DAYLIFF

Great Pumps, Great Value!

PUMP CATALOGUE

Issue 3

For Every Pumping Need!

Pump Catalogue
Issue 3

Dayliff is the brand of Davis & Shirtliff Ltd, PO Box 41763-00100, Nairobi, Kenya
Telephone: +254 711 079 000

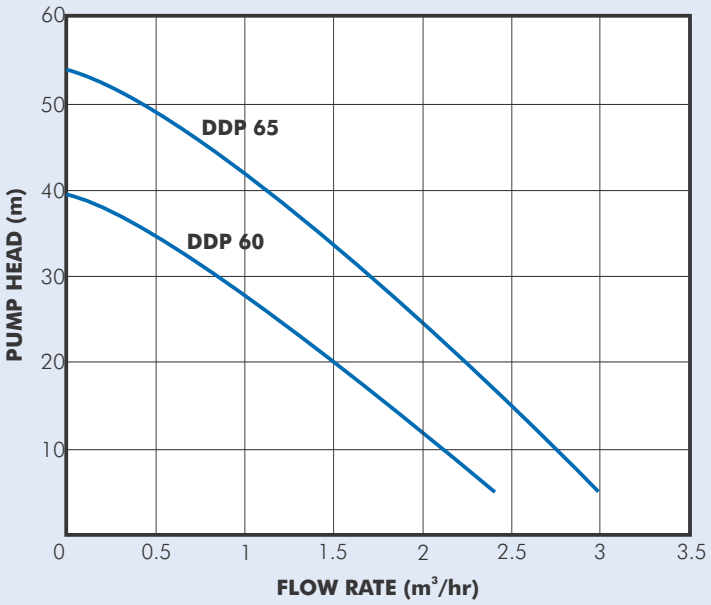
Pump Catalogue

Welcome to the Dayliff Pump Catalogue, which gives full details of the extensive Dayliff pump range. All models are carefully selected from quality manufacturers on the basis of specification and performance and are guaranteed to give exceptional value and reliability with minimised total life cycle costs.

The range is also supported with extensive technical literature and the `Dayliff App', on-line selection tool that gives full details of a suitable pump when key parameters are provided. This is available by accessing the www.dayliff.com website. All Dayliff pumps are supplied with industry leading warranties to reflect their quality specifications, full spare parts availability and prompt availability from the Dayliff Distribution Centre. Dayliff pumps are available from the wide network of Davis & Shirtliff branches and other selected distributors and dealers and on-line ordering is also available with a direct delivery service by contacting dayliffinfo@dayliff.com.

The Dayliff pump range is particularly suited for rugged African conditions and will provide an effective and economical solution 'For Every Pumping Need'.

Contents



The DAYLIFF DDP 60/65 peripheral pump is specially designed for all small scale domestic and commercial water supply uses.

Features

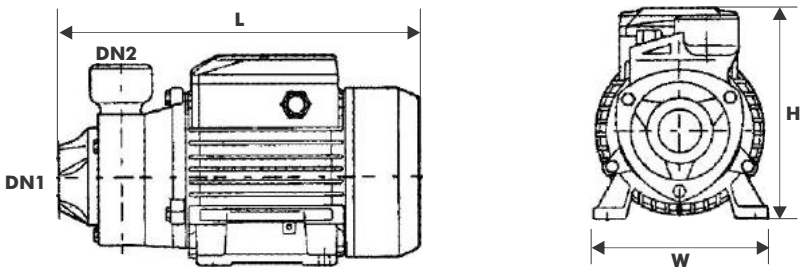
- Cast iron pump body for long life
- Stainless steel housing inserts to ensure free impeller movement.
- Built in thermal overload protection
- High capacity copper wound TEFC motor designed for continuous operation
- Can be directly connected to main power supply through a 5A fuse or MCB.
- Enclosure Class: IP44
- Insulation Class: F
- Voltage: 1x240V

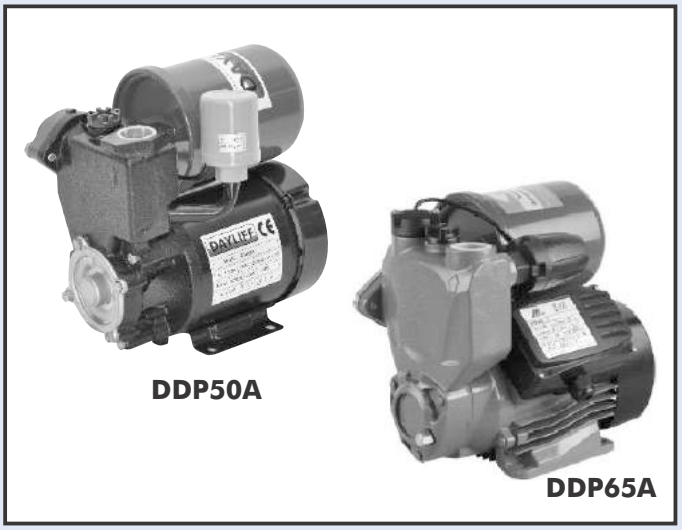
Operating Conditions

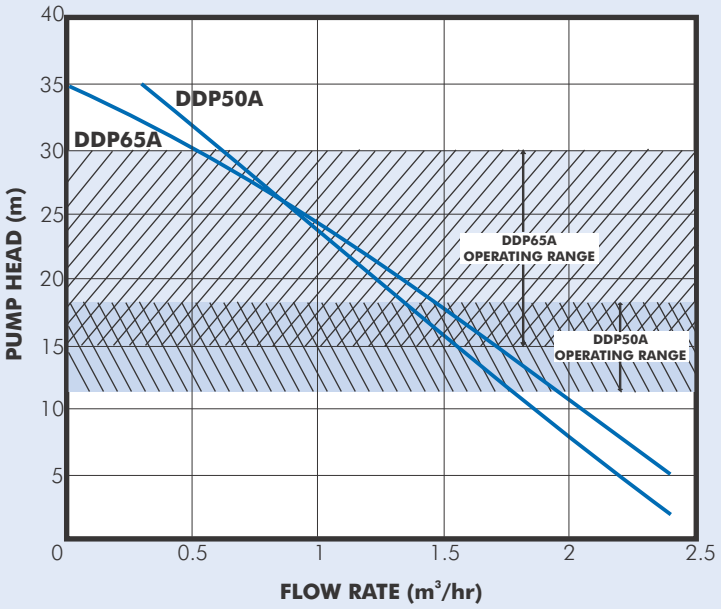
Pumped Liquid: Thin, clean, chemically non-aggressive liquids without solid particles or fibres
Max. Fluid Temperature: +60°C
Max. Ambient Temperature: +40°C
Max. Suction Lift: 7m at sea level

Pump Data

Model	kW	Current (A)	DN1	DN2	LxWxH (mm)	Weight (kgs)
DDP 60	0.37	2.5	1″	1″	265x118x151	5.3
DDP 65	0.75	5.2	1.5″	1.5″	305x136x181	10







The DAYLIFF DDP50/65A are compact and efficient automatic pressure controlled peripheral impeller booster pumps suitable for domestic and small scale applications where on-demand water supply is required.

DDP50A incorporates mechanical pressure control start and stop while DDP65A incorporates an electronic microprocessor that starts and stops the pump automatically, provides dry running protection, auto re-start and controls cycling.

Features

- Equipped with a diaphragm type pressure vessel and pressure switch for automatic operation
- Self priming
- Cast iron construction with brass inserts on the wearing surfaces and brass impeller
- High capacity copper wound motor designed for continuous operation and provided with a thermal cut out
- Enclosure Class: IP44
- Insulation Class: B
- Voltage: 1x240V

Operating Conditions

Pumped Liquid: Thin, clean, chemically non-aggressive liquids without solid particles or fibres

Max. Fluid Temperature: +60°C

Max. Ambient Temperature: +40°C

Max. Suction Lift: 7m at sea level

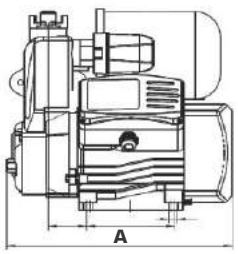
Cut In Pressure: 1.2 Bar DDP50A, 1.5Bar DDP65A

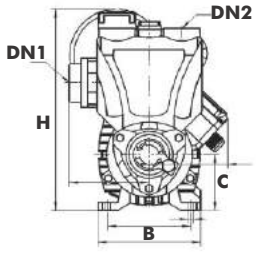
Cut Out Pressure: 1.8 Bar DDP50A, 3Bar DDP65A

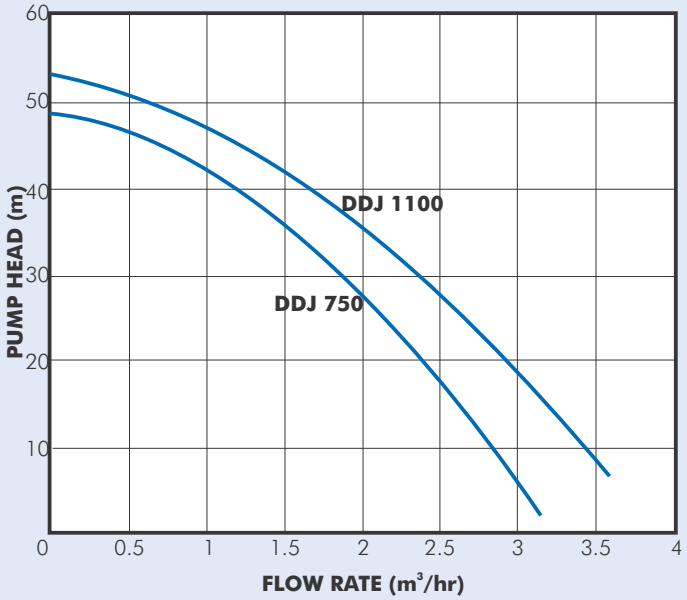
Pressure Vessel Pre-charge Pressure: 0.95 Bar

Pump Data

Model	kW	HP	Current (A)	Dimensions (mm)						Weight (kgs)
				DN1	DN2	A	B	C	H	
DDP 50A	0.25	0.32	2	25	25	265	200	72	256	9
DDP 65A	0.37	0.5	2.1	25	25	268	121	65	240	9







The DAYLIFF DDJ centrifugal jet type pumps are specifically designed for all small scale domestic and commercial water supply uses, especially when good suction performance is required.

Features

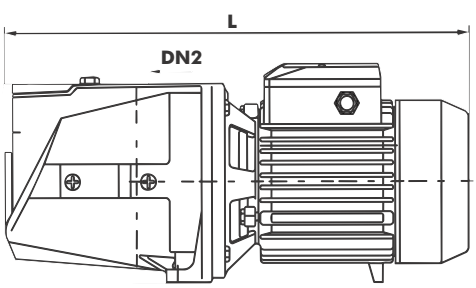
- Integral ejector unit to provide highly effective self priming performance
- Cast iron construction with ejector and impeller made from engineering plastic
- High capacity copper wound motor designed for continuous operation and provided with a thermal overload cut out
- Can be directly connected to main power supply through a 10A fuse or MCB.
- Enclosure Class: IP44
- Insulation Class: F
- Voltage: 1x240V

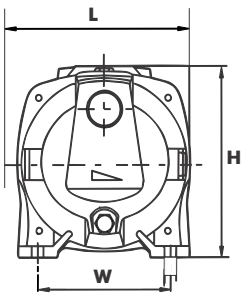
Operating Conditions

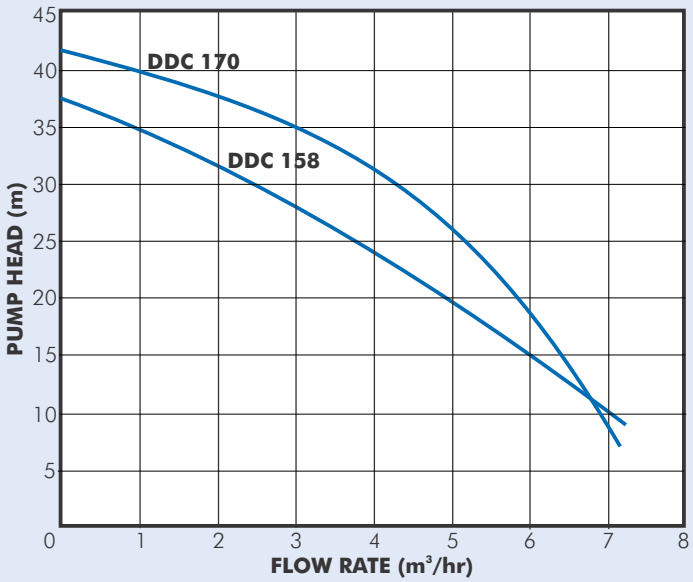
Pumped Liquid: Thin, clean, chemically non-aggressive liquids without solid particles or fibres
Max. Fluid Temperature: +50°C
Max. Ambient Temperature: +40°C
Max. Suction Lift: 9m at sea level

Pump Data

Model	kW	Current (A)	DN1	DN2	LxWxH (mm)	Weight (kgs)
DDJ 750	0.75	5.2	1"	1"	435x191x200	17
DDJ 1100	1.1	7	1¼"	1"	515x209x218	32







The DAYLIFF DDC centrifugal non self priming closed impeller pump is specially designed for all small scale domestic and commercial water supply uses and is particularly suited for water boosting and transfer applications.

Features

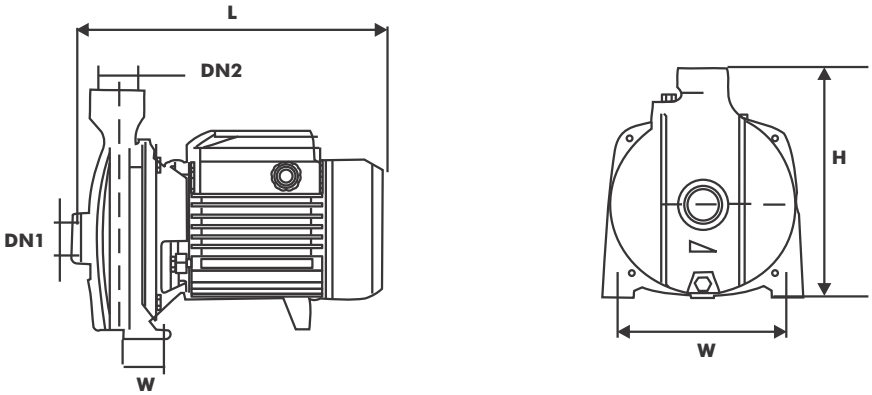
- Cast iron pump body and stainless steel impeller
- High capacity copper wound motor designed for continuous operation and provided with a thermal overload cut out
- Can be directly connected to mains power supply through a 10A fuse or MCB.
- Enclosure Class: IP44
- Insulation Class: F
- Voltage: 1x240V

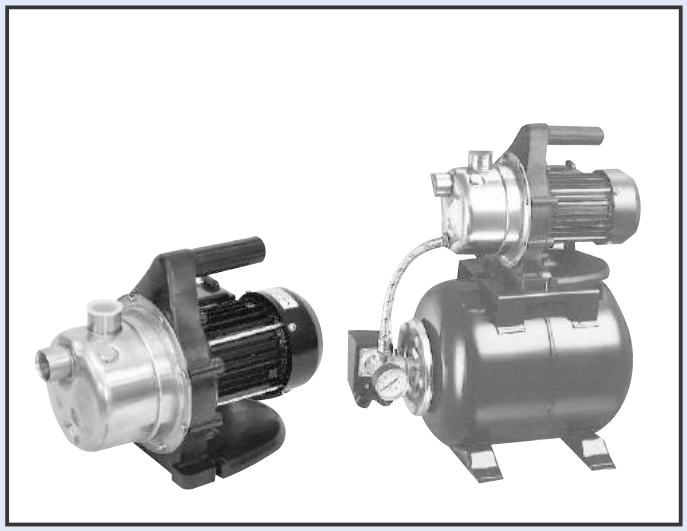
Operating Conditions

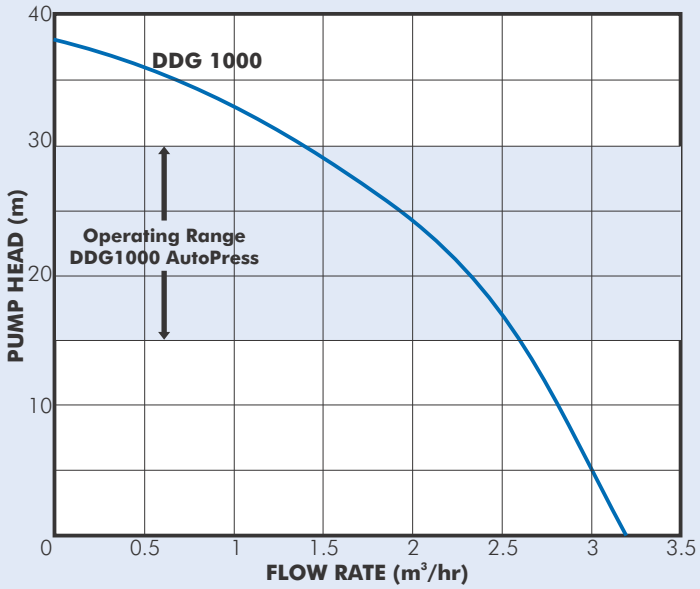
Pumped Liquid: Thin, clean, chemically non-aggressive liquids without solid particles or fibres
Max. Fluid Temperature: +60°C
Max. Ambient Temperature: +40°C
Max. Suction Lift: 7m at sea level

Pump Data

Model	kW	Current (A)	DN1	DN2	LxWxH (mm)	Weight (kgs)
DDC 158	0.75	5.2	1″	1″	305x190x260	13.8
DDC 170	1.1	7	1.5″	1.5″	346x230x293	21







The DAYLIFF DDG pump is of single stage centrifugal impeller self priming design suitable for small scale irrigation, water boosting and water transfer applications. Also available is the 'AutoPress' booster system which incorporates a 19L horizontal diaphragm tank, pressure switch and pressure gauge for automatic pump operation.

Features

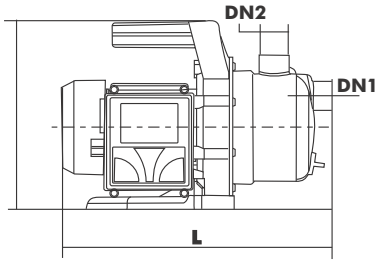
- Stainless steel pump body and back plate with polypropylene impeller
- Self priming
- Provided with handle for transportability
- High capacity copper wound motor designed for continuous operation and provided with a thermal overload cut out
- Can be directly connected to main power supply through a 5A fuse or MCB.
- Enclosure Class: X4
- Insulation Class: B
- Voltage: 1x240V

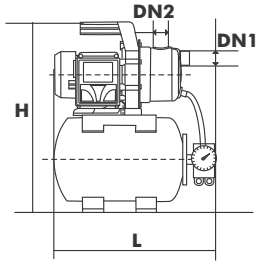
Operating Conditions

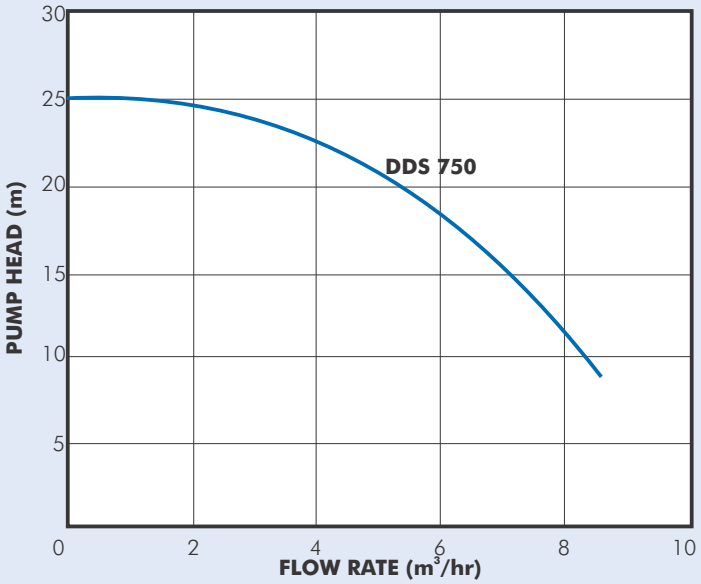
Pumped Liquids: Thin, slightly aggressive liquids without solids or fibres
Max. Liquid temperature: +35°C
Max. Ambient temperature: +40°C
Max. Suction Lift: 6m (at sea level)
AutoPress: Cut-in Pressure-1.5Bar, Cut-out Pressure 3Bar

Pump Data

Model	kW	HP	Current (A)	DN1 (")	DN2 (")	Dimensions (mm)			Weight (kgs)
						H	L	W	
DDG 1000	0.8	1	2.5	1	1	244	336	201	7
DDG 1000 AutoPress	0.8	1	2.5	1	1	463	570	280	12







The Dayliff DDS pump is of centrifugal single impeller non-self priming design suitable for water supply, agriculture and industrial applications for slightly corrosive liquids or where high levels of liquid purity is required.

Features

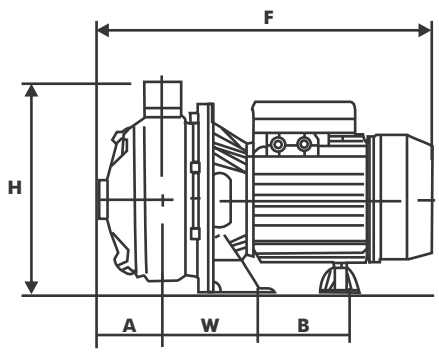
- Entirely 304 stainless steel construction including pump body, impeller and back plate
- High capacity copper wound motor designed for continuous operation and provided with a thermal overload cut out
- Can be directly connected to main power supply through a 10A fuse or MCB.
- Enclosure Class: IP44
- Insulation Class: F
- Voltage: 1x240V

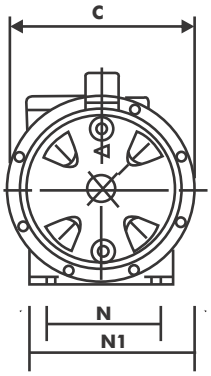
Operating Conditions

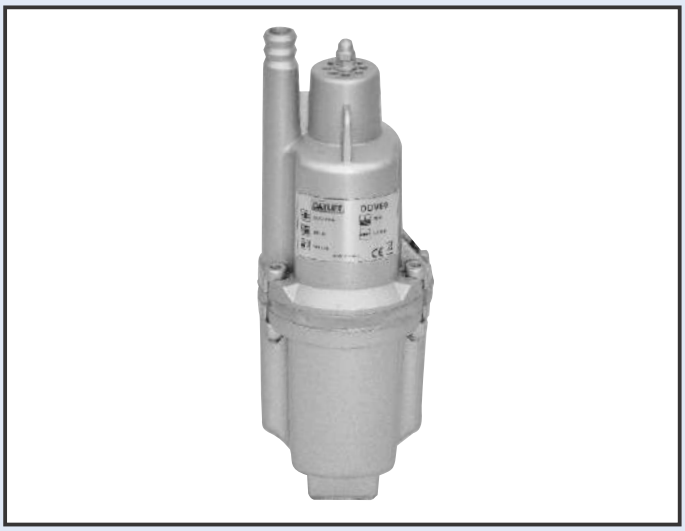
Pumped Liquid: Thin, slightly aggressive liquids without solids or fibres
Max Liquid Temp: 60°C
Max Ambient Temp: 40°C
Max Suction Lift: 9m (at sea level)

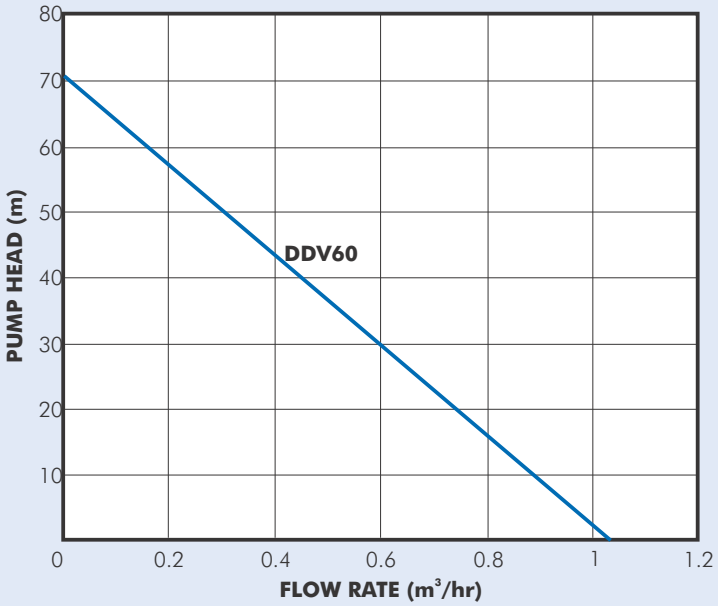
Pump Data

Model	kW	Current (A)	Inlet BSP	Outlet BSP	Dimensions (mm)								Weight (kgs)
					A	B	C	F	H	N	N1	W	
DDS 750	0.75	5.2	1¼"	1"	52	82	213	315	232	120	158	92	14









The Dayliff DDV submersible pump is a unique design of submersible pumps specially applicable for small scale water supply from drums, tanks, domestic wells or rivers.

Features

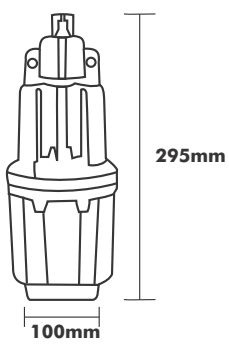
- Positive displacement type using a vibrating diaphragm which is efficient and also has the capacity to handle light silt loads.
- Compact construction and robust design
- Installed by suspension in a well, drum or tank
- Aluminum construction throughout with diaphragm made of rubber
- Intergral motor designed for maximum 1 hr operating periods
- Enclosure Class: IP68
- Insulation Class: B
- Voltage: 1x240V

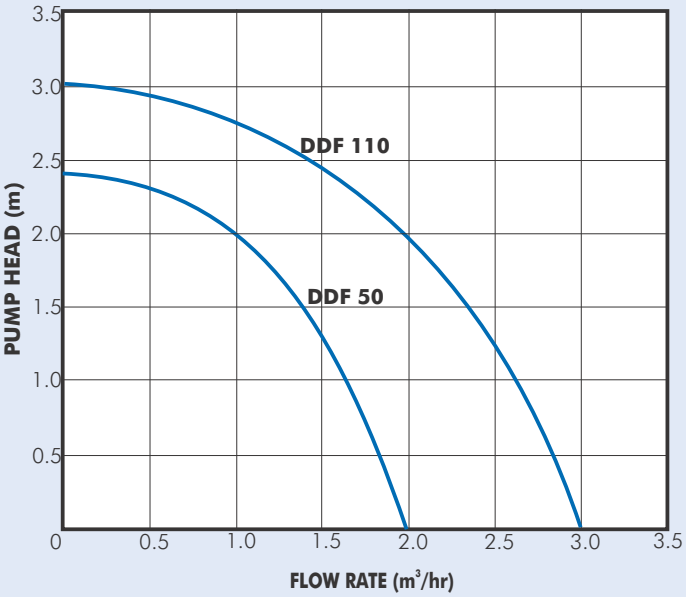
Operating Conditions

Pumped liquids: Thin clean water containing light silt loads.
Liquid temperature: 0°C to +40°C
Max. Operating Pressure: 8 bar
Max Immersion Depth: 3m

Pump Data

Model	kW	Outlet	Diameter (mm)	Weight (kgs)
DDV 60	0.25	½"	100	4



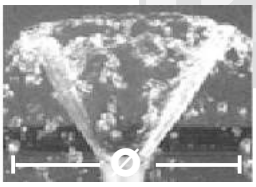


The DAYLIFF DDF fountain pumps are designed for all applications involving the creative use of water in small scale fountain displays and garden water features.

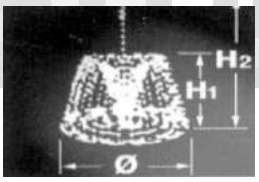
Features

- Pumps are provided with a corrosion proof plastic housing with easy clean foam pre-filter.
- High output pump with specially designed impeller for improved solids handling capacity.
- Telescopic output tube with valve for spray adjustment and waterfall outlet.
- Supplied complete with display jets for different display options and a 10m cable.

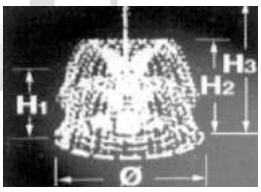
Foaming Jet



Inverted Cone



Double Stage



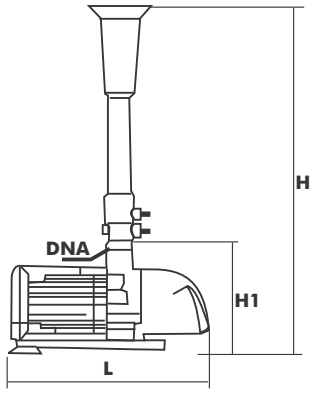
Triple Stage

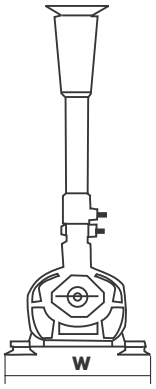
Bell

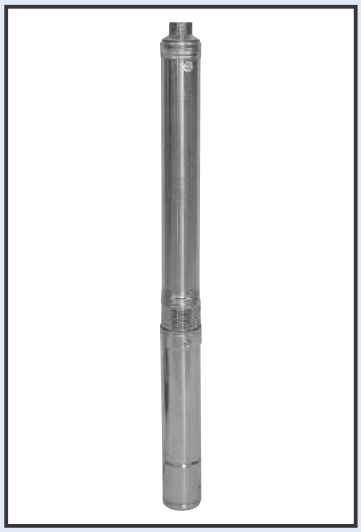
Pump Data

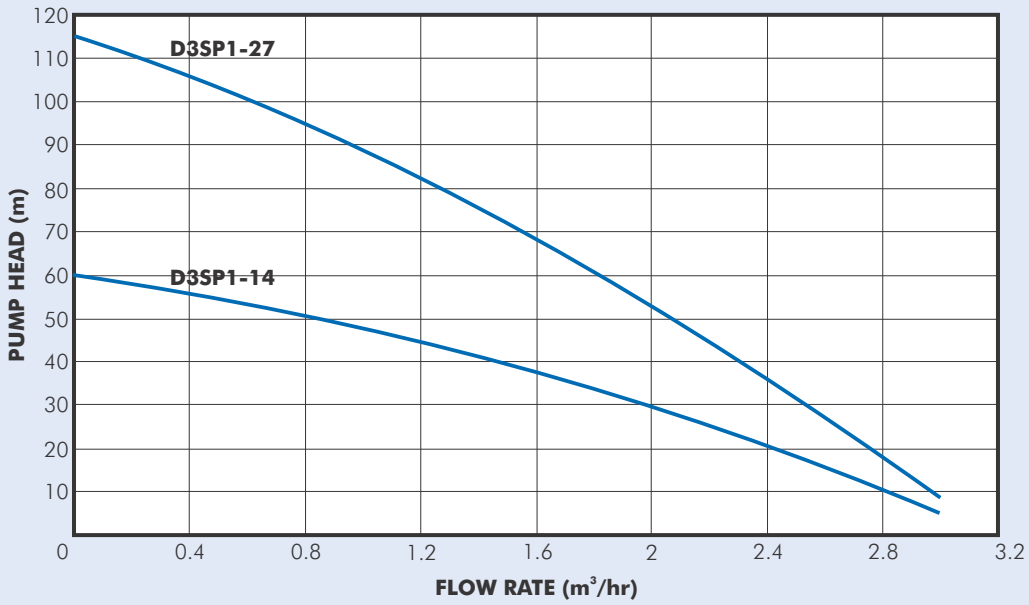
Model	Power (W)	Current (A)	Outlet (")	Dimensions (mm)				Weight (kg)	Foaming Jet H	Inverted Cone Ø	Double Stage			Triple Stage				Bell
				H	H1	L	W				H1	H2	Ø	H1	H2	H3	Ø	Ø
DDF 50	50	0.37	½	375	120	170	126	2	12	N/A	50	110	190	30	55	75	150	32
DDF 110	110	0.62	1	670	178	200	138	4	14	35		N/A		30	50	70	100	N/A

Jet dimensions in cm









Dayliff D3SP1 pumps are compact 3" diameter submersible multistage centrifugal pumps specifically designed for small scale water supplies from boreholes and wells.

Features

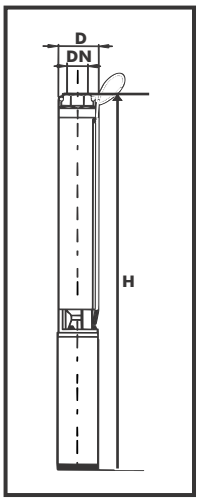
- Material of construction are engineering plastic impellers and diffusers, brass inlet and outlet chambers and stainless steel pump sleeve
- Provided with separate control unit which incorporates an isolator, run light, thermal overload and start capacitor that can be directly connected to mains power through a 10A fuse or MCB.
- 20m cable included
- Coupled to a two pole sealed motor with copper winding and constructed principally from stainless steel
- Enclosure Class: IP68
- Insulation Class: B
- Voltage: 1x240V

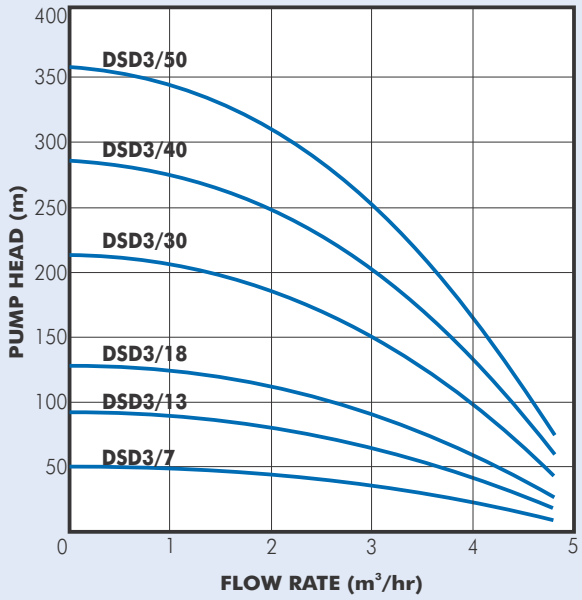
Operating Conditions

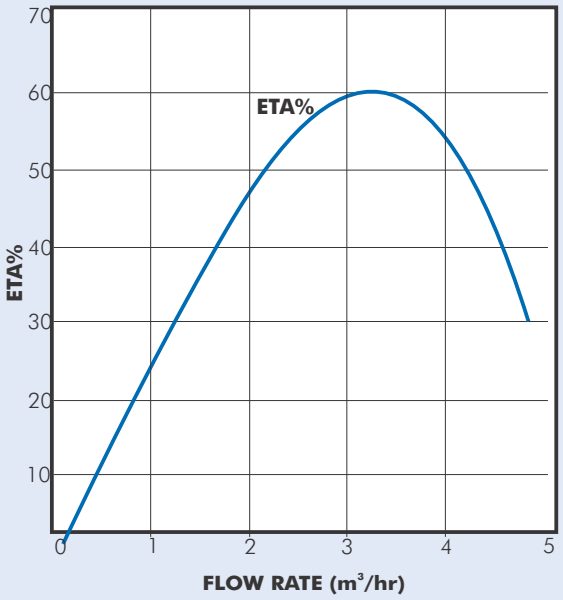
Pumped Liquid: Thin, clean, chemically non-aggressive liquids
Max. Fluid Temperature: 40°C
Max. Ambient Temperature: 50°C
Max. Immersion Depth: 35m
Min Borehole Diameter: 100m

Pump Data

Model	kW	HP	Max Current (A)	DN	Dimensions (mm)		Weight (kgs)
					D	H	
D3SP1-14	0.37	0.55	3.3	1"	76	85	12
D3SP1-27	0.75	1.0	6.3	1"	76	106	14







The Dayliff DSD range of Submersible Multistage centrifugal pumps are specially designed for domestic and small scale water supply from wells and boreholes.

Features

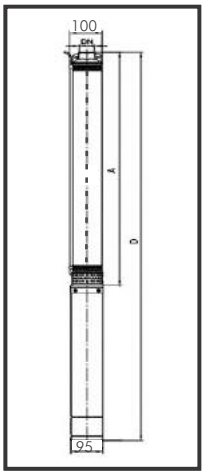
- Material of construction include polycarbonate impellers and diffusers, cast iron delivery and suction chambers and AISI 304 stainless steel pump housing, shaft and shaft coupling
- DSD 3/7, 3/13 and 3/18 are supplied complete with 30m cable and control box.
- Coupled to a sealed liquid cooled 2-pole asynchronous squirrel-cage motor constructed of stainless steel
- Single phase motors should be supplied with purpose designed Dayliff SCM control boxes for operation and protection against overload, dry running and over/under voltage.
- Three phase motors require a remote DOL starter; A DAYLIFF SCT electronic Pump Controller is recommended for comprehensive pump control including low level, motor overload and irregular power supply protection.
- Enclosure Class:IP68
- Insulation Class: B

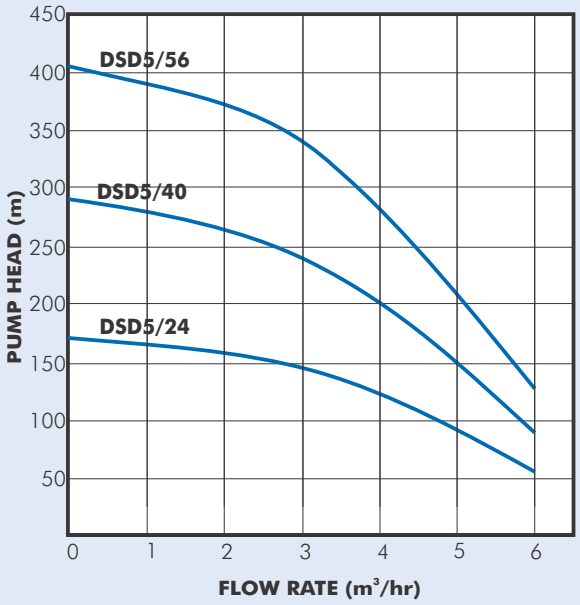
Operating Conditions

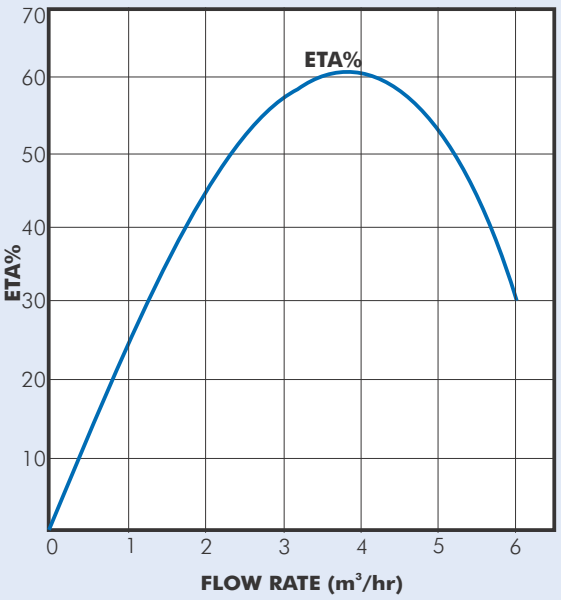
Pumped Liquid: Thin, clean, chemically non-aggressive liquids with a max. sand content of 0.25%
Max. Water temperature: +35^{0}
Max. immersion depth: 150m
Min. borehole diameter: 110m

Pump Data

Model	Power		Current (A)	Istat / I	DN (")	Dimensions (mm)		Weight (kg)
	kW	HP				A	D	
DSD 3/7	0.37	0.5	3.7	4	1¼	410	717	10
DSD 3/13	0.75	1	6.2	4	1¼	568	920	14
DSD 3/18	1.1	1.5	8.0	4	1¼	673	1065	17
DSD 3/30	2.2	3	15	4	1¼	1047	1564	27
DSD 3/40	3	4	8.0	7	1¼	1341	1923	32
DSD 3/50	4	5.5	10	7	1¼	1604	2261	38







The Dayliff DSD range of Submersible Multistage centrifugal pumps are specially designed for domestic and small scale water supply from wells and boreholes.

Features

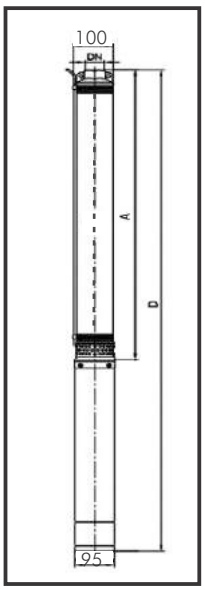
- Material of construction include polycarbonate impellers and diffusers, cast iron delivery and suction chambers and AISI 304 stainless steel pump housing, shaft and shaft coupling
- DSD 3/7, 3/13 and 3/18 are supplied complete with 30m cable and control box.
- Coupled to a sealed liquid cooled 2-pole asynchronous squirrel-cage motor constructed of stainless steel
- Single phase motors should be supplied with purpose designed Dayliff SCM control boxes for operation and protection against overload, dry running and over/under voltage.
- Three phase motors require a remote DOL starter; A DAYLIFF SCT electronic Pump Controller is recommended for comprehensive pump control including low level, motor overload and irregular power supply protection.
- Enclosure Class:IP68
- Insulation Class: B

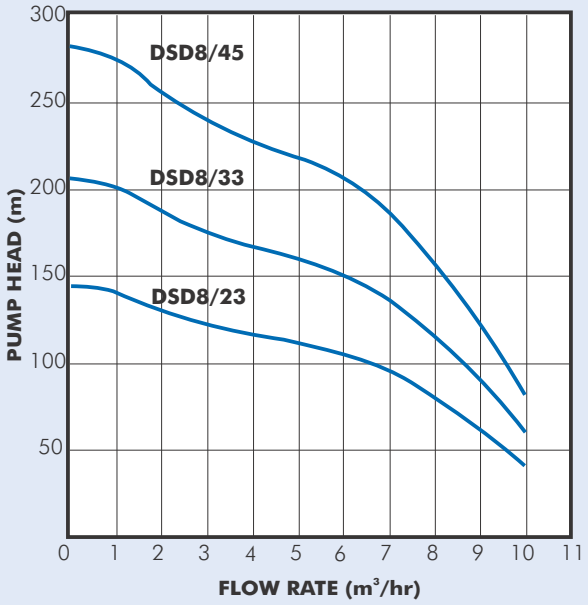
Operating Conditions

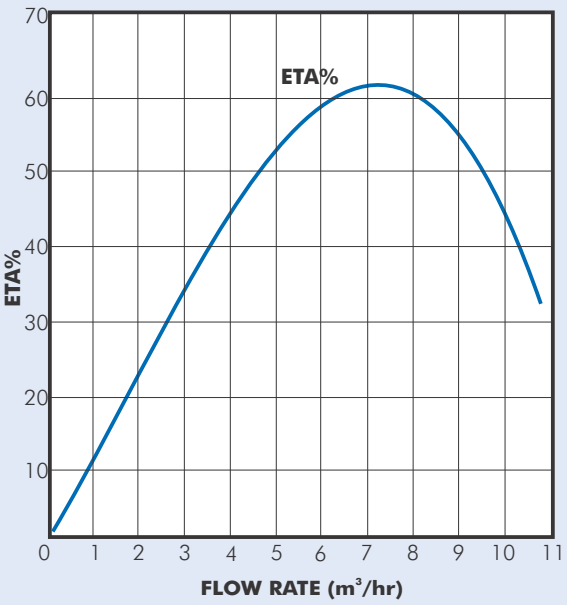
Pumped Liquid: Thin, clean, chemically non-aggressive liquids with a max. sand content of 0.25%
Max. Water temperature: +35^0
Max. immersion depth: 150m
Min. borehole diameter: 110m

Pump Data

Model	Power		Voltage (V)	Current (A)	Istat / I	DN (")	Dimensions (mm)		Weight (kg)
	kW	HP					A	D	
DSD 5/24	2.2	3	1x240	15	4	1½	957	1474	26
DSD 5/40	4	5.5	3x415	10	7	1½	1454	2111	36
DSD5/56	7.5	10	3x415	17	6.5	1½	1951	2787	47







The Dayliff DSD range of Submersible Multistage centrifugal pumps are specially designed for domestic and small scale water supply from wells and boreholes.

Features

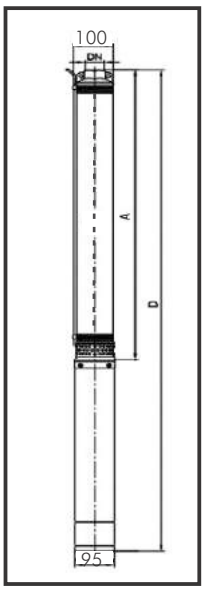
- Material of construction include polycarbonate impellers and diffusers, cast iron delivery and suction chambers and AISI 304 stainless steel pump housing, shaft and shaft coupling
- DSD 3/7, 3/13 and 3/18 are supplied complete with 30m cable and control box.
- Coupled to a sealed liquid cooled 2-pole asynchronous squirrel-cage motor constructed of stainless steel
- Single phase motors should be supplied with purpose designed Dayliff SCM control boxes for operation and protection against overload, dry running and over/under voltage.
- Three phase motors require a remote DOL starter; A DAYLIFF SCT electronic Pump Controller is recommended for comprehensive pump control including low level, motor overload and irregular power supply protection.
- Enclosure Class:IP68
- Insulation Class: B

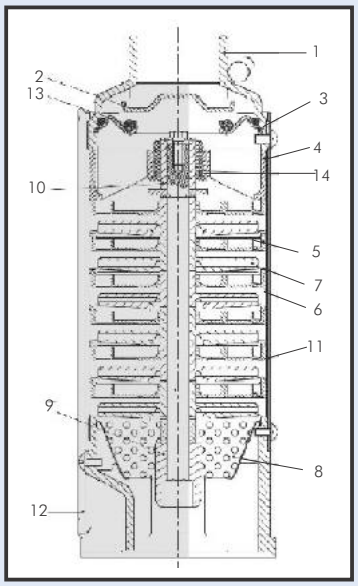
Operating Conditions

Pumped Liquid: Thin, clean, chemically non-aggressive liquids with a max. sand content of 0.25%
Max. Water temperature: +35^0
Max. immersion depth: 150m
Min. borehole diameter: 110m

Pump Data

Model	Power		Voltage (V)	Current (A)	Istat / I	DN (")	Dimensions (mm)		Weight (kg)
	kW	HP					A	D	
DSD 8/23	3	4	3x415	8	6.9	2	1093	1675	28
DSD 8/33	5.5	7.5	3x415	13	6.3	2	1586	2264	35
DSD 8/45	7.5	10	3x415	17	6.5	2	1955	2791	49





Material Specification

Pos	Part Name	Material
1	Discharge Head	AISI 304 SS
2	Check Valve Cone	AISI 304 SS
3	Check Valve Retaining Ring	AISI 304 SS
4	Bearing Spider	Glass Filled Polycarbonate
5	Diffuser	Glass Filled Polycarbonate
6	Bowl	AISI 304 SS
7	Impeller	Noryl
8	Strainer	AISI 304 SS
9	Pump Shaft/Coupling	AISI 304 SS
10	Shaft Sleeve	AISI 304 SS or Noryl
11	Pump Casting	AISI 304 SS
12	Cable Guard	AISI 304 SS
13	O-Ring	NBR
14	Bearing	Polyacetal

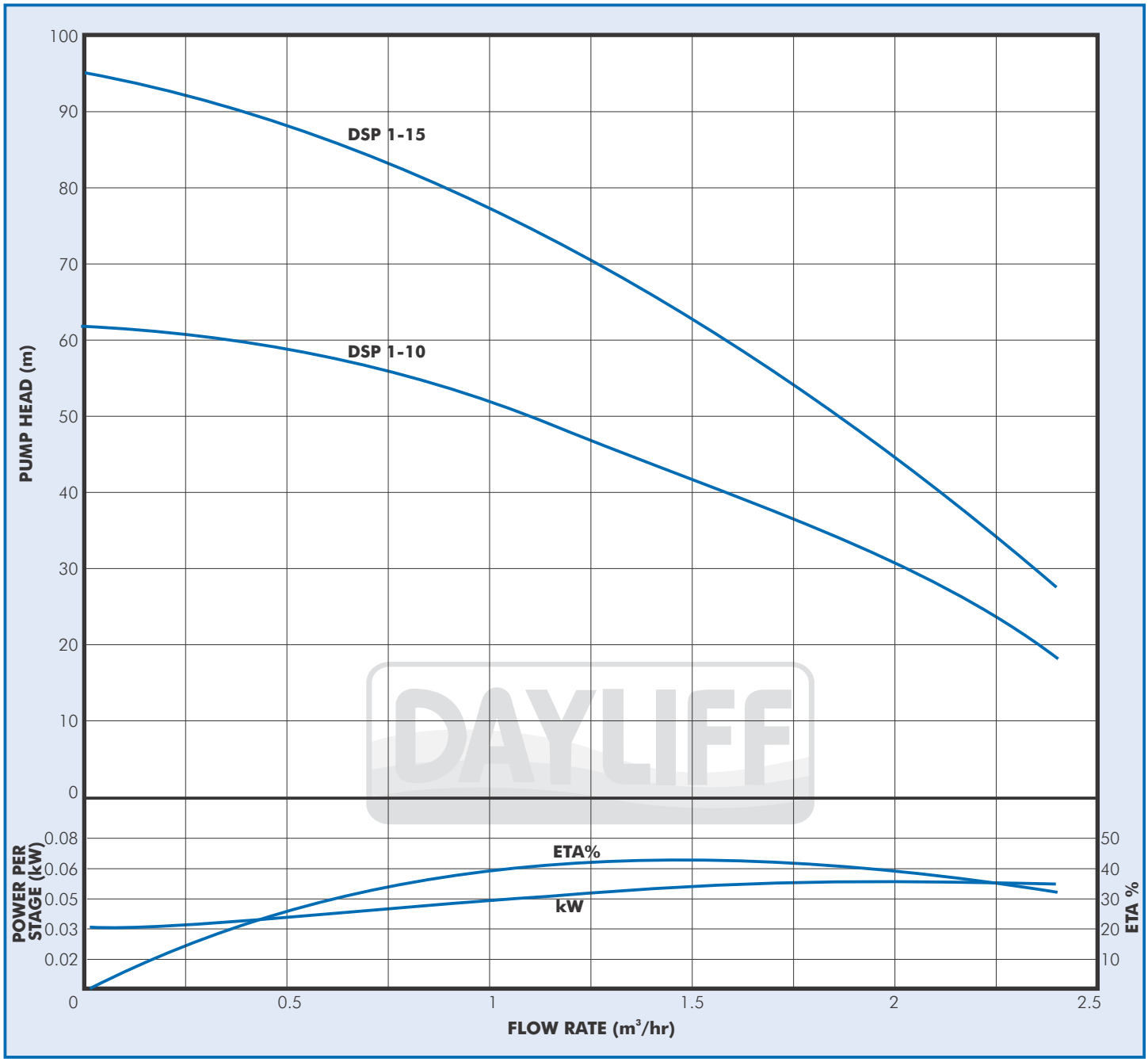
Dayliff DSP Submersible multistage centrifugal pumps are specially designed for water supply from boreholes and wells.

