

Technical data 50Hz/60Hz DIN/IEC

Drainage and sewage pumps
Series: DVV, DRV, DRS and DRK



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1 Introduction

1.1 General

The drainage and sewage pump ranges DVK, DVV, DRK and DRV are a complete range of submersible pumps for multiple types of water transport.

1.2 Application

The pump series have the following main applications:

- water drainage
- tunnel wastewater drainage
- wastewater and sewage sump pit
- light industrial, commercial and residential applications
- agriculture water supply and drainage
- water supply for irrigation systems

1.3 Working range

The ranges have the following working range:

DVV 32-DVV 18	
Max. medium temperature [°C]	40
Maximum head [mWk]	27
Maximum capacity [m ³ /h]	144
Pressure range	PN6

DVV 20 H	
Max. medium temperature [°C]	40
Maximum head [mWk]	38
Maximum capacity [m ³ /h]	96
Pressure range	PN6

DRV 10 / DRS 4-12 / DRK 10-12-27	
Max. medium temperature [°C]	40
Maximum head [mWk]	51
Maximum capacity [m ³ /h]	184
Pressure range	PN6

1.4 Materials

In general the range have the following material, see per pump type the detailed materials:

pump casing	Impeller	Shaft	motor housing
JL 1030	JL 1030	1.4301	1.4301

1.5 Motor

Item	Description
Power range	0,37kW up to 15kW
Voltage	1x230V or 3x400V
Frequency	50Hz or 60Hz
No of poles	2P, range DRV-V4 in 4P
Insulation	IP68
Safety	Build in thermal protection for single phase motors ≤ 1,5 kW* Build in thermal protection for three phase motors < 4,2 kW
Cable length	10m
Connection	DOL ≤ 4kW, 5,5kW and bigger S/D
Sealing	Double mechanical seal

* excluding DVV 18 and DRS 4 range

1.6 Features

Construction:

- Robust pump construction with hardened shaft for long lasting operation
- double mechanical seal in oil chamber

1.7 Impeller types

The range drainage and sewage pumps have different impeller types, depending on range and application, see tables below.

Channel impeller, single or double	
Large free passage Non clogging Hydraulic balanced High efficiency Transport of waste water containing large solids	
Cutter/grinder impeller	
Suitable for small diameter sewage pits Suitable for pressurized sewage lines Cutting/grinding of many different kind of solids	
Vortex impeller	
Free passage Non clogging Applicable for waste water containing solids	

1.8 Material conversion

The table below shows the different standard for the used materials in the ranges

Material	Description	DIN standard	Code	Standard	ASTM
JL 1030	Cast Iron	GG20	GJL-200	EN 1561	A48:25B
JL 1040	Cast Iron	GG25	GJS-250	EN 1561	A48:40B
JS 1030	Cast Iron	GGG40	GJS-400	EN 1563	A536:60-40-18
	Ductile Iron		GJS-450		A536:65-45-12
1.4006	Chromium steel	1.4006	X12Cr13	EN 10088	A276:410
1.4301	Chromium-nickel steel	1.4301	X5CrNi 18-10	EN 10088	A276:304
1.4404	Chromium-nickel-molybdenum steel	1.4404	X2CrNiMo 17-12-2	EN 10088	A276:316L

