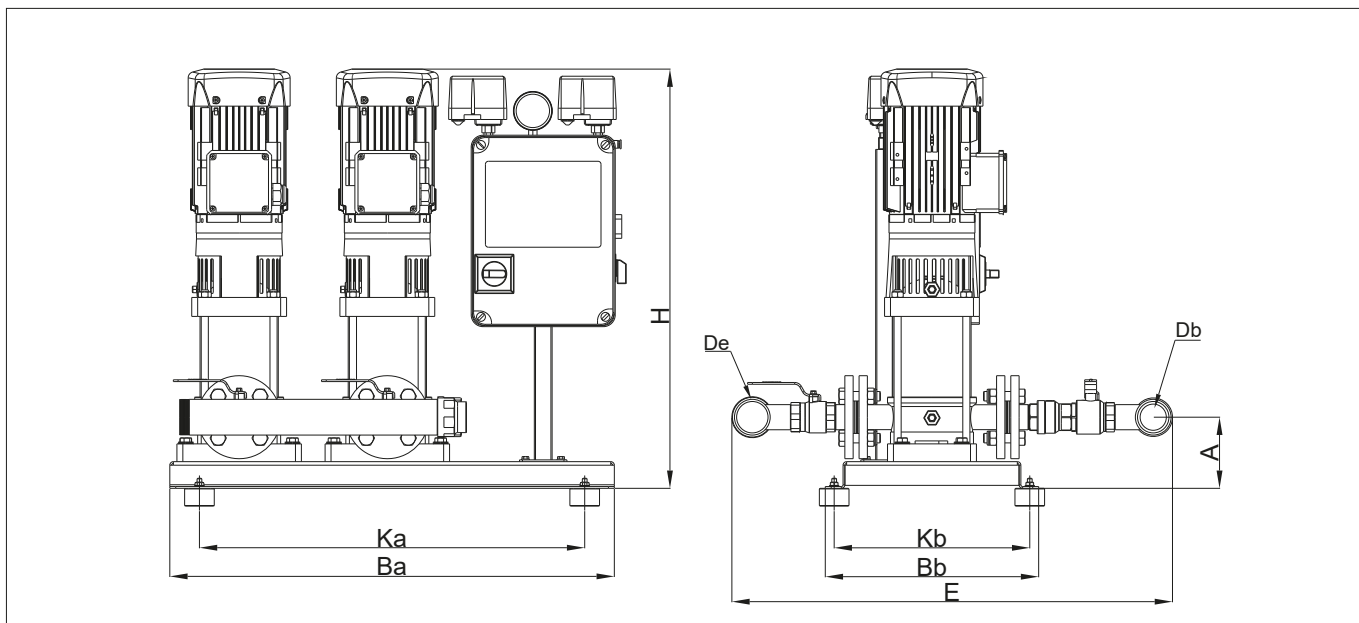
3	Upper Body	Stainless steel (AISI 304)
4	Diffuser	Stainless steel (AISI 304)
4a	Lower Diffuser	Stainless steel (AISI 304)
5	Coupling	Carbon Steel
5a	Inducer	Stainless steel (AISI 304)
6	Baseplate	Cast Iron (GG 25)
7	Motor Pedestal	Cast Iron (GG 25)
17	Bearing	Tungsten carbide
26	Suction and Discharge Casing	Stainless steel (AISI 304)
34	Mechanical Seal	-
47	Lower Bearing	Tungsten Carbide
49	Impeller	Stainless steel (AISI 304)
50a	Upper Diffuser	Stainless steel (AISI 304)
51	Pump shaft	Stainless steel (AISI 304)
55	Cover Plate	Stainless steel (AISI 304)

Booster set with one pump

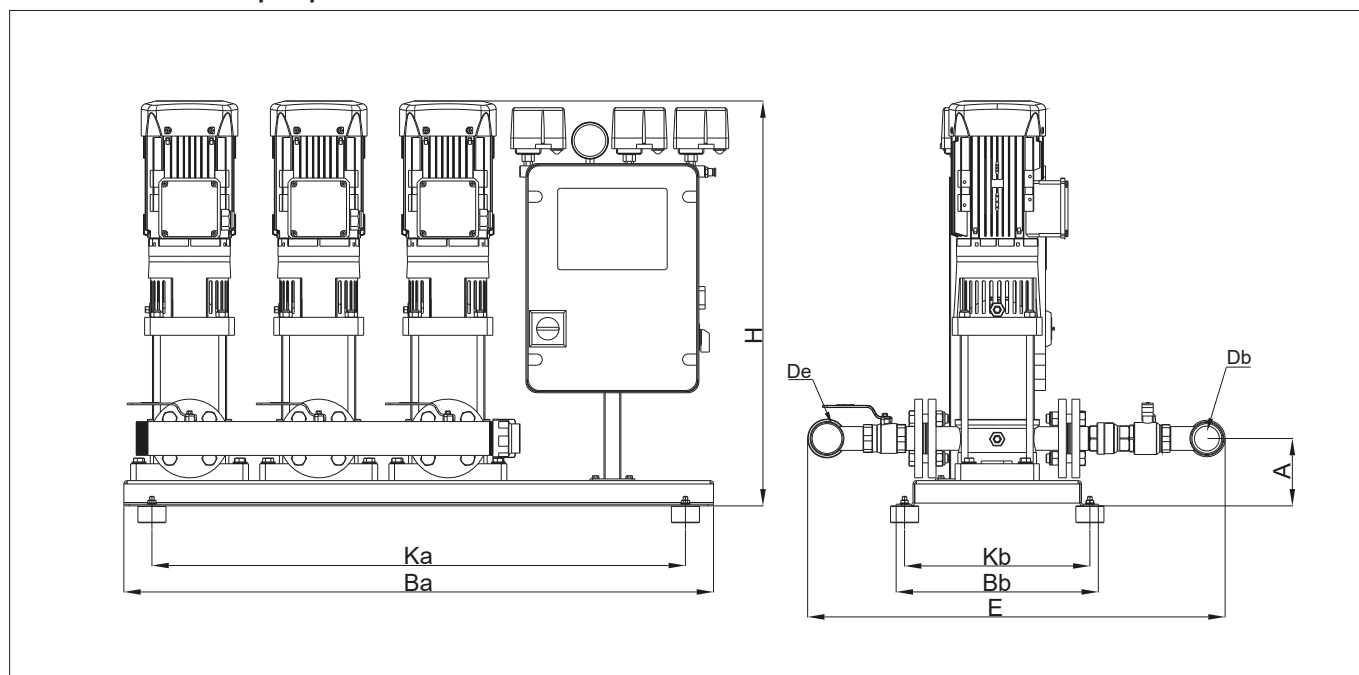
NPU Base Plate Design

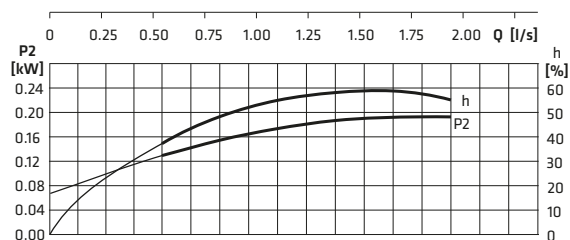
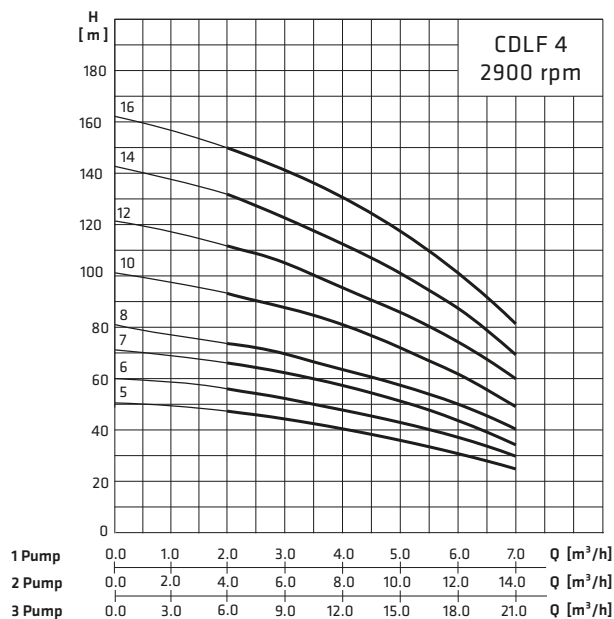


Booster set with two pumps

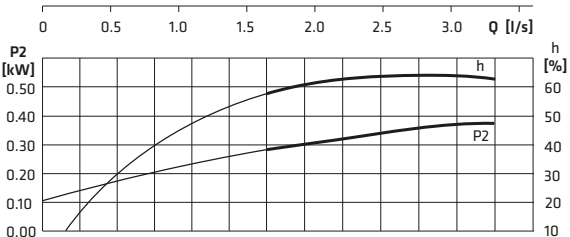
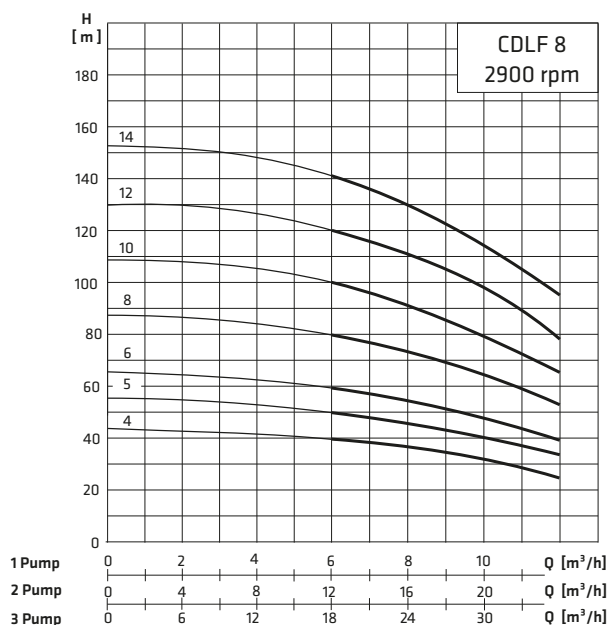


Booster set with three pumps





Performance curves are given according to ISO9906:2012 Gr3B



Performance curves are given according to ISO9906:2012 Gr3B

Pump Type	kW	De	Db	Ba	Bb	Ba (mx)	H	Ka	Kb	E	A	KG
TH-1xCDF 4-5	1.1						660					39
TH-1xCDF 4-6	1.1						685					39
TH-1xCDF 4-7	1.5						765					45
TH-1xCDF 4-8	1.5	1 1/4"	1 1/4"	400	300	415	795	340	275	430	120	45
TH-1xCDF 4-10	2.2						835					49
TH-1xCDF 4-12	2.2						900					50
TH-1xCDF 4-14	3						990					58
TH-1xCDF 4-16	3						1045					60

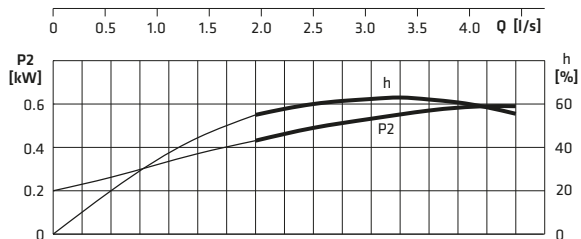
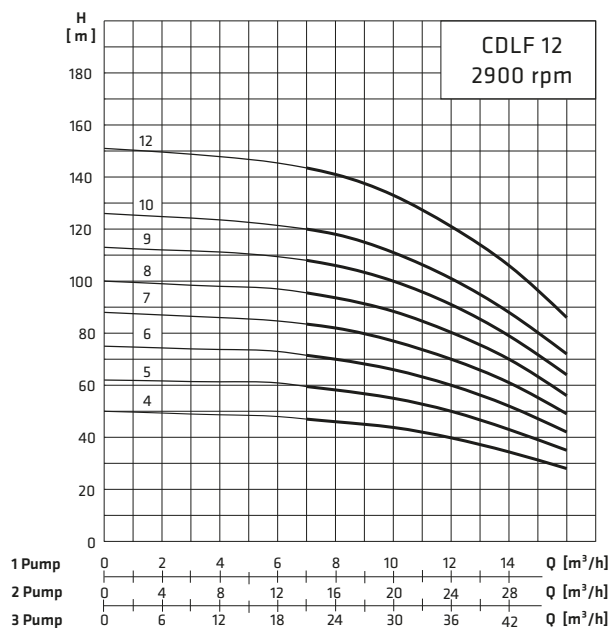
Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	KG
TH-2xCDF 4-5	1.1					660					115
TH-2xCDF 4-6	1.1					685					115
TH-2xCDF 4-7	1.5					765					127
TH-2xCDF 4-8	1.5	2"	2"	750	360	795	650	330	750	120	127
TH-2xCDF 4-10	2.2					835					135
TH-2xCDF 4-12	2.2					900					137
TH-2xCDF 4-14	3					990					153
TH-2xCDF 4-16	3					1045					157

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	KG
TH-3xCDF 4-5	1.1					660					161
TH-3xCDF 4-6	1.1					685					161
TH-3xCDF 4-7	1.5					765					179
TH-3xCDF 4-8	1.5	2"	2"	1050	360	795	950	330	750	120	179
TH-3xCDF 4-10	2.2					835					191
TH-3xCDF 4-12	2.2					900					194
TH-3xCDF 4-14	3					990					218
TH-3xCDF 4-16	3					1045					224

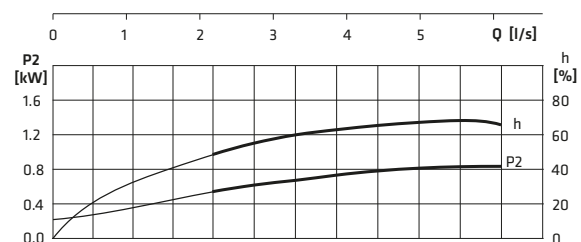
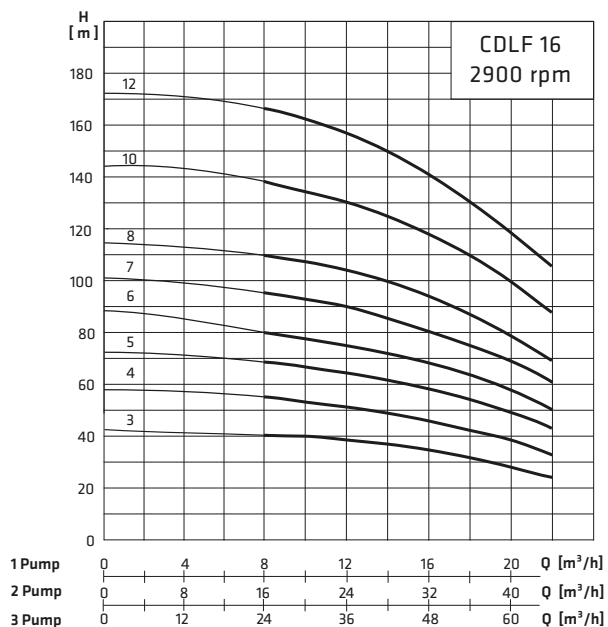
Pump Type	kW	De	Db	Ba	Bb	Ba (mx)	H	Ka	Kb	E	A	KG
TH-1xCDF 8-4	1.5						755					54
TH-1xCDF 8-5	2.2						785					58
TH-1xCDF 8-6	2.2						815					59
TH-1xCDF 8-8	3	1 1/2"	1 1/2"	400	300	415	907	240	410	510	130	67
TH-1xCDF 8-10	4						987					78
TH-1xCDF 8-12	4						1047					80
TH-1xCDF 8-14	5.5						1222					95

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	KG
TH-2xCDF 8-4	1.5					755					145
TH-2xCDF 8-5	2.2					785					153
TH-2xCDF 8-6	2.2					815					155
TH-2xCDF 8-8	3	2"	2"	850	360	907	750	330	850	125	171
TH-2xCDF 8-10	4					987					193
TH-2xCDF 8-12	4					1047					197
TH-2xCDF 8-14	5.5					1222					227

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	KG
TH-3xCDF 8-4	1.5					755					145
TH-3xCDF 8-5	2.2					785					153
TH-3xCDF 8-6	2.2					815					155
TH-3xCDF 8-8	3	2"	2"	850	360	907	750	330	850	125	171
TH-3xCDF 8-10	4					987					193
TH-3xCDF 8-12	4					1047					197
TH-3xCDF 8-14	5.5					1222					227



Performance curves are given according to ISO9906:2012 Gr3B



Performance curves are given according to ISO9906:2012 Gr3B

Pump Type	kW	De	Db	Ba	Bb	Ba (mx)	H	Ka	Kb	E	A	KG
TH-1xCDF 12-4	3						800					65
TH-1xCDF 12-5	3						830					67
TH-1xCDF 12-6	4						880					75
TH-1xCDF 12-7	5.5	2"	2"	400	300	415	1025	340	275	540	135	87
TH-1xCDF 12-8	5.5						1055					88
TH-1xCDF 12-9	5.5						1085					90
TH-1xCDF 12-10	7.5						1115					110
TH-1xCDF 12-12	7.5						1175					114

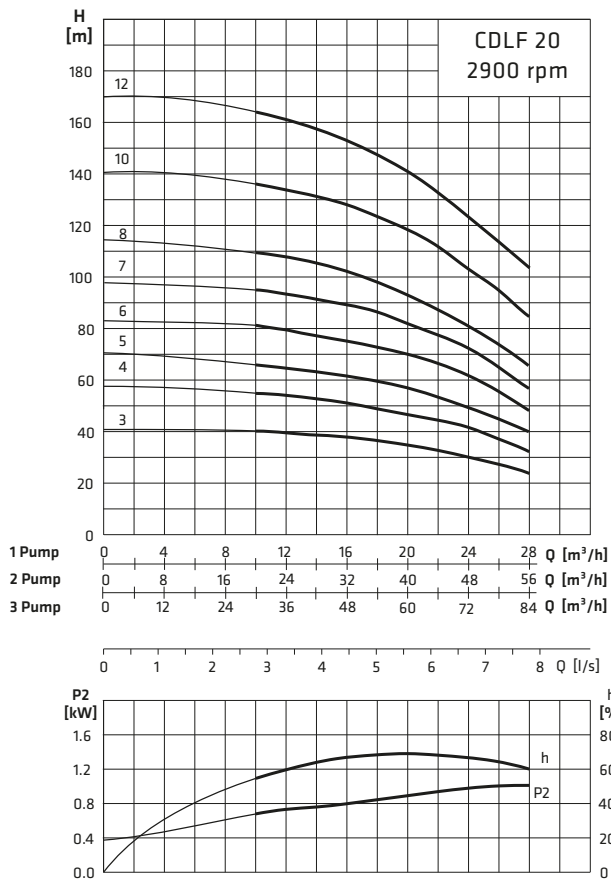
Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	KG
TH-2xCDF 12-4	3					800					167
TH-2xCDF 12-5	3					830					171
TH-2xCDF 12-6	4					880					187
TH-2xCDF 12-7	5.5	2½"	2½"	900	360	1025	800	330	950	135	211
TH-2xCDF 12-8	5.5					1055					213
TH-2xCDF 12-9	5.5					1085					217
TH-2xCDF 12-10	7.5					1115					246
TH-2xCDF 12-12	7.5					1175					254

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	KG
TH-3xCDF 12-4	3					800					237
TH-3xCDF 12-5	3					830					243
TH-3xCDF 12-6	4					880					267
TH-3xCDF 12-7	5.5	3"	3"	1250	360	1025	1150	330	980	135	303
TH-3xCDF 12-8	5.5					1055					306
TH-3xCDF 12-9	5.5					1085					312
TH-3xCDF 12-10	7.5					1115					419
TH-3xCDF 12-12	7.5					1175					432

Pump Type	kW	De	Db	Ba	Bb	Ba (mx)	H	Ka	Kb	E	A	KG
TH-1xCDF 16-3	3						815					64
TH-1xCDF 16-4	4						880					73
TH-1xCDF 16-5	5.5						1040					90
TH-1xCDF 16-6	5.5	2"	2"	400	300	415	1085	340	275	540	135	91
TH-1xCDF 16-7	5.5						1130					98
TH-1xCDF 16-8	7.5						1175					100
TH-1xCDF 16-10	7.5						1410					182
TH-1xCDF 16-12	11						1500					185

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	KG
TH-2xCDF 16-3	3					815					165
TH-2xCDF 16-4	4					880					183
TH-2xCDF 16-5	5.5					1040					217
TH-2xCDF 16-6	5.5	2½"	2½"	850	360	1085	750	330	860	135	219
TH-2xCDF 16-7	7.5					1130					233
TH-2xCDF 16-8	7.5					1175					237
TH-2xCDF 16-10	11			1450		1410	1350				396
TH-2xCDF 16-12	11					1500					402

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	KG
TH-3xCDF 16-3	3					815					234
TH-3xCDF 16-4	4					880					261
TH-3xCDF 16-5	5.5					1040					312
TH-3xCDF 16-6	5.5	3"	3"	1250	360	1085	1150	330	870	135	315
TH-3xCDF 16-7	7.5					1130					336
TH-3xCDF 16-8	7.5					1175					342
TH-3xCDF 16-10	11			1800		1410	1600				591
TH-3xCDF 16-12	11					1500					599



