

## SUBMERSIBLE PUMPS FOR WASTE WATER VORTEX IMPELLER



Made in high quality engineering cast iron.  
Vortex impeller.

The submersible pumps are supplied complete with threaded counterflanges, packings and stainless steel bolts.

### Applications

- Sewage with suspended solids including long fibres.
- For liquid mixing in stock tanks, for industrial waste and animal slurry with solids in suspension.

### Usage limitations

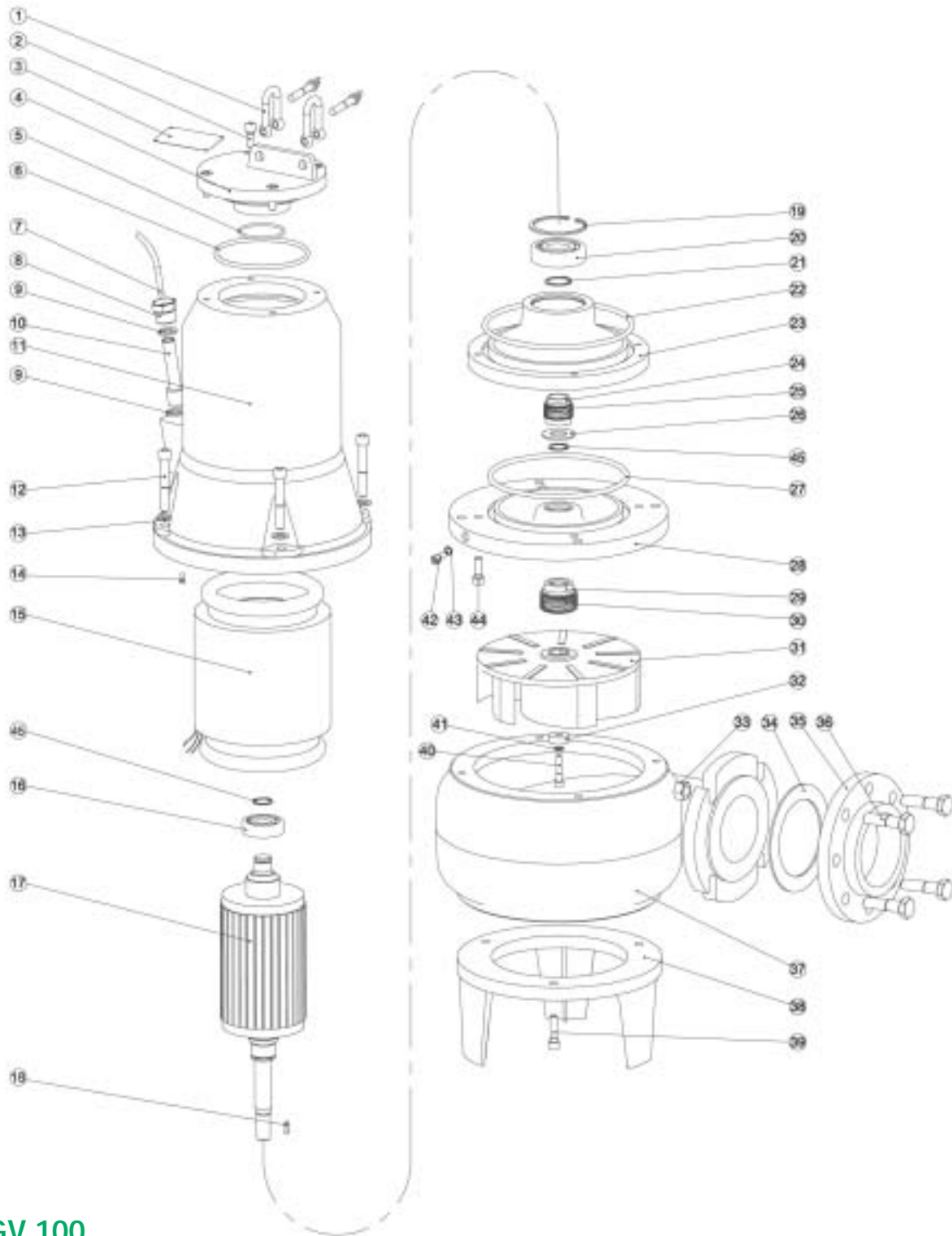
- Max temperature of pumped liquid: 40°C
- Max immersion depth: 20 m
- PH: between 6-11
- Running positioning: only vertical
- Outlet nominal diameter:  
DN65 FGV 65  
DN80 FGV 80  
DN100 FGV 100
- For continuous operation, within the allowed use limits, the submersible pump must be submerged for 2/3 of its height, at least.
- Suitable for fixed installation with coupling foot, guide rails and chain, or more portable applications suspended or rested.
- Free passage: 62 mm FGV 65  
50-80 mm FGV 80  
83-98 mm FGV 100

### Motor

- Dry chamber motor – insulation class F
- IP68 protection
- Motor electric supply voltage: three-phase 3x400V 50Hz
- Starting: D.O.L till 5,5 kW  
Star/delta since 5,5 kW
- Rotor supported by long-life self-lubricated rolling bearings
- Winding protection by means of a sealed chamber, filled with oil, which is fitted between pump and motor. Dinamic oil seal ensured by two mechanical seals
- Max startings per hour:  
30 FGV 65  
20 FGV 80  
20 <= 5,5 kW – 15 > 5,5 kW FGV100

### DESIGN FEATURES

Component	Material
Pump casing	EN GJL 200
Impeller	EN GJL 200
Motor shaft	AISI 420 stainless steel
Motor casing	EN GJL 200
Mechanical seal (pump side)	Silicium carbide/Silicium carbide
Mechanical seal (motor side)	FGV 65 EPDM rubber FGV 80 Carbon/Alumina FGV 100 Carbon/Steel
OR gasket	NBR rubber
Cable lock	Brass
Cable	10 m H07RN - F