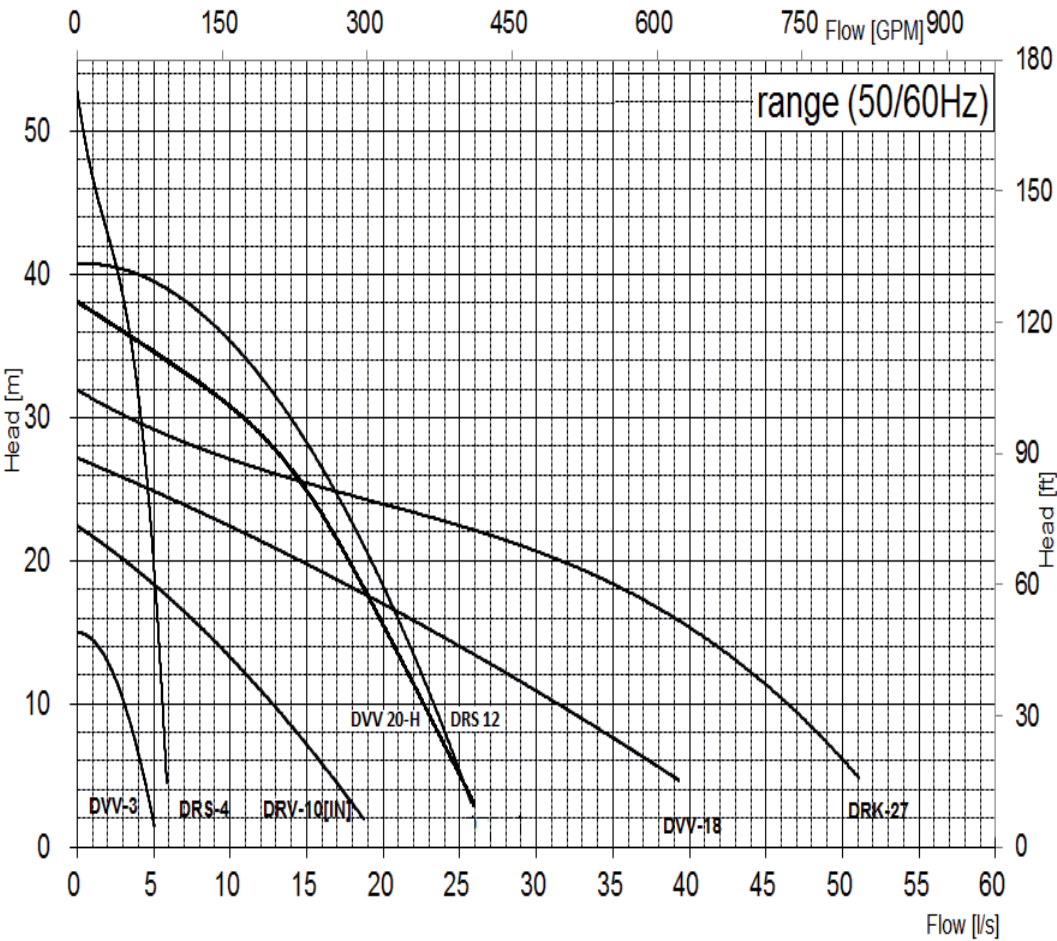
1.9 Model key

The pumps are designated as according to the following table

Table 1: New nomenclature starting 01-01-2016

D	R	V	10	15	/2	W	G 3	50Hz	2900rpm	
D										DP industries
	R V									R = Sewage V = Drainage
		V K S								V = vortex K = channel / vane S = cutter
			10							Qnom [l/s]
				15						Power (kW x 10)
					/2 /4					/2 = 2 Poles /4 = 4 Poles
						W				W = Single phase 1 x 230 V - = Three phases 3 x 400 V IN= stainless steel H = high pressure
							G 3 NPT			Connection NPT = ASME
								50Hz		Frequency (50Hz- 60Hz)
									2900rpm	Speed

1.10 Curves pump range



2 Specifications

2.1 DVV 3

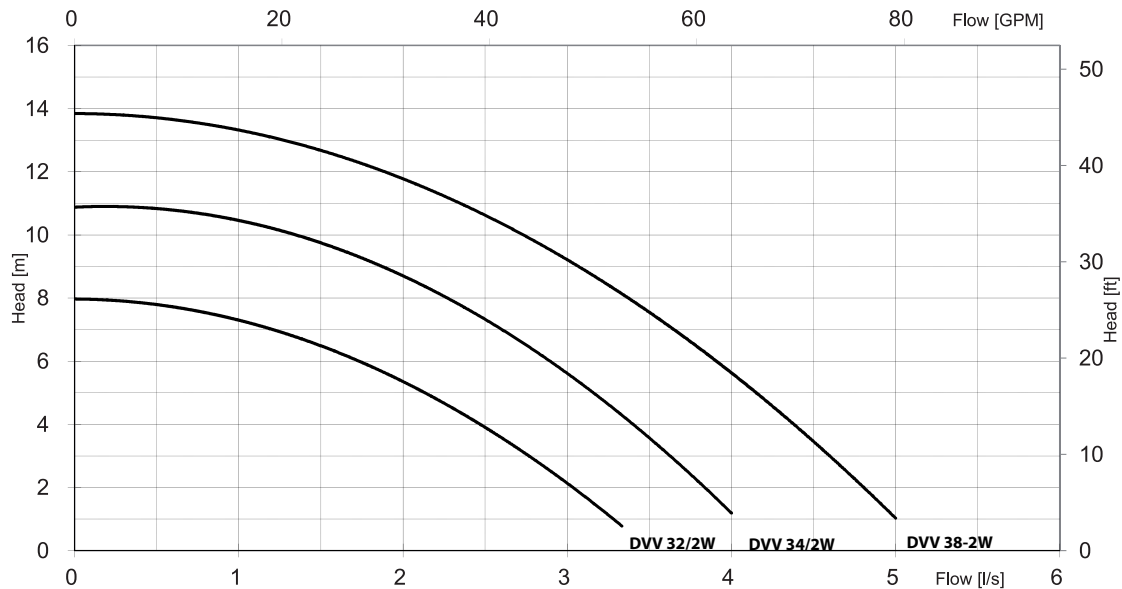


Table 2: Materials

Casing	1.4301 / AISI 304
Housing	1.4301 / AISI 304
Impeller	1.4301 / AISI 304, vortex
Shaft	1.4006 / AISI 410
Seals	SiC/SiC + SiC/SiC
Elastomers	FKM

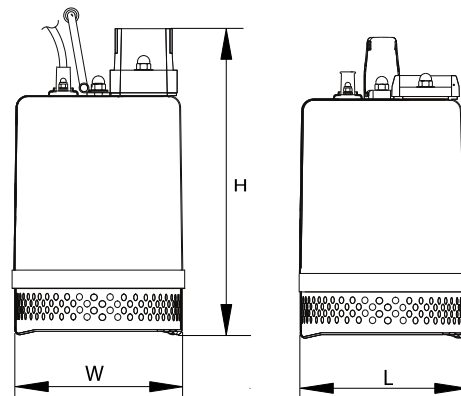
Table 3: Applications

Waste water drainage for household and industries
Construction sites and building services
Agriculture water supply and drainage
Water supply for irrigation systems
Utilities for de-watering

Table 5: Data 50Hz and 60Hz

Model	Power [kW]	Current [A]	Eff. Qopt [%]	Voltage	Connection	Passage [mm]	Dimensions (LxWxH) [mm]	Weight [kg]	Frequency	Part number
DVV 32/2W	0,22	3	60	1x230V	G 2	7	185x185x350	14	50Hz 60Hz	61695002 61705002
DVV 34/2W	0,37	3,5	46	1x230V	G 2	10	185x185x365	16	50Hz 60Hz	61695003 61705003
DVV 38/2W	0,75	6	50	1x230V	G 2	10	185x185x365	20	50Hz 60Hz	61695004 61705004

