

MCKARLEN

MDPT Series



SUBMERSIBLE WASTE WATER PUMP

www.mckarlen.com

GENERAL INFORMATION

Discharge Flange	DN 50-DN 400
Capacity	1800 M3/H
Head	120 m
Frequency	Three-phase 50 Hz - 60 Hz
Protection Class	IP 68
Thermistor Protection	PT100
Insulation	Class F
Fluid Temperature	up to 40 °C

Depending on the type of liquid, operating temperature and pressure. The pump material changes. Please contact our company for detailed information.

Applications

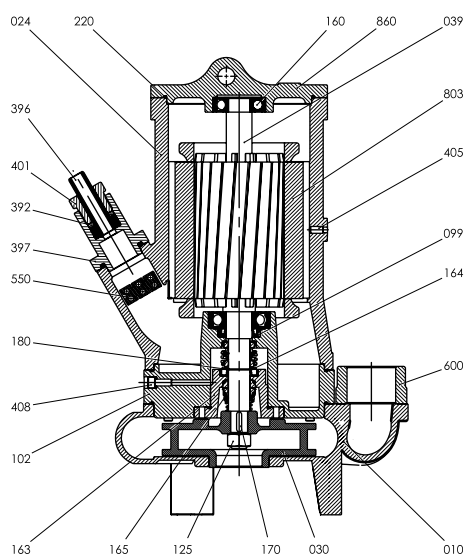
Iron and Steel Industry
Energy Industry
Mining
Food and Beverage Industry
Waste Water
Building Systems

Transferable Liquids

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

SECTIONAL VIEW

Form A



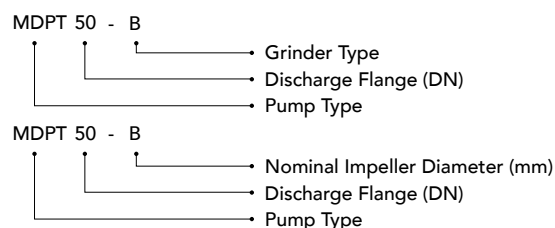
Design Features

- 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. (EN 1092-1 / PN10 for steel or stainless steel casing)
- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.
- Axial thrust is balanced by impeller back ribs. (Except double suction impellers.)
- In case of request motor cooling jacket is also applicable. Upon request, the pumps having 30 kw or larger motor can be manufactured with cooling jacket. These pumps can also operate in dry surroundings.
- Bearings of MDPT type pumps are "life time grease lubricated" ball rings.

Shaft Sealing

- Double mechanical seal is used in standard production.

Pump Code



Part List

Volute Casing	010
Motor Casing	024
Impeller	030
Rotor Shaft	039
Oil Seal	099
Lower Housing Body	102
Bearing	160
Mechanical Seal Cover	163
Mechanical Seal Setting Sleeve	164
Mechanical Seal	165
Key	170
Shaft Ring	180
O-Ring	220
Connection Stamp	392
Gasket Housing	397
Energy and Control Cable	396
Gasket Connection Cover	401
Set Screw	405
Bolt	408
Module Device Terminal	550
Discharge Flange	600
Rotor + Winding Core	803
Upper Cover	860

MATERIAL OPTIONS

Part List	0.6025	0.7040	1.0619	1.4308	1.4309	1.4408	1.4409	1.4517	1.4317	2.1050.01	2.0975.01	1.4021
Volute Casing	●	○	○	○	○	○	○	○	○	○		
Motor Casing	●	○		○		○						
Impeller	●	○	○	○	○	○	○	○	○	○	○	
Rotor Shaft												●
Oil Chamber	●	○										
Mechanical Seal (*)	EN 12756 / DIN 24250											

- Standard Manufacturing
 ○ Optional

(*) Options: Different brand and type seal can be use can according to customer request.

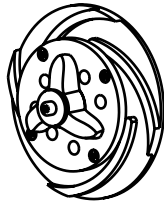
MATERIAL OPTIONS

■ DIN ■ EN

■ AISI/SAE/ASTM

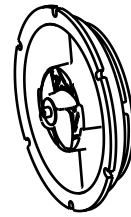
Cast Iron	0.6025	EN-GJL-250 (GG 25)	A 48 Class 40-B
Ductile Iron Casting	0.7040	EN-GJS-400-15 (SGG 40)	A 536 60-40-18
Steel Casting	1.0619	GP 240 GH (GSC 25)	A 216 WCB
Chrome Nickel Steel Casting	1.4308	G-X5 Cr Ni 19-10	A 351 CF8
Chrome Nickel Steel Casting (Low Carbon)	1.4309	G-X2 Cr Ni 19-11	A 351 CF3
Chrome Nickel Molybdenum Steel Casting	1.4408	G-X5 Cr Ni Mo 19-11-2	A 351 CF8M
Chrome Nickel Molybdenum Steel Casting (L.C.)	1.409	G-X2 Cr Ni Mo 19-11-2	A 351 CF3M
Austenitic - Ferritic Steel Casting (Duplex)	1.4517	G-X2 Cr Ni Mo Cu N 25-6-3-3	A 890 CD4MCuN
Martensitic Stainless Steel Casting	14317	G-X4 Cr Ni 13-4	A 352 CA6NM
Bronze Casting (Tinned)	2.1050.01	G-Cu Sn 10	B 427 C90700
Bronze Casting (Nickel Alloy)	2.0975.01	G-Cu Al 10 Ni	B 148 C95500
Chromium Steel	1.4021	X20 Cr13	A 276 Type 420

IMPELLER TYPES



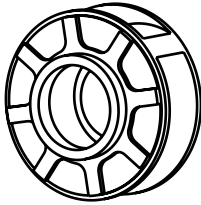
B Type Impeller

- Frinder blade
- The blade which stay in front of the impeller, is cutting the particles and reduces the diameter of solid particles.
- Impeller is open type
- Suitable for small flow rate and high pressure applications.



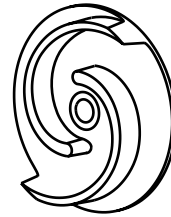
BC Type Impeller

- It is a special pump which has cutter and special wear plate.
- Easily used in heavy duty type.
- Impeller against the wear plate can easily use in difficult environments pretending shredder blades are provided.



D Type Impeller

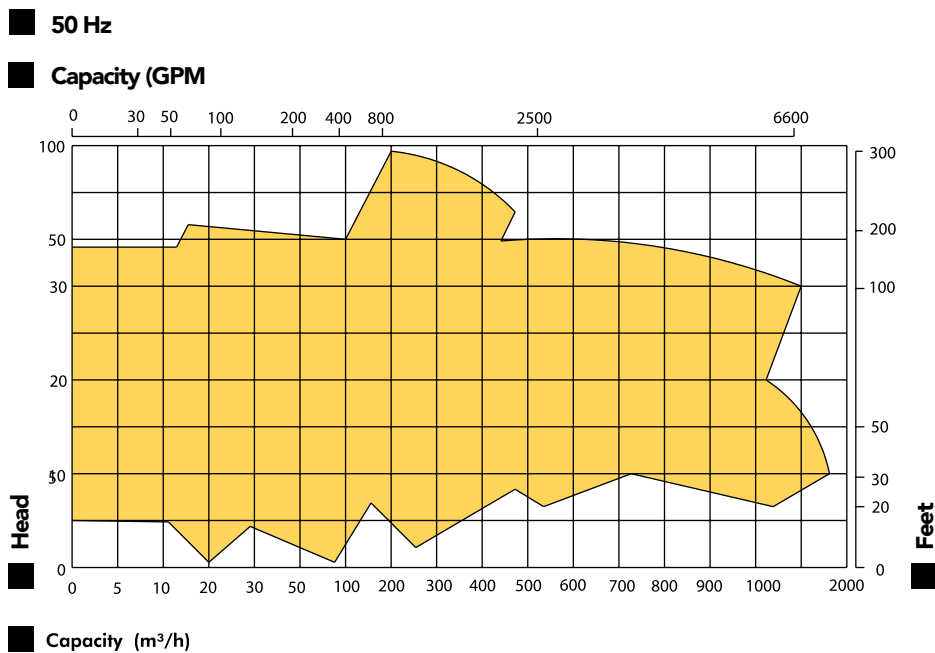
- Enclosed type impellers with wide channels capable of pumping large size solid particles without clogging, for big capacity and low pressure.
- It is mainly used for 4 pole motors.



HE Type Impeller

- Large sized solid particles that can pump without installing the wide winged, high flow, is a type of low pressure pump type.
- Generally 4 poles motor (1500 and 1800 rpm) is applied to motors. Particularly suitable for use in aggressive string.
- Administered together with the wear plate.

