SP-M SERIES

Water & Wast Water Submersible Pumps

GENERAL INFORMATION

Capacity	Up to 250 m³/h
Head	Up to 40 m
Frequency	Three Phase 50 HZ - 60 HZ
Protection Class	IP 68
Insulation	Class H
Fluid Temperature	Up to 40 °C

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Transferable Liquids

- Water, sewage and other waste water types with large solids diameter.

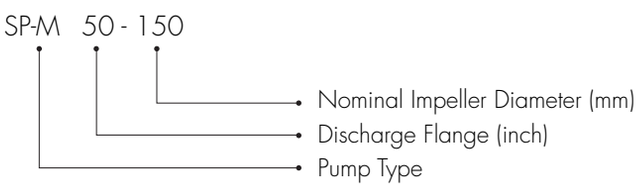
Applications

Water and Waste water

Design Features

- Vertical, volute casing, single stage submersible type centrifugal pumps with enclosed, semi-open or vortex types impeller
- Basic models covering wide range of operational area.
- Electric motor isolation class is IP 68.
- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.
- Axial thrust is balanced by impeller back ribs.
- Bearings of SP-M types pumps are "life time lubricated".
- Optional : SP-M designed with grinder blade.

Pump Code



DESCRIPTIONS

	DIN	EN	AISI/SAE/ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 CLASS 40B
Ductile Iron Casting	0.7040	EN-GJS-400-15 (GGG 40)	A536 60-40-18
Ductile Iron Casting	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Steel Casting	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Steel Casting	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Steel Casting (Low Carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Steel Casting	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Steel Casting (L.C)	1.4409	GX2CrNiMo 19-11-2	A351 CF3M
Austenitic Steel Casting	1.4500	GX7NiCrMoCuNb 25-20	A351 CN7M
Austenitic Ferritic Steel Casting (Dublex)	1.4517	GX2CrNiMoCuN 25-6-3-3	A890 CD4MCuN
Austenitic Ferritic Steel Casting (S.Dublex)	1.4469	GX2CrNiMoN 26-7-4	A890 CE3MN
Martensitic Stainless Steel Casting	1.4317	GX4CrNi 13-4	A352 CA6NM
Martensitic Stainless Steel Casting	1.4008	GX7CrNiMo 12-1	A217 CA15
Bronze Casting (Tinned)	2.1050.01	G-CuSn10	B427 C90700
Bronze Casting (Nickel Alloy)	2.0975.01	G-CuAl10Ni	B148 C95500
Bronze Casting (Leaded)	2.1096.01	G-CuSn5ZnPb	B584 C83600
Chromium Steel	1.4021	X20Cr13	A276 Type 420
Chromium Steel (Heat Treatment)	1.4021	X20Cr13	A276 Type 420+QT
Chrome Nickel Steel	1.4301	X5CrNi 18-10	A276 Type 304
Chrome Nickel Molybdenum Steel (L.Carbon)	1.4404	X2CrNiMo 17-12-2	A276 Type 316L
Dublex (Austenitic Ferritic) Steel	1.4460	X3CrNiMoN 27-5-2	AISI 329
Dublex (Austenitic Ferritic) Steel	1.4462	X2CrNiMoN 22-5-3	UNS S32205
Ductile Iron Casting	0.7050	EN-GJS-500-7-LT (GGG 50)	A536 70-50-05

Motor

Squirrel cage,high performance induction motor, specially designed and manufactured for submersible . Stator windings are trickle impregnated in resin to class F insulation class H is optional .

Shaft

A short overhang of the shaft virtually eliminates shaft deflection. This results in significantly increased sealand bearing life, low vibration and quiet operation.

Seals

Sets of mechanicals shaft seals that work independently for double security.

Oil housing

In addition to lubricating the seals. the food-grade oil filled compartment diffuses heat from the motor and the bearings. The housing also provides additional security against penetration by liquids.

Bearing

Durable bearing provide a minimum service life up to 100,000 hours.

Monitoring

Thermal sensors embedded in the stator windings help prevent overheating.
Leakage sensors in the stator and oil housings, together with external monitoring equipment, are available as options.