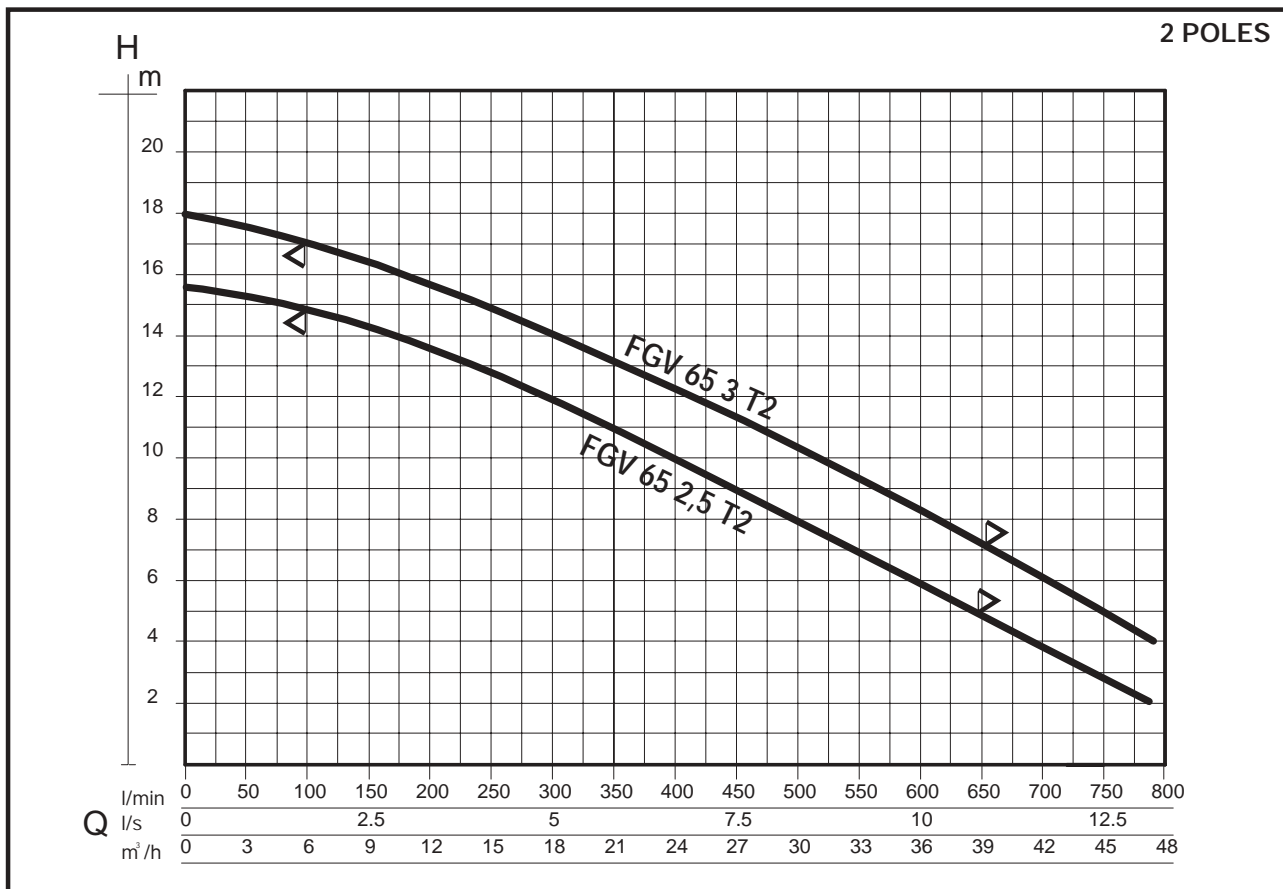
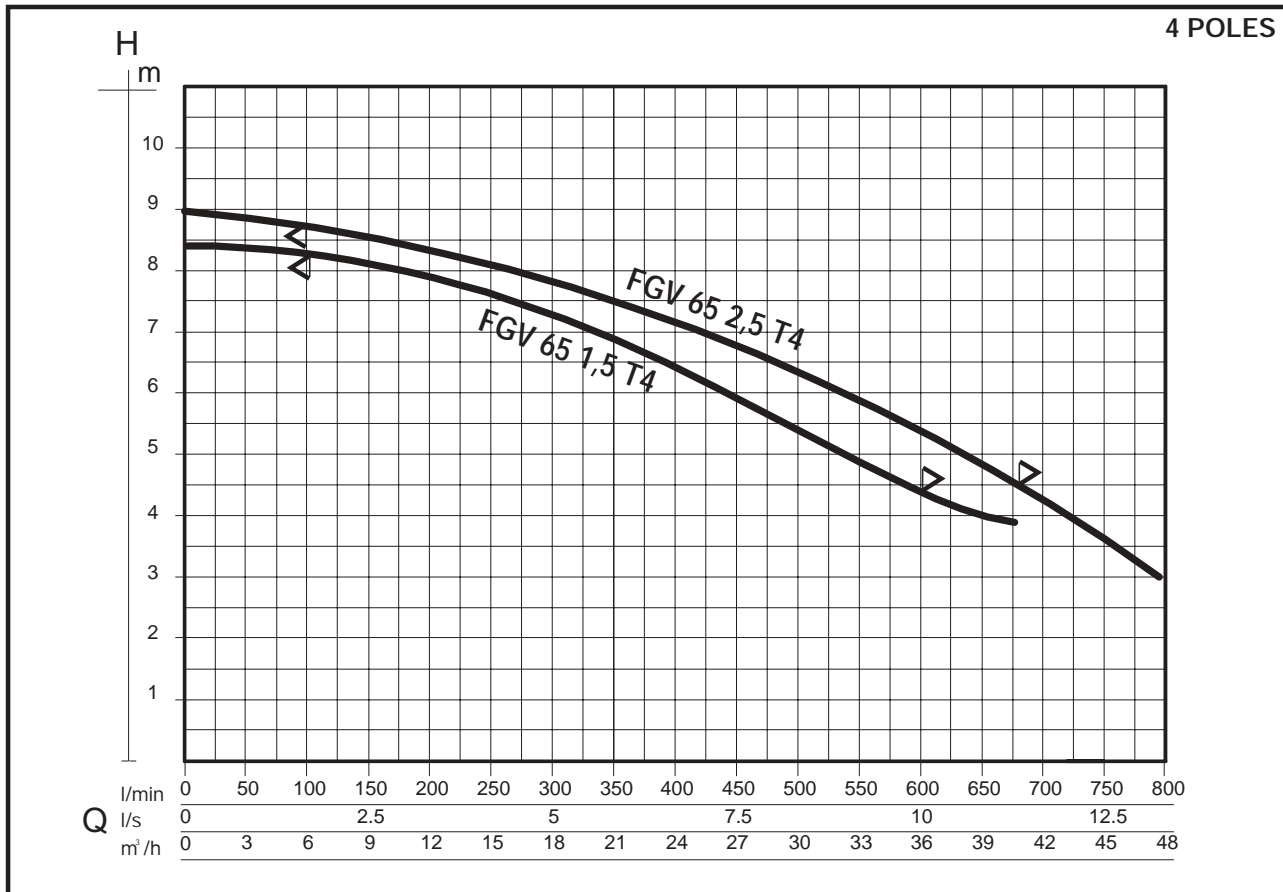


