

NO.

A-09959-1

PUMP PERFORMANCE CURVES

TYPE Waste Water
Submersible Vortex Pump

MODEL 50PN2.4 -52, 50PNA2.4 -52
50PNW2.4 -52

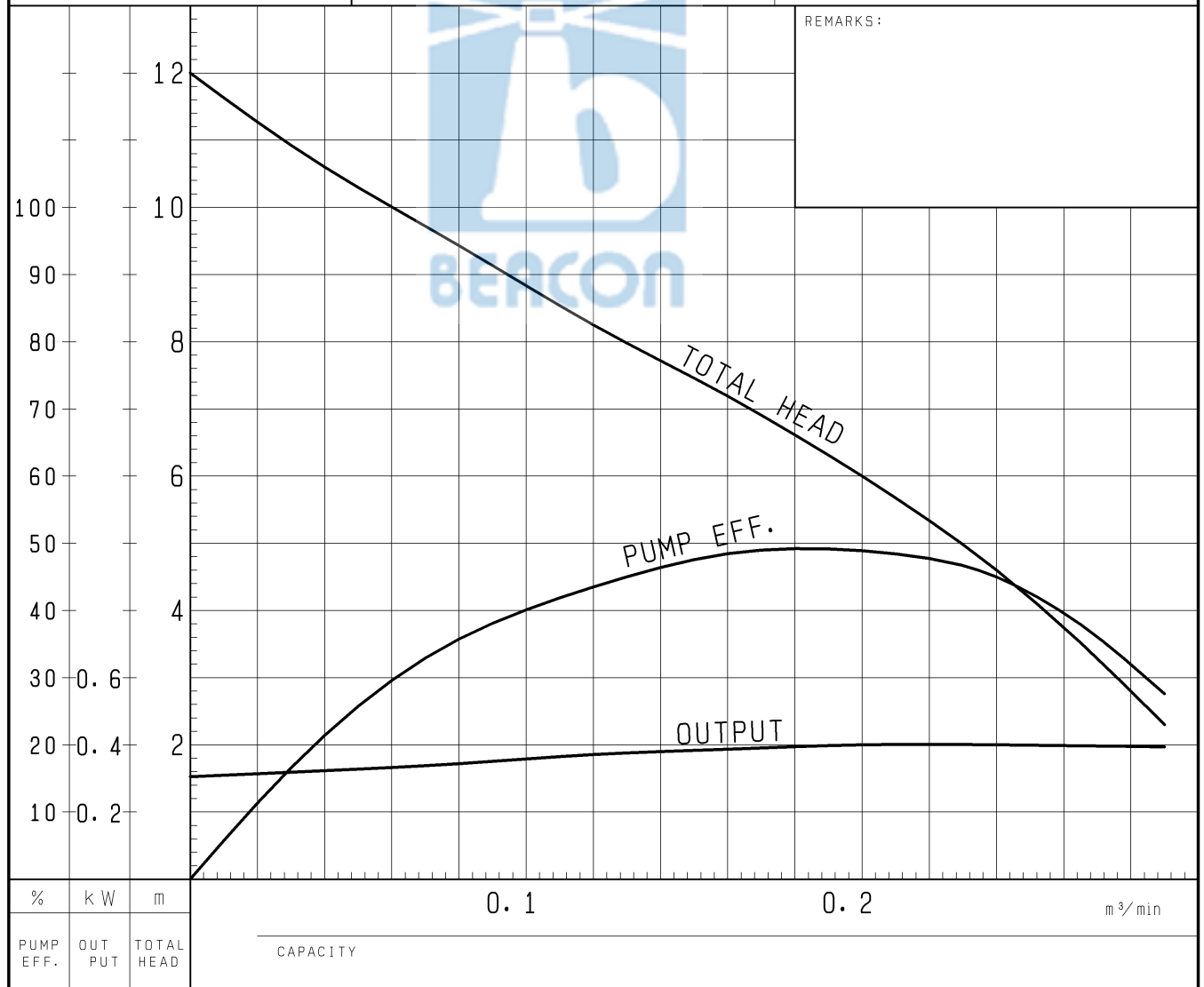
FREQUENCY
50 Hz

CUSTOMER'S NAME

EQUIPMENT TITLE

NO.

	STANDARD SPECIFICATIONS	REQUIRED SPECIFICATIONS
DISCHARGE BORE	50 mm	mm
TOTAL HEAD	9.3 m	m
CAPACITY	0.08 m ³ /min	m ³ /min
MOTOR OUTPUT	0.4 kW	kW
PHASE × VOLTAGE	3 φ × V	φ × V
CURRENT	A	A
POLES / REVOLUTION	2 P / S. S. 3000 min ⁻¹	P / min ⁻¹
STARTING METHOD	DIRECT ON LINE	
INSULATION CLASS	E	

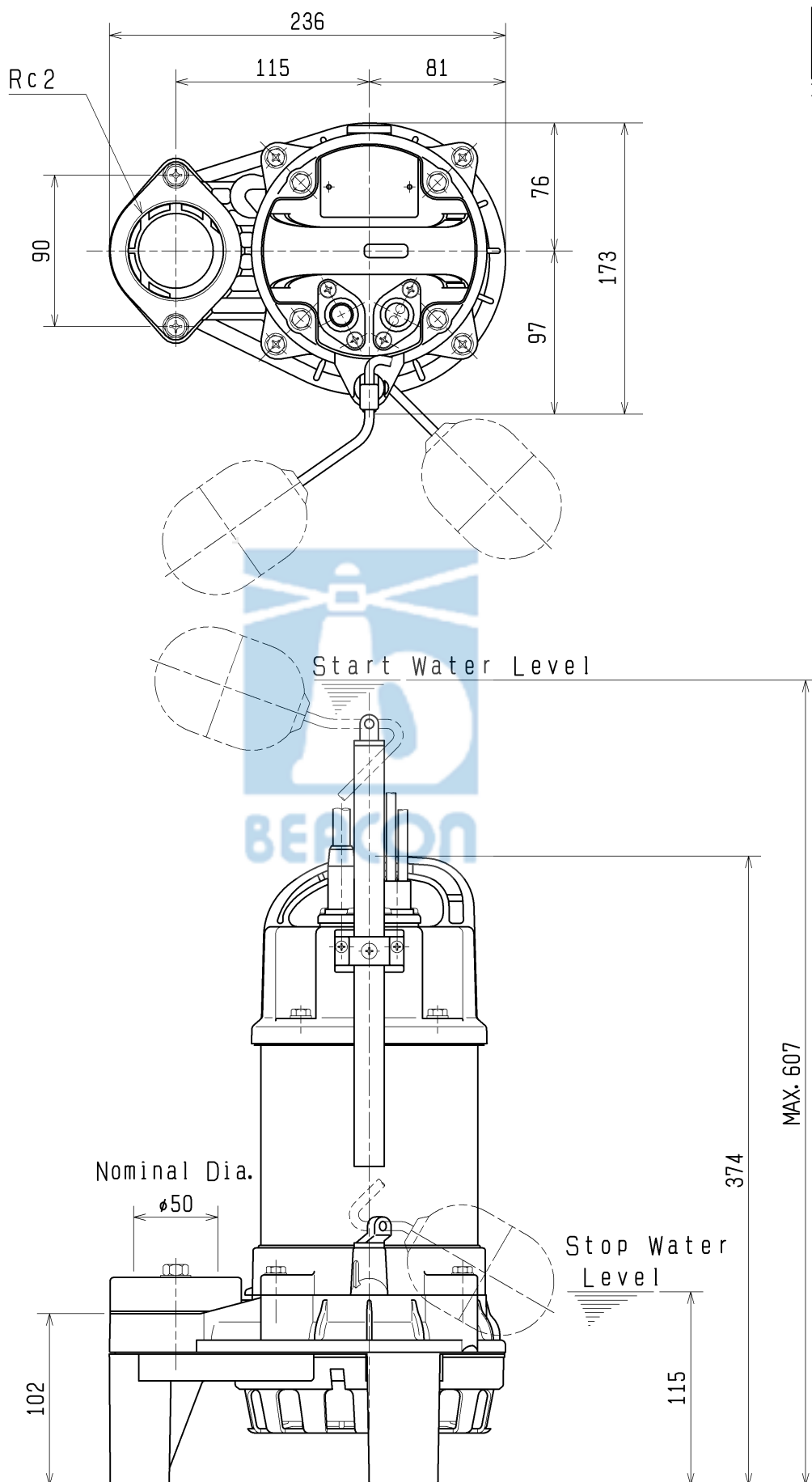


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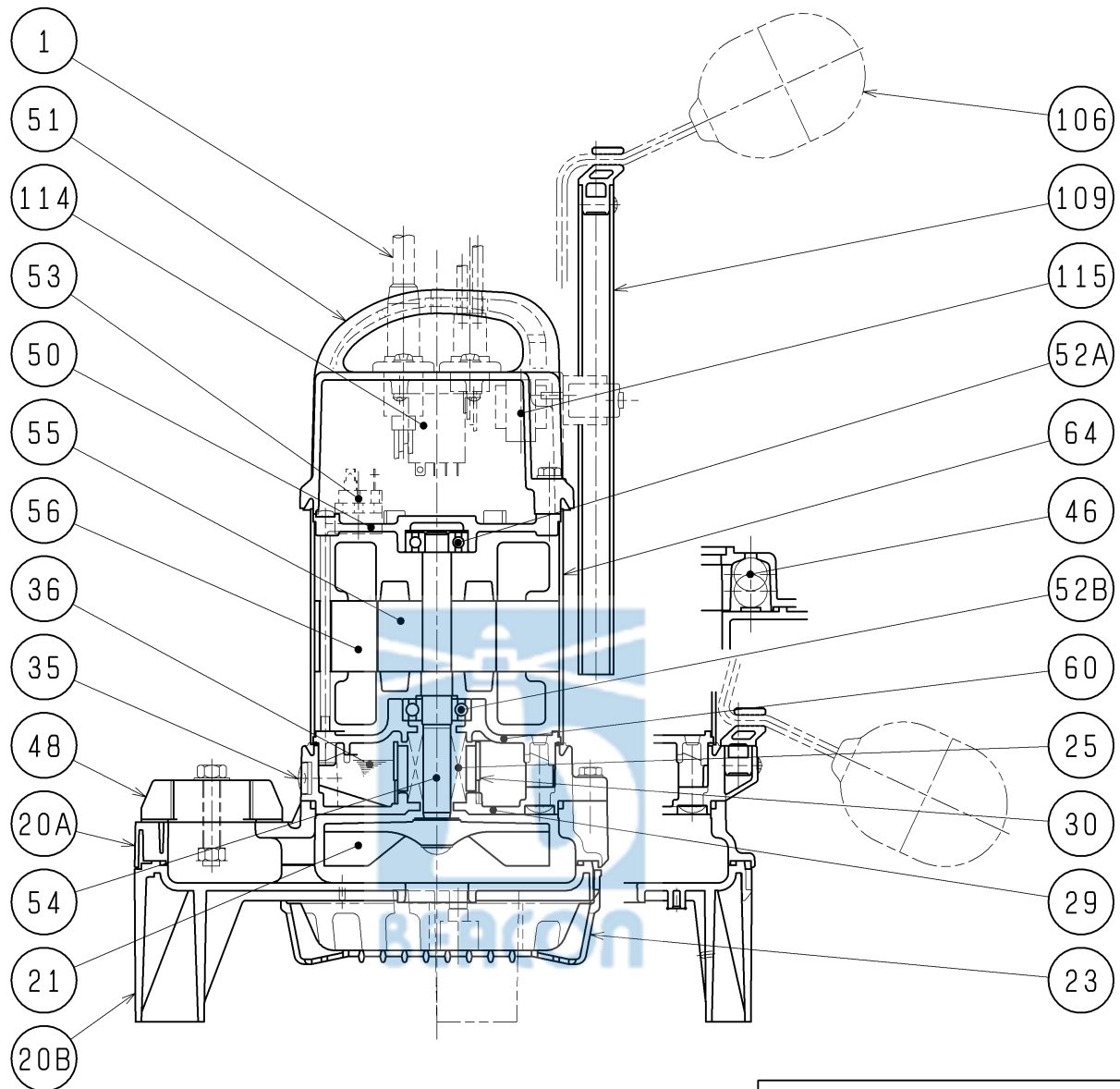
DIMENSION DRAWING		No.	No.
TYPE Waste Water Submersible Vortex Pump (Automatic)		MODEL	50PNA2.4 -52/62

Approximate Weight (※)
7.5kg

※excluding cable



SECTIONAL DRAWING			No.	No.	A-10029-3
TYPE Waste Water Submersible Vortex Pump (Automatic)			MODEL 40PNA2.25 -52/62, 50PNA2.4 -52/62 50PNA2.75 -52/62		



REQ. SPECIFICATION

※ Upper and lower blocks form a one-piece casing.