Features

- Material of construction include Noryl impellers, glass filled polycarbonate diffusers, stainless steel inlet and outlet chambers, stage casings, shaft and pump housing. These quality materials together with the floating type impeller design provide the pumps with efficient performance excellent sand handling capabilities and long life.
- Pump is coupled to a two pole sealed motor constructed principally from stainless steel.
- Single phase motors are supplied with a separate control unit that incorporates an isolator, run indicator light, thermal overload protection and starting capacitor which can be connected directly to the mains power.
- Three phase motors require a remote DOL starter; A DAYLIFF electronic pump controller is recommended for comprehensive pump control including wireless low level protection, motor overload and voltage fluctuation.
- Enclosure Class: Ip68
- Insulation Class: F
- Voltage: 1x240V, 3x415V

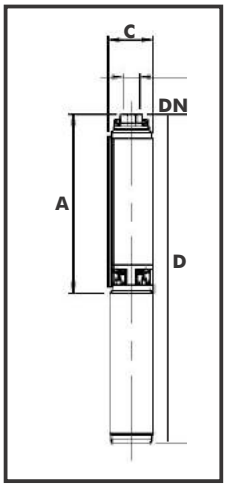
Operating Conditions

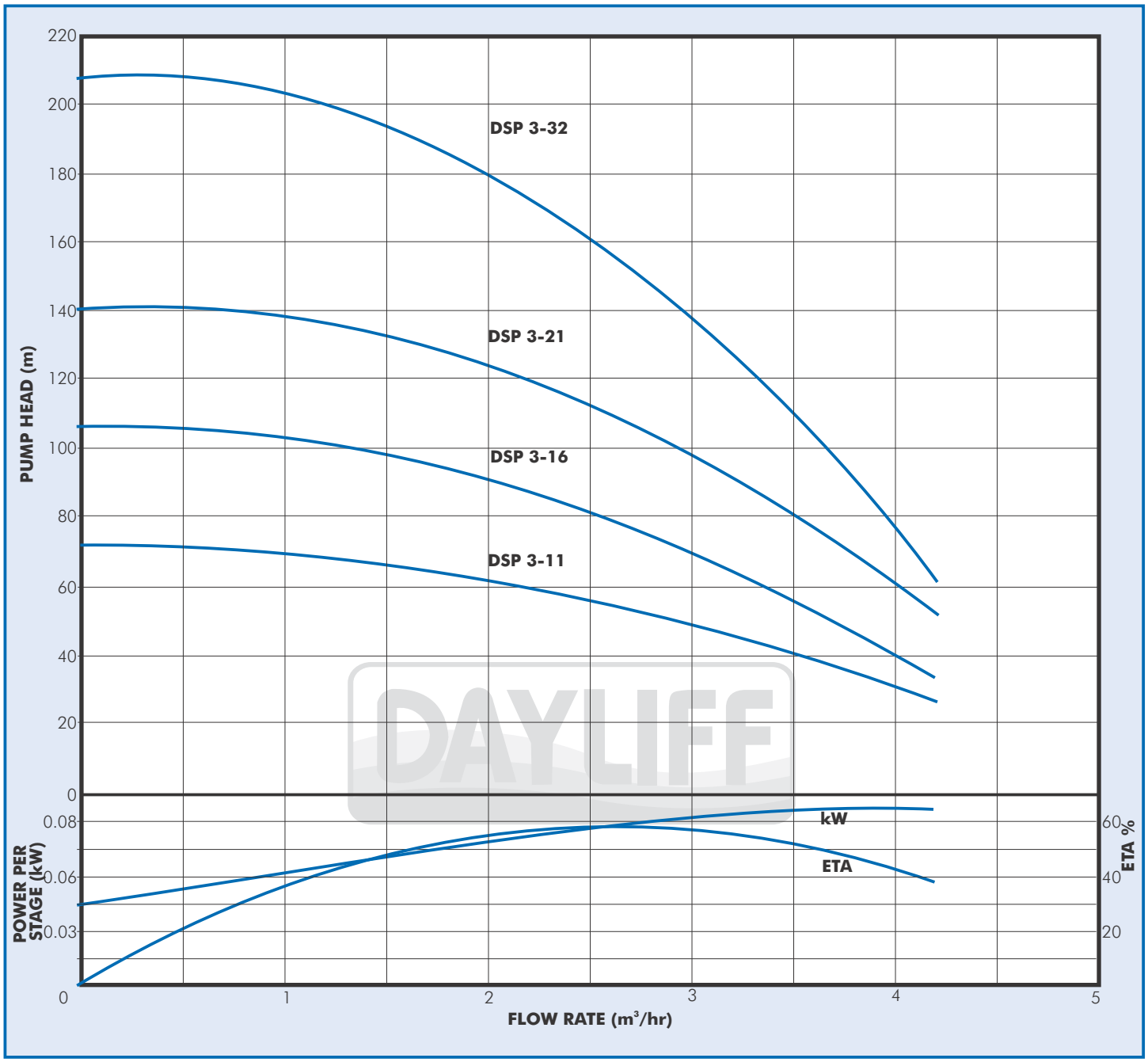
Pumped liquid: Thin, clean, chemically non aggressive liquids with a maximum sand content 50g/m^3.
Max. Water temperature: +35^{0}C
Max. Immersion depth: 200m
Min. borehole diameter: 110mm



Pump Data

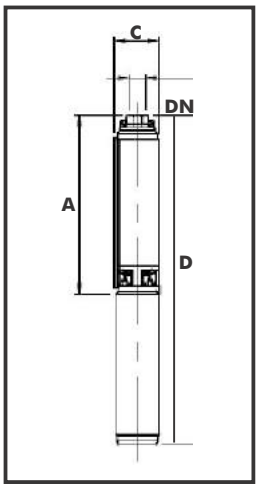
Model	Voltage (V)	Power		Current (A)	I start / I	DN (")	Dimensions (mm)			Weight kgs
		kW	HP				A	C	D	
DSP 1-10	1x240	0.37	0.5	3.3	3.2	1¼	330	98	676	10.6
DSP 1-15	1x240	0.55	0.75	4.3	2.8	1¼	420	98	785	12.5

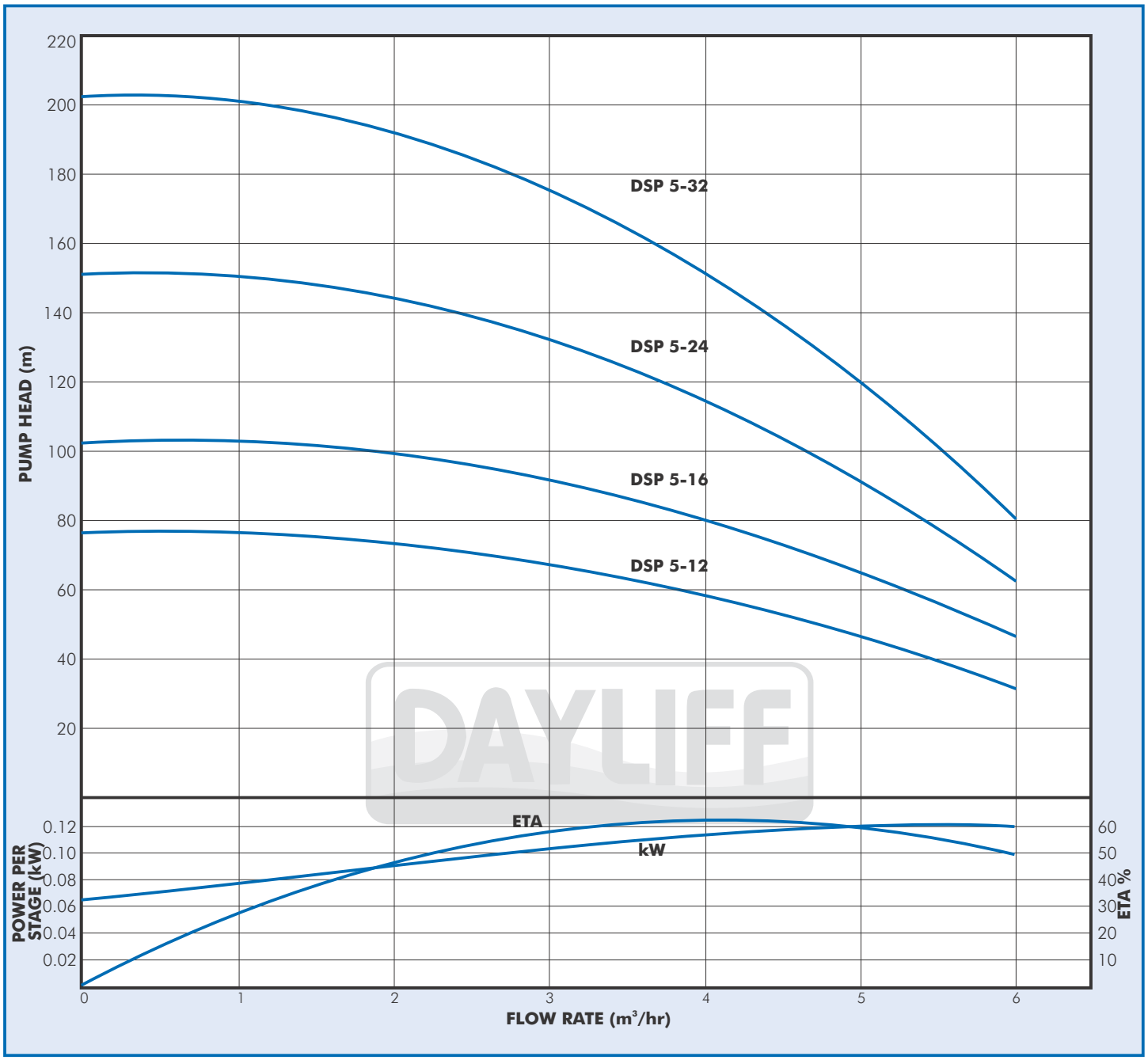




Pump Data

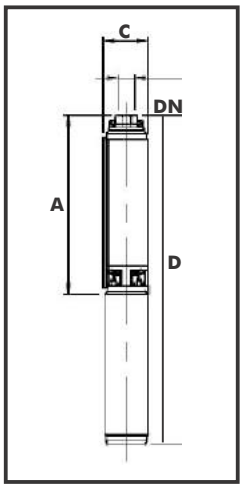
Model	Voltage (V)	Power		Current (A)	Istart	DN (")	Dimensions (mm)			Weight (kg)
		kW	HP		I		A	C	D	
DSP 3-11	1x240	0.75	1	4.3	4.7	1¼	342	98	722	21
DSP 3-11	3x415	0.75	1	2.3	3.9	1¼	342	98	707	20
DSP 3-16	1x240	1.1	1.5	8.1	4.0	1¼	430	98	835	24
DSP 3-16	3x415	1.1	1.5	3.1	3.9	1¼	430	98	810	22
DSP 3-21	1x240	1.5	2	10.4	3.7	1¼	519	98	959	28
DSP 3-21	3x415	1.5	2	4	3.5	1¼	519	98	924	25
DSP 3-32	1x240	2.2	3	15	3.1	1¼	749	98	1244	35
DSP 3-32	3x415	2.2	3	5.6	3.9	1¼	749	98	1189	30

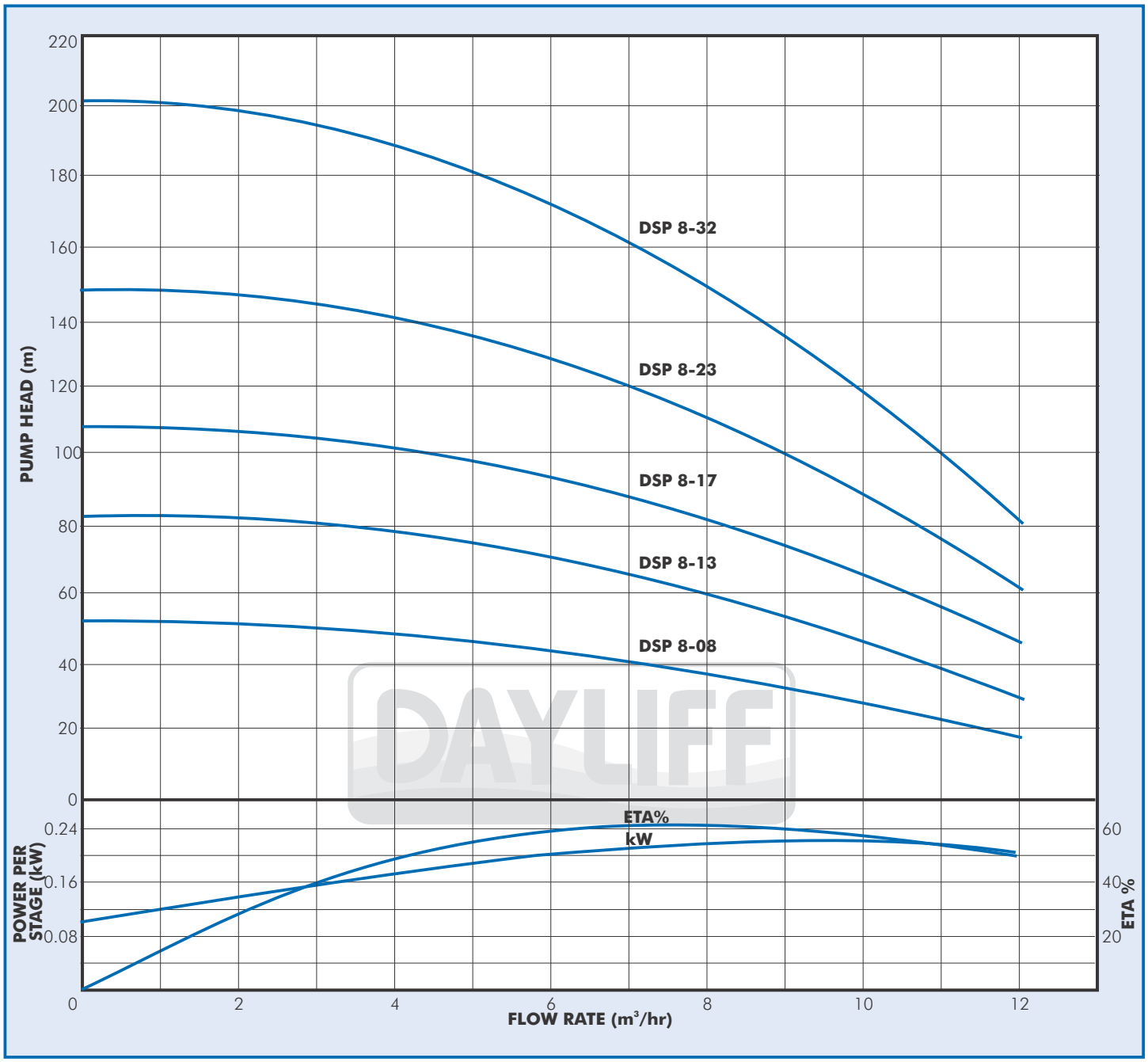




Pump Data

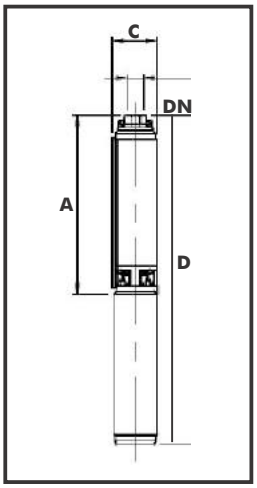
Model	Voltage (V)	Power		Current (A)	Istart / I	DN (")	Dimensions (mm)			Weight (kg)
		kW	HP				A	C	D	
DSP 5-12	1x240	1.1	1.5	8.1	4.0	1½	433	98	838	24
DSP 5-12	3x415	1.1	1.5	3.1	3.9	1½	433	98	813	22
DSP 5-16	1x240	1.5	2	10.4	3.7	1½	542	98	982	28
DSP 5-16	3x415	1.5	2	4	3.5	1½	542	98	947	25
DSP 5-24	1x240	2.2	3	15	3.1	1½	777	98	1272	35
DSP 5-24	3x415	2.2	3	5.6	3.9	1½	777	98	1217	30
DSP 5-32	3x415	3	4	7.4	5.8	1½	1003	98	1481	39

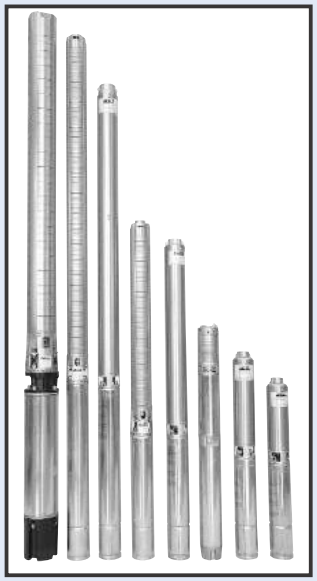


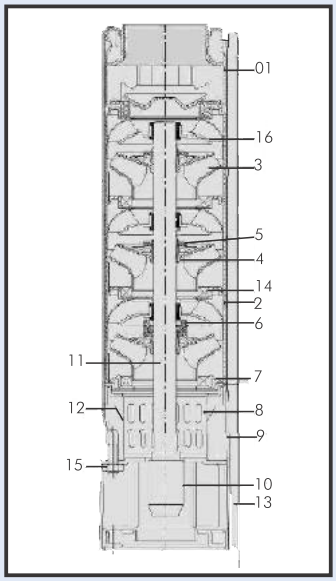


Pump Data

Model	Voltage (V)	Power		Current (A)	Istart	DN (")	Dimensions (mm)			Weight (kg)
		kW	HP		I		A	C	D	
DSP 8-08	1x240	1.5	2	10.4	3.7	2	418	98	858	27
DSP 8-08	3x415	1.5	2	4	3.5	2	418	98	823	24
DSP 8-13	1x240	2.2	3	15	3.1	2	573	98	1068	34
DSP 8-13	3x415	2.2	3	5.6	3.9	2	573	98	1013	29
DSP 8-17	3x415	3	4	7.4	5.8	2	697	98	1213	37
DSP 8-23	3x415	4	5.5	9.8	5.0	2	959	98	1528	47
DSP 8-32	3x415	5.5	7.5	13.7	4.7	2	1276	98	1921	57







Material Specification

Pos	Components	Discharge	Std
1	Discharge	Stainless Steel	304
2	Diffuser	Stainless Steel	304
3	Impeller	Stainless Steel	304
4	Split Cone	Stainless Steel	304
5	Split Cone Nut	Carbon/Graphite/PTFE	
6	Stop Ring	Stainless Steel	304
7	Neck Ring Retainer	Stainless Steel	304
8	Strainer	Stainless Steel	304
9	Suction Interconnector	Stainless Steel	304
10	Coupling	Stainless Steel	304
11	Pump Shaft	Stainless Steel	431
12	Strap	Stainless Steel	304
13	Cable Guard	Stainless Steel	304
14	Neck Ring	SUS304+NBR	
15	Nut	Stainless Steel	304
16	Bearing	NBR	304

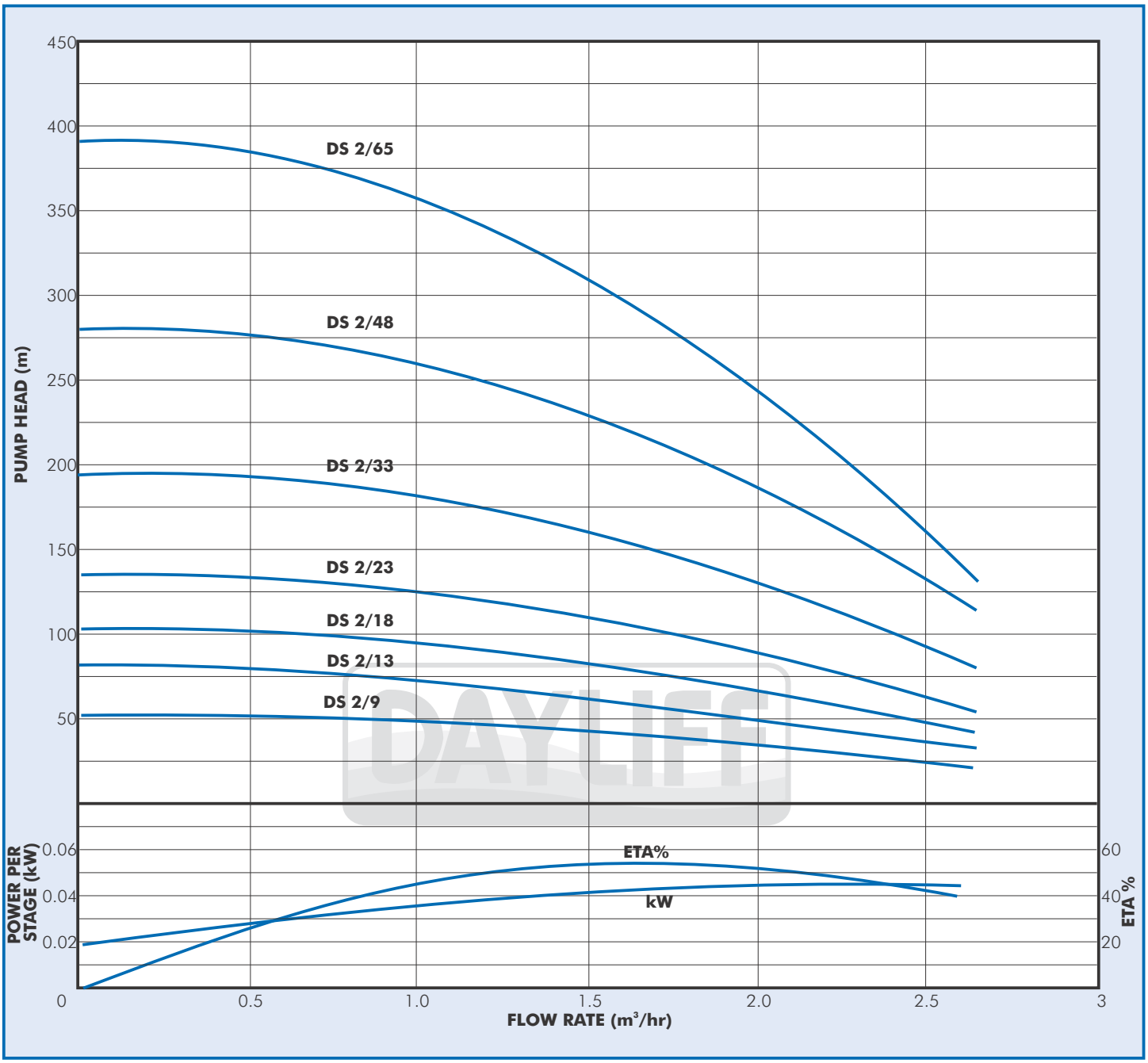
Dayliff DS submersible multistage centrifugal pumps are specially designed for water supply from boreholes. They are manufactured to the highest standards that gives high energy efficiency, dependable performance and long service life in the most demanding of applications.

Features

- All metal parts made of 304 stainless steel, except for the shaft, which is made of 431stainless steel to give years of trouble free operation.
- Heavy duty stainless steel discharge head with built-in check valve for long life and ease of installation.
- Motor specifications are according to NEMA standards.
- High quality shaft bearings providing low friction and high wear resistance.
- Stainless steel strainer to restrict the entry of sand and other extraneous material.
- High efficiency oil filled motors with non-toxic oil meeting all installation conditions.
- Single phase pumps are supplied with a separate control box which incorporates an isolator, run indicator light, thermal overload protection and starting capacitor
- Three phase pumps require a remote starter. A DAYLIFF SCM/SCT electronic pump controller is recommended for comprehensive pump control including wireless low level, motor overload and irregular power supply protection
- High capacity copper wound 2-pole asynchronous squirrel-cage motor with a steady operating curve
- Enclosure Class: IP68
- Insulation Class: F

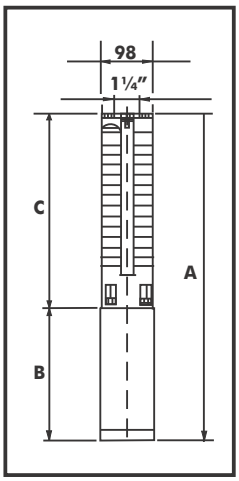
Operating Conditions

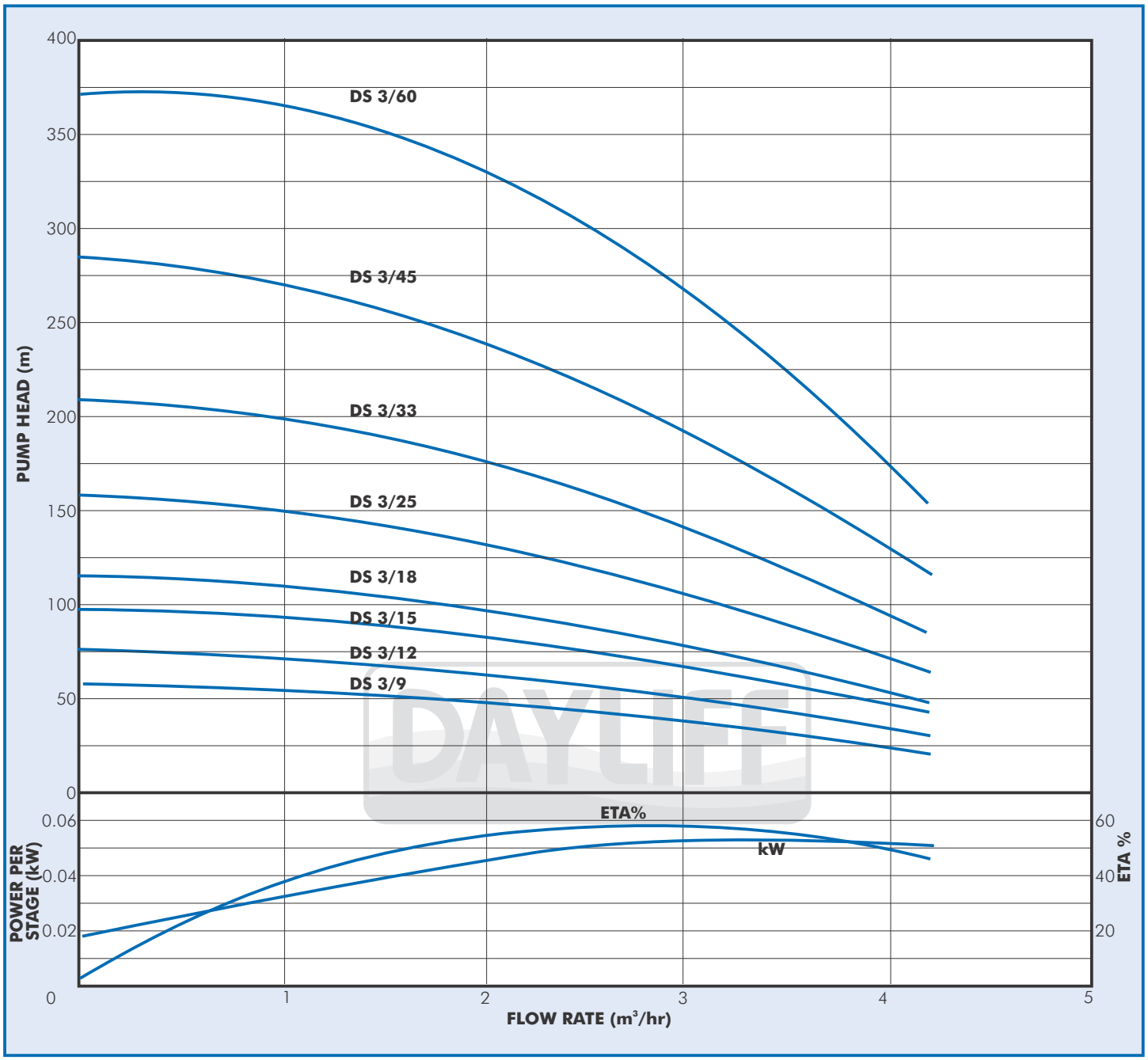
Pumped Liquid: Thin, clean chemically non-aggressive liquids without solid particles or fibres.
Max. Liquid Temperature: +30°C
Max. Water Depth: 300m for 6" and 200m for 4"
Min. Borehole Diameter: 110mm (4" pumps), 200mm (6" pumps) and 254mm (8" pumps)



Pump Data

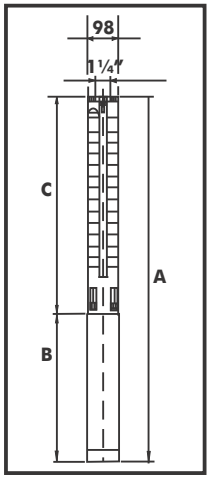
Model	Motor		Full Load Current (A)		Start Current (A)		Dimensions (mm)				C	Weight (kg)	
							A		B				
	kW	HP	1x240V	3x415V	1x240V	3x415V	1x240V	3x415V	1x240V	3x415V		1x240V	3x415V
DS 2/9	0.37	0.5	3.5		9		681		325		356	9.5	
DS 2/13	0.55	0.75	4.3		15		805		365		440	12	
DS 2/18	0.75	1.0	6.3		20		920		375		545	13.4	
DS 2/23	1.1	1.5	8.5	3.6	25	16	1045	1025	395	375	650	15.3	14.4
DS 2/33	1.5	2.0	10.8	4.6	35	20	1323	1278	440	395	883	21.2	19.3
DS 2/48	2.2	3	14	6.3	45	33	1756	1638	558	440	198		25
DS 2/65	3	4		7.9		45		2123		558	565		41

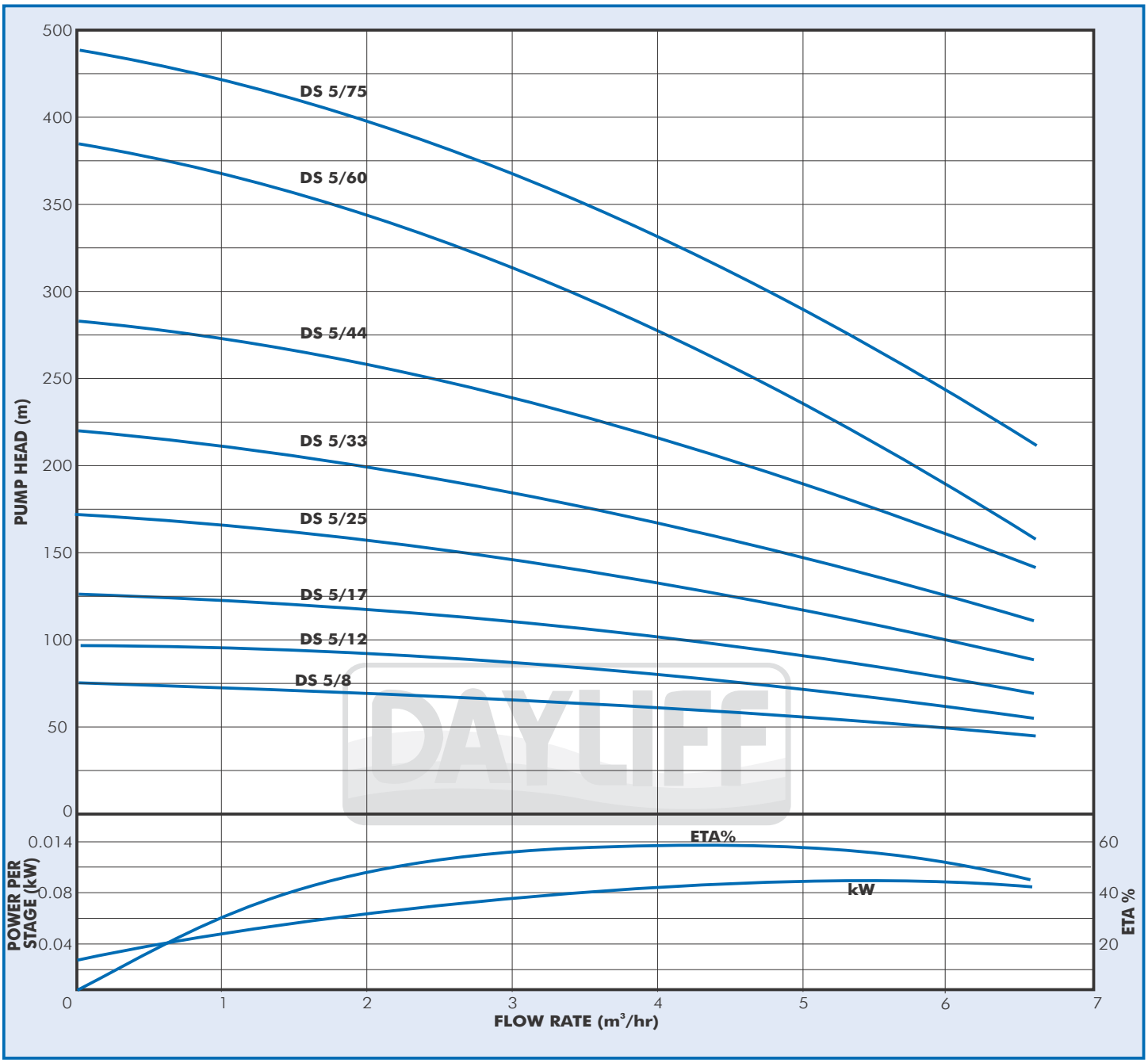




Pump Data

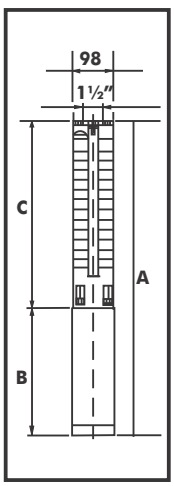
Model	Motor		Full Load Current (A)		Start Current (A)		Dimensions (mm)					Weight (kg)
							A		B		C	
	kW	HP	1x240V	3x415V	1x240V	3x415V	1x240V	3x415V	1x240V	3x415V		
DS 3/9	0.55	0.75	4.3		15		701		345		356	11.2
DS 3/12	0.75	1	6.3		20		794		375		419	12.3
DS 3/15	1.1	1.5	8.5	3.6	25	16	877	857	395	375	482	13.8
DS 3/18	1.1	1.5	8.5	3.6	25	16	940	920	395	375	545	14.3
DS 3/25	1.5	2	10.8	4.6	35	20	1132	1087	440	395	692	17.6
DS 3/33	2.2	3	14	6.3	45	33	1441	1381	558	498	883	25.5
DS 3/45	3	4		7.9		45		1693		558	1135	30.3
DS 3/60	4	5.5		10.2		55		2088		628	1460	43

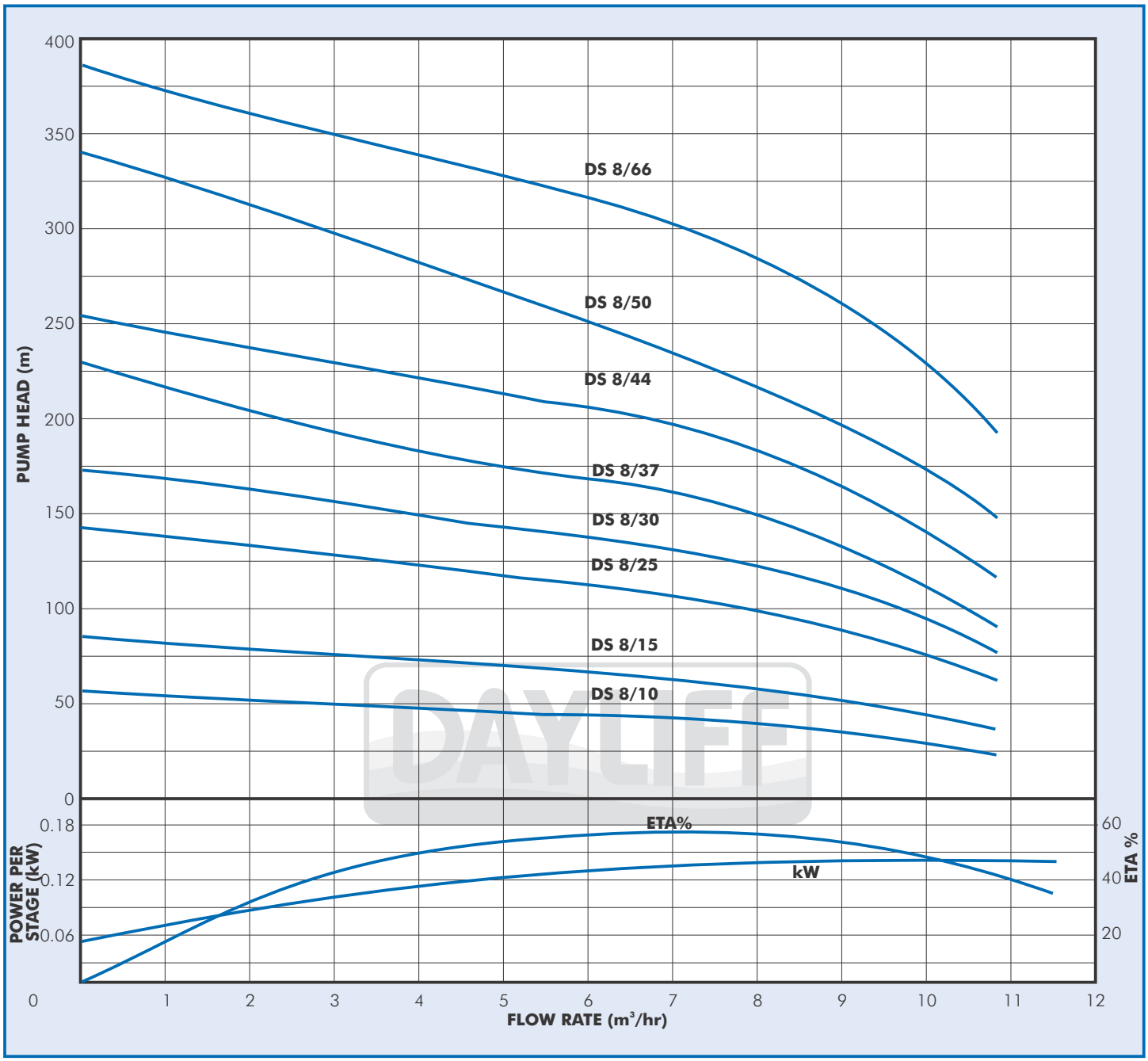




Pump Data

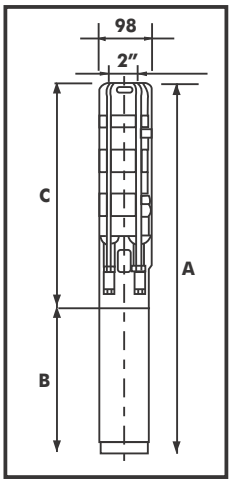
Model	Motor		Full Load Current (A)		Start Current (A)		Dimensions (mm)					Weight (kg)
							A		B		C	
	kW	HP	1x240V	3x415V	1x240V	3x415V	1x240V	3x415V	1x240V	3x415V		
DS 5/8	0.75	1.0	6.3		20		710		375		335	11.5
DS 5/12	1.1	1.5	8.5	3.6	25	16	814	794	395	375	419	13.2
DS 5/17	1.5	2.0	10.8	4.6	35	20	964	919	440	395	524	16
DS 5/25	2.2	3.0	14	6.3	45	33	1250	1132	558	440	692	21.8
DS 5/33	3.0	4.0		7.9		45		1426		558	868	27.2
DS 5/44	4.0	5.5		10.2		55		1713		614	628	35.4
DS 5/60	5.5	7.5		13.1		70		2144		684	698	60
DS 5/75	7.5	10		16.5		84		2935		764	2171	69

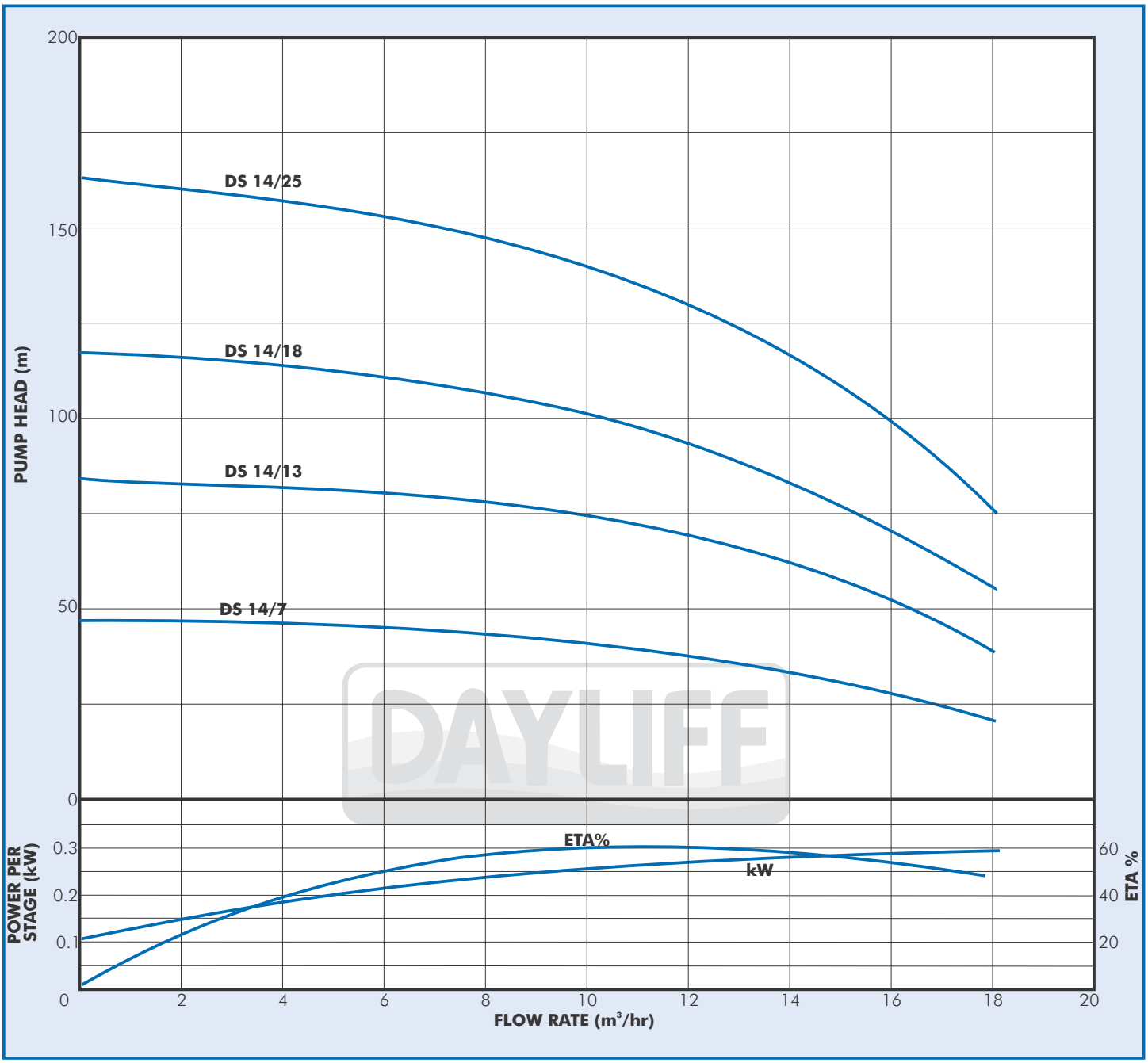




Pump Data

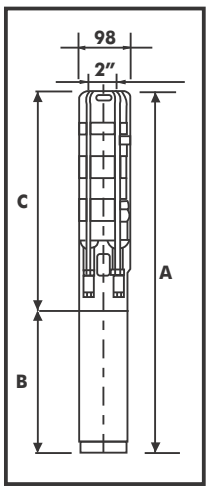
Model	Motor		Full Load Current (A)		Start Current (A)		Dimensions (mm)					Weight (kg)	
							A		B		C		
	kW	HP	1x240V	3x415V	1x240V	3x415V	1x240V	3x415V	1x240V	3x415V		1x240V	3x415V
DS 8/10	1.5	2.0	11	4.4	41	19	1015	970	393	348	622	20	27
DS 8/15	2.2	3.0	16	5.9	50	26	1245	1225	413	393	832	23	34
DS 8/25	4.0	5.5		10		56		1866		614	1252		64
DS 8/30	5.5	7.5		14		70		2160		698	1462		68
DS 8/37	5.5	7.5		14		70		2437		684	1753		74
DS 8/44	7.5	10		17.4		84		2848		778	2070		84
DS 8/50	7.5	10		17.4		84		3067		764	2303		88
DS 8/66	11	15		26		125		4130		730	3400		120

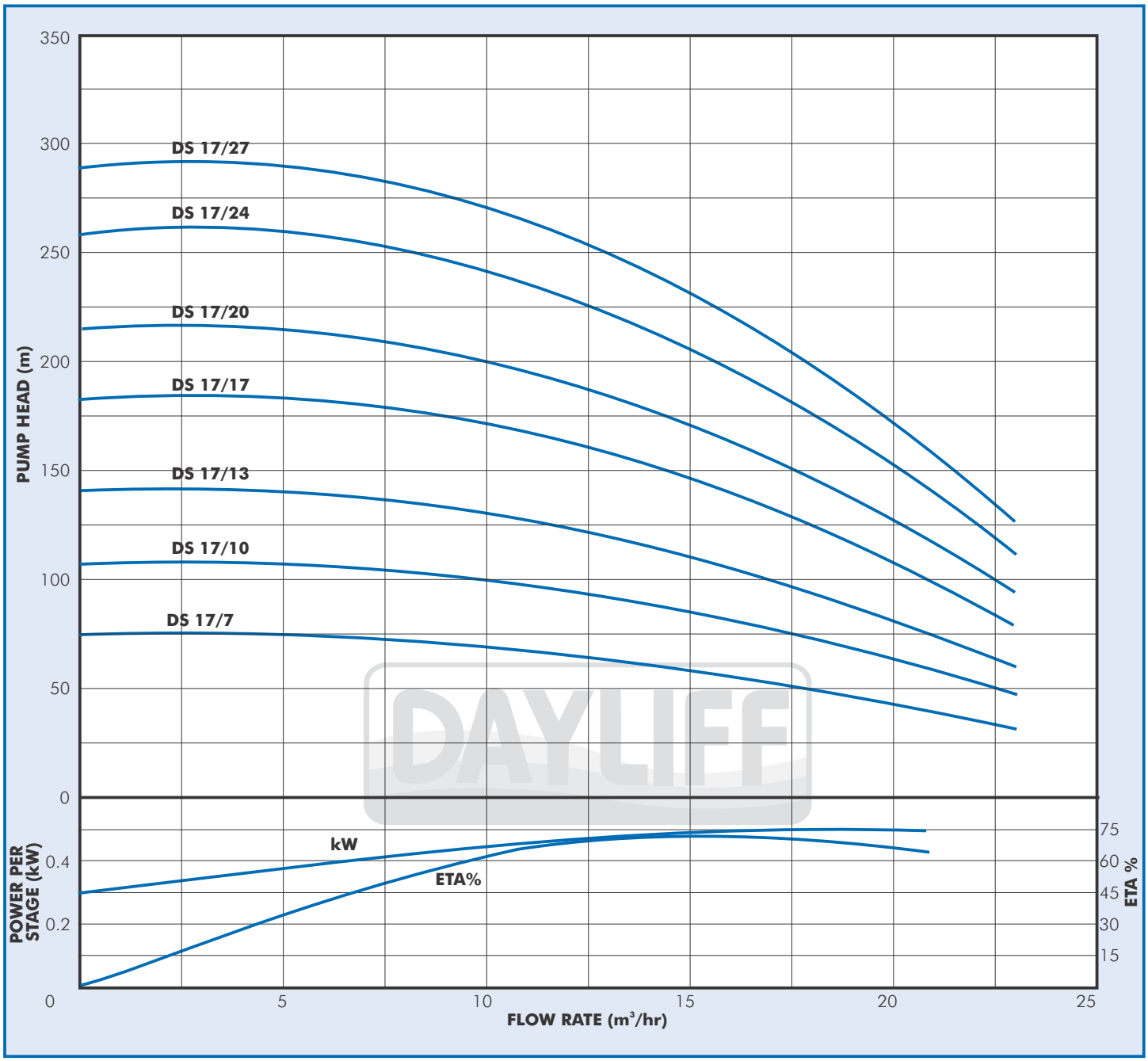




Pump Data

Model	Motor		Full Load Current (A)		Start Current (A)		Dimensions (mm)					Weight (kg)
							A		B		C	
	kW	HP	1x240V	3x415V	1x240V	3x415V	1x240V	3x415V	1x240V	3x415V		
DS 14/7	2.2	3	14	6.3	45	33	1193	1075	558	440	635	22
DS 14/13	4	5.5		10.2		55		1639		614	1025	33
DS 14/18	5.5	7.5		13.1		70		2034		684	1350	40
DS 14/25	7.5	10		16.9		84		2569		764	1805	48

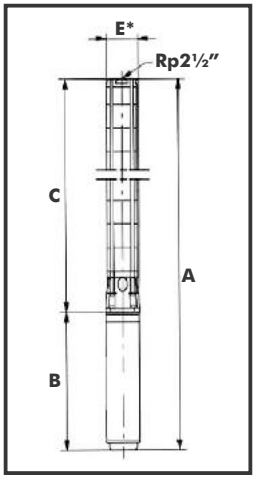


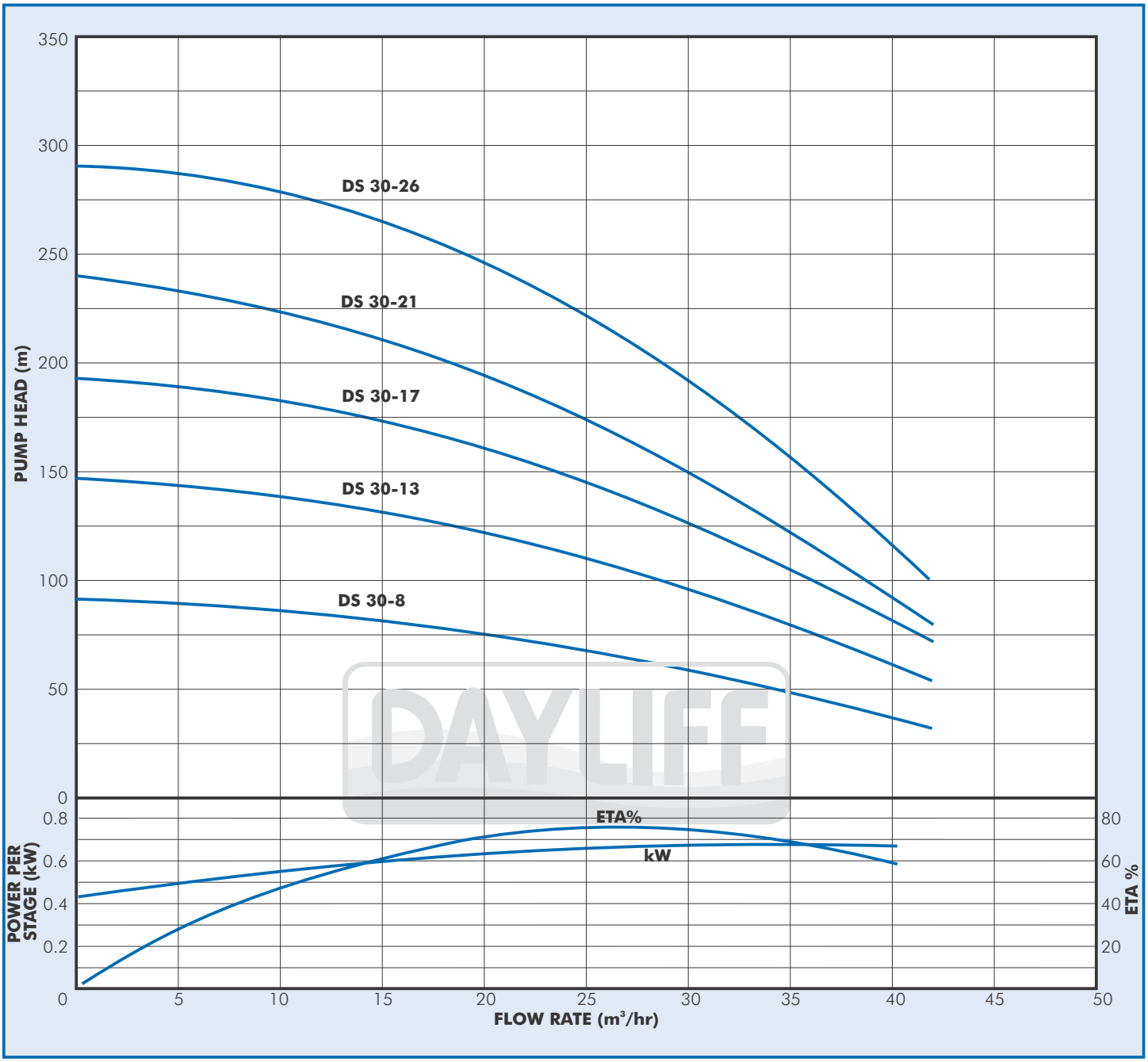


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)				Weight (kg)
	kW	HP			A	B	C	E*	
DS 17-7	4	5.5	10.2	5.4	1320	614	706	131	36.7
DS 17-10	5.5	7.5	13.1	5.3	1571	684	887	131	44.6
DS 17-13	7.5	10	16.9	5.0	1833	764	1069	142	53
DS 17-17	9.2	12.5	22.8	4.2	1996	685	1311	142	77.2
DS 17-20	11	15	26	4.8	2222	730	1492	142	85.5
DS 17-24	15	20	34.2	5.0	2519	785	1734	142	97.3
DS 17-27	15	20	34.2	5.0	2701	785	1916	142	101.7

E*=Maximum diameter of the pump with one motor cable

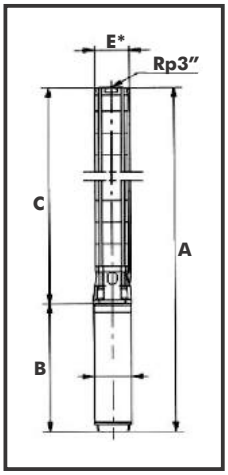


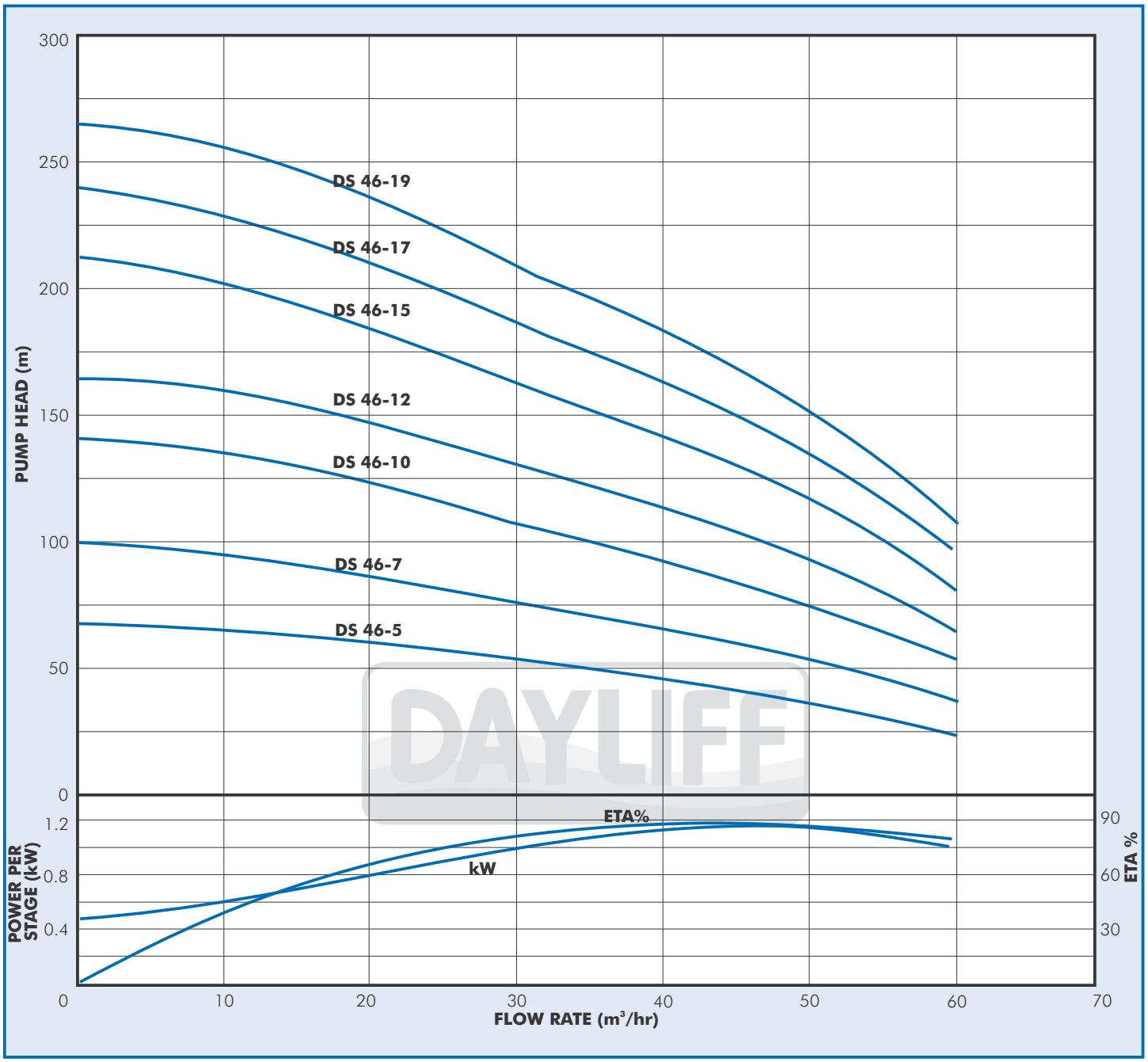


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)				Weight (kg)
	kW	HP			A	B	C	E*	
DS 30-8	7.5	10	16.5	5	1816	660	1038	142	49
DS 30-13	11	15	25.5	4.4	2248	730	1518	142	80
DS 30-17	15	20	33.4	4.8	2687	785	1902	142	93
DS 30-21	18.5	25	41	5.2	3146	860	2286	142	107
DS 30-26	22	30	47	5.1	3686	920	2766	142	122