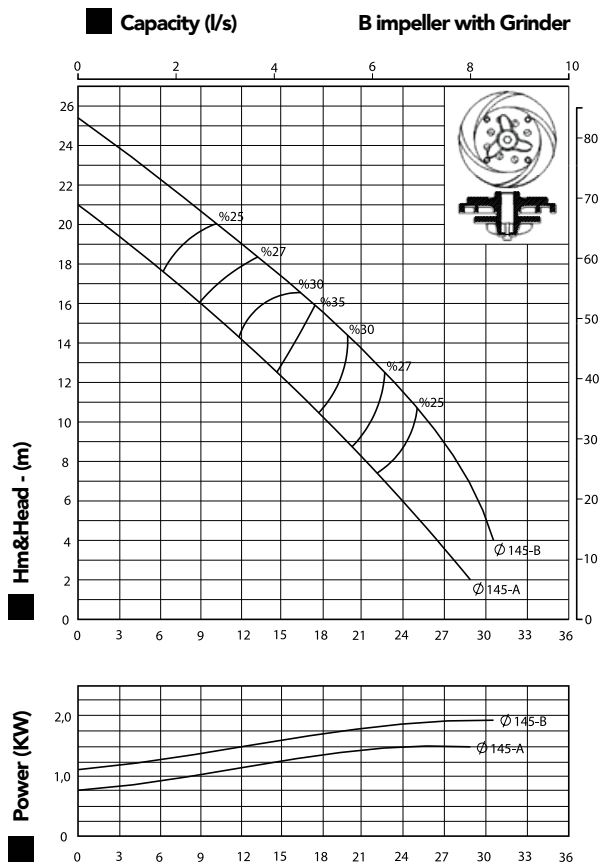
SELECTION CHARTS



WORKING CHARTS

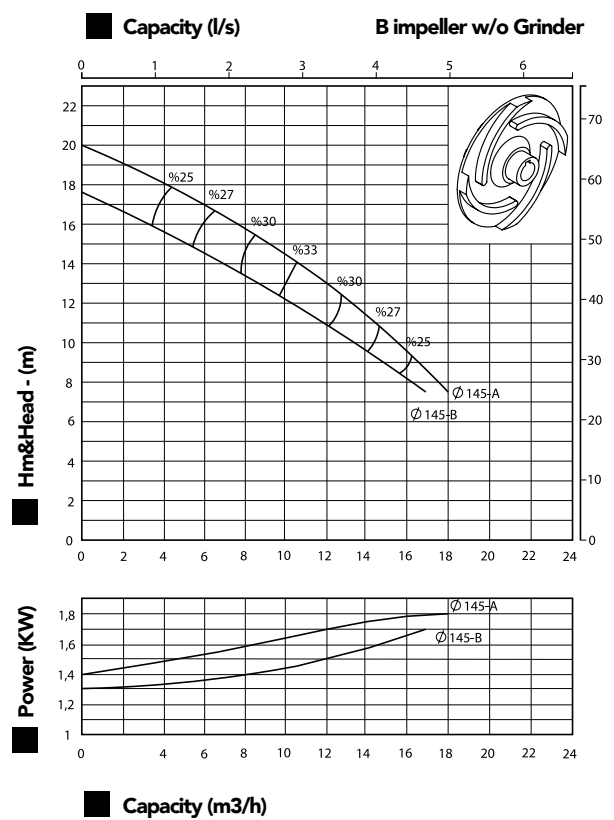
(3000 rpm&d/d) MDPT 50-B

Head-Feet



(3000 rpm&d/d) MDPT 50-B (Non-Grinder)

Head-Feet

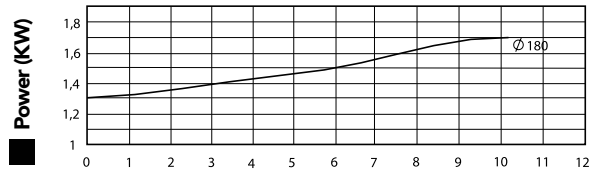
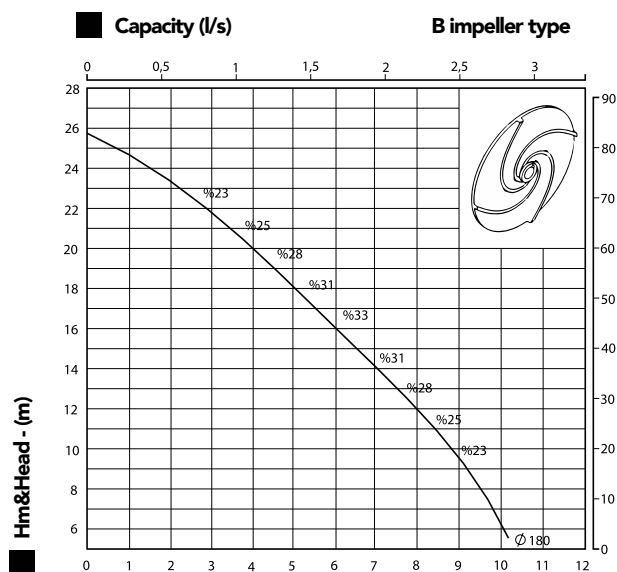


- The curves are based on 50 Hz Please contact for 60 Hz curves
- B with Frinder blade/grinder for cutting & reduce diameter of solid partice
- B without Frinder/grinder for plastic/elastic material and non solid partcel

WORKING CHARTS

■ (3000 rpm&d/d) MDPT 50-B (Normal)

■ Head-Feet

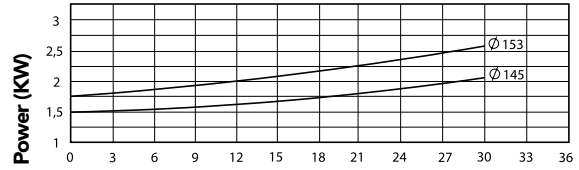
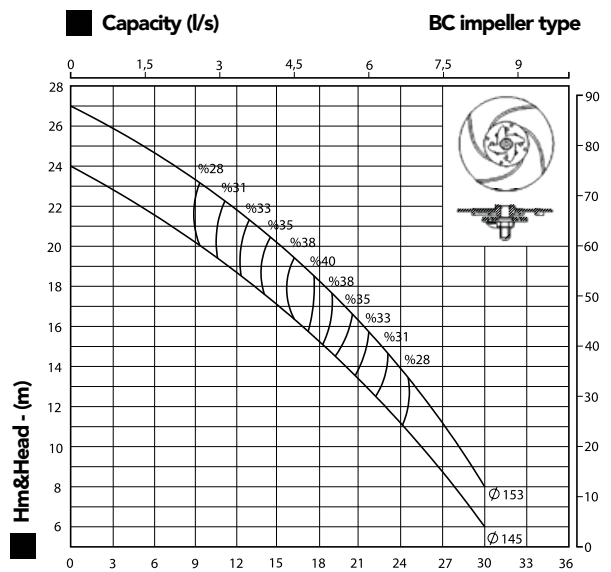


■ Capacity (m3/h)

IMPELLER	PUMP TYPE	BLADE NO	MAX SOLID Ø	MOTOR (Hp)
Ø 180	MDPT 50-B	4	6	3

■ (3000 rpm&d/d) MDPT 50-BC

■ Head-Feet



■ Capacity (m3/h)

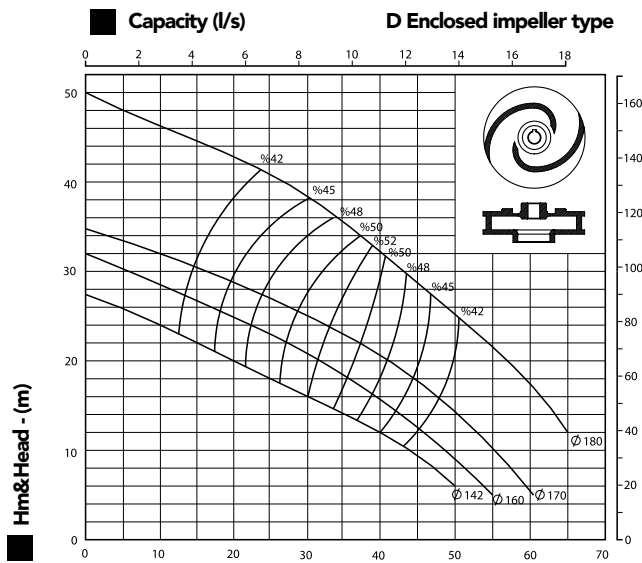
IMPELLER	PUMP TYPE	BLADE NO	MAX SOLID Ø	MOTOR (Hp)
Ø 145	MDPT 50-BC	4	7	3
Ø 153	MDPT 50-BC	4	7	4