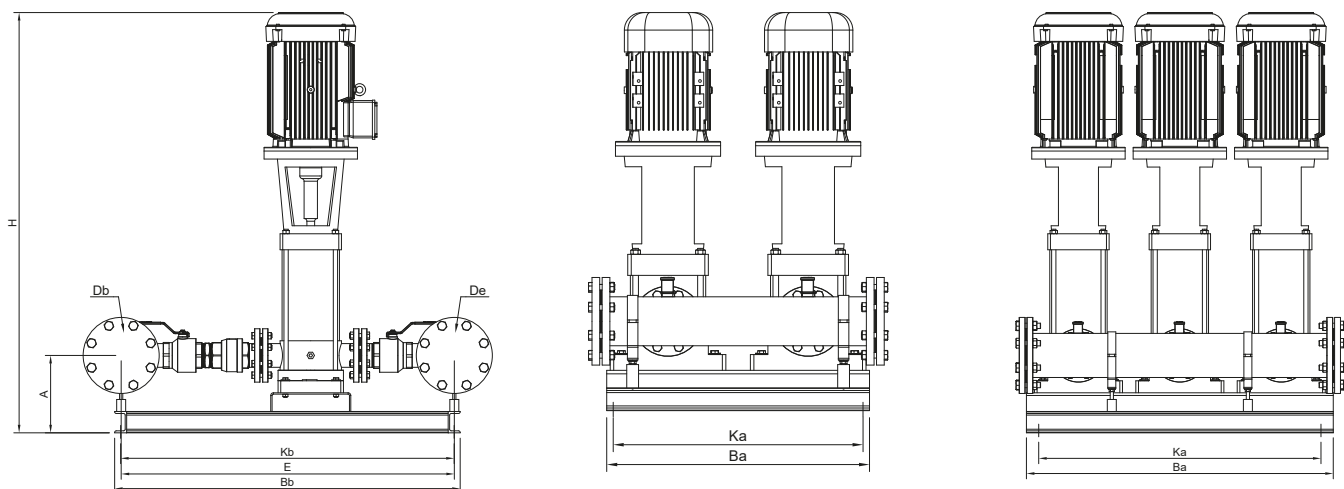
Pump Type	kW	De	Db	Ba	Bb	Ba (mx)	H	Ka	Kb	E	A	KG
TH-1xCDF 20-3	4						835					72
TH-1xCDF 20-4	5.5						995					88
TH-1xCDF 20-5	5.5						1040					90
TH-1xCDF 20-6	7.5	2"	2"	400	300	415	1085	410	240	540	135	96
TH-1xCDF 20-7	7.5						1130					98
TH-1xCDF 20-8	11						1320					179
TH-1xCDF 20-10	11						1410					183
TH-1xCDF 20-12	15						1500					196

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	KG
TH-2xCDF 20-3	4					835					181
TH-2xCDF 20-4	5.5					995					213
TH-2xCDF 20-5	5.5					1040					217
TH-2xCDF 20-6	7.5	2 1/2"	2 1/2"	850	360	1085	750	330	920	135	229
TH-2xCDF 20-7	7.5					1130					233
TH-2xCDF 20-8	11					1320					413
TH-2xCDF 20-10	11			1450		1410	1350				421
TH-2xCDF 20-12	15					1500					452

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	KG
TH-3xCDF 20-3	4					835					306
TH-3xCDF 20-4	5.5					995					354
TH-3xCDF 20-5	5.5					1040					360
TH-3xCDF 20-6	7.5	3"	3"	1250	360	1085	1150	330	935	135	378
TH-3xCDF 20-7	7.5					1130					384
TH-3xCDF 20-8	11					1320					611
TH-3xCDF 20-10	11			1800		1410	1600				623
TH-3xCDF 20-12	15					1500					667

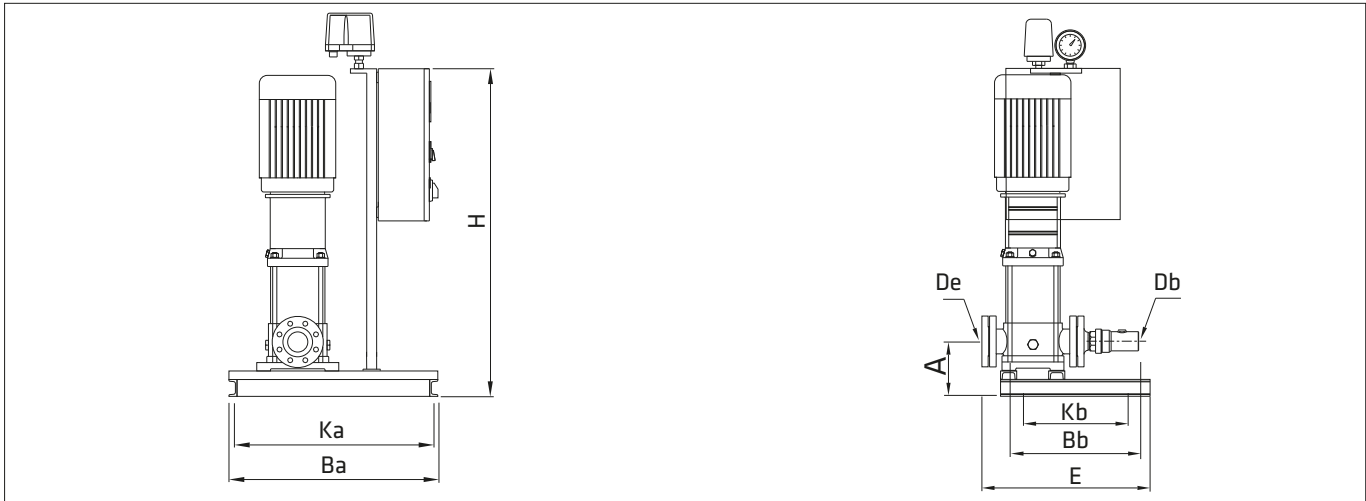
Dimensions CLDF (32,42,65 ve 85)

The drawings which are given below illustrates the booster sets which are CDF 32, 42, 65 and 85 series with 18.5 kW and above motor power. Control panel of those booster set are supplied separately from base plate.

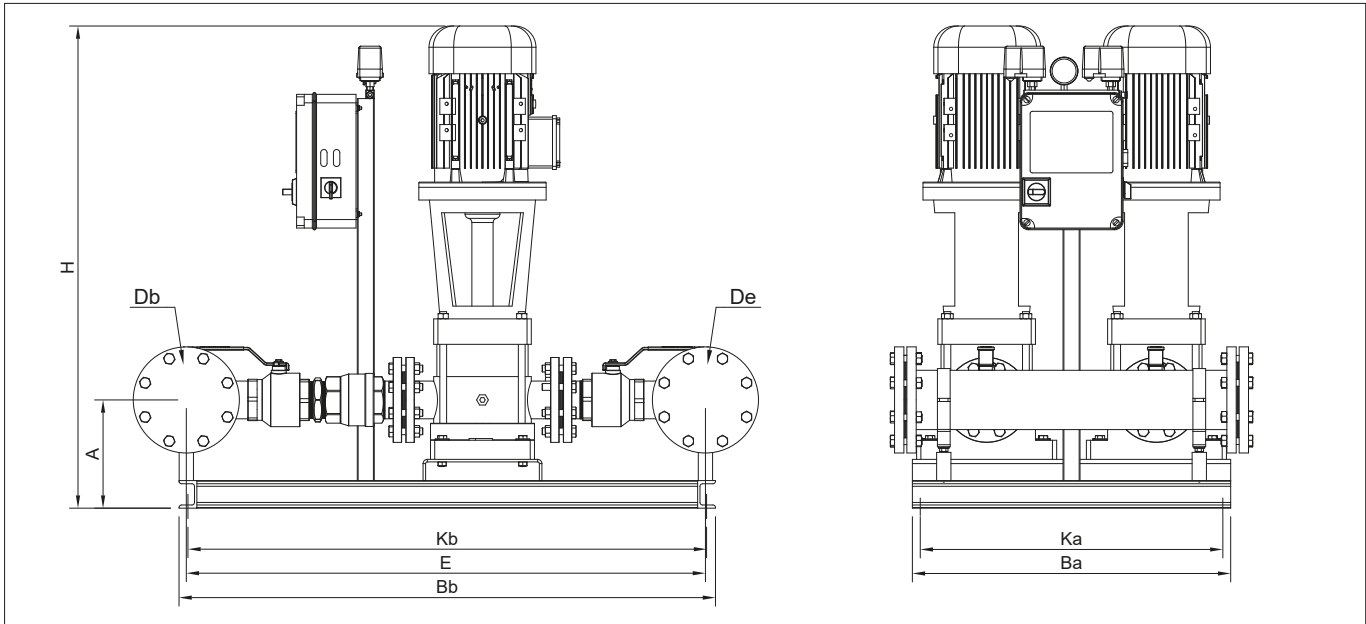


Booster set with one pump

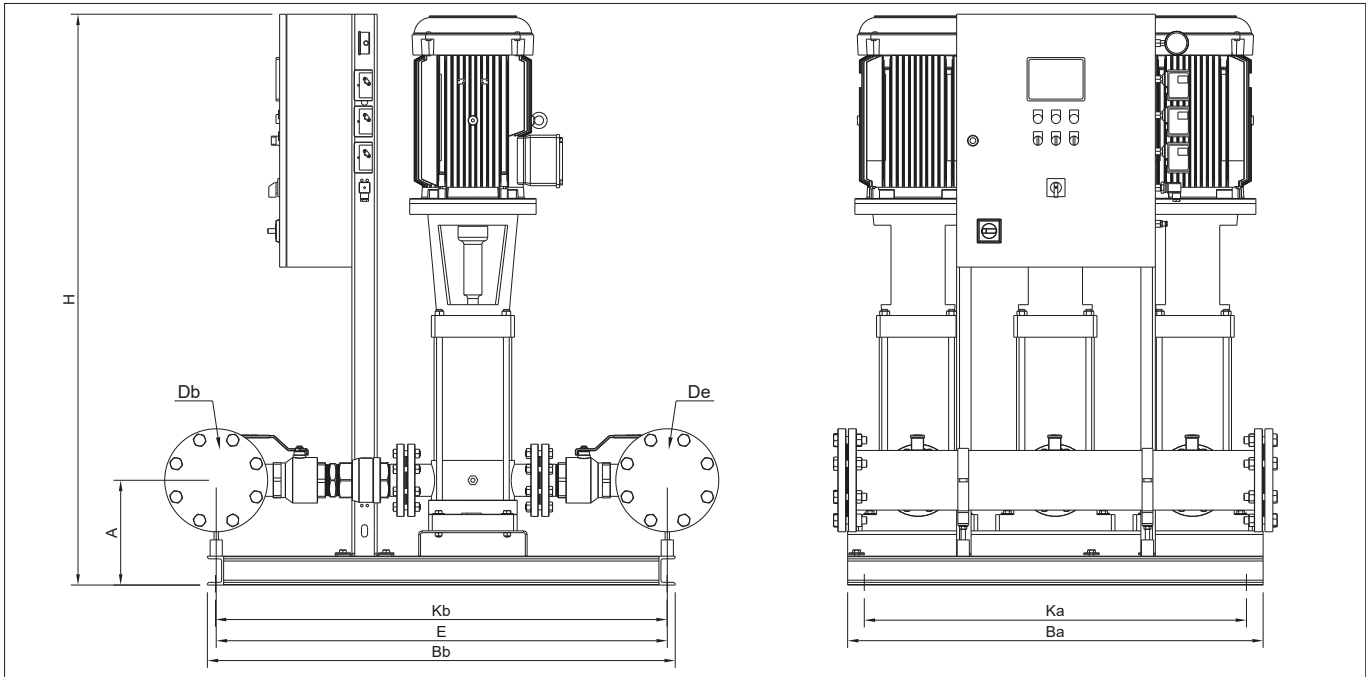
NPU Baseplate Design



Booster set with two pumps

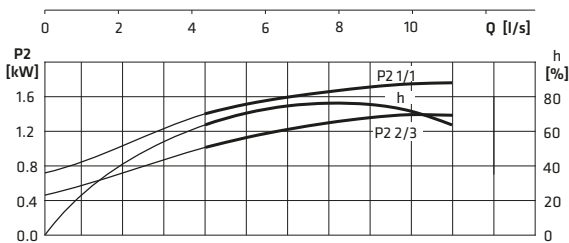
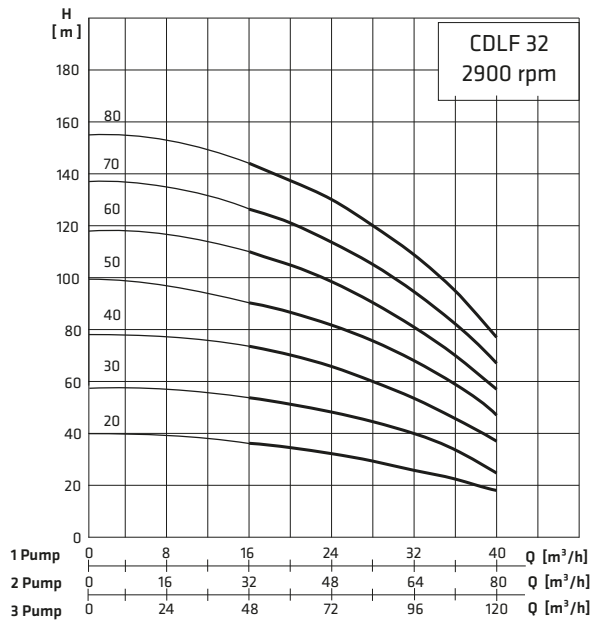


Booster set with three pumps

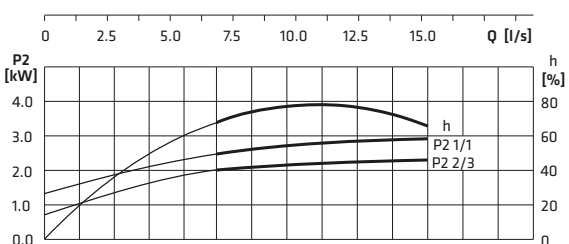
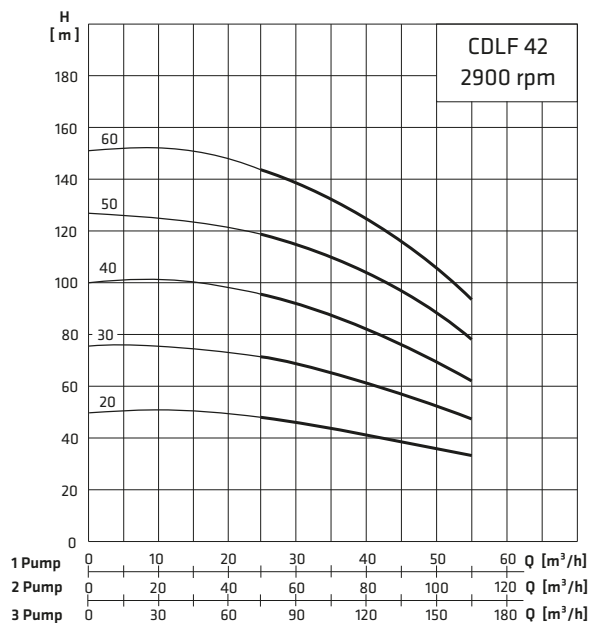


Performance Curves and Dimensions

TH CDLF



Performance curves are given according to ISO9906:2012 Gr3B



Performance curves are given according to ISO9906:2012 Gr3B

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-1xCDF 32-20	4					1000						116
TH-1xCDF 32-30	5.5					1150						131
TH-1xCDF 32-40	7.5					1200						140
TH-1xCDF 32-50	11	2 1/2"	2 1/2"	570	610	1550	530	470	590	235	B	241
TH-1xCDF 32-60	11					1600						245
TH-1xCDF 32-70	15					1650						264
TH-1xCDF 32-80	15					1750						268

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-2xCDF 32-20	4					1000						273
TH-2xCDF 32-30	5.5					1150						303
TH-2xCDF 32-40	7.5					1200						321
TH-2xCDF 32-50	11	4"	4"	850	930	1550	810	790	890	235	B	482
TH-2xCDF 32-60	11					1650						490
TH-2xCDF 32-70	15					1700						518
TH-2xCDF 32-80	15					1800						526

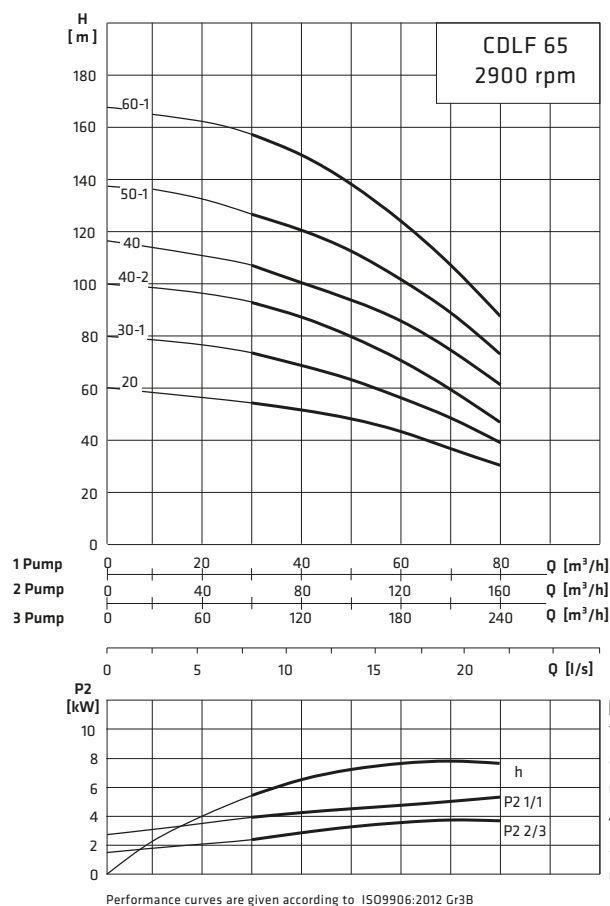
Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-3xCDF 32-20	4					1000						413
TH-3xCDF 32-30	5.5					1150						458
TH-3xCDF 32-40	7.5					1250						485
TH-3xCDF 32-50	11	5"	5"	1300	950	1550	1260	810	915	235	B	721
TH-3xCDF 32-60	11					1650						733
TH-3xCDF 32-70	15					1700						780
TH-3xCDF 32-80	15					1800						792

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-1xCDF 42-20	7.5					1250						149
TH-1xCDF 42-30	11					1450						222
TH-1xCDF 42-40	15	3"	3"	570	570	1550	530	430	550	285	B	236
TH-1xCDF 42-50	18.5					1700						260
TH-1xCDF 42-60	22					1800						300

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-2xCDF 42-20	7.5					1250						332
TH-2xCDF 42-30	11					1500						493
TH-2xCDF 42-40	15	5"	5"	850	1075	1600	810	935	1035	285	B	521
TH-2xCDF 42-50	18.5					1750						569
TH-2xCDF 42-60	22					1850						649

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-3xCDF 42-20	7.5					1250						500
TH-3xCDF 42-30	11					1500						739
TH-3xCDF 42-40	15	6"	6"	1300	1100	1600	1260	960	1060	285	B	786
TH-3xCDF 42-50	18.5					1750						858
TH-3xCDF 42-60	22					1850						978

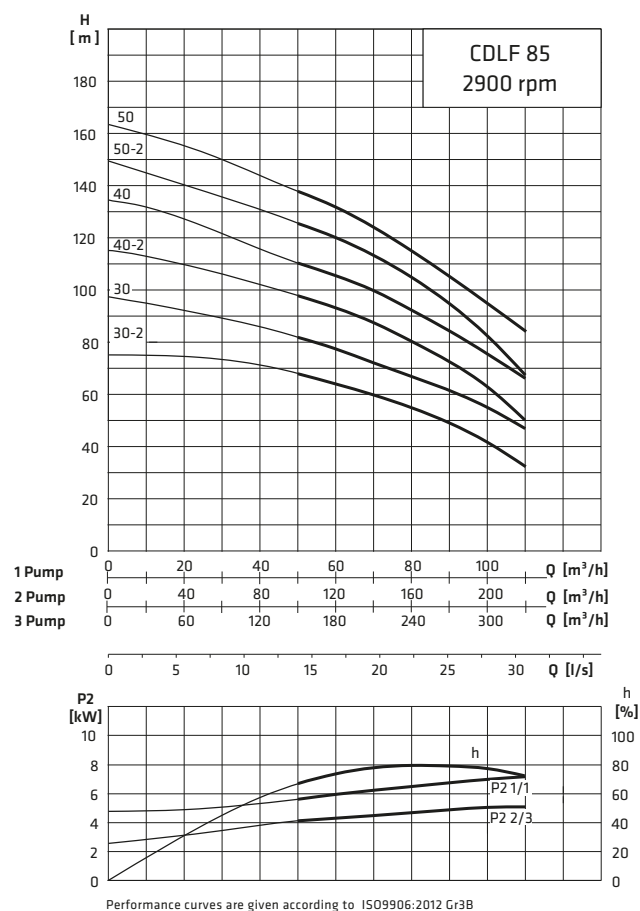
The specified dimensions and weights are approximate. Dimensions might be changed.



Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-1xCDF 65-20	11					1450						221
TH-1xCDF 65-30-1	15					1550						236
TH-1xCDF 65-40-2	18.5					1650						264
TH-1xCDF 65-40	22	4"	4"	570	600	1700	530	460	585	320	B	297
TH-1xCDF 65-50-1	30					1850						358
TH-1xCDF 65-60-1	37					1950						388

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-2xCDF 65-20	11					1500						486
TH-2xCDF 65-30-1	15					1550						531
TH-2xCDF 65-40-2	18.5					1700						592
TH-2xCDF 65-40	22	6"	6"	850	1150	1750	810	1010	1085	320	B	663
TH-2xCDF 65-50-1	30					1900						785
TH-2xCDF 65-60-1	37					2000						850

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-3xCDF 65-20	11					1500						731
TH-3xCDF 65-30-1	15					1550						796
TH-3xCDF 65-40-2	18.5					1700						885
TH-3xCDF 65-40	22	8"	8"	1300	1150	1750	1260	1010	1110	320	B	984
TH-3xCDF 65-50-1	30					1900						1167
TH-3xCDF 65-60-1	37					2000						1262



Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-1xCDF 85-30-2	18.5					1650						254
TH-1xCDF 85-30	22					1700						291
TH-1xCDF 85-40-2	30					1850						351
TH-1xCDF 85-40	30	4"	4"	570	600	1850	530	460	600	340	B	351
TH-1xCDF 85-50-2	37					1950						375
TH-1xCDF 85-50	37					1950						375

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-2xCDF 85-30-2	18.5					1700						562
TH-2xCDF 85-30	22					1700						651
TH-2xCDF 85-40-2	30					1900						776
TH-2xCDF 85-40	30	6"	6"	850	1150	1900	810	1010	1125	340	B	781
TH-2xCDF 85-50-2	37					2000						829
TH-2xCDF 85-50	37					2000						834

Pump Type	kW	De	Db	Ba	Bb	H	Ka	Kb	E	A	Tas.	KG
TH-3xCDF 85-30-2	18.5					1700						860
TH-3xCDF 85-30	22					1700						991
TH-3xCDF 85-40-2	30					1900						1176
TH-3xCDF 85-40	30	8"	8"	1300	1250	1900	1260	1110	1180	340	B	1176
TH-3xCDF 85-50-2	37					2000						1248
TH-3xCDF 85-50	37					2000						1253

The specified dimensions and weights are approximate. Dimensions might be changed.

Pump • Fire Fighting Units • Booster Set

TH SB BOOSTERS

TH SB Rev.05.03.2024



General Information

It is high pressure, quiet running, compact and low power consumption.

SB pumps are suitable for pumping non-abrasive, clean or slightly contaminated, low viscosity liquids without solid & fibrous particles.

Vertical design saves space.

Technical Data

Flow _____ up to 90 m³/h

Head _____ up to 160 m

Design Temperature _____ 0 °C to 50 °C

Casing Pressure _____ 10 - 16 bar

Design Features

- TH SB booster is manufactured with horizontal or vertical pump.
- The boosters are produced as single, double and triple pumps as a standard according to the desired flow. Upon request, up to 6 pumps can be set.
- Single-pump boosters have a water level float (electric floater).
- Phase control system (PCS) is available in single pump, three-phase motorized boosters.
- Sequencing, phase control and liquid level control are standard features for multiple pumped booster pumps.
- Booster pumps can operate in two different modes; automatically and manually.
- Electrical materials used in the booster pump panels are selected from reliable and quality brands.
- The booster pumps can be manufactured as a variable-speed frequency control for convenience.

Material Equivalents

Part Name	Material	
	Standard	Optional
Pump		
Base Plate	GG 25	-
Stage Casing	NORYL	-
Intermediate Stage	NORYL	-
Impeller	NORYL	-
Shaft	AISI 420	-
Cover Plate	AISI 304	-
Panel	Pressure Switch Controlled	Frequency Controlled
Collector	Steel	AISI 304
Frame	Steel	-
Accessories		
Valve	Brass	-
Check Valve	Brass	-

Booster Designation

Booster Type _____

Number of Pumps _____

Pump Type _____

T : Three-phase M : Mono-Phase _____

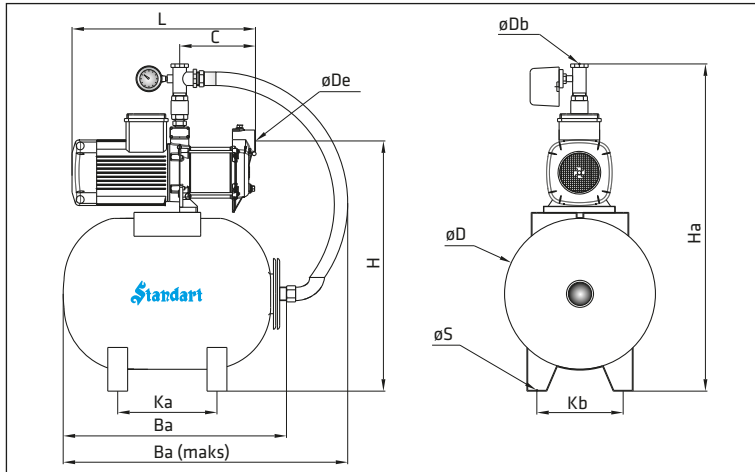
Vertical Installation _____

Motor Frame Size _____

Number of Stages _____

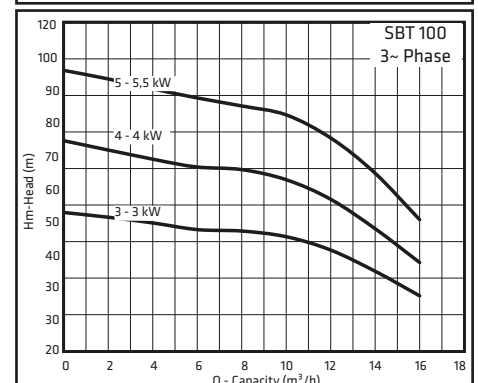
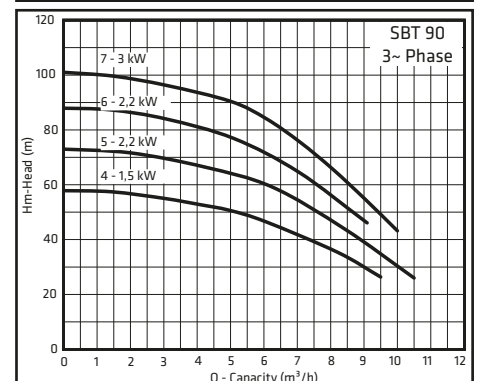
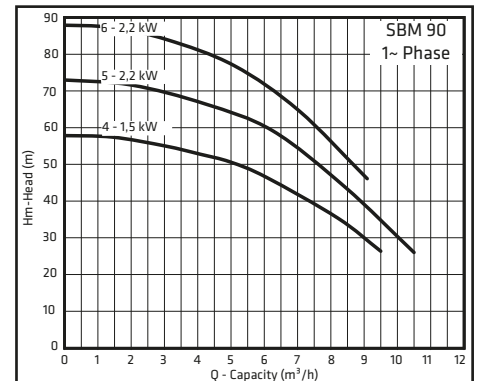
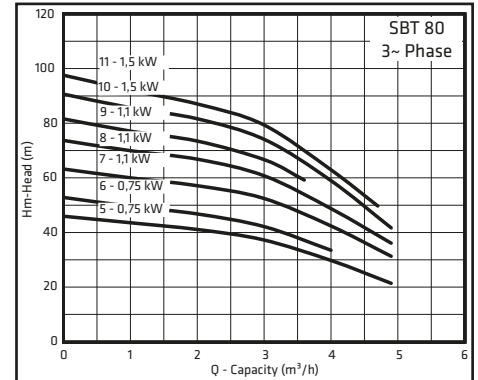
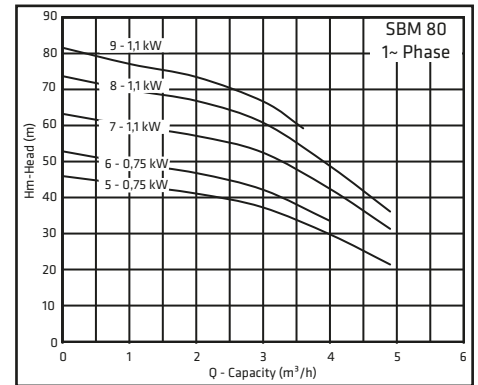
TH 1x SB T-V 80 /10

Horizontal boosters with tanks

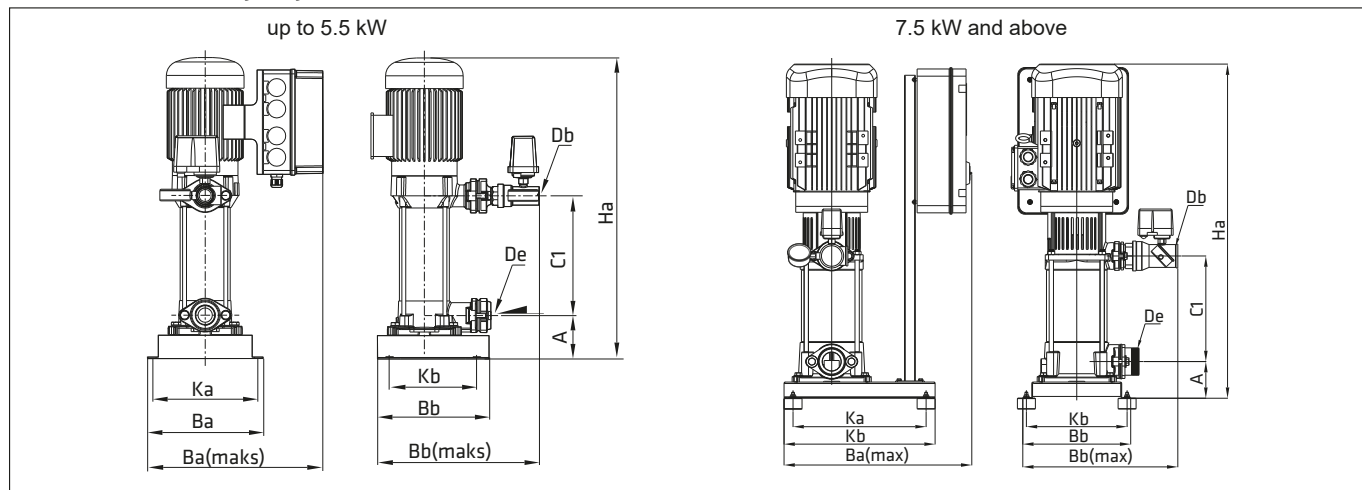


24 Liter Tank	De	Db	Ba	Ba(mx)	H	Ha	Ka	Kb	L	c	øD	øS	KG
SBM 80/5-24									455	200			25.8
SBM 80/6-24									475	230			26.8
SBM 80/7-24	1 1/4"	1"	480	587	465	669	190	158	500	250	265	10	26.9
SBM 80/8-24									520	270			28.1
SBM 80/9-24									540	295			28.8
24 Liter Tank	De	Db	Ba	Ba(mx)	H	Ha	Ka	Kb	L	c	øD	øS	KG
SBT 80/5-24									453	206			24.3
SBT 80/6-24									475	228			24.8
SBT 80/7-24									497	250			26.1
SBT 80/8-24	1 1/4"	1"	480	587	465	669	190	158	519	272	265	10	26.3
SBT 80/9-24									541	294			26.8
SBT 80/10-24									563	316			28.3
SBT 80/11-24									585	338			29
50 Liter Tank	De	Db	Ba	Ba(mx)	H	Ha	Ka	Kb	L	c	øD	øS	KG
SBM 80/5-50									453	206			31.7
SBM 80/6-50									475	228			32.2
SBM 80/7-50	1 1/4"	1"	600	696	565	779	220	232	497	250	280	10	32.8
SBM 80/8-50									519	272			34
SBM 80/9-50									541	294			34.7
50 Liter Tank	De	Db	Ba	Ba(mx)	H	Ha	Ka	Kb	L	c	øD	øS	KG
SBT 80/5-50									453	206			30.2
SBT 80/6-50									475	228			30.7
SBT 80/7-50									497	250			32
SBT 80/8-50	1 1/4"	1"	600	696	565	779	220	232	519	272	380	10	32.2
SBT 80/9-50									541	294			32.7
SBT 80/10-50									563	316			34.7
SBT 80/11-50									585	338			35
50 Liter Tank	De	Db	Ba	Ba(mx)	H	Ha	Ka	Kb	L	c	øD	øS	KG
SBM 90/4-50									489	218			39.3
SBM 90/5-50	1 1/4"	1"	600	696	603	796	220	232	517	246	380	10	41.3
SBM 90/6-50									545	274			41.8
50 Liter Tank	De	Db	Ba	Ba(mx)	H	Ha	Ka	Kb	L	c	øD	øS	KG
SBT 90/4-50									489	218			37.3
SBT 90/5-50	1 1/4"	1 1/4"	600	696	603	796	220	232	517	246	380	10	39.3
SBT 90/6-50									545	274			40.3
SBT 90/7-50									573	302			42.3
80 Liter Tank	De	Db	Ba	Ba(mx)	H	Ha	Ka	Kb	L	c	øD	øS	KG
SBM 90/4-80									489	218			44.1
SBM 90/5-80	1 1/4"	1 1/4"	635	828	708	901	330	276	517	246	460	10	46.1
SBM 90/6-80									545	274			46.6
80 Liter Tank	De	Db	Ba	Ba(mx)	H	Ha	Ka	Kb	L	c	øD	øS	KG
SBT 90/4-80									489	218			42.1
SBT 90/5-80	1 1/4"	1 1/4"	635	828	708	901	330	276	517	246	460	10	44.1
SBT 90/6-80									545	274			45.1
SBT 90/7-80									573	302			47.1
80 Liter Tank	De	Db	Ba	Ba(mx)	H	Ha	Ka	Kb	L	c	øD	øS	KG
SBT 100/3-80									530	219			51.3
SBT 100/4-80	1 1/2"	1 1/2"	635	880	746	1007	330	276	563	252	460	10	52.8
SBT 100/5-80									596	285			58
100 Liter Tank	De	Db	Ba	Ba(mx)	H	Ha	Ka	Kb	L	c	øD	øS	KG
SBT 100/3-100									530	219			52.6
SBT 100/4-100	1 1/2"	1 1/2"	820	940	746	1007	330	276	563	252	460	10	54.1
SBT 100/5-100									596	285			59.3

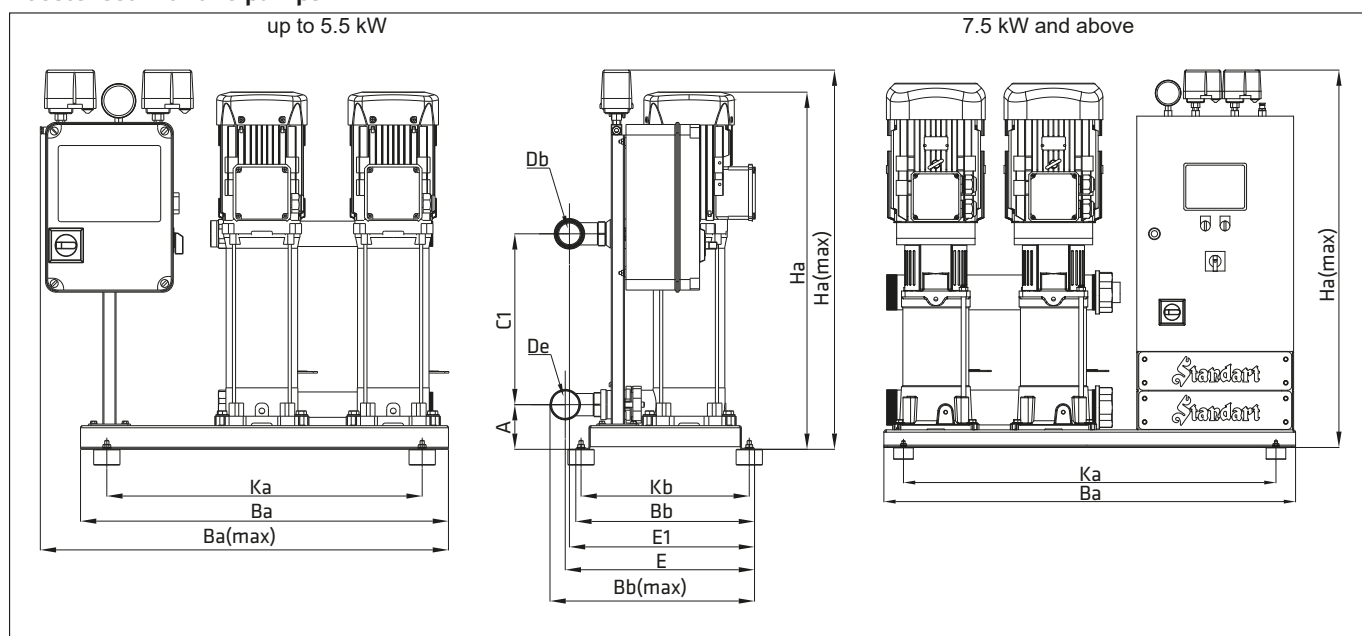
The specified dimensions and weights are approximate. Dimensions might be changed.



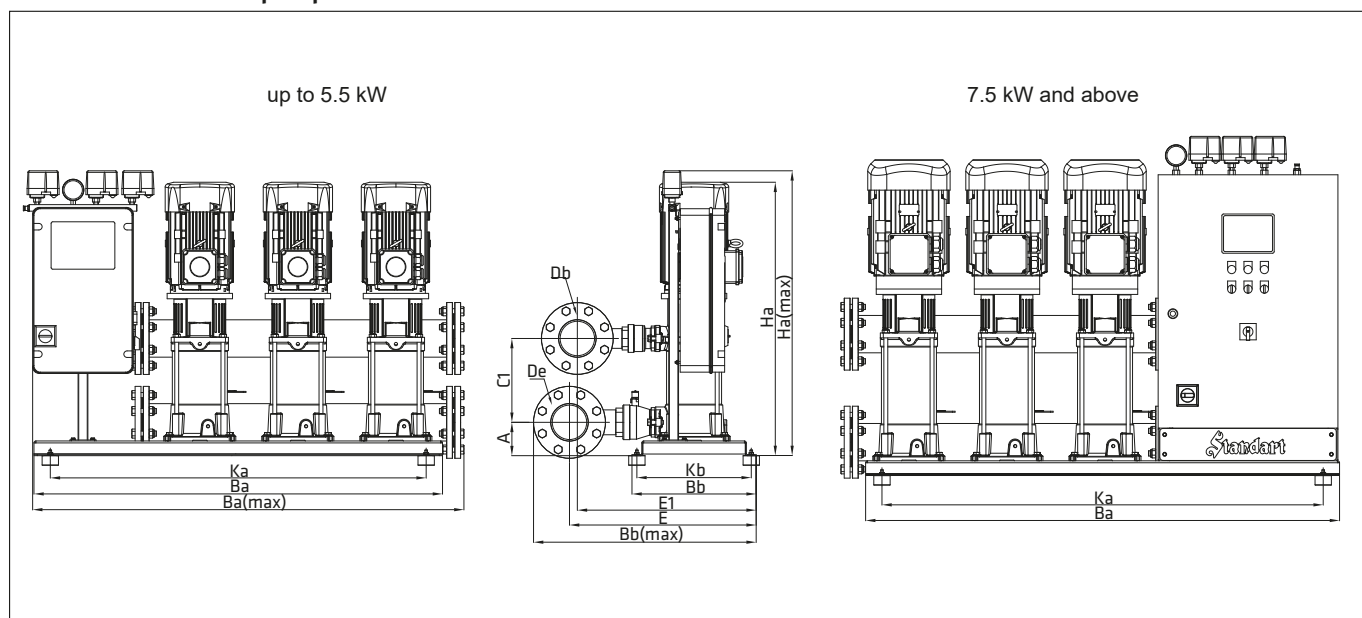
Booster set with one pump



Booster set with two pumps



Booster set with three pumps



Performance Curves and Dimensions

TH SB

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
1xSBM-V 80/5							517						184	26.5
1xSBM-V 80/6							539						206	27
1xSBM-V 80/7	1 1/4"	1 1/4"	240	230	360	335	561	220	180	-	-	85	228	27.6
1xSBM-V 80/8							583						250	28.8
1xSBM-V 80/9							605						272	29.5

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
1xSBT-V 80/5							560						185	25
1xSBT-V 80/6							580						205	25.5
1xSBT-V 80/7							600						225	26.8
1xSBT-V 80/8							620						245	27
1xSBT-V 80/9	1 1/4"	1"	230	210	335	315	670	210	160	-	-	85	275	27.5
1xSBT-V 80/10							690						295	29
1xSBT-V 80/11							730						315	30
1xSBT-V 80/12							770						335	30.5

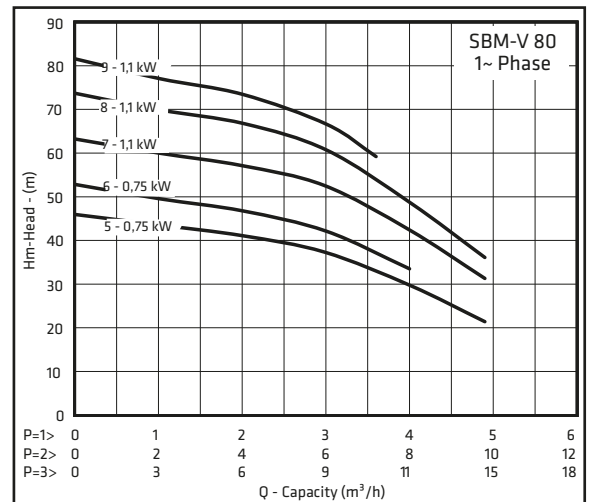
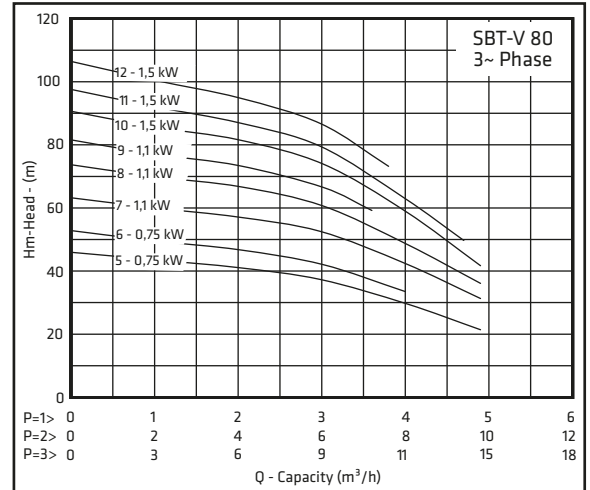
	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha (mx)	Ka	Kb	E	E1	A	C1	KG
2xSBM-V 80/5							522						185	66
2xSBM-V 80/6							544						205	67
2xSBM-V 80/7	1 1/4"	1 1/4"	700	350	825	445	566	753	630	320	420	390	90	228
2xSBM-V 80/8							588						250	71
2xSBM-V 80/9							610						272	72.5

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha (mx)	Ka	Kb	E	E1	A	C1	KG
2xSBT-V 80/5							515						185	63
2xSBT-V 80/6							535						205	64
2xSBT-V 80/7							560						225	66.5
2xSBT-V 80/8							575						245	67
2xSBT-V 80/9	1 1/4"	1 1/4"	650	300	725	405	605	725	550	280	375	370	85	275
2xSBT-V 80/10							625						295	71
2xSBT-V 80/11							645						315	72.5
2xSBT-V 80/12							665						335	73.5

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha (mx)	Ka	Kb	E	E1	A	C1	KG
3xSBM-V 80/5							522						185	97.5
3xSBM-V 80/6							543						206	99
3xSBM-V 80/7	1 1/4"	1 1/4"	950	350	1085	460	566	810	880	320	430	400	90	228
3xSBM-V 80/8							588						250	104
3xSBM-V 80/9							610						272	106

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha (mx)	Ka	Kb	E	E1	A	C1	KG
3xSBT-V 80/5							515						185	93
3xSBT-V 80/6							535						205	94
3xSBT-V 80/7							560						225	98
3xSBT-V 80/8							575						245	99
3xSBT-V 80/9	1 1/2"	1 1/2"	900	300	1005	420	605	775	800	280	385	380	85	275
3xSBT-V 80/10							625						295	105
3xSBT-V 80/11							645						315	107
3xSBT-V 80/12							665						335	109

The specifield dimensions and weights are approximate. Dimensions might be changed.