No.	DESCRIPTION	Q'TY	MATERIAL / NOTE	No.	DESCRIPTION	Q'TY	MATERIAL / NOTE
1	Cable	1	PVC Sheath	52B	Lower Bearing	1	0.25/0.4kW:6202ZZC3 0.75kW :6302ZZC3
20A	Upper Pump Casing	※ 1	Plastic W/GF	53	Motor Protector	1	
20B	Lower Pump Casing		Plastic	54	Shaft	1	Stainless Steel 304
21	Impeller	1	Plastic W/GF	55	Rotor	1	
23	Strainer	1	Plastic	56	Stator	1	
25	Mechanical Seal	1	W-14HC	60	Bearing Housing	1	Aluminium Die Casting
29	Oil Casing	1	Plastic W/GF	64	Motor Frame	1	Stainless Steel 304
30	Oil Lifter	1	Plastic	106	Float	2	Plastic
35	Oil Plug	1	Stainless Steel 304	109	Float Support Pipe	1	Plastic
36	Lubricant		Liquid Paraffin (ISO VG32)	114	Power Relay	1	
46	Air Release Valve	1	Glass Ball	115	Transformer	1	
48	Screwed Flange	1	Plastic W/GF				
50	Motor Bracket	1	Aluminium Die Casting				
51	Head Cover	1	Plastic W/GF				
52A	Upper Bearing	1	6201ZZC3				

NO.

A-09957-2

PUMP PERFORMANCE CURVES

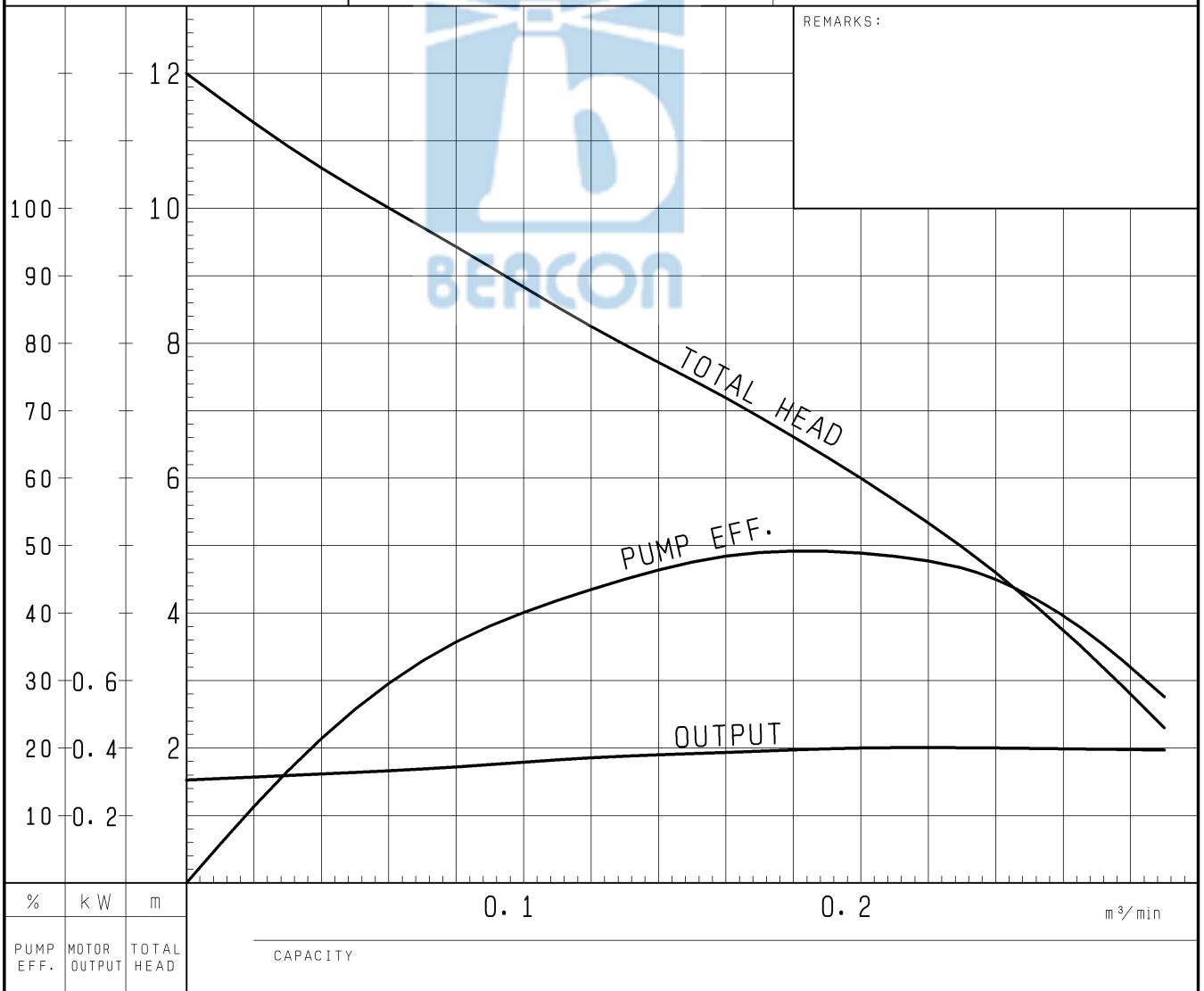
TYPE Waste Water
Submersible Vortex PumpMODEL 50PN2.4S -52, 50PNA2.4S -52
50PNW2.4S -52FREQUENCY
50 Hz

CUSTOMER'S NAME

EQUIPMENT TITLE

NO.

	STANDARD SPECIFICATIONS	REQUIRED SPECIFICATIONS
DISCHARGE BORE	50 mm	mm
TOTAL HEAD	9.3 m	m
CAPACITY	0.08 m ³ /min	m ³ /min
MOTOR OUTPUT	0.4 kW	kW
PHASE × VOLTAGE	1 φ × V	φ × V
CURRENT	A	A
POLES / REVOLUTION	2 P / s. s. 3000 min ⁻¹	P / min ⁻¹
STARTING METHOD	CAPACITOR MOTOR	
INSULATION CLASS	E	