- The curves are based on 50 Hz Please contact for 60 Hz curves
- BC is Impeller has cutter and wear plate for handling difficult environments like plastic or elastic material

WORKING CHARTS

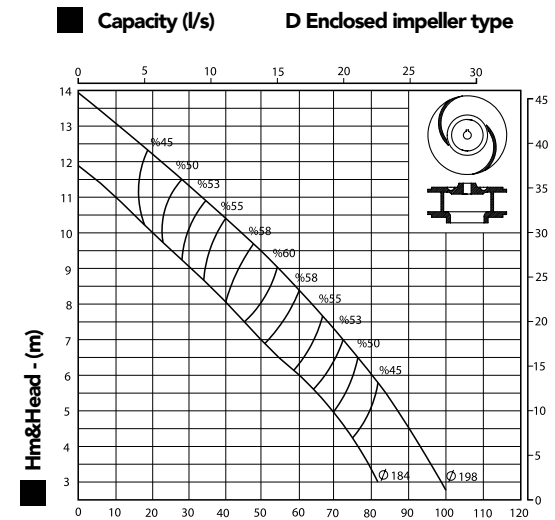
■ (3000 rpm&d/d) MDPT 50-D

■ Head-Feet



■ (1500 rpm&d/d) MDPT 50-D

■ Head-Feet

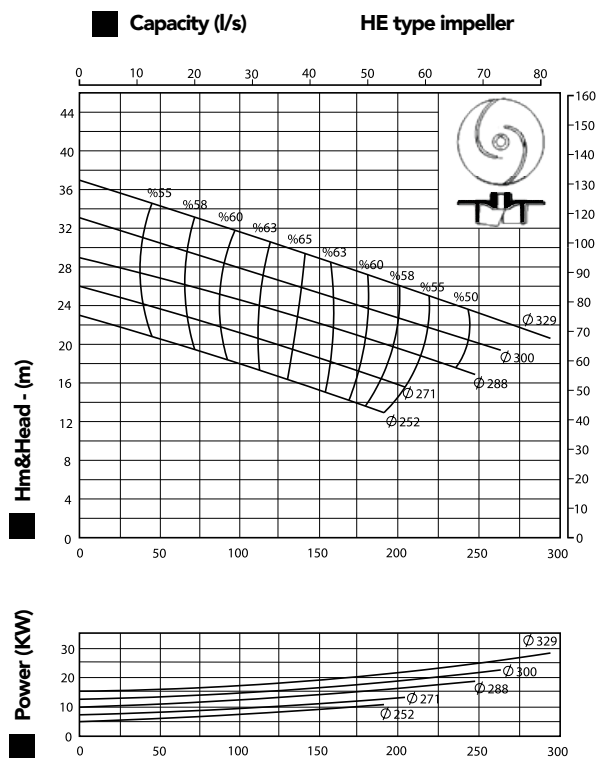


- The curves are based on 50 Hz Please contact for 60 Hz curves
- D Enclosed impeller capable for large size SOLID particle without clogging

WORKING CHARTS

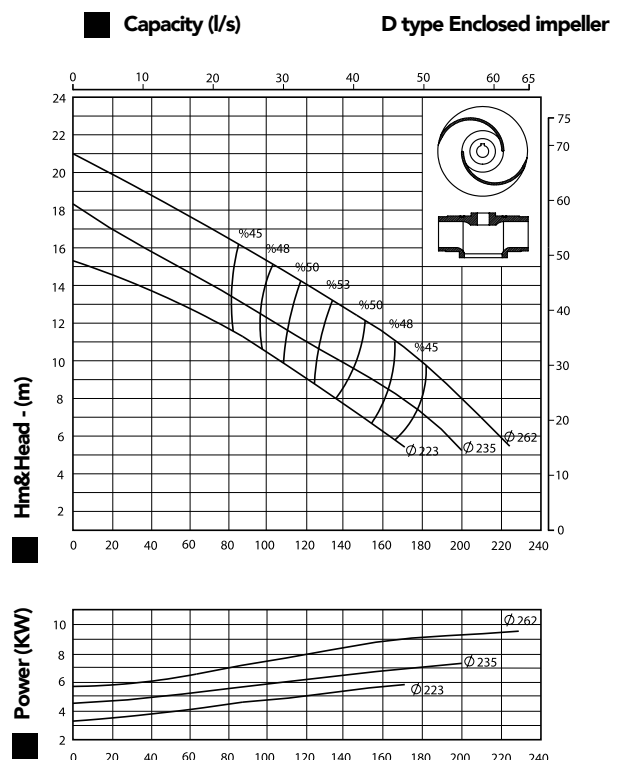
■ (1500 rpm&d/d) MDPT 100-315

Head-Feet



Capacity (m3/h)				
IMPELLER	PUMP TYPE	BLADE NO	MAX SOLID Ø	MOTOR (Hp)
Ø 252	MDPT 100-315	2	74	15
Ø 271	MDPT 100-315	2	74	20
Ø 288	MDPT 100-315	2	74	25
Ø 300	MDPT 100-315	2	74	30
Ø 315	MDPT 100-315	2	74	40

■ (1500 rpm&d/d) MDPT 100-D

Head-Feet

Capacity (m3/h)				
IMPELLER	PUMP TYPE	BLADE NO	MAX SOLID Ø	MOTOR (Hp)
Ø 223	MDPT 100-D	2	76	7.5
Ø 235	MDPT 100-D	2	76	10
Ø 262	MDPT 100-D	2	76	15

- The curves are based on 50 Hz Please contact for 60 Hz curves
- D Enclosed impeller capable for large size SOLID particle without clogging
- HE semi open impeller type suitable for pumping large solid particle and aggressive string without clogging

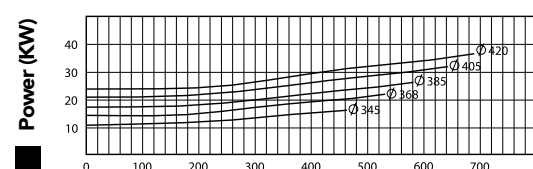
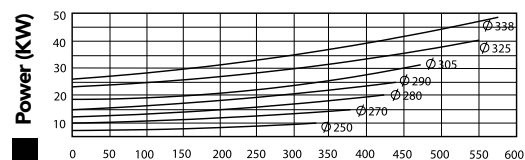
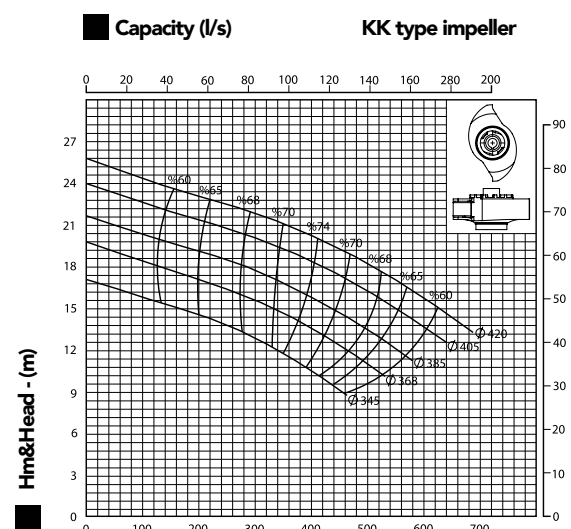
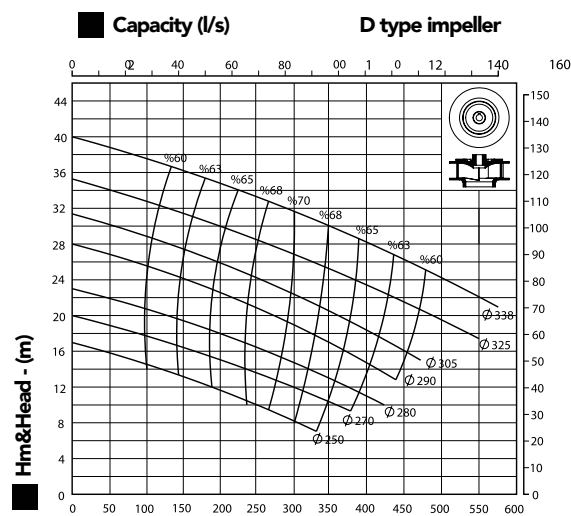
WORKING CHARTS