## FGV 100

- |                               |  |                                 |
|-------------------------------|--|---------------------------------|
| 1 Shackles                    | 16 Upper bearing                         | 31 Impeller                     |
| 2 Screw 10 x 25               | 17 Shaft with rotor                      | 32 Impeller spacer              |
| 3 Identification plate        | 18 Impeller key                          | 33 Nut 16 MA                    |
| 4 Cover                       | 19 Internal retaining ring               | 34 Gasket                       |
| 5 O-Ring                      | 20 Lower bearing                         | 35 Counterflange 4" PN16 DN 100 |
| 6 O-Ring                      | 21 External retaining ring               | 36 Screw 16 x 70                |
| 7 H07RN-F Cable               | 22 O-Ring                                | 37 Pump body                    |
| 8 Cable lock                  | 23 Die-stock flange                      | 38 Foot pedestal                |
| 9 Cable lock washer           | 24 Upper mechanical seal (fixed ring)    | 39 Screw 10 x 35                |
| 10 Cable lock rubber ring     | 25 Upper mechanical seal (rotating ring) | 40 Screw 8 x 25                 |
| 11 Motor body                 | 26 Washer                                | 41 Impeller grower washer       |
| 12 Screw 12 x 80              | 27 O-Ring                                | 42 Screw 8 x 12                 |
| 13 Impeller grower washer     | 28 Seal housing flange                   | 43 Washer                       |
| 14 Earthing cable screw 6 x 8 | 29 Lower mechanical seal (fixed ring)    | 44 Screw 10 x 30                |
| 15 Stator                     | 30 Lower mechanical seal (rotating ring) | 45 External retaining ring      |

## SUBMERSIBLE PUMPS FOR WASTE WATER - VORTEX IMPELLER

### TABLE OF HYDRAULIC PERFORMANCE



Q-H = UNI EN ISO 9906  
 ◁ Sedimentation risk  
 ▷ Intermittent running

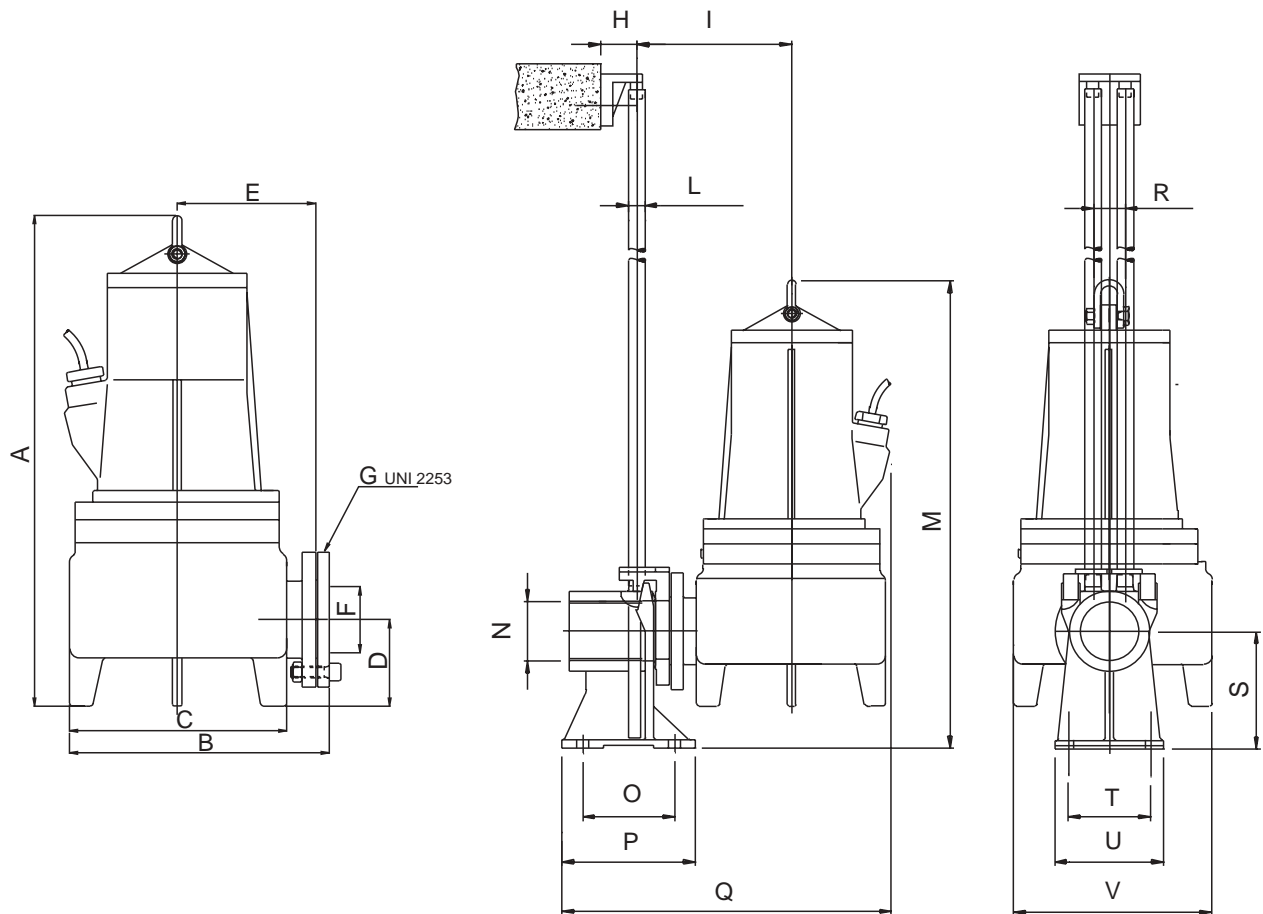
Curves established for liquids density 1kg/dm<sup>3</sup>, with velocity not less than 1 m/s and same viscosity as water.