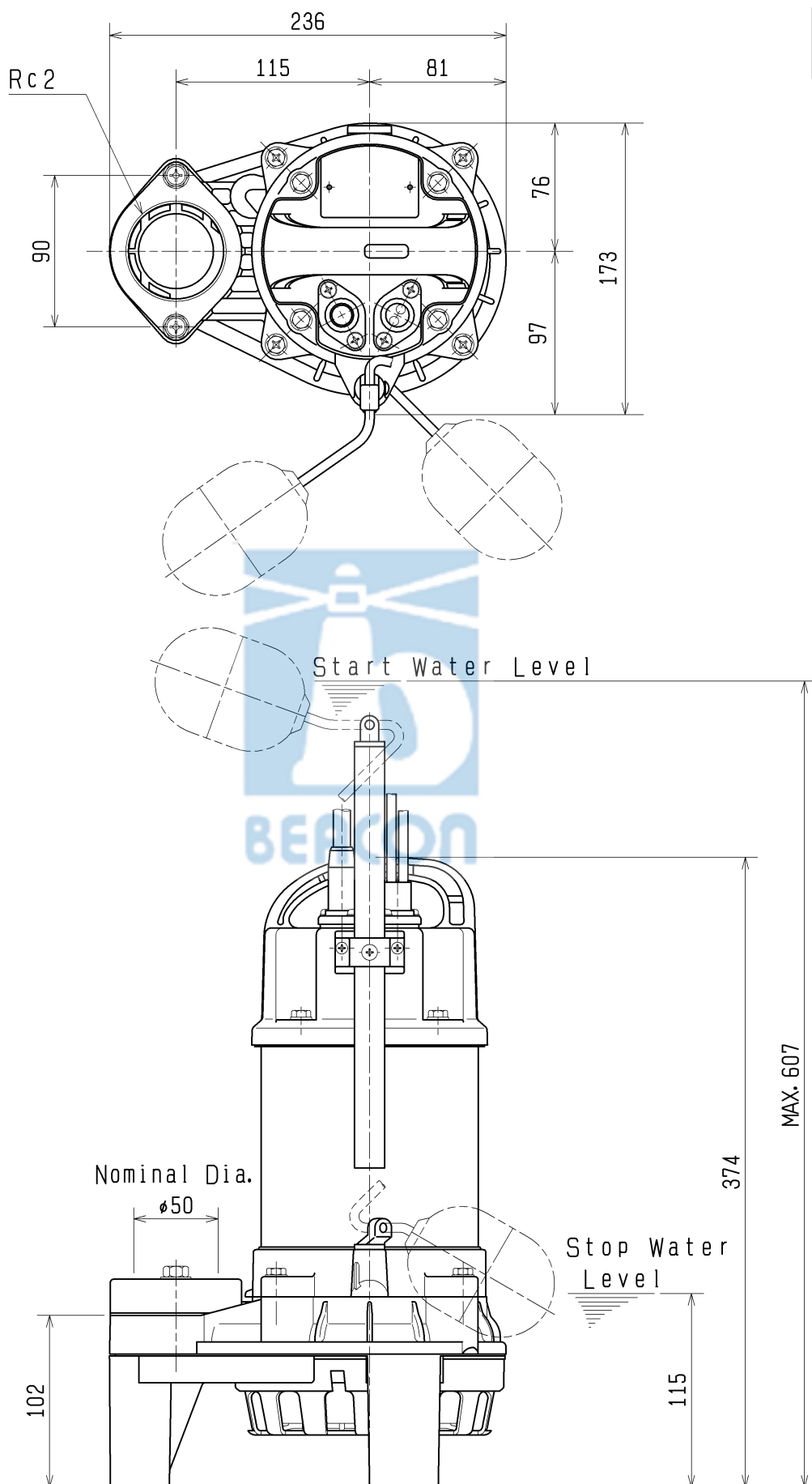


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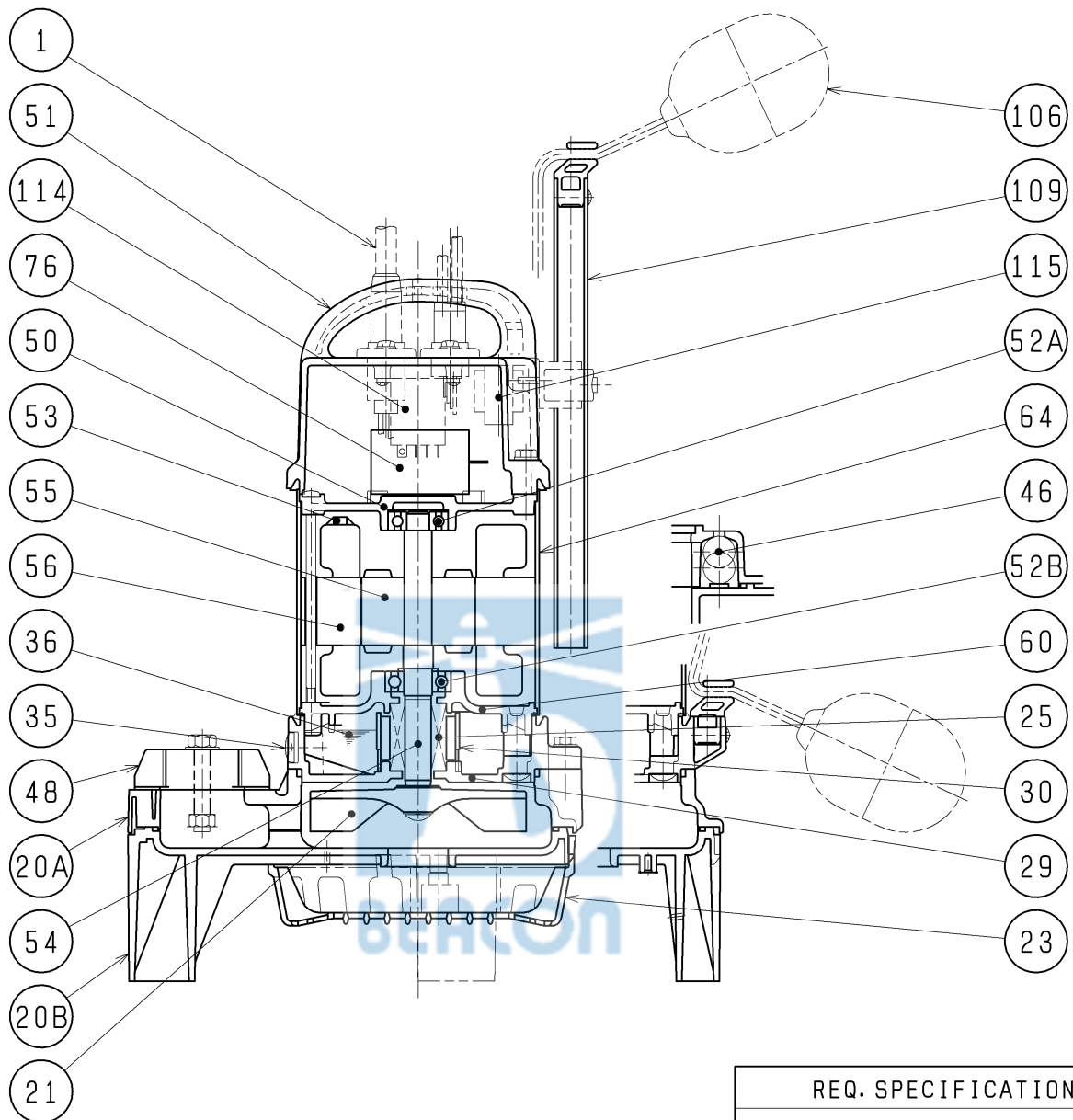
DIMENSION DRAWING		No.	No.
TYPE	Waste Water Submersible Vortex Pump (Automatic)	MODEL	50PNA2.4S -52/62

Approximate Weight (※)
7.7kg

※excluding cable



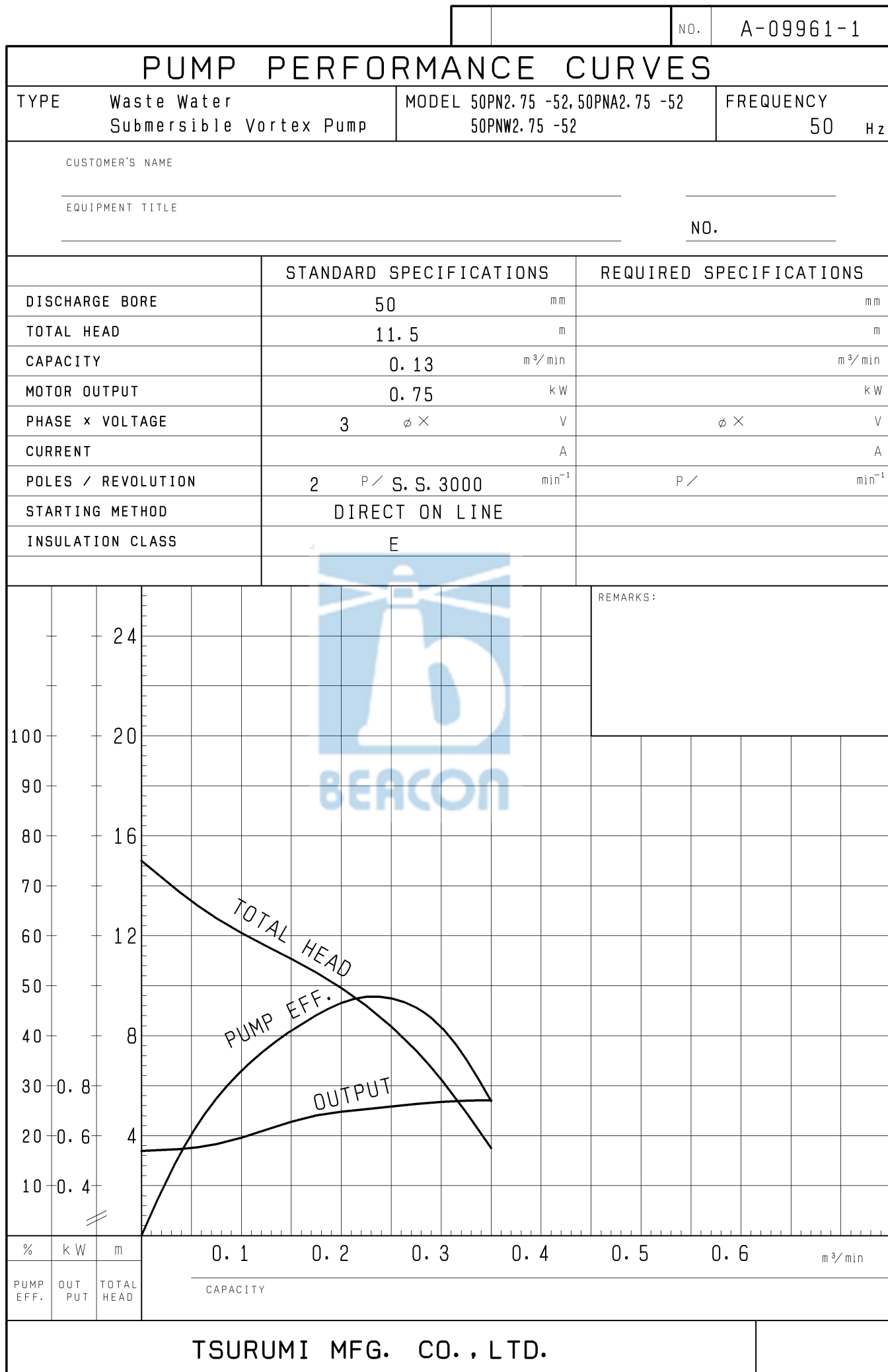
SECTIONAL DRAWING			No.		No.	A-10026-3
TYPE Waste Water Submersible Vortex Pump (Automatic)			MODEL 40PNA2.25S -52/62 50PNA2.4S -52/62			



REQ. SPECIFICATION

※ Upper and lower blocks form a one-piece casing.

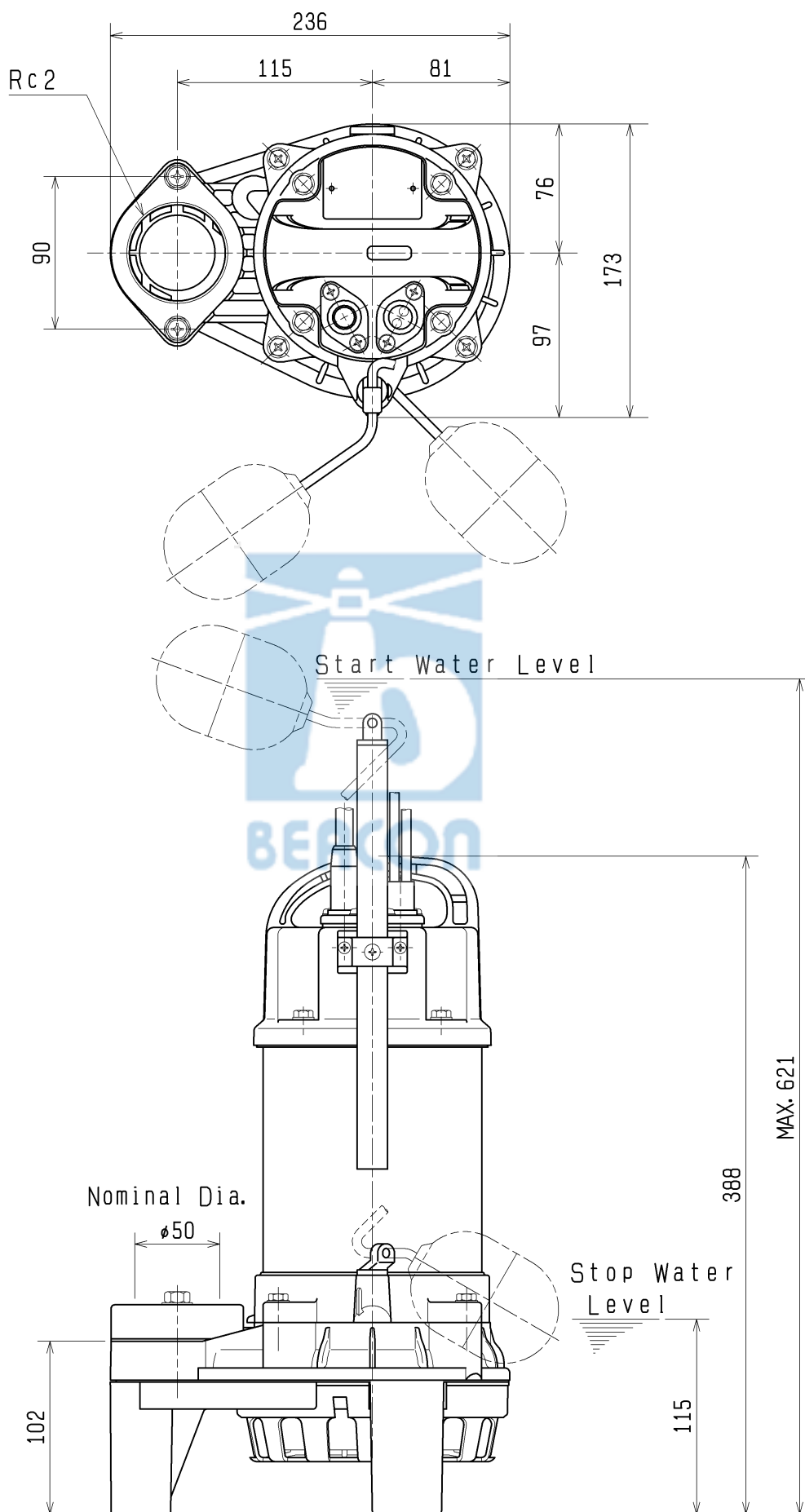
No.	DESCRIPTION	Q'TY	MATERIAL / NOTE	No.	DESCRIPTION	Q'TY	MATERIAL / NOTE
1	Cabtyre Cable	1	PVC Sheath	52B	Lower Bearing	1	6202ZZC3
20A	Upper Pump Casing	※ 1	Plastic W/GF	53	Motor Protector	1	
20B	Lower Pump Casing		Plastic	54	Shaft	1	Stainless Steel 304
21	Impeller	1	Plastic W/GF	55	Rotor	1	
23	Strainer	1	Plastic	56	Stator	1	
25	Mechanical Seal	1	W-14HC	60	Bearing Housing	1	Aluminium Die Casting
29	Oil Casing	1	Plastic W/GF	64	Motor Frame	1	Stainless Steel 304
30	Oil Lifter	1	Plastic	76	Capacitor	1	
35	Oil Plug	1	Stainless Steel 304	106	Float	2	Plastic
36	Lubricant		Liquid Paraffin (ISO VG32)	109	Float Support Pipe	1	Plastic
46	Air Release Valve	1	Glass Ball	114	Power Relay	1	
48	Screwed Flange	1	Plastic W/GF	115	Transfolmer	1	
50	Motor Bracket	1	Aluminium Die Casting				
51	Head Cover	1	Plastic W/GF				
52A	Upper Bearing	1	6201ZZC3				