■ (1500 rpm&d/d) MDPT 150-315

■ (1500 rpm&d/d) MDPT 200-400

■ Head-Feet

■ Head-Feet



■ Capacity (m3/h)

IMPELLER	PUMP TYPE	BLADE NO	MAX SOLID Ø	MOTOR (Hp)
Ø 250	MDPT 150-315	2	84	20
Ø 270	MDPT 150-315	2	84	25
Ø 280	MDPT 150-315	2	84	30
Ø 290	MDPT 150-315	2	84	40
Ø 305	MDPT 150-315	2	84	50
Ø 325	MDPT 150-315	2	84	60
Ø 338	MDPT 150-315	2	84	75

■ Capacity (m3/h)

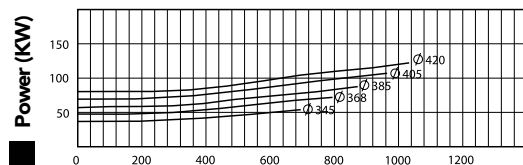
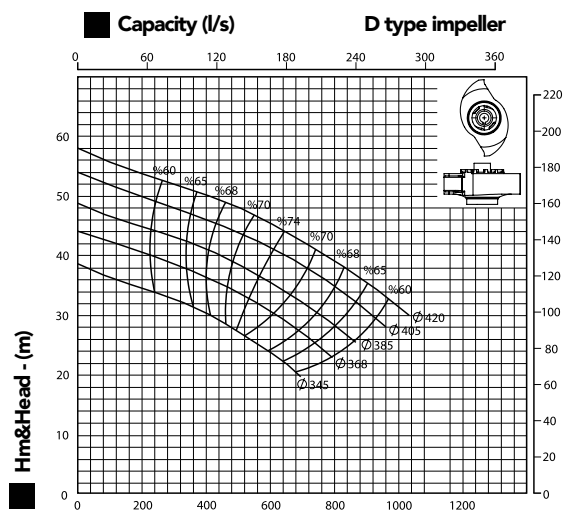
IMPELLER	PUMP TYPE	BLADE NO	MAX SOLID Ø	MOTOR (Hp)
Ø 345	MDPT 200-400	2	88	75
Ø 368	MDPT 200-400	2	88	100
Ø 385	MDPT 200-400	2	88	125
Ø 405	MDPT 200-400	2	88	150
Ø 420	MDPT 200-400	2	88	180

- The curves are based on 50 Hz Please contact for 60 Hz curves
- KK its a closed 2 blade Impeller type that provides the permeability of large solid particles
- D Enclosed impeller capable for large size SOLID partical without clogging

WORKING CHARTS

■ (1500 rpm&d/d) MDPT 200-400

■ Head-Feet

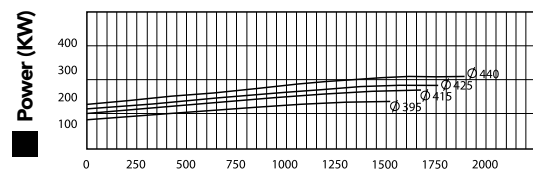
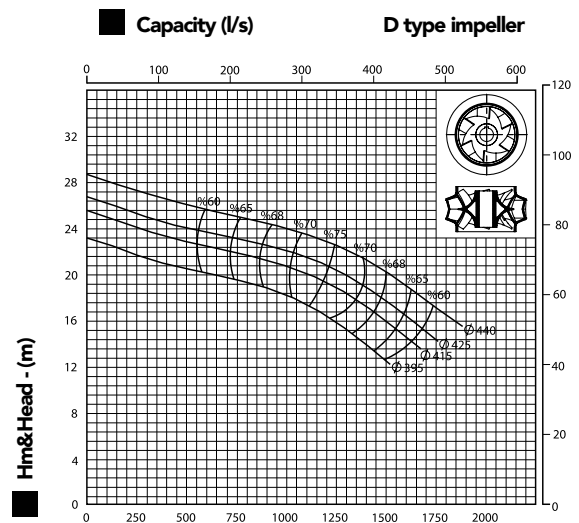


■ **Capacity (m3/h)**

IMPELLER	PUMP TYPE	BLADE NO	MAX SOLID Ø	MOTOR (hp)
Ø 345	MDPT 200-400	2	88	75
Ø 368	MDPT 200-400	2	88	100
Ø 385	MDPT 200-400	2	88	125
Ø 405	MDPT 200-400	2	88	150
Ø 420	MDPT 200-400	2	88	180

■ (1000 rpm&d/d) MDPT 400-400

■ Head-Feet



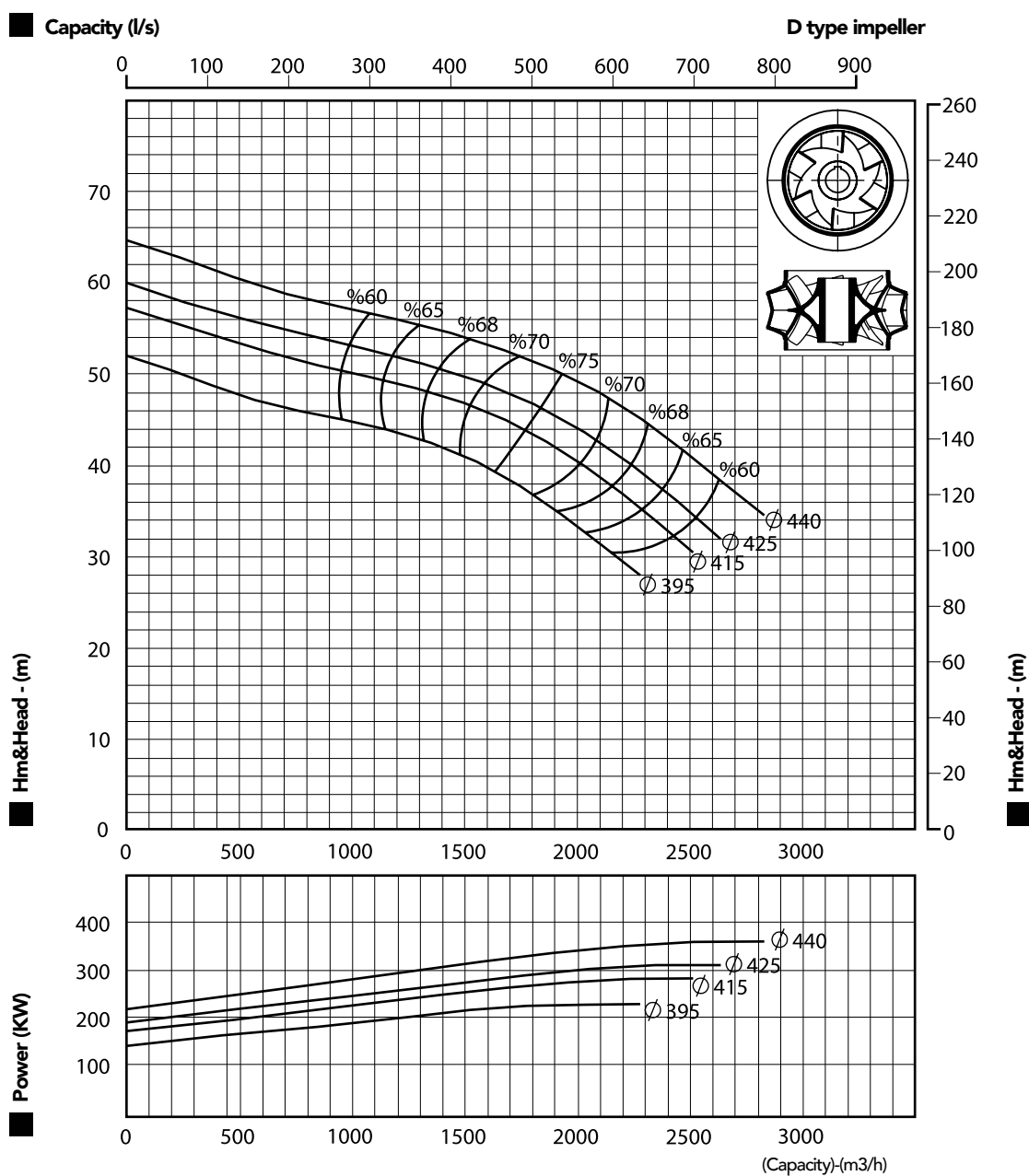
■ **Capacity (m3/h)**

IMPELLER	PUMP TYPE	BLADE NO	MAX SOLID Ø	MOTOR (hp)
Ø 395	MDPT 400-400	6	98	100
Ø 415	MDPT 400-400	6	98	125
Ø 425	MDPT 400-400	6	98	125
Ø 440	MDPT 400-400	6	98	150