Table 4: Dimension



2.2 DVV 18

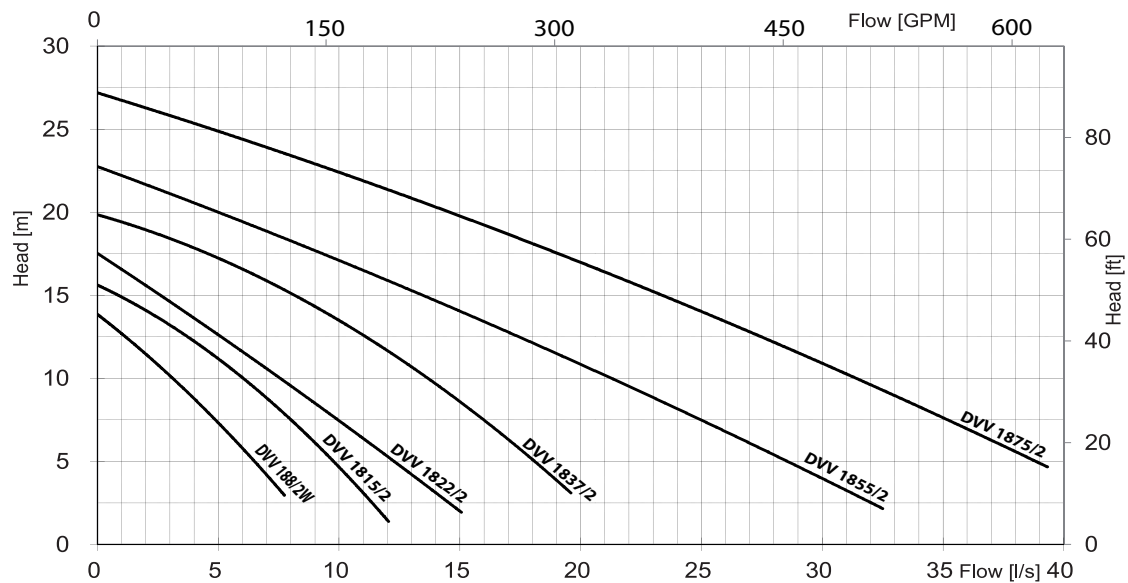


Table 8: Dimensions

Table 6: Materials

Casing	JL 1030 / GG20
Housing	1.4301 / AISI 304
Impeller	JL 1040 / GG25, non clogging
Shaft	1.4006 / AISI 410
Seals	CA/CE + CA/CE
Elastomers	NBR

Table 7: Applications

De-watering effluents
Tunnel waste water drainage
Agriculture water supply and drainage
Water supply for irrigation systems
Light industrial, commercial and residential applications

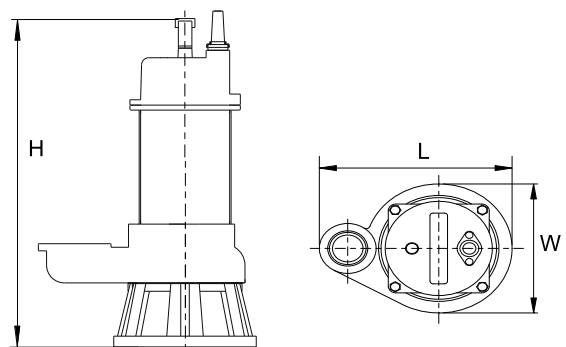


Table 9: Data 50Hz and 60Hz

Model	Power [kW]	Current [A]	Eff. Qopt [%]	Voltage	Con- nection	Passage [mm]	Dimensions (LxWxH) [mm]	Weight [kg]	Fre- quency	Part num- ber
DVV 188/2W	0,75	6,5	52	1x230V	G 2	15	280x195x420	28	50Hz 60Hz	61690101 61700101
DVV 1815/2	1,5	3,5	60	3x400V	G 3	15	285x223x550	32	50Hz 60Hz	61690102 61700102
DVV 1822/2	2,2	5	61	3x400V	G 4	15	410x240x520	42	50Hz 60Hz	61690103 61700103
DVV 1837/2	3,7	8	70	3x400V	G 4	15	480x250x550	57	50Hz 60Hz	61690104 61700104
DVV 1875/2	7,5	15	80	3x400V	G 4	27	530x320x610	75	50Hz 60Hz	61698323 61707323

2.3 DVV20 -H

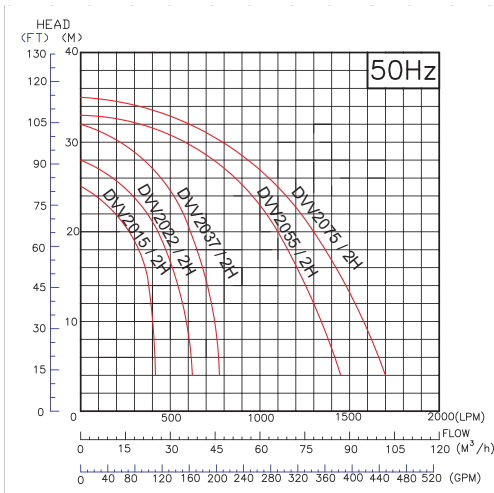


Table 10: Materials

Casing	Cast iron (FC200)
Housing	AISI 304
Impeller	Cast iron (FC200)
Shaft	1.4006 / AISI 410
Seals	SIC/SIC + Ca/Ce
Elastomers	NBR
Motor	Dual Hz motor (50+60Hz) from 1-12-2015

Table 11: Applications

De-watering effluents
Tunnel waste water drainage
Agriculture water supply and drainage
Water supply for irrigation systems
Light industrial, commercial and residential applications