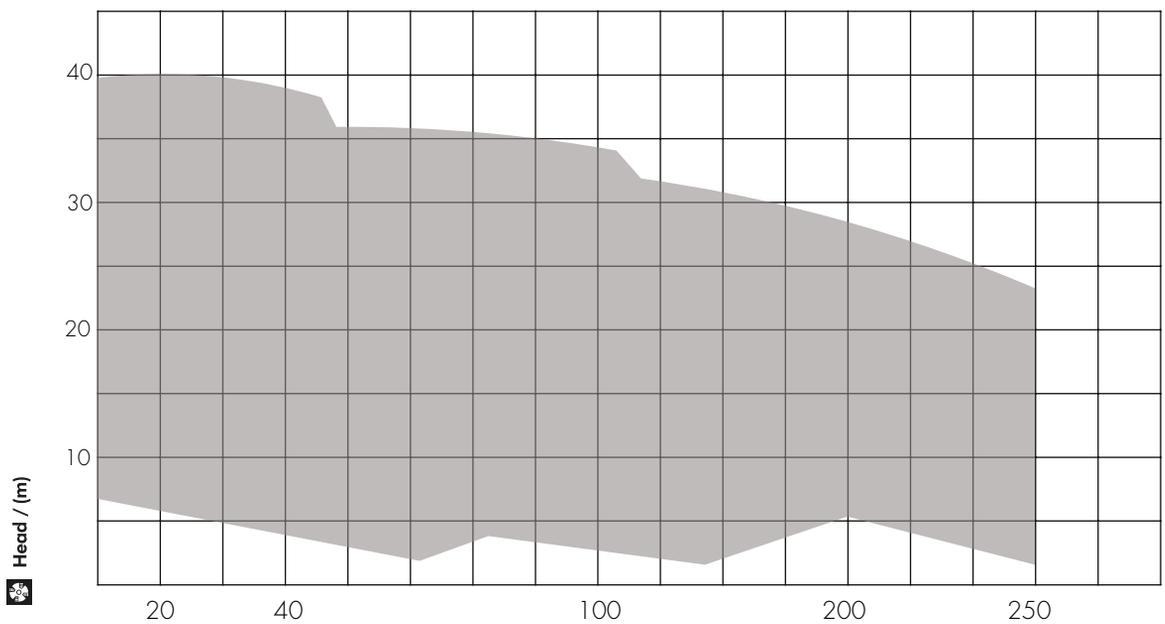
Cable entry

The cable entrance is designed to incorporate both a seal and a strain relief function.

SELECTION CHARTS

50 Hz

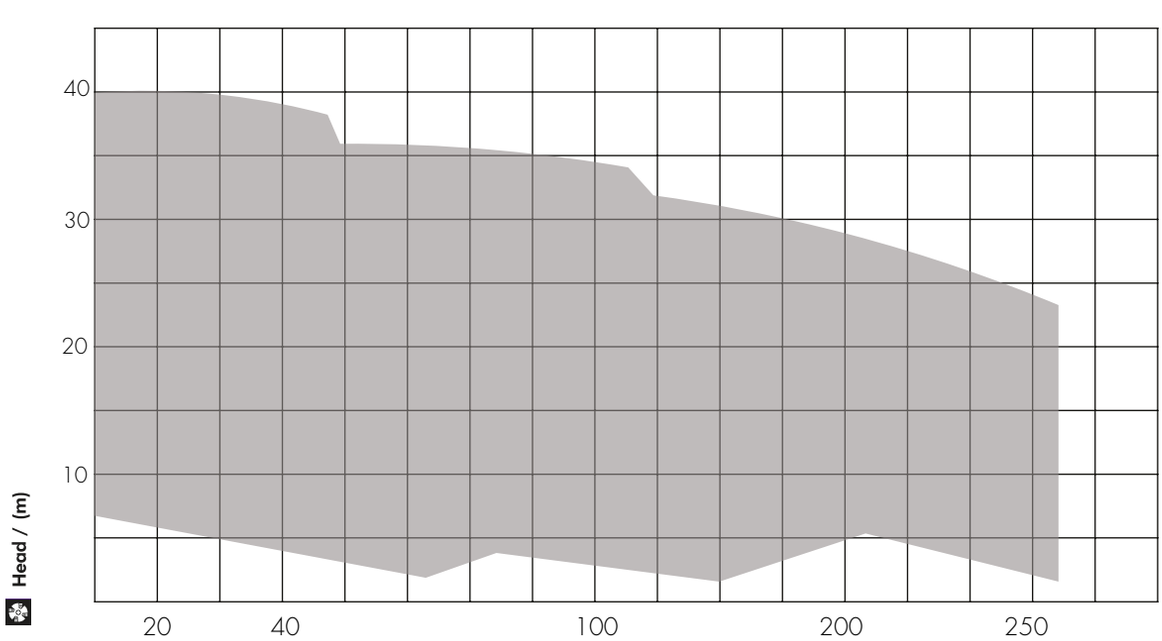
Capacity / (GPM)