E*=Maximum diameter of the pump with one motor cable

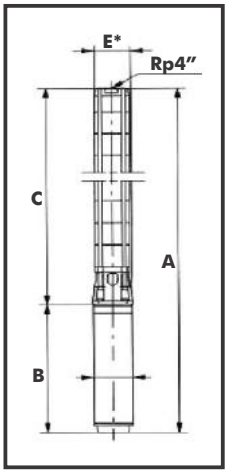


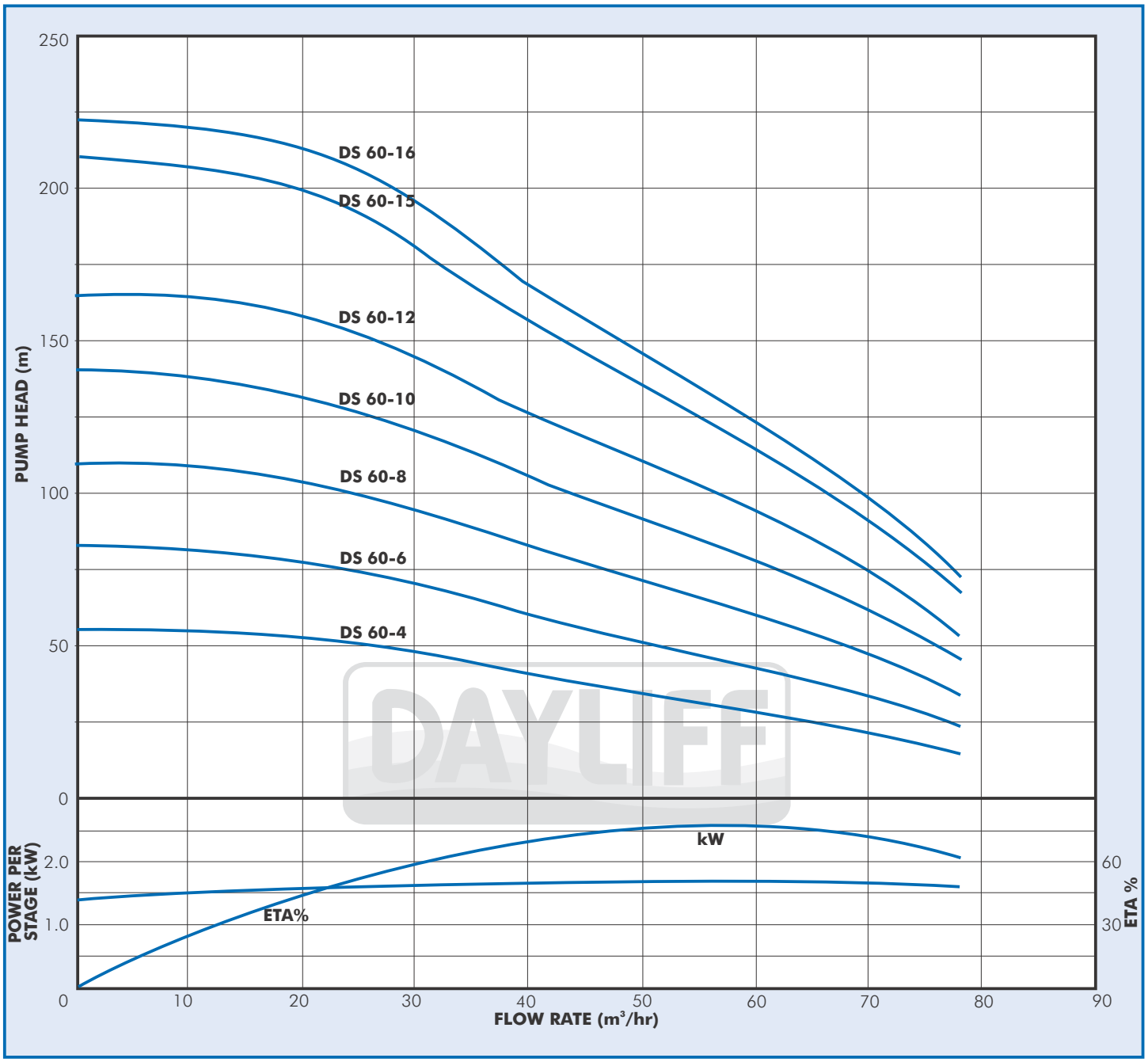


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)				Weight (kg)
	kW	HP			A	B	C	E*	
DS 46-5	7.5	10	18.3	4.4	1495	660	835	149	62
DS 46-7	11	15	26	4.8	1791	730	1061	149	74
DS 46-10	15	20	34.2	5	2185	785	1400	149	86
DS 46-12	19	25	42	5.5	2486	860	1626	149	99
DS 46-15	22	30	47.5	5.4	2885	920	1965	149	111
DS 46-17	26	35	56	4.9	3100	1157	2191	149	120
DS 46-19	30	40	63.5	4.7	3467	1050	2417	149	133

E*=Maximum diameter of the pump with one motor cable

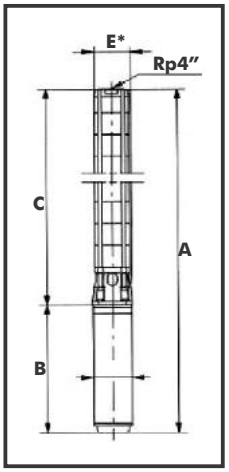


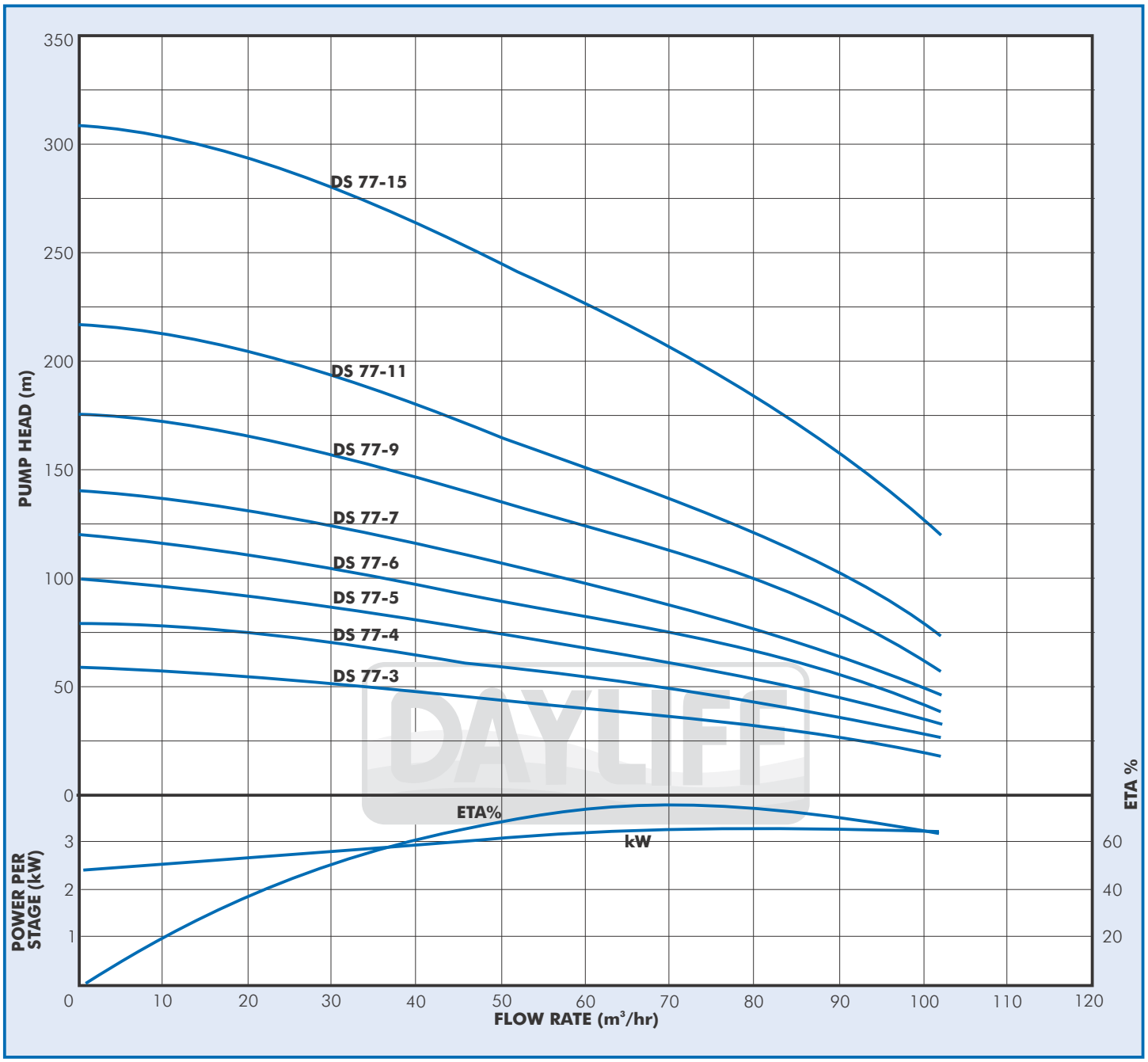


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)				Weight (kg)
	kW	HP			A	B	C	E*	
DS 60-4	7.5	10	16.9	5	1382	660	722	149	44
DS 60-6	11	15	26	4.8	1678	730	948	149	71
DS 60-8	15	20	34.2	5	1959	785	1174	149	82
DS 60-10	18.5	25	42	5.5	2260	860	1400	149	94
DS 60-12	22	30	47.5	5.4	2546	920	1626	149	105
DS 60-15	26	35	56	4.9	2839	874	1965	149	108
DS 60-16	30	40	63.5	4.7	3128	1050	2078	149	126

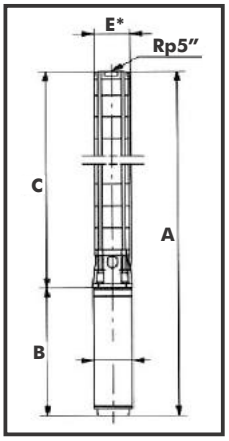
E*=Maximum diameter of the pump with one motor cable



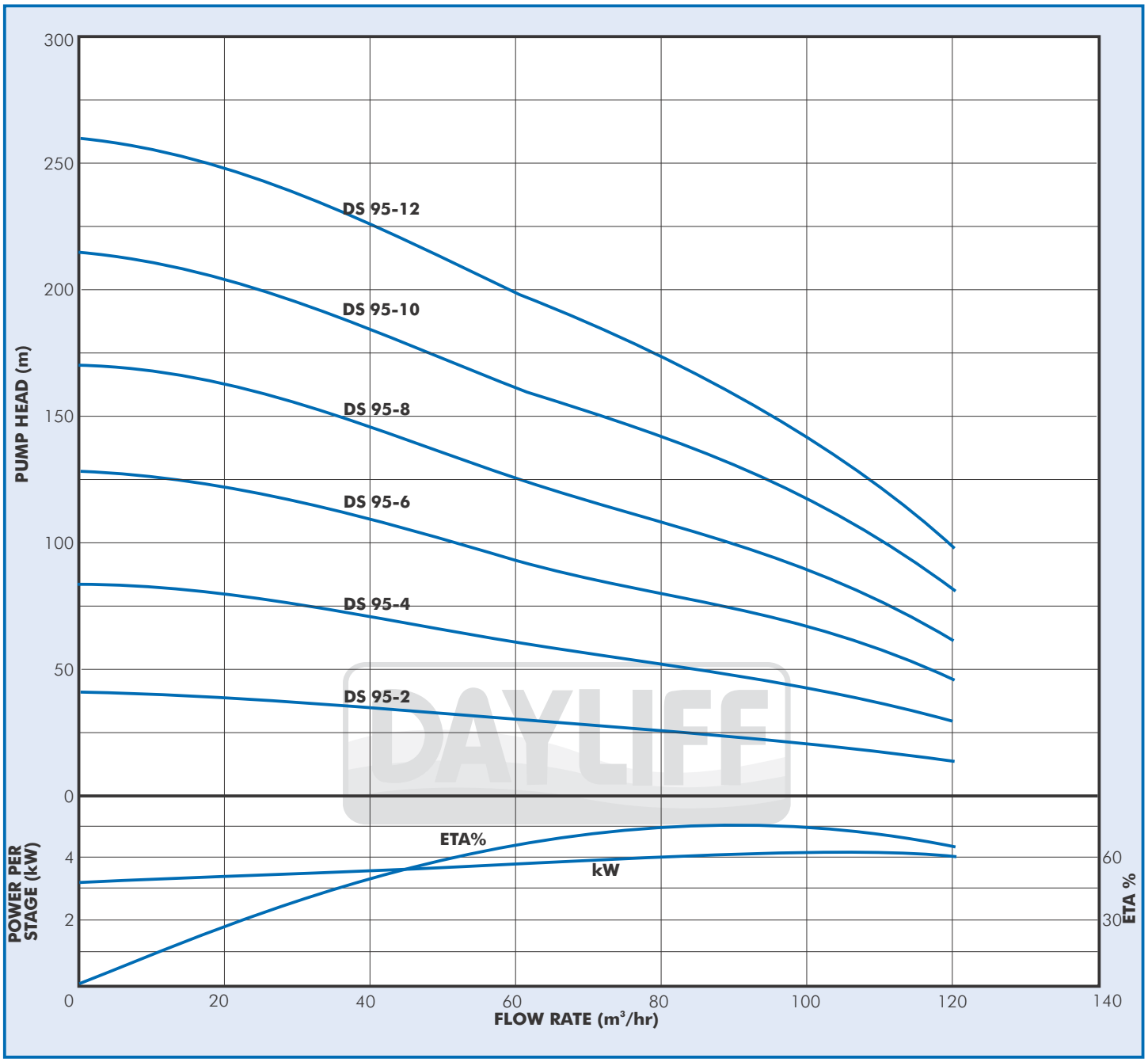


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)				Weight (kg)
	kW	HP			A	B	C	E*	
DS 77-3	11	15	27.5	3.7	1604	730	874	178	92
DS 77-4	15	20	36.5	4.2	1788	785	1003	178	113
DS 77-5	18.5	25	43.5	4.5	1991	860	1131	178	119
DS 77-6	22	30	51.5	5.5	2179	920	1259	178	138
DS 77-7	26	35	56.5	5.1	2500	1157	1387	178	181
DS 77-9	30	40	64	5.7	2694	1050	1644	178	200
DS 77-11	37	50	78.5	3.7	3080	1180	1900	178	217
DS 77-15	55	75	114	5.9	3400	1350	2424	200	269



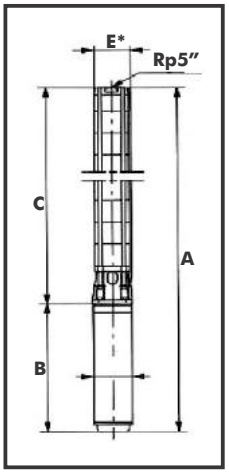
E*=Maximum diameter of the pump with one motor cable

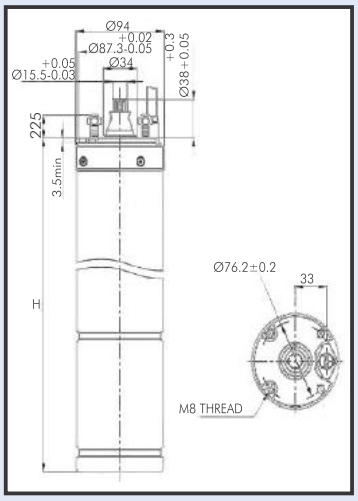


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)				Weight (kg)
	kW	HP			A	B	C	E*	
DS 95-2	9.2	13	21.8	4.6	1631	867	746	178	84
DS 95-4	18.5	25	42	5.5	2060	1057	1003	178	115
DS 95-6	26	35	57	4.9	2416	1157	1259	178	177
DS 95-8	37	50	78.5	3.7	2827	1312	1515	178	206
DS 95-10	45	60	96.5	6.0	3053	1270	1783	200	234
DS 95-12	55	75	114	5.9	3389	1350	2039	200	258

E*=Maximum diameter of the pump with one motor cable





Material Specification

Component	Material
Motor shell	304 stainless steel
Sand guard	NBR
Cable connector	EPDM
Upper end bracket cover	304 stainless steel
Upper end bracket	Zinc plated cast iron
Mechanical Seal	Ceramic /Carbon
Shaft (0.5-10HP)	304 stainless steel
Rotor (0.5-3HP)	Aluminium
Rotor (4-10HP)	Copper
Connector	PPS
Winding	Copper
Lower end bracket	Aluminium
Lower end bracket cover	304 stainless steel
Diaphragm	NBR

DAYLIFF DSM submersible motors are specifically designed to give exceptional reliability and efficiency in all borehole pumping applications.

Features

- 4" oil filled type motor with FDA approved colourless oil
- 6" canned type motor with resin filled stator for extended motor life
- Largely stainless steel AISI 304 construction with cast iron top and bottom bearings
- Water lubricated thrust and radial bearings
- Reinforced netted Nylon diaphragm for internal motor pressure compensation
- Thermal overload for motor protection
- Standard NEMA flanges for use with all types of pumps
- Protection: IP68
- Insulation Class: F
- Voltage: 1x220V/240V, 50Hz / 3x380V/415V, 50Hz

Operating Parameters

Max Voltage Variation: ±10%
Max Water Temperature: 35°C
Max Starts/Hr: 20
Min Water Pass Flow Rate: 0.2m/sec
Max Immersion Depth: 200m-4" and 300m-6"
Installation: Vertical/horizontal with a tilt angle >5°

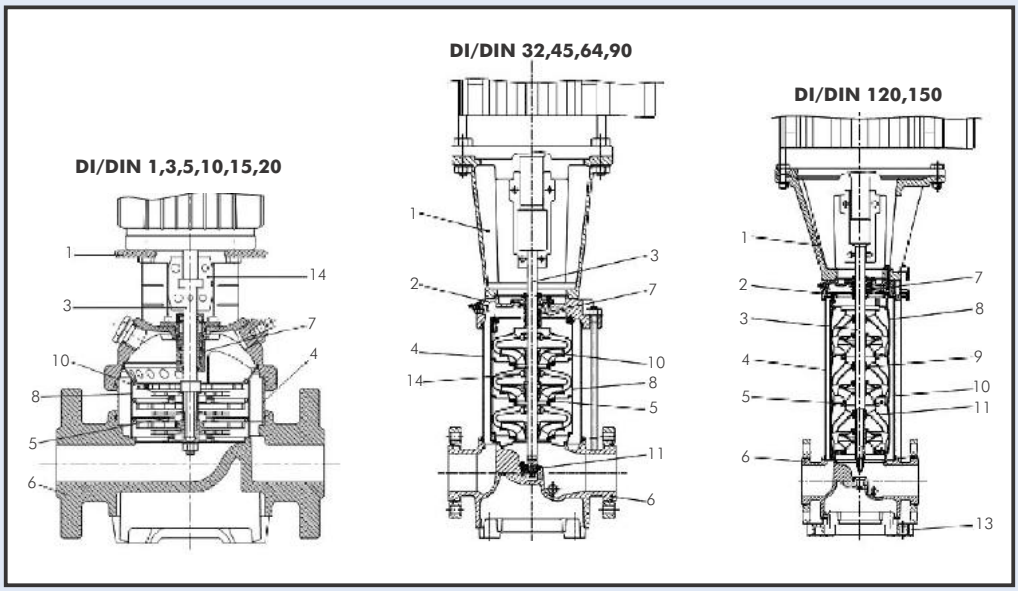
Motor Data

Single Phase

Power		In	Istart	Efficiency	PF	Nn	Thrust Load	Capacitor	Tail Cable		H	Weight
kW	HP	A	A	%	CosØ	RPM	N	µF	mm2	m	mm	Kg
0.37	0.5	3.7	12	53	0.90	2840	2000	16	1.5	1.7	346	7.3
0.55	0.75	5.0	15	62	0.90	2840	2000	20	1.5	1.7	365	8.2
0.75	1	6.2	20	64	0.90	2840	2000	25	1.5	1.7	380	8.8
1.1	1.5	8.1	32	68	0.90	2840	2000	35	1.5	1.7	405	10.0
1.5	2	10.4	38	73	0.90	2840	2000	40	1.5	1.7	440	11.5
2.2	3	15.0	46	72	0.90	2840	3000	55	1.5	2.5	495	14.0

Three Phase

Power		In	Istart	Efficiency	PF	Nn	Thrust Load	Tail Cable		H	Weight
kW	HP	A	A	%	CosØ	RPM	N	mm2	m	mm	Kg
0.37	0.5	1.6	4.5	60	0.80	2820	2000	1.5	1.7	330	6.7
0.55	0.75	1.9	6.7	64	0.80	2840	2000	1.5	1.7	346	7.4
0.75	1	2.3	8.9	66	0.80	2840	2000	1.5	1.7	365	8.2
1.1	1.5	3.1	12	70	0.80	2850	2000	1.5	1.7	380	8.9
1.5	2	4.0	14	72	0.80	2850	2000	1.5	1.7	405	10.0
2.2	3	5.6	22	71	0.85	2850	3000	1.5	2.5	440	11.6
3.0	4.0	7.4	43	73	0.85	2840	5000	2.0	2.5	516	15.2
4.0	5.5	9.8	49	75	0.85	2850	5000	2.0	2.5	607	19.5
5.5	7.5	13.7	71	76	0.85	2850	5000	2.0	2.5	683	23.1
7.5	10	18.9	96	76	0.85	2850	5000	2.0	2.5	783	27.5



DAYLIFF DI/DIN pumps are of non-self-priming vertical multistage design suitable for a wide range of water supply, irrigation, liquid transfer and boosting applications. Pumps are made of heavy duty construction and designed for long life in continuous duty commercial and industrial use.

Features

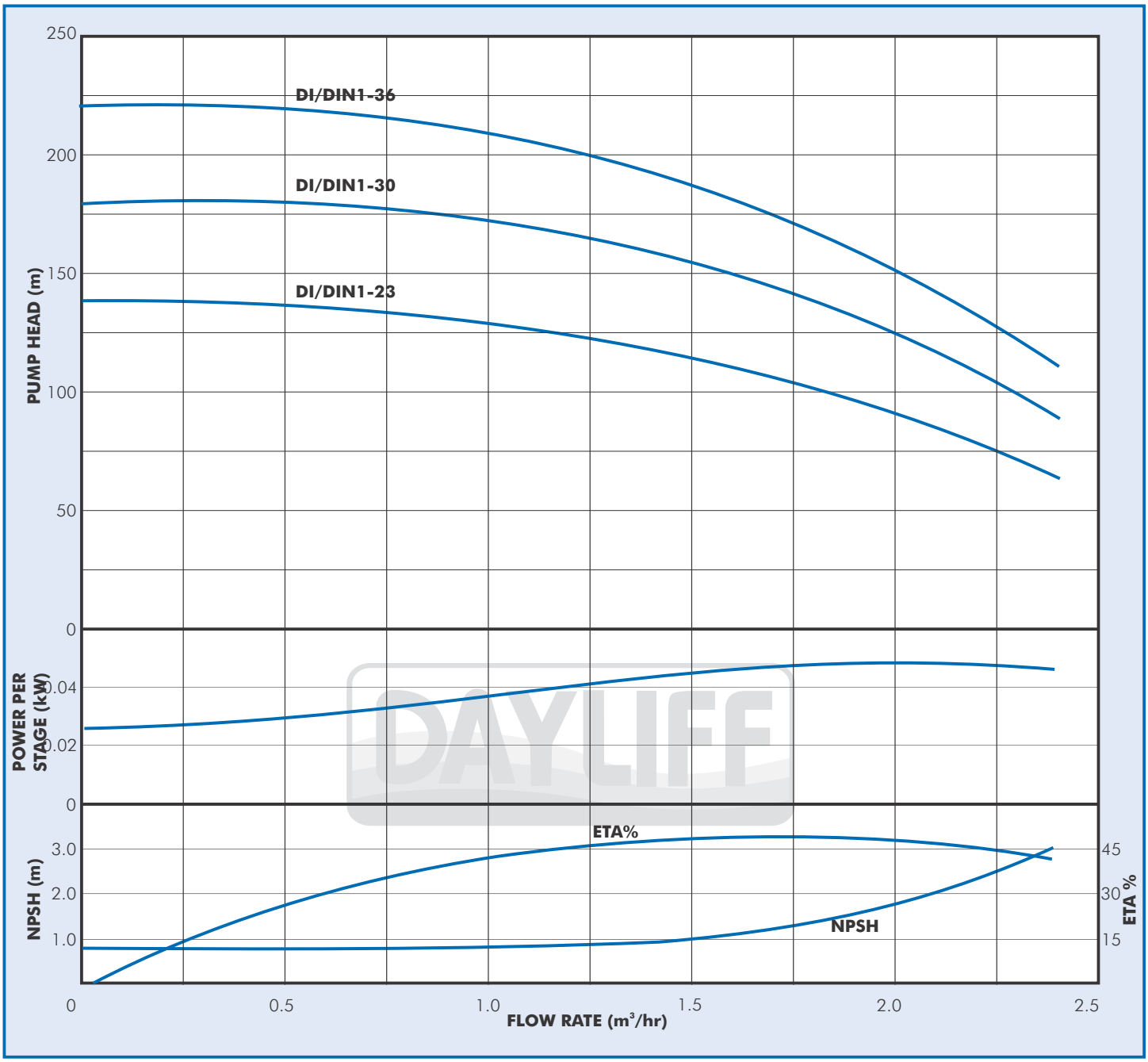
- In-line design for simple installation
- DI pumps feature 304 stainless steel for impeller and chamber and cast iron top and bottom housing
- DIN pumps feature 316 stainless steel construction throughout and are suitable for pumping highly mineralised corrosive water
- Fitted with high efficiency motors
- All models provided with flange connections with separate BSP internally threaded stainless steel counter flanges and bolts provided
- Cartridge type silicon carbide mechanical seal for simple seal replacement without pump dismantling
- Enclosure Class: IP55
- Insulation Class: F

Operating Conditions

Pumped Liquids: Thin, clean, non-explosive liquids without solid particles or fibres
Liquid Temperature Range: -15°C to +120°C
Maximum Ambient Temperature: +50°C
Maximum Suction Lift: According to the NPSH curve plus a safety margin of 1m

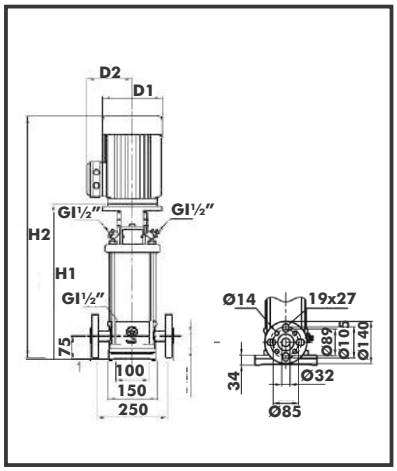
Material Specification

Pos	Name	DI Material	DI Material Specification	DIN Material	DIN Material Specification
1	Motor Bracket	Cast Iron	ASTM 35B	Cast Iron	ASTM 35B
2	Pump Head	Cast Iron	ASTM 25B	Stainless Steel	AISI 316
3	Shaft	Stainless steel	AISI 431	Stainless Steel	AISI 316
4	Outer Sleeve	Stainless steel	AISI 304	Stainless Steel	AISI 316
5	Neck Ring	PTFE (for DI/DIN 1,3,5,10,15,20,120,150)		PTFE + Carbon Fibre + POB (for DI/DIN 32,45,64,90)	
6	Base	Cast Iron	ASTM 25B	Stainless Steel	AISI 316
7	Mechanical Seal	Catridge Type		Catridge Type	
8	Chamber	Stainless Steel	AISI 304	Stainless Steel	AISI 316
9	Bearing Ring	Bronze		POB+Graphite+PTFE	
10	Impeller	Stainless Steel	AISI 304	Stainless Steel	AISI 316
11	Bottom Bearing Ring	Tungsten Carbide		Tungsten Carbide	
12	Chamber	Stainless Steel	AISI 304	Stainless Steel	AISI 316
13	Base Plate	Cast Iron		Cast Iron	ASTM 25B
14	Coupling	Fe-Cu-C		Fe-Cu-C	MPIF Fc0525

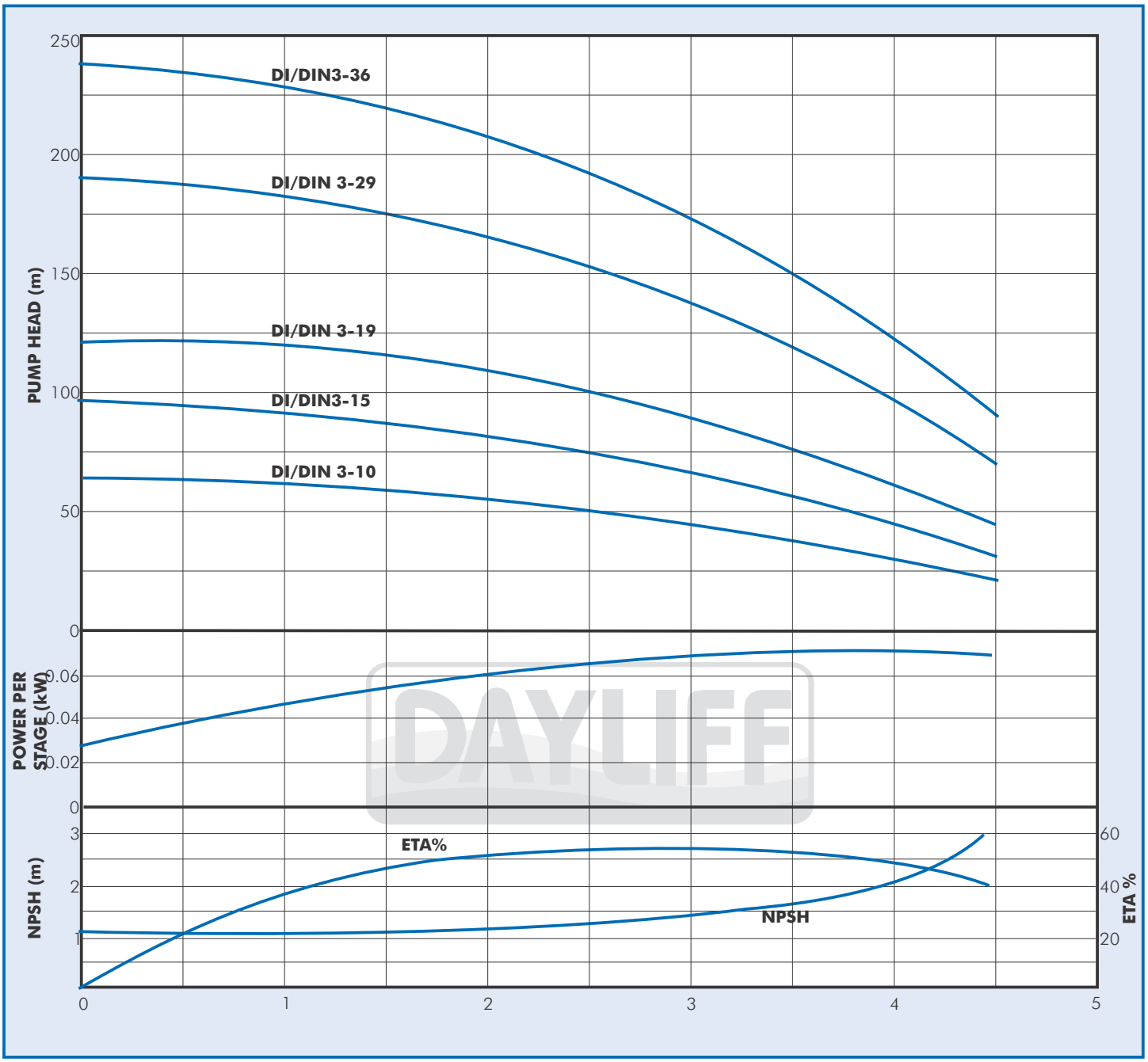


Pump Data

Model	Voltage (V)	Motor		Full Load Current (A)	I start / I	Dimensions (mm)				Weight kgs
		kW	HP			H1	H2	D1	D2	
DI/DIN 1-23	1x240	1.1	6.9	2	2	648	879	141	109	34
	3x415	1.1	1.5	2.2	6.3	648	879	141	109	34
DI/DIN 1-30	1x240	1.5	2.0	8.9	3	790	1,065	175	140	43
	3x415	1.5	2.0	3.5	7	790	1,065	175	140	43
DI/DIN 1-36	1x240	2.2	3.0	12.7	2.6	898	1,173	175	140	47
	3x415	2.2	3.0	4.8	7	898	1,173	175	140	47

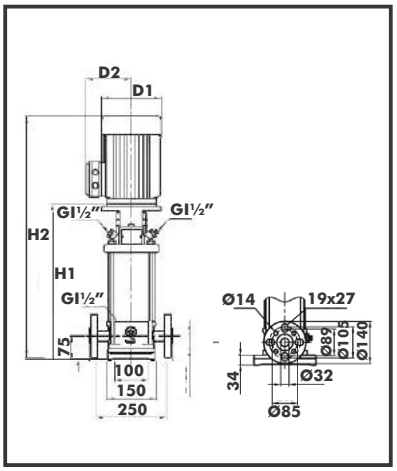


Max Operating Pressure: 25Bar
Max Inlet Pressure: 10Bar

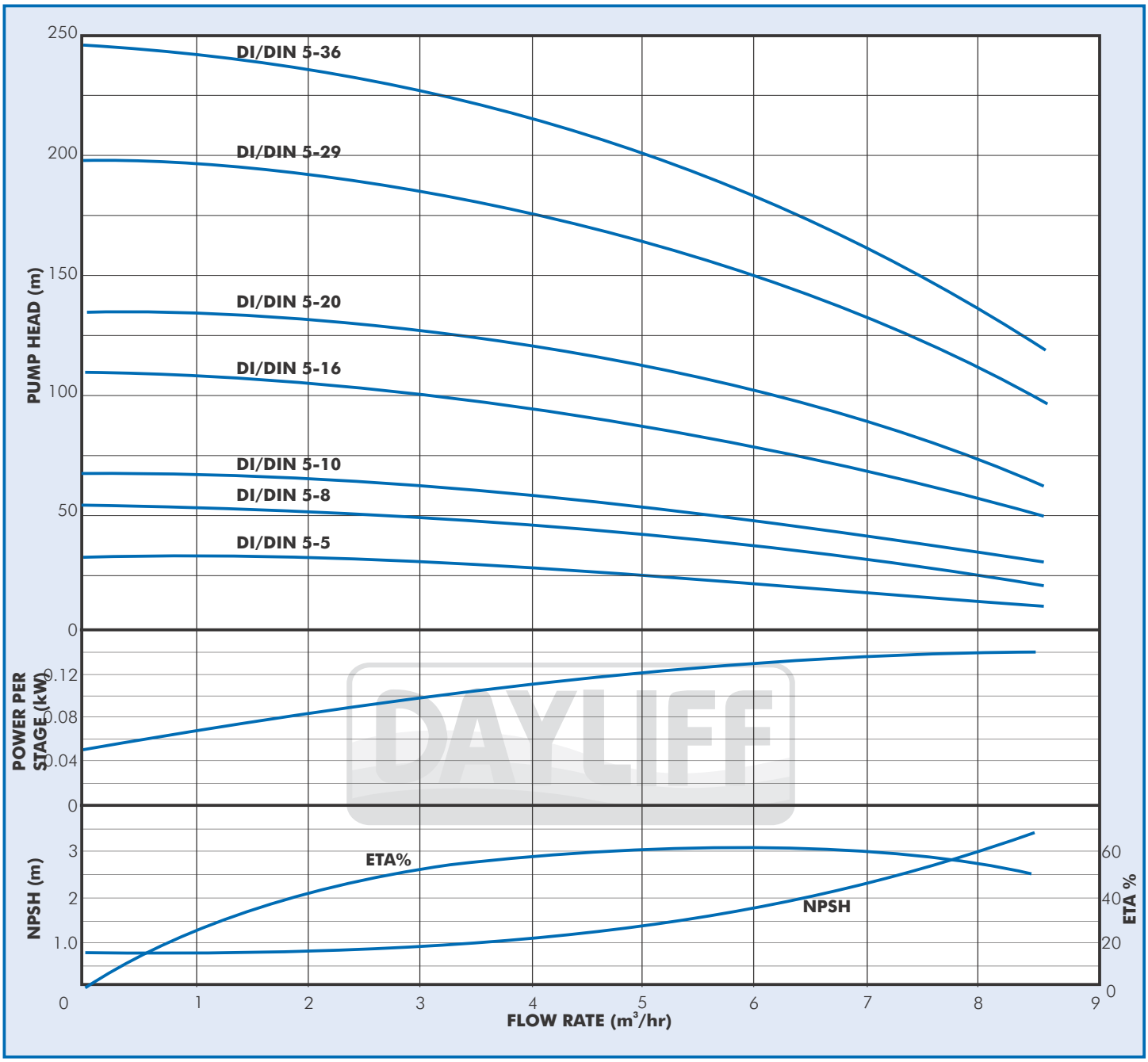


Pump Data

Model	Voltage (V)	Motor		Full Load Current (A)	I start / I	Dimensions(mm)				Weight (kgs)
		kW	HP			H1	H2	D1	D2	
DI/DIN 3-10	3x415	0.75	1	2	5.4	414	649	141	115	26
DI/DIN 3-15	3x415	1.1	1.5	2.2	6.3	504	793	177	141	34
DI/DIN 3-19	3x415	2	2	3.5	7	592	887	177	141	40
DI/DIN 3-29	1x240	3	3	12.7	2.6	772	1,067	177	141	45
	3x415	3	3	4.8	6.8	772	1,067	177	141	45
DI/DIN 3-36	3x415	4	4	6.5	6.5	902	1,218	197	147	56

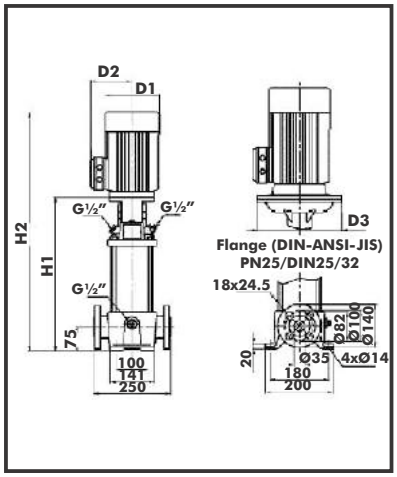


Maximum Operating Pressure: 25 Bar
Maximum Inlet Pressure: DI3-10 to 29-10Bar, DI3-36-15Bar

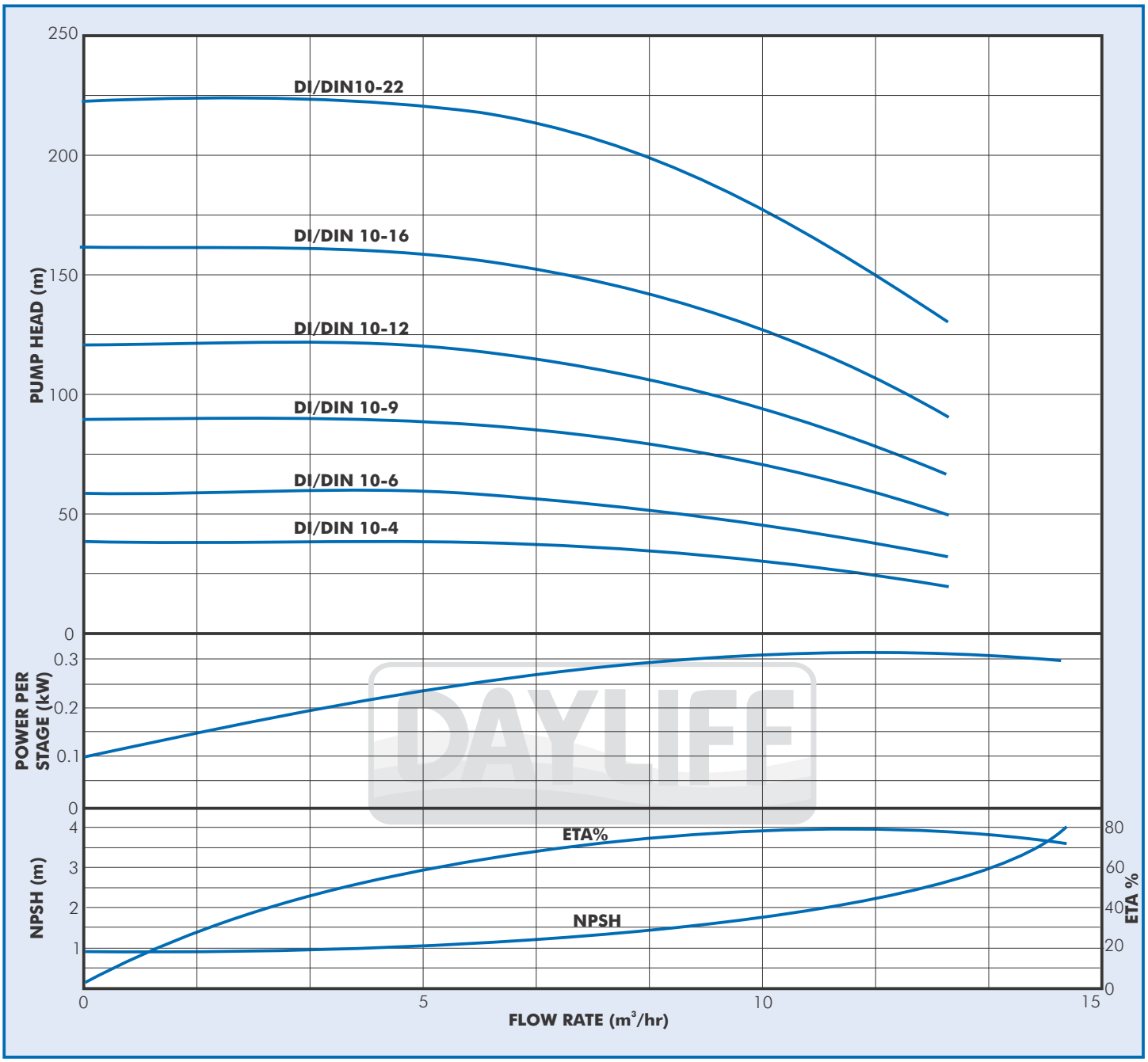


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)					Weight (kgs)
	kW	HP			H1	H2	D1	D2	D3	
DI/DIN 5-5	0.75	1.0	1.7	6.3	369	604	141	115	-	25
DI/DIN 5-8	1.1	1.5	2.2	6.3	450	739	177	141	-	33
DI/DIN 5-10	1.5	2.0	3.5	7.1	520	815	177	141	-	38
DI/DIN 5-16	2.2	3.0	4.8	6.8	682	977	177	141	-	43
DI/DIN 5-20	3.0	4.0	6.5	6.5	794	1,110	197	147	-	54
DI/DIN 5-29	4.0	5.5	8.7	7.5	1,037	1,363	220	161	-	63
DI/DIN 5-36	5.5	7.5	11.2	7.0	1,256	1,618	235	197	300	88

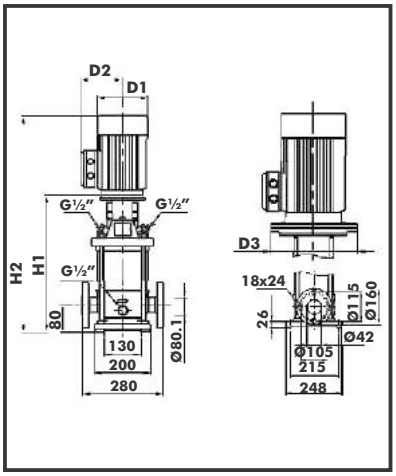


Max Operating Pressure: 25Bar
Max Inlet Pressure: DI5-5 to 16 -10Bar, DI5-20 to 36 -15Bar
Voltage: 3x415V

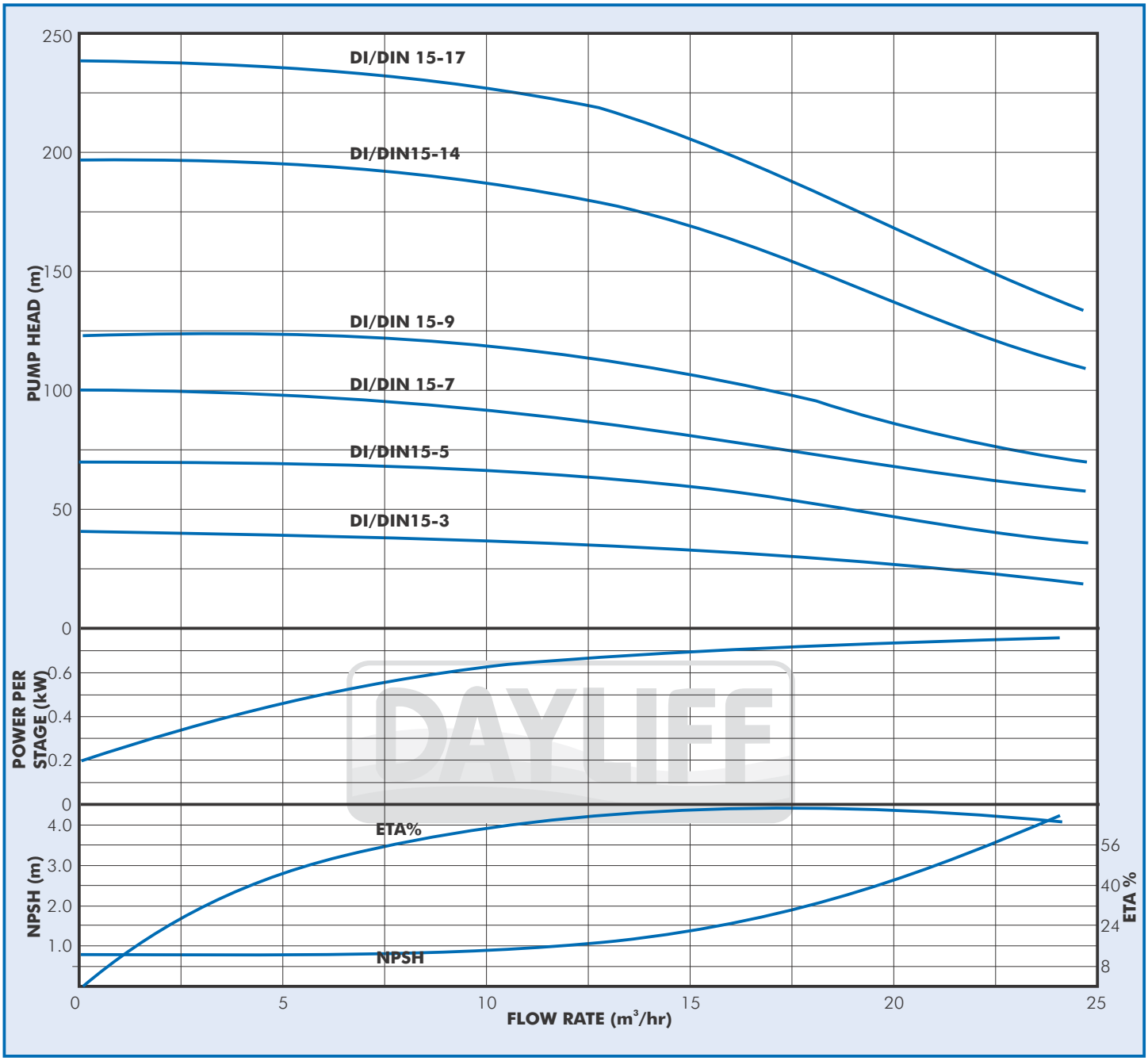


Pump Data

Model	Voltage (V)	Motor		Full Load Current (A)	I start / I	Dimensions (mm)					Weight (kgs)
		kW	HP			H1	H2	D1	D2	D3	
DI/DIN 10-4	1x240	1.5	2.0	8.9	1.6	433	728	177	140	-	48
DI/DIN 10-4	3x415	1.5	2.0	3.5	7.1	433	728	177	140	-	48
DI/DIN 10-6	3x415	2.2	3.0	4.8	6.8	493	788	177	140	-	51
DI/DIN 10-9	3x415	3.0	4.0	6.5	6.5	588	904	197	148	-	63
DI/DIN 10-12	3x415	4.0	5.5	8.7	7.5	678	1,004	220	162	-	70
DI/DIN 10-16	3x415	5.5	7.5	11.2	7.0	830	1,192	235	199	300	102
DI/DIN 10-22	3x415	7.5	10.0	14.7	8.7	1,010	1,415	235	199	300	115



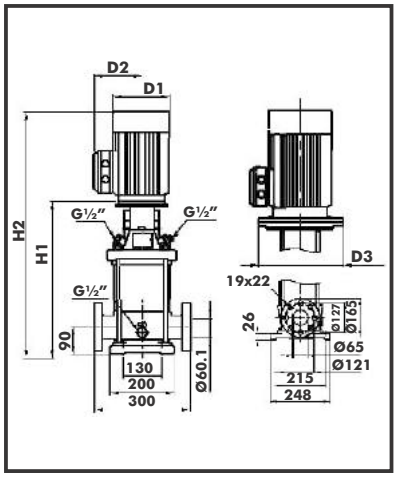
Maximum Operating Pressure: DI10-4 to 16 -16Bar, DI10-22 -25Bar
Maximum Inlet Pressure: DI10-4 and 6-8Bar, DI10-9 to 22-10Bar
Voltage: 3x415V

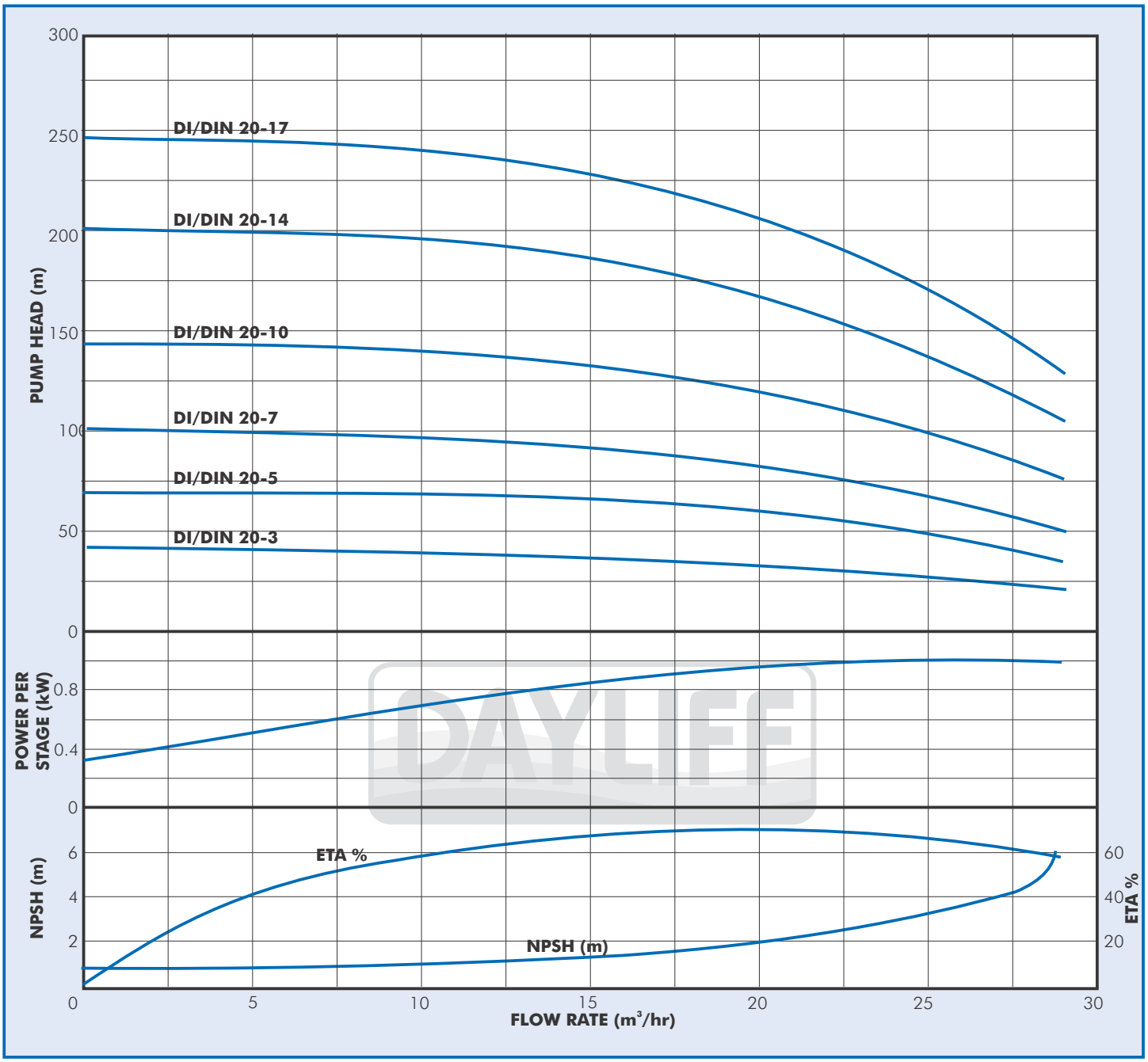


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)					Weight (kgs)
	kW	HP			H1	H2	D1	D2	D3	
DI/DIN 15-3	3	4	6.5	6.5	463	779	197	147	-	58
DI/DIN 15-5	4	5.5	8.7	7.5	553	879	220	161	-	65
DI/DIN 15-7	5.5	7.5	11.2	7	675	1,037	235	197	300	96
DI/DIN 15-9	7.5	10	14.7	8.7	765	1,170	235	197	300	105
DI/DIN 15-14	11	15	18.9	6.6	1,067	1,512	269	215	350	145
DI/DIN 15-17	15	20	25.5	6.4	1,202	1,692	269	215	350	160