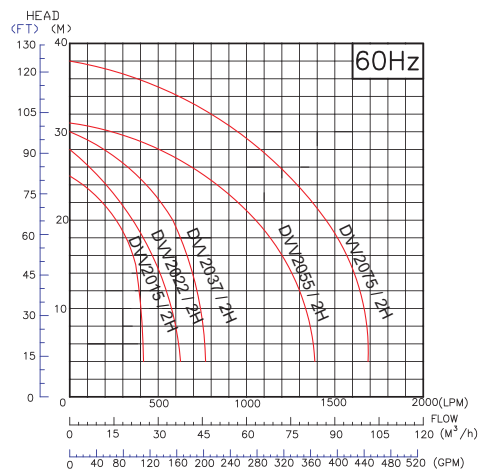


Table 12: Dimensions

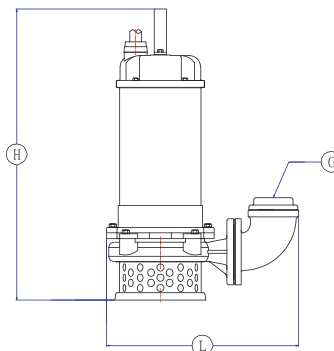
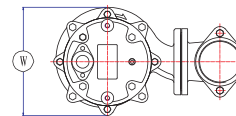


Table 13: Data 50Hz and 60Hz

Model	Power [kW]	Current [A]	Eff. Qopt [%]	Voltage	Connection	Passage [mm]	Dimensions (LxWxH) [mm]	Weight [kg]	Freq	Part number
DVV 2015/2W H	1,5	10.8 11.46	63.14 60.33	1x230V	G 2	12	244 x 208 x 590	35	50Hz 60Hz	61692000 61702000
DVV 2015/2 H	1,5	4.1 4.9	63.54 63.88	3x400V	G 2	12	244 x 208 x 590	35	50Hz 60Hz	61692002 61702002
DVV 2022/2 H	2,2	5.58 6.7	53.94 62.13	3x400V	G 2	12	256 x 205 x 595	45	50Hz 60Hz	61692003 61702003
DVV 2037/2 H	3,7	7.0 8.4	62.13 63.67	3x400V	G 2	15	256 x 205 x 595	50	50Hz 60Hz	61692004 61702004
DVV 2055/2 H	5,5	11.4 13.68	66.3 67.2	3x400V	G 3	15	297 x 255 x 710	96	50Hz 60Hz	61692005 61702005
DVV 2075/2 H	7,5	16.3 19.56	68.4 69.72	3x400V	G 4	15	297 x 255 x 755	104	50Hz 60Hz	61692006 61702006

2.4 DRV 10

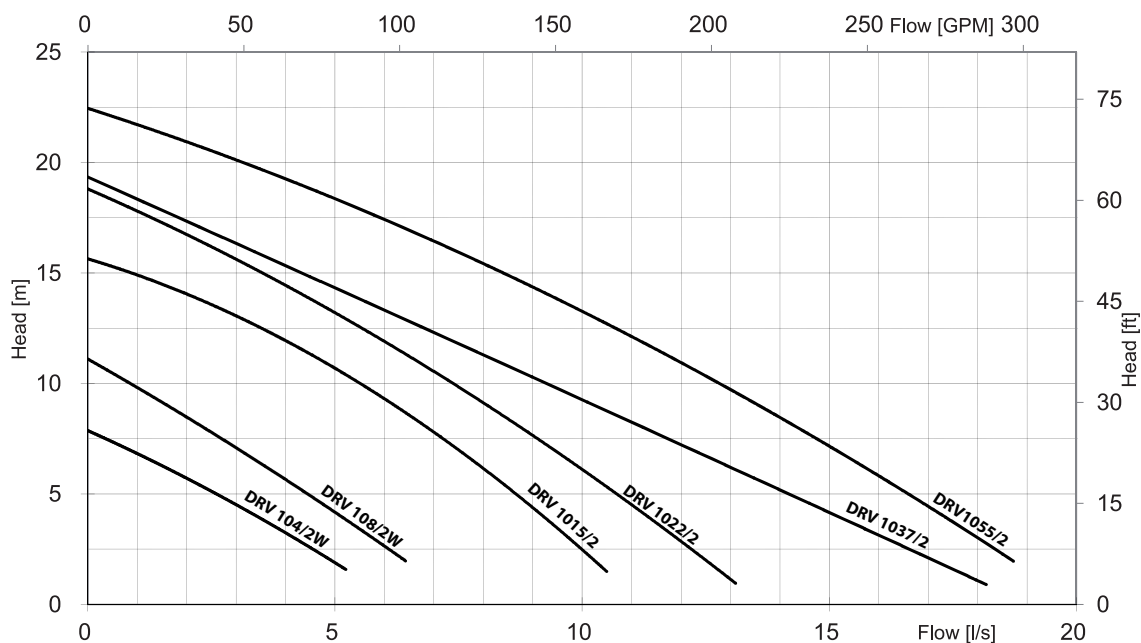


Table 16: Dimensions

Table 14: Materials

Casing	JL 1030 / GG20
Housing	1.4301 / AISI 304
Impeller	JS 1030 / GGG40, vortex
Shaft	1.4006 / AISI 410
Seals	CA/CE + CA/CE
Elastomers	NBR
Motor	Dual Hz motor (50+60Hz) from 1-12-2015

Table 15: Applications

Untreated residential sewage
Tunnel waste water drainage
Wastewater and sewage treatment plants
Municipal sewage networks
Sewage transport at industrial plants, airports and hotels