Capacity / (m³/h)

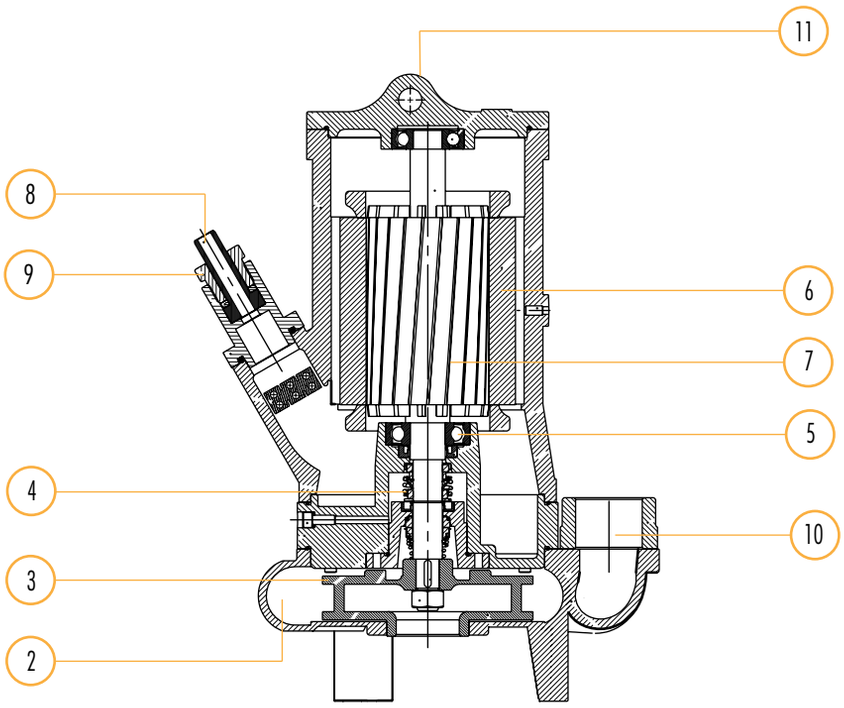
60 Hz

Capacity / (GPM)



Capacity / (m³/h)