- The curves are based on 50 Hz Please contact for 60 Hz curves
- KK its a closed 2 blade Impeller type that provides the permeability of large solid particles
- D Enclosed impeller capable for large size SOLID partical without clogging

WORKING CHARTS

■ (1500 rpm&d/d) MDPT 400-400

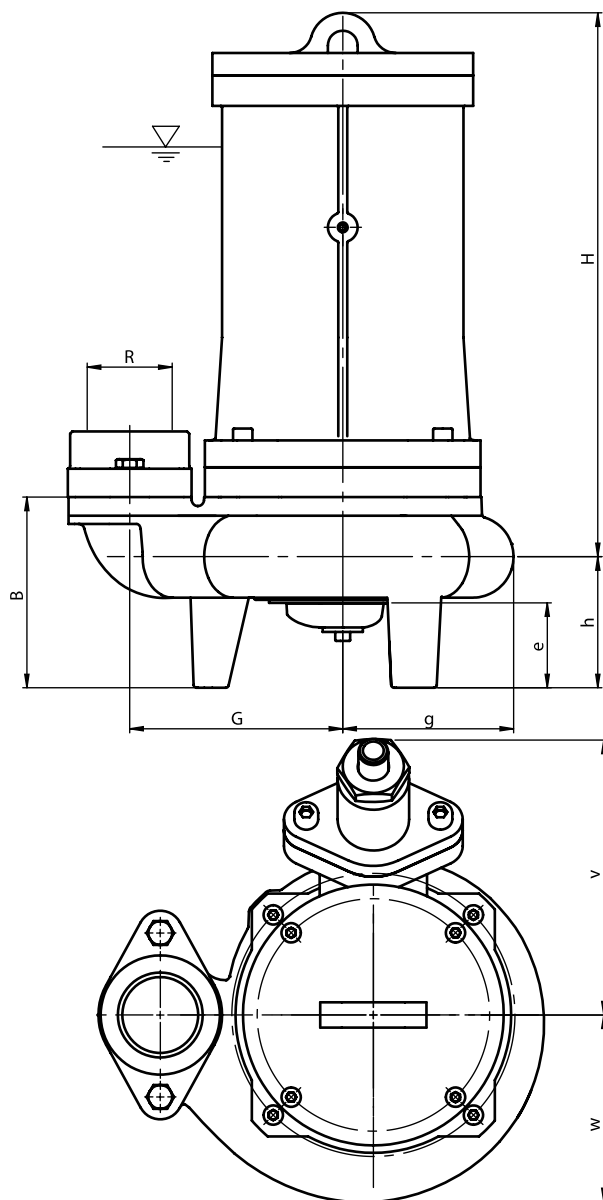


IMPELLER	PUMP TYPE	BLADE NO	MAX SOLID ϕ	MOTOR (Hp)
ϕ 395	MDPT 400-400	6	98	320
ϕ 415	MDPT 400-400	6	98	400
ϕ 425	MDPT 400-400	6	98	430
ϕ 440	MDPT 400-400	6	98	500

- The curves are based on 50 Hz Please contact for 60 Hz curves
- D Enclosed impeller capable for large size SOLID partiel without clogging

PUMP DIMENSIONS

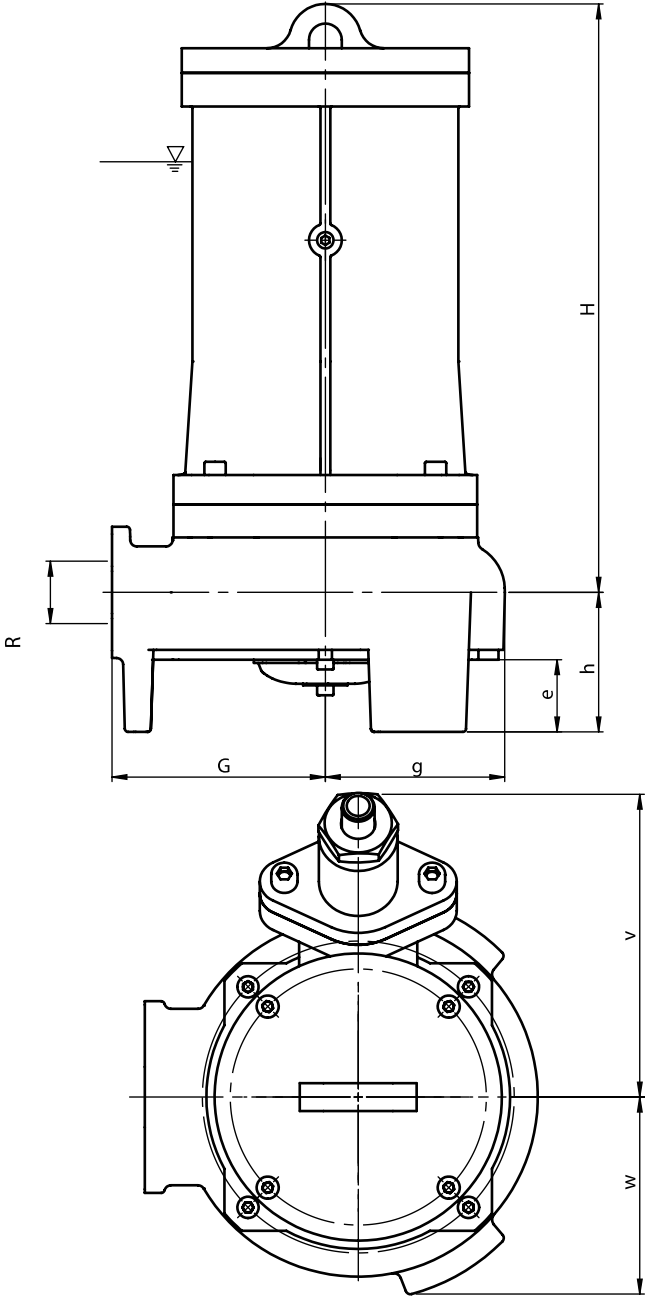
Form 1



Pump Type	Form	Motor			Discharge		Dimensions								Weight	Mechanical Seal
		(HP)		IEC												
		1500	1300	No	DN	R(inch)	B	e	h	H	G	g	v	w		
MDPT 50-B-2	Form 1	-	2	90	50	2	128	57	88	365	143	115	185	125	47	MG1/25BT-FN/25
MDPT 50-B-2	Form 1	-	3	90	50	2	128	57	88	365	143	115	185	125	49	MG1/25BT-FN/25
MDPT 50-142-D	Form 1	-	4	100	50	2	130	57	90	404	155	145	185	155	62	MG1/25BT-FN/25
MDPT 50-160-D	Form 1	-	5,5	100	50	2	130	57	90	404	155	145	185	155	64	MG1/25BT-FN/25
MDPT 50-170-D	Form 1	-	7,5	112	50	2	130	57	90	404	155	145	185	155	68	MG1/25BT-FN/25
MDPT 50-180-D	Form 1	-	10	132	50	2	130	57	90	446	155	145	200	155	70	MG1/25BT-FN/25

PUMP DIMENSIONS

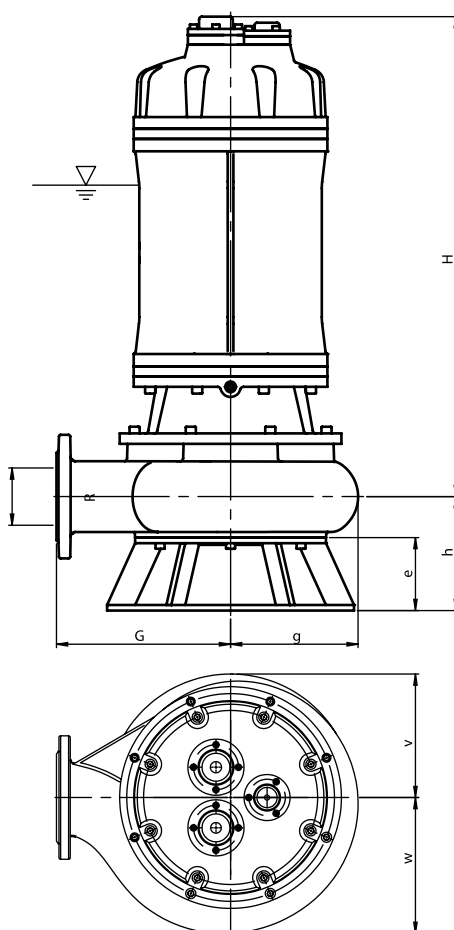
Form 2



Pump Type	Form	Motor			Discharge		Dimensions							Weight	Mechanical Seal
		(HP)		IEC											
		1500	1300	No	DN	R(inch)	G	g	e	h	H	v	w		
MDPT 50-BC-2	Form 2	-	2	90	50	2	130	110	44	85	359	185	120	49	MG1/25 BT-FN/25
MDPT 50-BC-2	Form 2	-	3	90	50	2	130	110	44	85	359	185	120	51	MG1/25 BT-FN/25