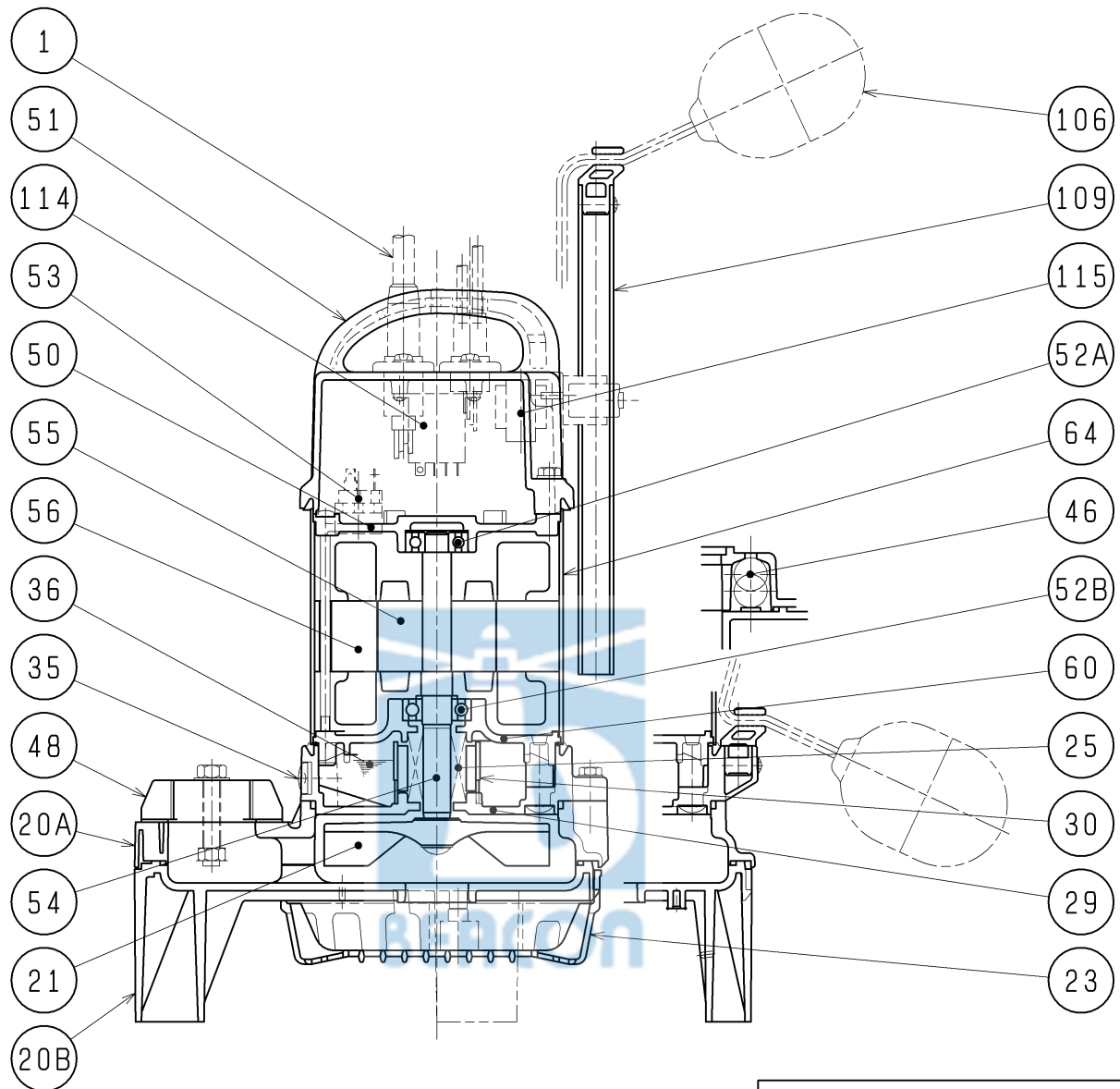
DIMENSION DRAWING		No.	No.
TYPE Waste Water Submersible Vortex Pump (Automatic)		MODEL	50PNA2.75 -52/62

Approximate Weight (※)
8.8kg

※excluding cable



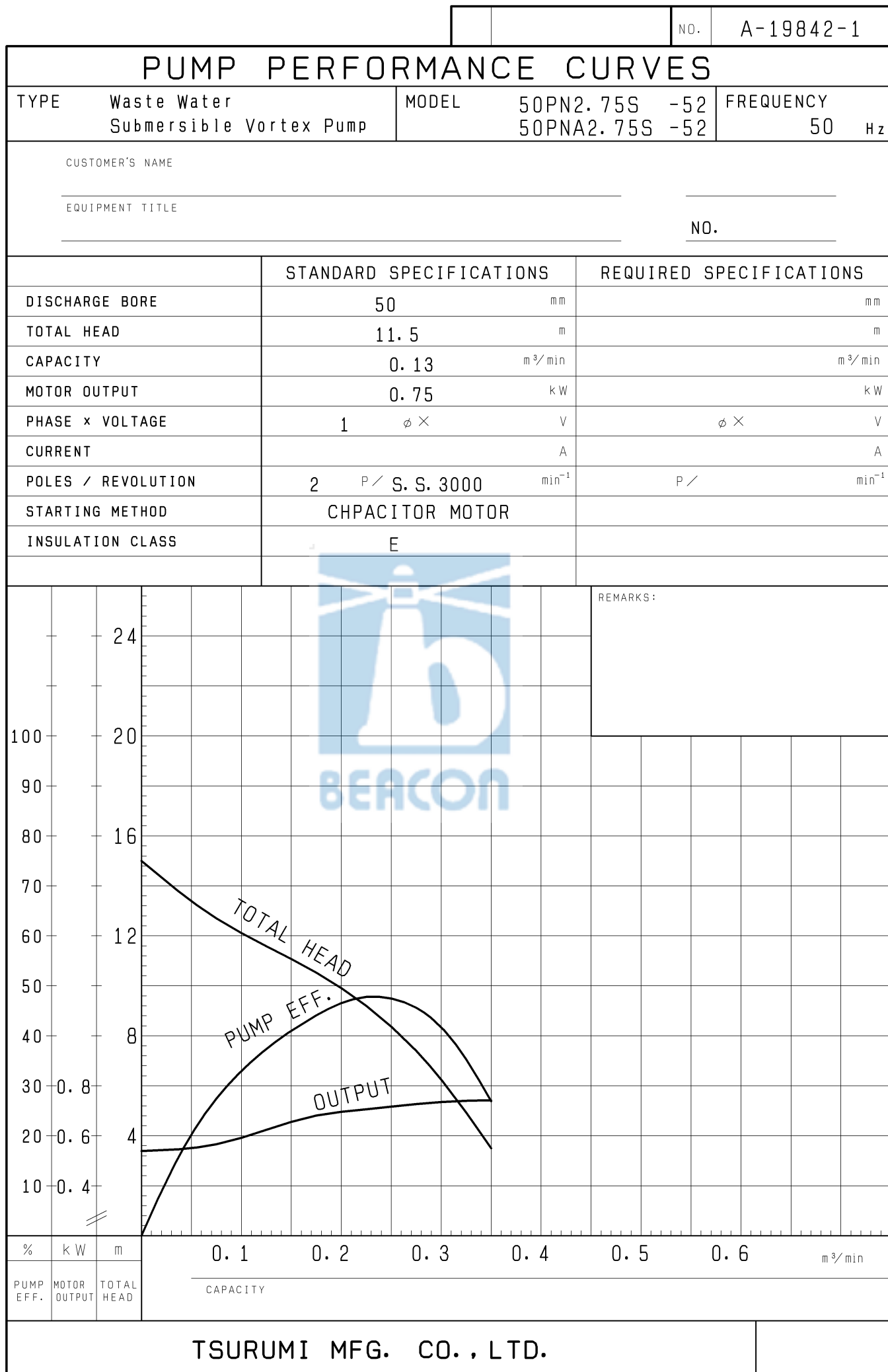
SECTIONAL DRAWING			No.	No.	A-10029-3
TYPE Waste Water Submersible Vortex Pump (Automatic)			MODEL 40PNA2.25 -52/62, 50PNA2.4 -52/62 50PNA2.75 -52/62		



REQ. SPECIFICATION

※ Upper and lower blocks form a one-piece casing.

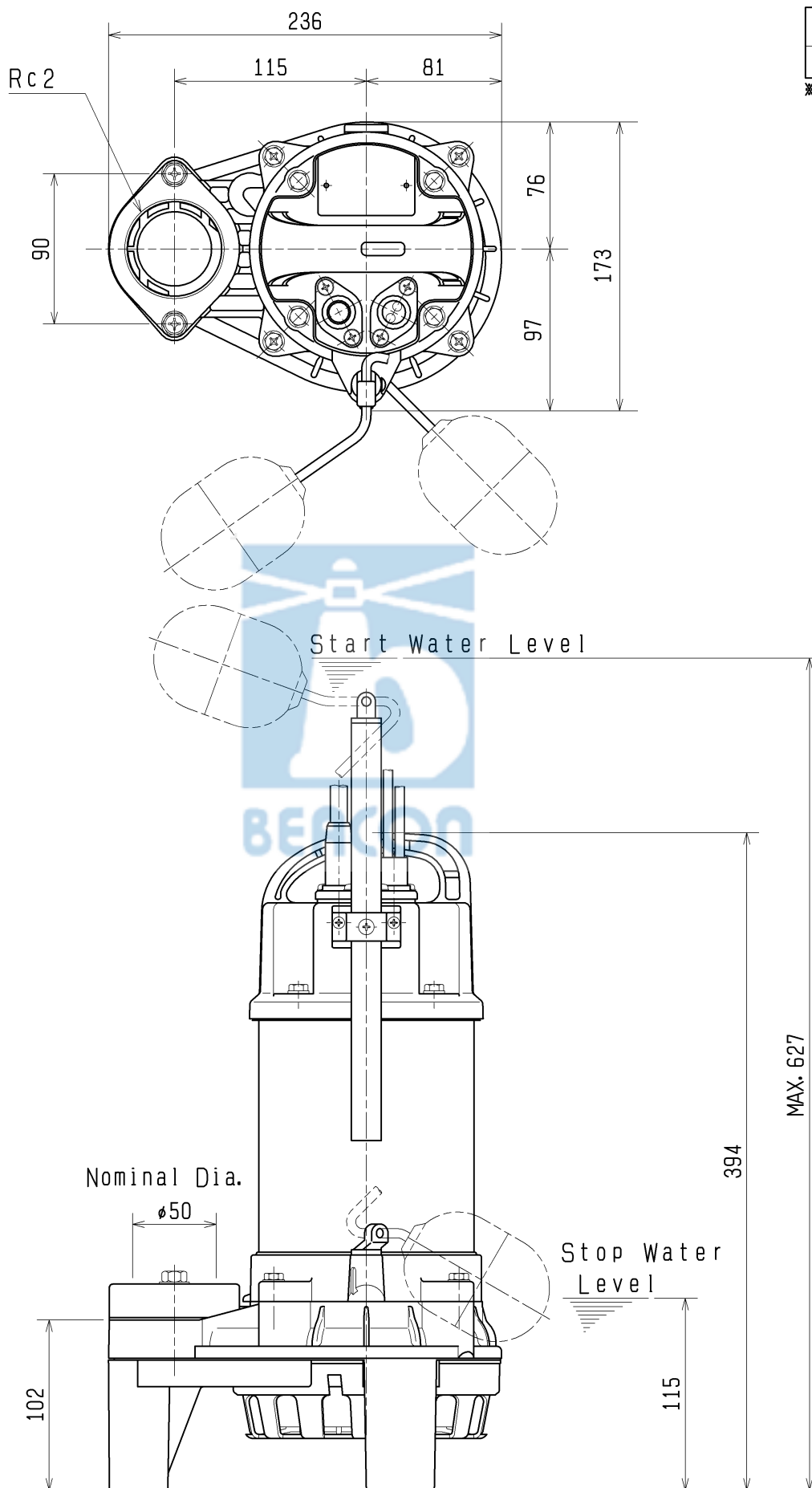
No.	DESCRIPTION	Q'TY	MATERIAL / NOTE	No.	DESCRIPTION	Q'TY	MATERIAL / NOTE
1	Cabtyre Cable	1	PVC Sheath	52B	Lower Bearing	1	0.25/0.4kW:6202ZZC3 0.75kW :6302ZZC3
20A	Upper Pump Casing	※ 1	Plastic W/GF	53	Motor Protector	1	
20B	Lower Pump Casing		Plastic	54	Shaft	1	Stainless Steel 304
21	Impeller	1	Plastic W/GF	55	Rotor	1	
23	Strainer	1	Plastic	56	Stator	1	
25	Mechanical Seal	1	W-14HC	60	Bearing Housing	1	Aluminium Die Casting
29	Oil Casing	1	Plastic W/GF	64	Motor Frame	1	Stainless Steel 304
30	Oil Lifter	1	Plastic	106	Float	2	Plastic
35	Oil Plug	1	Stainless Steel 304	109	Float Support Pipe	1	Plastic
36	Lubricant		Liquid Paraffin (ISO VG32)	114	Power Relay	1	
46	Air Release Valve	1	Glass Ball	115	Transfolmer	1	
48	Screwed Flange	1	Plastic W/GF				
50	Motor Bracket	1	Aluminium Die Casting				
51	Head Cover	1	Plastic W/GF				
52A	Upper Bearing	1	6201ZZC3				