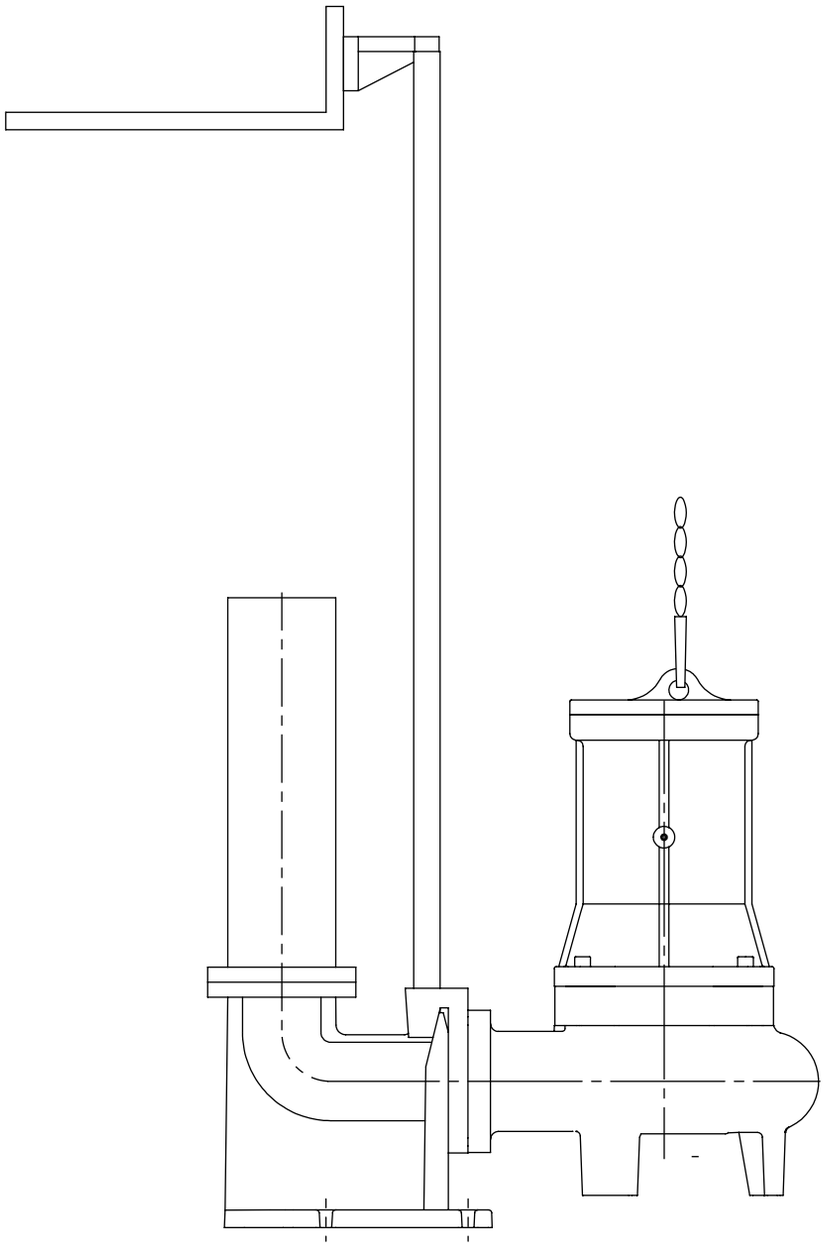
SECTIONAL VIEW

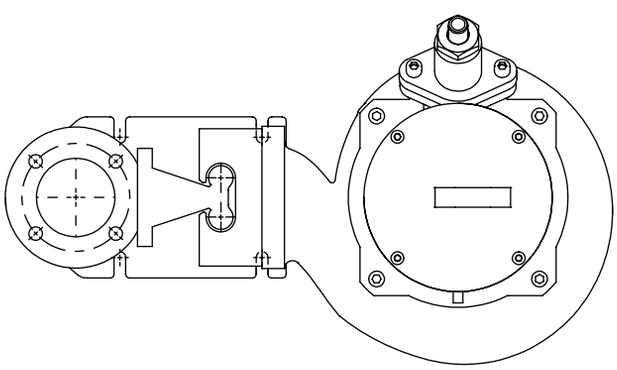


Part List

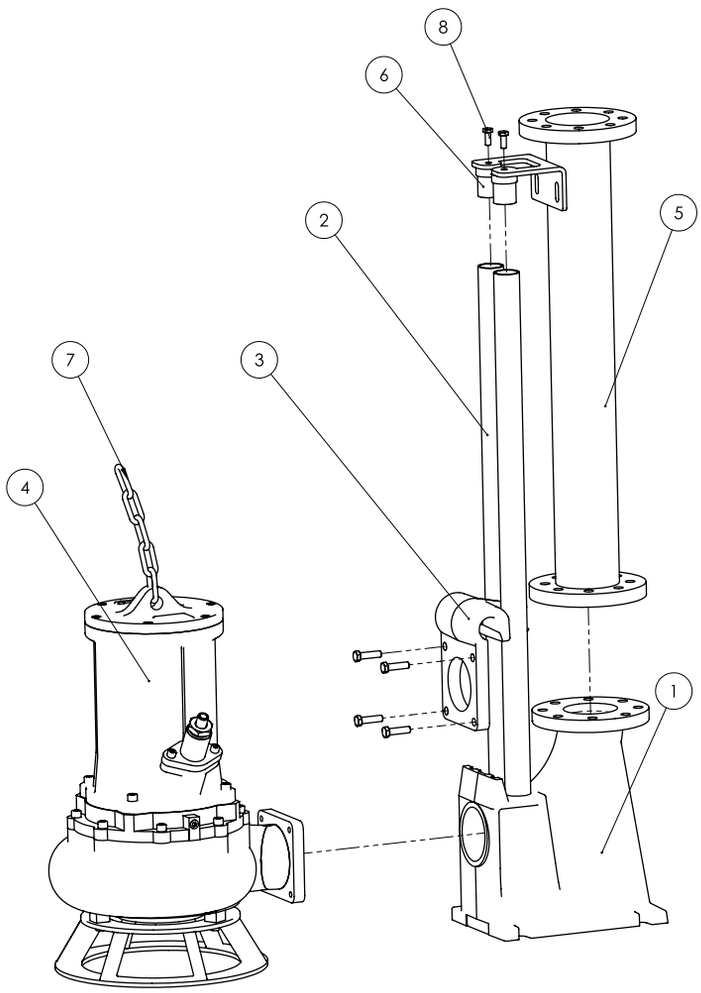
Volute	2
Impeller	3
Mechanical Seal	4
Bearing	5
Stator	6
Rotor	7
Cable	8
Gasket Connection Cover	9
Discharge Flange	10
Top cover	11