Performance Curves and Dimensions

TH SB

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
1xSBM-V 90/4							544						188	34.5
1xSBM-V 90/5	1 1/4"	1 1/4"	245	230	360	360	572	225	180	-	-	85	216	36.5
1xSBM-V 90/6							600						244	37

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
1xSBT-V 90/4							545						190	32.5
1xSBT-V 90/5							570						215	34.5
1xSBT-V 90/6	1 1/4"	1 1/4"	250	230	360	360	600	230	180	-	-	85	245	35.5
1xSBT-V 90/7							625						270	37.5
1xSBT-V 90/8							655						300	38
1xSBT-V 90/9							680						325	39

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
2xSBM-V 90/4							550						188	80
2xSBM-V 90/5	1 1/2"	1 1/2"	700	350	822	460	578	753	630	320	400	432	90	216
2xSBM-V 90/6							606						244	85

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
2xSBT-V 90/4							545						190	76
2xSBT-V 90/5							570						215	80
2xSBT-V 90/6	1 1/2"	1 1/2"	700	340	770	390	600	725	600	320	360	350	85	245
2xSBT-V 90/7							625						270	86
2xSBT-V 90/8							655						300	87
2xSBT-V 90/9							680						325	88

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
3xSBM-V 90/4							550						188	105
3xSBM-V 90/5	2"	2"	950	350	1085	460	578	810	880	320	430	386	90	216
3xSBM-V 90/6							606						244	113

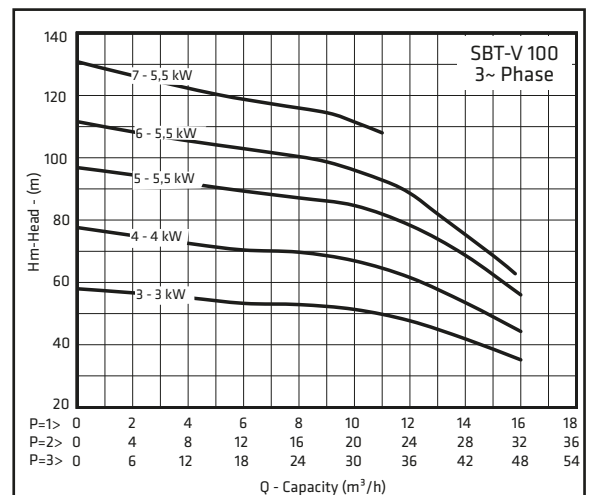
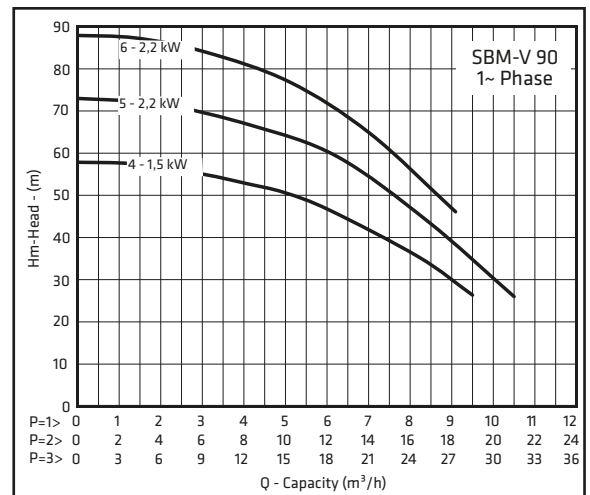
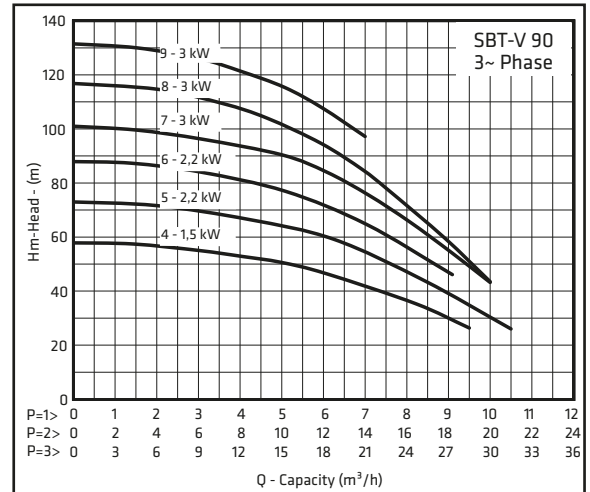
	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
3xSBT-V 90/4							545						190	100
3xSBT-V 90/5							570						215	106
3xSBT-V 90/6							600						245	109
3xSBT-V 90/7	2"	2"	950	340	1085	420	625	810	850	320	375	365	85	270
3xSBT-V 90/8							655						300	106
3xSBT-V 90/9							680						325	118

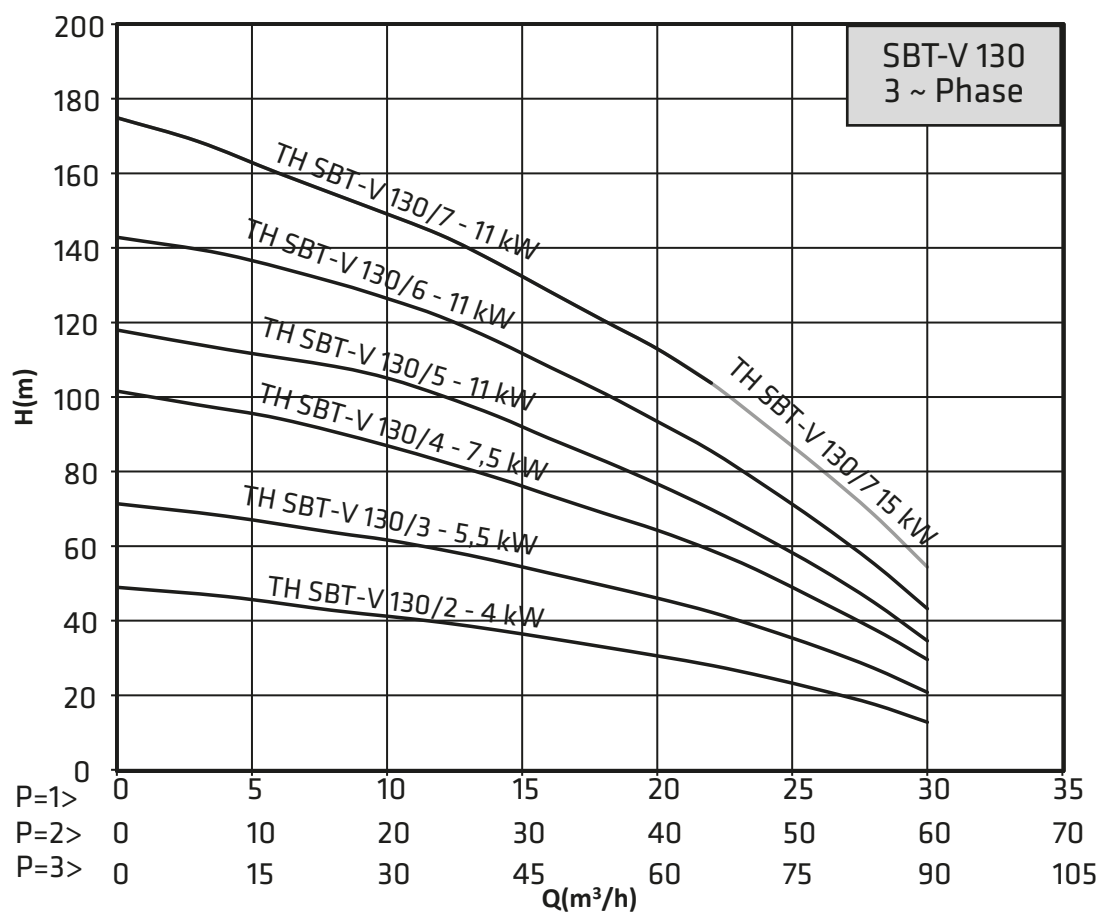
	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
1xSBT-V 100/3							585						185	44
1xSBT-V 100/4							615						215	45
1xSBT-V 100/5	2"	1 1/2"	300	260	400	400	650	280	210	-	-	95	250	50
1xSBT-V 100/6							685						285	51
1xSBT-V 100/7							715						315	52

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
2xSBT-V 100/3							585						185	96
2xSBT-V 100/4							615						215	99
2xSBT-V 100/5	2"	2"	700	340	785	470	650	725	600	320	430	425	95	250
2xSBT-V 100/6							685						285	111
2xSBT-V 100/7							715						315	112

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
3xSBT-V 100/3							585						185	143
3xSBT-V 100/4							615						215	148
3xSBT-V 100/5	2 1/2"	2 1/2"	950	340	1060	500	650	780	850	320	435	430	95	250
3xSBT-V 100/6							685						285	165
3xSBT-V 100/7							715						315	166

The specified dimensions and weights are approximate. Dimensions might be changed.





	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ka	Kb	E	E1	A	C1	KG
1xSBT-V 130/2							763						183	62
1xSBT-V 130/3					420		800						220	65
1xSBT-V 130/4	2 1/2"	2"	420	300		455	837	370	280	-	-	102	257	70
1xSBT-V 130/5							929						294	140
1xSBT-V 130/6					522		966						331	145
1xSBT-V 130/7							1005						368	152

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ha (mx)	Ka	Kb	E	E1	A	C1	KG
2xSBT-V 130/2							763							183	180
2xSBT-V 130/3			800	340	822		800	720	700	320	560	535		220	200
2xSBT-V 130/4	3"	3"				615	837						102	257	210
2xSBT-V 130/5							929							294	300
2xSBT-V 130/6			1050	380	1050		966	865	950	350	590	565		331	310
2xSBT-V 130/7							1005							368	315

	De	Db	Ba	Bb	Ba (mx)	Bb (mx)	Ha	Ha (mx)	Ka	Kb	E	E1	A	C1	KG
3xSBT-V 130/2							763							183	255
3xSBT-V 130/3			1150	380	1350		800	825	1150	1150				220	260
3xSBT-V 130/4	4"	4"				685	837				560	575	102	257	285
3xSBT-V 130/5							929							294	460
3xSBT-V 130/6			1450	380	1450		966	965	1350	1350				331	470
3xSBT-V 130/7							1005							368	485

The specified dimensions and weights are approximate. Dimensions might be changed.

Pump • Fire Fighting Units • Booster Set

TH SKMV BOOSTERS

TH SKMV Rev.05.03.2024



General Information

High pressure, quiet running, compact and low power consumption.

SKMV pumps are suitable for pumping non-abrasive, clean or slightly contaminated, low viscosity without solid & fibrous particles liquids.

Vertical design saves space.

Technical Data

Capacity _____ up to 300 m³/h

Head _____ up to 180 m

Design Temperature _____ up to 70 °C

Casing Pressure _____ 10 - 16 - 25 bar

Design Features

- TH SKMV boosters are manufactured with vertical pump.
- The boosters are produced as single, double and triple pumps as a standard according to the desired flow. Upon request, up to 6 pumps can be set.
- Single-pump boosters have a water level float (electric floater).
- Phase control system (PCS) is available in single pump, three-phase motorized boosters.
- Sequencing, phase control and liquid level control are standard features for multiple pumped booster pumps.
- Booster pumps can operate in two different modes; automatically and manually.
- Electrical materials used in the booster pump panels are selected from reliable and quality brands.

Booster Designation

TH 2 x SKMV 50/3

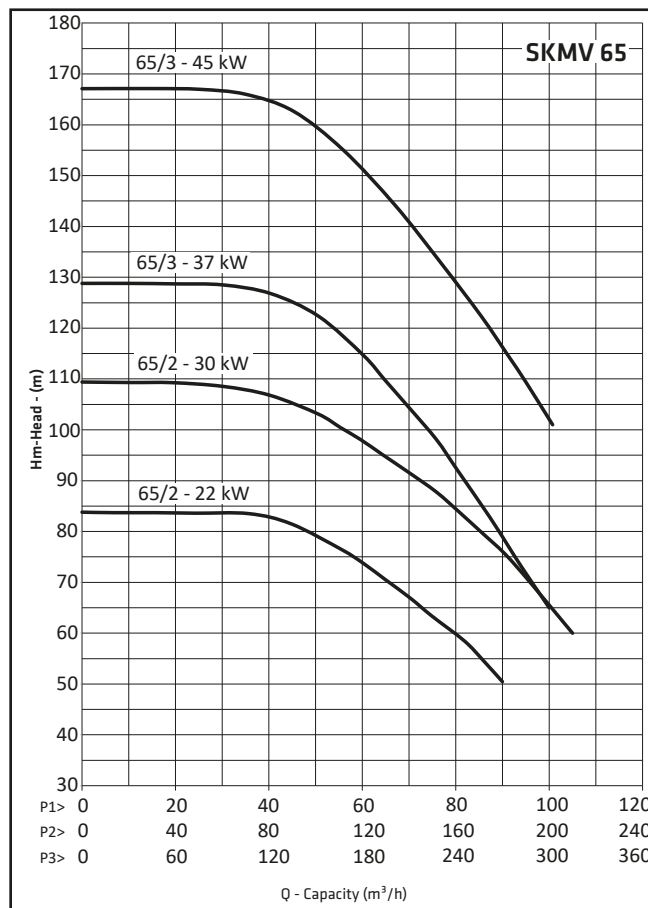
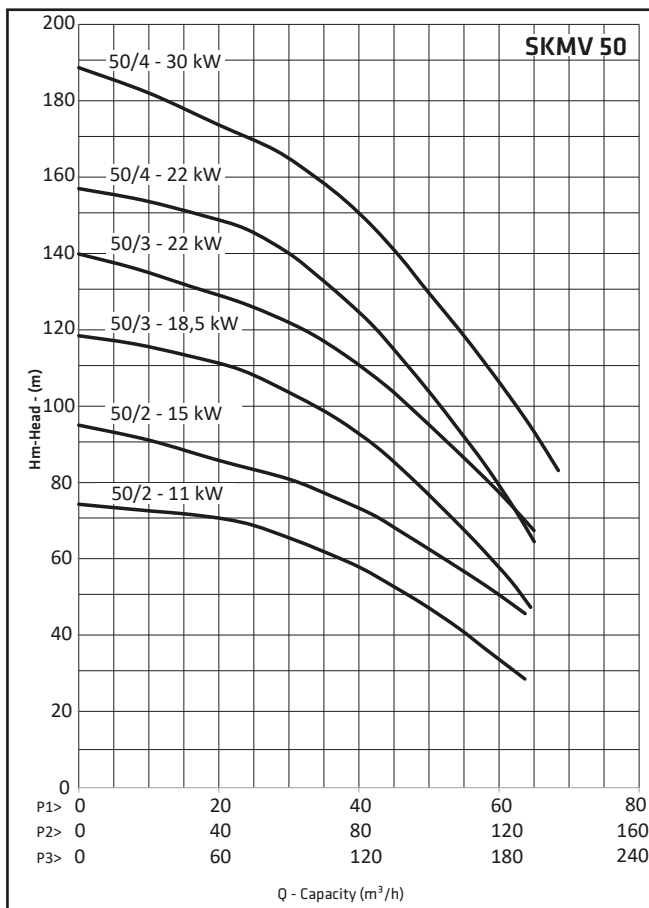
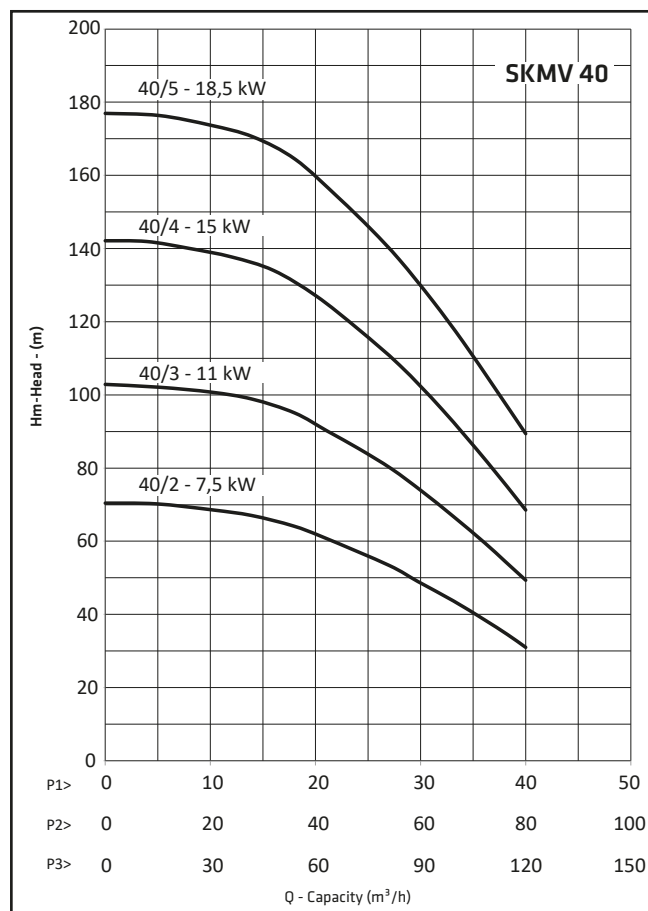
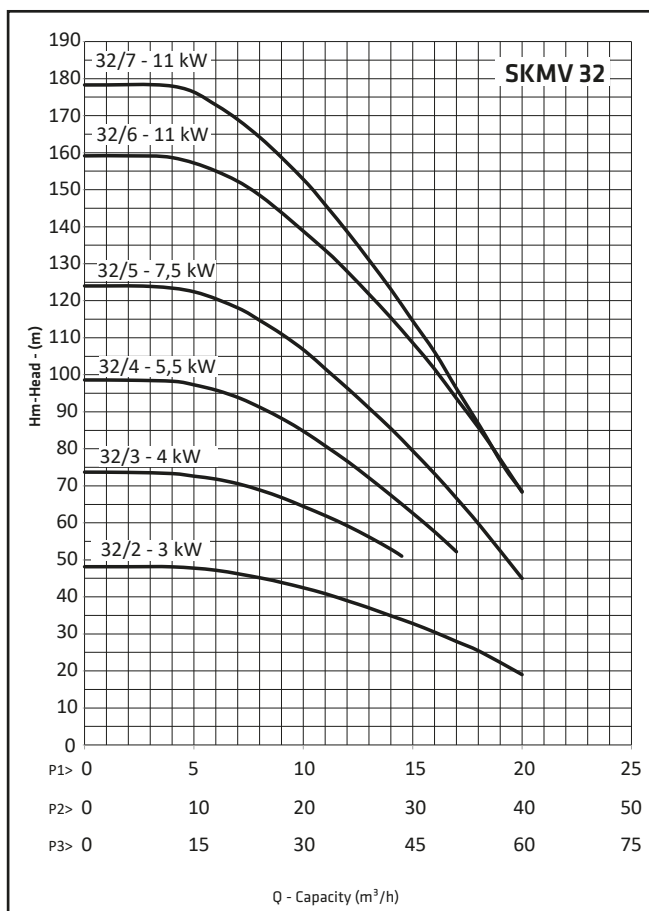
Booster Type _____
Number of Pumps _____
Pump Type _____
Pump Outlet Flange (DN-mm) _____
Number of Stage _____

•Electric motors of high efficiency class conforming to IEC 60034-30 standard are used.