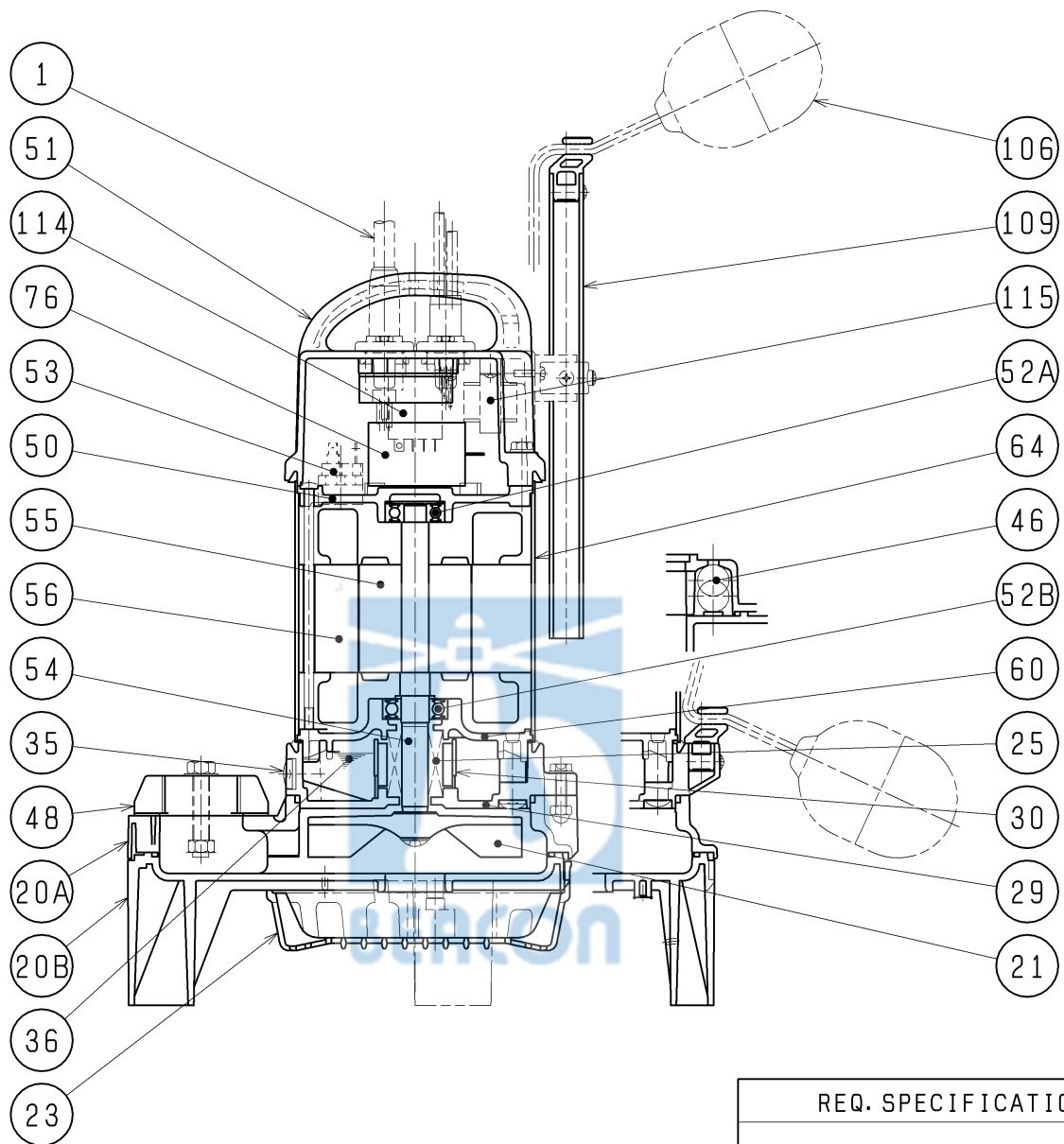
DIMENSION DRAWING		No.	No.
TYPE Waste Water Submersible Vortex Pump (Automatic)		MODEL	50PNA2.75S -52/62

Approximate Weight (※)
9.4kg

※excluding cable



SECTIONAL DRAWING			No.	No.	A-19850-1
TYPE	Waste Water Submersible Vortex Pump (Automatic)		MODEL	50PNA2.75S -52/62	



REQ. SPECIFICATION

※ Upper and lower blocks form a one-piece casing.

No.	DESCRIPTION	Q'TY	MATERIAL / NOTE	No.	DESCRIPTION	Q'TY	MATERIAL / NOTE
1	Cable	1	PVC Sheath	52B	Lower Bearing	1	6302ZZC3
20A	Upper Pump Casing	※ 1	Plastic W/GF	53	Motor Protector	1	
20B	Lower Pump Casing		Plastic	54	Shaft	1	Stainless Steel 304
21	Impeller	1	Plastic W/GF	55	Rotor	1	
23	Strainer	1	Plastic	56	Stator	1	
25	Mechanical Seal	1	W-14HC	60	Bearing Housing	1	Aluminium Die Casting
29	Oil Casing	1	Plastic W/GF	64	Motor Frame	1	Stainless Steel 304
30	Oil Lifter	1	Plastic	76	Capacitor	1	
35	Oil Plug	1	Stainless Steel 304	106	Float Set	2	Plastic
36	Lubricant		Liquid Paraffin (ISO VG32)	109	Float Support Pipe	1	Plastic
46	Air Release Valve	1	Glass Ball	114	Power Relay	1	
48	Screwed Flange	1	Plastic W/GF	115	Transformer	1	
50	Motor Bracket	1	Aluminium Die Casting				
51	Head Cover	1	Plastic W/GF				
52A	Upper Bearing	1	6201ZZC3				

NO. A-18002-1

PUMP PERFORMANCE CURVES

TYPE Waste Water
Submersible Vortex Pump

MODEL 50PN (A/W) 21.5 -52

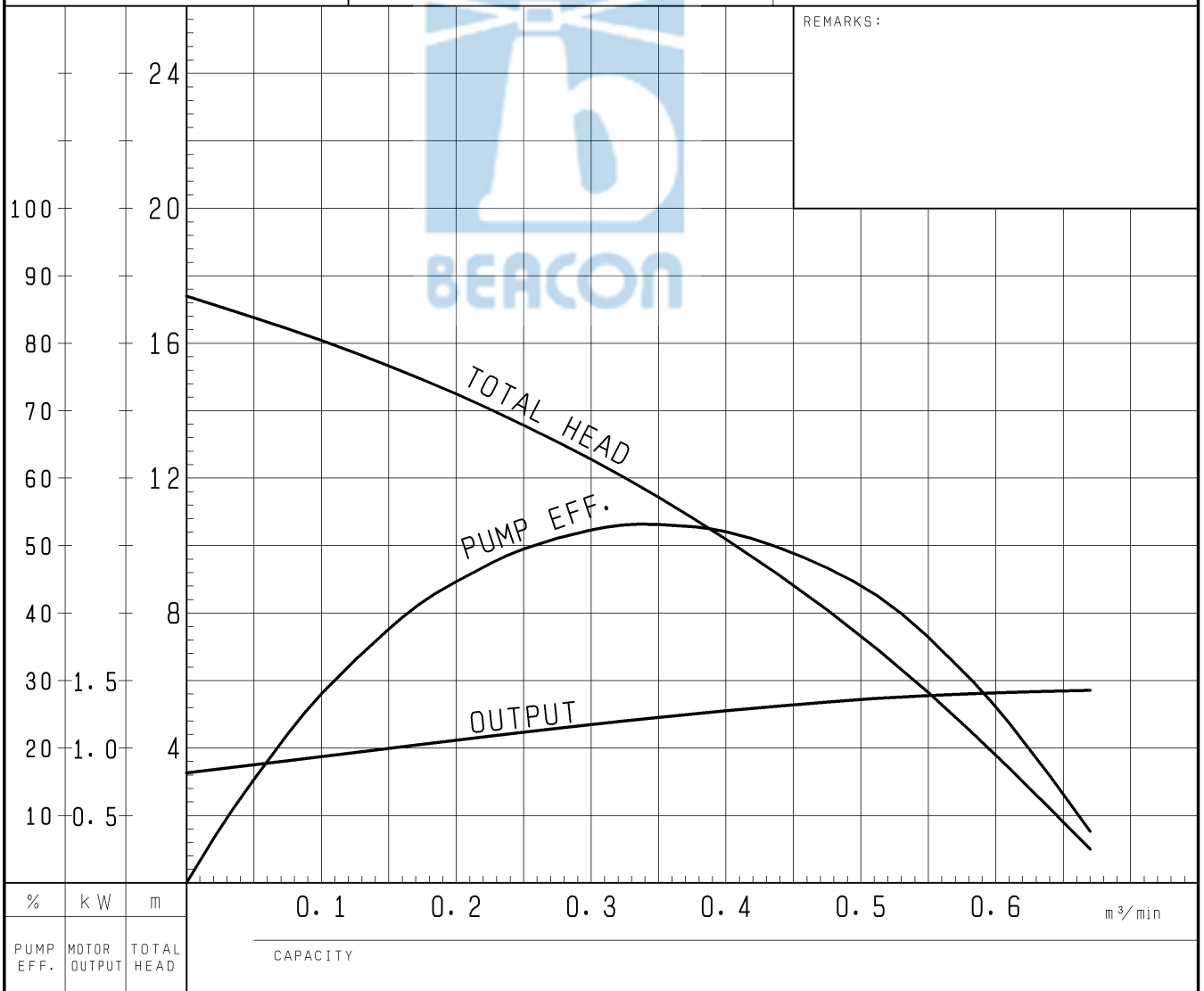
FREQUENCY 50 Hz

CUSTOMER'S NAME

EQUIPMENT TITLE

NO.