GUIDE RAIL





COUPLING DIMENSIONS

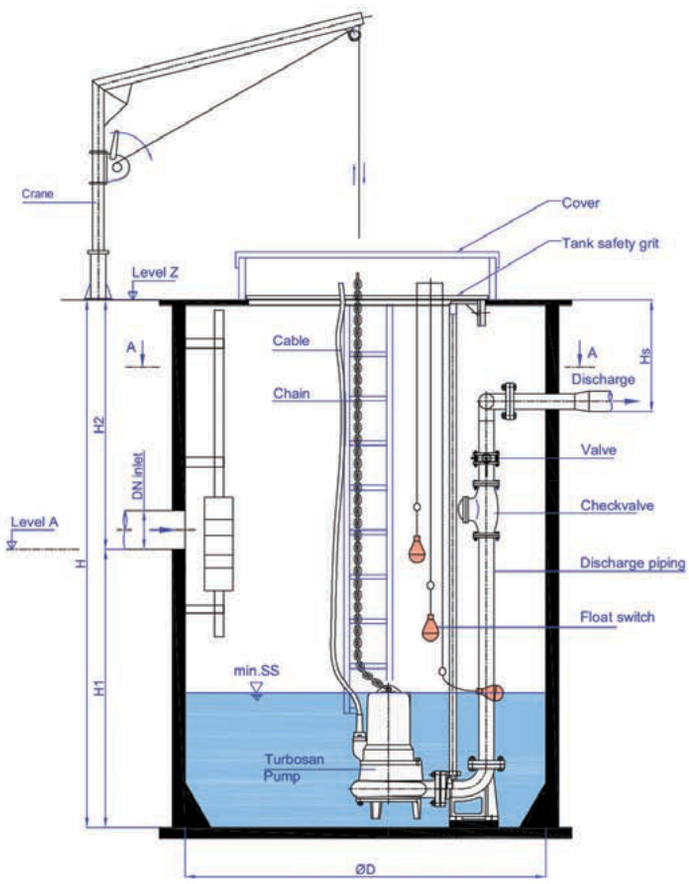


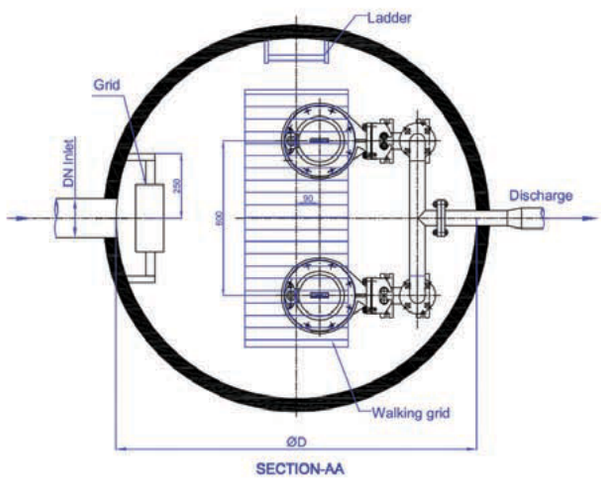
Part List

Duck Foot Bend	1
Guide Rail	2
Guide Flange	3
Pump	4
Discharge Pipe	5
Upper Support Braket	6
Chain	7
Bolt	8

Automatic Coupling (Duck Foot Bend) :

It is an economic and practical installation for stationary systems. The automatic coupling system consists of a duck foot bend fixed on sump floor, guide rail (rectangular cross-section) and fixing flangewhich is fitted to the pump. The automatic coupling set components and discharge piping have to be installed before the sump get filled with a medium.
Fixing flange which is fitted to the pump slides through the guide rails and pump lowered to the sump by means of chain. To take the pump out of the sump by pulling the sump by chain is enough, no dismantling or bolt removal is required.