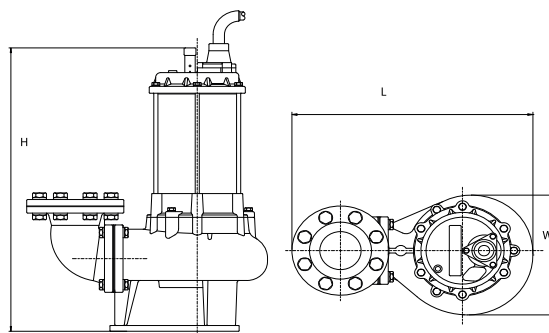


Table 17: Data 50Hz and 60Hz

Model	Power [kW]	Current [A]	Eff. Qopt [%]	Voltage	Connection	Passage [mm]	Dimensions (LxWxH) [mm]	Weight [kg]	Frequency	Part number
DRV 104/2W	0,37	3,5	46	1x230V	G 2	30	223x132x395	14	50Hz 60Hz	61692104 61702104
DRV 108/2W	0,75	5,2	46	1x230V	G 2	30	223x132x425	14	50Hz 60Hz	61697311 61707311
DRV 1015/2	1,5	3	66	3x400V	G 3	35	390x210x530	32	50Hz 60Hz	61697312 61707312
DRV 1022/2	2,2	5	53	3x400V	G 3	35	390x210x550	34	50Hz 60Hz	61697313 61707313
DRV 1037/2	3,7	8	68	3x400V	G 4	45	525x250x635	45	50Hz 60Hz	61697320 61707320
DRV 1055/2	5,5	9,5	55	3x400V	G 4	50	525x250x675	54	50Hz 60Hz	61698321 61707321

2.5 DRV 10 - IN

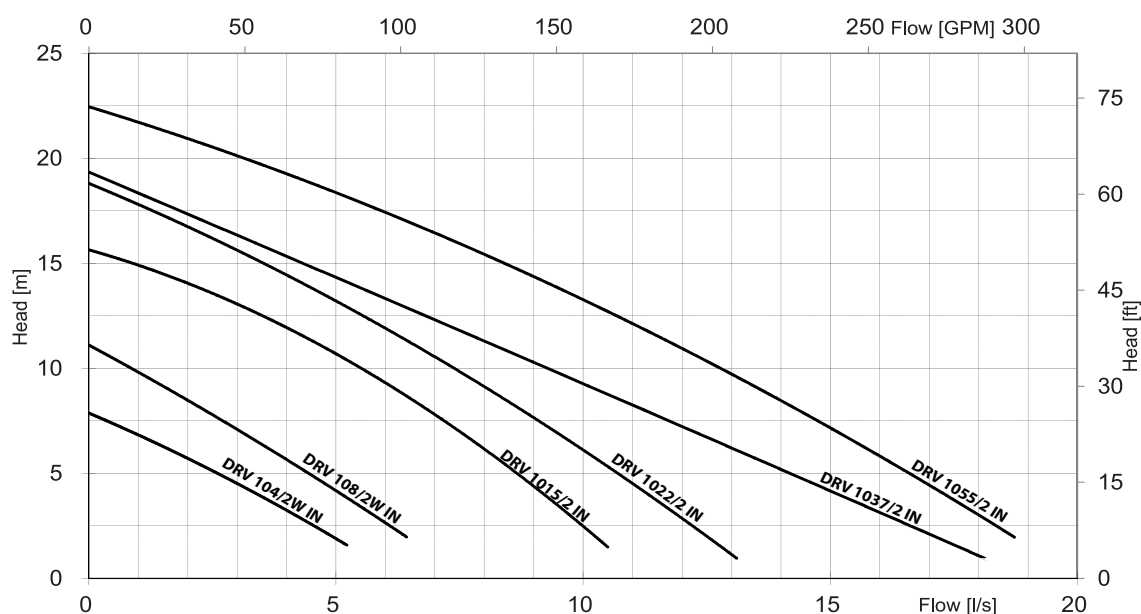


Table 20: Dimensions

Table 18: Materials

Casing	1.4301 / AISI 304
Housing	1.4301 / AISI 304
Impeller	1.4301 / AISI 304, non clogging
Shaft	1.4404 / AISI 316
Seals	CA/CE + CA/CE
Elastomers	FKM

Table 19: Applications

Industrial environment
Light acid and corrosive liquid applications
Wastewater and sewage treatment plants
Municipal applications

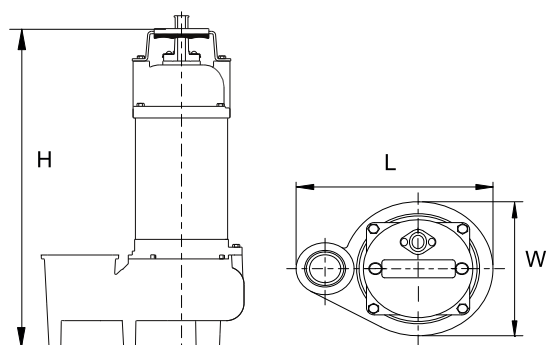


Table 21: Data 50Hz and 60Hz

Model	Power [kW]	Current [A]	Eff. Qopt [%]	Voltage	Connection	Passage [mm]	Dimensions (LxWxH) [mm]	Weight [kg]	Frequency	Part number
DRV104/2W IN	0,37	3,5	46	1x230V	G 2	30	223x132x395	14	50Hz 60Hz	61693005 61703005
DRV108/2W IN	0,75	5,2	46	1x230V	G 2	30	223x132x425	21	50Hz 60Hz	61693006 61703006
DRV 1015/2 IN	1,5	3	66	3x400V	G 3	35	390x210x530	32	50Hz 60Hz	61694001 61704001
DRV 1022/2 IN	2,2	5	53	3x400V	G 3	35	390x210x550	34	50Hz 60Hz	61694002 61704002
DRV 1037/2 IN	3,7	8	68	3x400V	G 4	45	525x250x635	45	50Hz 60Hz	61694003 61704003
DRV 1055/2 IN	5,5	9,5	55	3x400V	G 4	50	525x250x675	54	50Hz 60Hz	61696011 61705001