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**PUMP PERFORMANCE**

CODE	MODEL	Nominal power		Absorbed power		Voltage V	Rated current A	n min <sup>-1</sup>	Q L/1'	Discharge head in meters												
		HP	kW	HP	kW					0	100	200	300	400	500	600	650	700				
N2150010	FGV 65 1,5 T4	1,5	1,1	2,35	1,75	3- 400	3,3	1400	8,5	8,3	8	7,4	6,5	5,4	4,4							
N2150020	FGV 65 2,5 T4	2,5	1,8	3,35	2,5	3- 400	4,5	1425	9	8,7	8,3	7,8	7,2	6,4	5,4	4,8	4,3					
N2150030	FGV 65 2,5 T2	2,5	1,8	3,49	2,6	3- 400	4,5	2838	15,6	14,9	13,6	11,9	10	8	5,9	4,8						
N2150040	FGV 65 3 T2	3	2,2	4,44	3,31	3- 400	5,4	2840	18	17	15,6	14	12,2	10,3	8,3	7,2						

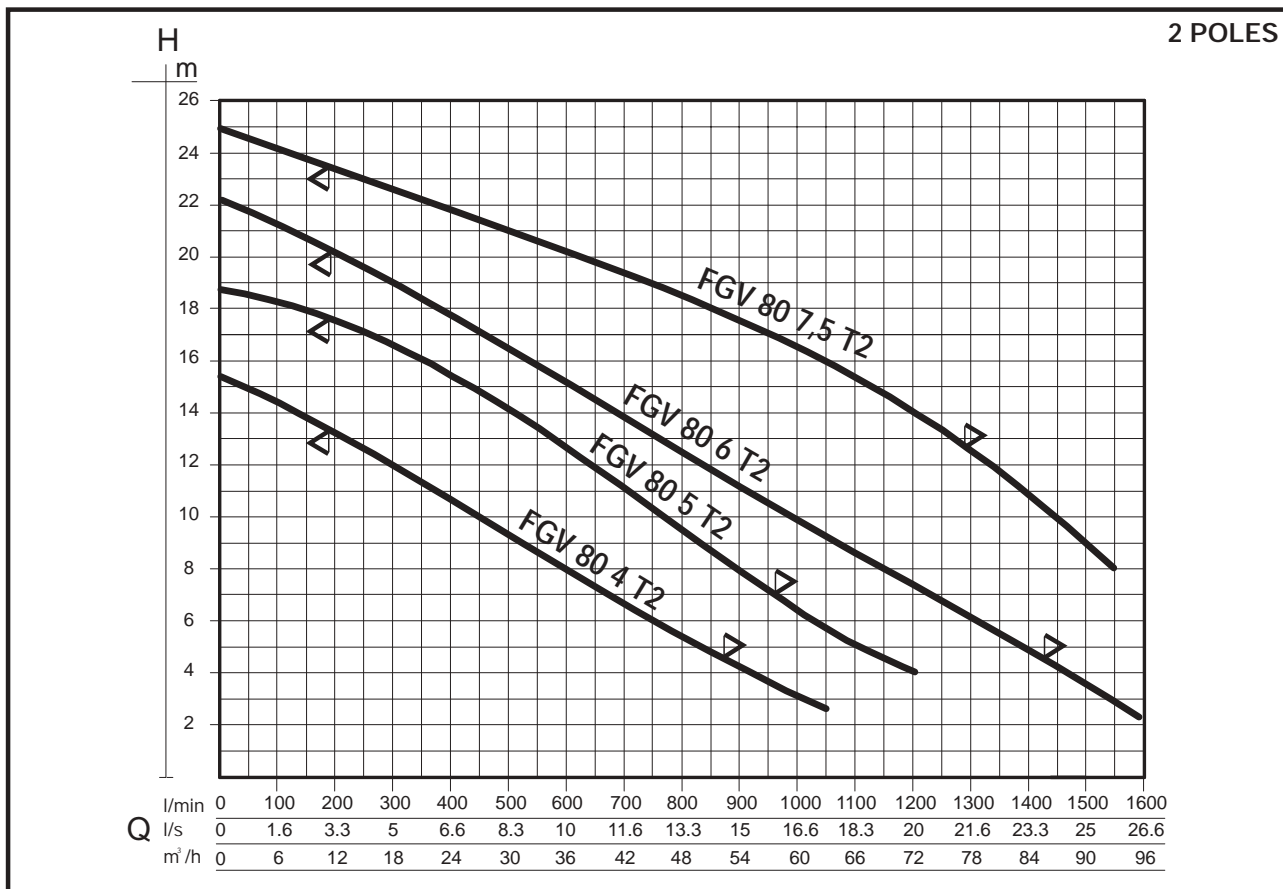
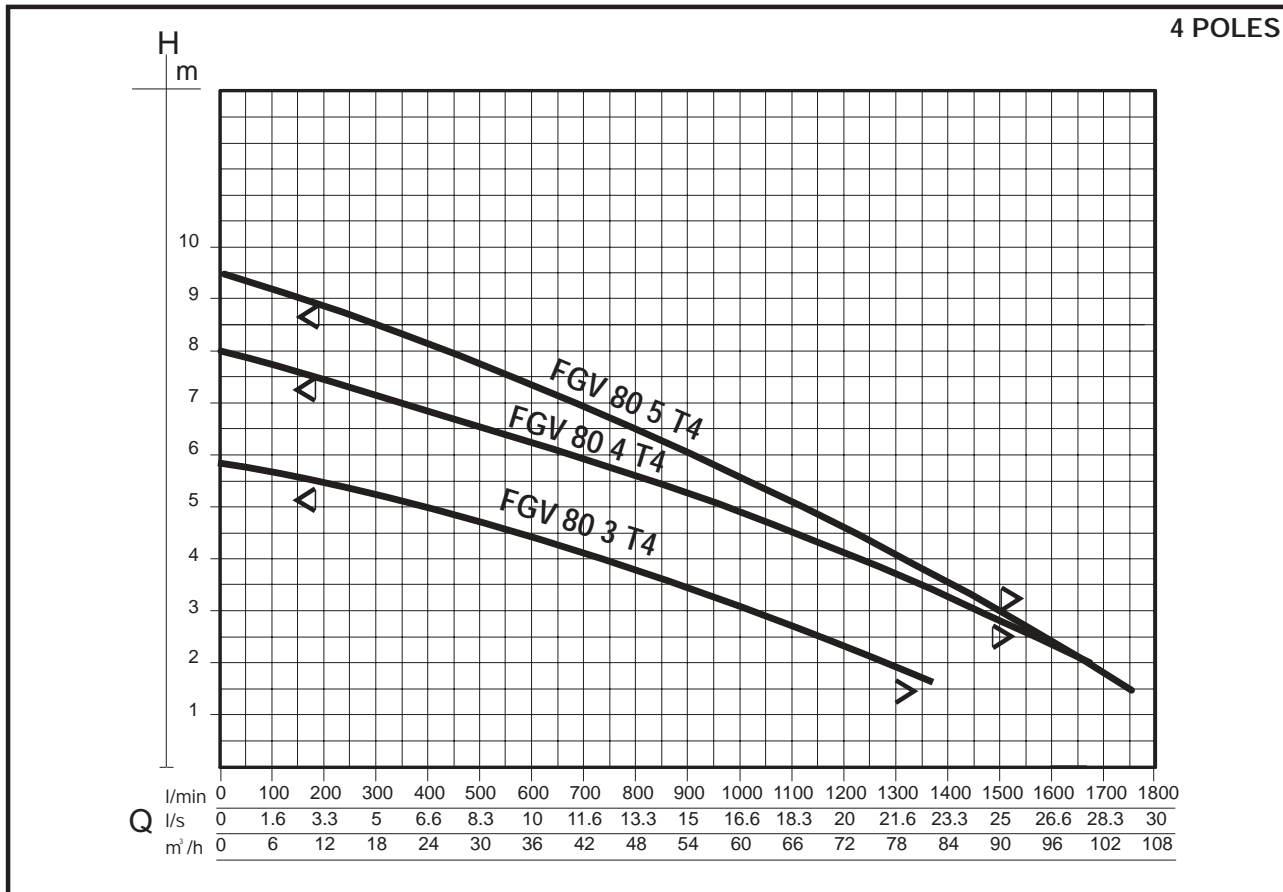