•The booster pumps can be manufactured as a variable-speed frequency control for convenience. (upon request)

Material Information

Part Name	Material	
	Standard	Optional
Pump		
Base Plate	GG 25	Bronze / AISI 304
Stage Casing	GG 25	Bronze / AISI 304
Intermediate Stage	GG 25	Bronze / AISI 304
Impeller	Brass	Bronze / AISI 304
Shaft	AISI 420	AISI 304
Panel	Pressure Switch Controlled	Frequency Controlled
Collector	Steel	AISI 304
Frame	Steel	-
Accessories		
Valve	Brass	AISI 304
Check Valve	Brass	AISI 316

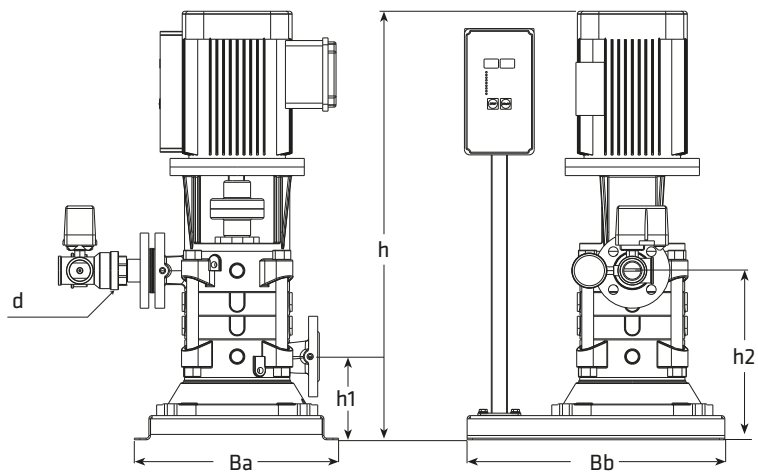


Pump Type	Motor		Overall Dimensions										Weight
	kW	IEC	Ba	Bb	Ka	Kb	Ba(max)	E	h	d	h1	h2	KG
1x SKMV 32/2	3	100L							850			115	115
1x SKMV 32/3	4	112M							880			157	180
1x SKMV 32/4	5.5	132D	480	385	420	360	-	550	920	1½"	150	200	215
1x SKMV 32/5	7.5	132S										243	225
1x SKMV 32/6	11	160M					680					286	280
2x SKMV 32/2	3	100L							850			115	235
2x SKMV 32/3	4	112M							880			157	365
2x SKMV 32/4	5.5	132S	900	380	800	350	-	795	920	2½"	150	200	435
2x SKMV 32/5	7.5	132S							1020			243	455
2x SKMV 32/6	11	160M	1050		950				1040			286	570
3x SKMV 32/2	3	100L							850			115	340
3x SKMV 32/3	4	112M							880			157	540
3x SKMV 32/4	5.5	132S	1300	380	1200	350	-	755	920	3"	150	200	640
3x SKMV 32/5	7.5	132S							1020			243	675
3x SKMV 32/6	11	160M	1400		1300				1040			286	845

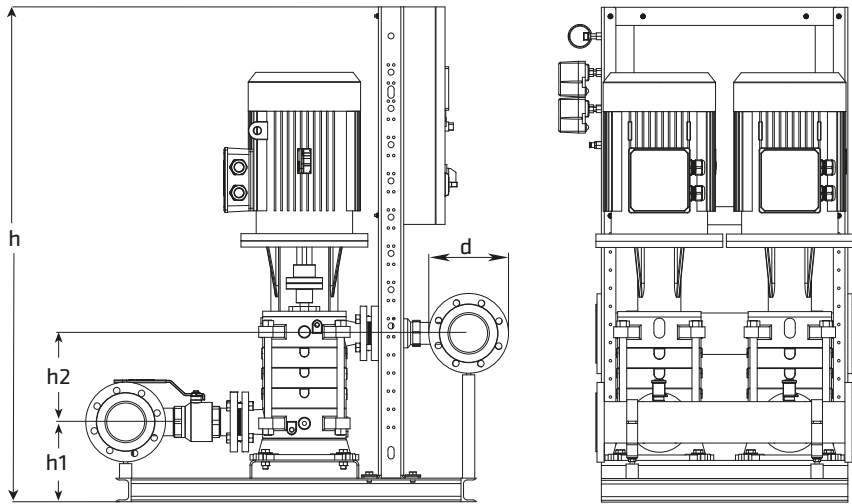
Pump Type	Motor		Overall Dimensions										Weight
	kW	IEC	Ba	Bb	Ka	Kb	Ba(max)	E	h	d	h1	h2	KG
1x SKMV 40/2	7.5	132S					-		850			131	115
1x SKMV 40/3	11	160M							880			186	180
1x SKMV 40/4	15	160M	480	385	420	360	680	590	1165	1½"	150	245	215
1x SKMV 40/5	18.5	160L							1200			301	225
2x SKMV 40/2	7.5	132S	950	380	850	350	-	795	850			131	280
2x SKMV 40/3	11	160M							980			186	235
2x SKMV 40/4	15	160M	1100	380	1000	350	-	950	1165	4"	150	245	365
2x SKMV 40/5	18.5	160L							1200			301	435
3x SKMV 40/2	7.5	132S	1400	380	1300	350	-	955	850			131	455
3x SKMV 40/3	11	160M							1165			186	570
3x SKMV 40/4	15	160M	1620	380	1480	350	-	955	1165	5"	150	245	340
3x SKMV 40/5	18.5	160L							1200			301	540

Pump Type	Motor		Overall Dimensions							Weight
	kW	IEC	Ba	Bb	Ba(max)	h	d	h1	h2	KG
1x SKMV 50/2	11	160M				1060			155	235
1x SKMV 50/2	15	160M				1060			155	245
1x SKMV 50/3	18.5	160L				1125			220	275
1x SKMV 50/3	22	180M	525	420		1125	2"	155	220	300
1x SKMV 50/4	22	180M				1185			285	325
1x SKMV 50/4	30	200L				1300			285	390
1x SKMV 50/4	37	200L				1300			285	390
2x SKMV 50/2	11	160M				1365			155	540
2x SKMV 50/2	15	160M				1365			155	550
2x SKMV 50/3	18.5	160L				1365			220	615
2x SKMV 50/3	22	180M	800	1125	-	1365	5"	225	220	665
2x SKMV 50/4	22	180M				1565			285	715
2x SKMV 50/4	30	200L				1565			285	830
2x SKMV 50/4	37	200L				1565			285	830
3x SKMV 50/2	11	160M				1380			155	800
3x SKMV 50/2	15	160M				1380			155	815
3x SKMV 50/3	18.5	160L				1380			220	915
3x SKMV 50/3	22	180M	1200	1150	-	1380	6"	235	220	985
3x SKMV 50/4	22	180M				1580			285	1060
3x SKMV 50/4	30	200L				1580			285	1220
3x SKMV 50/4	37	200L				1580			285	1220

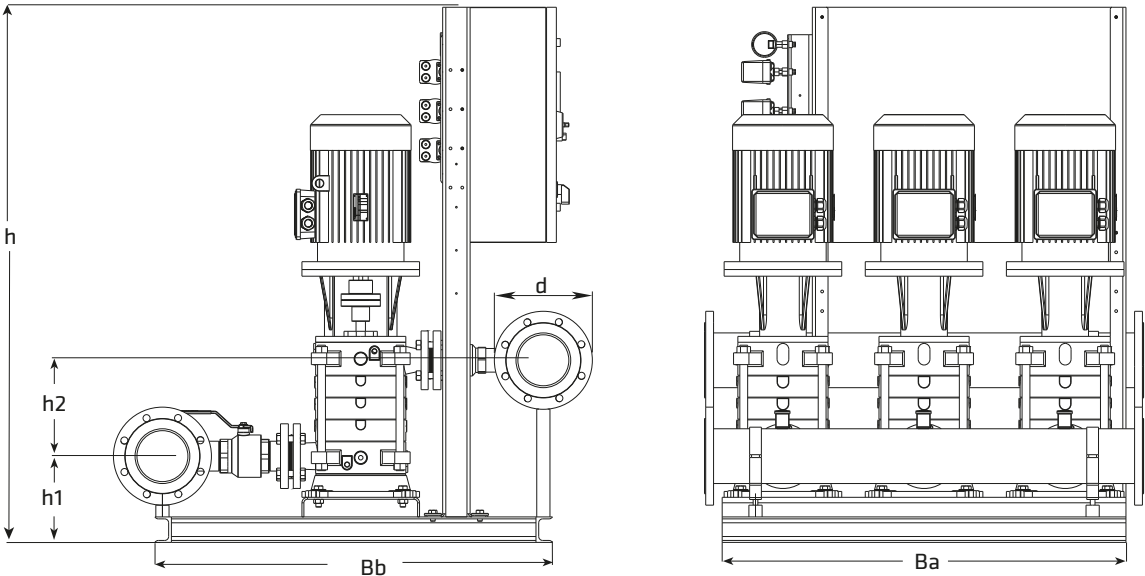
Pump Type	Motor		Overall Dimensions							Weight
	kW	IEC	Ba	Bb	Ba(max)	h	d	h1	h2	KG
1x SKMV 65/2	22	180M				1300			200	330
1x SKMV 65/2	30	200L				1300			200	385
1x SKMV 65/3	37	200M	600	880	800	1300	5"	180	255	420
1x SKMV 65/3	45	225L				1300			255	515
2x SKMV 65/2	22	180M				1400			200	705
2x SKMV 65/2	30	200L	900	1380	-	1400	6"	255	200	810
2x SKMV 65/3	37	200M				1900			255	880
2x SKMV 65/3	45	225L				1900			255	1030
3x SKMV 65/2	22	180M				1600			200	1055
3x SKMV 65/2	30	200L	1200	1450	-	1600	8"	255	200	1215
3x SKMV 65/3	37	200M				1900			255	1320
3x SKMV 65/3	45	225L				1900			255	1545



for TH SKM-V 50

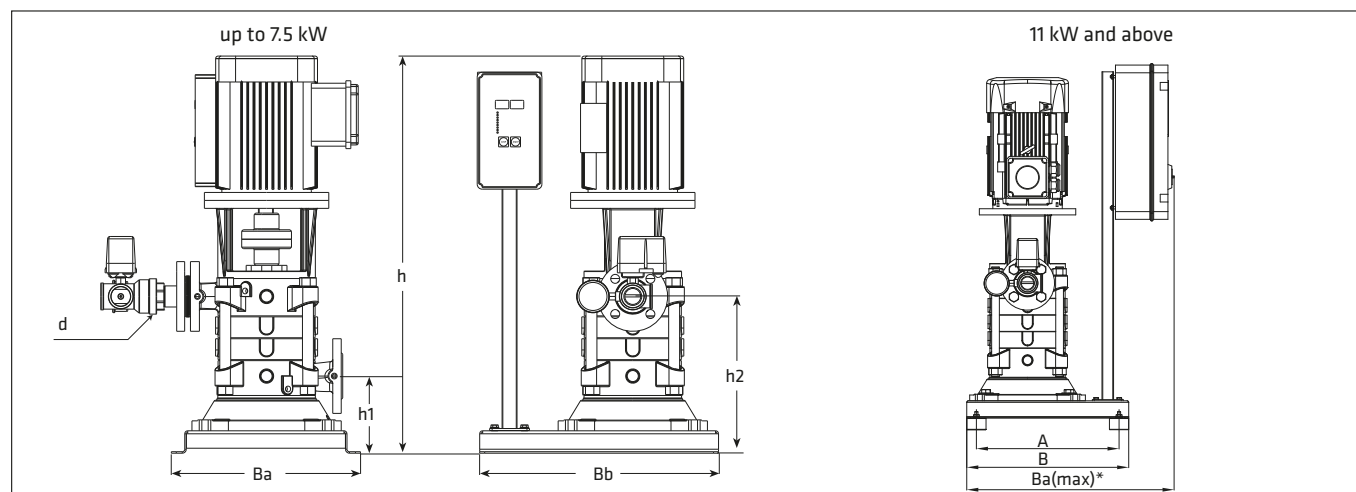


for TH SKM-V 50 and 65 series pump.



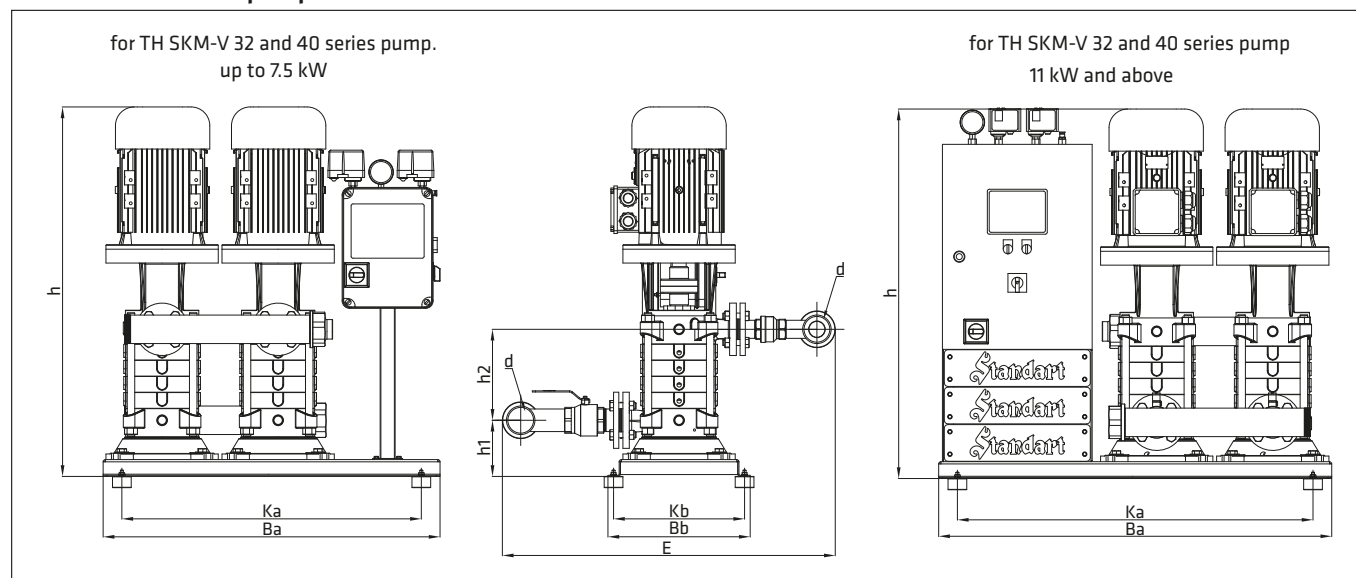
for TH SKM-V 50 and 65 series pump.

Booster set with one pump

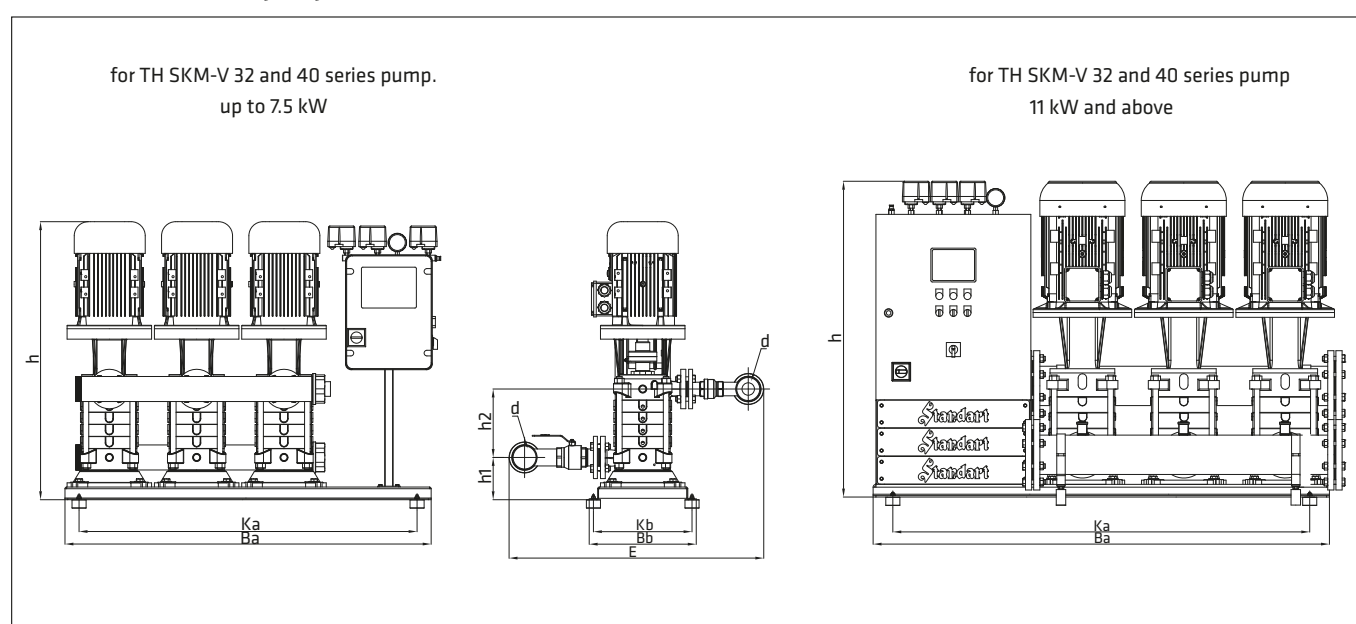


(*) Ba(max) dimensions are different according to control panels. Contact for detailed information.

Booster set with two pumps



Booster set with three pumps





Pump • Fire Fighting Units • Booster Set

TH GRV-VD / VB BOOSTERS

TH GRV-VD / VB Rev.05 03.2024



General Information

High pressure, quiet running, compact and low power consumption.

GRV-VD / VB pumps are suitable for pumping non-abrasive, clean or slightly contaminated, low viscosity without solid & fibrous particles liquids.

Vertical design saves space.

Technical Data

Capacity _____ up to 45 m³/h

Head _____ up to 170 m

Casing Pressure _____ 10-16-25 bar

Design Temperature _____ up to 50 °C

Design Features

•TH GRV-VD / VB boosters are manufactured with vertical pump.

•The boosters are produced as single, double and triple pumps as a standard according to the desired flow. Upon request, up to 6 pumps can be set.

•Single-pump boosters have a water level float (electric floater).

•Phase control system (PCS) is available in single pump, three-phase motorized boosters.

•Sequencing, phase control and liquid level control are standard features for multiple pumped booster pumps.

•Booster pumps can operate in two different modes; automatically and manually.

Booster Designation

TH 1 x GRV-VD 5

Booster Type _____

Number of Pumps _____

Pump Type _____

Number of Stage _____

•Electric motors of high efficiency class conforming to IEC 60034-30 standard are used.