2.6 DRS 4

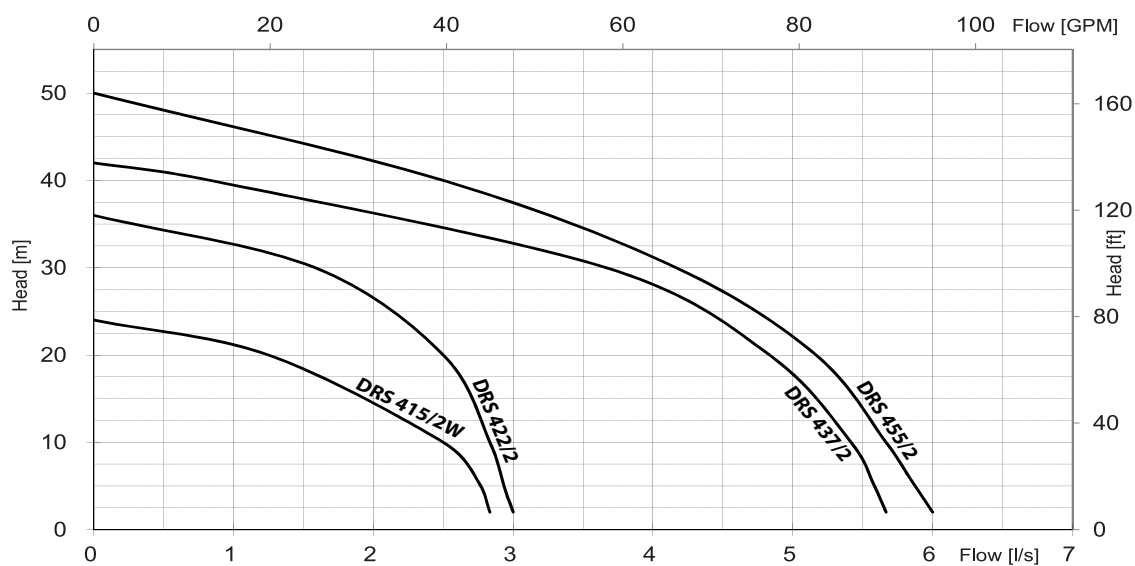


Table 24: Dimensions

Table 22: Materials

Casing	JL 1030 / GG20
Housing	1.4301 / AISI 304
Impeller	FCD45, cutter impeller + grinder plate
Shaft	1.4006 / AISI 410
Seals	CA/CE + CA/CE
Elastomers	NBR

Table 23: Applications

Residential waste water collection systems
Municipal sewage plants and network
Industrial and commercial wastewater applications

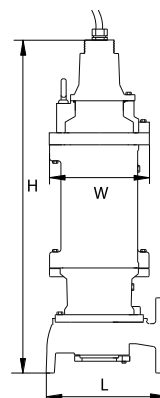


Table 25: Data 50Hz and 60Hz

Model	Power [kW]	Current [A]	Eff. Qopt [%]	Voltage	Connection	Passage [mm]	Dimensions (LxWxH) [mm]	Weight [kg]	Frequency	Part number
DRS 415/2W	1,5	1,8	33	1x230V	NW32	Grinder	240x200x560	38	50Hz 60 Hz	61697325 61707325
DRS 415/2	1,5	3,2	33	3x400V	NW32	Grinder	240x200x560	38	50Hz 60 Hz	61697326 61707326
DRS 422/2	2,2	4,6	33	3x400V	NW50	Grinder	240x200x560	42	50Hz 60 Hz	61697314 61707314
DRS 437/2	3,7	7,9	49	3x400V	NW65	Grinder	313x220x518	55	50Hz 60 Hz	61697315 61707315
DRS 455/2	5,5	11,5	35	3x400V	NW65	Grinder	572x270x639	60	50Hz 60 Hz	61697316 61707316

2.7 DRS 12

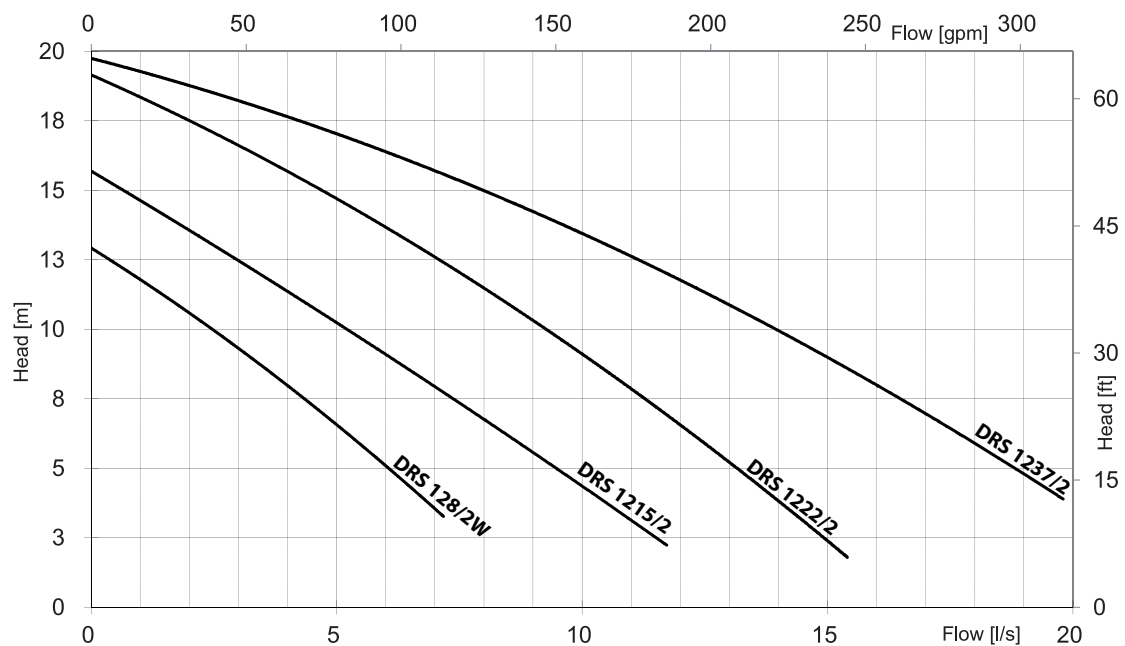


Table 28: Dimensions

Table 26: Materials

Casing	JL 1030 / GG20
Housing	1.4301 / AISI 304
Impeller	FCD45, double edge cutter impeller
Shaft	1.4006 / AISI 410
Seals	CA/CE + CA/CE
Elastomers	NBR
Motor	Dual Hz motor (50+60Hz) from 1-12-2015