**DIMENSIONS AND WEIGHTS**

Model	Dimensions mm.																				Weight kg	Free bore Ø (mm)
	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	T	U	V		
FGV 65 1,5 T4	515	273	217	90	158	62	Ø2 <sup>n</sup> /2	80	190	Ø 3/4	530	Ø2 <sup>n</sup> /2	110	150	418	38	140	100	130	228	41	62
FGV 65 2,5 T4	515	273	217	90	158	62	Ø2 <sup>n</sup> /2	80	190	Ø 3/4	530	Ø2 <sup>n</sup> /2	110	150	418	38	140	100	130	228	45	62
FGV 65 2,5 T2	515	273	217	90	158	62	Ø2 <sup>n</sup> /2	80	190	Ø 3/4	530	Ø2 <sup>n</sup> /2	110	150	418	38	140	100	130	228	40	62
FGV 65 3 T2	515	273	217	90	158	62	Ø2 <sup>n</sup> /2	80	190	Ø 3/4	530	Ø2 <sup>n</sup> /2	110	150	418	38	140	100	130	228	47	62

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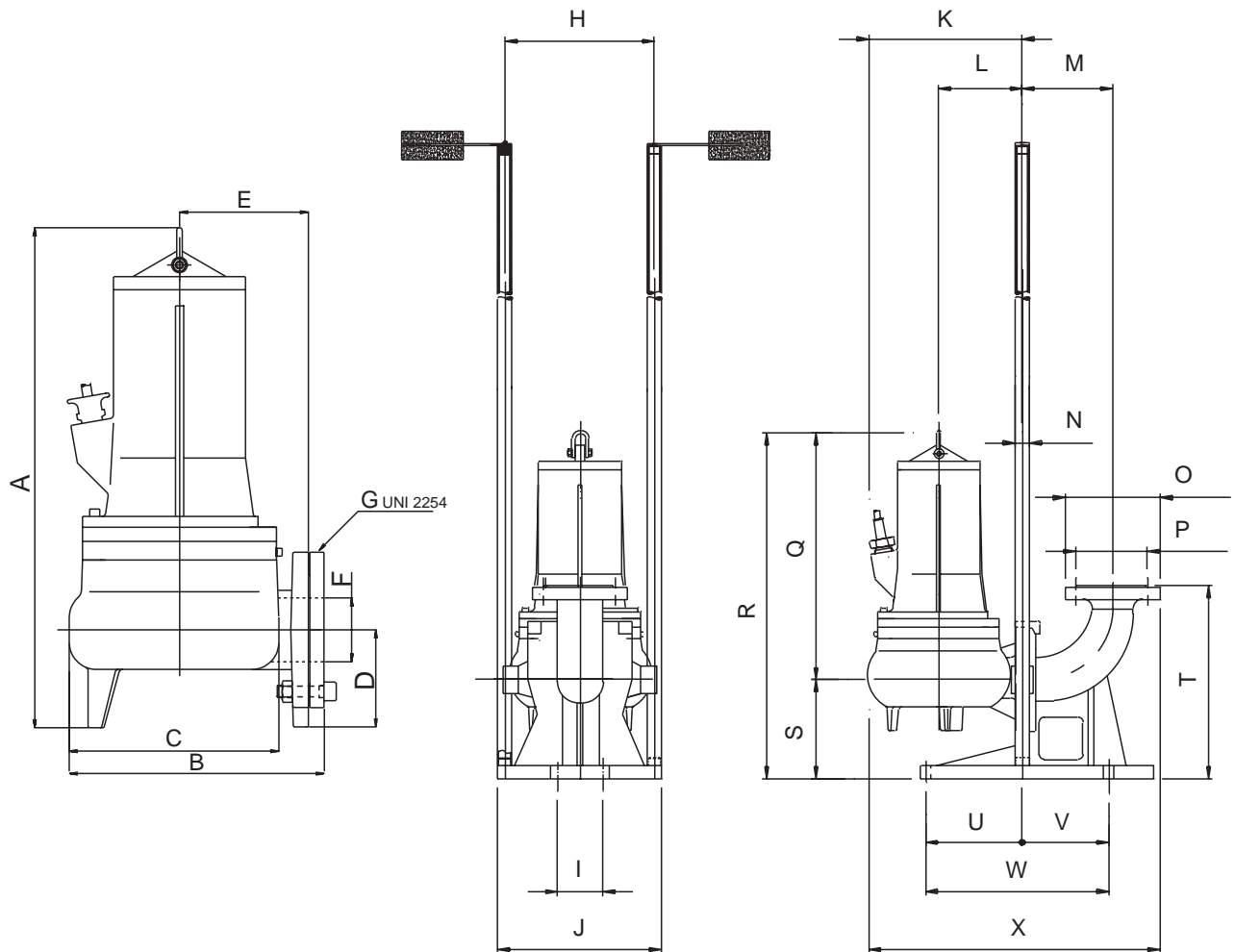
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**PUMP PERFORMANCE**