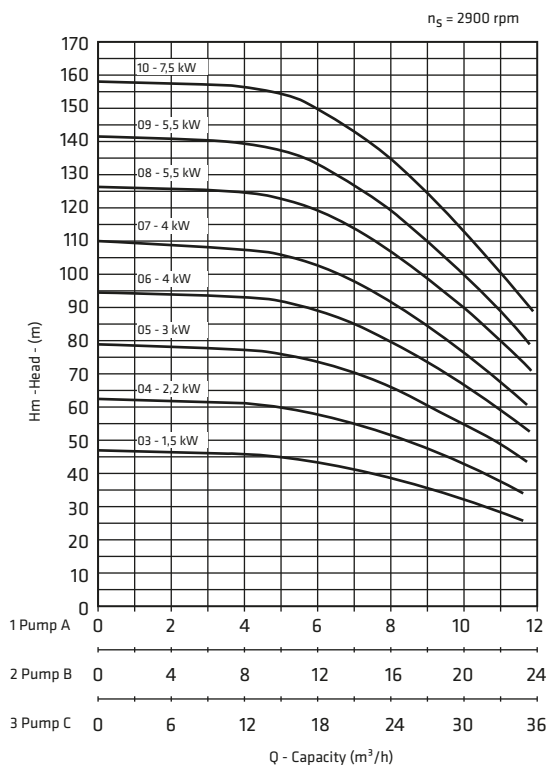
•The booster pumps can be manufactured as a variable-speed frequency control for convenience. (upon request)

Material Information

Part Name	Material	
	Standard	Optional
Pump		
Base Plate	GG 25	Bronz / AISI 304
Stage Casing	NORYL	Bronz / AISI 304
Intermediate Stage	NORYL	Bronz / AISI 304
Impeller	NORYL	Bronz / AISI 304
Shaft	AISI 420	AISI 304
Cover Plate	AISI 304	-
Panel	Pressure Switch Controlled	Frequency Controlled
Collector	Steel	AISI 304
Frame	Steel	Galvanized Steel
Accessories		
Valve	Brass	AISI 304
Check Valve	Brass	AISI 316

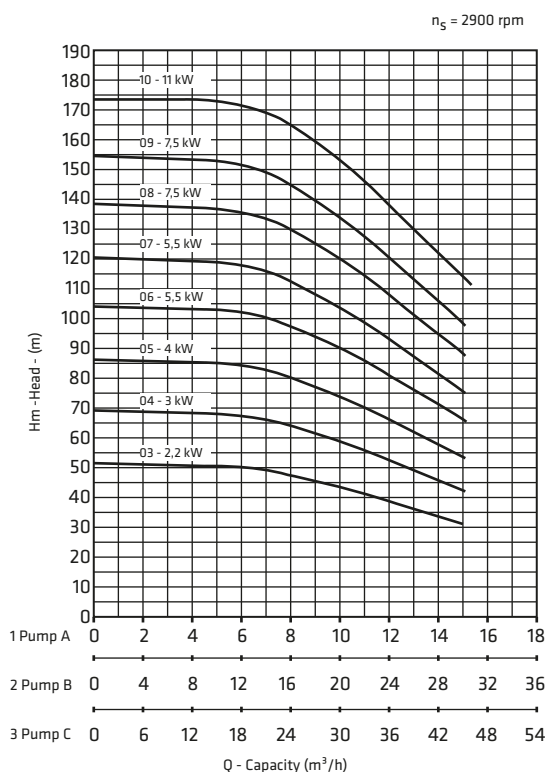
GRV-VD

Pump Type	Motor		A	B	Ka	Kb	Overall Dimensions					Weight
	kW	IEC					B(max)	h	d	h1	h2	
1x GRV-VD 3	1.5	90S						700			265	70
1x GRV-VD 4	2.2	90L						740			305	75
1x GRV-VD 5	3	100L						780			345	85
1x GRV-VD 6	4	112M	430	360	370	340	480	820	1 1/4"	100	385	100
1x GRV-VD 7	4	112M						860			427	105
1x GRV-VD 8	5.5	132S						900			467	125
1x GRV-VD 9	5.5	132S						940			507	130
1x GRV-VD 10	7.5	132S						980			547	135
2x GRV-VD 3	1.5	90S						700			265	160
2x GRV-VD 4	2.2	90L						740			305	165
2x GRV-VD 5	3	100L						780			345	185
2x GRV-VD 6	4	112M	800	360	700	330	660	820	2 1/2"	100	385	210
2x GRV-VD 7	4	112M						860			427	215
2x GRV-VD 8	5.5	132S						900			467	260
2x GRV-VD 9	5.5	132S						940			507	270
2x GRV-VD 10	7.5	132S						980			547	275
3x GRV-VD 3	1.5	90S						700			265	230
3x GRV-VD 4	2.2	90L						740			305	240
3x GRV-VD 5	3	100L						780			345	270
3x GRV-VD 6	4	112M	1150	360	1050	330	720	820	3"	100	385	305
3x GRV-VD 7	4	112M						860			427	315
3x GRV-VD 8	5.5	132S						900			467	390
3x GRV-VD 9	5.5	132S						940			507	395
3x GRV-VD 10	7.5	132S						980			547	405

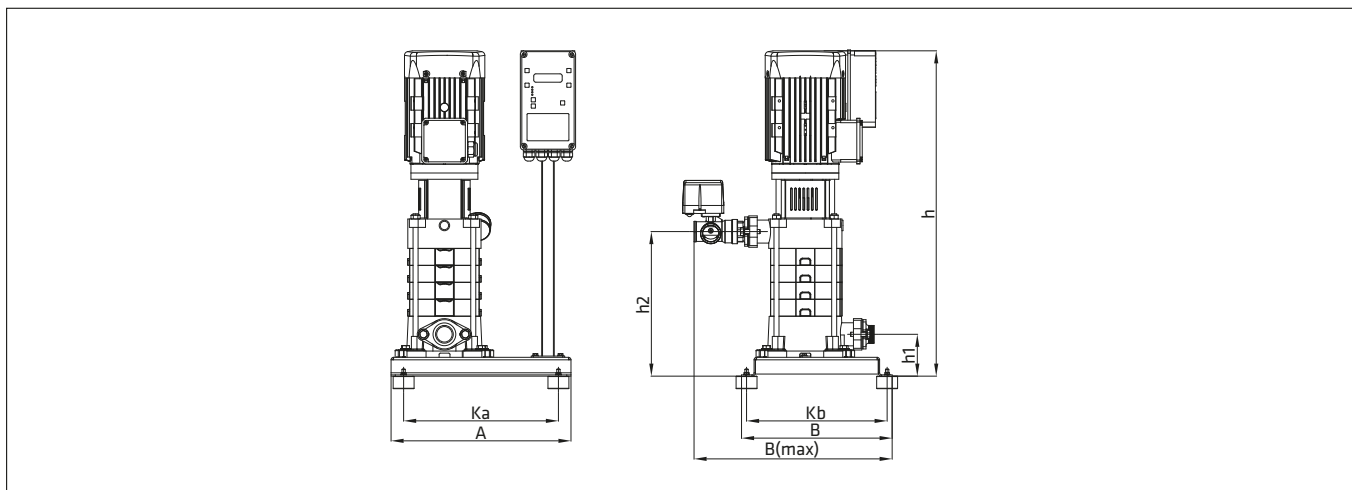


GRV-VB

Pump Type	Motor		A	B	Ka	Kb	Overall Dimensions					Weight
	kW	IEC					B(max)	h	d	h1	h2	
1x GRV-VB 3	2.2	90L						700			265	70
1x GRV-VB 4	3	100L						740			305	75
1x GRV-VB 5	4	112M						780			345	85
1x GRV-VB 6	5.5	132S	435	300	410	240	465	820	2"	100	386	100
1x GRV-VB 7	5.5	132S						860			427	105
1x GRV-VB 8	7.5	132S						900			467	125
1x GRV-VB 9	7.5	132S						940			507	130
1x GRV-VB 10	11	160M						980			547	135
2x GRV-VB 3	2.2	90L						700			300	160
2x GRV-VB 4	3	100L						740			340	165
2x GRV-VB 5	4	112M						780			380	185
2x GRV-VB 6	5.5	132S	800	360	700	330	760	820	2 1/2"	100	420	210
2x GRV-VB 7	5.5	132S						860			460	215
2x GRV-VB 8	7.5	132S						900			500	260
2x GRV-VB 9	7.5	132S						940			545	270
2x GRV-VB 10	11	160M	950	360	850	330		1050			600	275
3x GRV-VB 3	2.2	90L						700			300	230
3x GRV-VB 4	3	100L						740			340	240
3x GRV-VB 5	4	112M						780			380	270
3x GRV-VB 6	5.5	132S	1150	360	1050	330	780	820	3"	100	420	305
3x GRV-VB 7	5.5	132S						860			460	315
3x GRV-VB 8	7.5	132S						900			500	390
3x GRV-VB 9	7.5	132S						940			545	395
3x GRV-VB 10	11	160M	1450	360	1350	330		1050			600	405

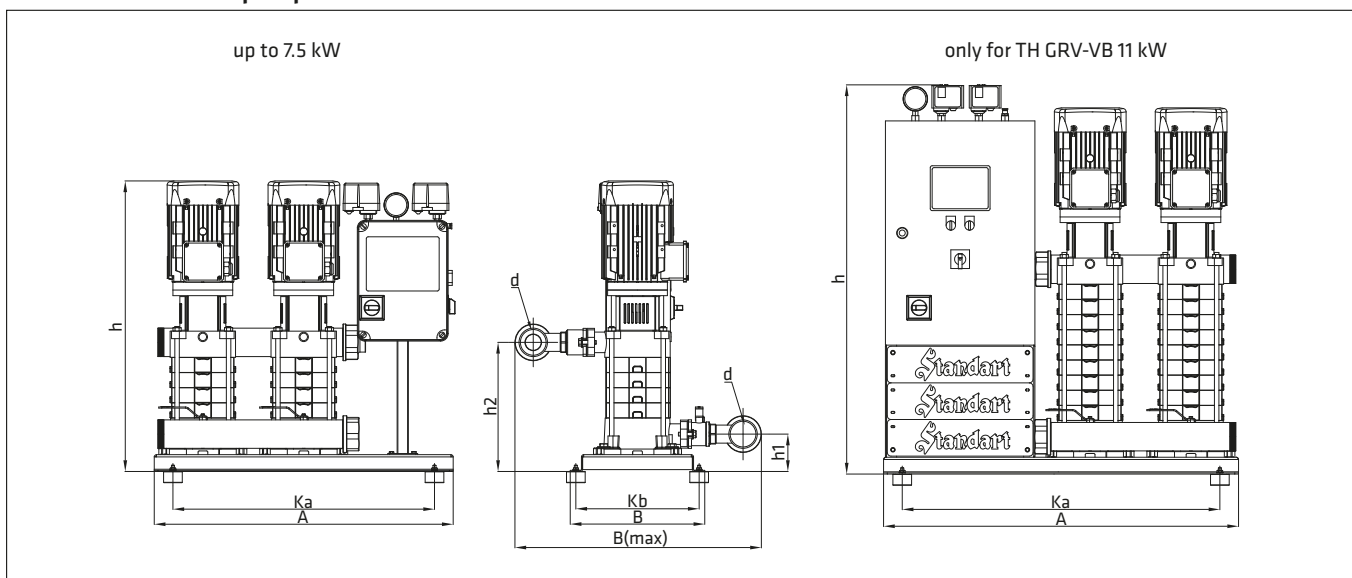


Booster set with one pump

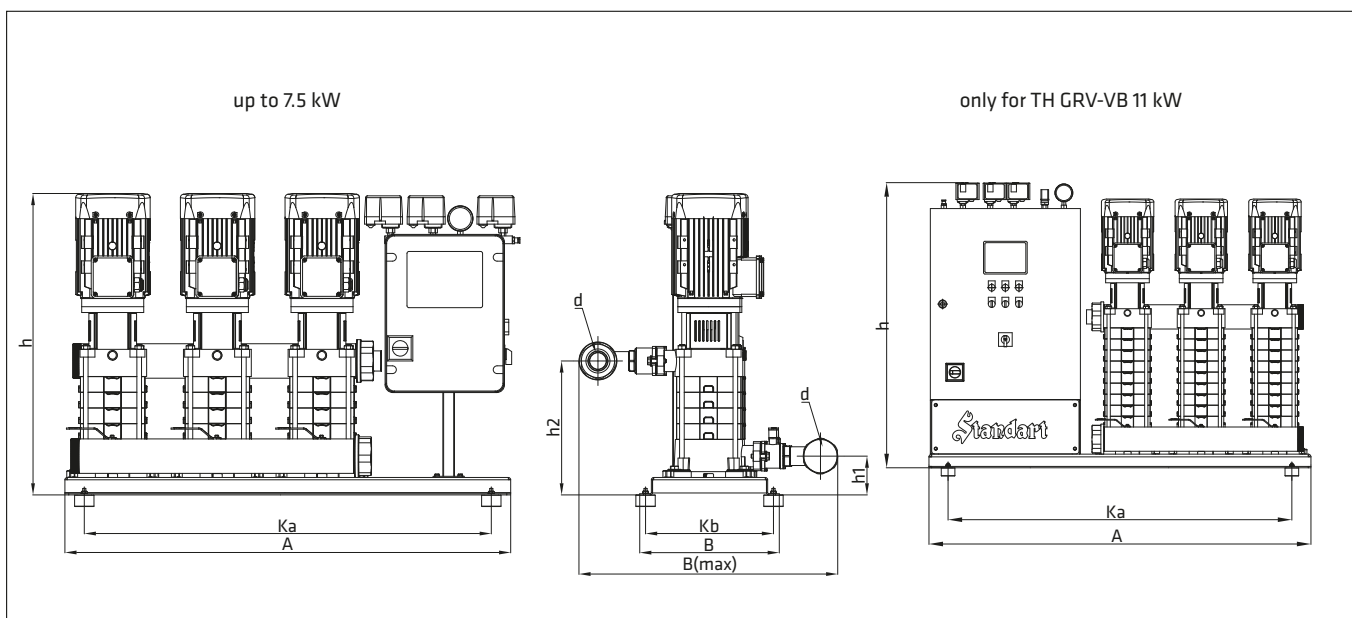


(*) $B(\max)$ dimensions are different according to control panels. Contact for detailed information.

Booster set with two pumps



Booster set with three pumps



FIRE PUMPS



Pump • Fire Fighting Units • Booster Set

FIRE PUMPS

CONFORM TO NFPA 20

NFPA 20 Rev.05 03.2024

NFPA 20 standard defines the installation requirements of the fixed pumps for fire protection. This standard is the most common and the most detailed standard in the world used for fire protection services.

The scope of NFPA 20 document include the selection of fire pumps, installation, acceptance tests and operation.

Pompa, being a member of NFPA, follows all studies and publications related within the fire protection area.

Most of the consultant companies related with fire protection system design are making their designs according to NFPA standards. Besides, insurance companies are not taking risk and reducing the policy costs, if the fire system is not designed according to NFPA standards and the fire pumps are not selected according to NFPA 20.

Fire Fighting Pump Features

Fire pumps are used to pressurize and keep the pressure of fire fighting systems such as;

- Sprinkler
- Fire Cabinets
- Hydrants

Different type of pumps may be used in fire fighting systems;

- End suction pumps
- Vertical in-line pumps
- Double suction split-case pumps
- Multistage pumps •Multistage multioutlet

Fire pumps and groups conform the requirements of NFPA 20

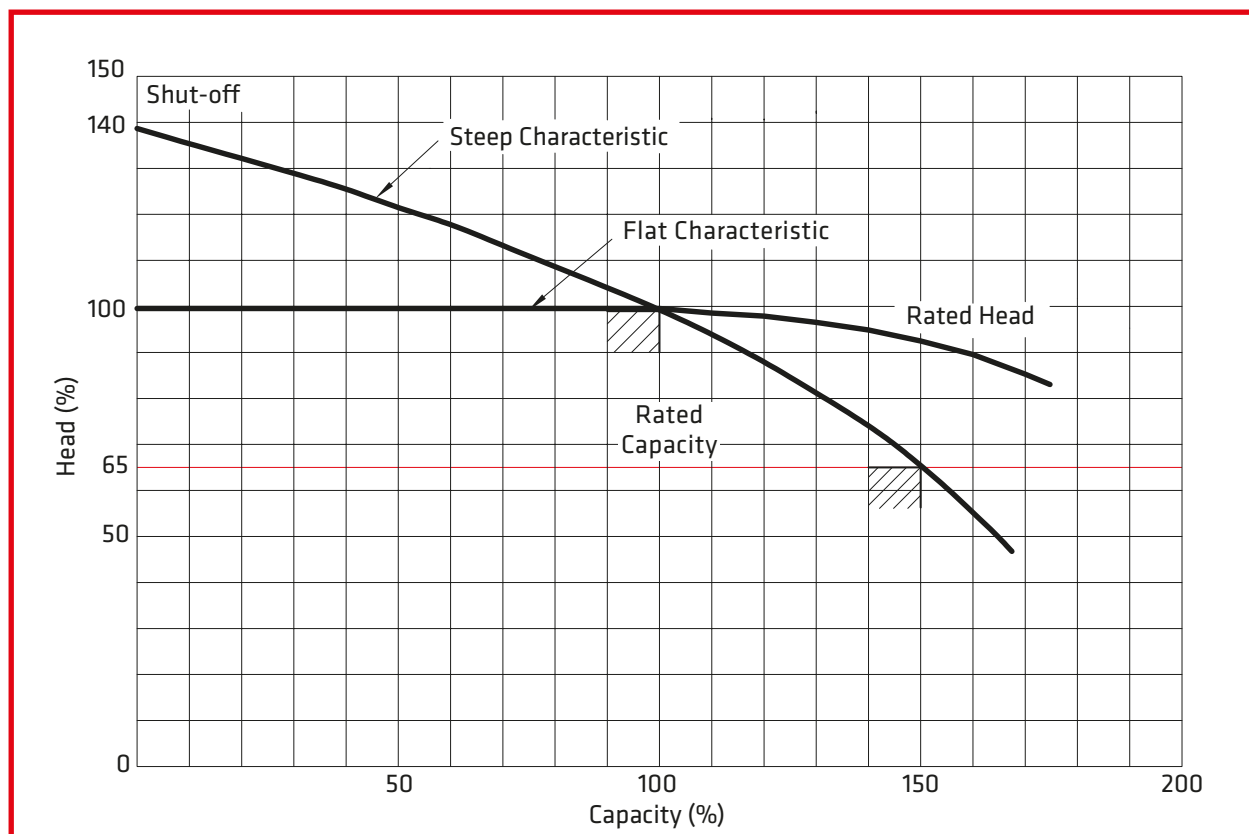
- Seperate controller for each pump.
- Max. flow velocity in suction pipe is below 3 m/s at rated capacity
- Pressure at zero flow is less than 1.4 times rated pressure
- Pressure at 1.5 x rated capacity is not less than 0.65 x rated pressure
- Service factor shall not exceed 1.15
- Materials;

Casing	: Cast iron
Impeller	: Bronze
Shaft	: Stainless steel
- Shaft sealing: Soft packing or mechanical seal
- Bearings: L-10 rating of not less than 5000 hours at maximum load.
- Flanges according to EN 1092-2 PN 16.

Suggested accesories on the pump

- Automatic air release valve
- Circulation relief valve
- Increaser and reducer piping elements
- Pressure gauges at suction and discharge
- Flexible coupling

Fire Pump Performance Characteristics Conform to NFPA 20



Fire Pump Capacities Conform to NFPA 20

As per NFPA 20

The capacities of a fire pump cannot be different than the ones below

(GPM)	(l/min)	(m ³ /h)
25	95	5.7
50	189	11.4
100	379	22.7
150	568	34.1
200	757	45.4
250	946	56.8
300	1136	68.1
400	1514	91
450	1703	102
500	1892	114
750	2893	170
1000	3785	227
1250	4731	284
1500	5677	341
2000	7570	454
2500	9462	568
3000	11355	681
3500	13247	795
4000	15140	908
4500	17032	1022
5000	18925	1136

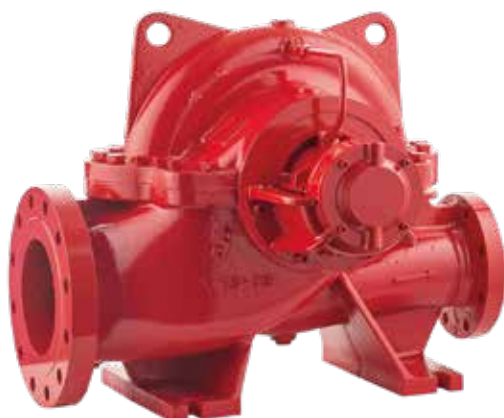
End Suction



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

rated capacities (GPM)			rated pressures (m)
25	400	2000	40
50	450	2500	50
100	500	3000	60
150	750	3500	70
200	1000	4000	80
250	1250	4500	90
300	1500	5000	100

SDS Double Suction



Horizontal, single stage, axially split volute casing pumps with double suction radial impellers.

rated capacities (GPM)		rated pressures (m)
400	2000	50
450	2500	60
500	3000	70
750	3500	80
1000	4000	90
1250	4500	100
1500	5000	110
		120
		140

SKM Multistage



Horizontal ring section multistage centrifugal pumps with closed impellers and diffusers.

rated capacities (GPM)			rated pressures (m)	
25	300	1000	60	120
50	400	1250	70	130
100	450	1500	80	140
150	500	2000	90	150
200	750	2500	100	160
250			110	170

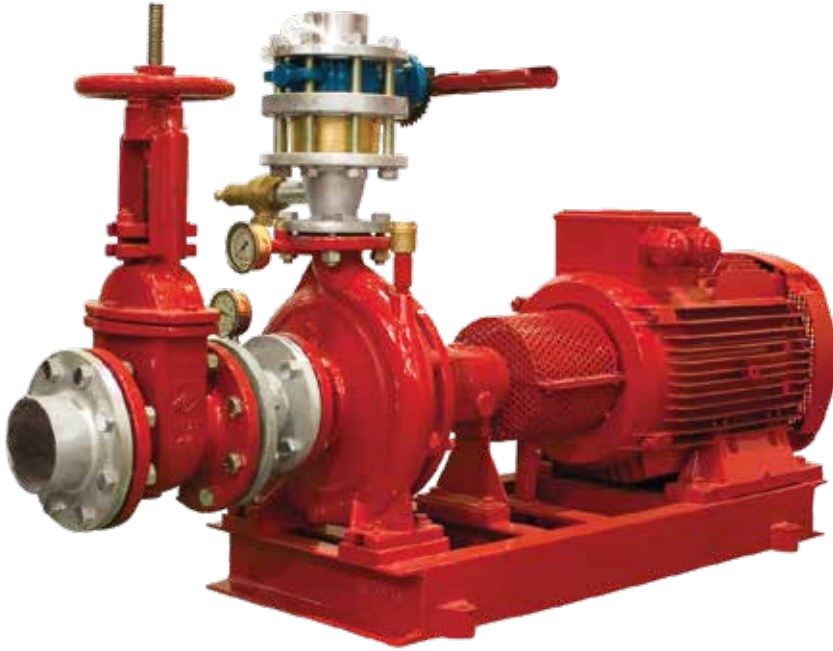
SKM Multistage - Multioutlet



Multioutlet design horizontal ring section multistage centrifugal pumps with closed impellers and diffusers.

rated capacities (GPM)			rated pressures (m)	
25	300	1000	60	120
50	400	1250	70	130
100	450	1500	80	140
150	500	2000	90	150
200	750	2500	100	160
250			110	170

Fire Pump with Electric Motor



Fire Pump with Diesel Engine

Generally 100 % redundancy is obtained by diesel engine-driven pumps. The requirements of diesel engine-driven pumps are defined in NFPA 20.