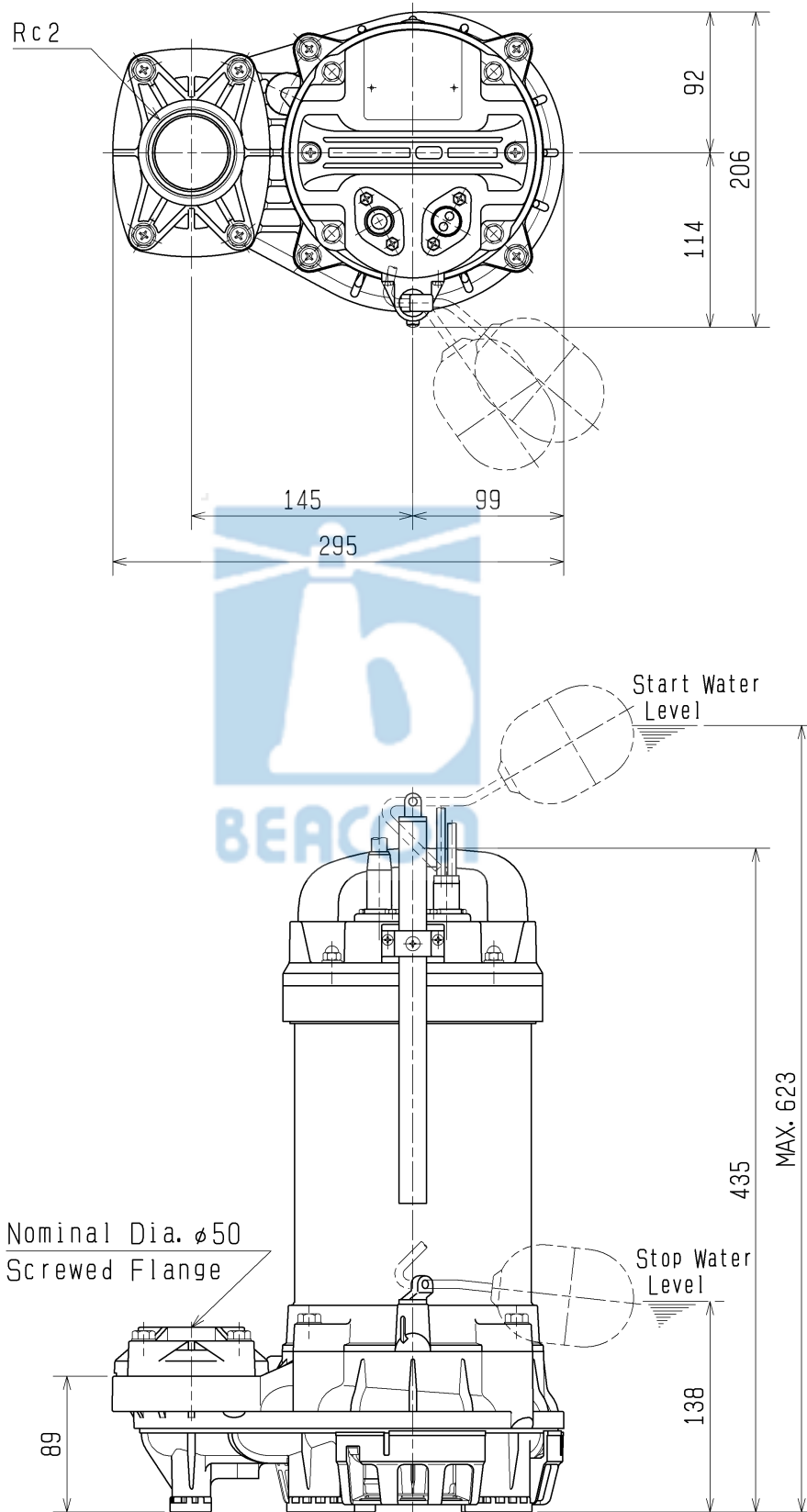
	STANDARD SPECIFICATIONS	REQUIRED SPECIFICATIONS
DISCHARGE BORE	50 mm	mm
TOTAL HEAD	14.5 m	m
CAPACITY	0.2 m ³ /min	m ³ /min
MOTOR OUTPUT	1.5 kW	kW
PHASE × VOLTAGE	3 φ × V	φ × V
CURRENT	A	A
POLES / REVOLUTION	2 P / s. s. 3000 min ⁻¹	P / min ⁻¹
STARTING METHOD	DIRECT ON LINE	
INSULATION CLASS	E	



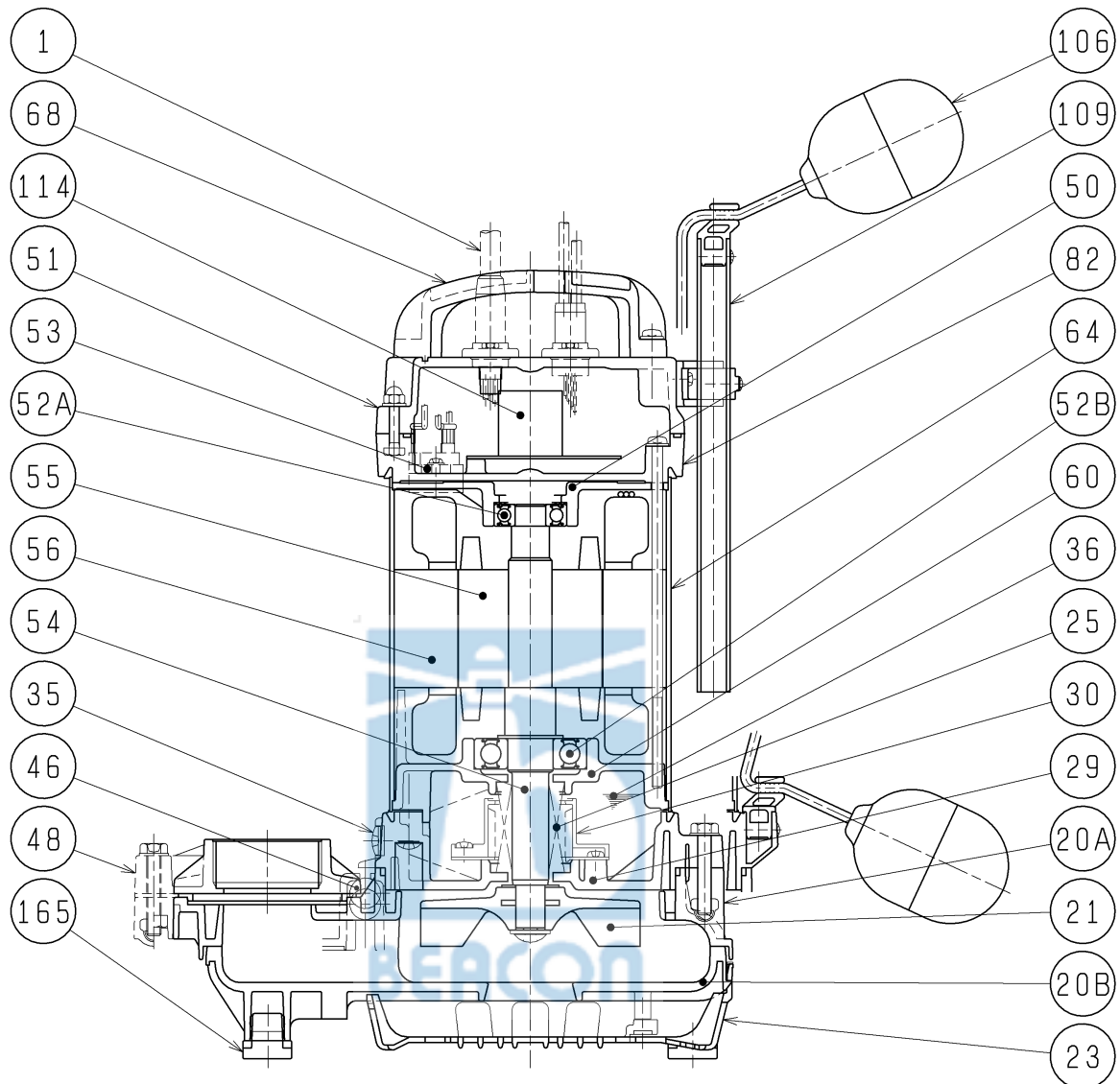
TSURUMI MFG. CO., LTD.

DIMENSION DRAWING		No.	No.	A-18009-1
TYPE Waste Water Submersible Vortex Pump (Automatic)		MODEL 50PNA21.5 -52/62		

Approximate Weight (※)
16.6kg
※excluding cable



SECTIONAL DRAWING		No.	No.	A-18018-2
TYPE	Waste Water Submersible Vortex Pump (Automatic)	MODEL	50PNA21.5 -52/62	

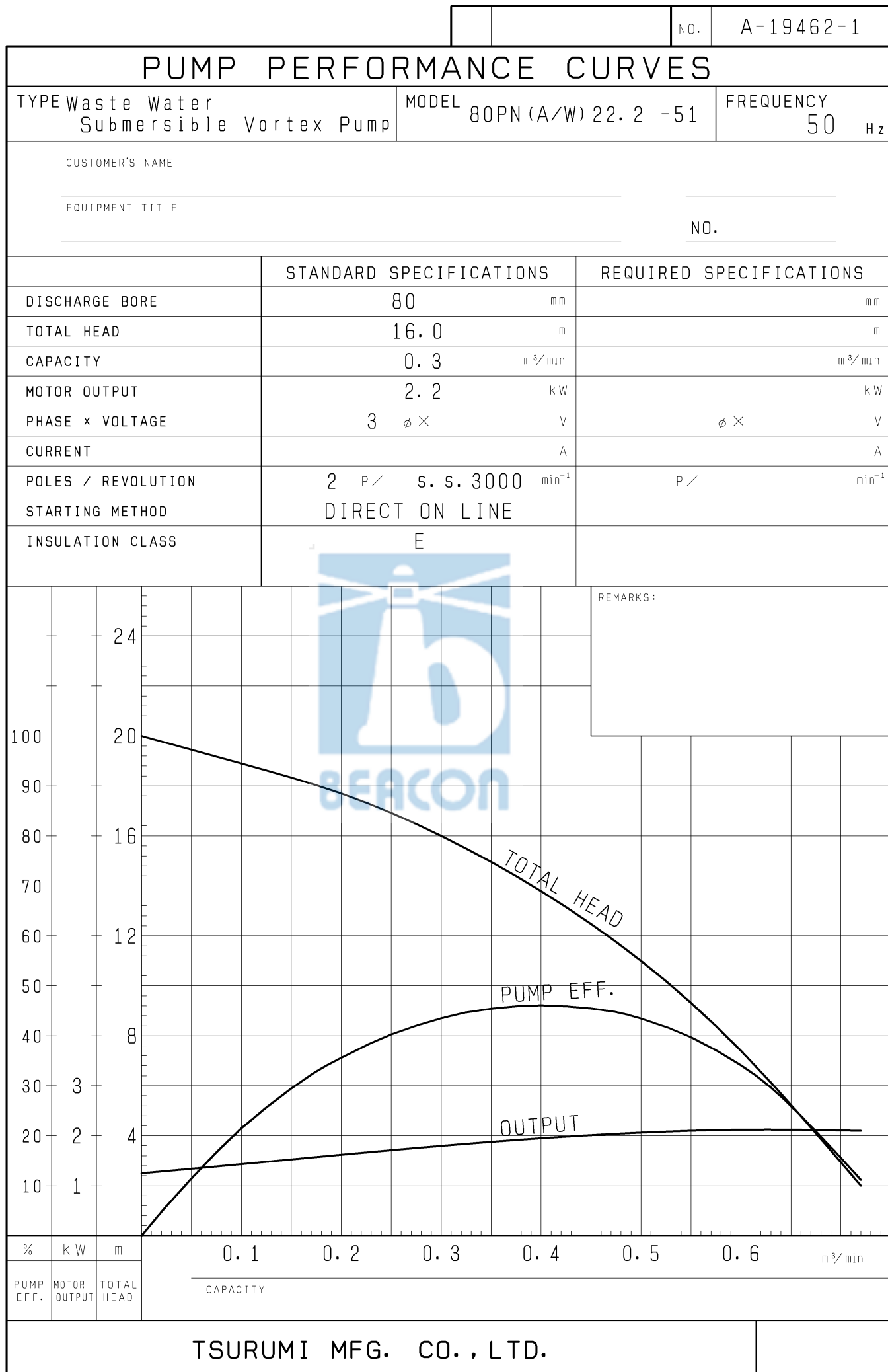


REQ. SPECIFICATION

※1 Upper and lower blocks form a one-piece casing.