CODE	MODEL	Nominal power		Absorbed power		Voltage V	Rated current A	n min <sup>-1</sup>	Q	Discharge head in meters														
		HP	kW	HP	kW					0	200	400	500	600	800	1000	1100	1200	1300	1400	1500			
N2150220	FGV 80 3 T4	3	2,2	6,55	4,8	3- 400	5,6	1440	L/1' m <sup>3</sup> /h	0	12	24	30	36	48	60	66	72	78	84	90			
N2150050	FGV 80 4 T4	4	3	7,66	5,71	3- 400	7,4	1440		6	5,6	5,1	4,8	4,4	3,8	3,1	2,8	2,4	2,1					
N2150060	FGV 80 5 T4	5	3,7	7,71	5,75	3- 400	8,8	1445		8	7,4	6,8	6,5	6,2	5,6	4,9	4,5	4,1	3,7	3,3	2,8			
N2150070	FGV 80 4 T2	4	3	6,64	4,95	3- 400	6,5	2830		9,5	8,9	8,1	7,8	7,4	6,5	5,6	5	4,6	4,1	3,5	3			
N2150080	FGV 80 5 T2	5	3,7	7,78	5,8	3- 400	8,5	2890		15,4	13,2	10,8	9,3	8	5,4									
N2150090	FGV 80 6 T2	6	4,4	9,68	7,22	3- 400	10	2910		18,7	17,5	15,3	14	12,6	9,4	6,2								
N2150100	FGV 80 7,5 T2	7,5	5,5	9,04	6,74	3- 400	12	2900		22,3	20,4	17,9	16,6	15,2	12,8	10	8,8	7,5	6,3	5				
										25	23,4	21,9	21	20,2	18,5	16,5	15,3	14	12,5					