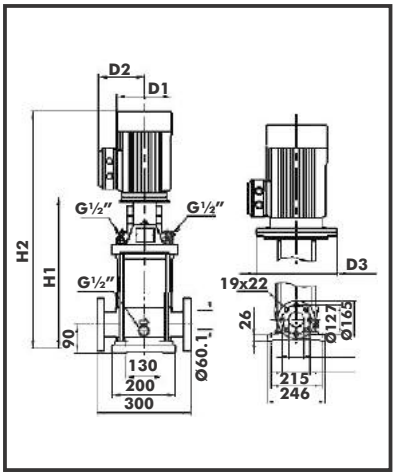
Maximum Operating Pressure: DI 15-3 to 9-16Bar, DIN15-14 to17 - 25Bar
Maximum Inlet Pressure: DI 15-5-3-8Bar, DI 15- 5 to 17 -10Bar
Voltage: 3x415V



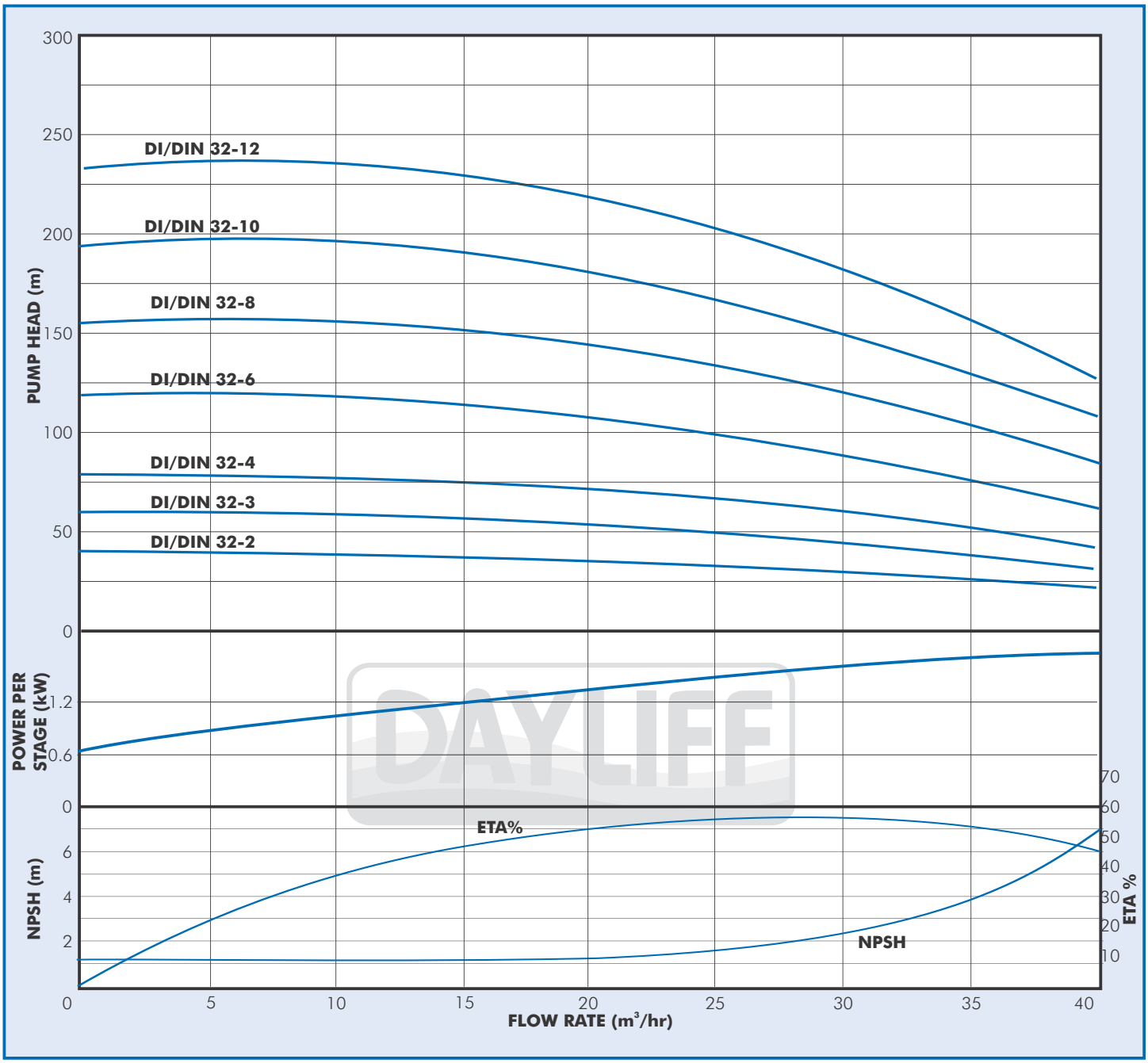


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)					Weight (kgs)
	kW	HP			H1	H2	D1	D2	D3	
DI/DIN 20-3	4.0	6	8.7	7.5	463	789	220	161	-	63
DI/DIN 20-5	5.5	8	11.2	7.0	585	947	235	197	300	93
DI/DIN 20-7	7.5	10	14.7	8.7	675	1,080	235	197	300	102
DI/DIN 20-10	11	15	18.9	6.6	887	1,332	269	215	350	139
DI/DIN 20-14	15	20	25.5	6.4	1,067	1,557	269	215	350	155
DI/DIN 20-17	18.5	25	31.3	6.4	1,202	1,742	318	241	350	193



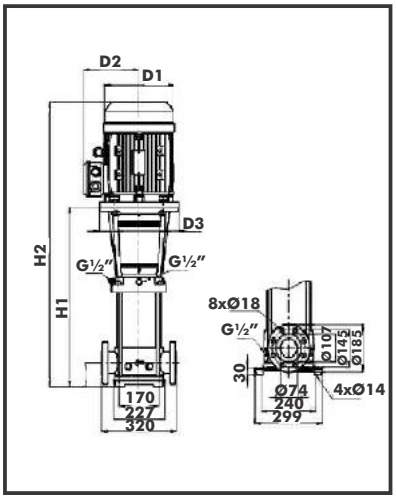
Maximum Operating Pressure: DI 20-3 to 10 -16Bar, DI20-14 to 17-25Bar
Max Inlet Pressure: DIN20-3-8Bar, DIN 20-5 to 17-10Bar
Voltage: 3x415V

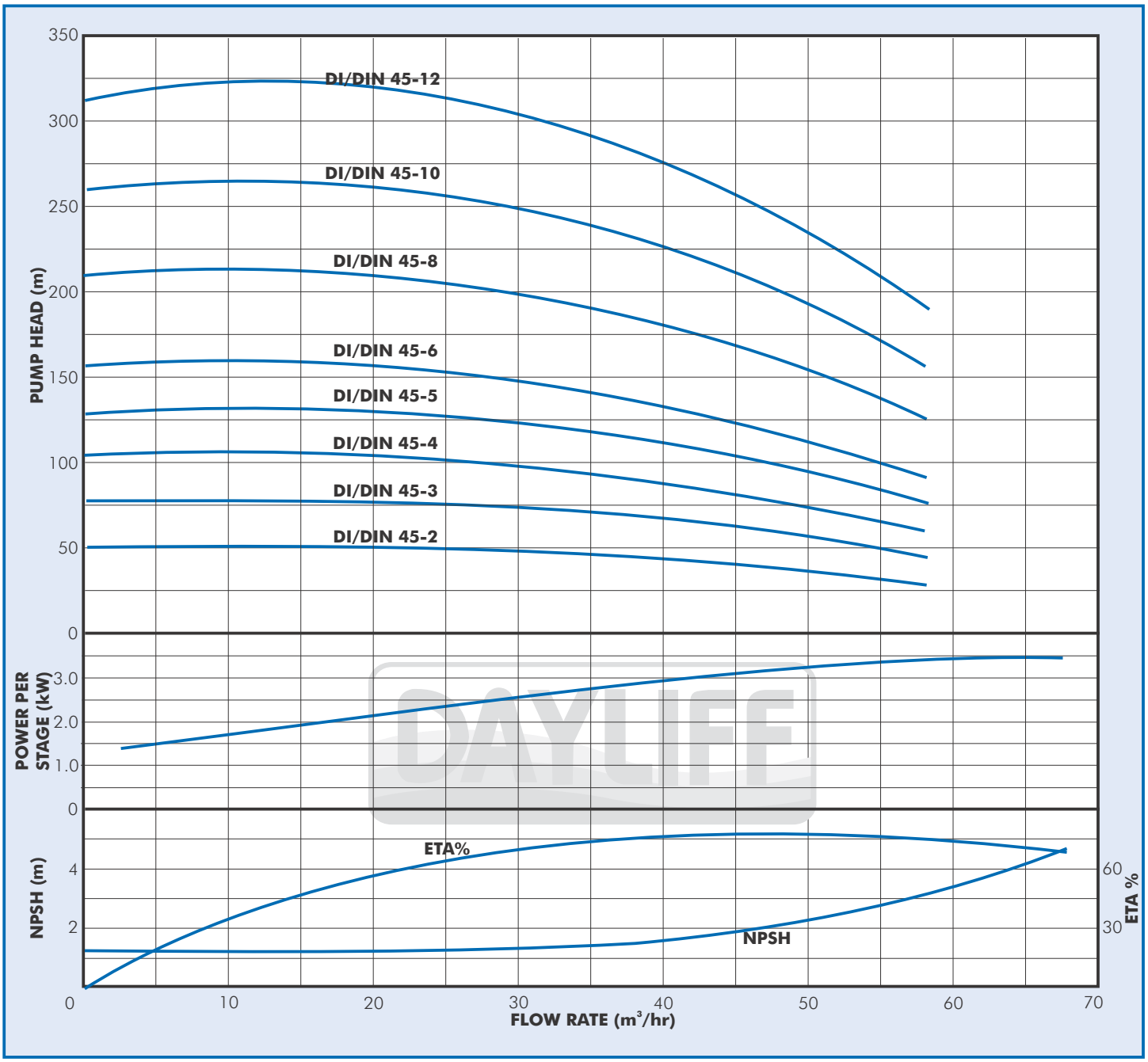


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)					Weight (kgs)
	kW	HP			H1	H2	D1	D2	D3	
DI/DIN 32-2	4.0	5.5	8.7	7.5	574	900	220	161	280	85
DI/DIN 32-3	5.5	7.5	11.2	7.0	644	1,006	235	197	300	105
DI/DIN 32-4	7.5	10	14.7	8.7	714	1,119	235	197	300	114
DI/DIN 32-6	11	15	18.9	6.6	964	1,409	269	215	350	157
DI/DIN 32-8	15	20	25.5	6.4	1,104	1,594	269	215	350	174
DI/DIN 32-10	18.5	25	31.3	6.4	1,244	1,784	318	241	350	204
DI/DIN 32-12	22	30	37.1	6.4	1,384	1,924	318	241	350	230

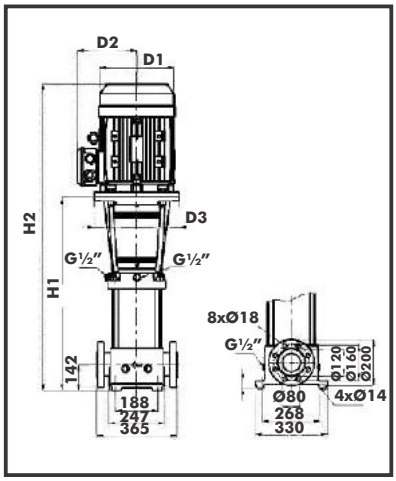
Maximum Operating Pressure: DI32-2 to 7-16Bar, DI32-8 to 12-30Bar
Maximum Inlet Pressure: DI32-2 to 4 -4Bar, DI32-6 to 10 -10Bar, DI32-12-15Bar
Voltage: 3x415V



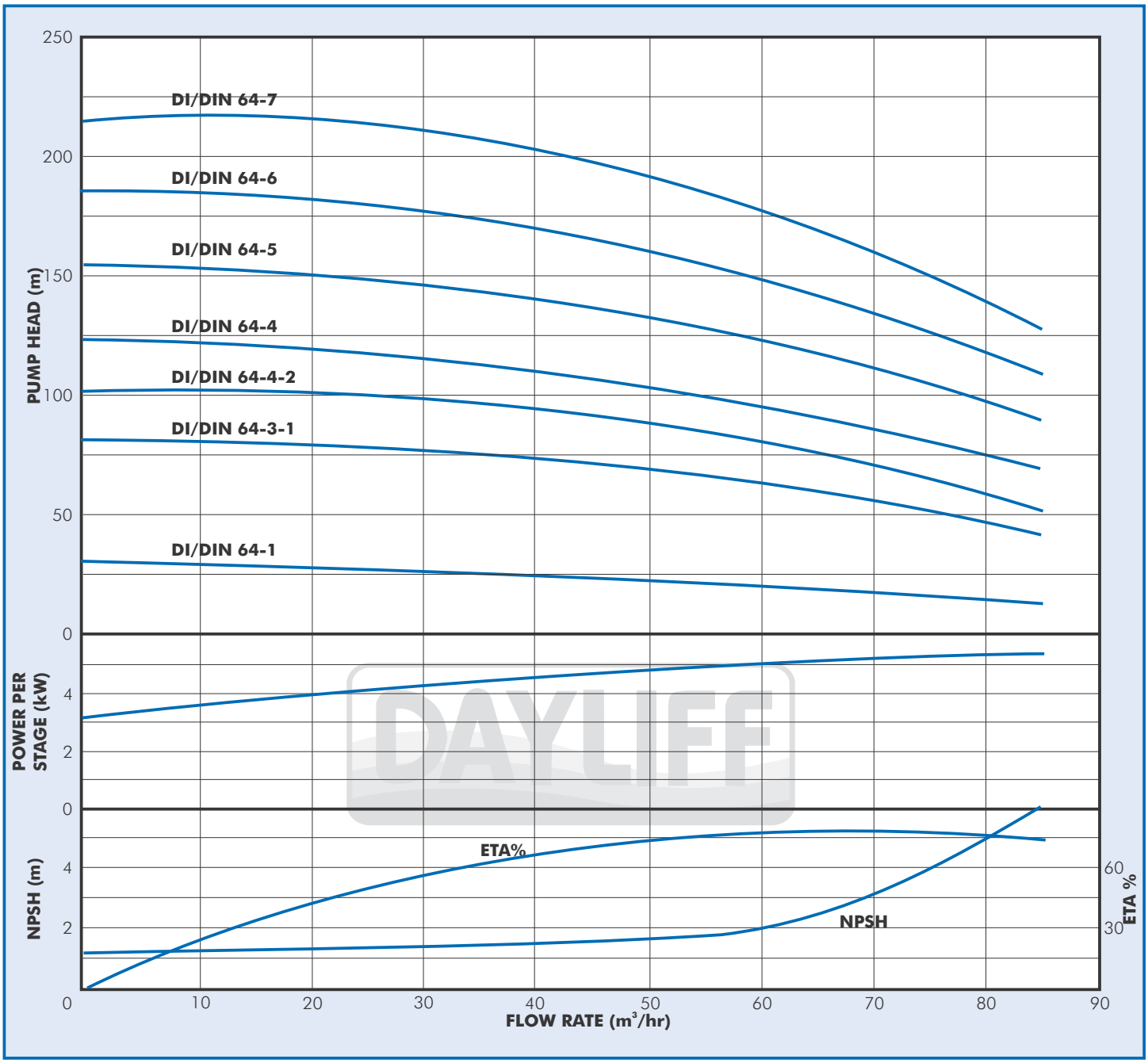


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)					Weight (kgs)
	kW	HP			H1	H2	D1	D2	D3	
DI/DIN 45-2	7.5	10	14.7	8.7	639	1044	235	197	300	115
DI/DIN 45-3	11	15	18.9	6.6	829	1274	269	215	350	156
DI/DIN 45-4	15	20	25.5	6.4	909	1,400	269	215	350	170
DI/DIN 45-5	18.5	25	31.3	6.4	1069	1,609	318	241	350	223
DI/DIN 45-6	22	30	37.1	6.4	1,149	1,809	390	295	400	331
DI/DIN 45-8	30	40	50.3	6.4	1,229	1,889	390	295	400	335
DI/DIN 45-10	37	50	61.7	6.6	1,389	2,049	390	295	400	360
DI/DIN 45-12	45	60	74.8	6.2	1,549	2,239	446	325	450	444



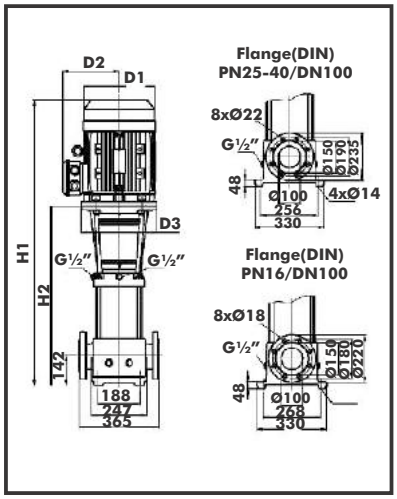
Maximum Operating Pressure: DI45-2 to 5 -16Bar, DI45-6 to 10-30Bar , DI45-12-33Bar
Maximum Inlet Pressure: DI45-2-4Bar, DI45-3 to 5-10Bar, DI45-6 to 12 -15Bar
Voltage: 3x415V

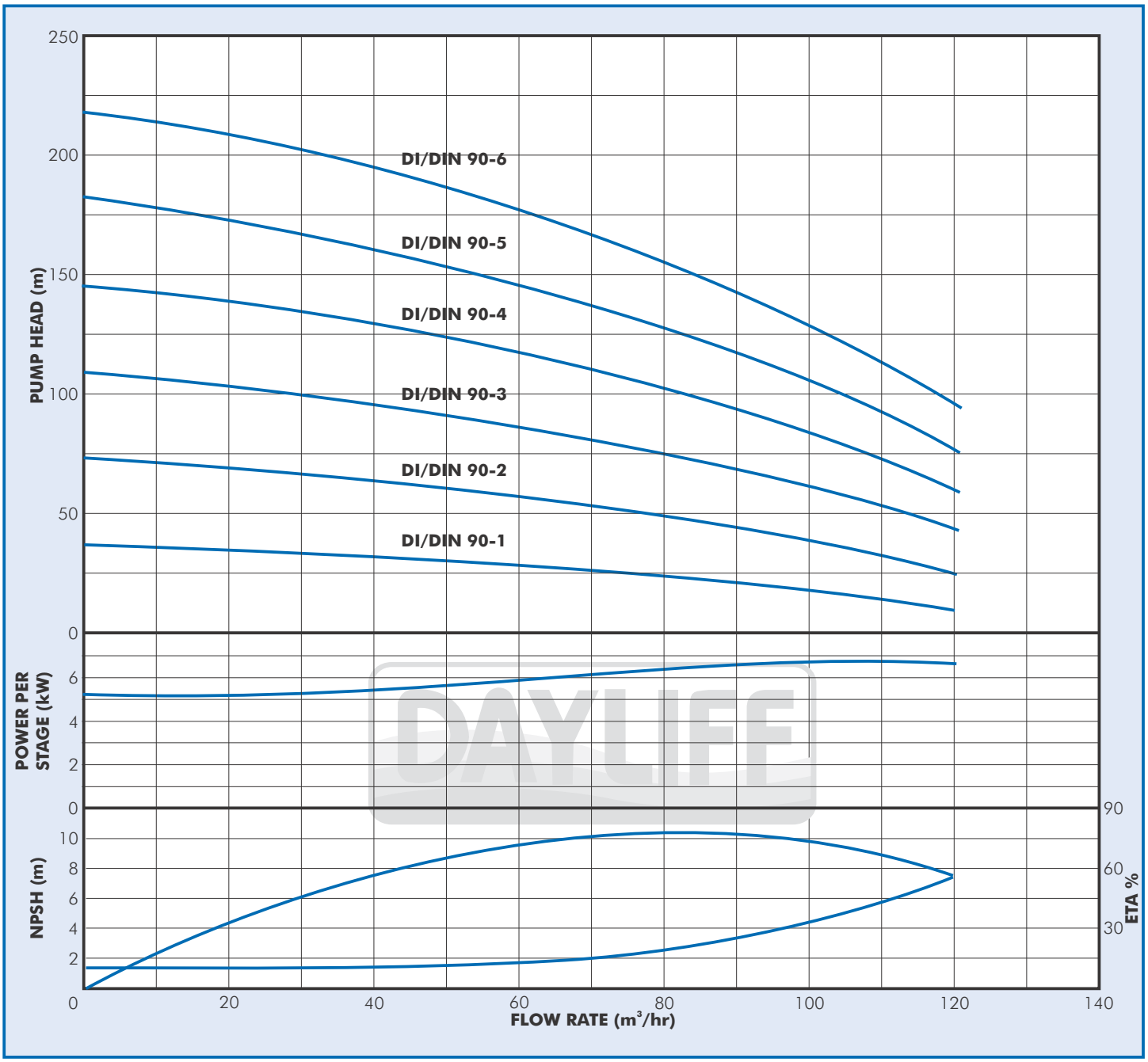


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)					Weight (kgs)
	kW	HP			H1	H2	D1	D2	D3	
DI/DIN 64-1	5.5	7.5	11.2	7.0	563	925	235	197	300	101
DI/DIN 64-3-1	15	20	25.5	6.4	838	1,328	269	215	350	163
DI/DIN 64-4-2	18.5	25	31.3	6.4	921	1,461	318	241	350	213
DI/DIN 64-4	22	30	37.1	6.4	921	1,461	318	241	350	215
DI/DIN 64-5	30	30	50.3	6.4	1,003	1,663	390	295	400	320
DI/DIN 64-6	37	50	61.7	6.6	1,086	1,746	390	295	400	342
DI/DIN 64-7	45	60	74.8	6.2	1,172	1,862	446	325	450	422

Maximum Operating Pressure: DI64-1 to 5 -16Bar, DI64-6 to 7-30Bar
Maximum Inlet Pressure: DI64-1-4Bar, DI64-2 to 4 -10Bar, DI64-5 to 7-15Bar
Voltage: 3x415V

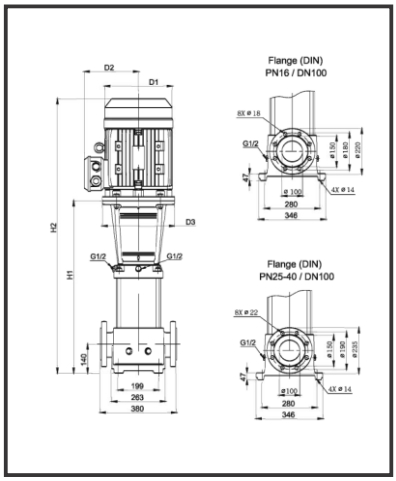


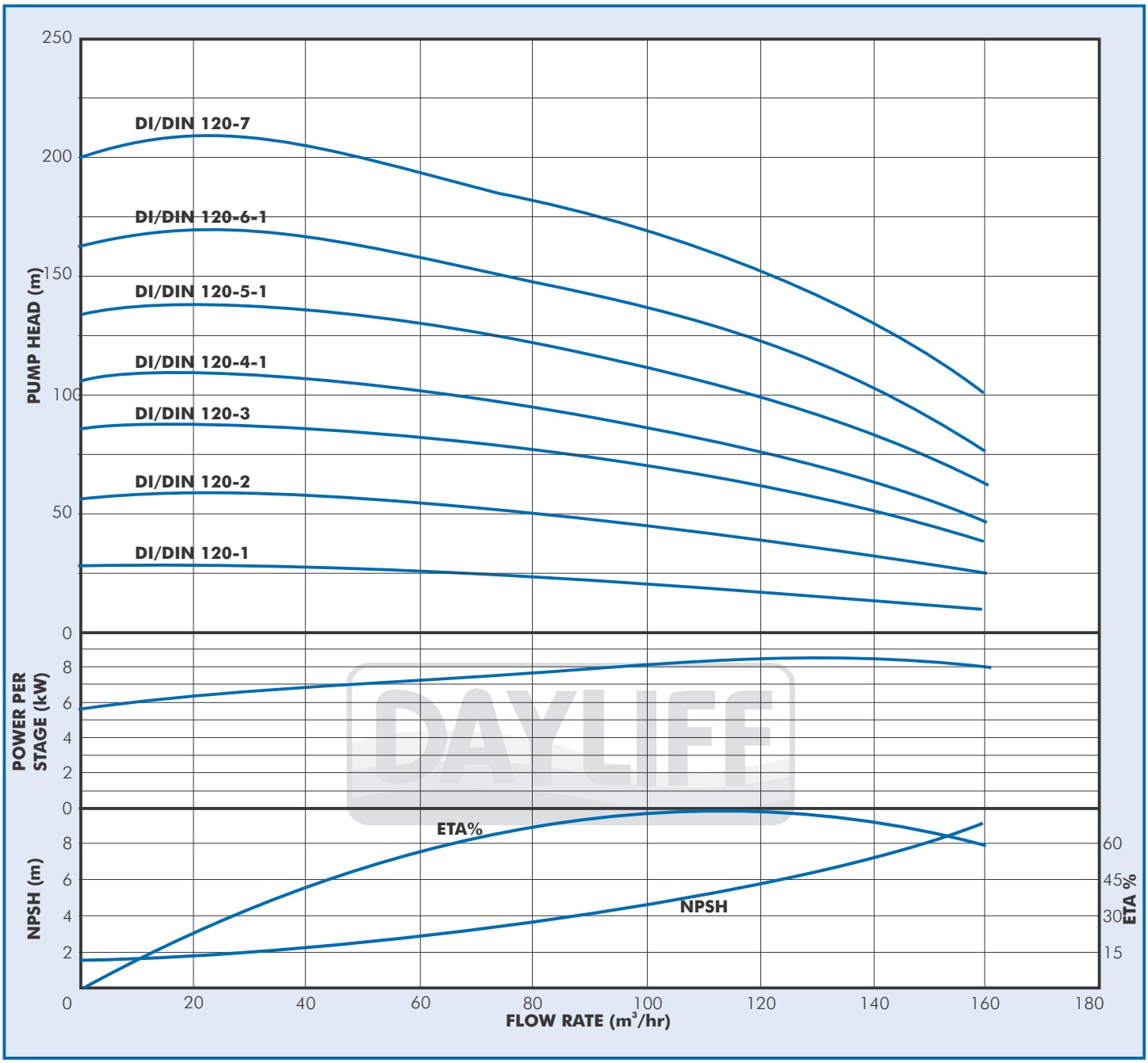


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)					Weight (kgs)
	kW	HP			H1	H2	D1	D2	D3	
DI/DIN 90-1	7.5	10	14.7	8.7	572	981	235	197	300	118
DI/DIN 90-2	15	20	25.5	6.4	778	1268	269	215	350	170
DI/DIN 90-3	22	30	37.1	6.4	870	1,410	318	241	350	221
DI/DIN 90-4	30	40	50.3	6.4	962	1,662	390	295	400	330
DI/DIN 90-5	37	50	61.7	6.6	1,054	1,714	390	295	400	355
DI/DIN 90-6	45	60	74.8	6.2	1,146	1,836	446	325	450	436

Maximum Operating Pressure: DI90-1 to 4 -16Bar, DI90-5 to 6 -30Bar
Maximum Inlet Pressure: DI90-1-4Bar, DI90-2 -10Bar, DI90-3 to 6 -15Bar
Voltage: 3x415V

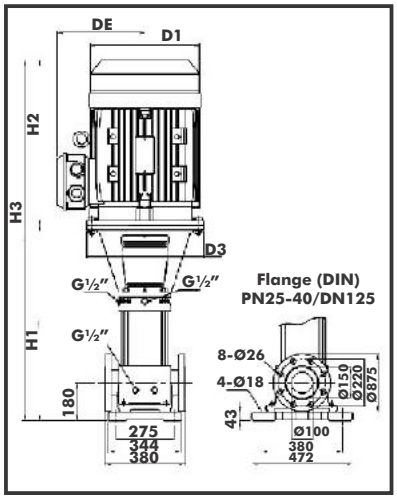


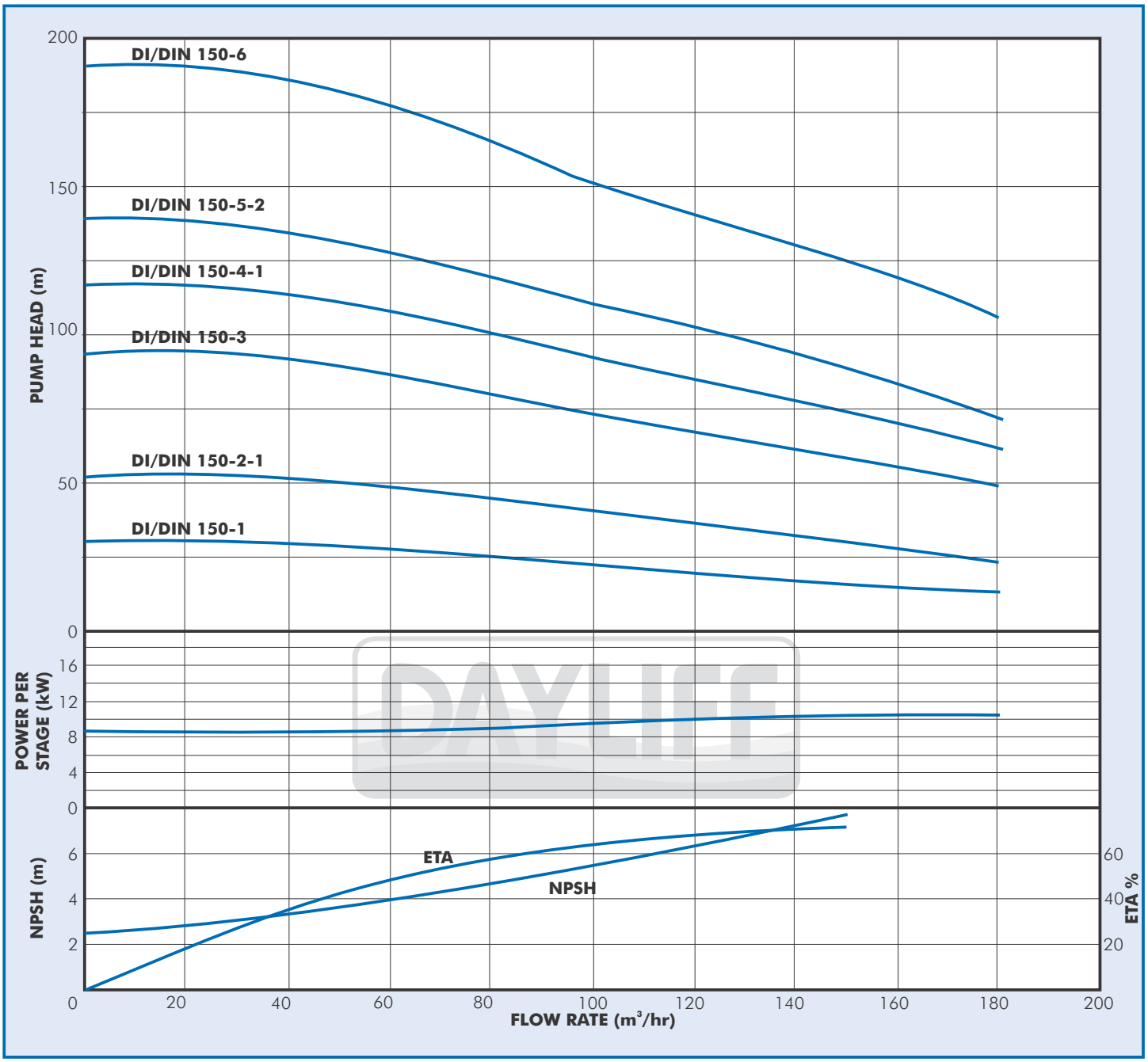


Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)					Weight (kgs)
	kW	HP			H1	H2	D1	D2	D3	
DI/DIN 120-1	11	15	18.9	6.6	837	1282	329	215	350	196
DI/DIN 120-2	22	30	37.1	6.4	993	1533	318	241	350	266
DI/DIN 120-3	30	40	51.3	6.4	1149	1809	390	295	400	376
DI/DIN 120-4-1	37	50	61.7	6.6	1,304	1964	390	295	400	404
DI/DIN 120-5-1	45	60	74.8	6.2	1,463	2153	446	325	450	490
DI/DIN 120-6-1	55	75	91.2	6.6	1,645	2415	485	355	550	620
DI/DIN 120-7	75	100	123.8	6.5	1,800	2645	550	410	550	747

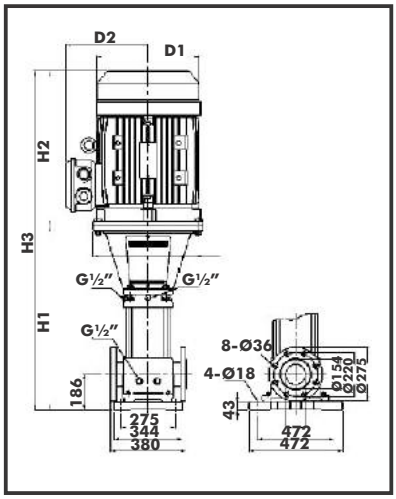
Maximum Operating Pressure: 30Bar
Maximum Inlet Pressure: DI120-1-10Bar, DI120-2 to 5 -15Bar,DI120-6-1 to 7 -20Bar
Voltage: 3x415V



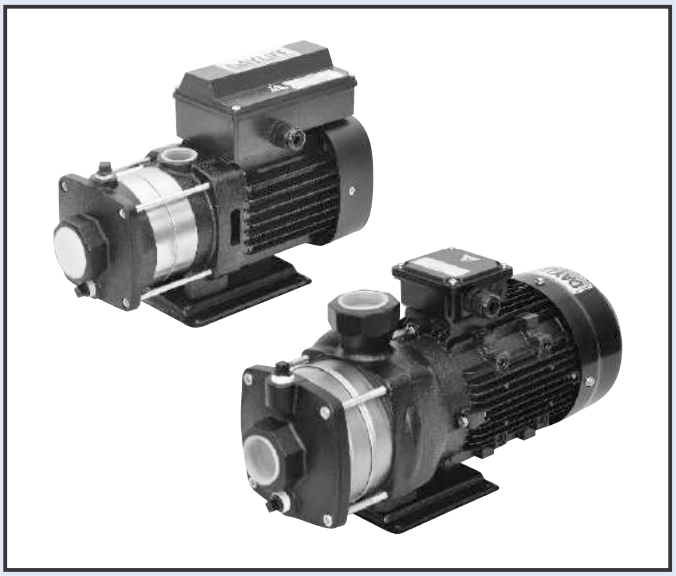


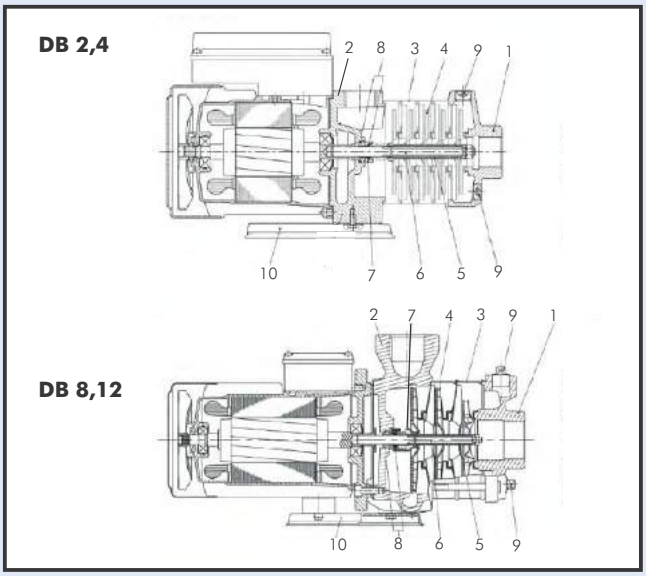
Pump Data

Model	Motor		Full Load Current (A)	I start / I	Dimensions (mm)						Weight (kgs)
	kW	HP			H1	H2	H3	D1	D2	D3	
DI/DIN 150-1	18.5	25	25.5	6.4	837	490	1339	269	215	350	190
DI/DIN 150-2-1	22	30	37.1	6.4	993	540	1,570	318	241	350	246
DI/DIN 150-3	37	50	61.7	6.6	1148	660	1,805	390	295	400	377
DI/DIN 150-4-1	45	60	74.8	6.2	1,308	690	1,590	446	325	450	464
DI/DIN 150-5-2	55	75	91.2	6.6	1,489	770	2,256	485	355	550	596
DI/DIN 150-6	75	100	123.8	6.5	1,645	845	2,487	550	410	550	721



Maximum Operating Pressure: 30Bar
Maximum Inlet Pressure: DI150-1 -10bar, DI150-2-1 to 150-4-1-15bar, DI150-5-2 to 150-6 -20bar
Voltage: 3x415V





The DAYLIFF DB range of horizontal multistage centrifugal pumps are designed for continuous duty in various water transfer applications.

Features

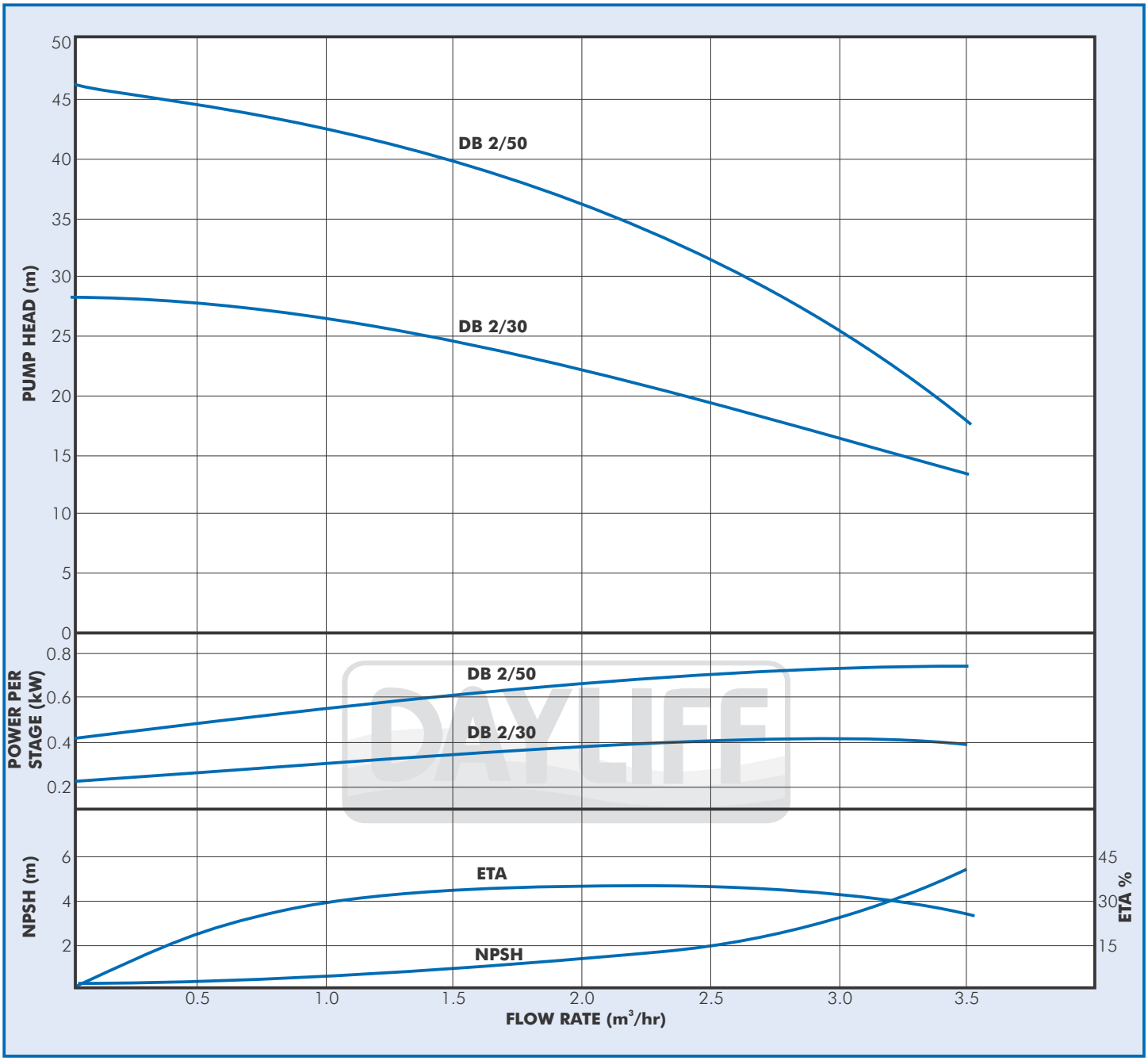
- Compact dimensions with axial suction port, radial discharge port.
- Quality materials for construction including cast iron suction chamber and pump head and stainless steel impeller and impeller housing.
- Quiet and smooth operation
- TEFC motor rated for continuous duty. Single phase pumps include built in thermal overload protection and are directly connected to mains power through a suitably rated fuse or MCB. Three phase pumps require remote DOL starter.
- Enclosure Class: IP54
- Insulation Class: F

Operating Conditions

Pumped liquids: Thin, clean, non-aggressive and non-explosive liquids without solid particles or fibres.
Liquid Temperature Range: 0°C to +90°C.
Max. Ambient Temperature: +50°C
Max. Suction Lift: According to the NPSH curve plus a safety margin of 0.5m
Max. Input Pressure: 6 Bar
Max. Operating Pressure: 10 Bar up to 40°C, 6 Bar up to 90°C - DB 2/4
10 Bar up to 55°C, 6 Bar up to 90°C - DB8/12

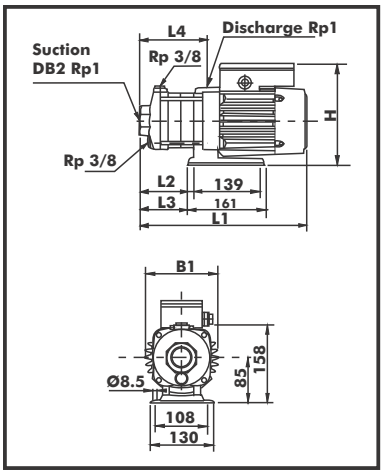
Material Specification

Pos	Description	Standard DB
1	Suction Chamber	Cast Iron
2	Pump Head	Cast Iron
3	Intermediate Chamber	SS304
4	Impeller	SS304
5	Spacing Pipe	SS304
6	Shaft	SS431
7	Mechanical Seal	Silicon Carbide/Carbon
8	O-ring	EPDM or Viton
9	Drain and Priming Plug	Steel
10	Base Plate	Steel

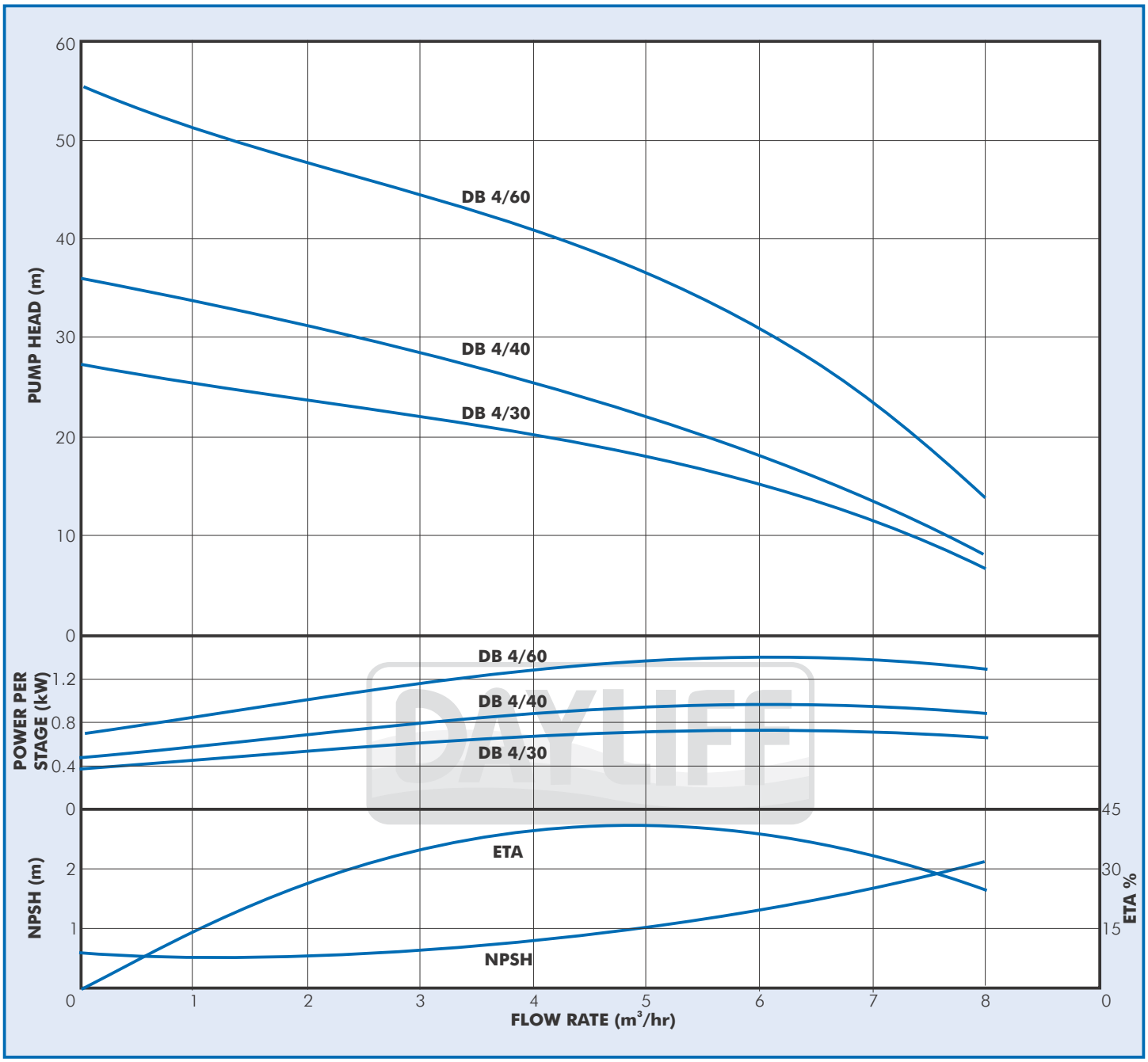


Pump Data

Model	Input Power (W)	Running Current (A)	Dimensions (mm)						Weight (kgs)
			L1	L2	L3	L4	B1	H	
DB 2/30	480	2.3	327	93	81	119	141	227	10
DB 2/50	680	3.2	363	129	117	155	141	227	11

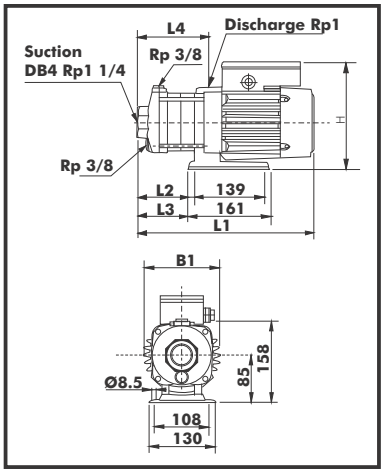


Max Operating Pressure: 10Bar up to 40°C, 6Bar up to 90°C
Max Inlet Pressure: 6Bar
Voltage: 1x240V

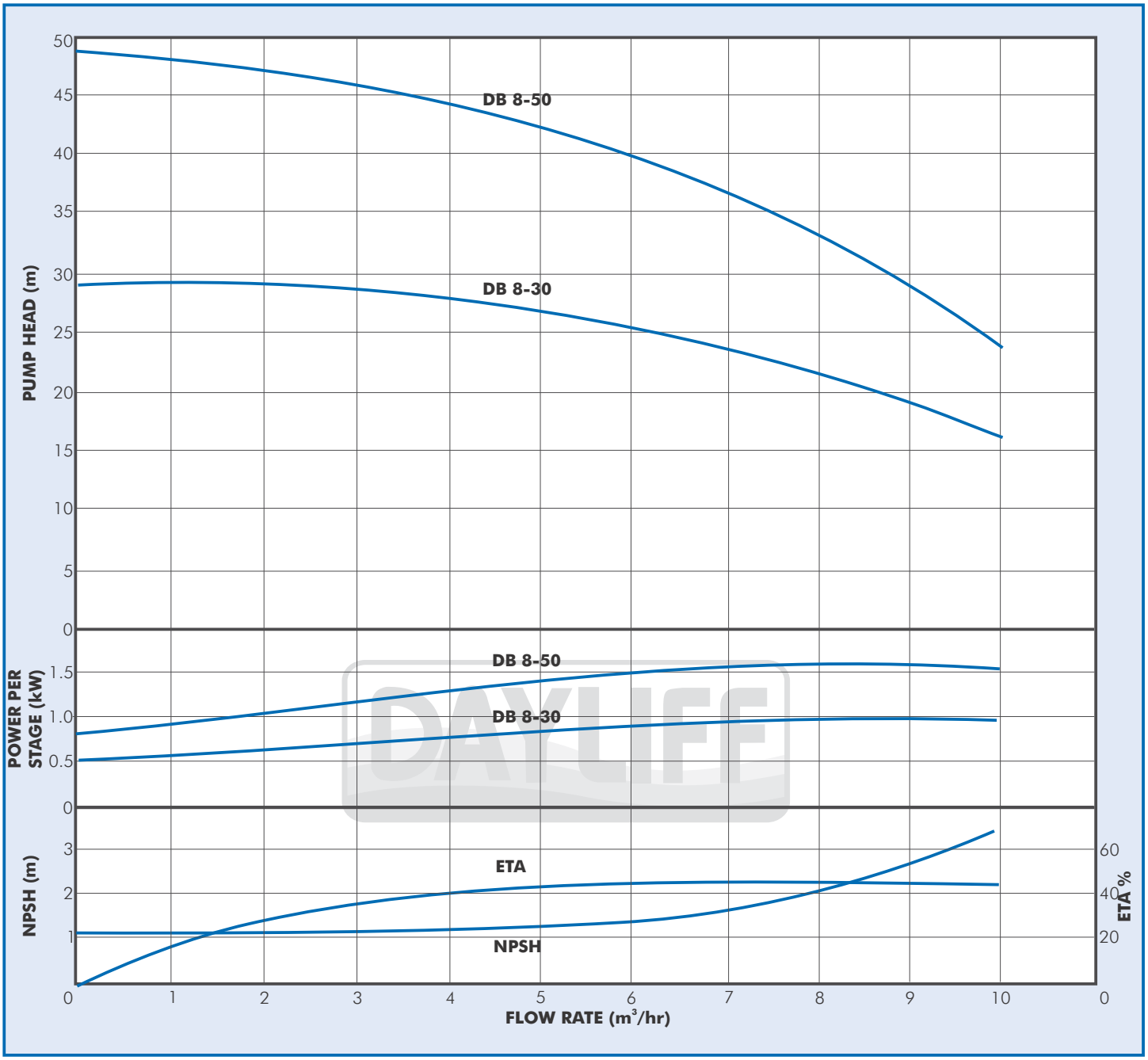


Pump Data

Model	Input Power (W)	Running Current (A)	Speed (rpm)	Dimensions (mm)							Weight (kgs)
				L1	L2	L3	L4	B1	B2	H	
DB 4/30	770	3.5	2810	344	111	99	137	141	127	228	11
DB 4/40	960	4.3	2810	372	138	126	164	141	127	228	11
DB 4/60	1430	6.4	2835	465	192	180	218	141	127	228	15

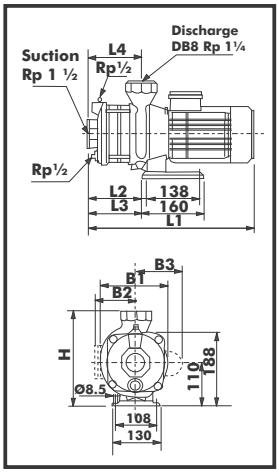


Max Operating Pressure: 10Bar up to 40°C, 6Bar up to 90°C
Max Inlet Pressure: 6Bar
Voltage: 1x240V

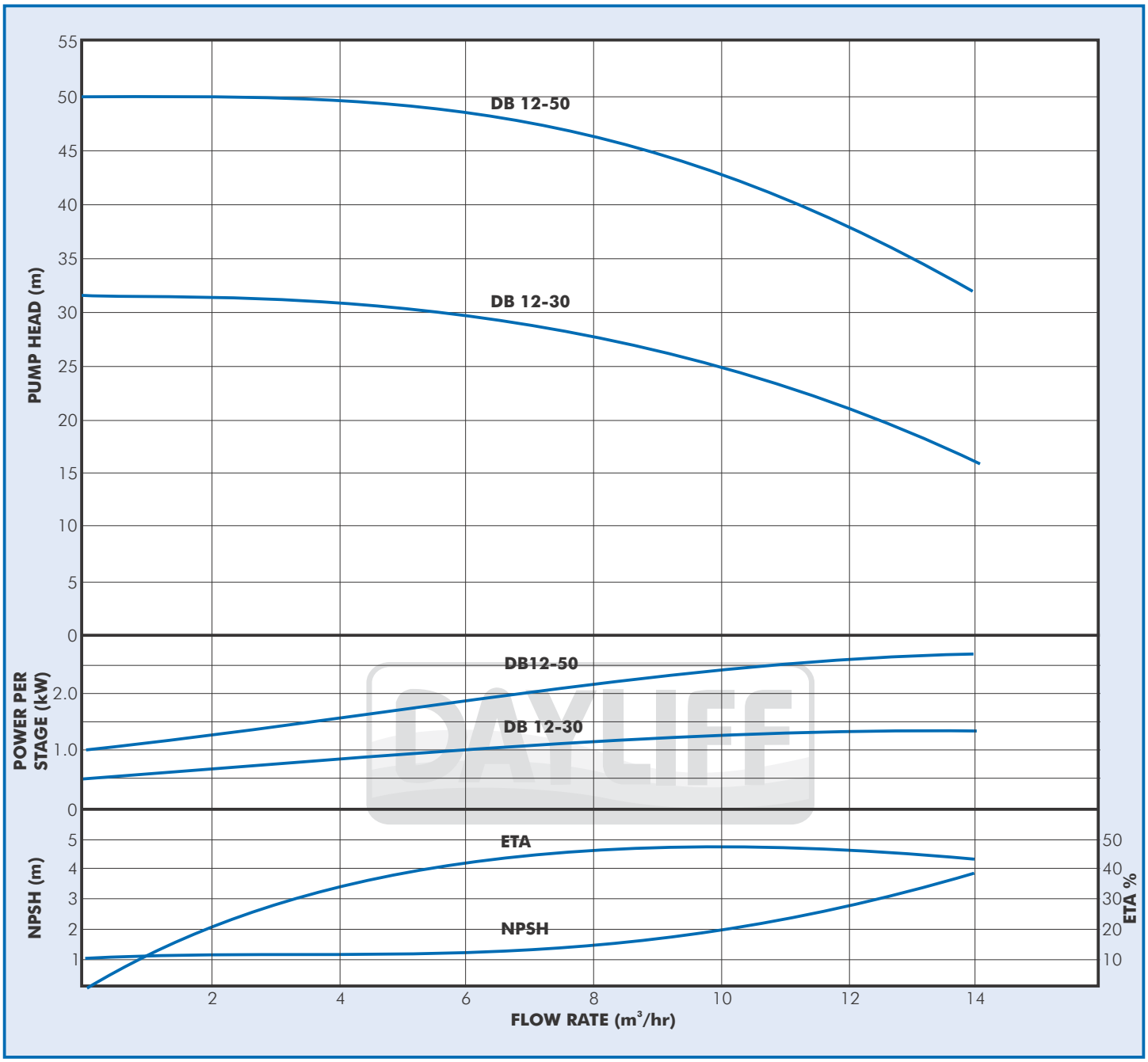


Pump Data

Model	Voltage (V)	Input Power (W)	Running Current (A)	Speed (rpm)	Dimensions (mm)										Weight (kgs)
					L1	L2	L3	L4	B1	B2	H1	H2	H3	H4	
DB 8-30	1x240	1130	5.2	2850	370	84	72	108	181	136	112	190	240	248	20
DB 8-50	3x415	1860	3.4	2850	420	132	120	138	181	116	112	190	240	228	22

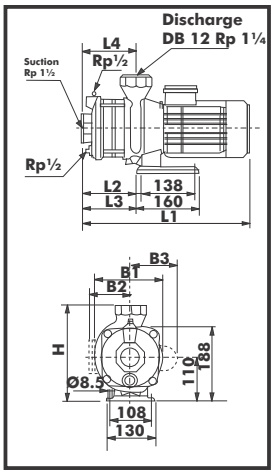


Max Operating Pressure: 10Bar up to 55°C, 6Bar up to 90°C
Max Inlet Pressure: 10Bar

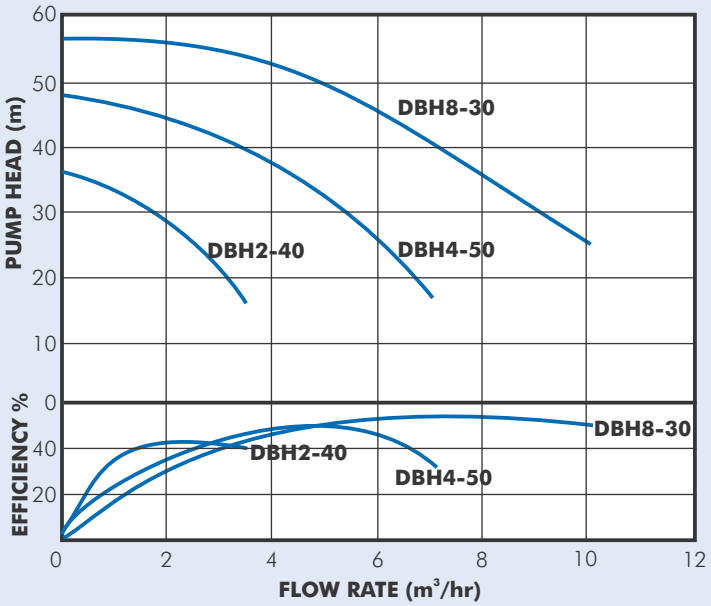


Pump Data

Model	Voltage (V)	Input Power (W)	Running Current (A)	Speed (rpm)	Dimensions (mm)										Weight (kgs)
					L1	L2	L3	L4	B1	B2	H1	H2	H3	H4	
DB 12-30	1x240	1680	7.4	2815	390	84	72	108	181	136	112	190	240	248	21
DB 12-50	3x415	2820	5.2	2915	450	132	120	138	185	141	112	190	240	228	29



Max Operating Pressure: 10Bar up to 55°C, 6Bar up to 90°C
Max Inlet Pressure: 10Bar



The Dayliff DBH range of horizontal multistage centrifugal pumps are designed for continuous duty in various water transfer duties with particular application in pumping slightly corrosive liquids.