Table 27: Applications

Drainage and sewage applications
Water and sewage sump pit and pump stations
Kitchen or farm residue discharges
Light industrial and residential environment
Tunnel wastewater drainage

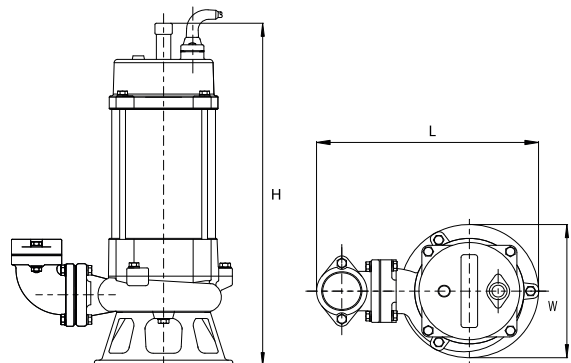


Table 29: Data 50Hz and 60Hz

Model	Power [kW]	Current [A]	Eff. Qopt [%]	Voltage	Connection	Passage [mm]	Dimensions (LxWxH) [mm]	Weight [kg]	Frequency	Part number
DRS 128/2W	0,75	6,5	56	1x230V	G 2	Cutter	280x195x420	30	50Hz 60Hz	61691201 61701201
DRS 1215-2	1,5	4	63	3x400V	G 2	Cutter	280x195x425	46	50Hz 60Hz	61691202 61701102
DRS 1222/2	2,2	5	61	3x400V	G 3	Cutter	410x240x520	46	50Hz 60Hz	61691103 61701103
DRS 1237/2	3,7	7	73	3x400V	G 4	Cutter	480x250x550	62	50Hz 60Hz	61691104 61701104

2.8 DRK 27

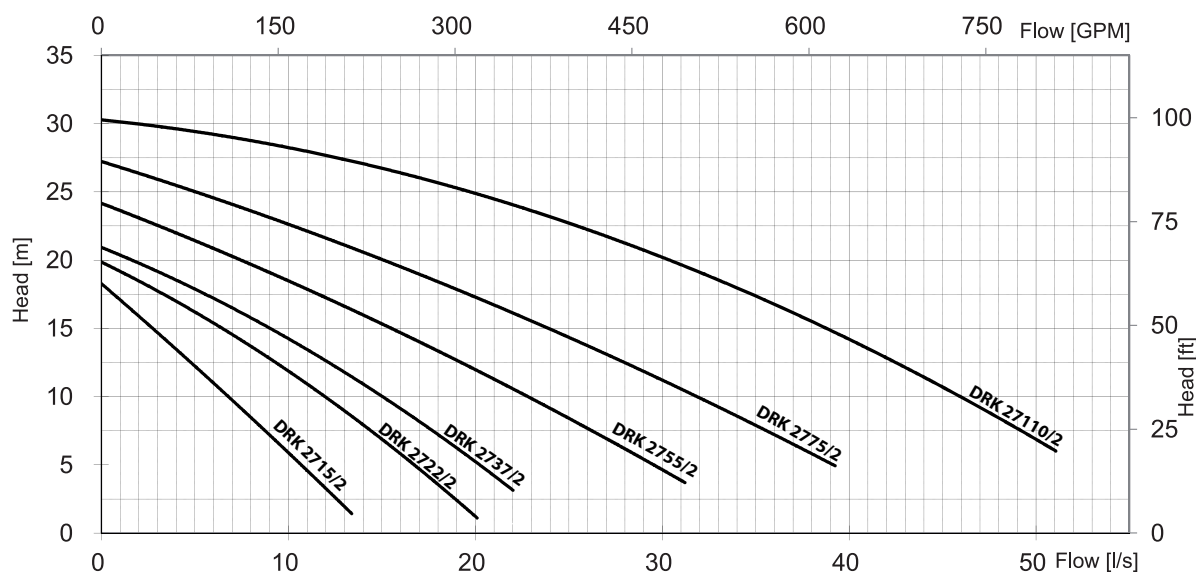


Table 32: Dimensions

Table 30: Materials

Casing	JL 1030 / GG20
Housing	1.4301 / AISI 304
Impeller	FCD45, non clogging
Shaft	1.4006 / AISI 410
Seals	CA/CE + SIC/SIC
Elastomers	NBR

Table 31: Applications

Untreated residential sewage
Tunnel waste water drainage
Wastewater and sewage treatment plants
Municipal sewage networks
Sewage transport at industrial plants, airports and hotels