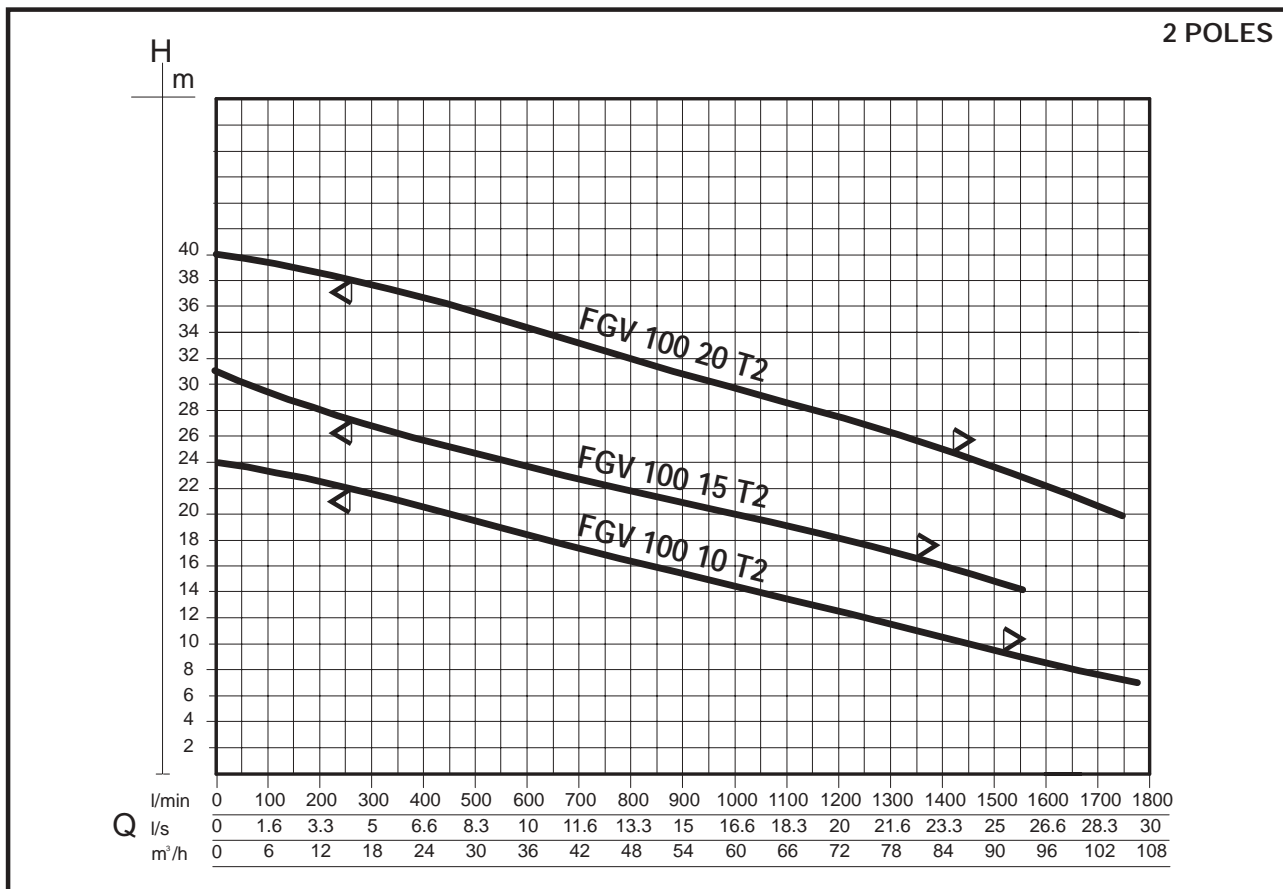
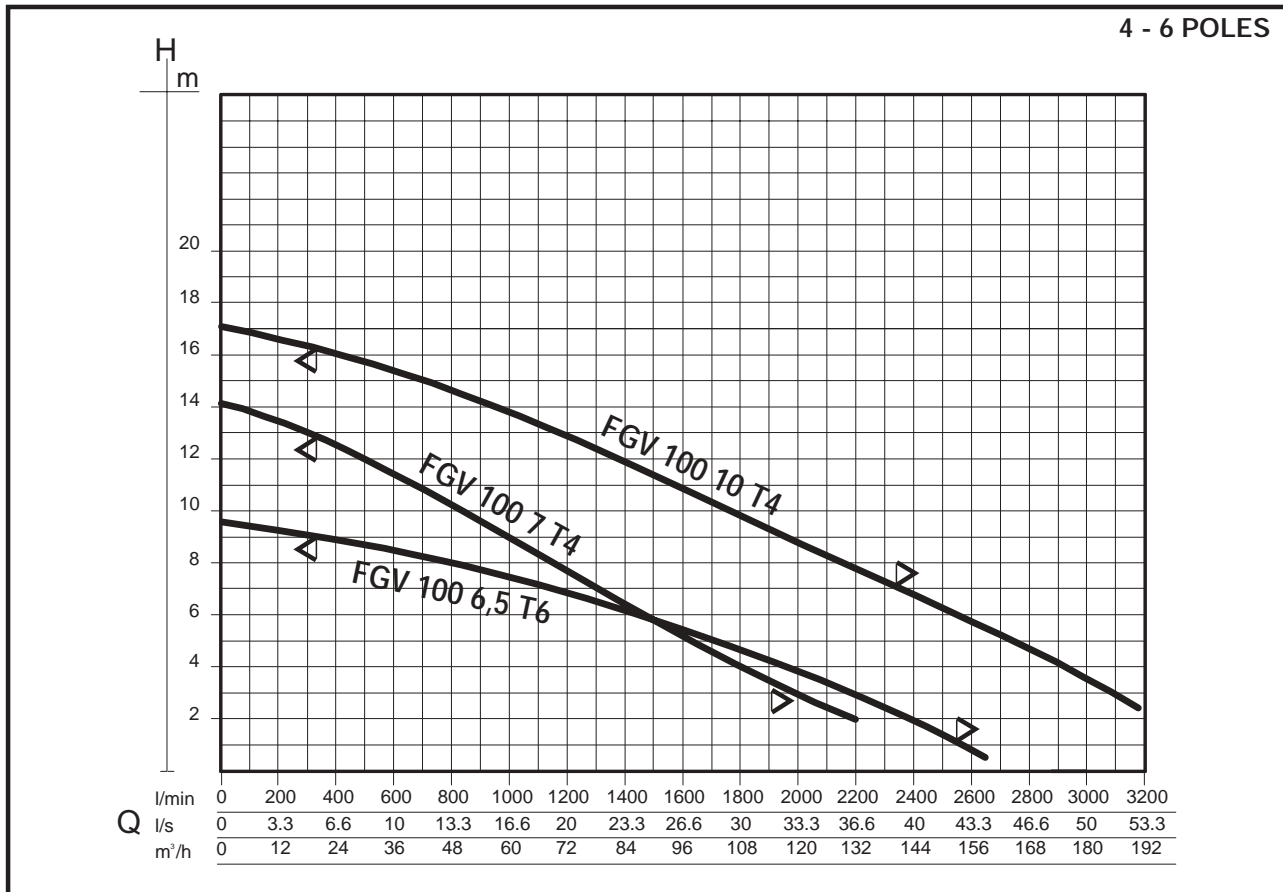


**DIMENSIONS AND WEIGHTS**

Model	Dimensions mm.																				Weight kg	Free bore Ø (mm)				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T			U	V	W	X
FGV 80 3 T4	620	295	270	125	160	67	Ø 3"	353	110	460	415	175	180	Ø 2"	Ø 3"	Ø 160	480	700	220	375	240	150	390	615	70	80
FGV 80 4 T4	620	315	270	125	185	82	Ø 3"	353	110	422	330	175	180	Ø 2"	Ø 3"	Ø 160	480	700	220	375	240	150	390	638	73	80
FGV 80 5 T4	620	315	270	125	185	82	Ø 3"	353	110	422	330	175	180	Ø 2"	Ø 3"	Ø 160	480	700	220	375	240	150	390	638	76	80
FGV 80 4 T2	620	365	270	125	203	67	Ø 3"	353	110	422	330	175	180	Ø 2"	Ø 3"	Ø 160	480	700	220	375	240	150	390	638	70	67
FGV 80 5 T2	620	365	270	125	203	67	Ø 3"	353	110	422	330	175	180	Ø 2"	Ø 3"	Ø 160	480	700	220	375	240	150	390	638	72	67
FGV 80 6 T2	620	365	270	125	203	67	Ø 3"	353	110	422	330	175	180	Ø 2"	Ø 3"	Ø 160	480	700	220	375	240	150	390	638	74	67
FGV 80 7,5 T2	620	365	270	125	203	67	Ø 3"	353	110	422	330	175	180	Ø 2"	Ø 3"	Ø 160	480	700	220	375	240	150	390	638	76	50