Features

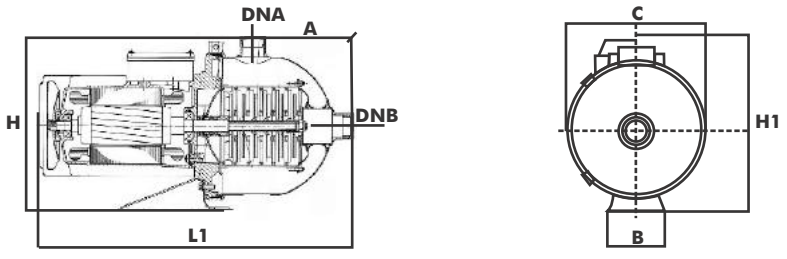
- Small physical dimensions, axial suction port and radial discharge and base plate mounted.
- All hydraulic end components including pump housing, stages and impellers made from AISI 316 stainless steel
- Quiet and smooth operation.
- Single phase squirrel-cage motor with built in thermal overload protection suitable for continuous duty. The motor can be connected to a power outlet fuse or MCB and protection must be provided.
- Enclosure Class:IP54
- Insulation Class: F

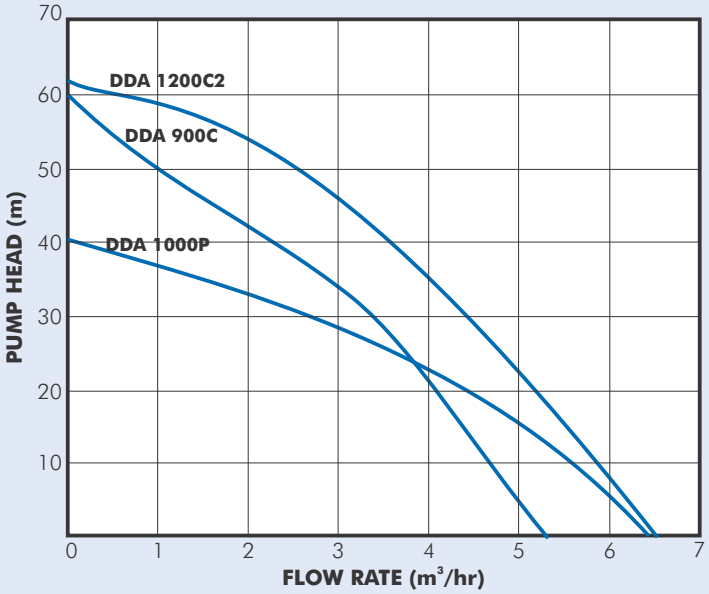
Operating Conditions

Pumped Liquid: Thin, clean, slightly aggressive but non-explosive liquid without solid particles or fibres
Liquid Temperature: 0°C - 110°C
Max. Ambient Temperature: +40°C
Max. Suction Lift: According to NPSH curve plus a safety margin of 1
Max. Operating Pressure: 10bar

Pump Data

Model	Power (kW)	Current (A)	Dimensions (mm)								Weight (kg)
			DNB	DNA	A	B	C	H1	H	L1	
DBH 2-40	0.37	4	1	1	140	132	204	243	255	403	10
DBH 4-50	0.75	6	1¼	1¼	140	132	204	243	255	441	12
DBH 2-40	1.5	12	1½	1½	142	178	204	245	267	514	22





DAYLIFF DDA submersible multistage centrifugal pumps are designed for pumping clean, non-aggressive water in various domestic and light duty applications. DDA 1200C2 and DDA 1000P are particularly suitable for wells and tank applications while DDA900C is suitable for borehole applications.DAYLIFF DDA submersible multistage centrifugal pumps are designed for pumping clean, non-aggressive water in various domestic and light duty applications. They are particularly suitable for wells and boreholes, though can also be used for water transfer from tanks, irrigation and pressure boosting applications as an alternative to a conventional dry mounted pump.

Features

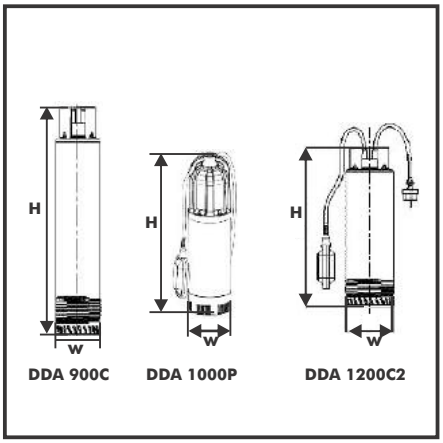
- Jacketed motor arrangement which provides excellent cooling and allows the pump to work semi-submerged.
- Mechanical seals (twin on DDA1200C2) in an intermediate oil chamber for greater pump reliability.
- Pump construction is Polypropylene impellers and diffusers and stainless steel pump casing.
- Pumps can be fitted with a pressure controller for automatic operation and are supplied complete with 20m cable.
- DDA1000P & DDA1200C2 are fitted with a low level float switch with adjustment clamp and an inbuilt capacitor for simplified installation and are particularly suitable to well and tank applications.
- DDA900C is particularly suited to borehole applications and is supplied with an external control box which incorporates an isolator, run indicator light, thermal overload protection and starting capacitor which can be connected directly to mains power.
- Enclosed and rewindable liquid cooled, non-overloading induction motor designed for continuous operations incorporating a thermal cut-out in the windings to protect against overloading
- can be connected directly to the mains power supply through a 10A fuse or MCB.
- Enclosure Class: X8
- Insulation Class: B
- Voltage: 1x240V

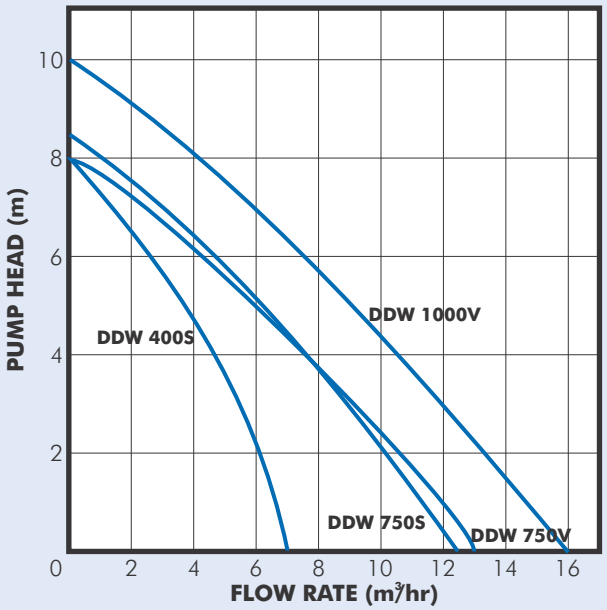
Operating Conditions

Pumped Liquids: Thin, chemically non aggressive liquids without solids or fibres
Max. Liquid temperature: 35°C
Max. Immersion Depth: DDA1000P- 6m;DDA1200C2 - 20m; DDA900C - 16m
Max. Particle Size:DDA1000P -1.5mm; DDA900C & DDA1200C2 - 1.0mm

Pump Data

Model	Power		Max. Current (A)	Outlet (")	Dimensions (mm)		Weight (kg)
	kW	HP			H	W	
DDA 900C	0.9	1.2	3.9	1	645	100	11
DDA 1000P	1.0	1.3	4	1	440	150	9.4
DDA 1200C2	0.92	1.2	6.5	1	577	128	18





The DAYLIFF DDW submersible pump range are centrifugal submersible pumps designed for small scale drainage, irrigation, fountain and water transfer applications. Two versions are available, the standard S version with open impeller for lightly turbid water and the vortex V version for water with higher silt loads.

Features

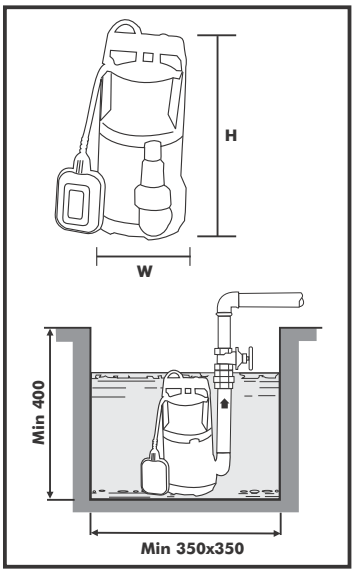
- Light and simple to install
- Constructed of high strength engineering plastic
- Provided with float switch for automatic level control
- Supplied with 5m power cable and a union connected outlet suitable for threaded or hose connection.
- Fitted with integral induction motors designed for continuous operation with thermal cut out to protect against motor overload.
- Enclosure Class: IPX8
- Insulation Class: F
- Voltage: 1x240V

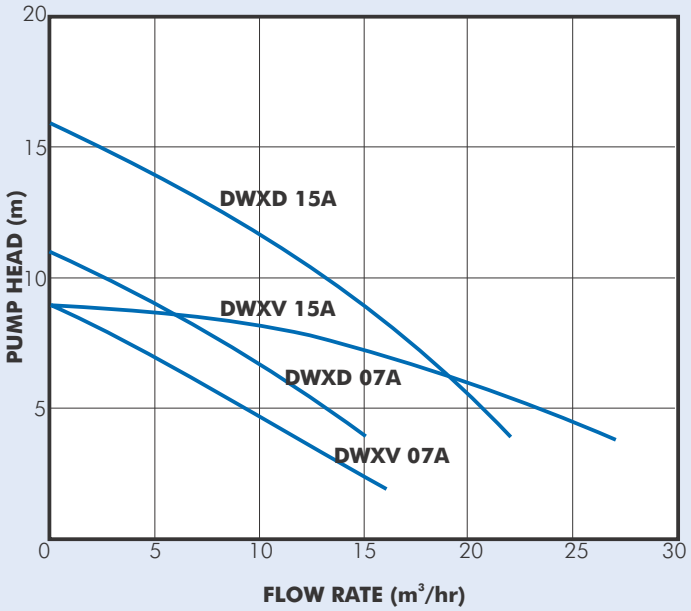
Operating Conditions

Pumped liquid: Thin, clean, chemically non-aggressive liquid containing some particles and fibres
Max fluid temperature: +35°C
Max Operating Depth: 7m

Pump Data

Model	kW	Current (A)	Dimensions (mm)			Max. Particle Size(mm)	Weight (kgs)
			Outlet (")	W	H		
DDW 400S	0.4	1.7	1¼	220	370	5	5
DDW 750S	0.75	3.1	1¼	220	370	5	7
DDW 750V	0.75	3.1	1¼	220	385	35	6
DDW 1000V	1	4.2	1¼	220	385	35	7





The DAYLIFF DWX range of waste water pumps are high specification products for use in various drainage applications. Versions are available with open (DWXD) and vortex (DWXV) impellers.

Features

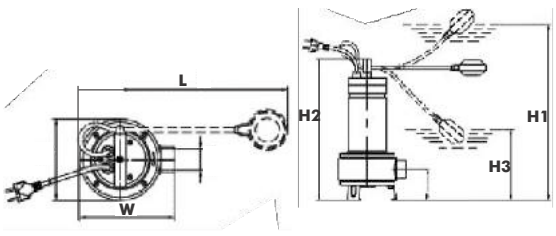
- DWXD - jacketed motor casing with top mounted outlet suitable for lightly silted water and can operate partially submerged
- DWXV - side outlet suitable for heavily polluted waters and must operate fully submerged
- AISI 304 stainless steel construction throughout
- Low level float switch and 10m of power cable included (5mDWXV07A)
- Fitted with integral dry type two pole motors designed for continuous operation and provided with thermal protection
- Can be connected directly to the mains power supply through a suitably rated fuse or MCB, though additional protection is recommended when there is risk of voltage fluctuation
- Enclosure Class: IP68
- Insulation Class :F
- Voltage: 1x240V

Operating Conditions

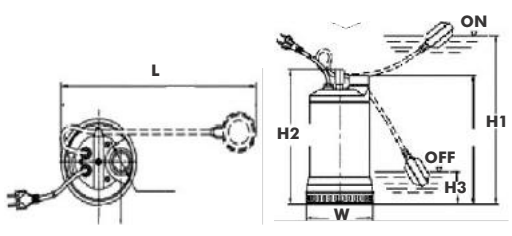
Pumped Liquids: Thin, chemically non-aggressive liquids, containing suspended particles up to the specified size.
Max. Liquid temperature: + 35°C
Max. Operating Depth: 10m
Min. Immersion Depth: DWXD 85mm, DWXV 500mm

Pump Data

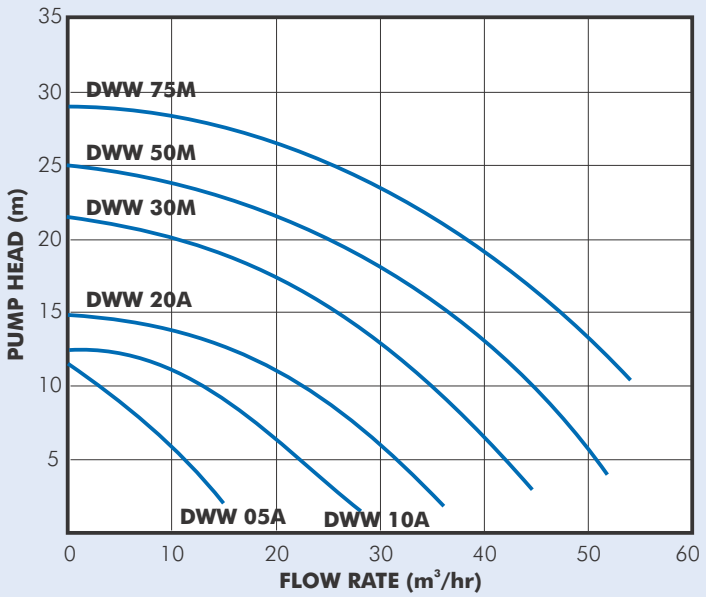
Model	Power		Current (A)	Outlet (")	Dimensions (mm)					Particle Size (mm)	Weight (kg)
	HP	kW			H1	H2	H3	L	W		
DWXD 07A	0.75	0.55	3.6	1.5	437	357	85	459	178	8	12
DWXD 15A	1.5	1.1	7.2	1.5	497	407	85	514	178	8	17
DWXV 07A	0.75	0.55	3.6	1.5	483	403	185	433	193	35	11
DWXV 15A	1.5	1.1	7.2	2.0	566	486	268	433	198	50	15



DWXV



DWXD



The Dayliff DWW range of open impeller portable submersible pumps are designed for pumping waste water containing particles and impurities in industrial and domestic applications.

Features

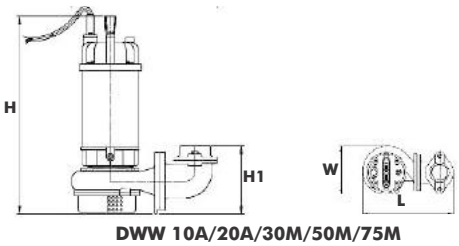
- Heavy duty construction with cast iron impeller and casings
- Specification includes double mechanical seals, NBR oil seals and stainless steel strainer.
- All pumps provided with 10m cable and single phase models with float switch for automatic level control.
- Fitted with integral dry type two-pole motors designed for continuous duty. Single phase motors are provided with thermal control to protect against motor overload and can be connected direct to the power supply through a suitably rated fuse or MCB. Three phase require remote DOL starter.
- Enclosure Class: IP68
- Insulation Class: F

Operating Conditions

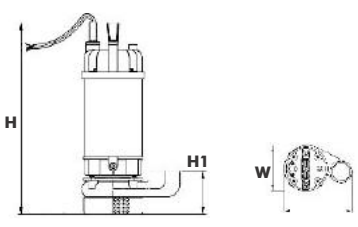
Pumped liquids: Thin, chemically non-aggressive liquids, containing some impurities and fibres
Max. Liquid temperature: +40°C
Max. Operating Depth: 10m
Min Immersion Depth: 132mm
Max. Particle Size: 6mm

Pump Data

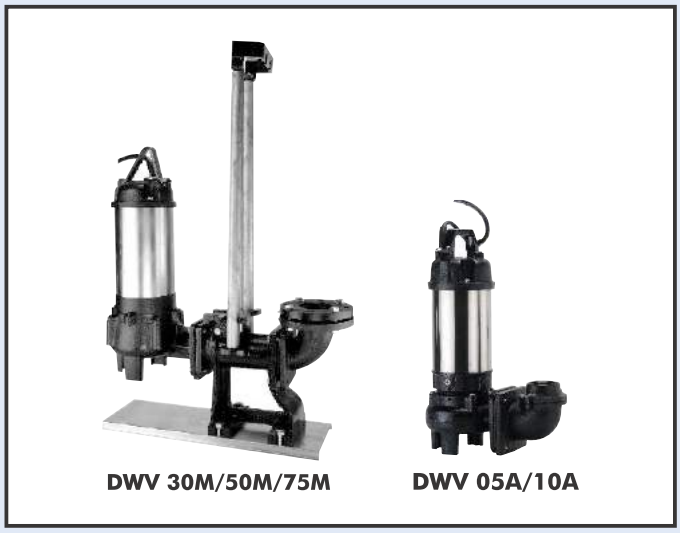
Model	Voltage (V)	HP	kW	Current (A)	DN (")	Dimensions (mm)				Weight (kgs)
						L	W	H	H1	
DWW 05A	1x240	0.5	0.37	4	2	221	141	373	97	14
DWW 10A	1x240	1	0.75	6	2	330	173	451	155	24
DWW 20A	1x240	2	1.5	12	3	403	212	536	164	35
DWW 30M	3x415	3	2.2	5.2	3	403	212	556	164	35
DWW 50M	3x415	5	3.7	8.6	4	463	227	605	215	57
DWW 75M	3x415	7.5	5.5	12	4	463	227	645	215	63

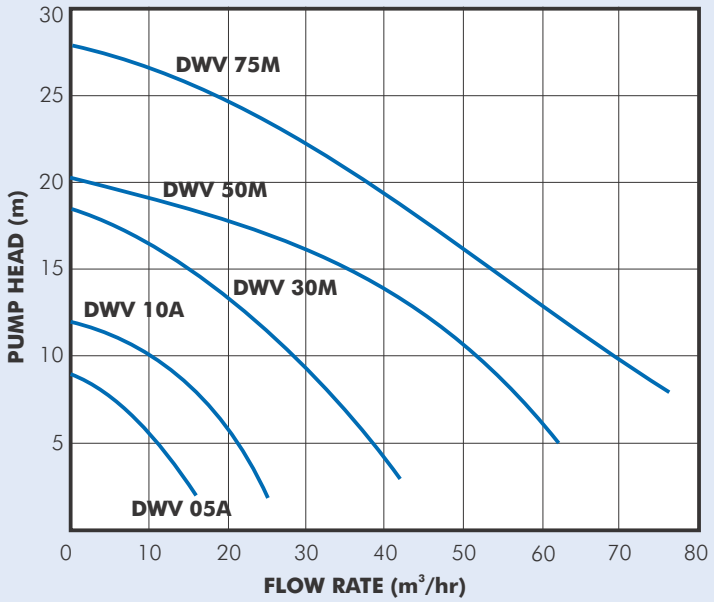


DWW 10A/20A/30M/50M/75M



DWW 05A





The Dayliff DWV range of vortex impellers submersible pumps are designed to handle industrial and domestic waste water and sewage and are especially suitable for pumping water containing a high proportion of solid particles.

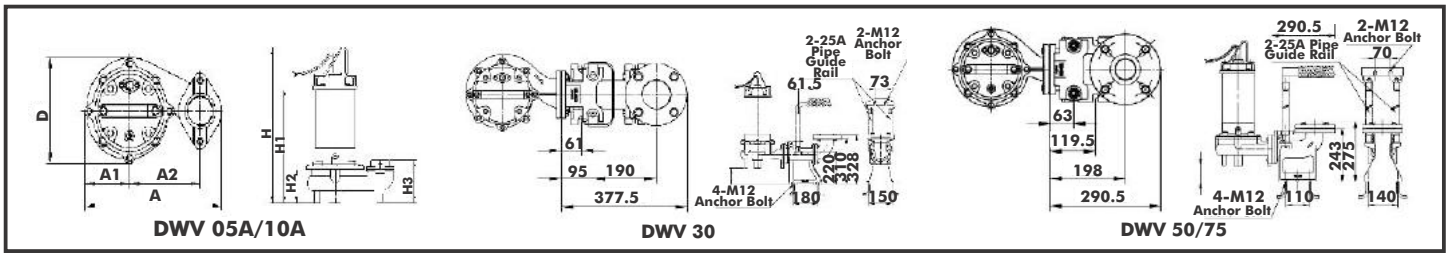
Features

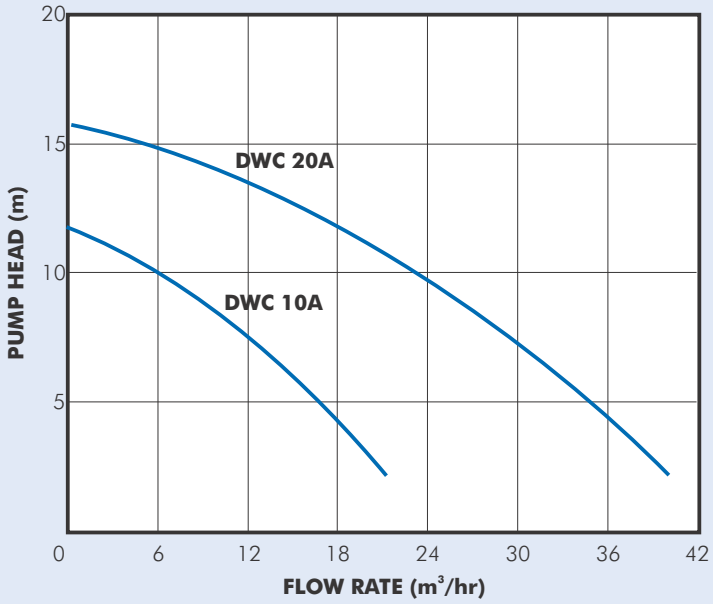
- Heavy duty construction with cast iron vortex impeller to minimise clogging and pump casing.
- Specification includes double mechanical seals, NBR oil seals and stainless steel strainer.
- Models up to DWV 10A are designed for free standing installation. Larger models are designed for fixed installation with discharge connection and guide rail mounting
- All pumps provided with 10m cable and single phase models with float switch for automatic level control.
- Fitted with integral dry type two-pole motors designed for continuous duty. Single phase motors are provided with thermal control to protect against motor overload and can be connected direct to the power supply through a suitably rated fuse or MCB. Three phase require remote DOL starter.
- Enclosure class: IP68
- Insulation class: F

Operating Conditions

Pumped liquids: Thin, chemically non-aggressive liquids, containing suspended particles up to the specified size.
Max. Liquid temperature: +40°C
Max. Operating Depth: 10m
Min. Immersion Depth: 160mm

Model	kW	HP	Voltage (V)	Current (A)	Max Particle Size(mm)	Dimensions (mm)		Weight (kgs)
						DN	LxWxH	
DWV 05A	0.37	0.5	1x240	4	35	50	222x145x410	13.5
DWV 10A	0.75	1.0	1x240	6	35	50	222x149x464	18.5
DWV 30M	2.2	3.0	3x415	5.2	35	80	547x208x568	35
DWV 50M	3.7	5.0	3x415	8.6	50	100	663x227x638	57
DWV 75M	5.5	7.5	3x415	12	50	100	663x227x678	63





The Dayliff DWC range of heavy duty submersible pumps are designed to handle industrial and domestic waste water and sewage with a specially designed cutter impeller. They are suitable for pumping water containing a high proportion of solid particles including threads and fibres.

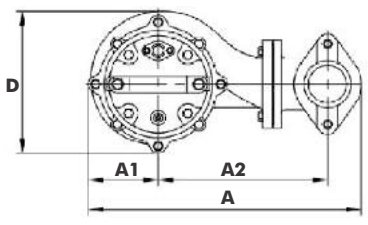
Features

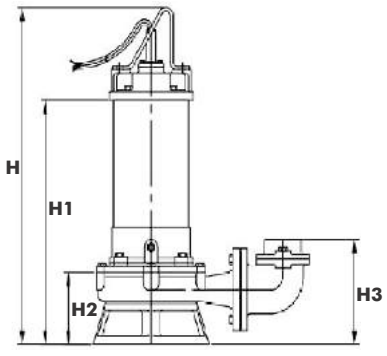
- Heavy duty construction including cast iron semi-open impeller with Tungsten Carbide cutting edge and cast iron pump casing.
- Provided with double mechanical seals and NBR oil seal.
- Designed for free standing installation and supplied with 10m power cable.
- Enclosure Class: IPX8
- Insulation Class: B
- Voltage: 1x240V

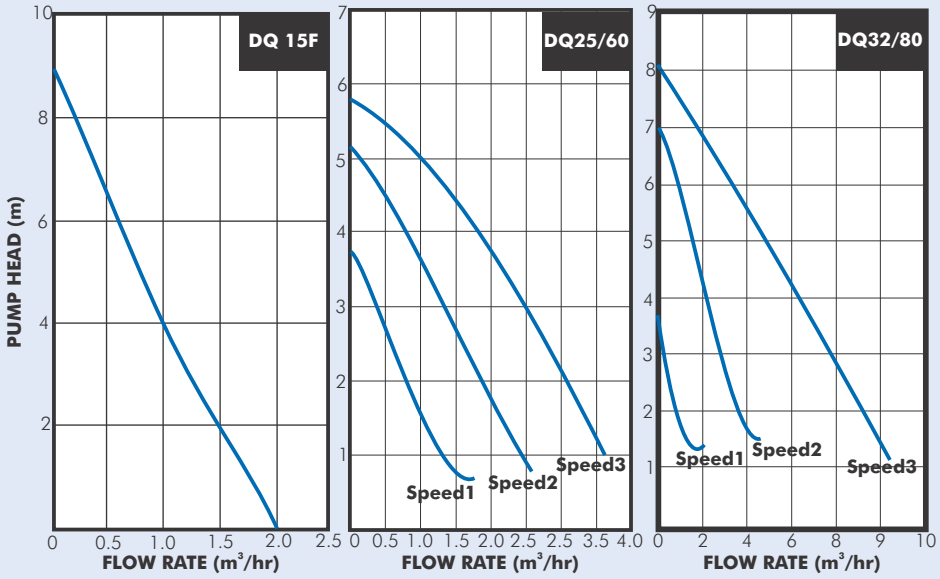
Operating Conditions

Pumped liquids: Thin, chemically non-aggressive liquids, containing suspended particles up to the specified size.
Max. Liquid temperature: +40°C
Max. Operating Depth: 10m
Min. Immersion Depth: 310mm

Model	kW	HP	Current (A)	Max Particle Size (mm)	DN (")	Dimensions (mm)								Weight (kgs)
						A	A1	A2	D	H	H1	H2	H3	
DWC 10A	0.75	1	6	22	2	222	73	115	179	416	292	64	84	24
DWC 20A	1.5	2	12	22	2	403	103	250	212	514	393	115	169	34







DAYLIFF DQ circulator pumps are designed for hot water circulation in heating, hot water, cooling and air conditioning applications in open or closed systems. They can also be used for pressure boosting in domestic dwellings and for circulation in solar hot water systems.

DQ15F - A single speed pump that includes a built-in flow switch which activates pump operations whenever there is supply demand. This is particularly applicable to domestic shower pressure boosting.

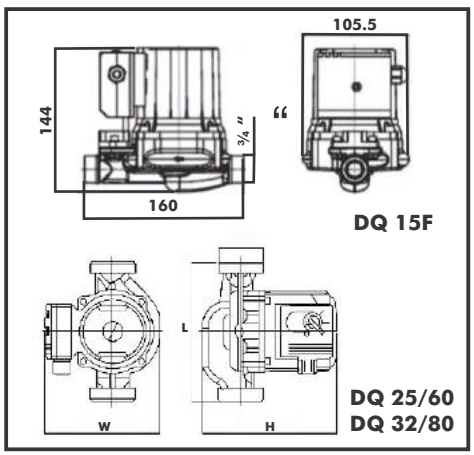
DQ 25/32 - Pumps are provided with 3 speed settings for selection of the ideal flow to meet system requirements. No automatic switching is provided.

Features

- Single speed pump that includes a built-in flow switch which activates pump operations whenever there is supply demand. This is particularly applicable to domestic shower pressure boosting for DQ15F
- 3 speed settings for selection of the ideal flow to meet system requirements provide for DQ25/32. No automatic switching is provided.
- Pump construction is cast iron pump housing, glass fibre reinforced polypropylene impeller, stainless steel rotor and ceramic bearing support
- Pumps are supplied complete with female threaded BSP union connections.
- The integral 2-pole asynchronous squirrel-cage motor is designed to operate at three speeds (except DQ15F)
- All motors include an inbuilt capacitor and overload protection and can be connected directly to mains supply through a 5A fuse or MCB.
- Speed:2900rpm
- Enclosure Class: IP54
- Insulation Class: F
- Voltage:1x240V

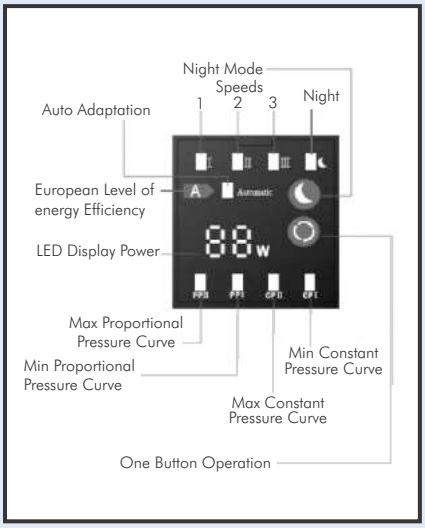
Operating Conditions

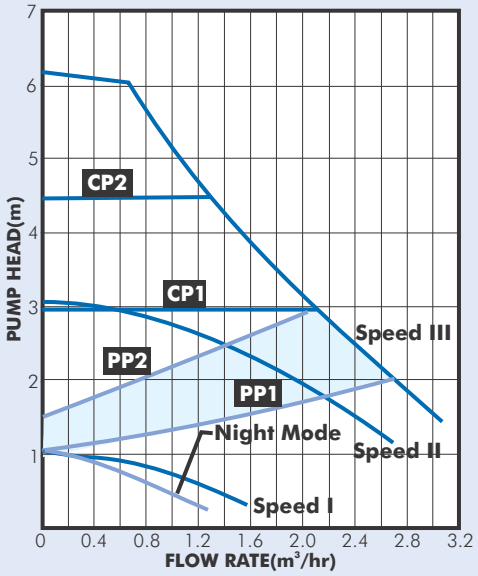
Pumped Liquid: Thin, clean, chemically non-aggressive liquids without solids or fibres.
Max Fluid Temperature: -10°C -110°C. Note the liquid temperature should be higher than the ambient temperature.
Max. Ambient Temperature: 10°C - 50°C
Max. Operating Pressure: 6 bar
Installation: Pumps must be installed with rotor shaft horizontal and vertical water flow.



Pump Data

Model	Power (Watts)	Current (A)	Inlet/ Outlet (")	Dimensions (mm)			Weight (kg)
				L	H	W	
DQ 15F	120	0.55	¾"	160	105.5	144	4
DQ 25/60	93	0.45	1½"	180	125	90	3
DQ 32/80	245	1.1	2"	180	175	150	5.6





DAYLIFF DQA variable speed controlled circulator pumps are designed for hot water circulation in heating, cooling and solar applications.

Features

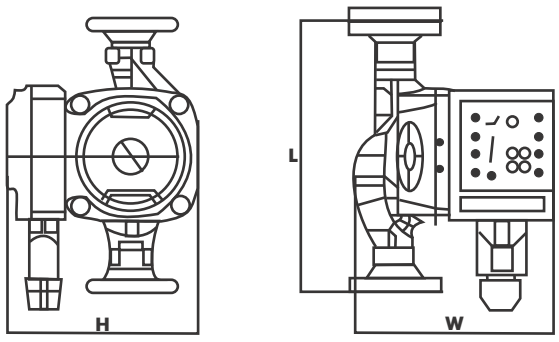
- Variable speed inverter technology that enables the pump to selectively operate on a constant curve, propotional pressure where pressure is adjusted according to system demand and constant pressure where pressure remains constant irrespective of system demand.
- Motors have three speed settings so it is possible to select the ideal flow to meet system requirements
- Pump construction is cast iron pump housing , stainless steel for the rotor can and composite plastic for the impeller
- Supplied complete with BSP union connections
- Fully automatic function which continuously adjusts pump output to system demand and thus optimises energy consumption.
- Display indicating power consumption and as well as alarm and warning conditions.
- Enclosure Class: IP42
- Insulation Class: F
- Voltage:1x240V

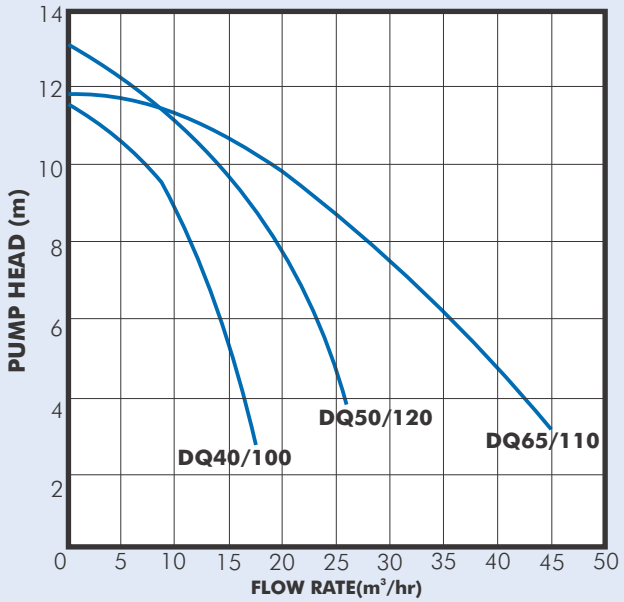
Operating Conditions

Pumped Liquid: Thin, clean, chemically non-aggressive liquids without solids or fibres.
Max Fluid Temperature: -10°C +110°C.
Max. Ambient Temperature: 10°C - 50°C
Max. Operating Pressure: 6 bar
Installation: Pumps must be installed with rotor shaft horizontal and vertical water flow.

Pump Data

Model	Power (Watts)	Inlet/Outlet (")	Dimensions (mm)			Weight (kg)
			L	H	W	
DQA 25/60	5-45	1	180	128	130	3





The DAYLIFF DQ circulator pumps are designed for water circulation in heating, hot water, cooling or air conditioning systems where the duty requires high water volumes at low pressures.

Features

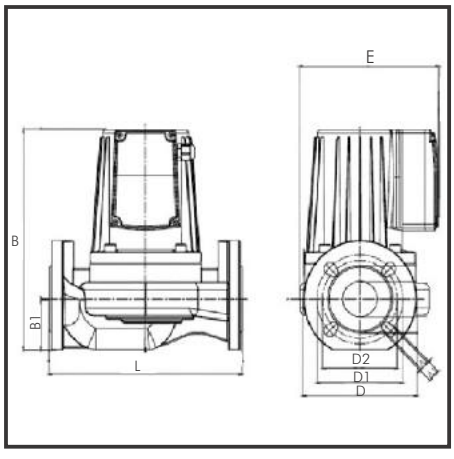
- Pump construction is AISI304 stainless steel for the impeller and shaft, cast iron for the pump body and aluminium for the rotor housing.
- Integral 2-pole asynchronous squirrel-cage motor is designed for continuous duty operating at one speed.
- Can be connected to mains supply though an MCB and suitably sized DOL starter
- Voltage:3x415V
- *Enclosure Class:* IP44
- Insulation Class: B

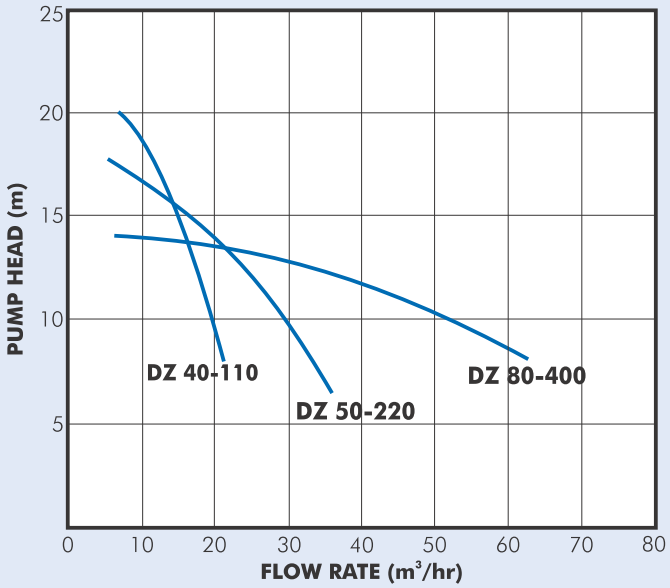
Operating Conditions

Pumped Liquid: Thin, clean, chemically non-aggressive liquids without solid particles or fibres
Liquid Temperature: 5°C to +110°C
Max. Ambient Temperature: -10°C - +50°C
Max. operating pressure: 6bar
Certification: CE, ISO14001, OHSAS18001, ISO9001

Pump Data

Model	Power (Watts)	Current (A)	Inlet/ Outlet	Dimensions (mm)							Weight (kg)
				B	B1	D	D1	D2	L	E	
DQ40/100	550	1.8	1½"	305	70	150	110	40	250	200	22
DQ50/120	1100	2.3	2	315	75	165	125	50	280	205	28
DQ65/110	1500	2.9	2½"	330	80	188	145	65	340	210	34





DAYLIFF DZ self-priming waste water pumps are of semi-open impeller axial flow type designed for pumping water containing high solid levels with particular application for site drainage, sewage and general effluent duties.

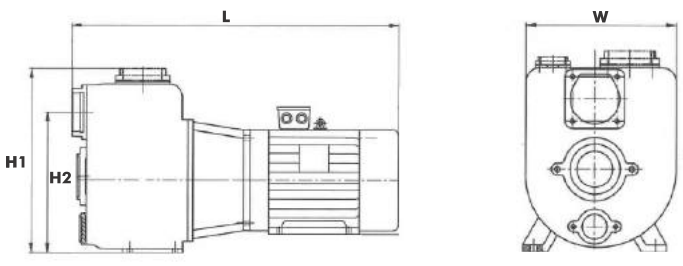
Features

- Heavy duty design and feature a non-return valve on the suction,
- Easy opening cleaning ports and a mechanical seal.
- Construction is of cast iron throughout.
- Close coupled to non-overloading TEFC motor designed for continuous duty.
- A remote DOL starter with thermal overload is necessary for motor control.
- Enclosure Class: IP56
- Insulation Class: F

Operating Conditions

Pumped liquid: Thin, chemically non aggressive liquids with a viscosity of up to 50mm^2/s containing suspended solids and particles up to the size indicated.
Working Liquid Temperature: - 10^{0}C to +-80^{0}C
Maximum Working Pressure: 6 bar
Maximum Particle Size: 50mm

Model	Power		Voltage (V)	Speed (rpm)	Max Current (A)	Dimensions (mm)					Weight (kg)
	kW	HP				Inlet/Outlet	H1	H2	L	W	
DZ 40-110	1.1	1.5	1 X 240	2900	7.2	40	242	168	474	165	57
DZ 50-220	2.2	3.0	3 X 415	2900	4.9	50	321	201	609	210	75
DZ 80-400	4.0	5.4	3 X 415	1450	5.1	80	410	310	735	302	121



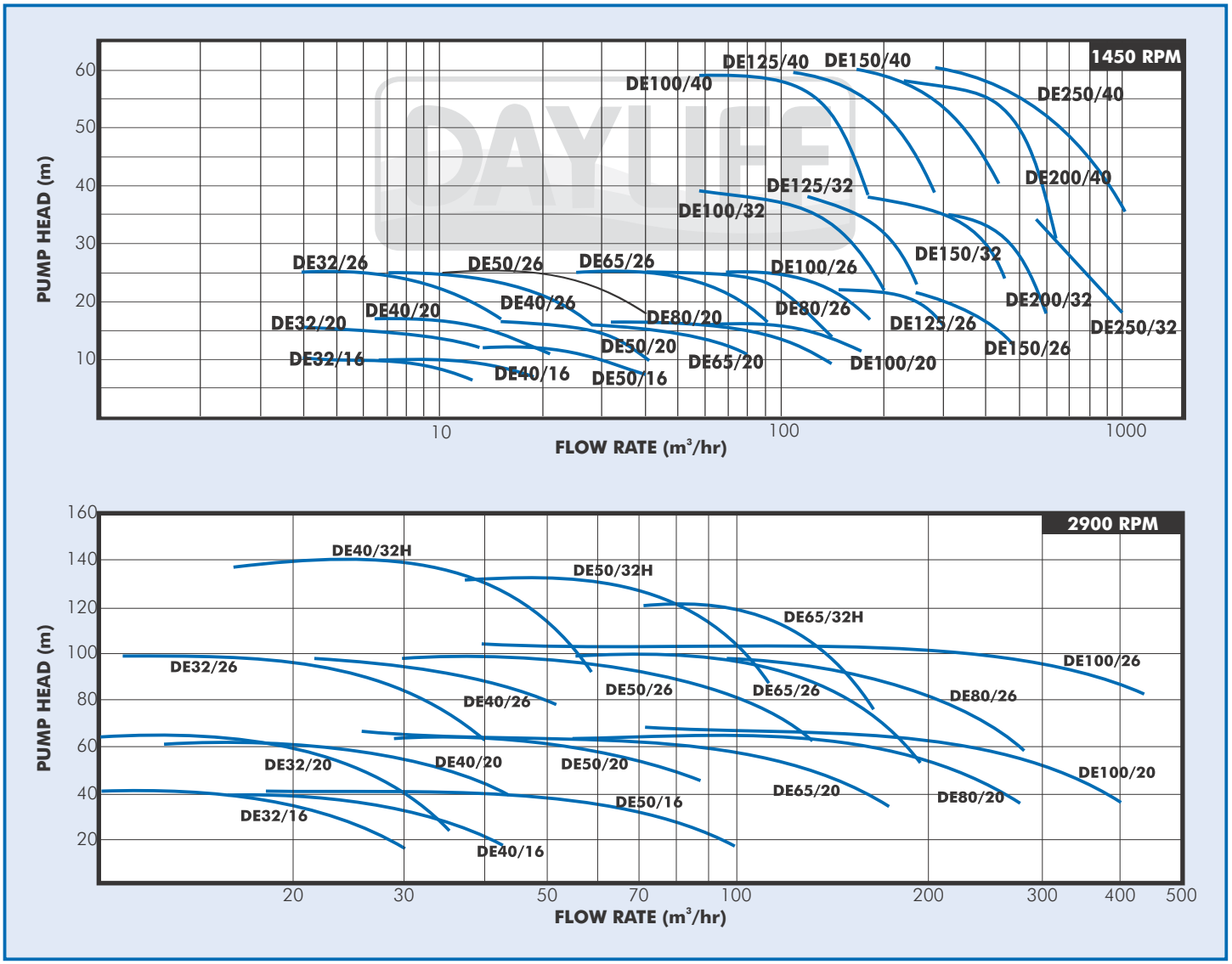
The Dayliff DE range of end suction centrifugal pumps are rugged heavy-duty pumps designed for various water supply, irrigation and fire fighting duties in agricultural, commercial and industrial applications. A wide range is available and pumps can be modified for specific duties by trimming the impeller diameter which must be done with reference to the particular pump curve. Motors should be selected according to the pump speed and impeller diameter and mounted together with the pumps on a base frame with coupling. The pumps are also suitable for belt drive by either electric motor or a diesel engine.

Features

- Heavy duty cast iron casing, bronze closed impeller and stainless steel shaft.
- Gland packing seal arrangement for ease of maintenance
- Back pullout design enabling removal of the rotating element without disturbing the pipework connections.
- Provided with connecting flanges and bolts.