Impeller

Double vane impeller :

In general they are used in large sized pumps. Rotational symmetry lets them operate without vibration and stable. they are with high efficiency and they don't strain motord with excessive load in case of low discharge head. large channels between vanes allows pumping large solids.

Vortex type impeller :

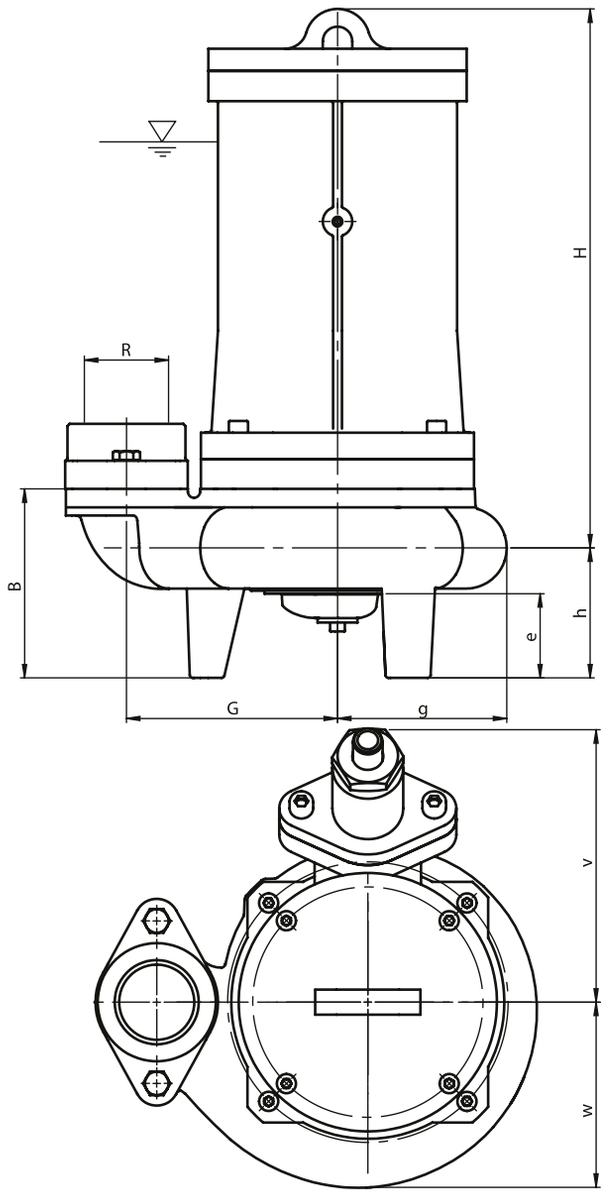
this type of impellers don't have closed channels. impeller located deep inside the volute casing. Pumping action is generated by vortex created within the fluid by rotation of the impeller. With this geometry they can tolerate large solids than other impeller types more specifically they tolerate fibrous materials in the pumped liquid.
Disadvantage of this impeller type is lower efficiencies.

Grinder kit :

SP-M Series grinder pumps utilize an innovative, hardened cutter system to shred soft solids and stringy materials outside of the pump to prevent clogging.
SP-M Series pumps are ideally suited for residential, domestic, and municipal wastewater.