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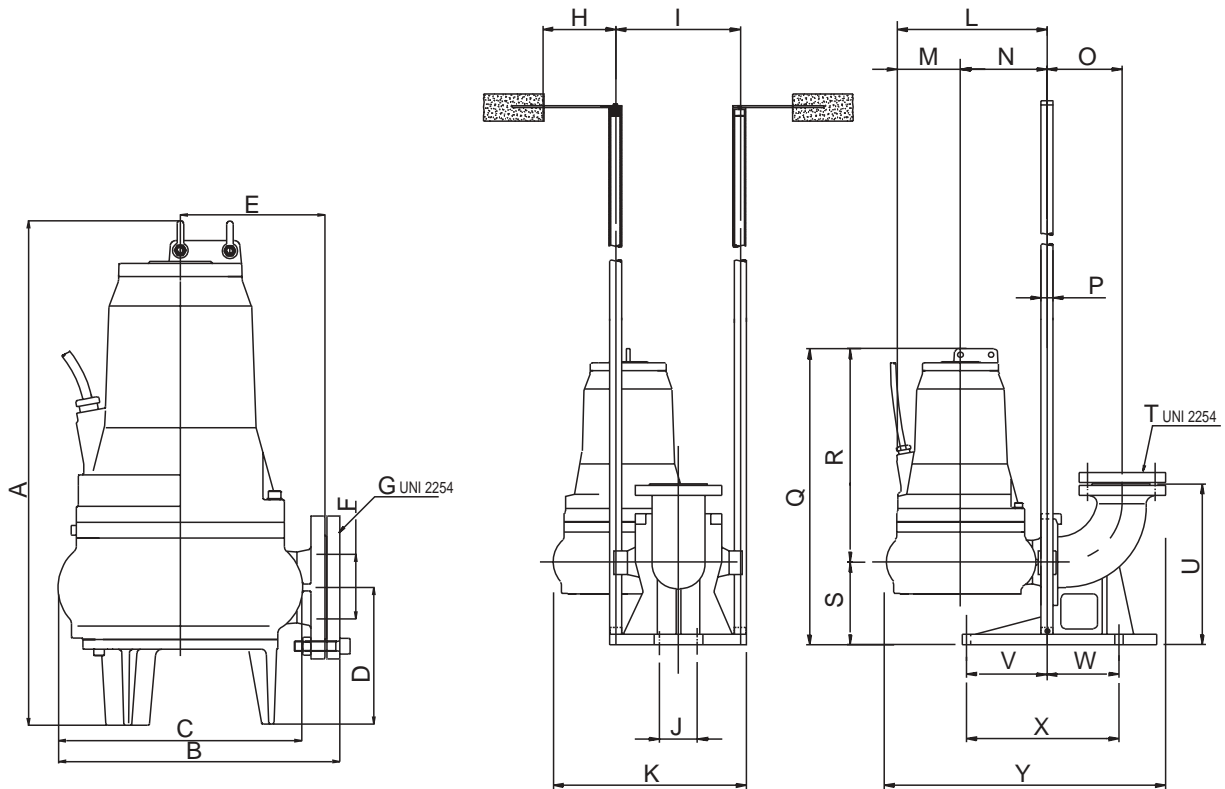
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CODE	MODEL	Nominal Power		Absorbed power		Voltage V	Rated current A	n min <sup>-1</sup>	Q	L/1'	Discharge head in meters																										
		HP	kW	HP	kW						0	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400															
N2150110	FGV 100 6,5 T6	6,5	4,8	8,21	6,12	3- 400	11	965	Discharge head in meters	0	24	36	48	60	72	84	96	108	120	132	144	0	24	36	48	60	72	84	96	108	120	132	144				
N2150120	FGV 100 7 T4	7	5	8,85	6,6	3- 400	12	1450		9,5	8,8	8,4	7,9	7,4	6,8	6,1	5,4	4,6	3,7	2,8	1,9																
N2150130	FGV 100 10 T4	10	7,5	16,09	12	3- 400 Y/Δ	20	1450		14,1	12,6	11,5	10,2	9	7,7	6,3	5,1	4																			
N2150140	FGV 100 10 T2	10	7,5	15,82	11,8	3- 400 Y/Δ	21	2915		17	16	15,3	14,8	13,8	12,9	11,9	10,9	9,9	8,8	7,8	6,8																
N2150150	FGV 100 15 T2	15	11	18,10	13,5	3- 400 Y/Δ	23	2890		24	20,5	18,3	16,2	14,2	12,3	10,4																					
N2150160	FGV 100 20 T2	20	15	23,60	17,6	3- 400 Y/Δ	31	2920		31	25,8	23,8	22	20	18,2	16																					



**DIMENSIONS AND WEIGHTS**

Model	Dimensions mm.																				Weight kg	Free bore Ø (mm)					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T			U	V	W	X	Y
FGV 100 6,5 T6	774	410	366	227	225	100	Ø 4"	300	355	110	520	410	185	225	200	Ø 2"	774	547	227	Ø 4"	420	280	180	460	730	143	98
FGV 100 7 T4	774	410	366	227	225	100	Ø 4"	300	355	110	520	410	185	225	200	Ø 2"	774	547	227	Ø 4"	420	280	180	460	730	143	98
FGV 100 10 T4	774	410	366	227	225	100	Ø 4"	300	355	110	520	410	185	225	200	Ø 2"	774	547	227	Ø 4"	420	280	180	460	730	158	98
FGV 100 10 T2	774	410	366	227	225	100	Ø 4"	300	355	110	520	410	185	225	200	Ø 2"	774	547	227	Ø 4"	420	280	180	460	730	142	83
FGV 100 15 T2	874	410	366	227	225	100	Ø 4"	300	355	110	520	410	185	225	200	Ø 2"	874	647	227	Ø 4"	420	280	180	460	730	160	83
FGV 100 20 T2	874	410	366	227	225	100	Ø 4"	300	355	110	520	410	185	225	200	Ø 2"	874	647	227	Ø 4"	420	280	180	460	730	200	83