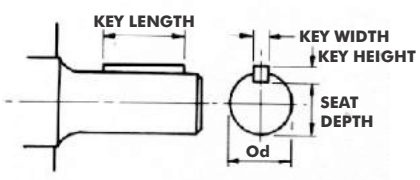
Operating Conditions

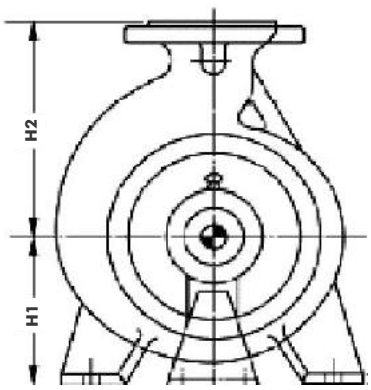
Max Operating Pressure: 16Bar
Temp Range: -10°C to +105°C

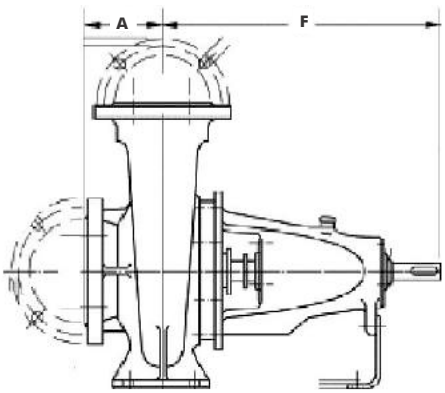


Pump Data

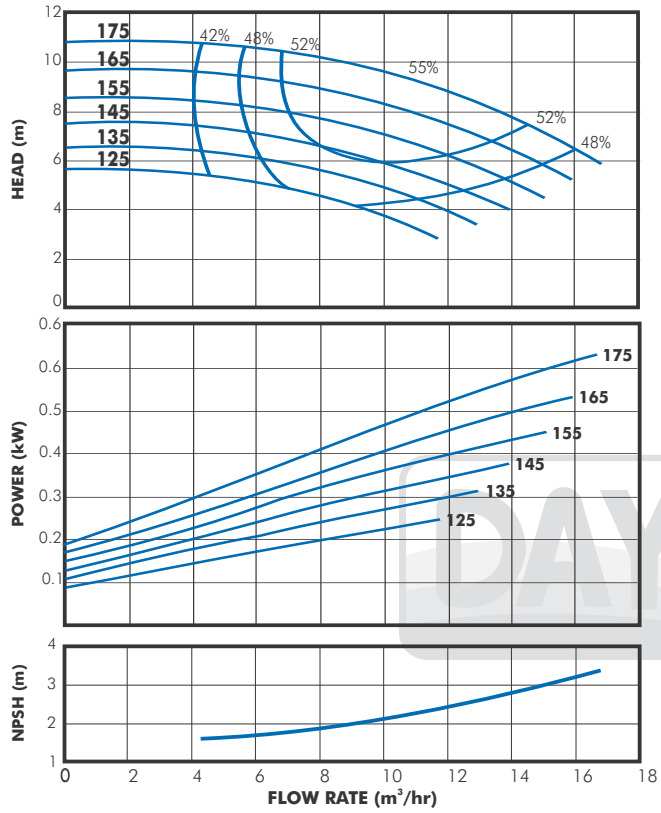
Model	Shaft Module	Discharge	Suction	Full Impeller Max. Power Absorbed,kW		Dimensions (mm)						Weight (kgs)
				1450rpm	2900rpm	A	F	H1	H2	N1	Od	
DE 32/16	25	32	50	0.5	4.5	80	360	132	160	240	24	35
DE 32/20	25	32	50	1	9	80	360	160	180	240	24	47
DE 32/26	25	32	50	2.2	19	100	360	180	225	320	24	58
DE 40/16	25	40	65	0.75	5.5	80	360	132	160	240	24	34
DE 40/20	25	40	65	1.2	9.2	100	360	160	180	265	24	45
DE 40/26	25	40	65	2.5	22	100	360	180	225	320	24	61
DE 40/32H	35	40	65	-	48	125	470	200	250	345	32	101
DE 50/16	25	50	65	1.5	11	100	360	160	180	265	42	39
DE 50/20	25	50	65	2.2	18	100	360	160	200	265	42	49
DE 50/26	25	50	65	4.5	40	100	360	180	225	320	42	68
DE 50/32H	35	50	65	-	70	125	470	225	280	345	32	105
DE 65/20	25	65	80	4	28	100	360	180	225	320	24	55
DE 65/26	35	65	80	5.5	55	100	470	200	250	360	32	87
DE 65/32H	35	65	80	-	85	125	470	225	280	400	32	111
DE 80/20	35	80	100	5.5	50	125	470	180	250	345	32	76
DE 80/26	35	80	100	10	75	125	470	200	280	400	32	95
DE 100/20	35	100	125	7.5	55	125	470	200	280	360	32	84
DE 100/26	35	100	125	15	130	140	470	225	280	400	32	102
DE 100/32H	35	100	125	-	175	140	470	250	315	400	32	134
DE 100/40	45	100	125	40	-	140	470	280	355	500	42	174
DE 125/26	35	125	150	24	-	140	530	250	355	400	32	115
DE 125/32	45	125	150	31	-	140	530	280	355	500	42	163
DE 125/40	45	125	150	60	-	140	530	315	400	500	42	181
DE 150/26	45	150	200	27	-	160	530	250	355	450	42	148
DE 150/32	45	150	200	50	-	160	530	280	400	550	42	170
DE 150/40	45	150	200	76	-	160	530	315	450	550	42	209
DE 200/32	55	200	250	60	-	180	670	315	480	600	48	251
DE 200/40	55	200	250	125	-	180	670	335	480	600	48	295
DE 250/32	55	250	300	83	-	220	691	335	520	660	48	311
DE 250/40	55	250	300	129	-	220	682	400	560	660	48	390



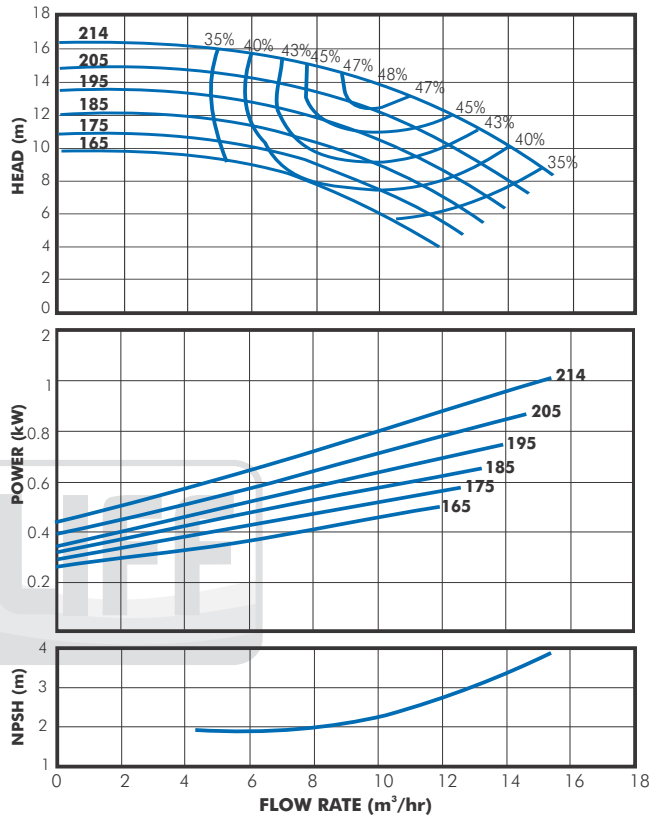




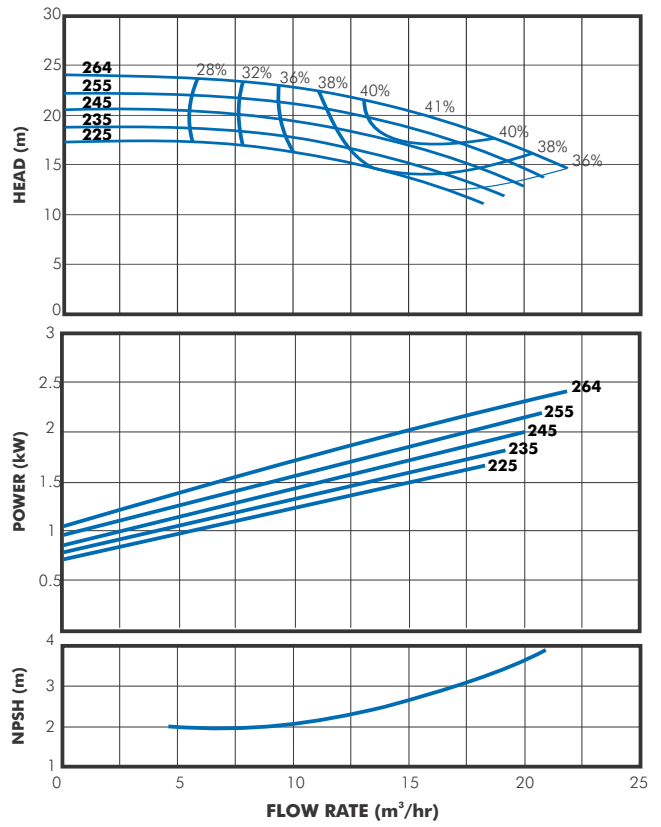
MODEL DE 32/16



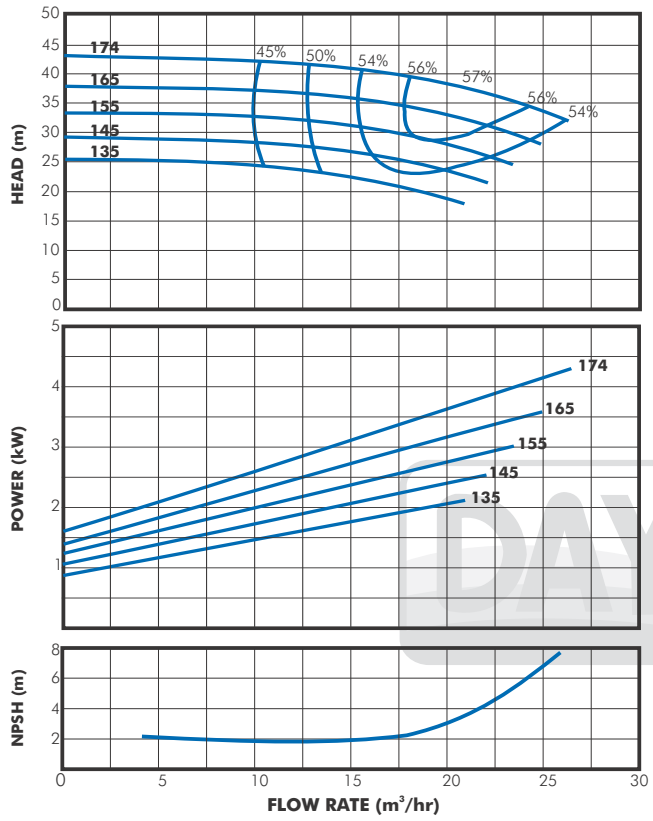
MODEL DE 32/20



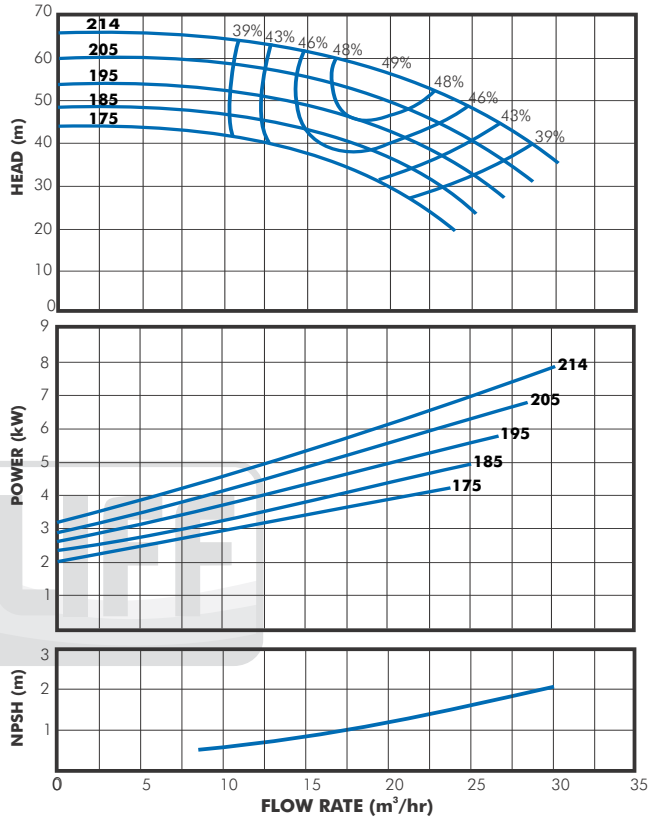
MODEL DE 32/26



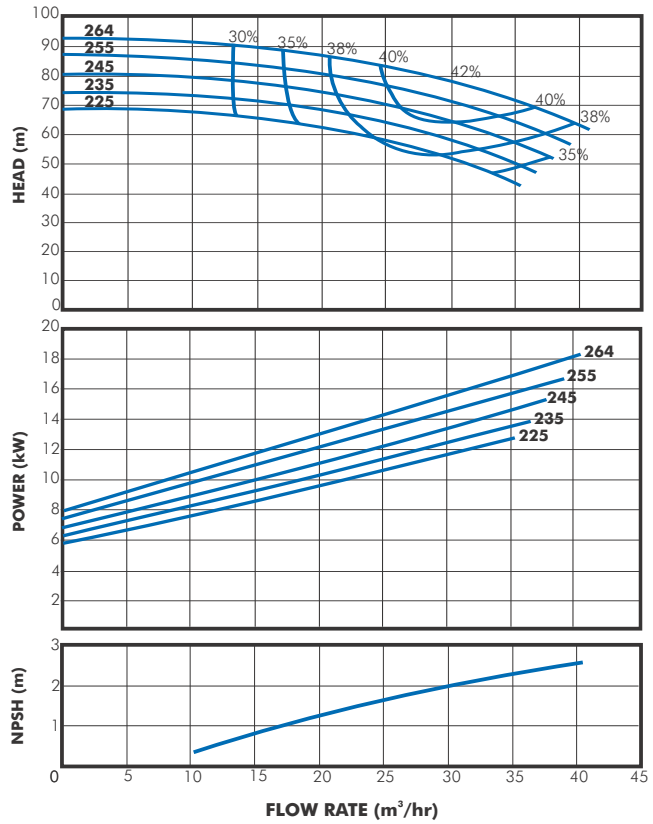
MODEL DE 32/16



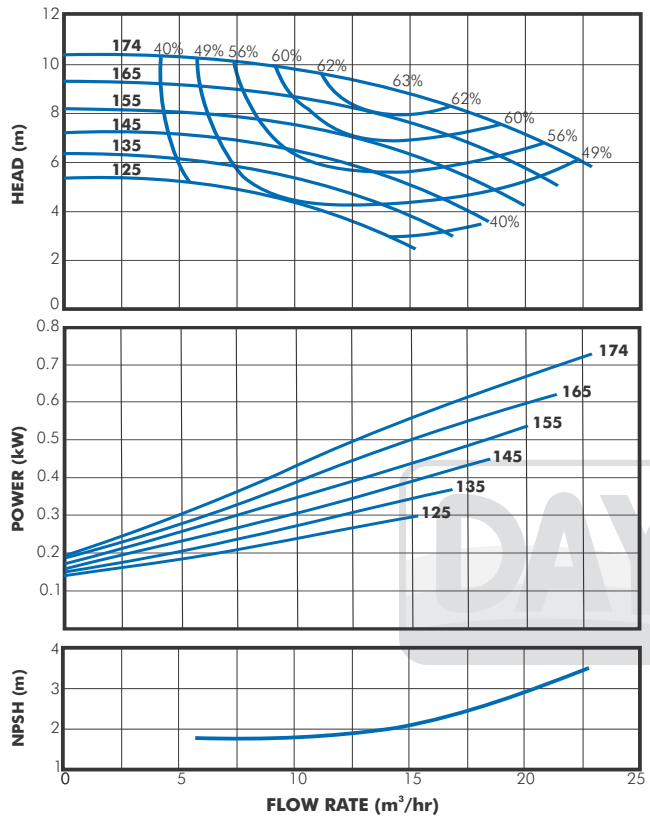
MODEL DE 32/20



MODEL DE 32/26



MODEL DE 40/16



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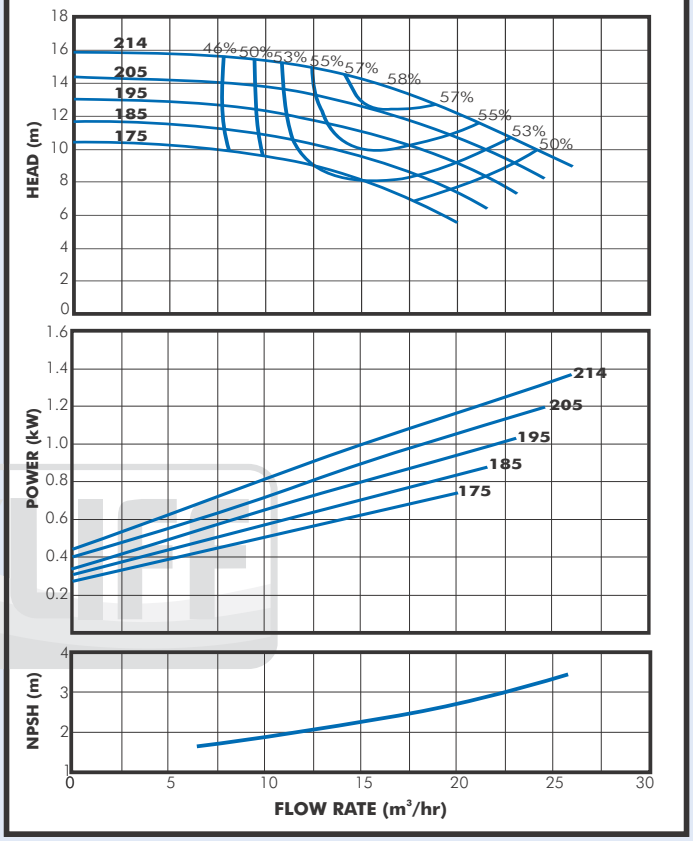

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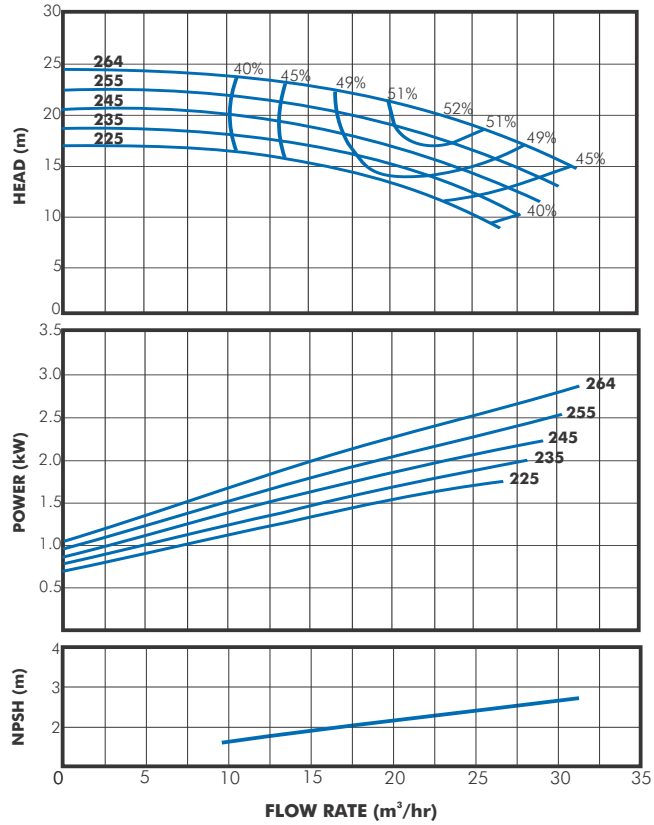

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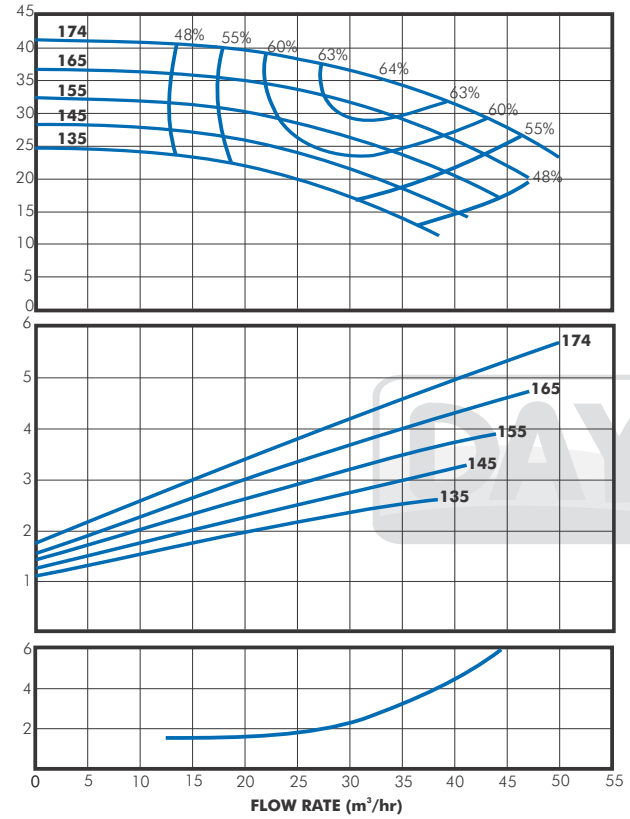

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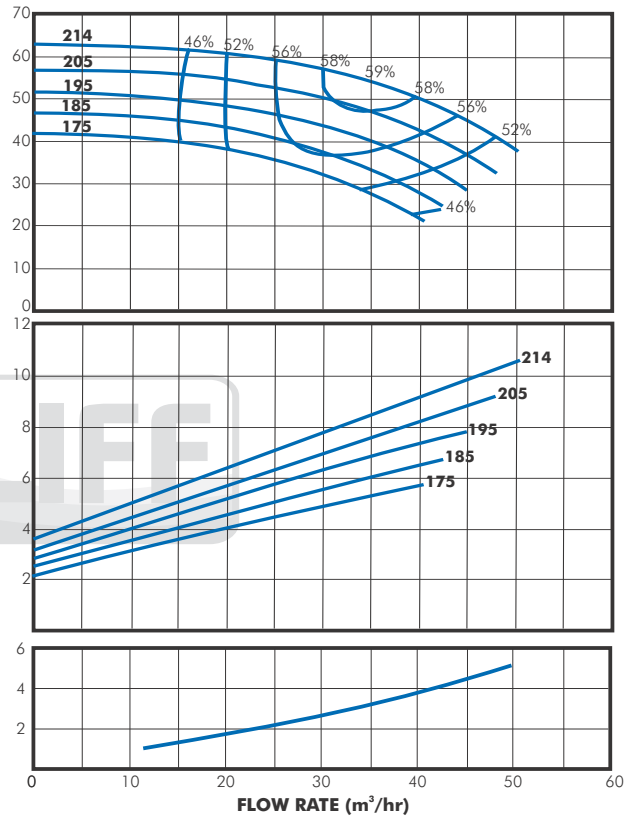
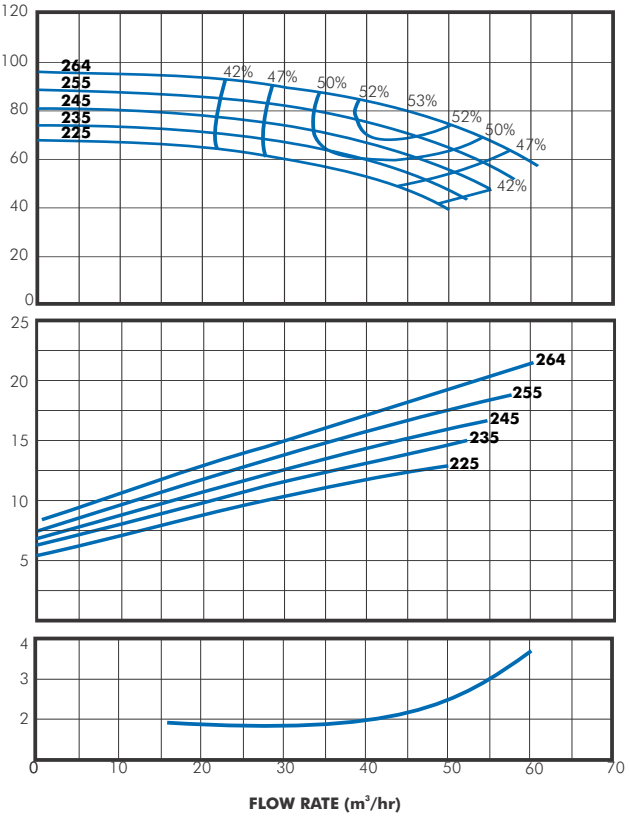
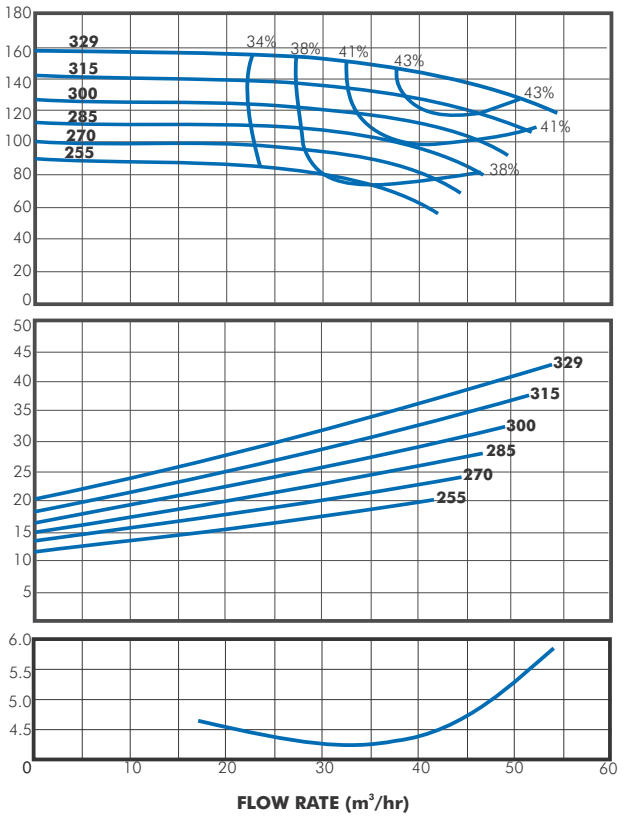


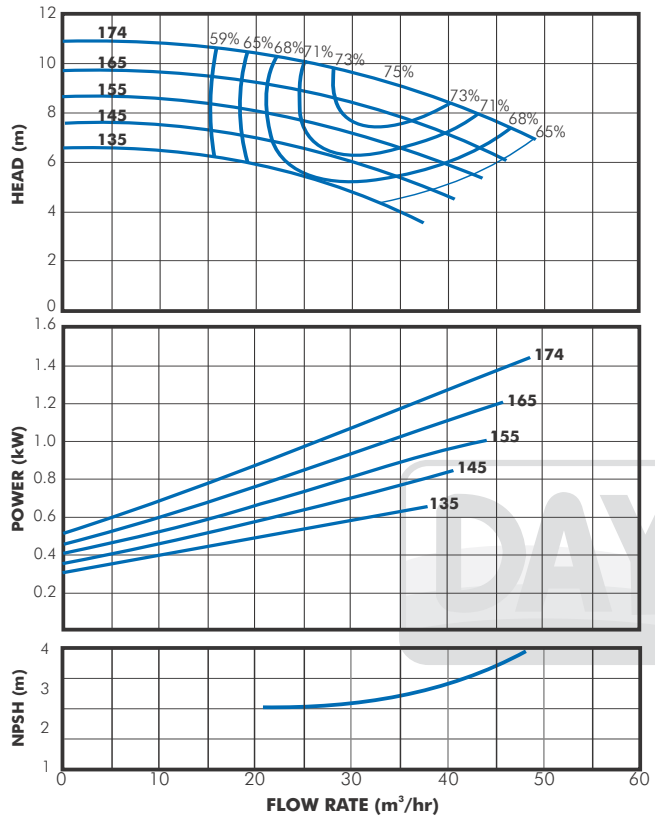
MODEL DE 40/26



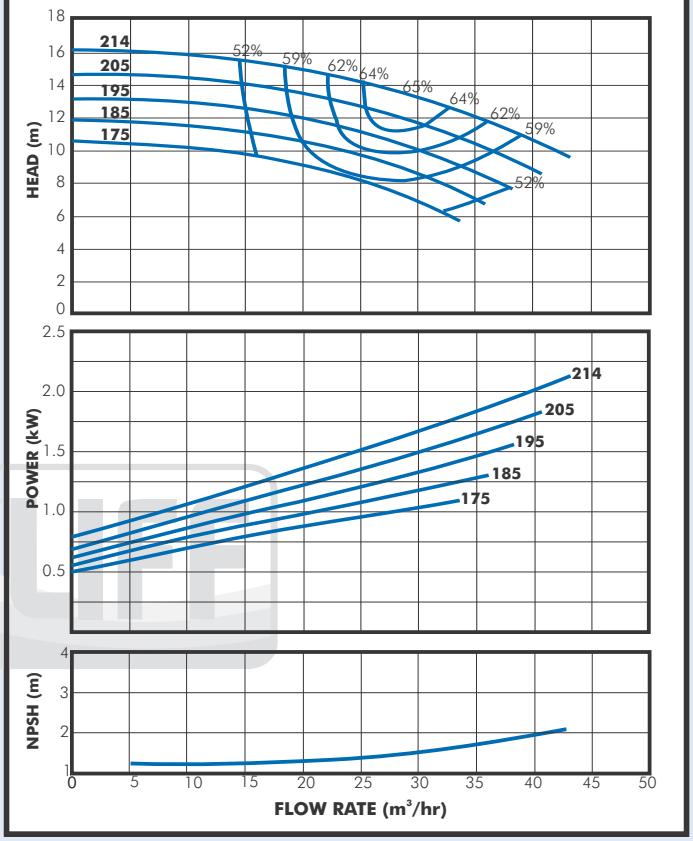
MODEL DE 40/32H



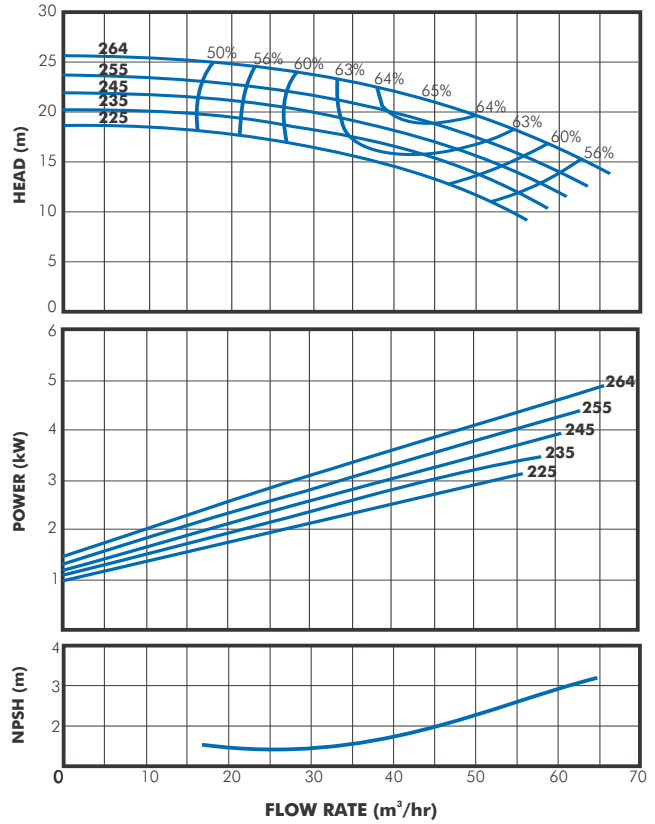
MODEL DE 50/16



MODEL DE 50/20



MODEL DE 50/26



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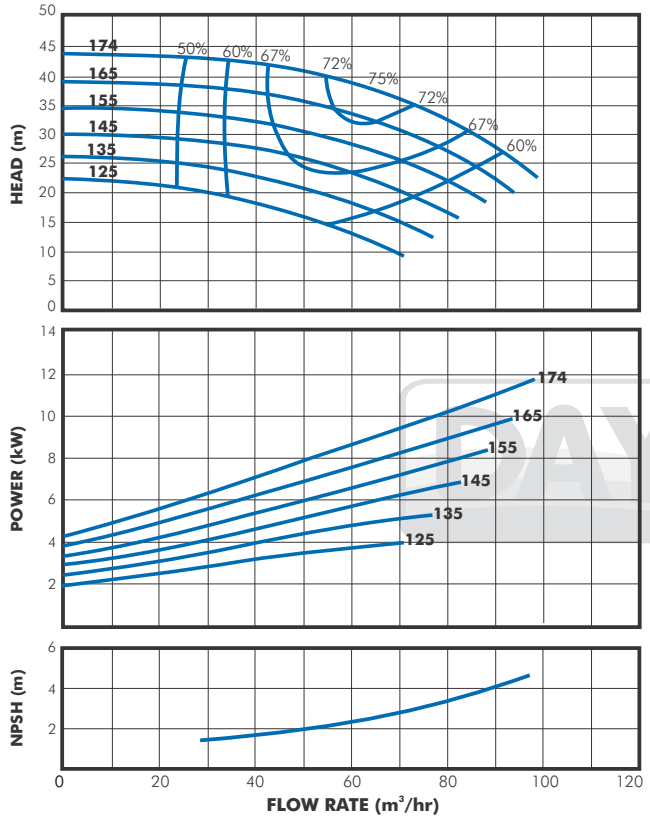

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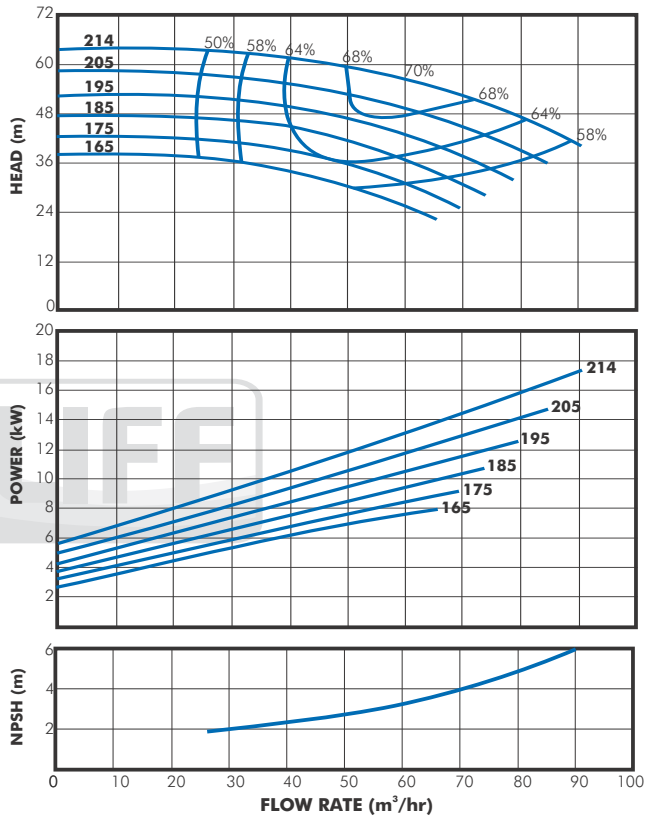
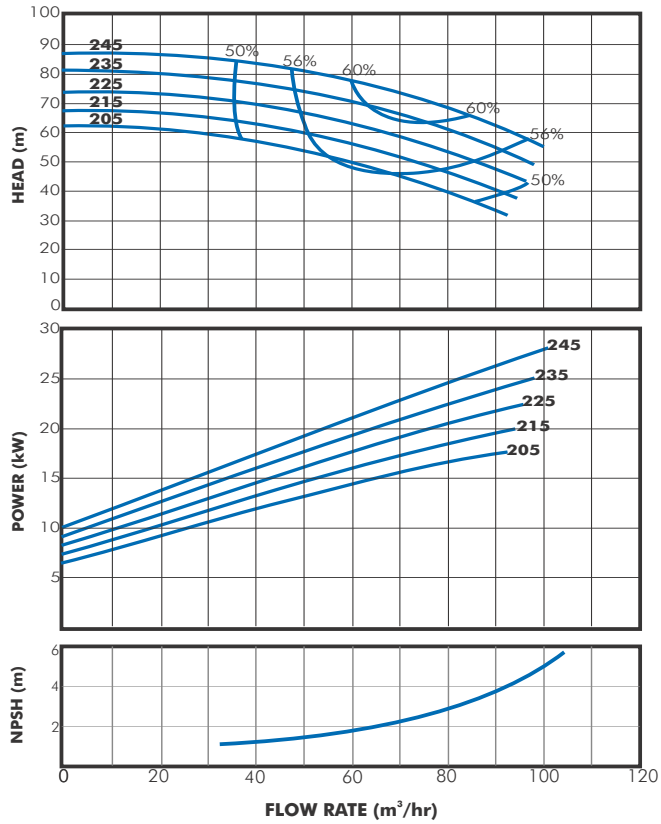
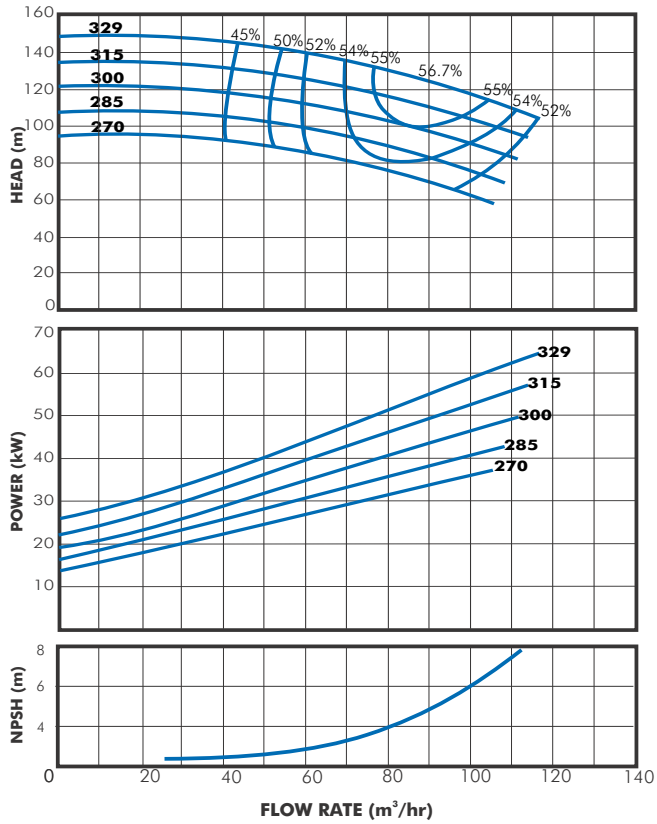