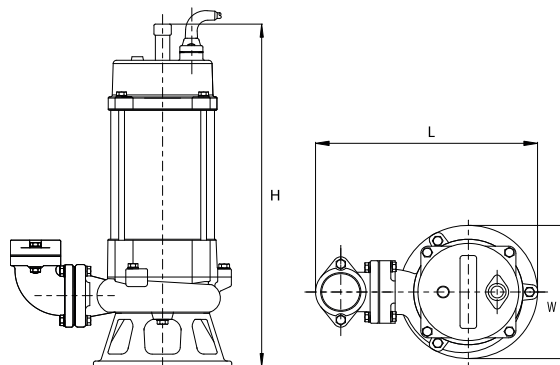


Figure 1: Optional available with cutter mechanism

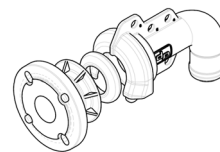
Table 33: Data 50Hz and 60Hz

Model	Power [kW]	Current [A]	Eff. Qopt [%]	Voltage	Connection	Passage [mm]	Dimensions (LxWxH) [mm]	Weight [kg]	Frequency	Part number
DRK 2715/2	1,5	3,5	81	3x400V	G 3	40	251x223x553	37	50Hz 60Hz	61691010 61701010
DRK 2722/2	2,2	5,5	84	3x400V	G 4	40	306x288x593	47	50Hz 60Hz	61697324 61707324
DRK 2737/2	3,7	7	87	3x400V	G 4	45	303x290x637	50	50Hz 60Hz	61691011 61701011
DRK 2755/2	5,5	13	82	3x400V	G 4	50	325x303x680	104	50Hz 60Hz	61696012 61701012
DRK 2775/2	7,5	17	85	3x400V	G 4	65	316x300x782	114	50Hz 60Hz	61696013 61701013
DRK 27110/2	11	28	93	3x400V	G 4	65	357x340x912	165	50Hz 60Hz	61696014 61701014

3 Installation

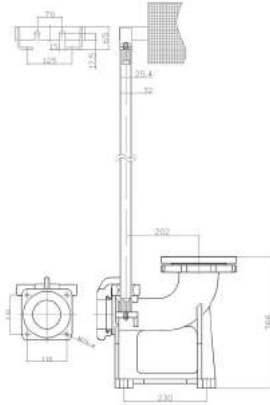
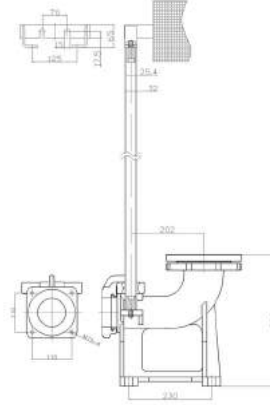
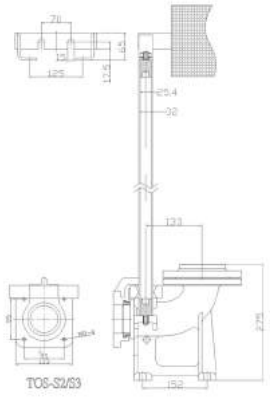
3.1 Installation on pedestal

Different pump ranges can be mounted upon a pedestal mounting construction. In the following tables these corresponding pump types are listed per available pedestal type and size.

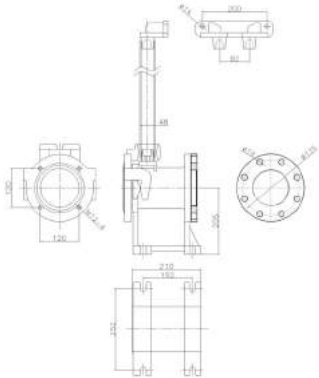


Pump type	Pedestal, GC-0257, size G2	part number: -
DVV 2015 /2(W) H DRS 415 /2(W)		

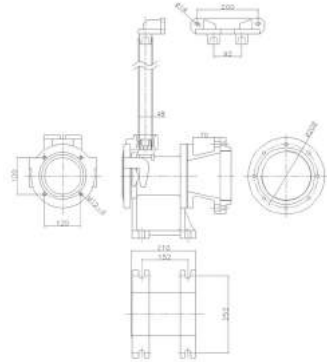
Pump type	Pedestal, SC-50, size G2 1/2	part number: -
DRS 437 /2 DRS 455 /2		

Pump type	Pedestal, L3, size NW80/G3	part number: 62050150
DVV1822 /2 DVV1837 /2 DVV 2055 /2 H DVV 2075 /2 H DRS 1222 /2 DRK 2715 /2 DRK 2722 /2 DRK 2737 /2		
Pump type	Pedestal, L4, size NW100/G4	part number: 62050151
DVV 1875 /2 DRV 1037 /2 DRV 1055 /2 DRS 1237 /2		
Pump type	Pedestal, S2, size G2	part number: 62050152
DRV 108 /2 W DRS422 /2 DRS 128 /2 W DRS 1215 /2		

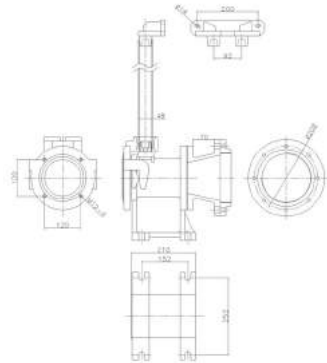
Pump type	Pedestal, X4, size NW100/G4	part number: 62050153
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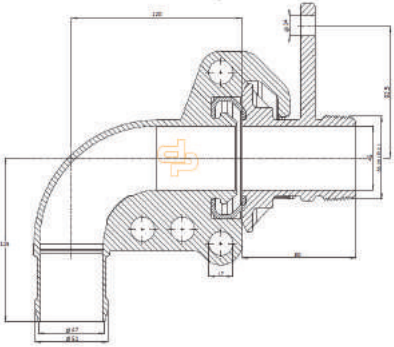
DRK 2755 /2 DRK 2775 /2		
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Pump type	Pedestal, X6, size NW100/G4	part number: 62050154
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DRK 27110 /2		
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Pump type	Pedestal, S3, size NW100/G4	part number: 62050155
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DVV 2022 /2 H DVV 2037 /2 H DRV 1015 /2 DRV 1022 /2		
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Pump type	Stainless steel quick coupling, size G2	part number: 62000049
DVV 32 /2 W DVV 34 /2 W DVV 38 /2 W DVV 188 /2 W DVV2015 /2 (W) H DVV2022 /2 H DVV2037 /2 H DRV104 /2 W (IN) DRV108 /2 W (IN) DRS422 /2 DRS128 /2 W		

dp pumps

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