PUMP DIMENSIONS

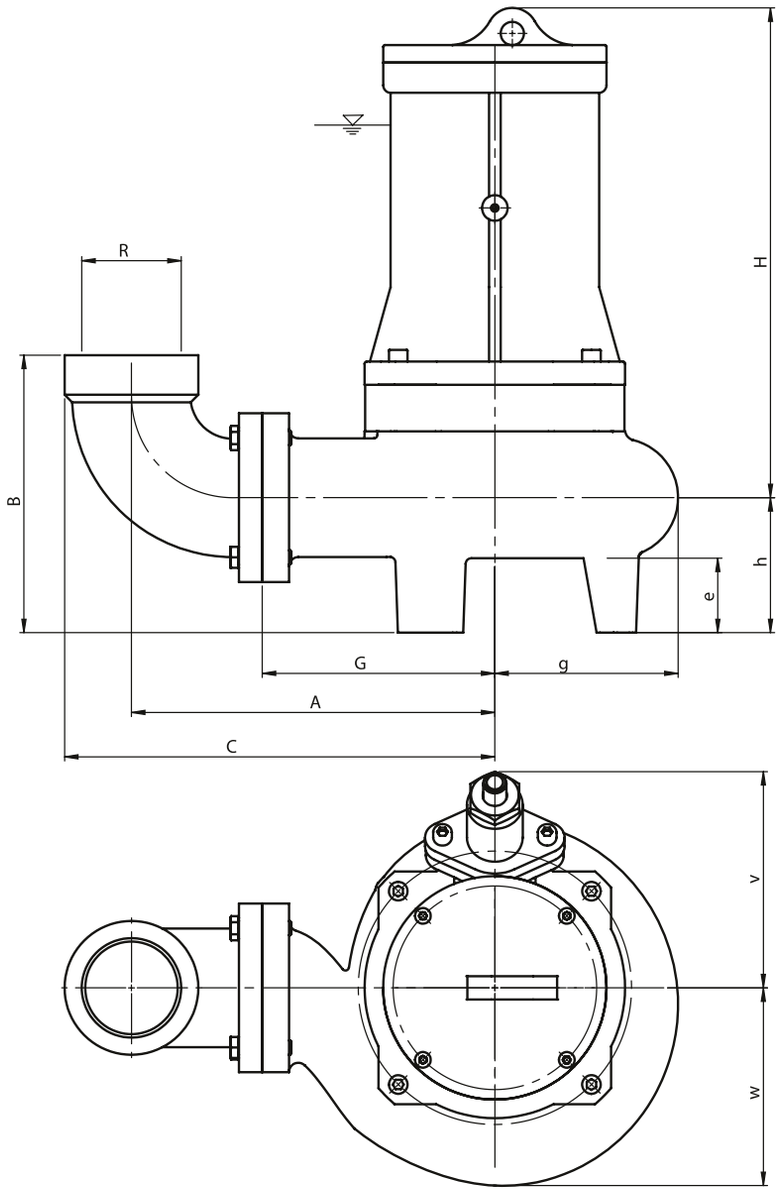
Form 1



Pump Type	Form	Motor			Discharge		Dimensions / (mm)								Weight	Mechanical Seal
		Power/(kW)		IEC No												
		1500	3000		DN	R(inch)	B	e	h	H	G	g	v	w		
50-B-2	Form1	-	1.5	90	50	2	128	57	88	365	143	115	185	125	47	MG1/25 BT-FN/25
50-B-2	Form1	-	2.2	90	50	2	128	57	88	365	143	115	185	125	49	MG1/25 BT-FN/25
50-142-D	Form1	-	3	100	50	2	130	57	90	404	155	145	185	155	62	MG1/25 BT-FN/25
50-160-D	Form1	-	4	100	50	2	130	57	90	404	155	145	185	155	64	MG1/25 BT-FN/25
50-170-D	Form1	-	5.5	112	50	2	130	57	90	404	155	145	185	155	68	MG1/25 BT-FN/25
50-180-D	Form1	-	7.5	132	50	2	130	57	90	446	155	145	200	155	70	MG1/25 BT-FN/25

PUMP DIMENSIONS

Form 4 & 5



Pump Type	Form	Motor			Discharge		Dimensions / (mm)										Weight	Mechanical Seal
		Power/ (kW)		IEC No														
		1500	3000		DN	R(inch)	A	B	C	e	h	H	G	g	v	w		
SP 80-190-D	Form4	3	-	100	80	3	313	238	370	65	116	421	200	158	186	170	90	MG1/25 BT-FN/25
SP 80-199-D	Form4	4	-	100	80	3	313	238	370	65	116	421	200	158	186	170	101	MG1/25 BT-FN/25
SP 100-203-D	Form5	5.5	-	132	100	4	386	318	449	100	185	544	264	206	218	224	145	MG1/40 BT-FN/40
SP 100-235-D	Form5	7.5	-	132	100	4	386	318	449	100	185	544	264	206	218	224	150	MG1/40 BT-FN/40
SP 100-262-D	Form5	11	-	132	100	4	386	318	449	100	185	544	264	206	218	224	157	MG1/40 BT-FN/40