※2 the wetted part

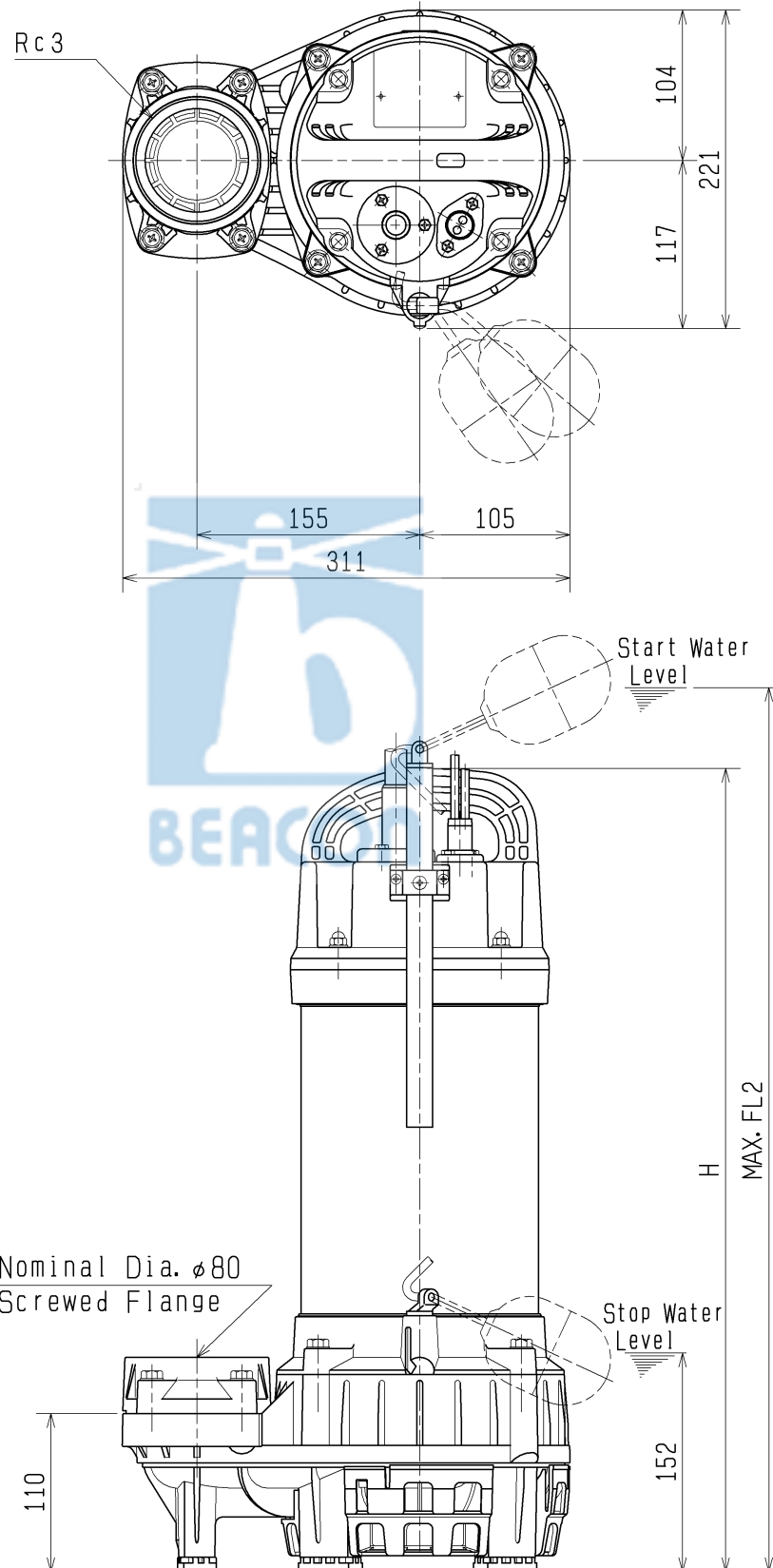
No.	DESCRIPTION	Q'TY	MATERIAL / NOTE	No.	DESCRIPTION	Q'TY	MATERIAL / NOTE
1	Cable	1	PVC Sheath	52B	Lower Bearing	1	6305ZZC3
20A	Upper Pump Casing	※1 1	Plastic W/GF	53	Motor Protector	1	
20B	Lower Pump Casing		Plastic W/GF	54	Shaft	1	Stainless Steel 304(※2)
21	Impeller	1	Plastic W/GF	55	Rotor	1	
23	Strainer	1	Plastic	56	Stator	1	
25	Mechanical Seal	1	H-20A	60	Bearing Housing	1	Aluminium Alloy Casting
29	Oil Casing	1	Plastic W/GF	64	Motor Frame	1	Stainless Steel 304
30	Oil Lifter	1	Plastic	68	Handle	1	Plastic
35	Oil Plug	1	Stainless Steel 304	82	Head Cover Spacer	1	Plastic W/GF
36	Lubricant		Liquid Paraffin (ISO VG32)	106	Float Set	2	Plastic
46	Air Release Valve	1	Glass Ball	109	Float Support Pipe	1	PVC
48	Screwed Flange	1	Plastic W/GF	114	Relay Unit	1	
50	Motor Bracket	1	Aluminium Alloy Casting	165	Rubber Foot	5	Nitrile Butadien Rubber
51	Head Cover	1	Plastic W/GF				
52A	Upper Bearing	1	6203ZZC3				



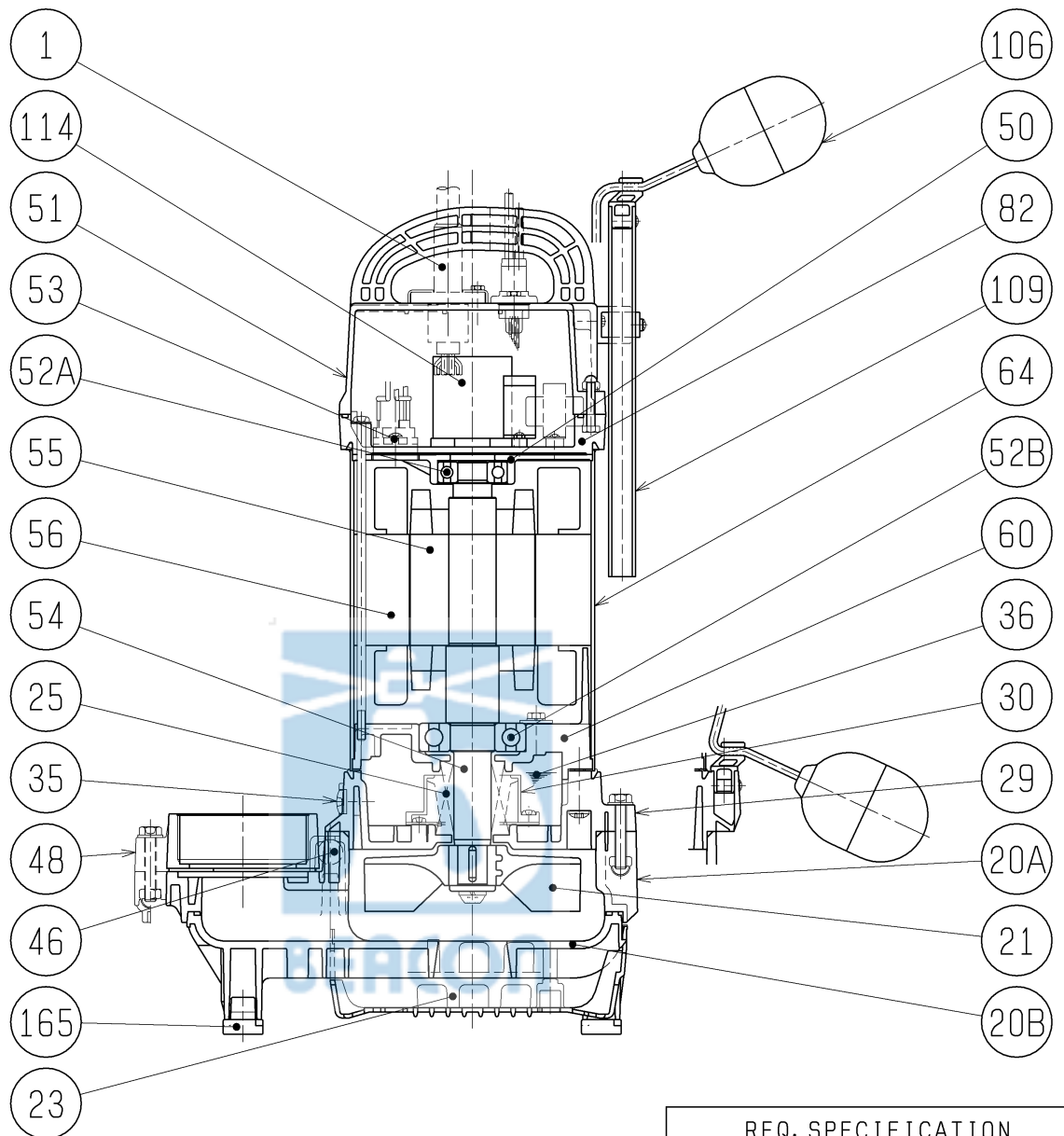
DIMENSION DRAWING			No.		No.	A-19475-1
TYPE Waste Water Submersible Vortex Pump (Automatic)			MODEL			
			80PNA22. 2		-51/61	
			80PNA23. 7		-51/61	

MODEL	FL2	H	Approximate Weight (kg)
80PNA22. 2-51/61	767	559	23kg
80PNA23. 7-51/61	802	594	28kg

※excluding cable

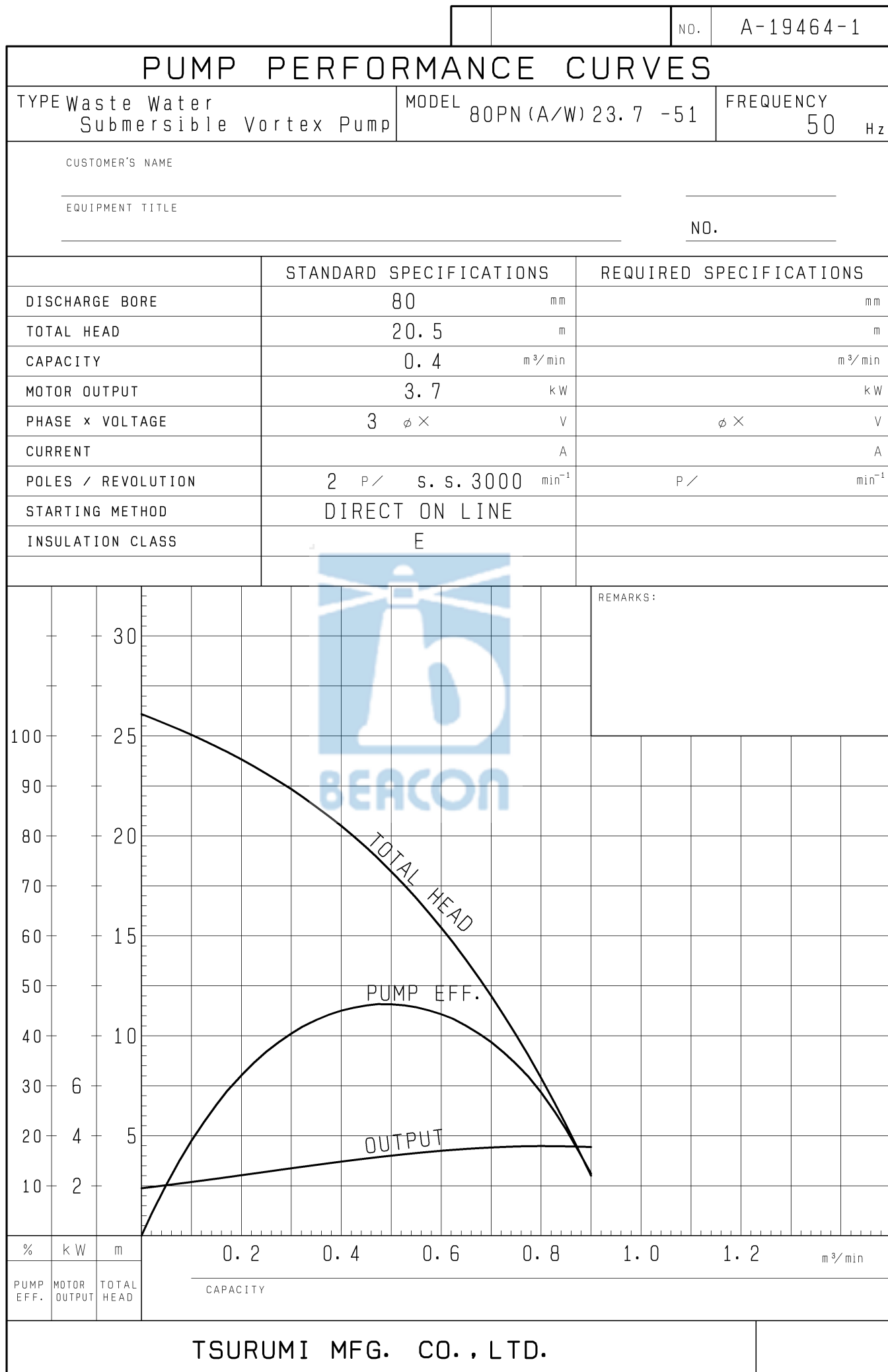


SECTIONAL DRAWING		No.	No.	A-19483-1
TYPE	Waste Water Submersible Vortex Pump (Automatic)	MODEL	80PNA22.2 -51/61 80PNA23.7 -51/61	