PUMP DIMENSIONS

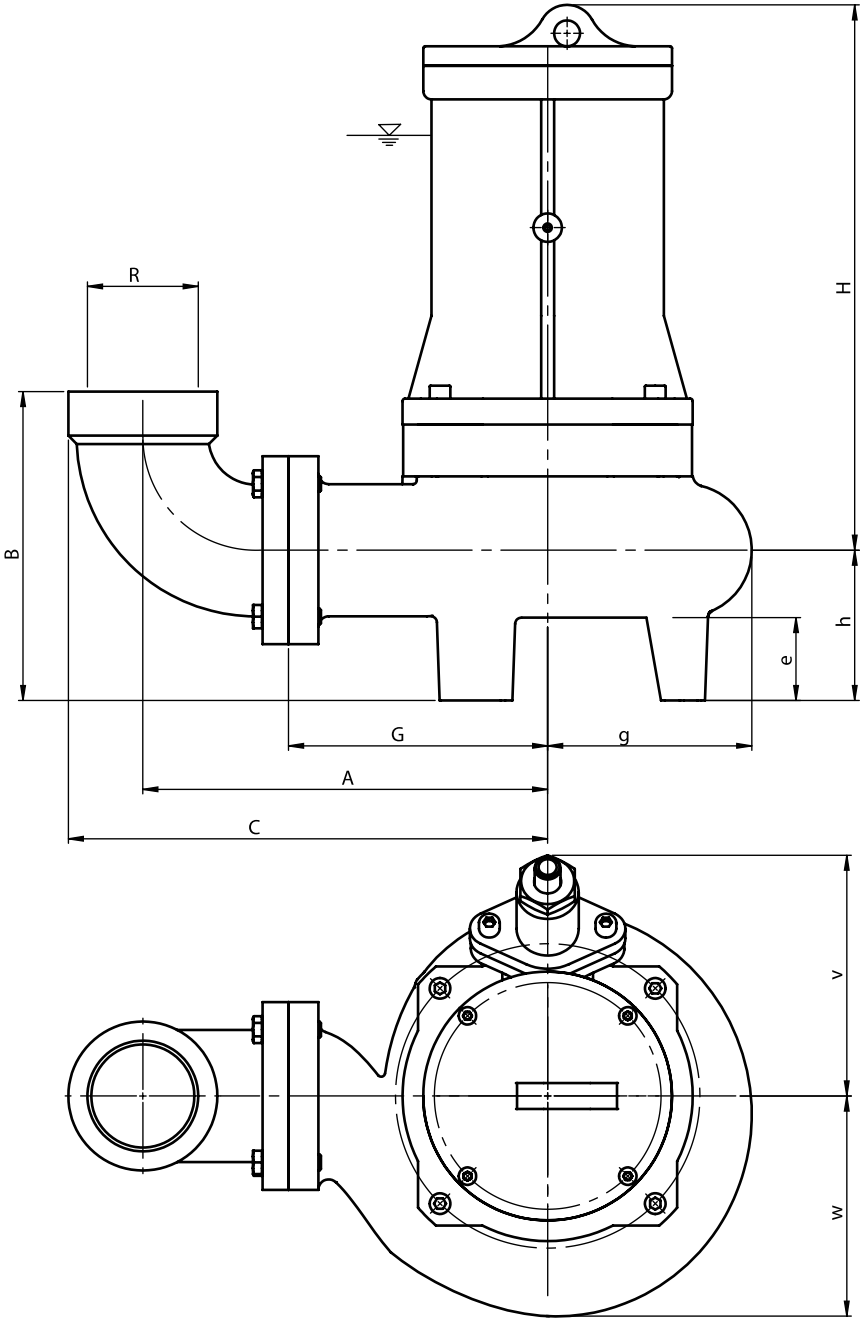
Form 3



Pump Type	Form	Motor			Discharge		Dimensions							Weight	Mechanical Seal
		(HP)		IEC No											
		1500	1300		DN	R(inch)	G	g	e	h	H	v	w		
MDPT 80-315 HE	Form 3	10	-	132	80	3	310	231	130	180	785	220	237	244	MG1/40X2
MDPT 80-315 HE	Form 3	15	-	160	80	3	310	231	130	180	785	220	237	262	MG1/40X2
MDPT 80-315 HE	Form 3	20	-	160	80	2	310	231	130	180	785	220	237	282	MG1/40X2
MDPT 100-315	Form 3	15	-	160	100	4	310	227	130	203	805	220	242	275	MG1/40X2
MDPT 100-315	Form 3	20	-	160	100	4	310	227	130	203	805	220	242	298	MG1/40X2
MDPT 100-315	Form 3	25	-	180	100	4	310	227	130	203	855	220	242	328	MG1/40X2
MDPT 100-315	Form 3	30	-	180	100	4	310	227	130	203	855	220	242	350	MG1/40X2
MDPT 100-315	Form 3	40	-	200	100	4	310	227	130	203	1116	220	242	464	MG1/40X2
MDPT 150-315	Form 3	20	-	160	150	6	355	272	150	226	805	273	293	335	MG1/40 BT-FN/40
MDPT 150-315	Form 3	25	-	180	150	6	355	272	150	226	856	273	293	355	MG1/40 BT-FN/40
MDPT 150-315	Form 3	30	-	180	150	6	355	272	150	226	1116	273	293	379	MG1/40 BT-FN/40
MDPT 150-315	Form 3	40	-	200	150	6	355	272	150	226	1116	273	293	494	MG1/60X2
MDPT 150-315	Form 3	50	-	225	150	6	355	272	150	226	1116	273	293	537	MG1/60X2
MDPT 150-315	Form 3	60	-	225	150	6	355	272	150	226	1055	273	293	568	MG1/60X2
MDPT 150-315	Form 3	75	-	250	150	6	355	272	150	226	1055	273	293	597	MG1/60X2
MDPT 200-400	Form 3	100	-	280	200	8	530	338	150	293	1349	320	372	712	MG1/70X2