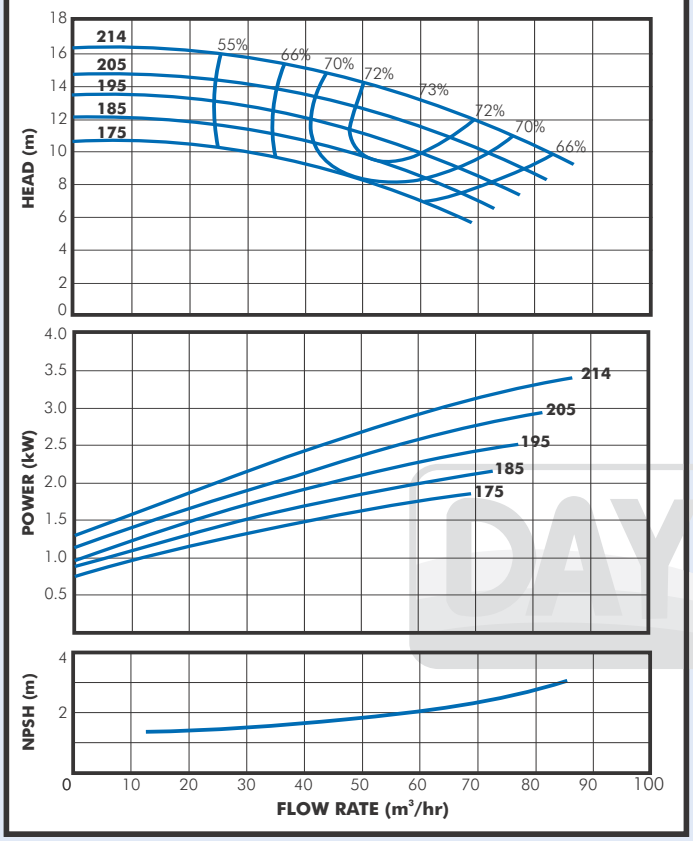
MODEL DE 50/26



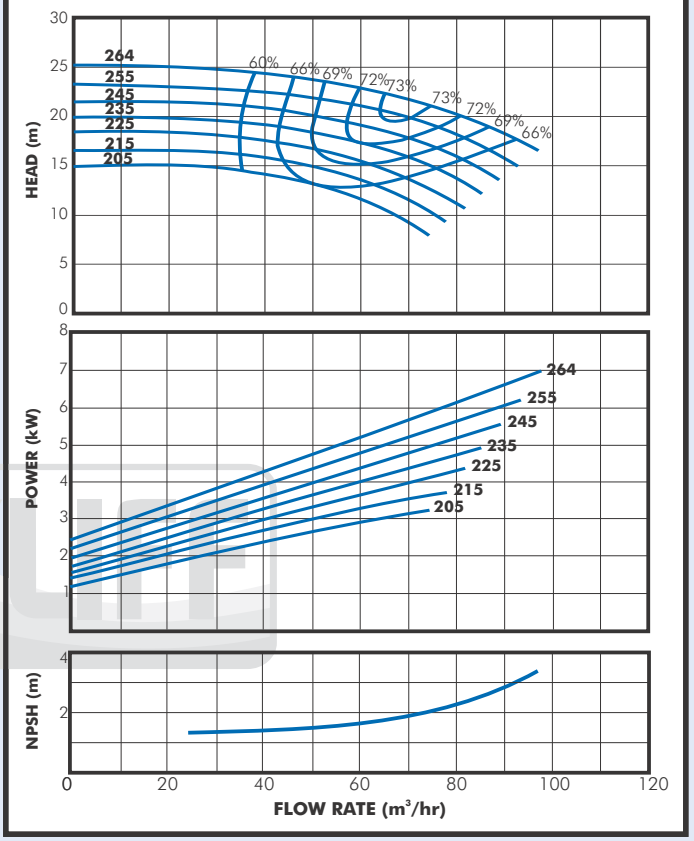
MODEL DE 50/32H



MODEL DE 65/20

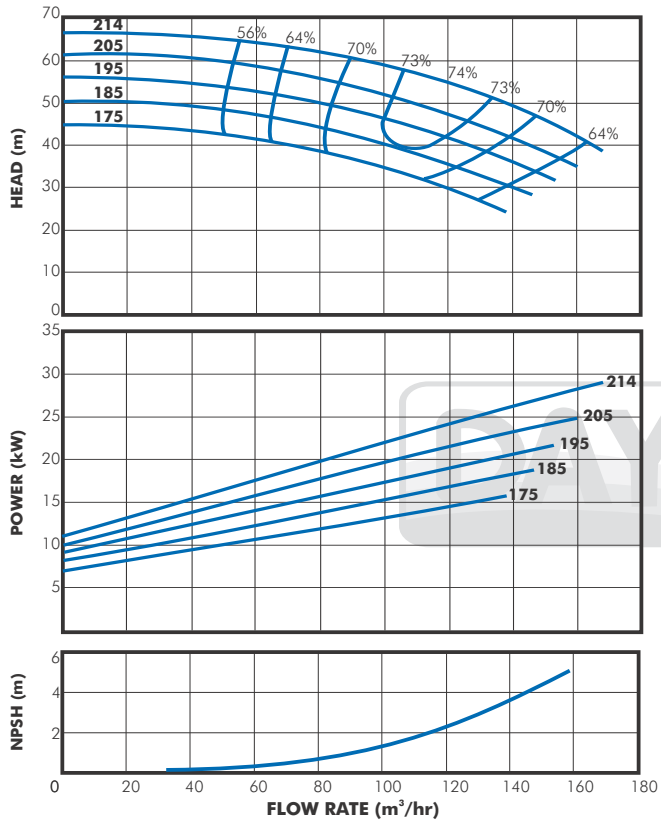


MODEL DE 65/26

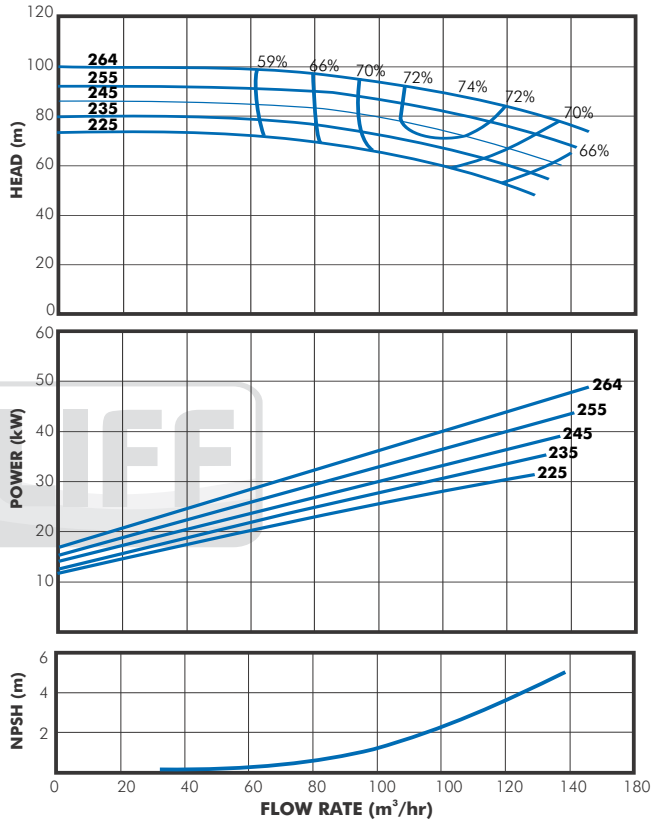


DE 65 PUMP CURVES 2900RPM

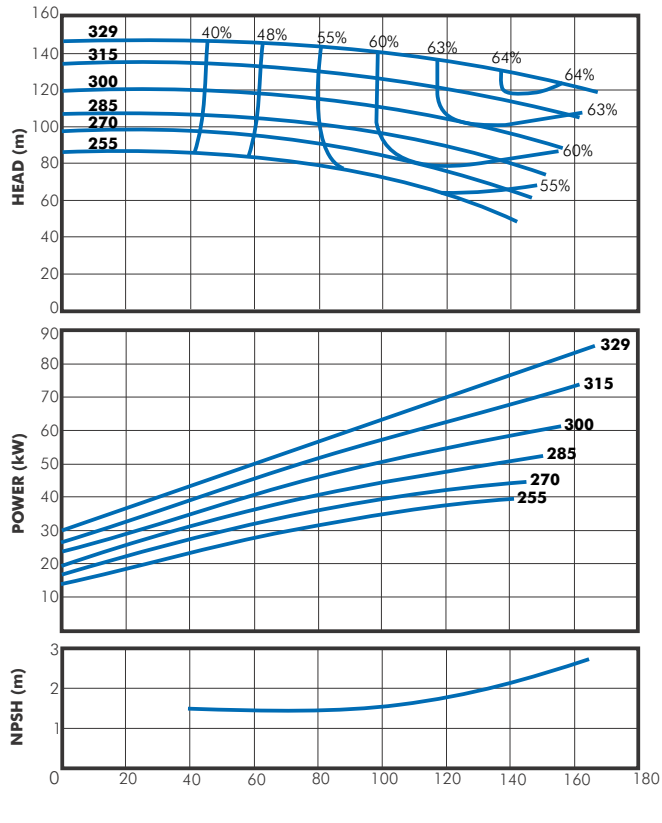
MODEL DE 65/20



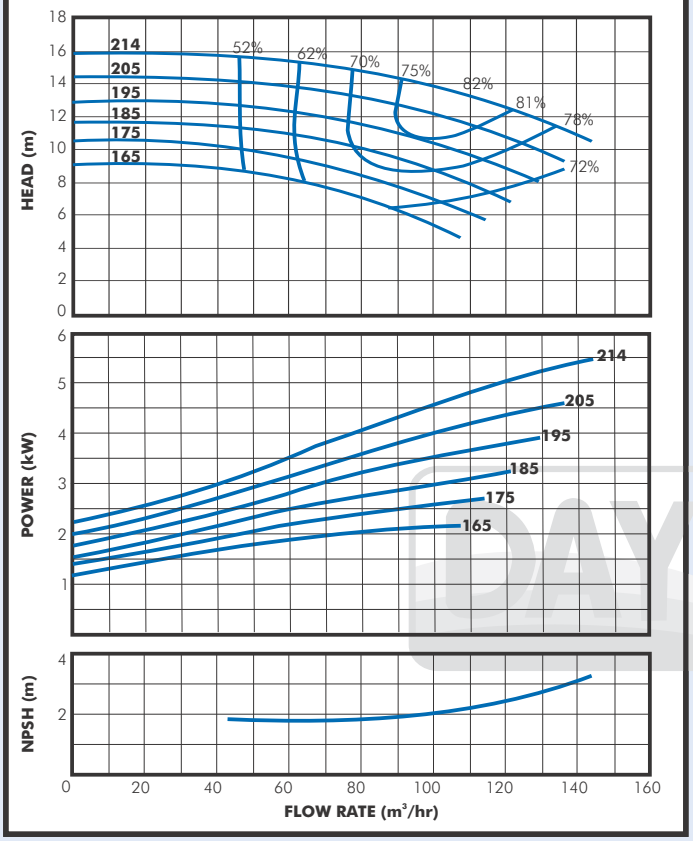
MODEL DE 65/26



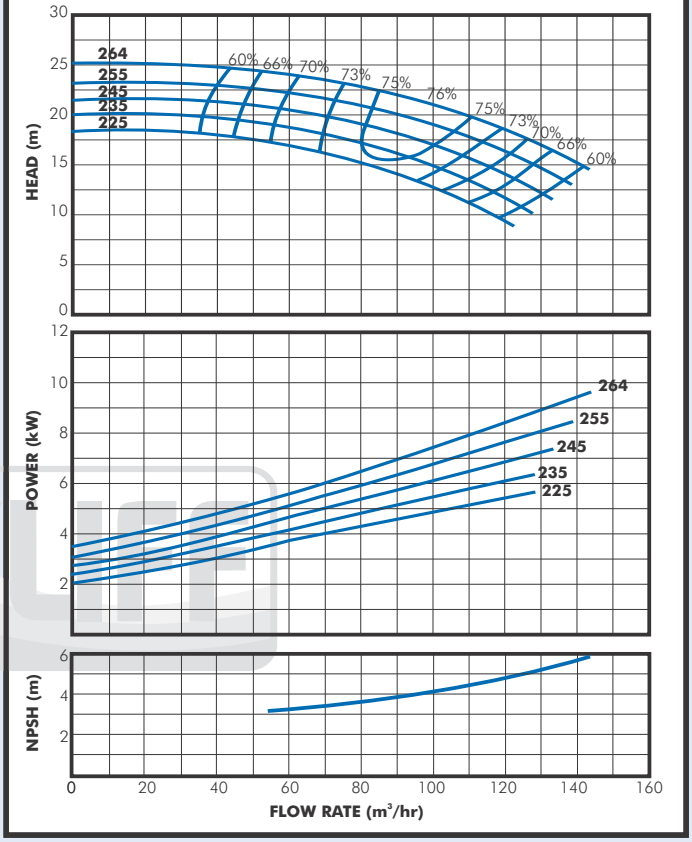
MODEL DE 65/32



MODEL DE 80/20

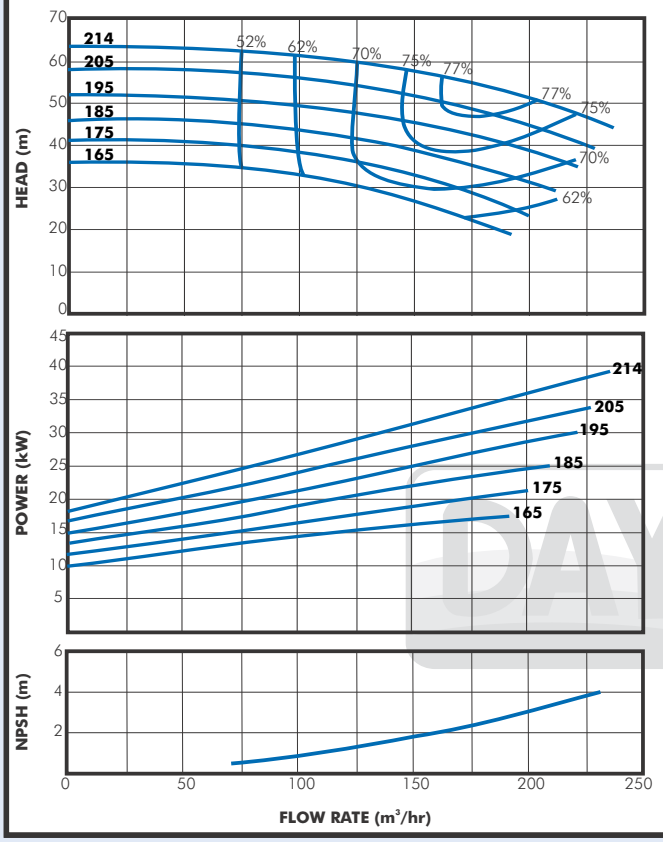


MODEL DE 80/26

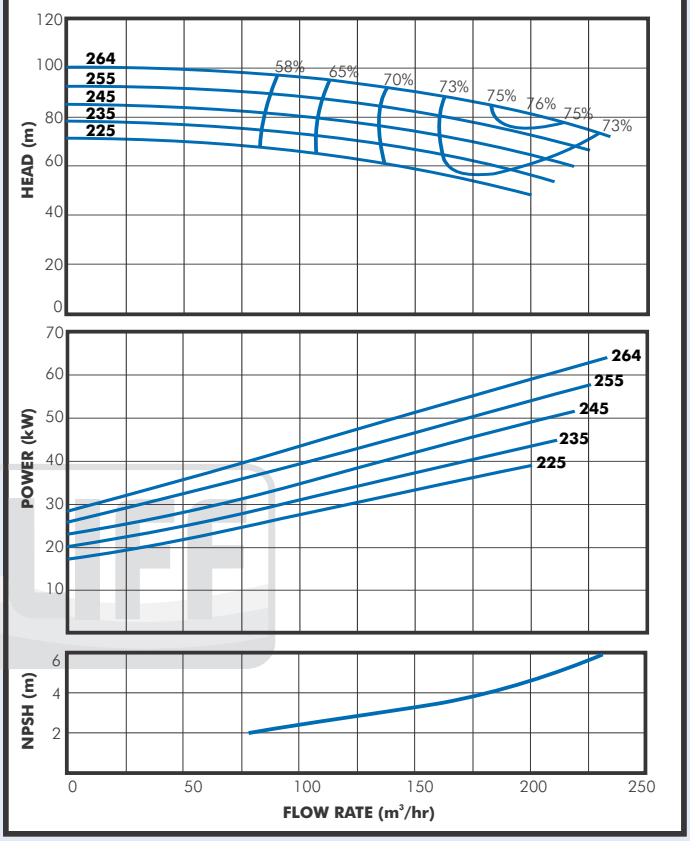


DE 80 PUMP CURVES 2900RPM

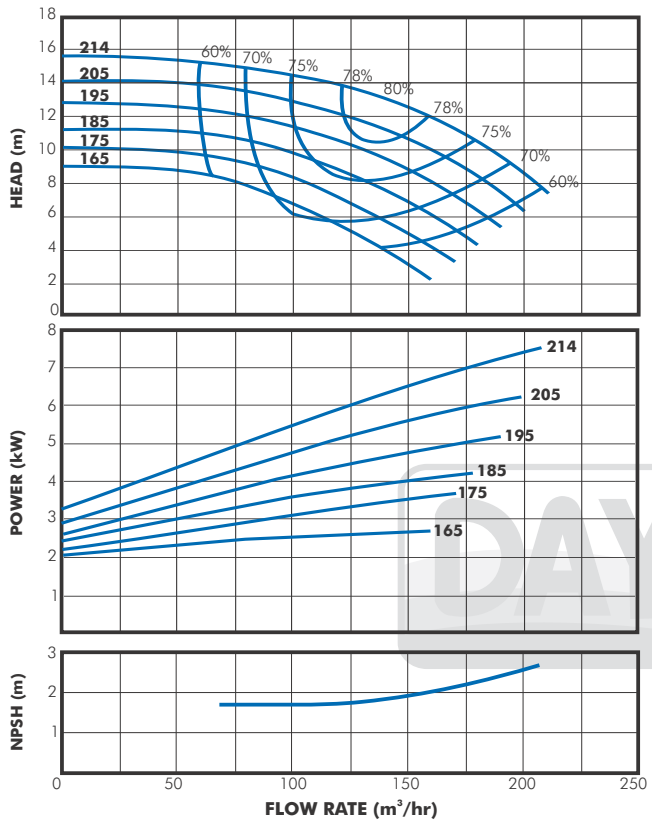
MODEL DE 80/20



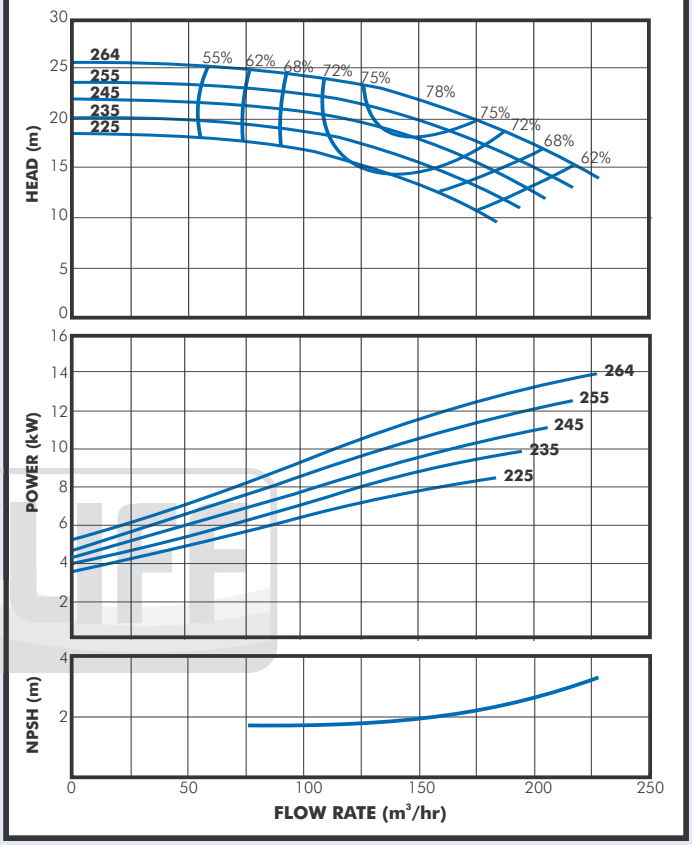
MODEL DE 80/26



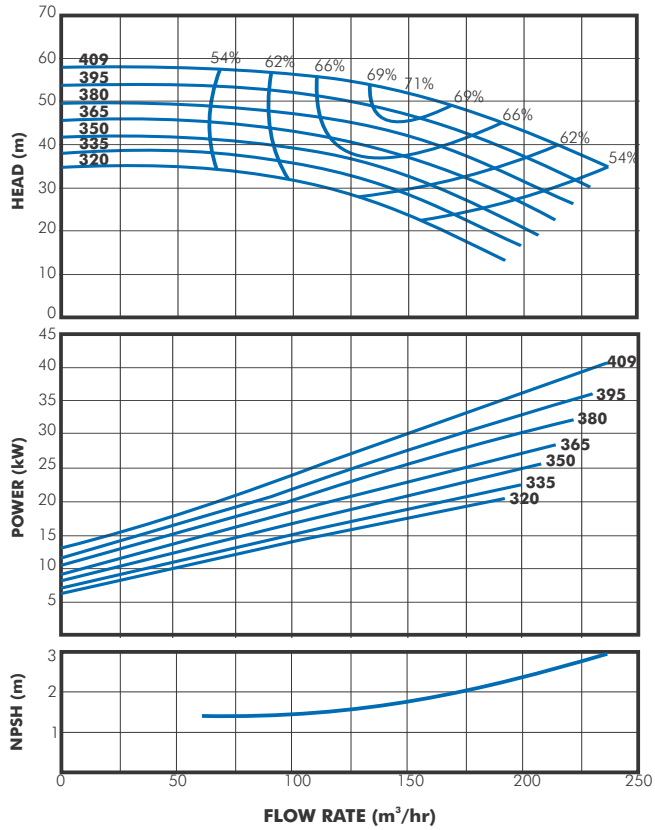
MODEL DE 100/20



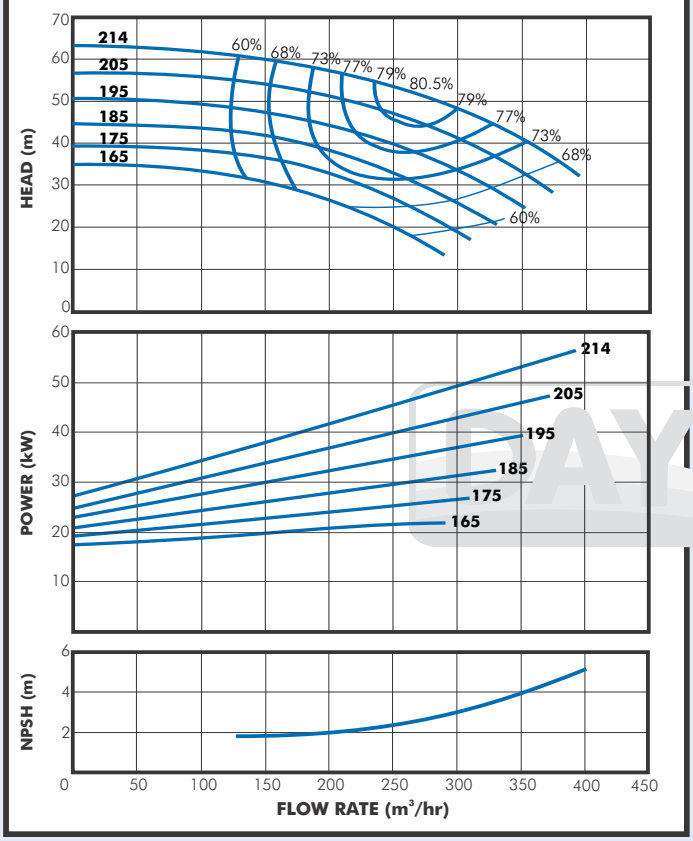
MODEL DE 100/26



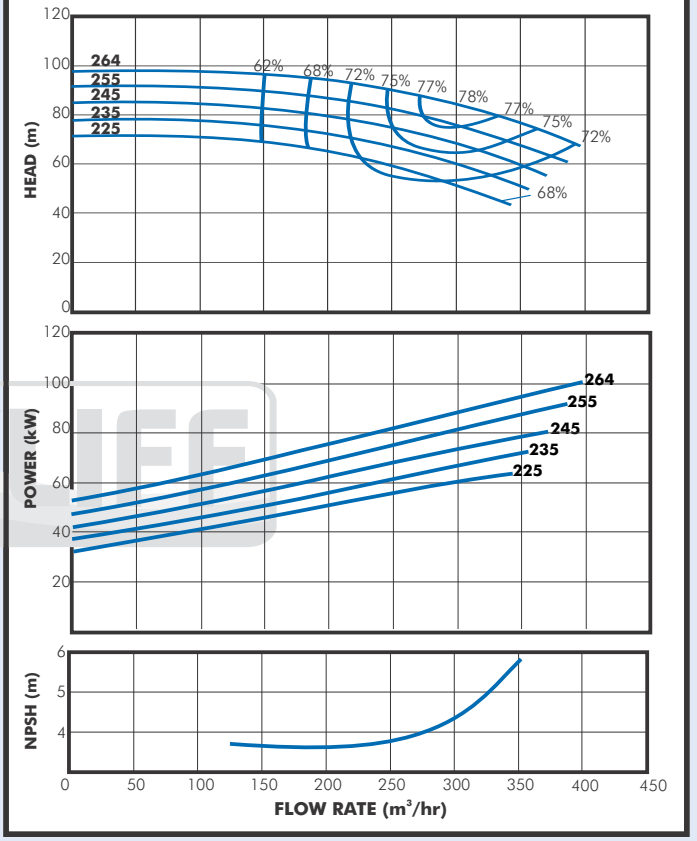
MODEL DE 100/40



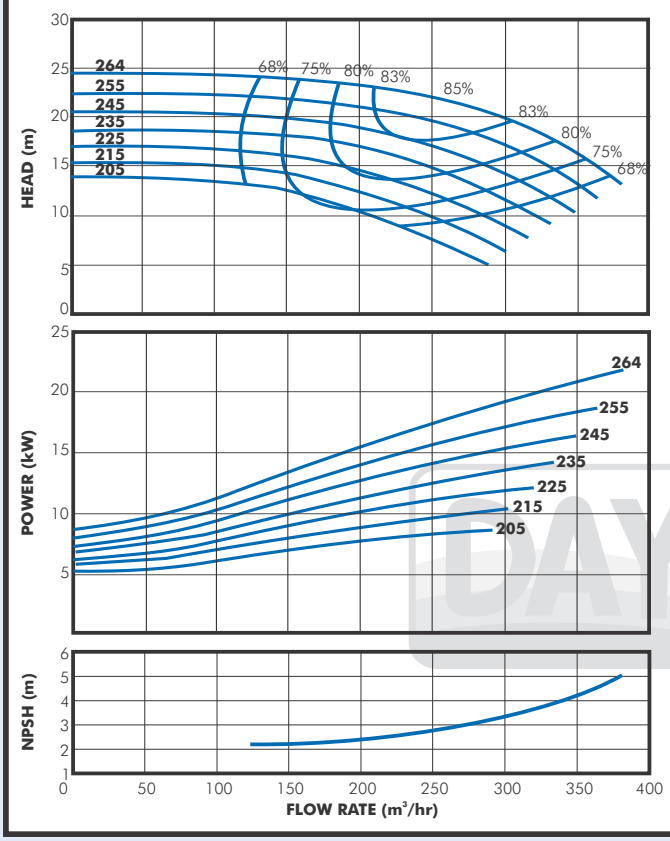
MODEL DE 100/20



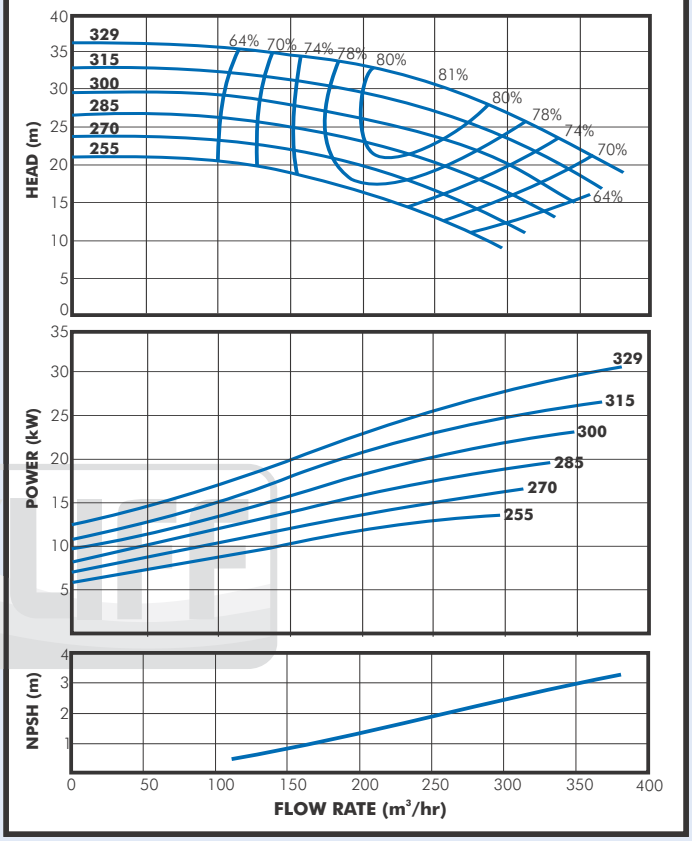
MODEL DE 100/26



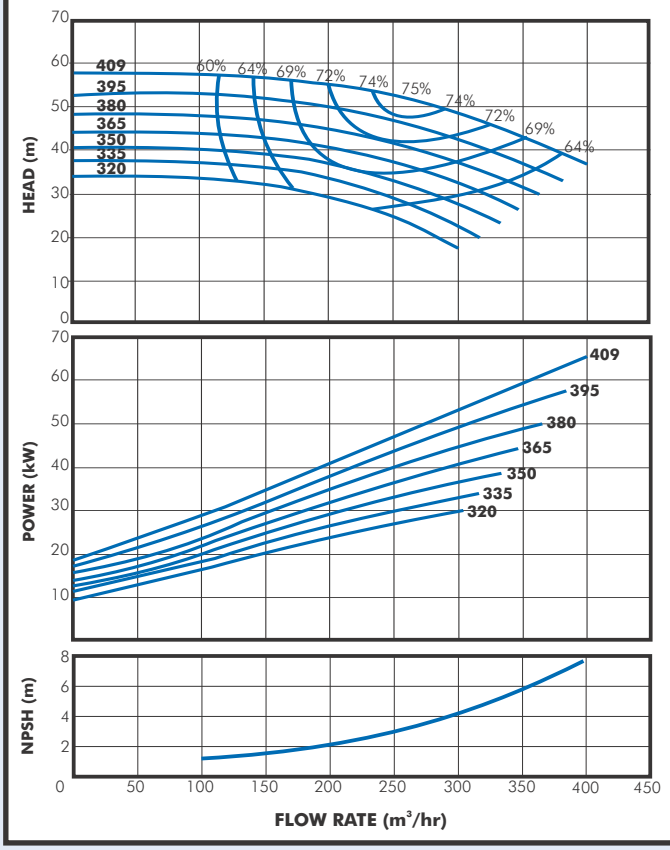
MODEL DE 125/26



MODEL DE 125/32

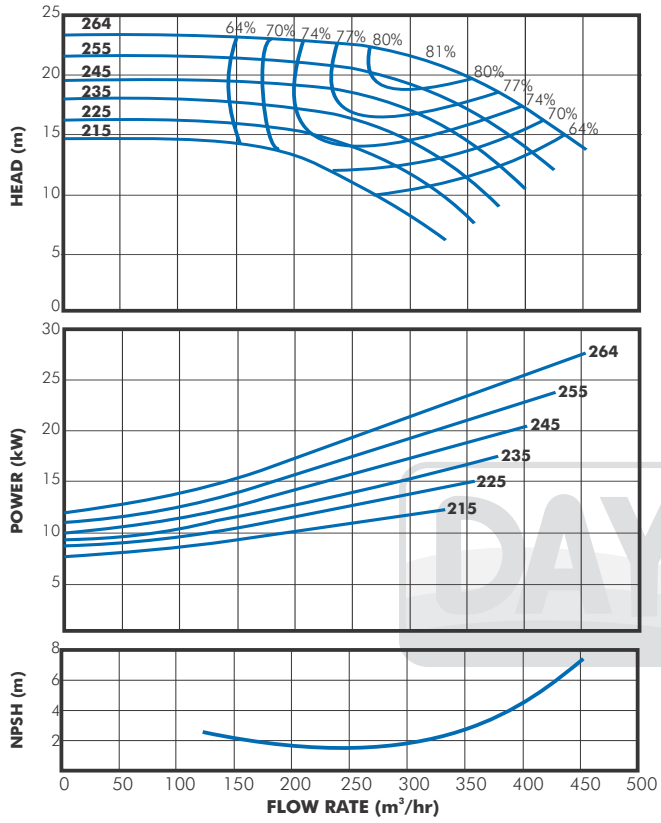


MODEL DE 125/40

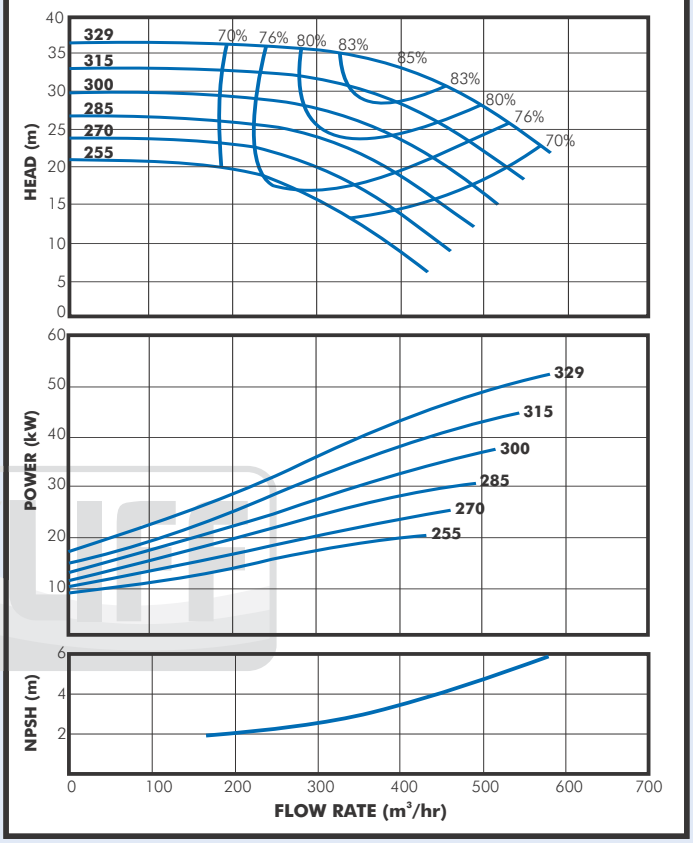


DE 150 PUMP CURVES 1450RPM

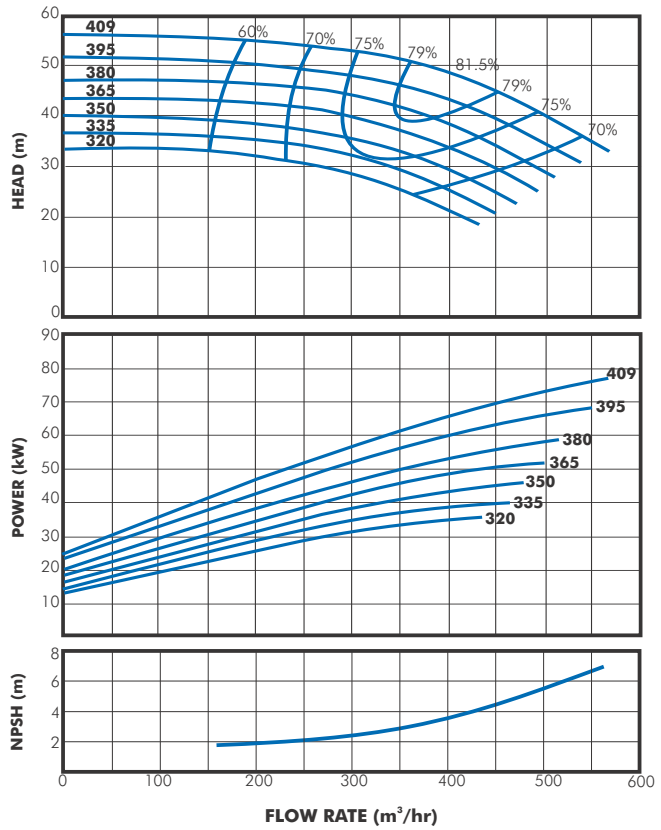
MODEL DE 150/26



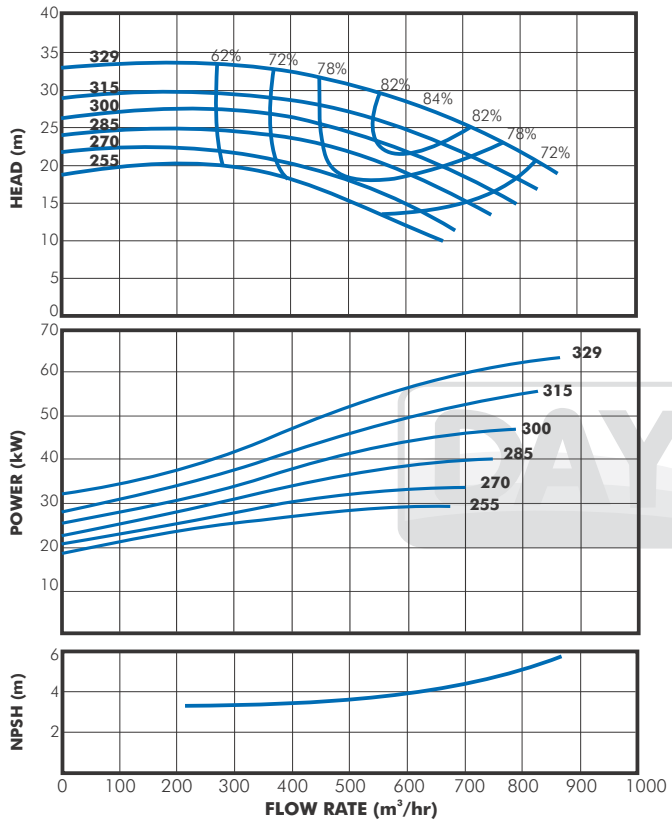
MODEL DE 150/32



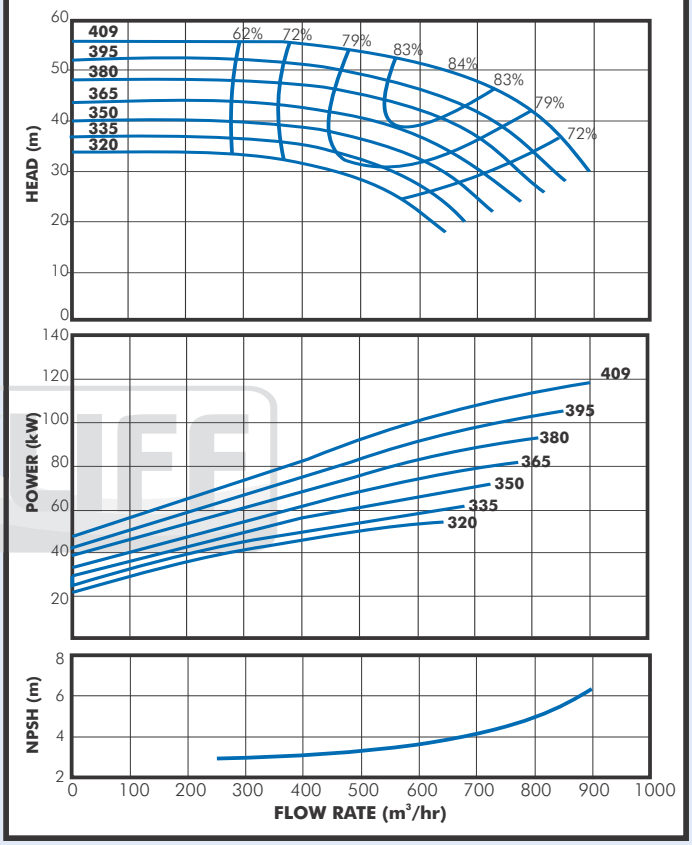
MODEL DE 150/40



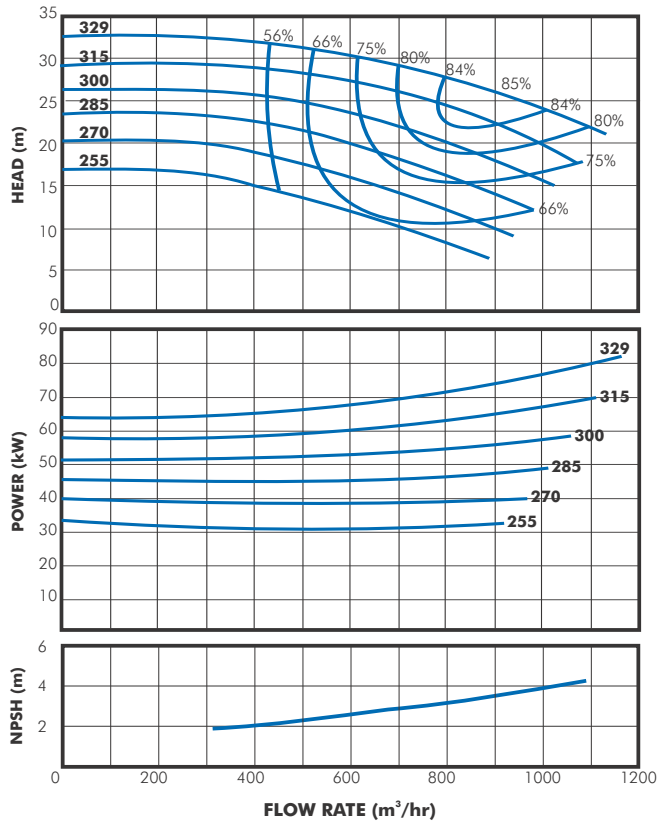
MODEL DE 200/32



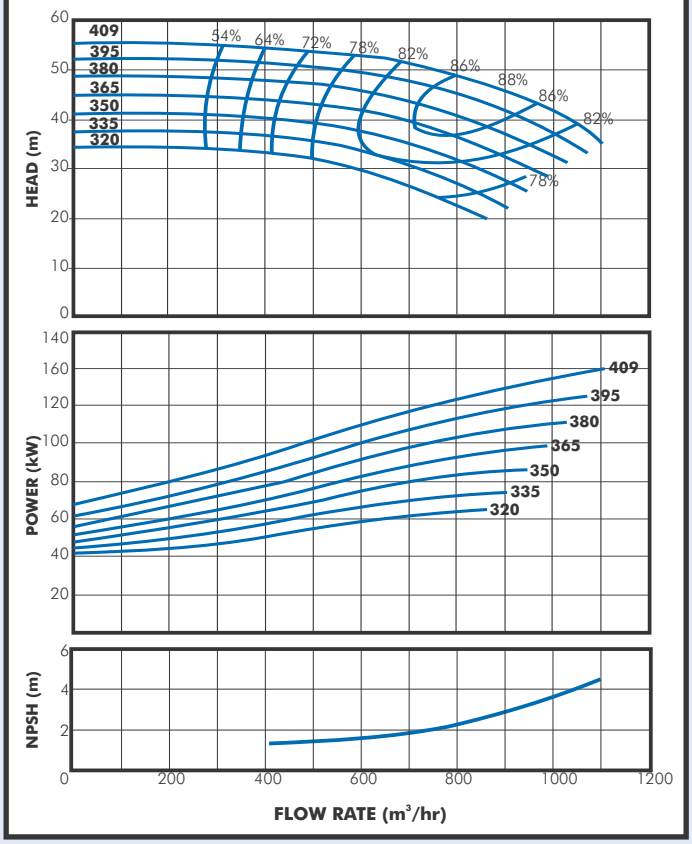
MODEL DE 200/40

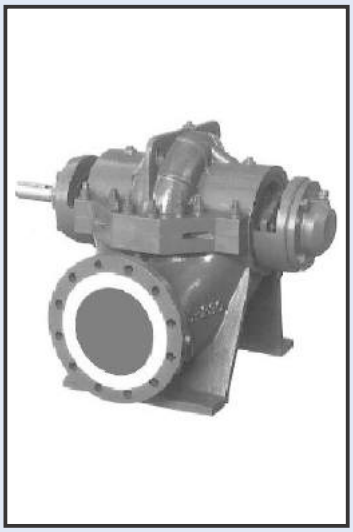


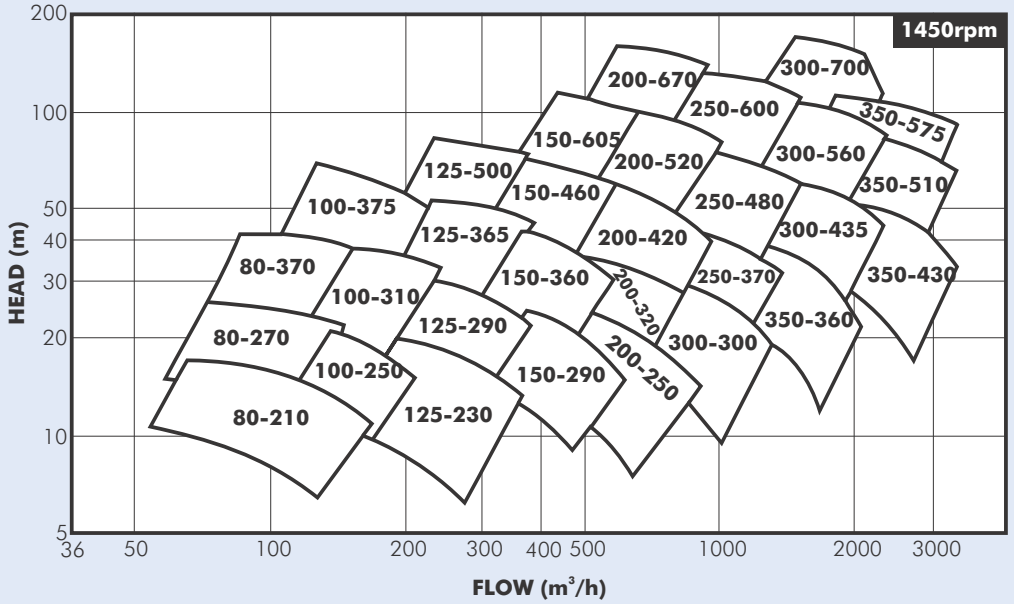
MODEL DE 250/32



MODEL DE 250/40







The Dayliff DC range of self priming engines pumps are of fully portable design suitable for irrigation, dewatering and general pumping duties.

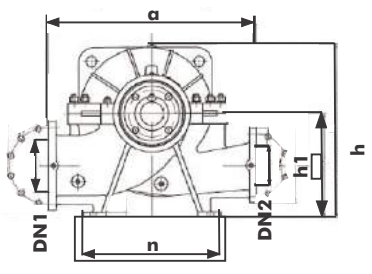
Features

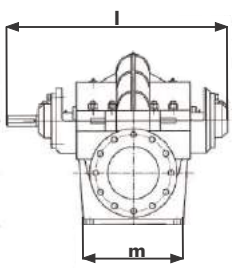
- Open impellers suitable for pumping lightly silted water and a sturdy carrying and protection frame.
- Quick couple hose connectors and suction strainers.
- Maximum suction is 8m at sea level, though this will be reduced at altitudes.
- Pump body and impellers are manufactured from high grade cast aluminium.
- ECONO models use different specification components and are recommended for light duties and shorter operating periods
- Available in Petrol, proprietary air cooled, 4-stroke OHV single cylinder with transistorised ignition and oil alert and Diesel high efficiency direct injection air cooled diesel engine.
- Note that performance curves for all engines relate to the engine governor set at maximum speed of 3600rpm to achieve maximum rated power output. To prolong engine life pumps should only be run under maximum power conditions for short periods and for extended duty the throttle setting should be reduced to approximately three-quarters power. Pump performance will then be reduced accordingly.

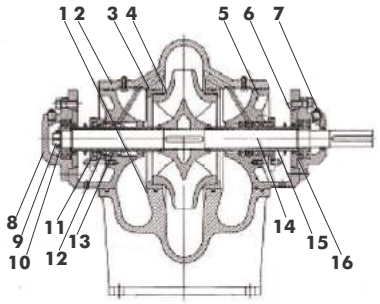
Pump Data

Model	Power	Flange (mm)		Dimensions (mm)						Weight (kgs)
	kW	DN1	DN2	a	h	h1	m	n	l	
DSC 80-270	30	125	80	660	540	315	320	410	685	209
DSC 100-375	55	150	100	740	640	355	320	470	685	245
DSC 125-500	110	200	125	900	715	400	390	640	850	414
DSC 150-605	250	200	150	1100	885	500	480	780	920	755
DSC 200-670	500	250	200	1200	920	600	500	800	1078	1218
DSC 250-600	630	300	250	1200	1050	630	600	800	1210	1116
DSC 300-700	1100	400	300	1400	1235	750	620	1060	1350	1640
DSC 350-660	1100	450	350	1400	1255	780	620	1060	1350	1900

Pump details are given for maximum impeller diameter







1. Casing
2. Casing Cover
3. Wear Ring
4. Impeller
5. Seal Housing
6. Bearing Cover
7. Drive End Bearing Housing
8. Non-drive End Bearing Housing
9. Lock Nut
10. Bearing Baffle
11. Seal Plate
12. Seal Cover
13. Mechanical Seal
14. Shaft
15. Shaft Sleeve
16. Bearing Pressing Ring

Horizontal Multistage Centrifugal Pumps DMS

The DAYLIFF DMS range of horizontal multistage centrifugal pumps are heavy duty industrial quality pumps suitable for various water supply, irrigation and industrial applications.

A wide range of models and specifications are available, a combination of the pump size and number of stages being selected to achieve maximum efficiency at a specific duty point. Electric motors are selected according to the required power input at the duty point and mounted together with the pump and coupling on a base frame. All pumps are also suitable for direct or belt drive by diesel engine.

Features:

- Heavy duty cast iron construction including stages, pump body, impellers and diffusers.
- Gland packing seals for economical and simple maintenance.
- External securing tie bolts for ease of disassembly.

Operating Conditions

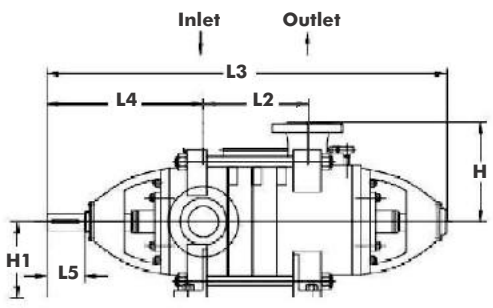
Pumped liquid: Thin, clean, chemically non-aggressive liquids without abrasive particles or fibres
Max. Fluid Temperature: +110°C
Max. Suction Pressure: 10 Bar
Max. Delivery Pressure: 30 Bar

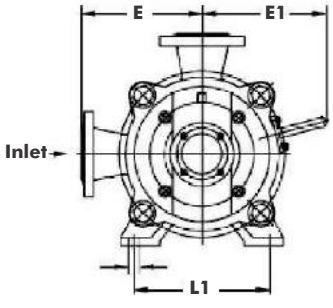
Pump Data

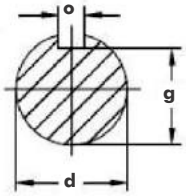
Model	Dimensions (mm)								Shaft			Inlet Flanges				Outlet Flanges			
	Inlet	Outlet	L1	L4	L5	E	H1	H	d	u	g	D	A	O	Holes	D	A	O	Holes
DMS 12	50	40	210	265	62	170	150	170	25	8	21	50	140	110	4x13.5	40	150	110	4x17.5
DMS 25	65	65	295	330	80	210	170	210	30	8	26	65	160	130	4x17.5	65	185	145	8x17.5
DMS 46	80	65	295	330	80	210	170	210	30	8	26	80	190	150	4x17.5	65	185	145	8x17.5
DMS 85	100	100	345	326	86	250	210	250	35	10	30	100	210	170	4x17.5	100	235	1780	8x22

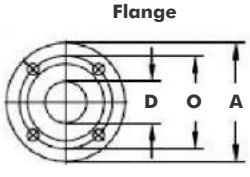
Stages	DMS 12				DMS 25				DMS 46				DMS 85			
	Power (kW)	L2	L3	Weight (kgs)	Power (kW)	L2	L3	Weight (kgs)	Power (kW)	L2	L3	Weight (kgs)	Power (kW)	L2	L3	Weight (kgs)
3													55	277	906	877
4									30	295	910	531	75	351	980	1040
5	11	210	795	292	22	360	975	452	37	360	975	560	90	425	1054	1061
6	15	210	845	316	30	425	1040	572	37	425	1040	576				
7	15	210	895	333	30	490	1105	592	45	490	1105	664				
8	18.5	210	945	370												

* Power absorbed at 2900rpm

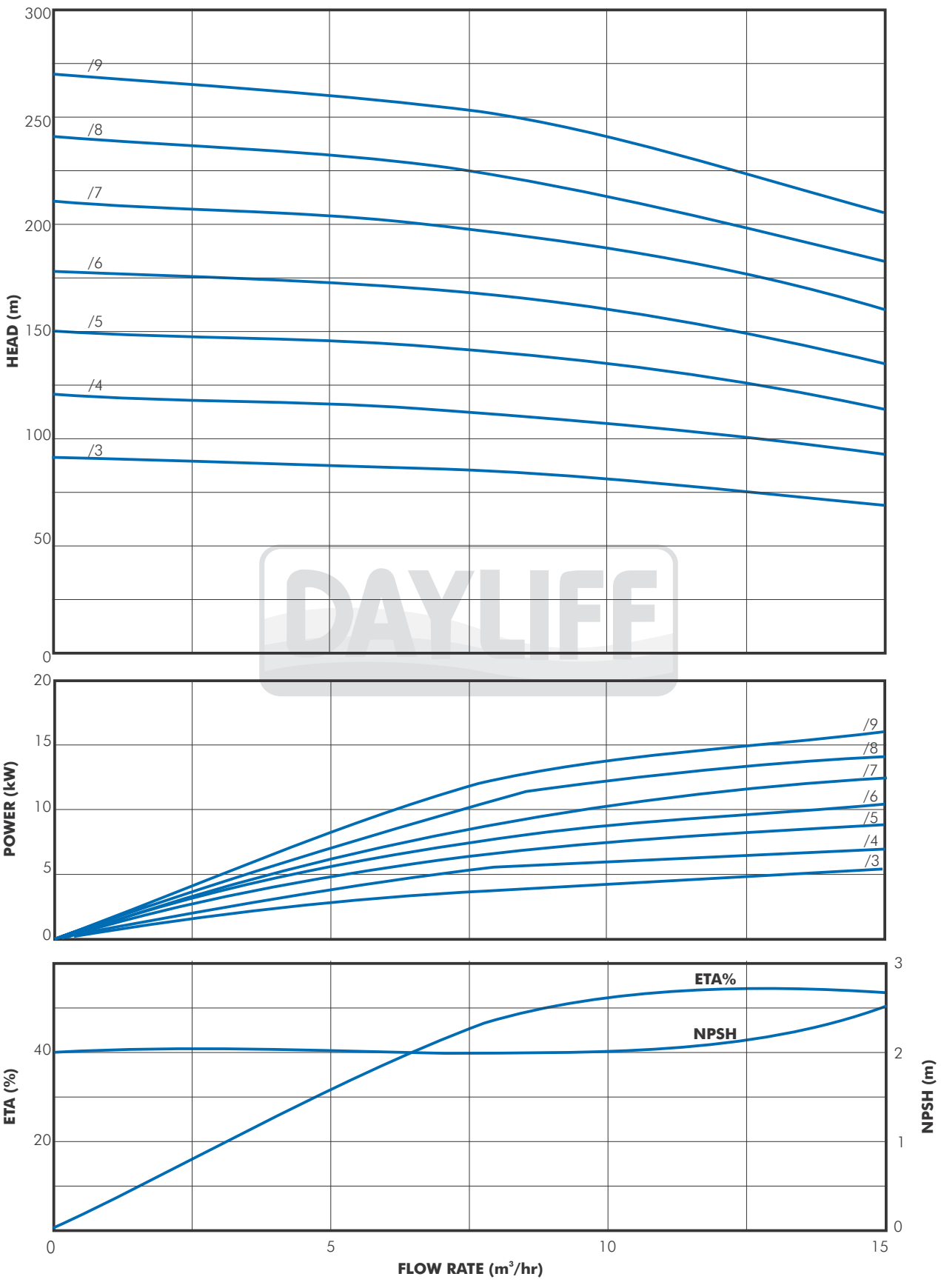


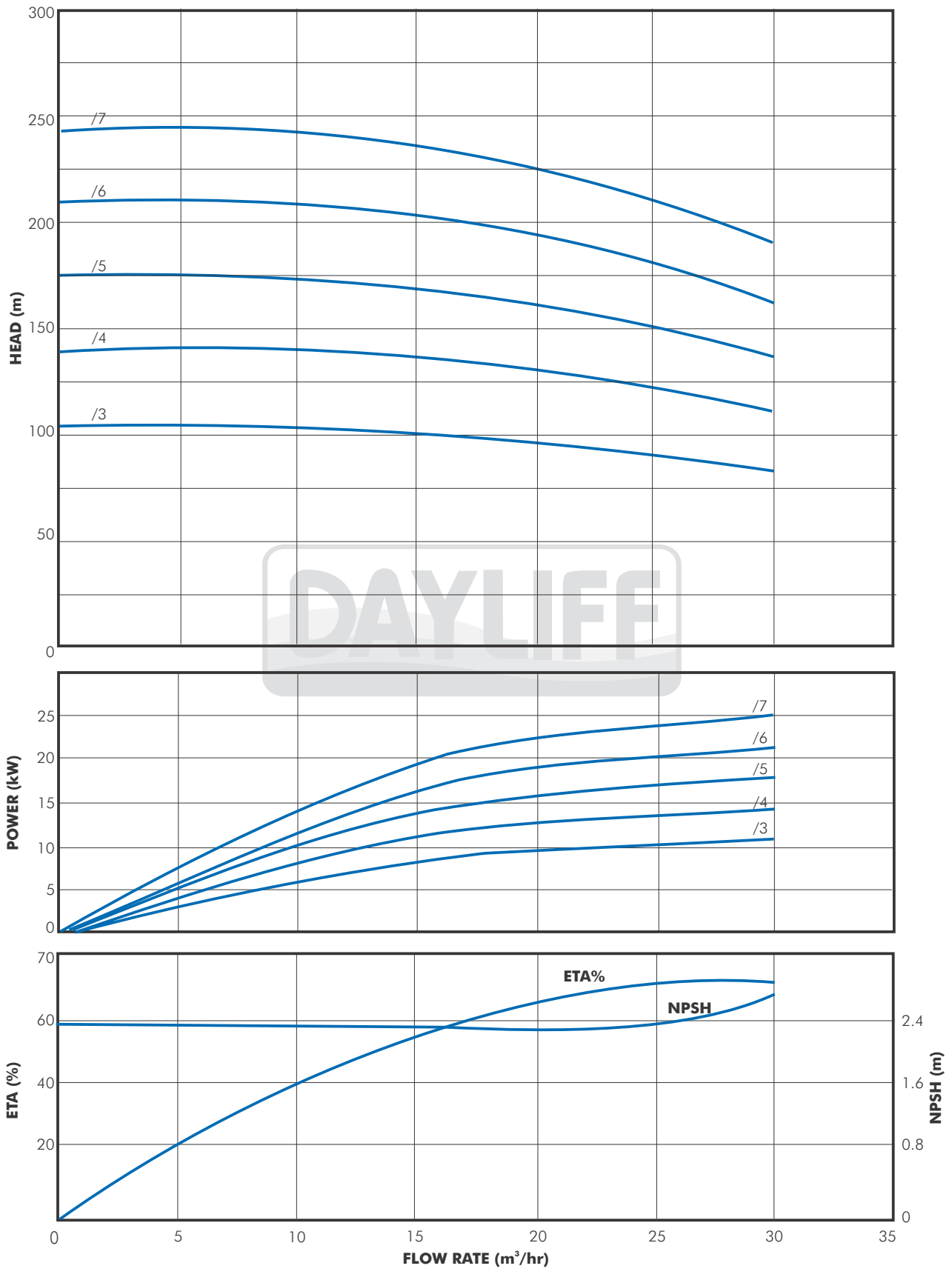




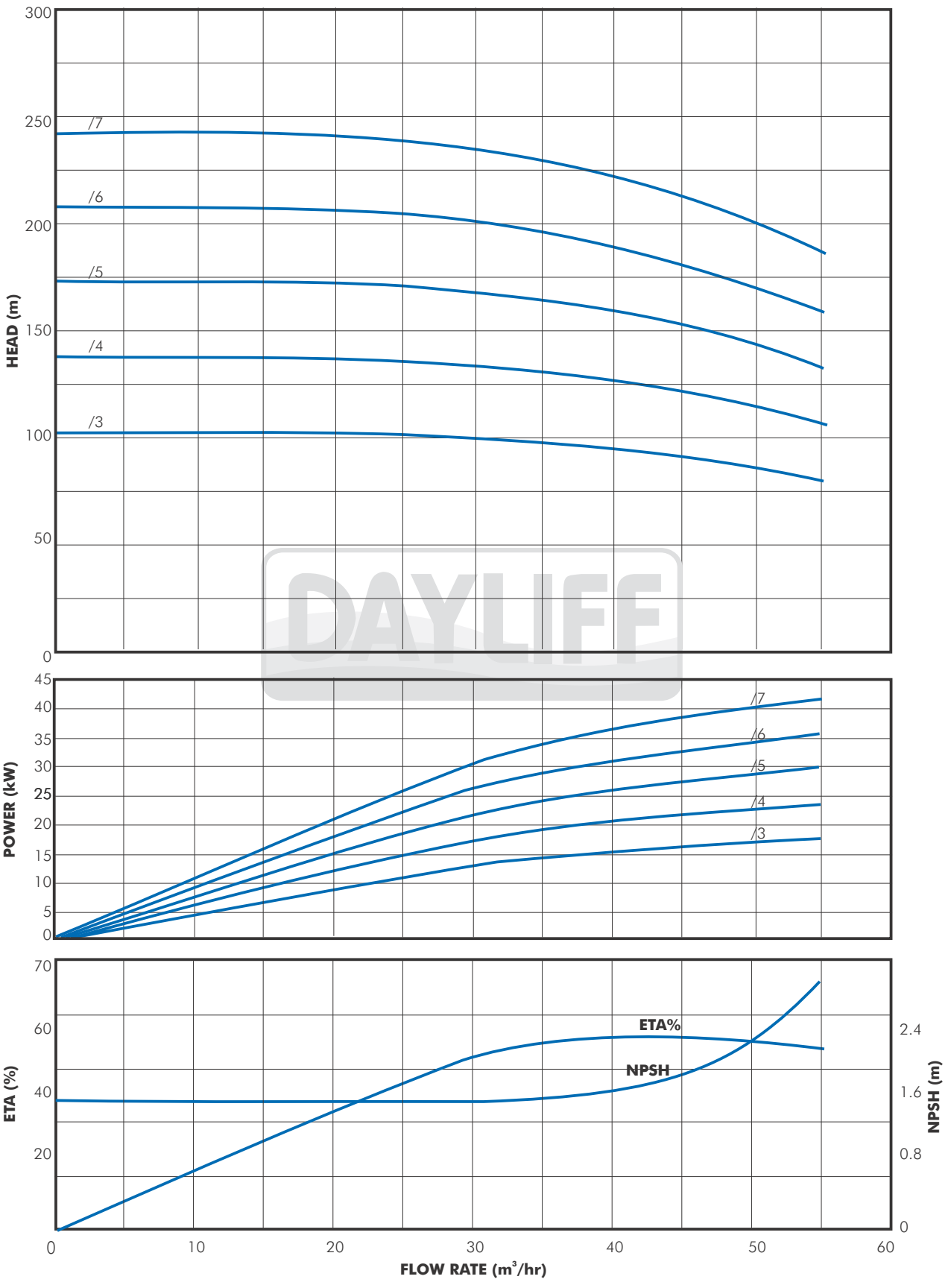


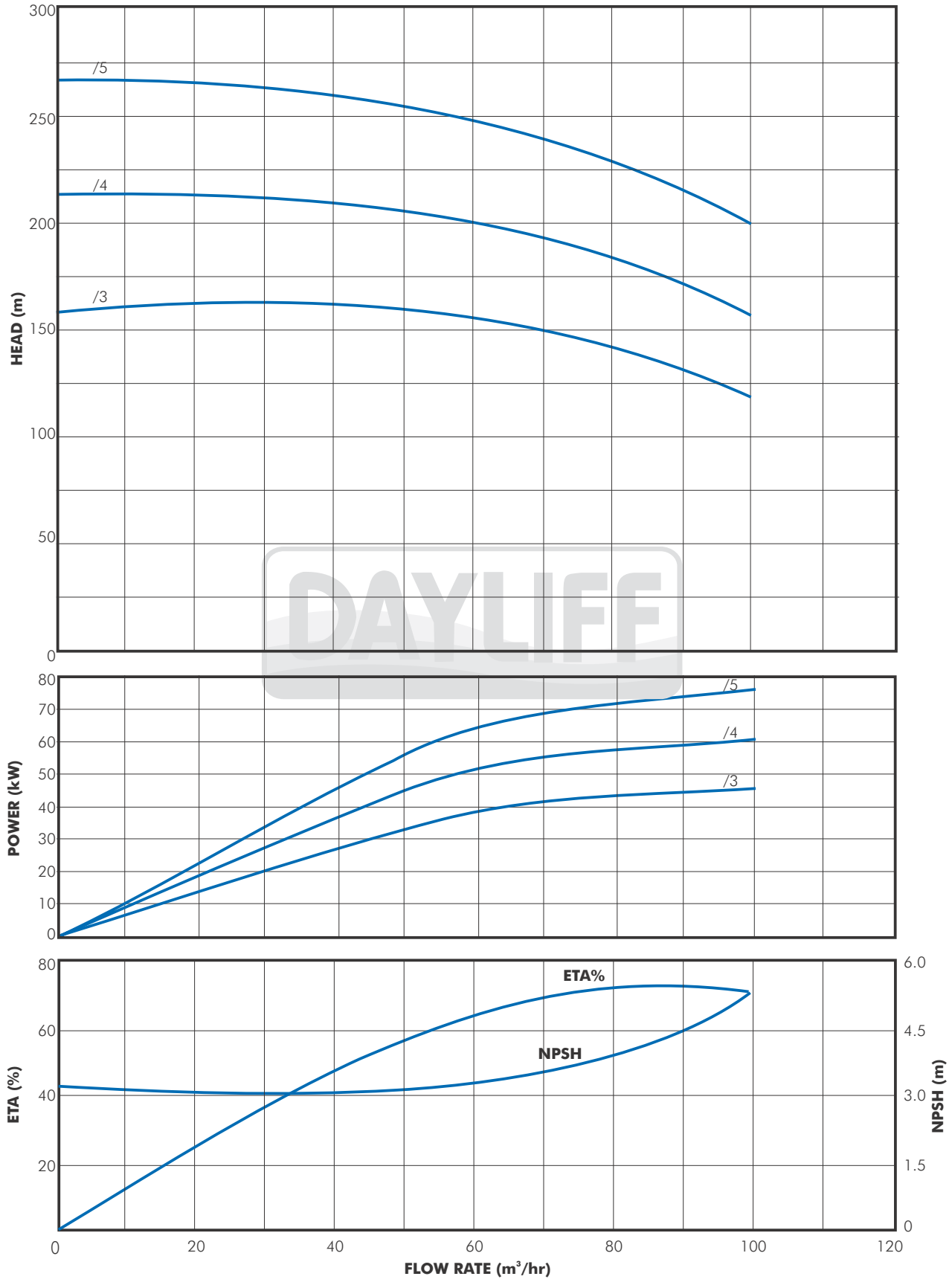
DMS 12 PUMP CURVES 2950RPM

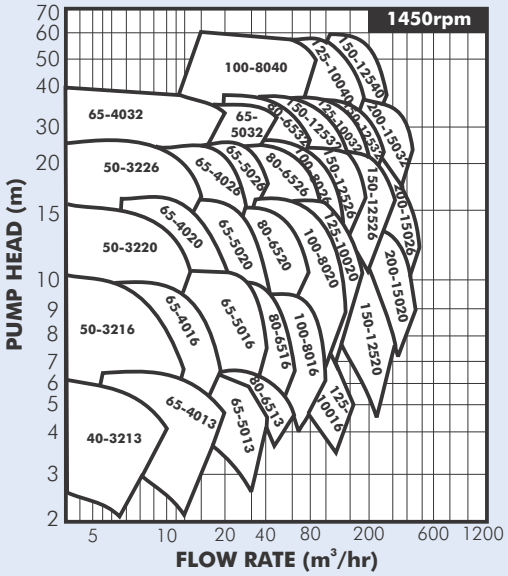


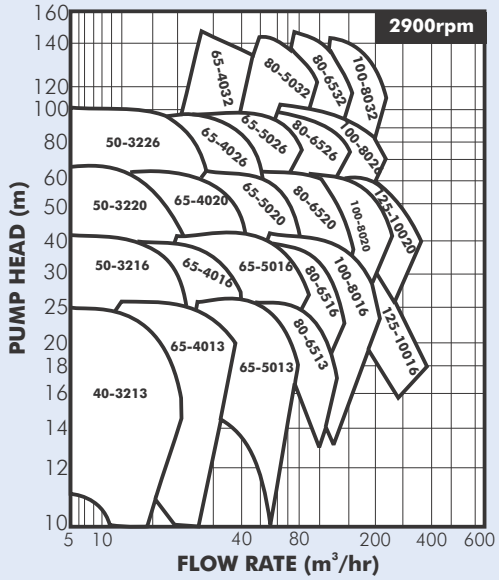

HEAD (m)
300
250
200
150
100
50
0
/7
/6
/5
/4
/3
POWER (kW)
25
20
15
10
5
0
/7
/6
/5
/4
/3
ETA (%)
70
60
40
20
ETA%
NPSH
2.4
1.6
0.8
0
NPSH (m)
0
5
10
15
20
25
30
35
FLOW RATE (m³/hr)

DMS 46 PUMP CURVES 2950RPM




HEAD (m)
300
250
200
150
100
50
0
/5
/4
/3
POWER (kW)
80
70
60
50
40
30
20
10
0
/5
/4
/3
ETA (%)
80
60
40
20
0
ETA%
NPSH
6.0
4.5
3.0
1.5
0
NPSH (m)
0
20
40
60
80
100
120
FLOW RATE (m³/hr)





The DAYLIFF DL range of vertical in-line closed impeller centrifugal pumps are rugged, heavy duty industrial products designed for various water supply, HVAC cooling, irrigation and fire-fighting duties in agricultural, commercial and industrial applications. A wide range is available, individual pump performance being adaptable to particular duty requirement by trimming the impeller size. Pump performance is indicative. Full performance details will be provided on provision of exact duty requirements.