REQ. SPECIFICATION

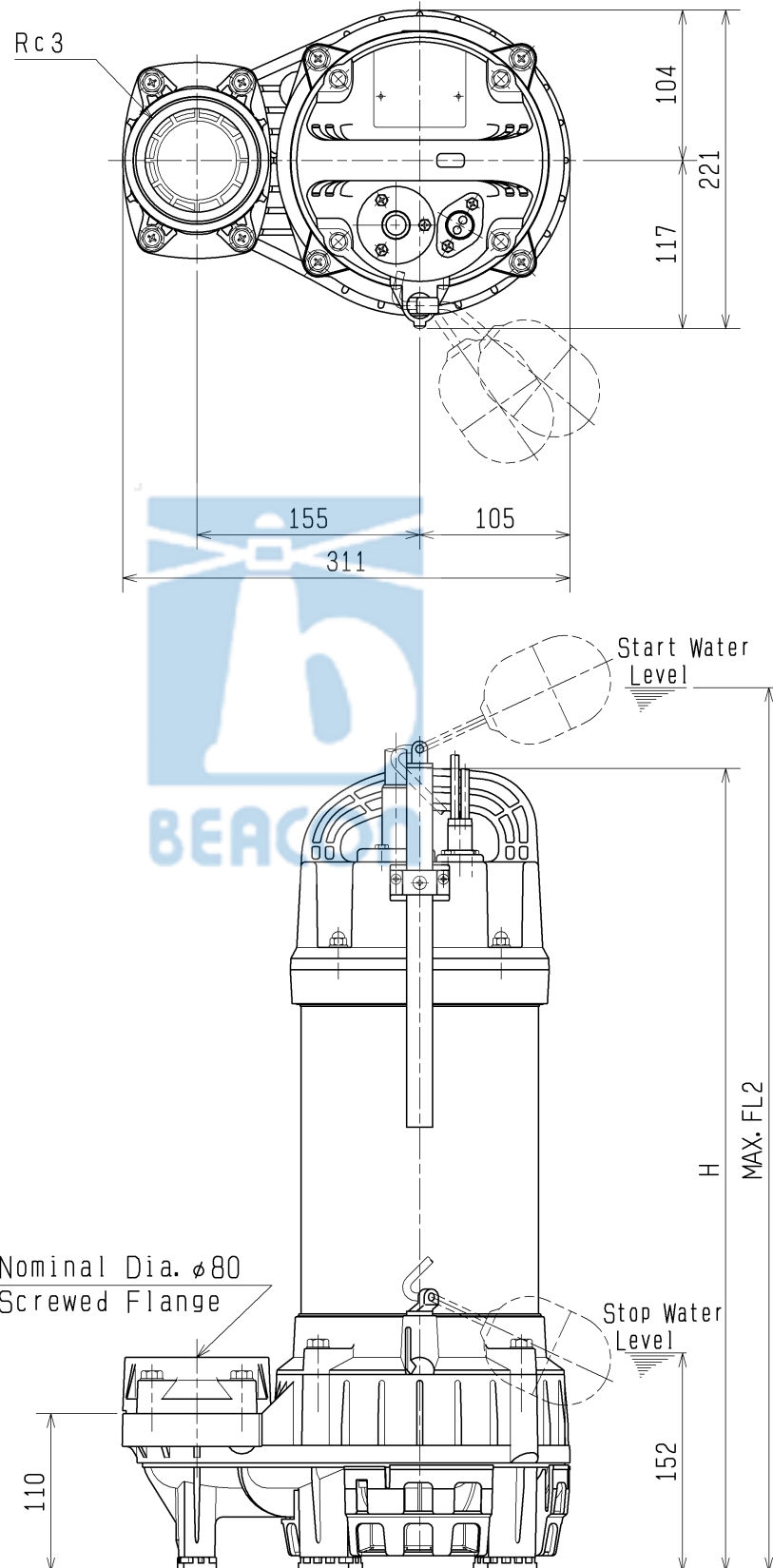
		2.2kW	3.7kW	※1 Upper and lower blocks form a one-piece casing.			
※3		H-25A	H-25AT	※2 the wetted part			
No.	DESCRIPTION	Q'TY	MATERIAL / NOTE		No.	DESCRIPTION	Q'TY MATERIAL / NOTE
1	Cabletyre Cable	1	PVC Sheath		52B	Lower Bearing	1 6306ZZC3
20A	Upper Pump Casing	※1 1	Plastic W/GF		53	Motor Protector	1
20B	Lower Pump Casing		Plastic W/GF		54	Shaft	1 Stainless Steel 304(※2)
21	Impeller	1	Plastic W/GF		55	Rotor	1
23	Strainer	1	Plastic		56	Stator	1
25	Mechanical Seal	1	※3		60	Bearing Housing	1 Aluminium Alloy Casting
29	Oil Casing	1	Plastic W/GF		64	Motor Frame	1 Stainless Steel 304
30	Oil Lifter	1	Plastic		82	Head Cover Spacer	1 Plastic W/GF
35	Oil Plug	1	Stainless Steel 304		106	Float Set	2 Plastic
36	Lubricant		Liquid Paraffin (ISO VG32)		109	Float Support Pipe	1 PVC
46	Air Release Valve	1	Glass Ball		114	Relay Unit	1
48	Screwed Flange	1	Plastic W/GF		165	Rubber Foot	5 Nitrile Butadien Rubber
50	Motor Bracket	1	Aluminium Alloy Casting				
51	Head Cover	1	Plastic W/GF				
52A	Upper Bearing	1	6204ZZC3				



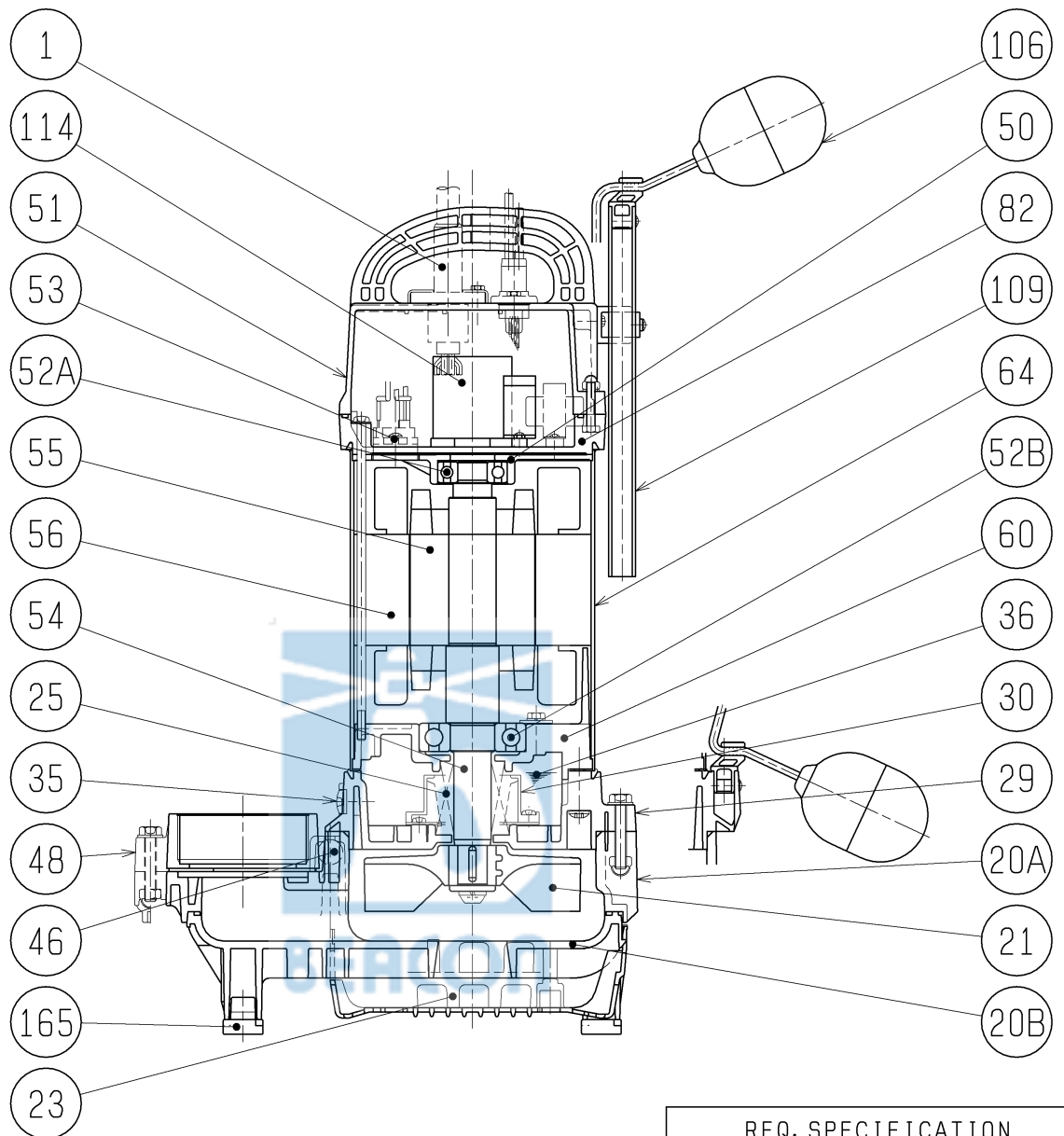
DIMENSION DRAWING			No.		No.	A-19475-1
TYPE Waste Water Submersible Vortex Pump (Automatic)			MODEL			
			80PNA22. 2		-51/61	
			80PNA23. 7		-51/61	

MODEL	FL2	H	Approximate Weight (kg)
80PNA22. 2-51/61	767	559	23kg
80PNA23. 7-51/61	802	594	28kg

※excluding cable



SECTIONAL DRAWING		No.	No.	A-19483-1
TYPE	Waste Water Submersible Vortex Pump (Automatic)	MODEL	80PNA22.2 -51/61 80PNA23.7 -51/61	



REQ. SPECIFICATION

No.	DESCRIPTION	Q'TY	MATERIAL / NOTE	No.	DESCRIPTION	Q'TY	MATERIAL / NOTE
1	Cabtyre Cable	1	PVC Sheath	52B	Lower Bearing	1	6306ZZC3
20A	Upper Pump Casing	※1	Plastic W/GF	53	Motor Protector	1	
20B	Lower Pump Casing	1	Plastic W/GF	54	Shaft	1	Stainless Steel 304(※2)
21	Impeller	1	Plastic W/GF	55	Rotor	1	
23	Strainer	1	Plastic	56	Stator	1	
25	Mechanical Seal	1	※3	60	Bearing Housing	1	Aluminium Alloy Casting
29	Oil Casing	1	Plastic W/GF	64	Motor Frame	1	Stainless Steel 304
30	Oil Lifter	1	Plastic	82	Head Cover Spacer	1	Plastic W/GF
35	Oil Plug	1	Stainless Steel 304	106	Float Set	2	Plastic
36	Lubricant		Liquid Paraffin (ISO VG32)	109	Float Support Pipe	1	PVC
46	Air Release Valve	1	Glass Ball	114	Relay Unint	1	
48	Screwed Flange	1	Plastic W/GF	165	Rubber Foot	5	Nitrile Butadien Rubber
50	Motor Bracket	1	Aluminium Alloy Casting				
51	Head Cover	1	Plastic W/GF				
52A	Upper Bearing	1	6204ZZC3				