Jockey Pump

Jockey pumps should be selected at a capacity at which to increase the system pressure to the required value in 10 minutes after sensing the leakage in fire fighting system.

Generally a pump with % 3 of rated capacity (min 1 GPM), % 110 of rated pressure.



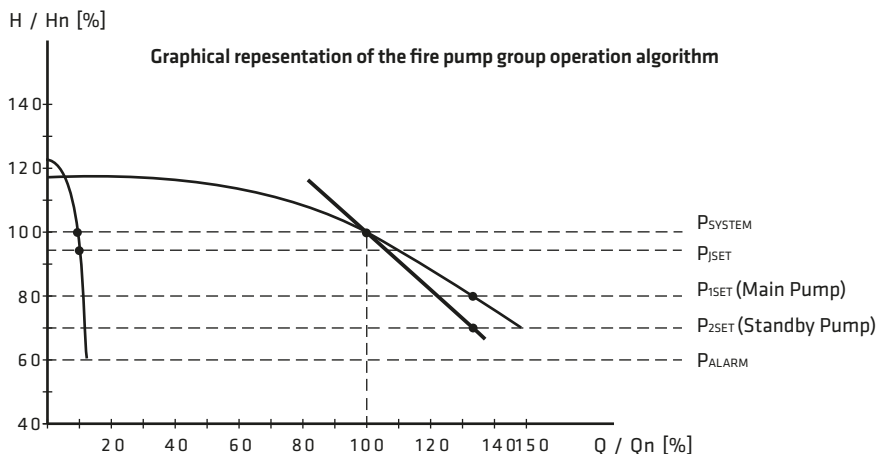
What is Required from Fire Pumps in the Fire Regulations

The requirements regarding fire pumps in Article 93 of the REGULATION ON FIRE PROTECTION OF BUILDINGS dated 15.03.2018 - numbered 30361 are stated below.

- Fire pumps; These are pumps that provide pressurized water to water extinguishing systems, expressed in nominal flow rate and nominal pressure value. The closed valve (zero flow) head of the pumps must be at most 140% of the nominal head, and the head at 150% flow must not be less than 65% of the nominal head. Such pumps can be used for system demands with a capacity of 130% of the rated flow rate, provided that they meet the desired pressure value.
- If a pump is used in the system, there must be a spare pump of the same capacity. In case there is more than one pump, a sufficient number of spare pumps are used, provided that at least 50% of the total capacity is backed up.
- The rotation of the pump can be done by internal combustion engines or turbines as well as an electric motor.
- If a backup diesel engine driven pump is not used, the energy supply of the fire pumps is provided from a reliable source and independently of the general electrical system of the building.
- Fire pumps must have auxiliary elements such as automatic air release valve and circulation relief valve.
- Each pump must have a separate control panel and the panel must be locked. The electrical control panel must be equipped with information lights for phase error, phase sequence error and control phase error. The panel main input circuit breaker must not be accessible without unlocking the panel.
- Each pump must have a separate control pressure switch. Pressure switches; It must be located inside the control panel, sense the water pressure through a pipe connection, be protected against water hammer, have lower and upper values adjusted separately and independently, and be locked after adjustment.
- Pump control is pressure controlled; It can be fully or semi-automatic.
- Appropriate equipment is provided in the pump room or pump station to ensure a continuous temperature above +4 °C for electric motor driven pumps and +10 °C for diesel engine driven pumps.
- In the pump station, it is essential to provide emergency lighting around the working area of devices requiring service, inspection and adjustment.
- The ground is prepared with a slope for adequate drainage, thus removing water from critical devices such as the pump, driver and control panel.

Fire Pump Group Operation Algorithm

Automatic Control



Manual Electric Control

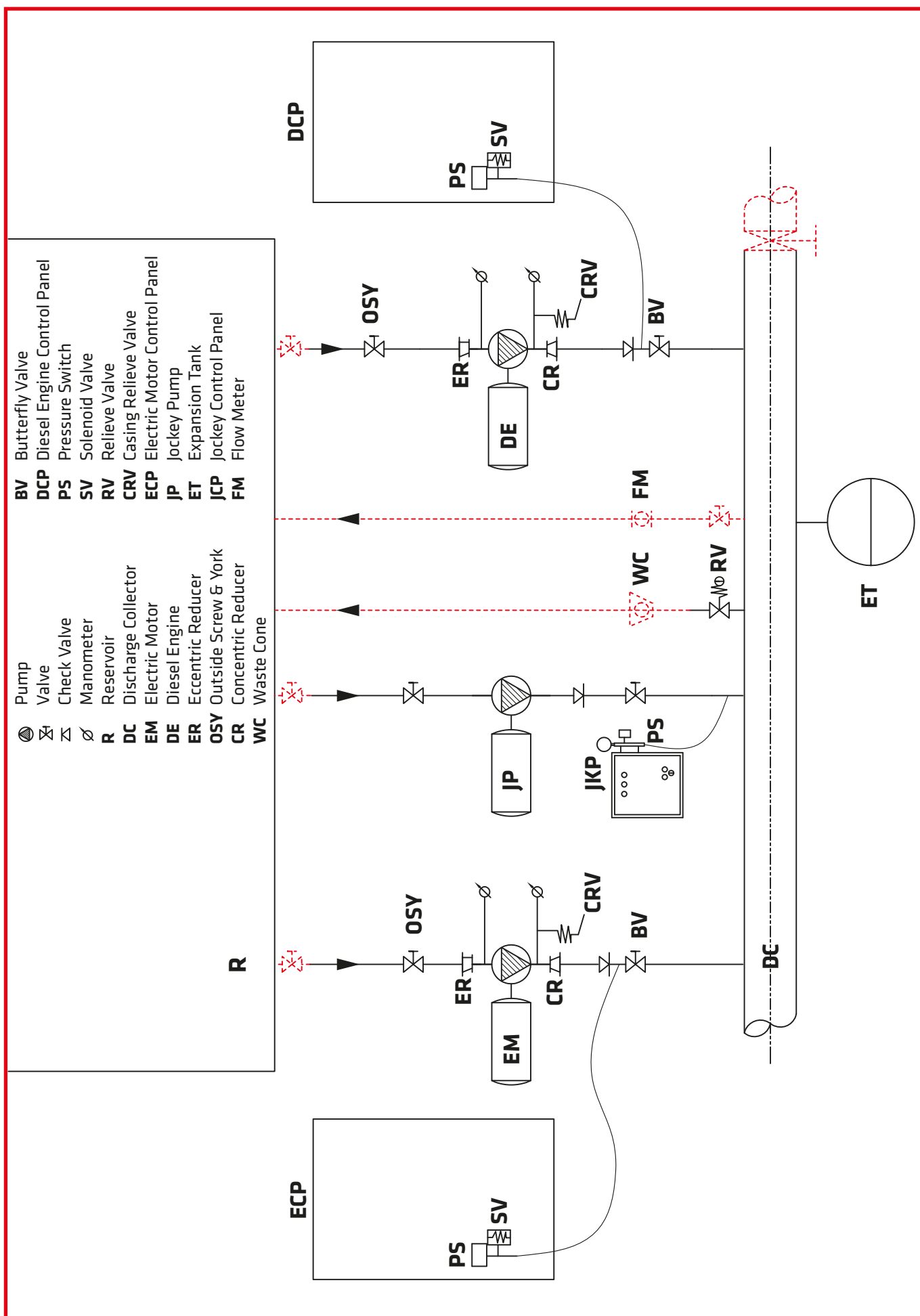
The manually operated switch (push button) can be used to run the motor manually. In this case operation can not be affected by the pressure-actuated switch.

Mechanical Control

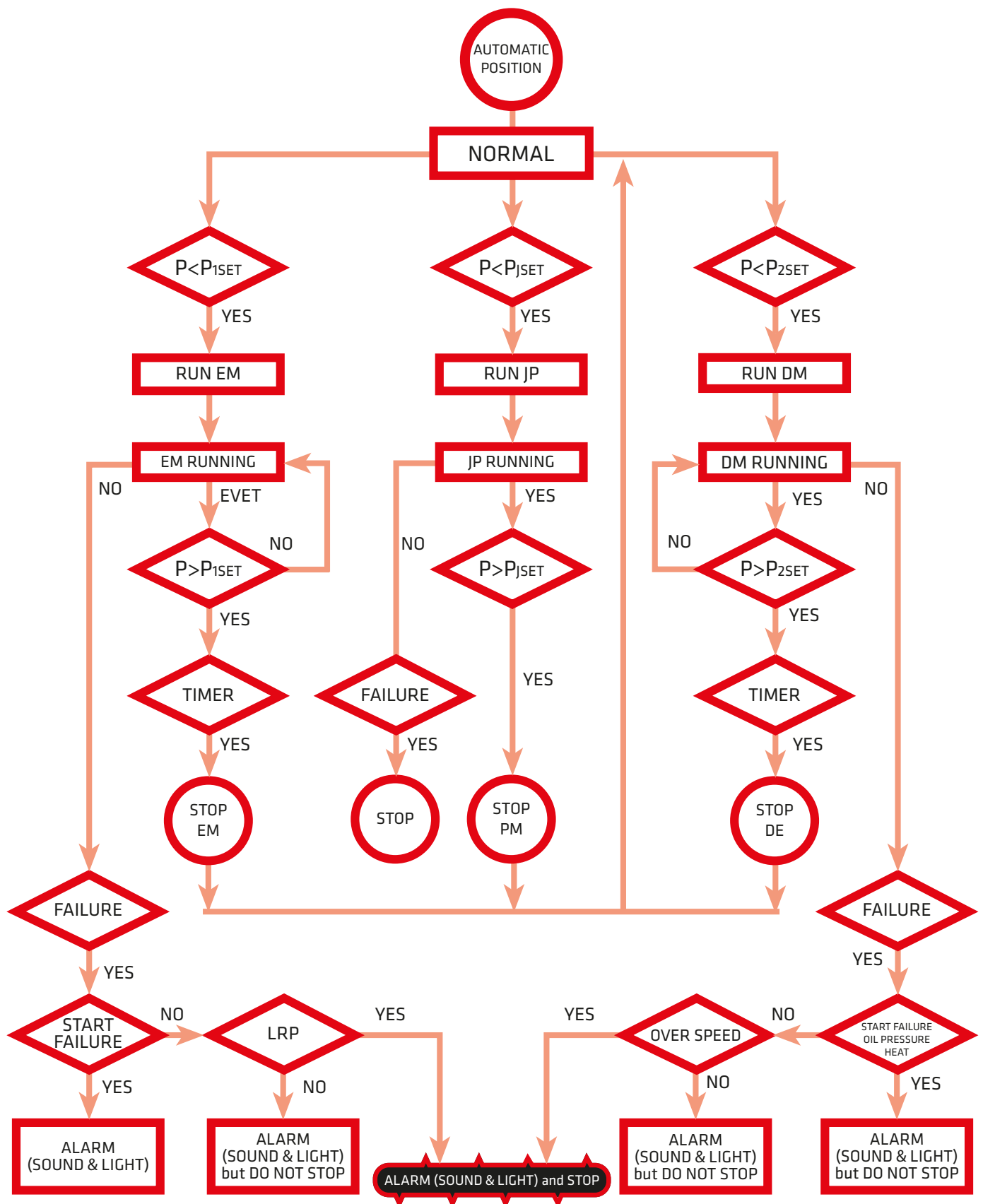
Emergency run handle on the controller can be used to operate pumps by mechanically closing the motor-circuit switching mechanism.

If the pressure drops below the set value (P_{1SET}), jockey pump starts running with the signal coming from the pressure switch and continues to run until the system pressure reaches the set value (P_{SYSTEM}). If the pressure continues to drop, (P_{1SET}) first the main pump starts to run. If the system pressure (P_{SYSTEM}) can not supplied and pressure continues to drop (P_{2SET}), standby pump starts running.

After the operation of pumps, if automatic stop is needed; then electric pump runs 10 minutes while diesel pump runs for 30 minutes. Then automatically the pumps stop with the signal coming from min run timer.



Automatic Operation Algorithm In Case Of Fire



NOTE: Pressure adjustments must be like
 $P_{SYSTEM} > P_{JSET} > P_{1SET} > P_{2SET}$

Control Panels

- Individual control panels are used for electric pump, diesel pump and jockey pump
- Lock mechanism are used on panels
- Continuous grounding
- Pumps can run by manual control and emergency-run mechanical control on controller
- No thermic protection on controller (except jockey pump controller)
- One batteries for diesel engine
- Two batteries for diesel engine (if required)
- Battery charger

For Electric Motor (Type B)



For Diesel Engine (Type B)



The pictures are representative.

• Alarm signals on electric pump controller

1. pump running
2. pump failure
3. phase reversal (if required)
4. loss of phase (if required)
5. power suitable (if required)
6. lamp test (if required)
7. audible and visible (can not be switched off) alarms

• DRY contacts on electric pump controller

1. general alarm
2. weekly test started
3. pump running

• Additive alarm signals for diesel driven pumps

1. high motor temperature (if available in diesel engine)
2. low oil pressure
3. over speed
4. control is in automatic mode
5. failure of 1st battery
6. failure of 2nd battery (if required)
7. starting failure
8. engine running
9. audible and visible (can not be switched off) alarms

• DRY contacts on diesel engine controller

1. control is in automatic mode
2. pump running
3. general alarm

Fire pump groups can communicate with building automation systems. But to operate and stop fire pump groups from the control room is not suggested because of safety reasons.

Pressure switches are very important, because they generate “run command”. There shall be at least one pressure switch for each pump and at least two for the system.

After the adjustments pressure switches should be locked at the factory. They should be in control panel and not effected from vibrations. Min and max set levels could be adjusted individually.

Fire pumps should operate automatically by pressure switches and also should operate manually by pressing an electric push button or pressing a mechanical handle.

Control Panels According to NFPA 20

The control panels has many requirements that are required in NFPA 20. Like a voltage surge arrester, isolation switch emergency run mechanical control, overspeed...

- Individual control panels are used for electric pump, diesel pump and jockey pump
- Lock mechanism are used on panels
- Continuous grounding
- Pumps can run by manual control and emergency-run mechanical control on controller
- In the electric motor pumps, by the help of Locked Rotor Protection (LRP), in case of locking rotor main switch is automatically shut down.
- In the diesel engine pumps, the diesel is stopped in case of overspeed
- No thermic protection on controller (except jockey pump controller)
- Two batteries for diesel engine
- Battery chargers

For Electric Motor (Type C)



For Diesel Engine (Type C)



The pictures are representative.

- Alarm signals on electric pump controller (except jockey pump)

1. pump running
2. pump failure
3. minimum water level(if required)
4. phase reversal
5. loss of phase
6. power suitable
7. Lamp test (if required)
8. audible(can be switched off) and visible(can not be switched off) alarms
9. LRP

- DRY contacts on electric pump controller

1. general alarm
2. start failer
3. weekly test started
4. pump status
5. phase loss
6. phase opposite
7. power suitable

- Additive alarm signals for diesel driven pumps

1. high motor temperature
2. low oil pressure
3. over speed
4. control is in automatic mode
5. charger lamp
6. failure of 1st battery
7. failure of 2nd battery
8. starting failure
9. failure of battery charger
10. engine running
11. lamp test button (optional)
12. audible(can be switched off) and visible(can not be switched off) alarms

- DRY contacts on diesel engine controller

1. selector switch is at wrong position
2. pump runing
3. general alarm

Periodic Tests During Operation

Weekly Automatic Test

The timer which is preset at a certain time of the week, opens the solenoid valve. System pressure decreases due to discharge water and solenoid valve is closed after motor starts running. Pump runs for a period which is already programmed and then stops.

During weekly tests the fire security person is supposed to be at the test area (It is not easy to recognise mechanical failures during automatic test).

Minimum run time is 10 minutes for electric motor driven pumps and 30 minutes for diesel engine driven pumps. Diesel engine controller should generate an alarm signal in case of failure which is 15 seconds of cranking and 15 seconds of rest, in six consecutive cycles.

Weekly Manual Test

After completion of automatic weekly tests, manual-electrical (by pressing a button on controller) and manual-mechanical (by pressing a handle on controller) tests are done for a short period of time.

Monthly and Annual Test

These tests are for the purpose of protective maintenance and defined in NFPA -25

Pompa technical team is ready to help on this matter if required.

Factory Test

Each fire pump is hydrostatically tested 1.5 times of shut off pressure (not less than 17 bars) for a minimum 5 minutes period.

Each fire pump is factory tested as per NFPA-20 requirement.

Fire pump groups and fire booster sets are functionally tested at factory.

Optional Accessories of Fire Pump Group (*)

Fire pump groups include all the required elements per NFPA-20.

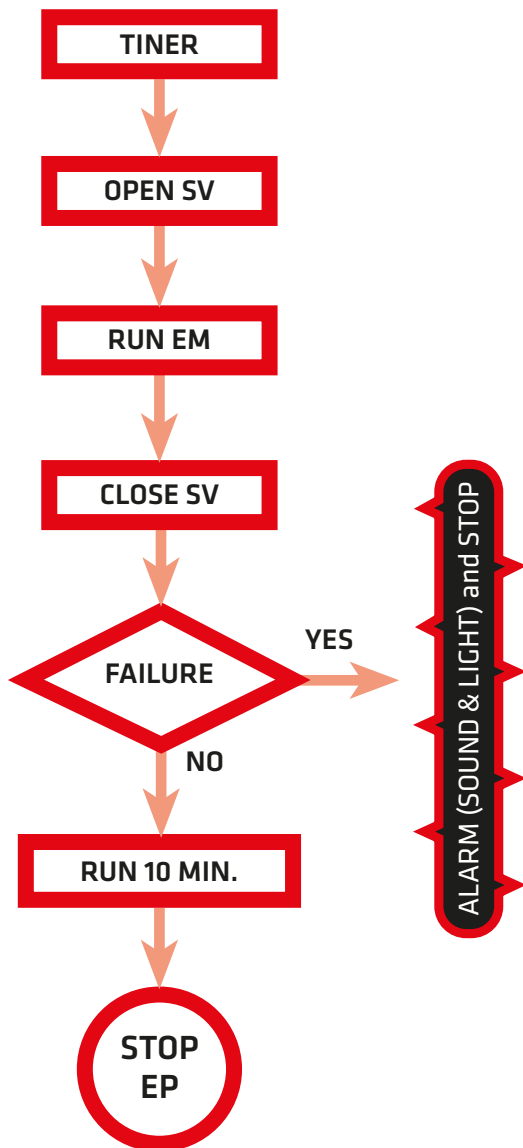
Optional elements are shown below :

- suction valve position monitoring switch
- suction valve lock
- waste cone
- discharge valve position monitoring switch
- discharge valve lock
- flowmeter at the flow rate 1.75 times of rated flow

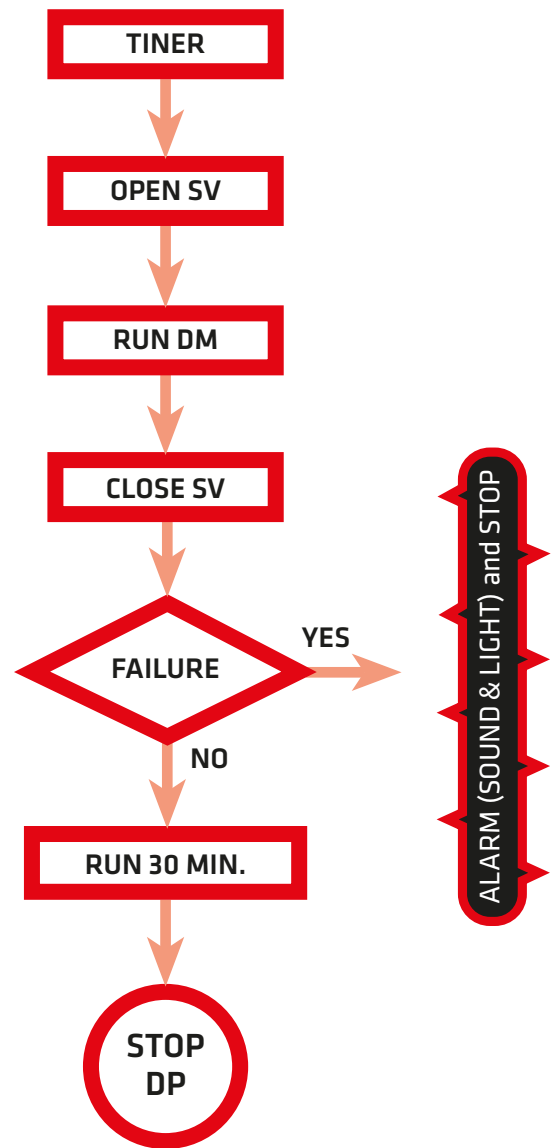
(*) Fire Pump Group : Main pump, stand-by pump, jockey pump, electric control panels, collectors, valves etc. all on common base plate.