PUMP DIMENSIONS

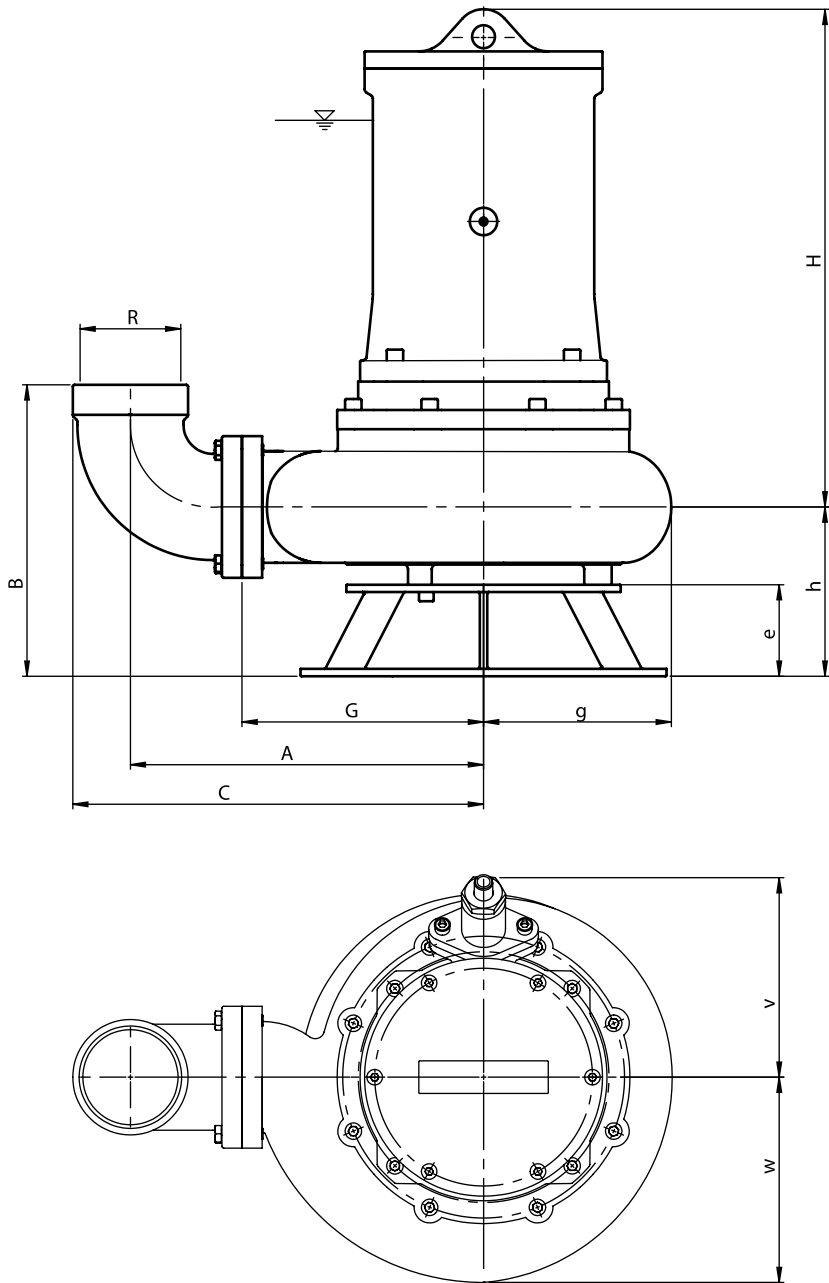
Form 4



Pump Type	Form	Motor			Discharge		Dimensions										Weight	Mechanical Seal
		(HP)		IEC														
		1500	1300	No	DN	R(inch)	A	B	C	e	h	H	G	g	v	w		
MDPT 80-190-D	Form 4	4	-	100	80	3	313	238	370	65	116	421	200	158	186	170	90	MG1/25 BT-FN/25
MDPT 80-199-D	Form 4	5,5	-	112	80	3	313	238	379	65	116	421	200	158	18	170	101	MG1/ 25BT-FN/25

PUMP DIMENSIONS

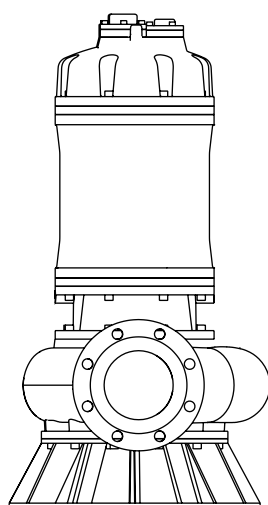
Form 5



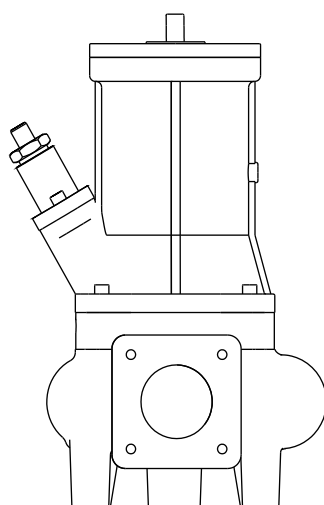
Pump Type	Form	Motor			Discharge		Dimensions										Weight	Mechanical Seal
		(HP)		IEC														
		1500	1300	No	DN	R(inch)	A	B	C	e	h	H	G	g	v	w		
MDPT 100-200-D	Form 5	7,5	-	132	100	4	386	318	449	100	185	544	264	206	218	224	145	MG1/40 BT-FN/40
MDPT 100-235-D	Form 5	10	-	132	100	4	386	318	449	100	185	544	264	206	218	245	150	MG1/40 BT-FN/40
MDPT 100-262-D	Form 5	15	-	132	100	4	386	318	449	100	185	544	264	206	218	245	157	MG1/40 BT-FN/40

FLANGE DIMENSIONS

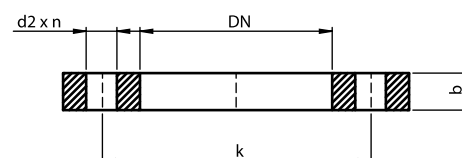
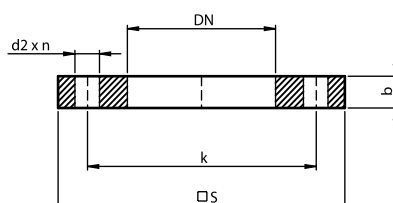
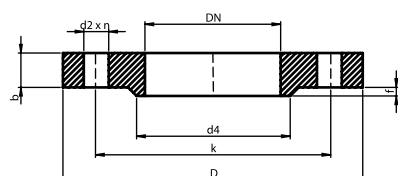
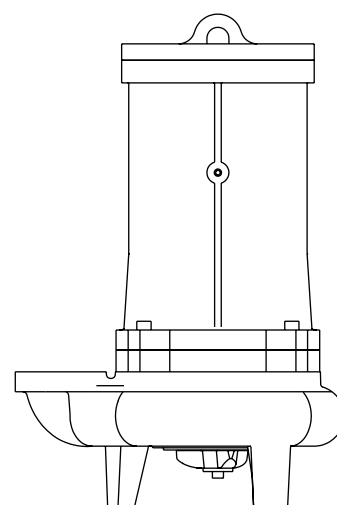
■ Form A



■ Form B

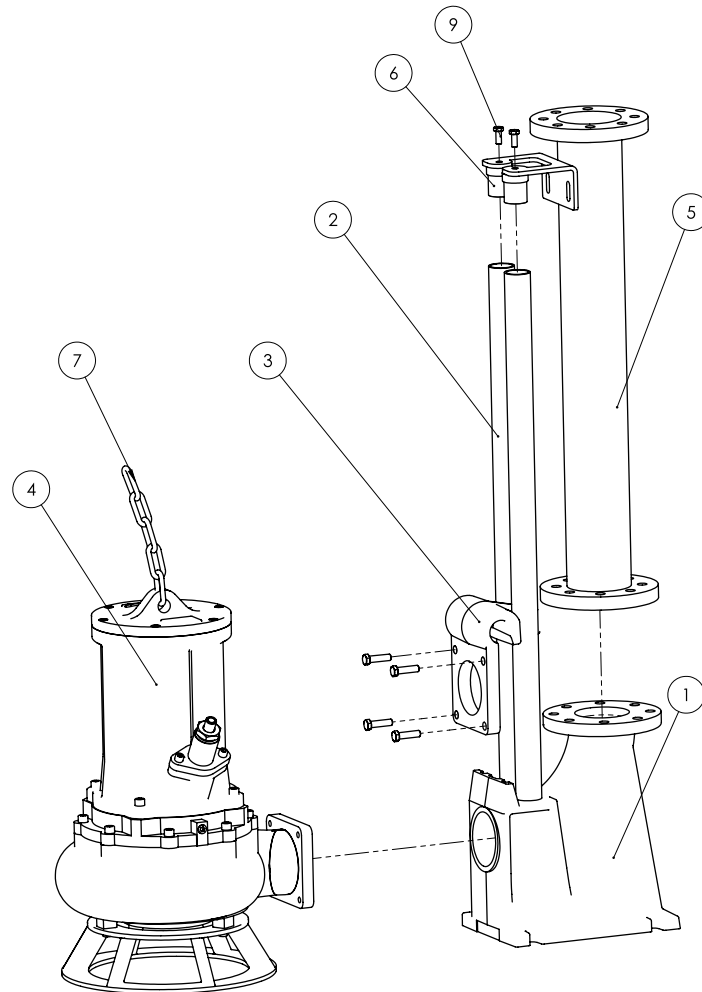


■ Form C



Pump Type	Flange Type	Dimensions								
		DN	d2	d4	k	n	D	s	b	f
50-B	Form C	50	8,5	-	110	2	-	-	18	-
50-BC	Form C	50	8,5	-	89	2	-	-	11	-
50-D	Form C	50	8,5	-	110	2	-	-	20	-
80-D	Form B	80	10,5	-	103	4	-	145	23	-
100-D	Form B	100	10,5	-	124	4	-	155	22	-
80315 HE	Form A	80	19	138	160	8	200	-	25	4
100-315	Form A	100	19	157	180	8	220	-	25	4
150-315	Form A	150	23	210	240	9	285	-	29	4

AUTO-COUPLING PART



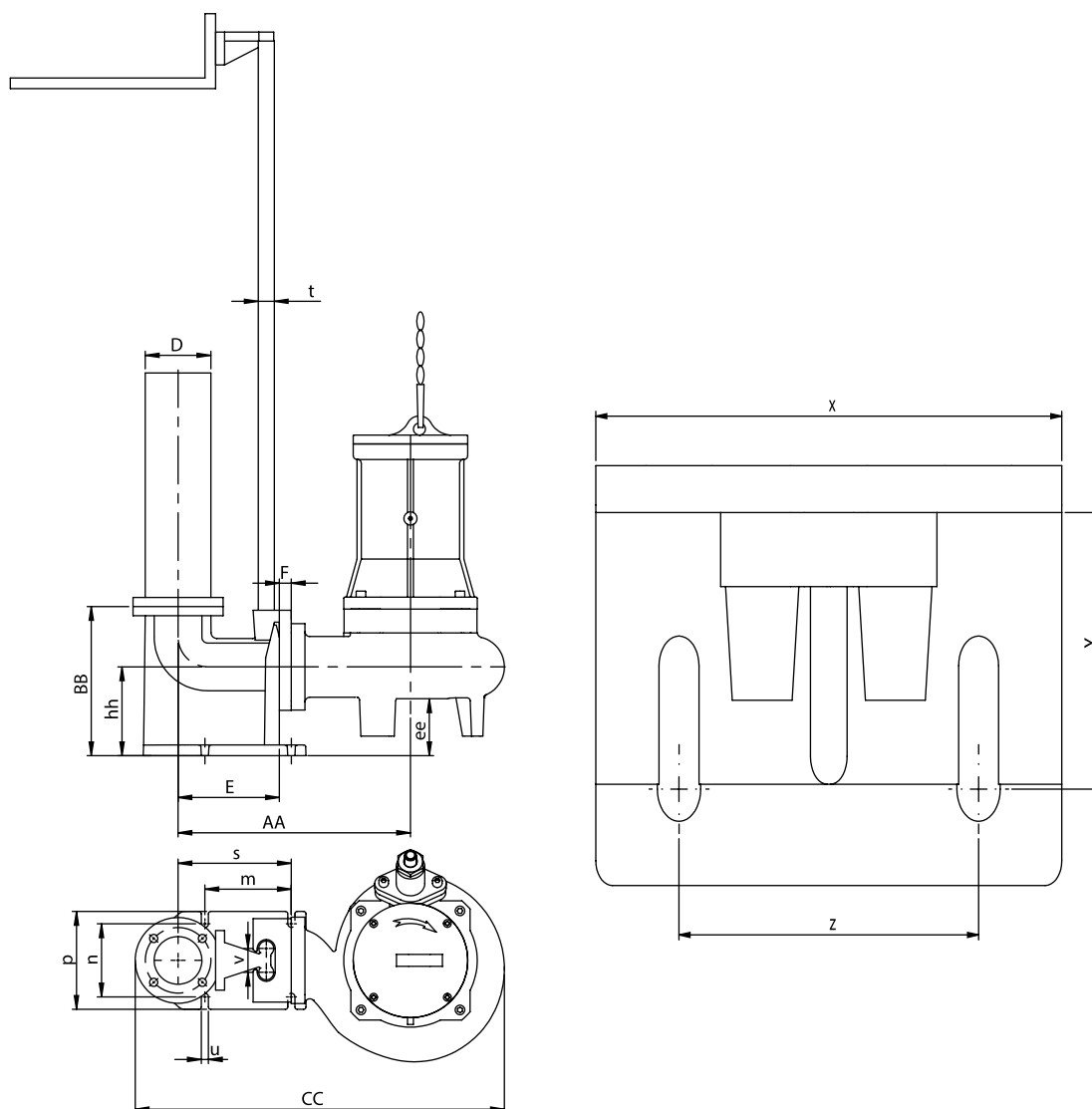
Auto-Coupling System

It's economic and practical installation for stationary systems. Automatic coupling system consists of duck foot bend fixed on sump floor, guide rail (consists of 2 galvanized or 2 Ss304 pipes connected in parallel) and fixing flange which is fitted to the pump. Automatic coupling set components and discharge piping have to be installed before sump get filled with 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 pump out of the sump by pulling pump by chain is enough, no dismantling or bolt removal required. Sealing is done by special gasket.

Part List

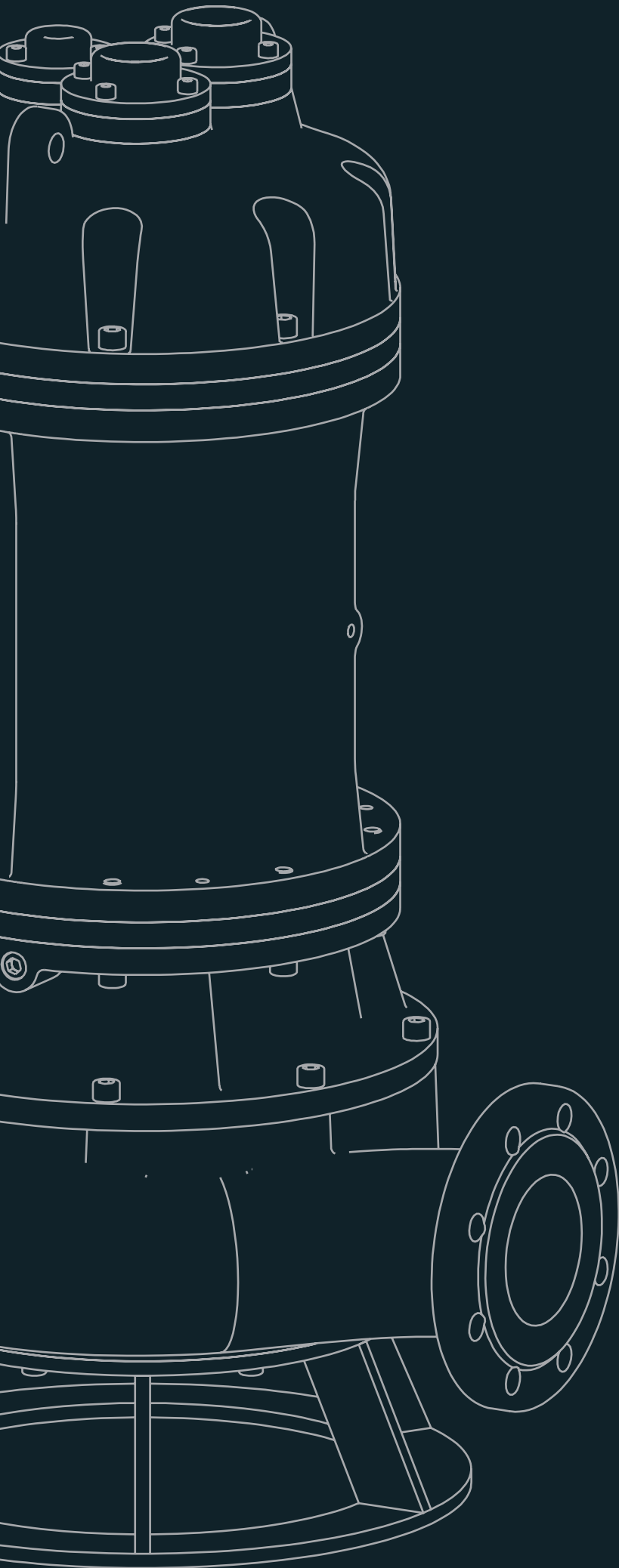
Duck Foot Bend	1
Guide Rail	2
Guide Flange	3
Pump	4
Discharge Pipe	5
Upper Support Bracket	6
Chain	7
Bolt	9

AUTO-COUPLING DIMENSIONS



Pump Type	AA	BB	CC	E	ee	F	hh	m	n	p	s	u	v	D	t	x	y	z
MDPT 50-D	380	235	577	170	126	20	149	145	125	165	190	12	40	80	3/4"	100	40	50
MDPT 80-D	390	235	605	170	96	20	149	145	125	165	190	12	40	80	3/4"	100	40	50
MDPT 100-D	534	400	850	244	100	25	185	250	200	240	200	22	70	100	1 1/2"	140	40	40
MDPT 80-315 HE	500	235	790	170	99	20	149	145	125	65	190	12	40	80	3/4"	100	40	50
MDPT 100-315	580	400	917	244	99	25	185	250	200	240	200	22	70	100	1 1/2"	140	40	90
MDPT 150-315	720	459	1148	335	146	25	257	290	245	329	380	24	100	150	2 1/2"	250	65	175
MDPT 200-400	1038	650	1545	496	158	40	300	510	450	510	390	33	150	150	2 1/2"	470	60	350

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