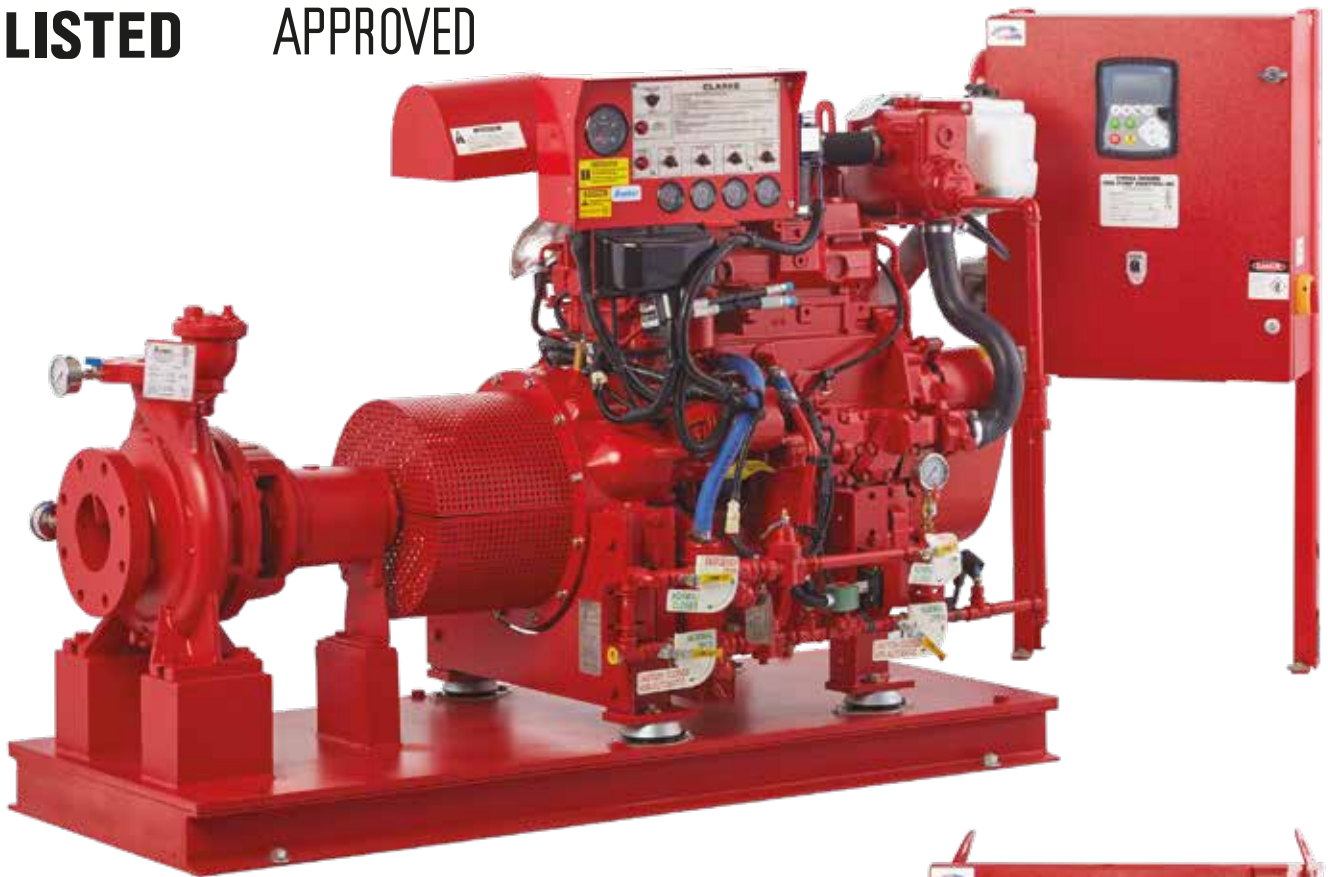
Automatic Weekly Test Algorithm

For Electric Pump



For Diesel Pump





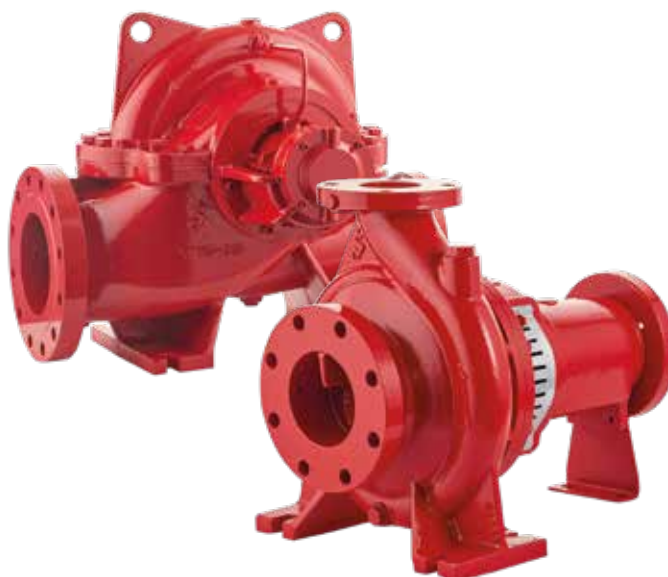
Pump • Fire Fighting Units • Booster Set

SDS / SNK

FIRE PUMPS



SDS/SNK Rev.05 03.2024



Who UL is and What UL Does

- UL (Underwriters Laboratories Inc.) is a global independent safety science company offering expertise across five key strategic businesses: Product Safety, Environment, Life & Health, University and Verification Services. Since the year UL founded in 1894, nearly 70,000 manufacturers in 100 countries have produced 100.000 different types of totally 22 billion UL Marked products.
- UL engineers scientifically investigate and test thousands of types of products, materials, constructions and systems to evaluate the electrical, fire and injury risks; the burglary or fire resistance; or the ability to detect, control or limit fires.
- UL has developed 1,600 Standards for Safety, which serve as the bedrock of compliance in over 200 industries.
- There is an “Online Certifications Directory” in UL’s website and all the products listed by UL can be found here.

UL Safety Standard: UL 448

- The requirements of this standard cover design and test features of centrifugal fire pumps intended for use in water-supply systems for fire-protection service.
- The pumps covered by these requirements are intended for installation and use in accordance with the Standard for the Installation of Stationary Pumps for Fire Protection, NFPA 20.

Who FM is and What FM Does

- FM (Factory Mutual) Global is one of the world’s largest business property insurers who also serves engineering solutions to be protected against basic fire, natural disaster or other types of property risk.
- FM Approvals is a unit of FM Global who certifies industrial and commercial products and services for companies. When a product or service meets the standards of FM Approvals, it is issued the “FM APPROVED” mark to signify it will perform as expected.
- Currently there are 60.000 certified products and services and these are listed in “FM Approval Guide” which can be found in FM website.

FM Approvals Standard: 1311 / 1319

- FM Class 1311 states approval criteria for horizontal or vertical split case centrifugal fire pumps while FM Class 1319 states about horizontal end suction centrifugal fire pumps that supply water to fire protection systems.
- The requirements in these standards are mainly based on ANSI Hydraulics Institute (HI) and NFPA 20 standards.

General Information

Design Features According to UL & FM

•Only the specified capacities in the below table are allowed for rated capacity. For capacities higher than 5000 GPM, 500 GPM increments are allowed.

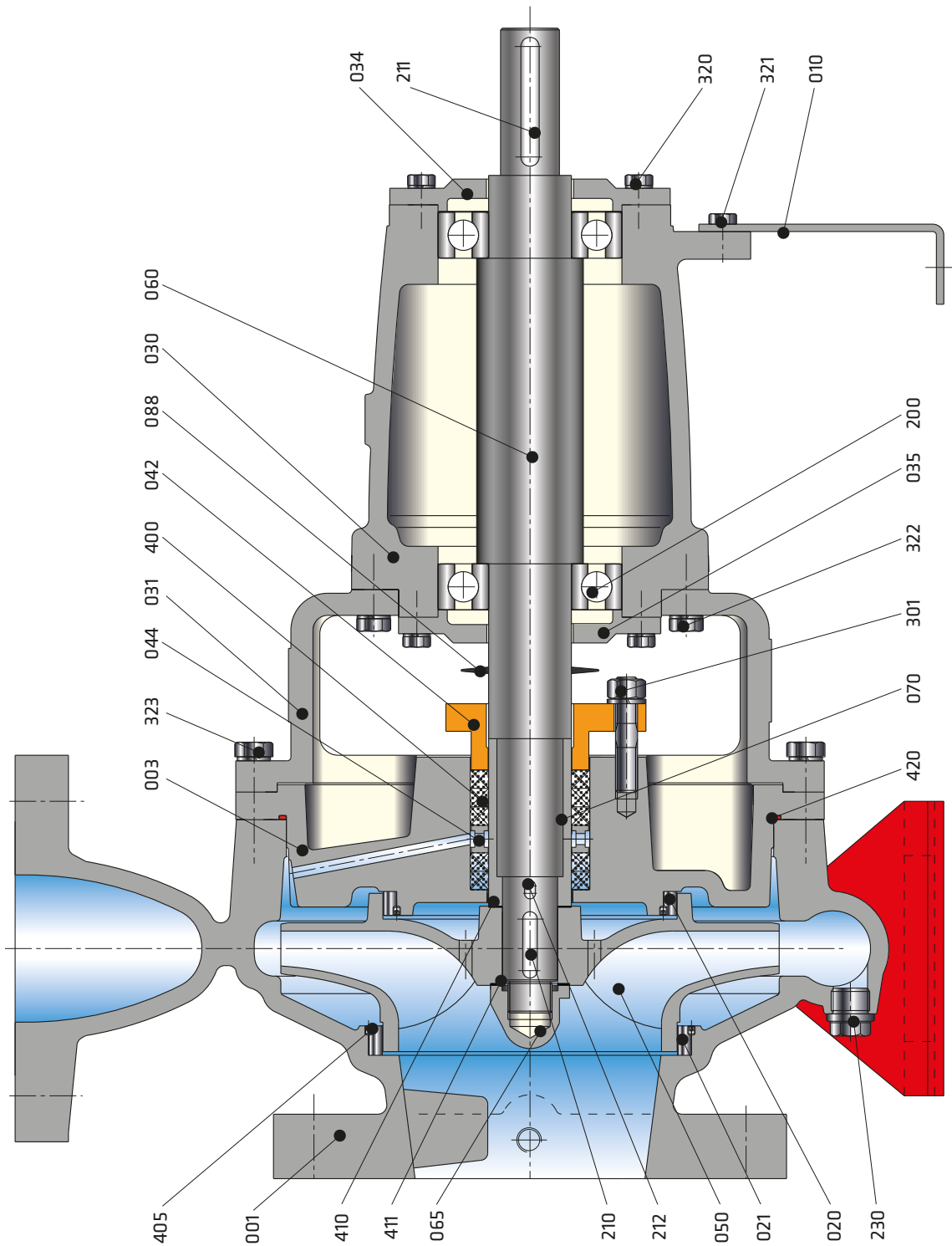
GPM	m ³ /h	GPM	m ³ /h	GPM	m ³ /h
25	5.68	400	90.8	2000	454
50	11.3	450	102.2	2500	568
100	22.7	500	113.5	3000	681
150	34.0	750	170	3500	795
200	45.4	1000	227	4000	909
250	56.8	1250	284	4500	1022
300	68.1	1500	341	5000	1136

- All interior bolt or screw that are exposed to pumped liquid shall be of rolled bronze or corrosion resistant material
- The pump shall be provided with automatic air-release valve, circulation relief valve and pressure gauges
- Bearings shall have an L-10 rating of not less than 5000 hours at maximum load.
- The pumps shall be provided with at least four packing rings plus a lantern ring. The lantern ring may be permitted to replace one ring of packing.
- Impellers, wear rings, shafts, lantern rings, glands shall be made of corrosion resistant material.
- Following material specifications are applied to UL/FM fire pumps:

Part List	Definition	DIN / EN		AISI / SAE / ASTM
Casing	Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A 536 60-40-18
Impeller	Cast Bronze	2.1050.01	G-CuSn 10	B427 C90700
Shaft	Stainless Steel	1.4021	X20 Cr 13	A 276 Type 420+QT
Shaft Seal	Stainless Steel	1.4404	X2 Cr Ni Mo 17-12-2	A 276 Type 316L
Wear Ring	Cast Bronze	2.1050.01	G-CuSn 10	B 427 C90700
Bolt & Screw	Stainless Steel	1.4301	X5 Cr Ni 18-10	A276 Type 304

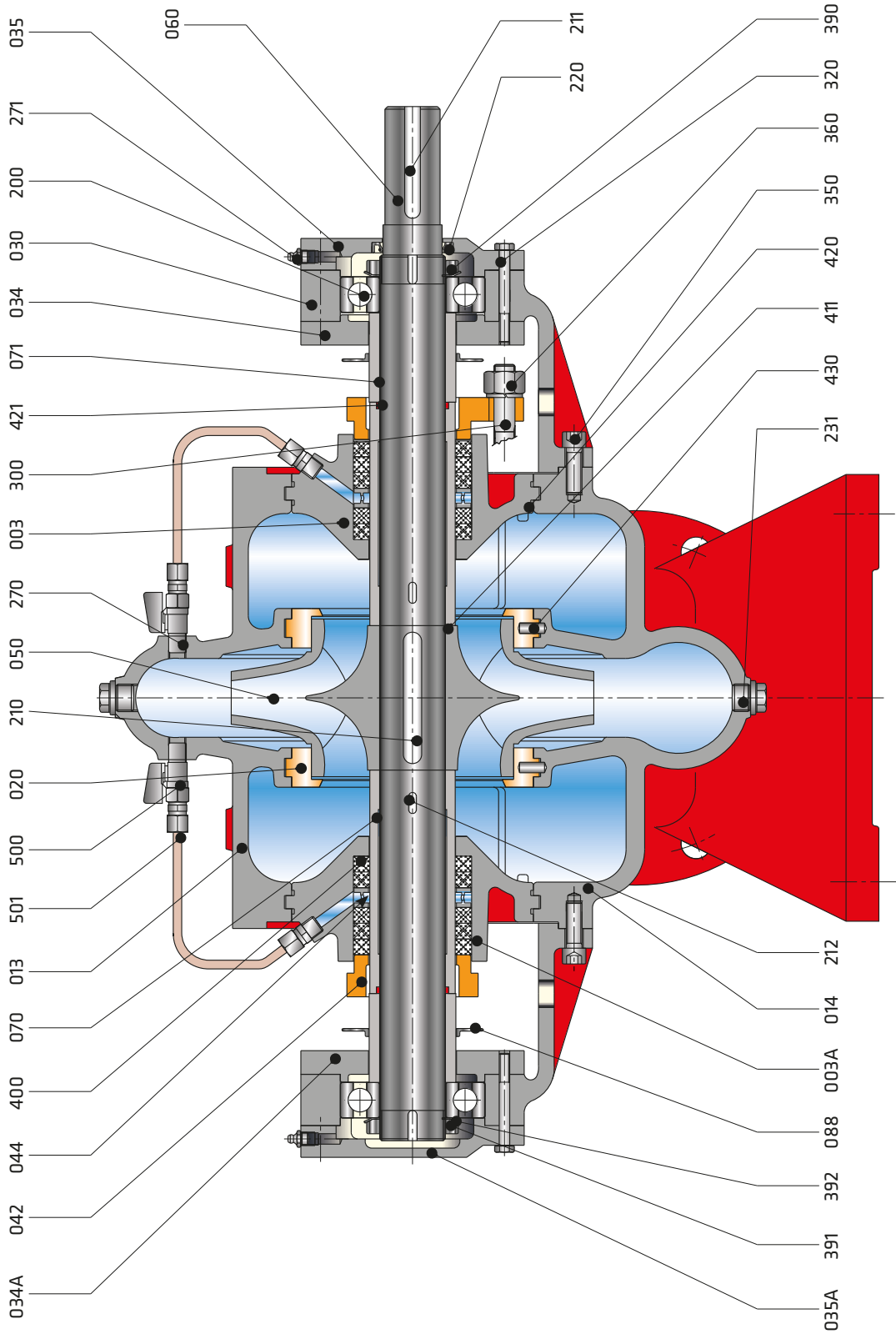
Part List

001	Volute Casing
003	Stuffing Box
010	Support Foot
020	Wear Ring (back)
021	Wear Ring (front)
030	Bearing Housing
031	Bearing Bracket Lantern
034	Bearing Cover (outboard)
035	Bearing Cover (inboard)
042	Stuffing Box Gland
044	Lantern Ring
050	Impeller
060	Shaft
065	Impeller Nut
070	Shaft Protecting Sleeve
088	Thrower
200	Ball Bearing
210	Impeller Key
211	Coupling Key
212	Sleeve Key
230	Drain Plug
301	Stud+Nut+Washer
320	Hex. Head Bolt
321	Hex. Head Bolt
322	Hex. Head Bolt
323	Hex. Head Bolt
400	Stuffing Box Packing
405	Set Screw
410	Gasket
411	Gasket
420	O-Ring



Part List

003	Stuffing Box (right side)
003A	Stuffing Box (left side)
013	Volute Casing (top)
014	Volute Casing (bottom)
020	Wear Ring
030	Bearing Housing
034	Bearing Cover (inboard)
034A	Bearing Cover (inboard)
035	Bearing Cover (outboard)
035A	Bearing Cover (outboard)
042	Stuffing Box Gland
044	Lantern Ring
050	Impeller
060	Shaft
070	Shaft Protecting Sleeve
071	Sleeve (spacer)
088	Thrower
200	Ball Bearing
210	Impeller Key
211	Coupling Key
212	Key
220	Oil Seal
231	Drain Plug
270	Nipple
271	Grease Nipple
300	Stud
320	Hex Head Bolt
350	Allen Screw
360	Nut
390	Locknut (non drive end)
391	Locknut (drive end)
392	Lock Washer
400	Stuffing Box Packing
411	Gasket
420	O-Ring
421	O-Ring
430	Pin
500	Valve
501	Flushing Pipe



Selection Table



UL Listed & FM Approved Fire Pumps			
Pump Type	Capacity (GPM)	Pressure Range (PSI)	Speed (RPM)
SDS 65-250	100	102-171	3000
SDS 65-250	150	100-171	3000
SDS 65-250	200	100-171	3000
SDS 65-250	250	99-171	3000
SDS 65-250	300	98-171	3000
SDS 80-250	400	103-162	3000
SDS 80-250	450	102-162	3000
SDS 80-250	500	102-161	3000
SDS 80-315	500	173-208	3000
SDS 80-315	750	167-204	3000
SDS 100-250	750	89-172	3000
SDS 100-250	1000	85-171	3000
SDS 125-315	1250	117-199	3000
SDS 125-315	1500	112-198	3000
SDS 125-315	2000	130-192	3000
SDS 150-315	2000	92-125	2100
SDS 150-315	2000	116-156	2350
SDS 150-315	2500	87-123	2100
SDS 150-315	2500	113-156	2350

UL Listed & FM Approved Fire Pumps			
Pump Type	Capacity (GPM)	Pressure Range (PSI)	Speed (RPM)
SNK 50-250	200	93-150	3000
SNK 50-250	250	91-150	3000
SNK 50-250	300	88-148	3000
SNK 65-250	300	92-142	3000
SNK 65-250	400	88-142	3000
SNK 65-250	450	84-141	3000
SNK 80-250	450	87-148	3000
SNK 80-250	500	84-148	3000

(*) NOTE :

- Engines are rated at standard SAE conditions of 29.61 inches (752 mm) Hg barometer and 77°F (25°C) inlet air temperature [approximates 300 ft. (91.4 m) above sea level] by the testing laboratory (see SAE Standard J 1349).
- A deduction of 3 percent from engine horsepower rating at standard SAE conditions shall be made for diesel engines for each 1000 ft. (305 m) altitude above 300 ft. (91.4 m)

Flange Dimensions

*Except SDS 80-315 and SDS 125-315

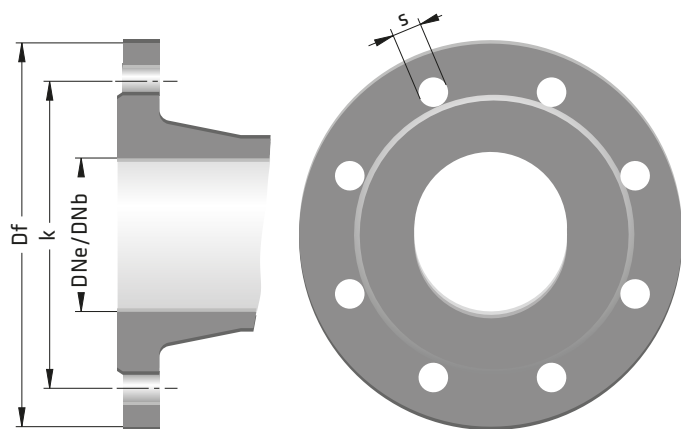
ASME B16.42	DNe/DNb	CLASS 150			
		Df	k	s	n
	50	152	121	19	4
	65	178	140	19	4
	80	190	152	19	4
	100	229	190	19	8
	125	254	216	22	8
	150	280	241	22	8
	200	343	298	22	8
	250	405	362	25	12

" n " number of holes

*For SDS 80-315 and SDS 125-315

ASME B16.42	DNe/DNb	CLASS 300			
		Df	k	s	n
	80	210	168	22	8
	125	280	235	22	8
	200	380	330	26	12

" n " number of holes





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