Features

- Heavy duty cast iron casing, bronze closed impeller and stainless steel shaft
- Close coupled vertical design ensures accurate alignment of pumps and motor
- Compact and best suited for restricted spaces

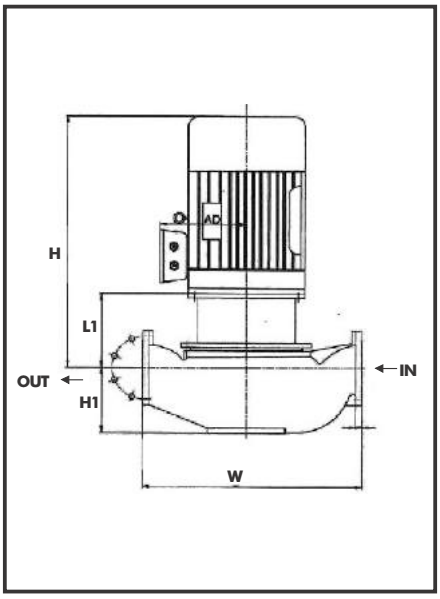
Operating Conditions

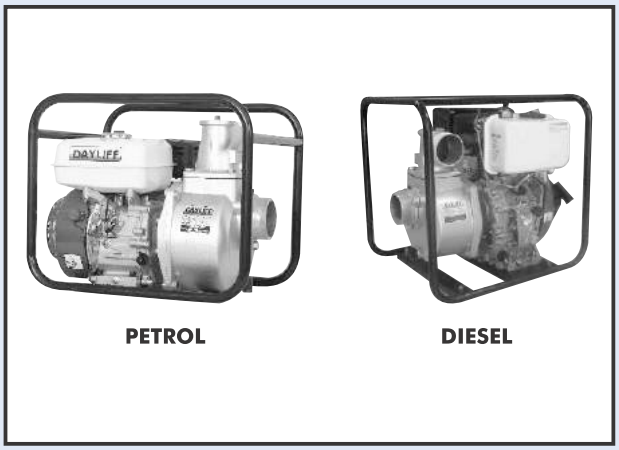
Pumped Liquid: Thin, clean, chemically, non aggressive water without solids or particles
Max Operation Pressure: 16bar
Max Temperature: 105°C

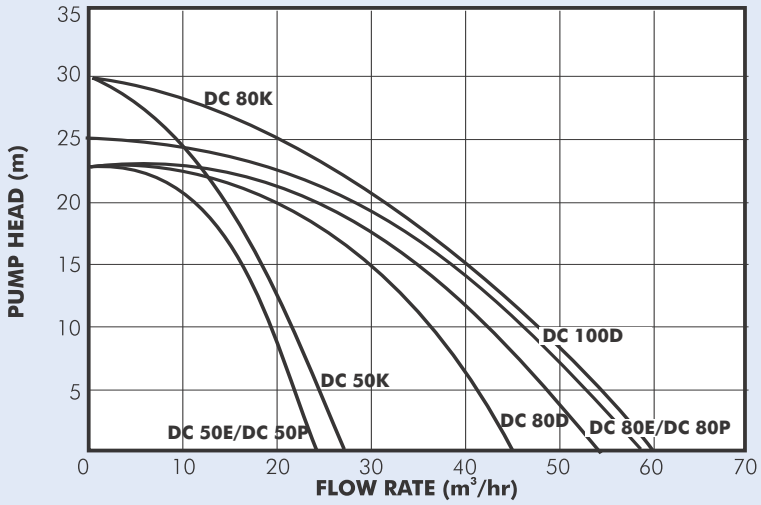
Pump Data

Model	Speed (rpm)	Max. Power (kW)	DN (m)	Dimensions (mm)				Weight (kgs)
				H	H1	L1	W	
DL40	1450	0.55	40	407	113	152	310	48
DL50	1450	3	50	498	118	173	470	99
DL65	1450	11	65	743	155	231	590	211
DL80	1450	15	80	795	175	235	640	246
DL100	1450	30	100	909	220	249	800	436
DL125	1450	45	125	989	240	284	810	524
DL150	1450	75	150	1129	250	284	850	780
DL200	1450	55	200	1055	300	285	920	647
DL40	2900	2.2	40	447	113	152	310	57
DL50	2900	18.5	50	788	118	228	470	202
DL65	2900	75	65	1188	155	273	590	618
DL80	2900	90	80	1167	175	272	640	686
DL100	2900	75	100	1166	188	271	630	663
DL125	2900	90	125	1170	220	275	700	689

Pump details are given for maximum impeller diameter







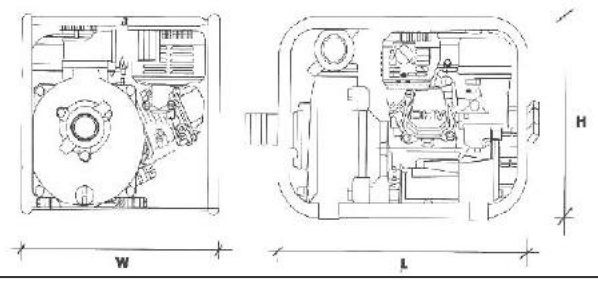
The Dayliff DC range of self priming engines pumps are of fully portable design suitable for irrigation, dewatering and general pumping duties.

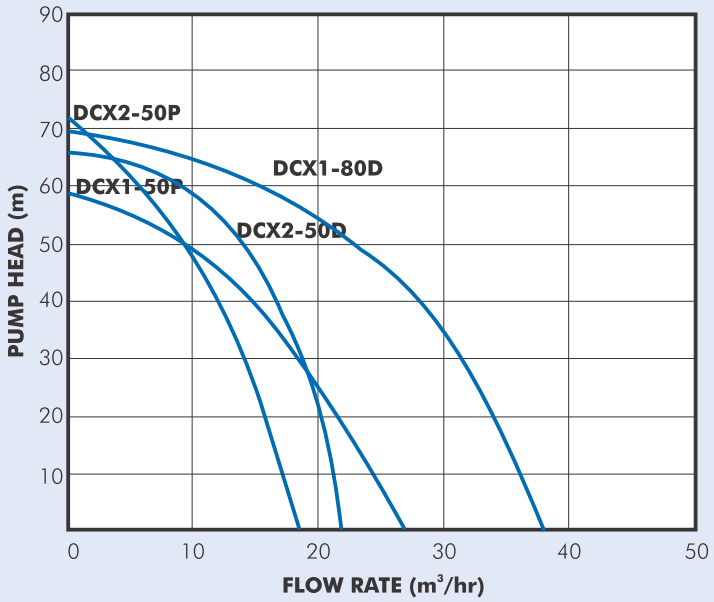
Features

- All models feature open impellers suitable for pumping lightly silted water and a sturdy carrying and protection frame.
- They included are quick couple hose connectors and suction strainers. Maximum suction is 8m at sea level, though this will be reduced at altitudes.
- All pumps, the pump body and impellers are manufactured from high grade cast aluminium.
- ECONO models use different specification components and are recommended for light duties and shorter operating periods.
- Two engine options are available; Petrol - Proprietary air cooled, 4-stroke OHV single cylinder with transistorised ignition and oil alert. Diesel - A high efficiency direct injection air cooled diesel engine.
- Note that performance curves for all engines relate to the engine governor set at maximum speedof 3600rpm to achieve maximum rated power output. To prolong engine life pumps should only be run under maximum power conditions for short periods and for extended duty the throttle setting should be reduced to approximately three-quarters power. Pump performance will then be reduced accordingly.

Pump Data

Model	Fuel	Engine			Fuel		Inlet & Outlet (")	Dimensions (mm)			Weight (kg)
		Type	Capacity (cc)	Max. Power (HP)	Tank (ltr)	Consumption (l/hr)		L	W	H	
DC 50E/DC 50P	Petrol	LV210/GK210P	208/210	7.0	3.6	1.7	2	475/450	375	375	23
DC 50K	Petrol	Kohler SH265	163	5.5							23
DC 80E/DC 80P	Petrol	LV210/GK210	208/212	7.0			3	520/510	385	422/435	25
DC 80K	Petrol	Kohler SH265	163	5.5							
DC 80D	Diesel	LA178F	296	6.0	3.5	1.5		540	440	510	43
DC 100D	Diesel	LA186F	406	10.0	5.5	2.5	4	590	450	530	64





The DAYLIFF DCX range of portable high pressure engine are of self priming closed impeller centrifugal type suitable for high head water transfer, irrigation and fire fighting applications.

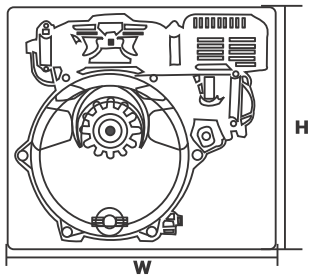
Features

- Option of single impeller for medium pressure and twin impellers for higher pressure applications available
- Pump body and impeller manufactured from high grade aluminum
- Provided with quick coupling hose connectors and suction strainers
- Fitted with sturdy carrying and protection frame
- Option of either highly dependable air cooled Petrol or Diesel engines with recoil start

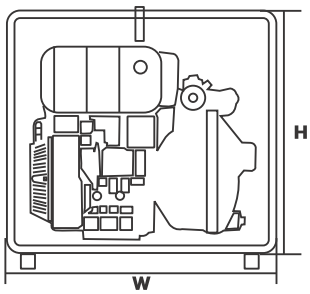
Note that performance curves for all engines relate to the engine governor set at maximum speed of 3600rpm to achieve maximum rated power output. To prolong engine life pumps should only be run under maximum power conditions for short periods and for extended duty the throttle setting should be reduced to approximately three-quarters power. Pump performance will then be reduced accordingly.

Pump Data

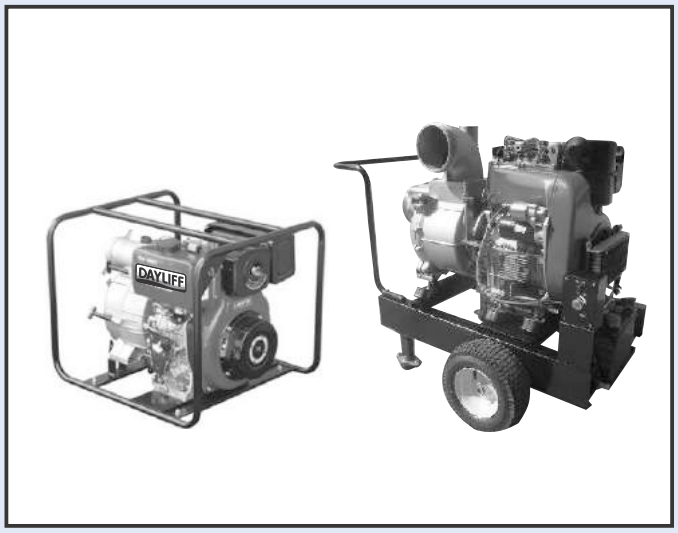
Model	Inlet & Outlet	Engine				Fuel		Dimensions(mm)			Weight (kgs)
		Fuel	Type	Capacity (cc)	Max Power (HP)	Tank (l/hr)	Consumption (l/hr)	L	W	H	
DCX1 50P	2″	Petrol	GK210	196	6.5	3.6	1.8	490	400	422	27
DCX1 80D	3″	Diesel	LA186F	406	10	5.5	2.0	645	475	605	62
DCX2 50P	2″	Petrol	GK210	196	6.5	3.6	1.7	490	400	422	28
DCX2 50D	2″	Diesel	LA178F	296	5.4	3.5	1.3	540	440	540	47

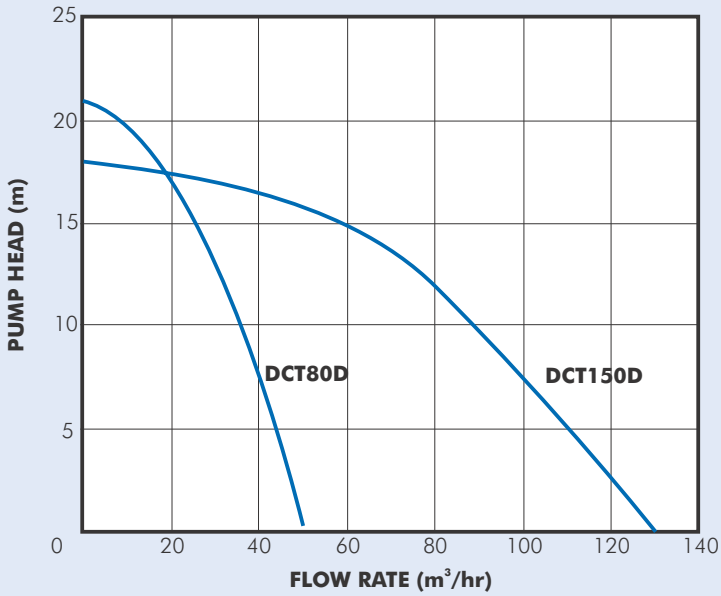


DCX1 80D
Inlet:1x3″ M
Discharge:1x3″M



DCX1 50P/DCX2 50P/ DCX2 50D
Inlet:1x2″ M
Discharge:2x1½″M, 1x2″M





The Dayliff DCT portable trash pumps are self priming centrifugal type and specially designed for pumping waste water including sewage, construction sites, flood drainage etc where reliable high performance pumping is demanded.

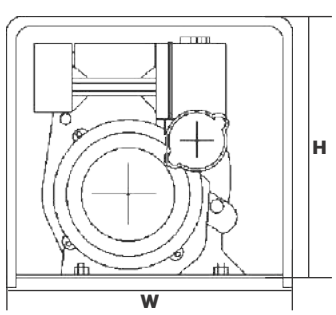
Features

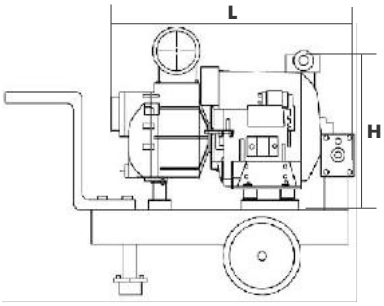
- Specially designed for pumping polluted water with high solid loads
- Fitted with open vane type impellers for enhanced solid passing performance and easy opening front casing for cleaning and blockage clearance
- Pumps body and impellers are manufactured from high grade aluminum
- Quick couple hose connectors and suction strainers included
- Fitted with high performance 4 stroke OHV Diesel engines with oil alert
- DCT 80D is provided with a sturdy carry and protection frame while DCT150D is trolley mounted

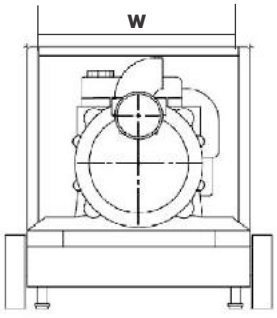
Note that performance curves for all engines relate to the engine governor set at maximum speed of 3600rpm to achieve maximum rated power output. To prolong engine life pumps should only be run under maximum power conditions for short periods and for extended duty the throttle setting should be reduced to approximately three-quarters power. Pump performance will then be reduced accordingly.

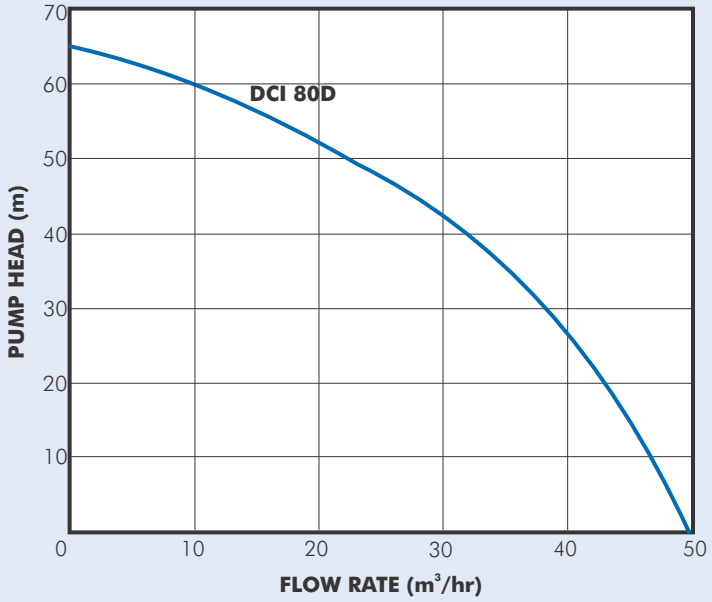
Pump Data

Model	Inlet & Outlet	Starter	Max Particle Size (mm)	Engine			Fuel		Dimensions (mm)			Weight (kgs)
				Type	Capacity (cc)	Max Power (HP)	Tank (ltr)	Consumption (l/hr)	L	W	H	
DCT 80D	3"	Recoil	15	LA178FP	406	10	3.5	1.5	590	450	530	65
DCT 150D	6"	Electric	40	LA290	954	20	28	4	920	560	800	180









The DAYLIFF DCI pump is of non-self priming closed impeller centrifugal type designed for continuous duty in heavy duty dewatering, irrigation, water transfer and emergency water supply applications where higher operating performance is required.

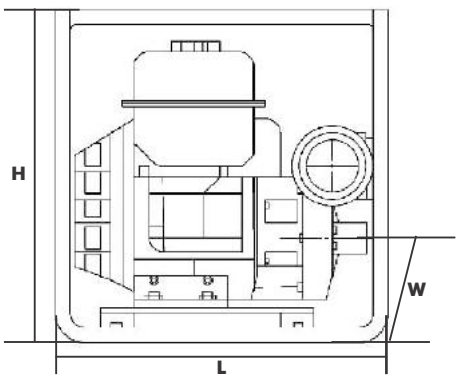
Features

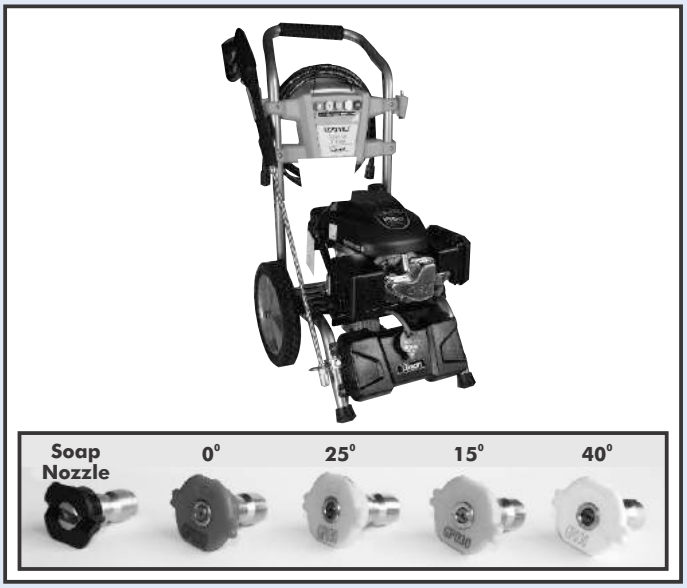
- Fitted with reliable and economical 4-stroke OHV single cylinder, direct injection Diesel engines with recoil start and low oil alert
- Material of pump construction is cast iron throughout
- Supplied with quick couple suction and inlet connections and strainer
- Sturdy carrying and protection frame

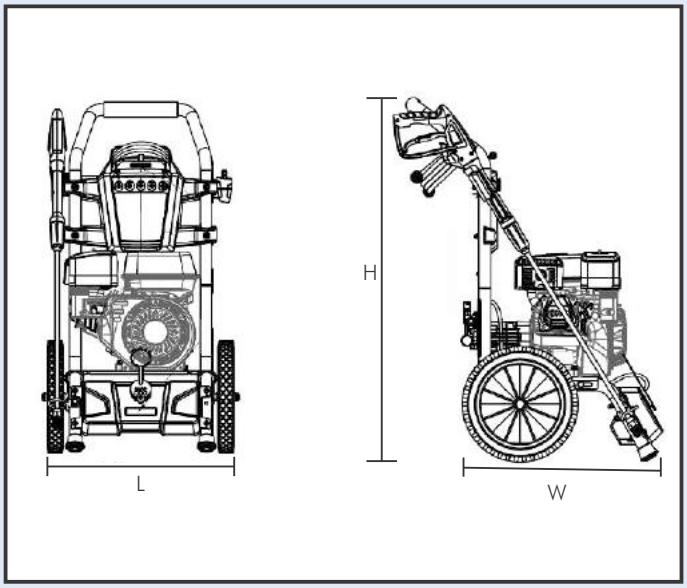
Note that performance curves for all engines relate to the engine governor set at maximum speed of 3600rpm achieve maximum rated power output. To prolong engine life pumps should only be run under maximum power conditions for short periods and for extended duty the throttle setting should be reduced to approximately three-quarters power. Pump performance will then be reduced accordingly.

Pump Data

Model	Inlet & Outlet	Engine				Fuel		Dimensions (mm)			Weight (kgs)
		Type	Capacity (cc)	Max Power (HP)	Type	Tank (HP)	Consumption (l/hr)	L	W	H	
DCI 80D	3"	LA 186	406	10	Diesel	5.5	2.5	545	475	605	73







Dayliff DPW pressure washers are quality engine drive units designed for all washdown and cleaning applications where electric power is unavailable particularly for vehicles, compounds, production lines, tanks etc. The units are powered by economical and reliable Dayliff petrol engines and are mounted on a wheeled frame and supplied with a complete set of accessories including:-

- Water Inlet Screw
- Metal Spray Gun
- 6 interchangeable gun nozzles
- 8m delivery hose

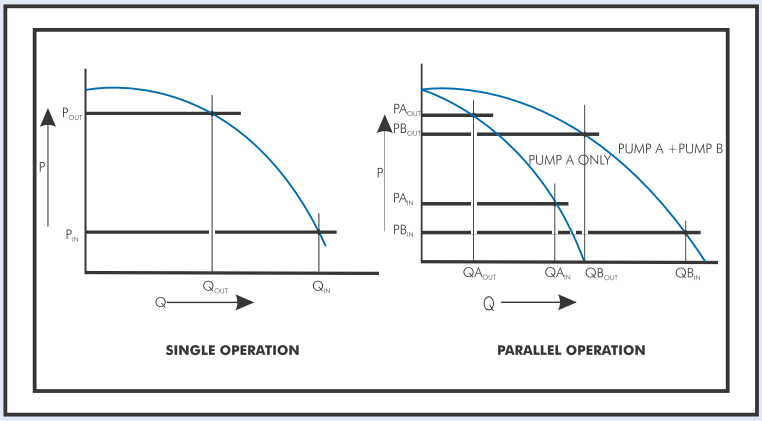
The Dayliff DPW pressure washer are high specification units for all pressure washer applications that offer execellent value at high performance levels.

Operating Parameters

Pumped Liquid: Clean non-aggressive water not containing solid particles
Liquid Temperature: 5-40°C
Max. Suction Head: 1.5m

Pump Data

Pump	Max. Pressure	200 Bar
	Max. Volume	8.7L/Min
Engine	Type	Air-cooled, 4 stroke OHV petrol engine
	Displacement	179cc
	Rated Output	5.5HP
	Fuel Tank	3.6L
	Operating Time	2 hours
	Fuel Consumption	1.8L/Hr
Dimension (mm)	Length	655
	Width	539
	Height	555
	Weight (Kg)	37



DAYLIFF Pressure Booster Sets are the effective way to provide continuous water supply to multiple consumer outlets and offer many advantages over gravity supply systems including:-

- Higher line pressures
- Reduced risk of water contamination
- Compact design requires little space
- Elimination of tank structure improves site architecture
- Substantial capital cost savings

Considering these advantages DAYLIFF Booster Sets have been carefully specified for local conditions and are suitable for all applications from domestic to large institutional size. Particular features are:-

- Grundfos and Dayliff pumps provide optimal operating performance.
- Easy maintenance diaphragm type pressure vessels.
- Comprehensive control panels complete with mains isolator, pump overload protection and run indicator lights. Optional extras include ammeters, hour meteres and current control relays.
- Bellows operated pressure switches easily adjustable for cut-in and differential operating pressures.
- Compact frame mounted design incorporating necessary valves and piping for simple site installation.

SYSTEMS OPTIONS

Two basic types of systems offered, either for Single or Parallel pump operation.

Single pump systems provide for only one 100% duty pump. This arrangement can be provided with either one or two pumps, two pump systems operating on a duty/standby basis. Pump changeover can be manual or automatically alternating after each duty cycle.

Parallel pump systems provide for sequential pump operation including two 50% duty pumps with the second pump operating only at higher demand levels. This arrangement has the advantage of reduced energy consumption and reduced capital cost for a given capacity requirement, though continuity of supply is provided in the event of one pump breakdown. For particular applications special designs incorporating more than two pumps or pumps of different size available.

Properly engineered booster systems provide very considerable advantages over more traditional gravity systems and they are now widely accepted as the most efficient and cost effective method of water distribution. By combining the best quality components and many years experience of system design the DAYLIFF range of booster sets provide performance, reliability and value. With the assured service support of Davis & Shirtliff there is no better solution to water distribution available.

SPECIFICATIONS

All DAYLIFF Booster sets include the following:

Pumps(s):

Grundfos and Dayliff centrifugal pumps fitted with motors rated for continuous operation.

Pressure Vessel(s):

Vertical fabricated steel pressure vessels with standard rubber diaphragm.

Piping:

Suitably sized piping and fittings are provided for direct suction and delivery line connections including necessary isolating gate valves and non-return valves on the system outlet. The limit of piping is shown in the schematic drawing.

Control Panel:

Panel specification is selected according to pump rating and system configuration. Dayliff Smart 2 electronic controllers are specified for two pump sets, settable for both single and parallel operation, which feature automatic pump changeover, level alarm connections and adjustable motor overload protection. Other panels specifications vary with system model depending upon motor size.

Mounting Frame:

All equipment is mounted on galvanised frame to simplify site installation.

PRESSFLO G - GRUNDFOS PUMPS MODEL SPECIFICATIONS

2.5 BAR SYSTEMS

PUMP	POWER	SINGLE OPERATION			PARALLEL OPERATION		
		MODEL	CAPACITY (m^3/hr)	PRESSURE TANK	MODEL	CAPACITY (m^3/hr)	PRESSURE TANK
Grundfos CM3-4	0.5 x 1ph	SGM3/25	3	1X60 L	PGM5/25	5	1X60 L
Grundfos CMV3-4	0.5 x 3ph	SGV3/25	3	1X60 L	PGV5/25	5	1X60 L
Grundfos CM5-4	0.7 x 1ph	SGM5/25	5	1X60L	PGM10/25	10	1X100L
Grundfos CMV5-4	0.9 x 3ph	SGV5/25	5	1X60 L	PGV10/25	10	1X100 L
Grundfos CM10-2	1.3 x 1ph	SGM10/25	10	1X100 L	PGM20/25	20	1X300 L
Grundfos CM10-3	2.2 x 3ph	SGM15/25	15	1X300 L	PGM30/25	30	1X300 L
Grundfos CR10-04	1.5 x 3ph	SGR12/25	12	1X300 L	PGR25/25	24	1X300 L
Grundfos CR15-03	3.0 x 3ph	SGR20/25	20	1X300 L	PGR40/25	40	2X300 L
Grundfos CR32-2	4.0 x 3ph	SGR32/25	32	2X300 L	PGR64/25	64	2X300 L

Single Operation: Cut-out pressure 3 Bar, Cut-in pressure 1.8 Bar, Parallel Operation: Pump 1: Cut-out pressure 3 Bar, Cut-in pressure 1.8 Bar, Pump 2: Cut-out pressure 2.5 Bar, Cut-in pressure 1.5 Bar

4 BAR SYSTEMS

PUMP	POWER	SINGLE OPERATION			PARALLEL OPERATION		
		MODEL	CAPACITY (m^3/hr)	PRESSURE TANK	MODEL	CAPACITY (m^3/hr)	PRESSURE TANK
Grundfos CM3-6	0.7 x 1ph	SGM3/40	3	1X60 L	PGM5/40	5	1X60 L
Grundfos CMV3-6	0.7 x 3ph	SGV3/40	3	1X60 L	PGM5/40	5	1X60 L
Grundfos CMV5-6	1.2 x 3ph	SGV5/40	5	1X60 L	PGV10/40	10	1X100 L
Grundfos CM5-6	1.3 x 1ph	SGM5/40	5	1X60 L	PGM10/40	10	1X100 L
Grundfos CM10-3	2.2 x 3ph	SGM10/40	10	1X100 L	PGM20/40	20	1X300 L
Grundfos CM10-4	3.2 x 3ph	SGM12/40	12	1X300 L	PGM25/40	25	1X300 L
Grundfos CR 10-06	2.2 x 3ph	SGR12/40	12	1X300 L	PGR25/40	25	1X300 L
Grundfos CR 15-05	4.0 x 3ph	SGR20/40	20	1X300 L	PGR40/40	40	2X300 L
Grundfos CR 32-3	5.5 x 3ph	SGV32/40	32	2X300 L	PGR64/40	64	2X300 L
Grundfos CR 45-2	7.5 x 3ph	SGR40/40	40	2X300 L	PGR80/40	80	2X300 L
Grundfos CR 64-2	11 x 3ph	SGR50/40	50	2X500 L	PGR100/40	100	2X500 L

Single Operation: Cut-out pressure 4.5 Bar, Cut-in pressure 2.5 Bar, Parallel Operation: Pump 1: Cut-out pressure 4.5 Bar, Cut-in pressure 2.5 Bar, Pump 2: Cut-out pressure 4 Bar, Cut-in pressure 2 Bar

DIMENSIONS AND WEIGHTS

2.5 BAR SYSTEMS

Model	Dimensions (mm)			Connections (Inches)		Wgt (Kg)	Model	Dimensions (mm)			Connections (Inches)		Wgt (Kg)
	L	W	H	Suction	Delivery			L	W	H	Suction	Delivery	
SGM3/25	850	400	820	1½	1¼	50	PGM5/25	850	400	820	1½	1½	60
SGV3/25	850	400	820	1½	1½	50	PGV5/25	850	400	820	1½	1½	60
SGM5/25	850	400	820	2	1½	50	PGM10/25	850	400	820	2	1½	80
SGV5/25	850	400	820	2	1½	50	PGV10/25	850	400	820	2	1½	80
SGM10/25	1030	500	900	2½	1½	80	PGM20/25	1030	500	900	2½	2½	100
SGM15/25	1200	650	100	2½	2½	100	PGM30/25	1200	650	100	2½	2½	100
SGR12/25	1200	650	1400	2½	2½	120	PGR25/25	1200	650	1400	2½	2½	180
SGR20/25	1200	650	1400	3	3	150	PGR40/25	1200	650	1400	3	3	250
SGR32/25	1200	650	1400	3	3	250	PGR64/25	1200	650	1400	4	4	350

4 BAR SYSTEMS

Model	Dimensions (mm)			Connections (Inches)		Wgt (Kg)	Model	Dimensions (mm)			Connections (Inches)		Wgt (Kg)
	L	W	H	Suction	Delivery			L	W	H	Suction	Delivery	
SGM3/40	850	400	820	1½	1½	50	PGM5/40	850	400	820	1½	1½	70
SGV3/40	850	400	820	1½	1½	50	PGV4/40	850	400	820	1½	1½	70
SGV5/40	850	400	820	2	1½	50	PGV10/40	850	400	820	2	1½	70
SGM5/40	850	400	820	2	1½	50	PGM10/40	1030	400	820	2	1½	70
SGM10/40	1030	500	900	2	1½	80	PGM20/40	1200	500	900	2½	2½	100
SGM12/40	1200	650	100	2½	2½	100	PGM25/40	1200	650	100	2½	2½	120
SGR12/40	1200	650	1400	2½	2½	120	PGR25/40	1200	650	1400	2½	2½	180
SGR20/40	1200	650	1400	3	1½	120	PGR40/40	1200	650	1400	3	2½	300
SGR32/40	1200	650	1400	3	3	250	PGR64/40	1200	650	1400	3	3	400
SGR40/40	1200	650	1400	4	4	280	PGR80/40	1200	650	1400	4	4	400
SGR50/40	1200	650	1400	6	6	300	PGR100/40	1200	650	1400	6	6	500

*Frame + Tank + Pump + Panel + Piping

PRESSFLO D - DAYLIFF PUMPS MODEL SPECIFICATIONS

2.5 BAR SYSTEMS

PUMP	POWER	SINGLE OPERATION			PARALLEL OPERATION		
		MODEL	CAPACITY (m^3/hr)	PRESSURE TANK	MODEL	CAPACITY (m^3/hr)	PRESSURE TANK
Dayliff DB 2-50	0.7x1ph	SDB 3/25	3	1x60L	PDB 6/25	6	1x60L
Dayliff DB 4-40	1.0x1ph	SDB 5/25	5	1x60L	PDB 10/25	10	1x100L
Dayliff DB 8-30	1.1x1ph	SBD 6/25	6	1x100L	PDB 12/25	12	1x300L
Dayliff DB 12-30	1.7x1ph	SDB 10/25	10	1x300L	PDB 20/25	20	1x300L
Dayliff DI/DIN 10-4	1.5x3ph	SDB 10/25	10	1x300L	PDI 20/25	20	1x300L
Dayliff DI/DIN 15-3	3x3ph	SDI 15/25	15	1x300L	PDI 30/25	30	2x300L
Dayliff DI/DIN 20-3	4x3ph	SDI 25/25	25	2x300L	PDI 50/25	50	2x300L
Dayliff DI/DIN 32-2	4x3ph	SDI 30/25	30	2x300L	PDI 60/25	60	2x300L
Dayliff DI/DIN 45-2	7.5x3ph	SDI 50/25	50	2x300L	PDI 100/25	100	2x500L
Dayliff DE 32-16	4.5x3ph	SDE 20/25	20	1x300L	PDE 40/25	40	2x300L
Dayliff DE 40-16	5.5x3ph	SDE 30/25	30	2x300L	PDE 60/25	60	2x300L
Dayliff DE 50-16	11x3ph	SDE 50/25	50	2x300L	PDE 100/25	100	2x500L

Single Operation: Cut-out pressure 3 Bar, Cut-in pressure 1.8 Bar, Parallel Operation: Pump 1: Cut-out pressure 3 Bar, Cut-in pressure 1.8 Bar, Pump 2: Cut-out pressure 2.5 Bar, Cut-in pressure 1.5 Bar

4 BAR SYSTEMS

PUMP	POWER	SINGLE OPERATION			PARALLEL OPERATION		
		MODEL	CAPACITY (m^3/hr)	PRESSURE TANK	MODEL	CAPACITY (m^3/hr)	PRESSURE TANK
Dayliff DB 4-60	1.5x1ph	SDB 4/40	4	1x60L	PDB 8/40	8	1x100L
Dayliff DB 8-50	1.8x3ph	SDB 6/40	6	1x60L	PDB 12/40	12	1x300L
Dayliff DB 12-50	2.8x3ph	SDB 10/40	10	1x300L	PDB 24/40	24	1x300L
Dayliff DI/DIN 10-60	2.2x3ph	SDI 10/40	10	1x300L	PDI 20/40	20	1x300L
Dayliff DI/DIN 15-5	4x3ph	SDI 20/40	20	1x300L	PDI 40/40	40	2x300L
Dayliff DI/DIN 32-3	5.5x3ph	SDI 30/40	30	1x300L	PDI 60/40	60	2x300L
Dayliff DI/DIN 45-2	7.5x3ph	SDI 40/40	40	2x300L	PDI 80/40	80	2x300L
Dayliff DE 32-20	9x3ph	SDE 15/40	15	1x300L	PDE 30/40	30	2x300L
Dayliff DE 40-20	9.2x3ph	SDE 25/40	25	2x300L	PDE 50/40	50	2x300L
Dayliff DE 50-20	18x3ph	SDE 50/40	50	2x300L	PDE 100/40	100	2x500L

Single Operation: Cut-out pressure 4.5 Bar, Cut-in pressure 2.5 Bar, Parallel Operation: Pump 1: Cut-out pressure 4.5 Bar, Cut-in pressure 2.5 Bar, Pump 2: Cut-out pressure 4 Bar, Cut-in pressure 2 Bar

6 BAR SYSTEMS

PUMP	POWER	SINGLE OPERATION			PARALLEL OPERATION		
		MODEL	CAPACITY (m^3/hr)	PRESSURE TANK	MODEL	CAPACITY (m^3/hr)	PRESSURE TANK
Dayliff DI/DIN 3-15	1.1x3ph	SDI 3/60	3	1x60L	PDI 6/60	6	1x100L
Dayliff DI/DIN 5-16	2.2x3ph	SDI 6/60	6	1x100L	PDI 16/60	16	1x100L
Dayliff DI/DIN 10-9	3x3ph	SDI12/60	12	1x300L	PDI 24/60	24	1x300L
Dayliff DI/DIN 15-7	5.5x3ph	SDI 20/60	20	1x300L	PDI 40/60	40	1x300L
Dayliff DI/DIN 20-7	7.5x3ph	SDI 25/60	25	2x300L	PDI 50/60	50	2x300L
Dayliff DI/DIN 32-4	7.5x3ph	SDI 30/60	30	2x300L	PDI 60/60	60	2x500L
Dayliff DI/DIN 45-3	11x3ph	SDI 45/60	45	2x300L	PDI 90/60	90	2x500L

Single Operation: Cut-out pressure 4.5 Bar, Cut-in pressure 2.5 Bar, Parallel Operation: Pump 1: Cut-out pressure 4.5 Bar, Cut-in pressure 2.5 Bar, Pump 2: Cut-out pressure 4 Bar, Cut-in pressure 2 Bar

DIMENSIONS AND WEIGHTS

2.5 BAR SYSTEMS

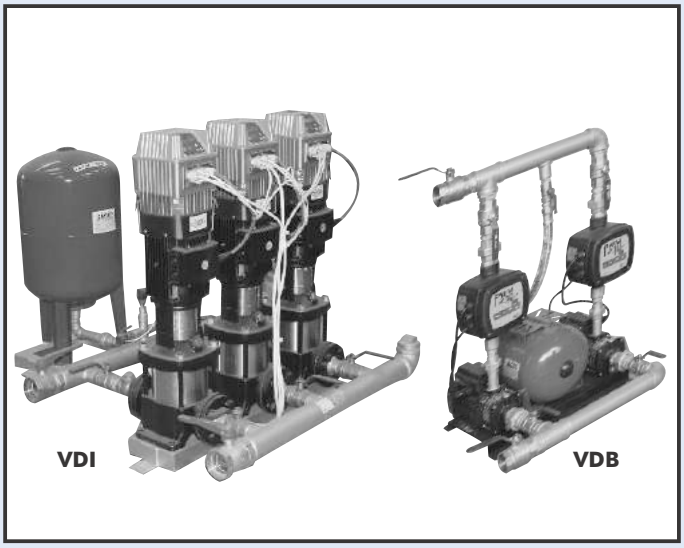
Model	Dimensions (mm)			Connections (Inches)		Wgt (Kg)	Model	Dimensions (mm)			Connections (Inches)		Wgt (Kg)
	L	W	H	Suction	Delivery			L	W	H	Suction	Delivery	
SDB 3/25	1000	650	900	1½	1½	30	PDB 6/25	1000	650	900	1½	1½	42
SDB 5/25	1000	650	900	2	1½	43	PDB 10/25	1000	650	1000	2	1½	57
SDB 6/25	1000	650	1000	2½	2½	78	PDB 12/25	1000	650	1400	2½	2½	97
SDB 10/25	1000	650	1400	2½	2½	80	PDB 20/25	1000	650	1400	2½	2½	102
SDI 10/25	1000	650	1400	2½	2½	113	PDI 20/25	1000	650	1400	2½	2½	166
SDI 15/25	1000	650	1400	3	3	183	PDI 30/25	1200	650	1400	3	3	251
SDI 25/25	1200	650	1400	3	3	190	PDI 50/25	1200	650	1400	3	3	265
SDI 30/25	1200	650	1400	3	3	206	PDI 60/25	1200	650	1400	6	3	298
SDI 50/25	1200	650	1400	4	4	248	PDI 100/25	1400	800	1500	6	4	381
SDE 20/25	1200	650	1400	2½	2½	153	PDE 40/25	1200	650	1400	4	2½	192
SDE 30/25	1200	650	1400	3	3	152	PDE 60/25	1200	650	1400	4	3	190
SDE 50/25	1200	650	1400	4	4	215	PDE 100/25	1400	800	1500	6	4	259

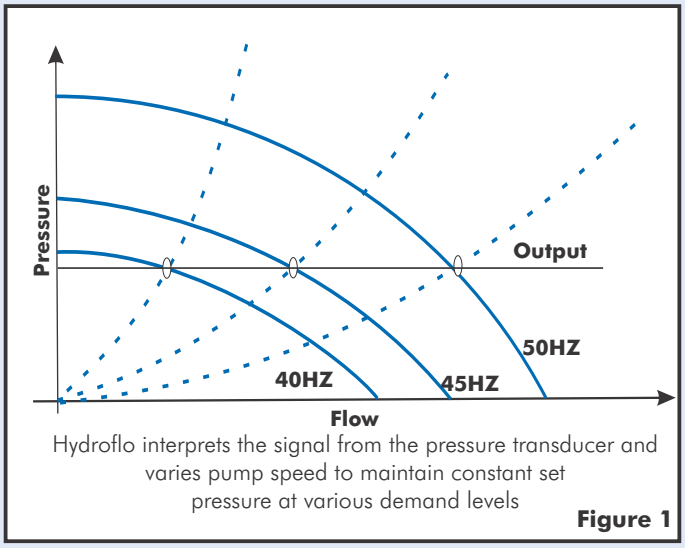
4 BAR SYSTEMS

Model	Dimensions (mm)			Connections (Inches)		Wgt (Kg)	Model	Dimensions (mm)			Connections (Inches)		Wgt (Kg)
	L	W	H	Suction	Delivery			L	W	H	Suction	Delivery	
SDB 4/40	1000	650	900	1½	1½	45	PDB 8/40	1000	650	1000	1½	1½	62
SDB 6/40	1000	650	900	2½	2½	94	PDB 12/40	1000	650	1400	1½	1½	127
SDB 12/40	1000	650	1400	2½	2½	90	PDB 24/40	1000	650	1400	1½	1½	120
SDI 10/40	1000	650	1400	2½	2½	117	PDI 20/40	1000	650	1400	2½	2½	173
SDI 20/40	1000	650	1400	3	3	194	PDI 40/40	1000	650	1400	3	3	273
SDI 30/40	1000	650	1400	3	3	225	PDI 60/40	1200	650	1400	4	4	335
SDI 40/40	1200	650	1400	4	4	248	PDI 80/40	1200	650	1400	6	6	381
SDE 15/40	1200	650	1400	2½	2½	153	PDE 30/40	1200	650	1400	4	4	192
SDE 25/40	1200	650	1400	3	3	152	PDE 50/40	1400	650	1400	4	4	190
SDE 50/40	1200	650	1400	4	4	215	PDE 100/40	1200	800	1500	4	4	259

6 BAR SYSTEMS

Model	Dimensions (mm)			Connections (Inches)		Wgt (Kg)	Model	Dimensions (mm)			Connections (Inches)		Wgt (Kg)
	L	W	H	Suction	Delivery			L	W	H	Suction	Delivery	
SDI 3/60	1000	650	900	1½	1½	64	PDI 6/60	1000	650	900	1½	1½	97
SDI 6/60	1000	650	1000	2	2	35	PDI 12/60	1000	650	1000	2	2	38
SDI 12/60	1000	650	1400	2½	2½	127	PDI 24/60	1000	650	1400	2½	2½	193
SDI 20/60	1000	650	1400	3	3	218	PDI 40/60	1000	650	1400	3	3	322
SDI 25/60	1200	650	1400	3	3	228	PDI 50/60	1000	650	1400	3	3	342
SDI 30/60	1200	650	1400	3	3	294	PDI 60/60	1200	650	1400	4	4	417
SDI 45/60	1200	650	1400	4	4	347	PDI 90/60	1200	650	1400	6	6	523





Hydroflo interprets the signal from the pressure transducer and varies pump speed to maintain constant set pressure at various demand levels

Figure 1

Variable Speed control is a widely used technology for pump control and works by varying the pump speed to provide system water output at a constant pressure. This provides the following benefits:

- Constant pressure providing consistent, even supply to the consumer.
- Large energy cost savings as systems are always operating at peak efficiency for the demand conditions.
- Extended pump life due to reduced electrical and mechanical operating loads.
- Silent operation with no pressure shocks.
- Simplified installation due to compact dimensions and integral pump control - no separate panel is required.

Principle system components include the controller, which for larger systems is mounted remotely while smaller units are mounted in line on the pump outlet, a quality DAYLIFF pump, a pressure sensor and a small surge tank to smooth the operating cycle.
Controllers offer the following features (Figure 1):-

- Varies pump speed to maintain pre-set system pressure.
- Over voltage, under voltage, single phasing and electrical overload protection.
- Dry run protection with auto restart.
- Integral soft start/soft stop function which extends pump life, reduces system pressure loads and reduces mains power loadings on start up.
- A digital display that indicates input current, supply voltage, hours run and various operating and alarm conditions.
- One controller can control additional pumps and multiple controller systems can be synchronised for sequenced pump operation.
- Balanced pump operation ensuring equalised operating periods for each system pump.

All DAYLIFF booster sets use the latest technology controllers coupled to quality DAYLIFF pumps and are supplied complete frame mounted with inlet and outlet manifolds and valves for simple installation. Nominal system sizes are 2.5, 4 and 6 Bar, though pressures can be set to suit site conditions and the option of two and three pump configurations are available. Three pump systems can be specified with three controllers or two controllers/1 DOL start unit. In all systems pump operation is sequenced with the number of pumps operating increasing with system demand.

Variable speed drive is now accepted as the most efficient way to provide on-demand water supply in all sorts of industrial, commercial and domestic applications. DAYLIFF booster sets are the ideal solution in the application of this efficient technology.

SPECIFICATIONS

2.5Bar Systems

Pumps - Dayliff DB or equivalent Grundfos CM horizontal multistage high efficiency centrifugal pumps with stainless steel impellers and impeller housings.

Controllers- DAB Activedriver Plus integrated pump control system that utilizes a variable frequency drive controller (VFD) to provide constant pressure regardless of the demand flow requirements. Pressures can be set between 1-6Bar incorporating various protection functions including over current, dry running and over temperature.

4.0 and 6.0Bar Systems

Pumps - Dayliff DI/DIN or equivalent Grundfos CR in-line vertical multistage pumps with stainless steel impellers and impeller housings.

Controllers – Danfoss / Schneider Electric fully programmable variable speed controllers with settable system pressures up to 8bar that are linked to provide sequenced pump operation. Operating and protection parameters are displayed on an illuminated LCD panel and full control and protection functionality is provided so no external control accessories are required other than isolators and coarse current MCB's.

All pumps and controllers are IP55 rated enabling installation in dusty and humid environments.

2.5 BAR SYSTEMS

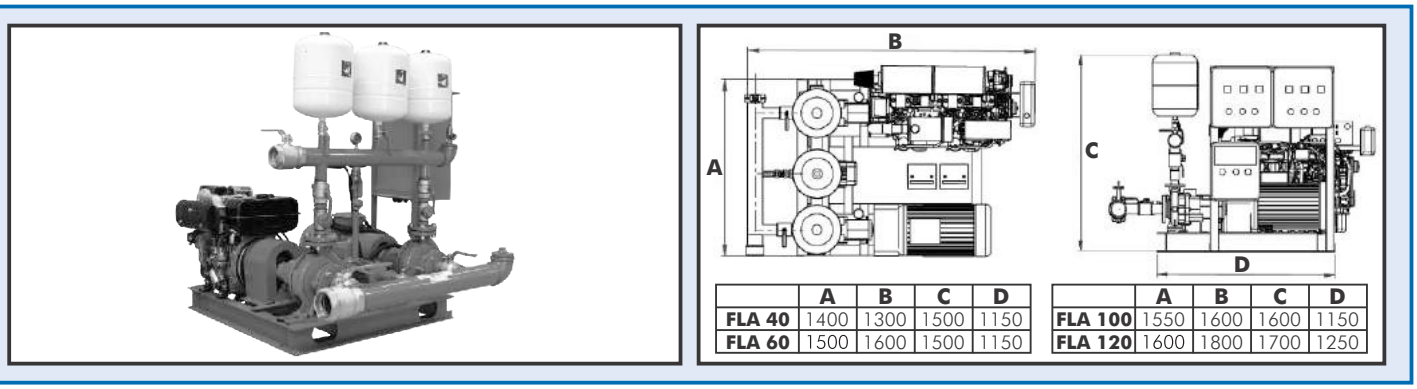
PUMP DETAILS		2 PUMP SYSTEMS							3 PUMP SYSTEMS							DIMENSIONS	
Pump	Power (kW)	Model No.	Nominal Output (m^3/hr)	Tank Size (lit)	Inlet (")	Outlet (")	Width (mm)	Weight (kg)	Model No.	Nominal Output (m3/hr)	Tank Size (lit)	Inlet (")	Outlet (")	Width (mm)	Weight (kg)	Length (mm)	Height (mm)
Dayliff DB 2-50	0.7x1ph	VDB2-6/25	6	24	2.0	2.0	600	45	VDB3-10/25	10	24	2.5	2.5	900	67	600	733
Dayliff DB 4-40	1x1ph	VDB2-10/25	10	24	2.5	2.0	600	50	VDB3-15/25	15	24	2.5	2.5	900	73	600	733
Dayliff DB 8-50	1.7x3ph	VDB2-20/25	20	60	3.0	2.5	600	85	VDB3-30/25	30	60	3.0	3.0	900	124	600	905

4.0 BAR SYSTEMS

PUMP DETAILS		2 PUMP SYSTEMS						3 PUMP SYSTEMS					
Pump	Power (kW)	Model No.	Nominal Output (m3/hr)	Tank Size (lit)	Inlet/ Outlet (")	Dimensions LxHxW(mm)	Weight (kg)	Model No.	Nominal Output (m3/hr)	Tank Size (lit)	Inlet/ Outlet (")	Dimensions LxHxW(mm)	Weight (kg)
Dayliff DI/DIN 3-10	0.75x3ph	VDI2-7/40	7	24	2	600x927x600	80	VDI3-10/40	10	24	2.5	900x927x900	121
Dayliff DI/DIN 5-10	1.5x3ph	VDI2-15/40	15	24	2	600x1083x600	102	VDI3-20/40	20	24	3/2.5	900x1083x900	154
Dayliff DI/DIN 10-6	2.2x3ph	VDI2-25/40	25	60	2.5	900x1130x650	133	VDI3-40/40	40	60	3	1200x1130x1200	194
Dayliff DI/DIN 15-5	4x3ph	VDI2-40/40	40	100	3	900x1235x650	178	VDI3-60/40	60	100	4	1300x1235x1300	272
Dayliff DI/DIN 32-3	5.5x3ph	VDI2-60/40	60	100	4	1500x1276x650	271	VDI3-100/40	100	300	6	1800x1645x1800	422
Dayliff DI/DIN 45-2	7.5x3ph	VDI2-80/40	80	300	6	1500x1645x650	318	VDI3-120/40	120	300	6	1800x1645x1800	440

6 BAR SYSTEMS

PUMP DETAILS		2 PUMP SYSTEMS						3 PUMP SYSTEMS					
Pump	Power (kW)	Model No.	Nominal Output (m^3/hr)	Tank Size (lit)	Inlet/ Outlet (")	Dimensions LxH(mm)	Weight (kg)	Model No.	Nominal Output (m3/hr)	Tank Size (lit)	Inlet/ Outlet (")	Dimensions LxH(mm)	Weight (kg)
Dayliff DI/DIN 3-15	1.1x3ph	VDI2-7/60	7	24	2	600x1016x600	82	VDI3-10/60	10	24	2.5	900x1016x600	124
Dayliff DI/DIN 5-16	2.2x3ph	VDI2-15/60	15	24	2	600x1285x600	110	VDI3-20/60	20	60	3/2.5	900x1285x600	170
Dayliff DI/DIN 10-9	3x3ph	VDI2-25/60	25	60	2.5	900x1198x650	151	VDI3-40/60	40	60	3	1200x1198x650	221
Dayliff DI/DIN 20-5	5.5x3ph	VDI2-40/60	40	60	3	900x1218x650	219	VDI3-60/60	60	100	4	1300x1218x650	337
Dayliff DI/DIN 32-4	7.5x3ph	VDI2-60/60	60	100	4	1500x1346x650	295	VDI3-90/60	90	300	6	1800x1645x650	458
Dayliff DI/DIN 45-3	11x3ph	VDI2-100/60	100	300	6	1500x1645x650	424	VDI3-150/60	150	300	6	1800x1645x650	599



	A	B	C	D
FLA 40	1400	1300	1500	1150
FLA 60	1500	1600	1500	1150

	A	B	C	D
FLA 100	1550	1600	1600	1150
FLA 120	1600	1800	1700	1250

DAYLIFF FLA packaged Fire Sets are specially designed to provide automatic supply to multiple hose reel or sprinkler outlets for firefighting installations. Pump sets combine parallel duty diesel and electric powered supply pumps to ensure serviceability in all conditions as well as a jockey pump to maintain system pressure. Particular features include:-

- Individual electric motor and diesel engine powered pump sets providing standby supply in the event of electrical power failure
- Separate automatic jockey pump to maintain system pressure and regulate main pump operation
- Bellows type pressure switch controlled operation providing progressive jockey pump, electric pump and diesel pump starting at reducing cut-in pressures
- Low maintenance diaphragm type pressure vessel to regulate the jockey pump cycling.
- Integral control panel providing automatic parallel operation of the supply pumps and incorporating electrical protection panels and a DC battery charging system
- Compact frame mounted design incorporating necessary valves and piping for simple site installation

Systems are designed to give rated output of either 5bar or 10bar and four standard sizes are available 40, 60,100 and 120 m^3/hr with the two pump sets operating in parallel, 50% standby output being provided in the event of electrical failure. For particular applications special designs incorporating different equipment arrangements and specifications are available.

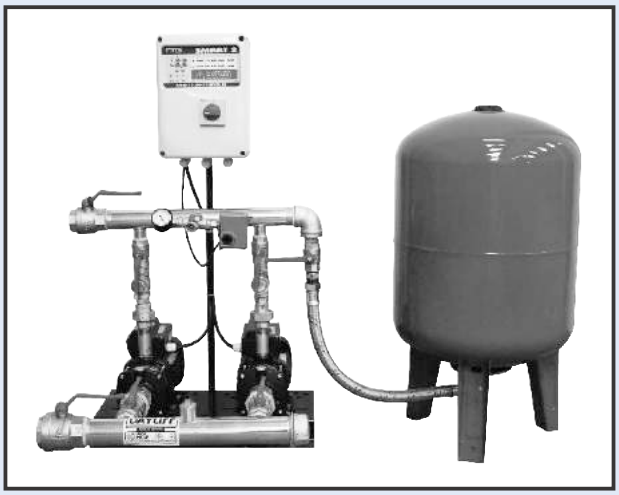
For all firefighting applications high levels of equipment performance and dependability are vitally important for the protection of both lives and property. Dayliff FLA Fire Sets combine quality components for optimal operational efficiency with Davis and Shirtliff's unmatched pumping expertise and competitive pricing to provide effective, reliable and easy to install firefighting solutions.
A variant of higher specification packaged fire set compliant with EN 12845 is available on request.

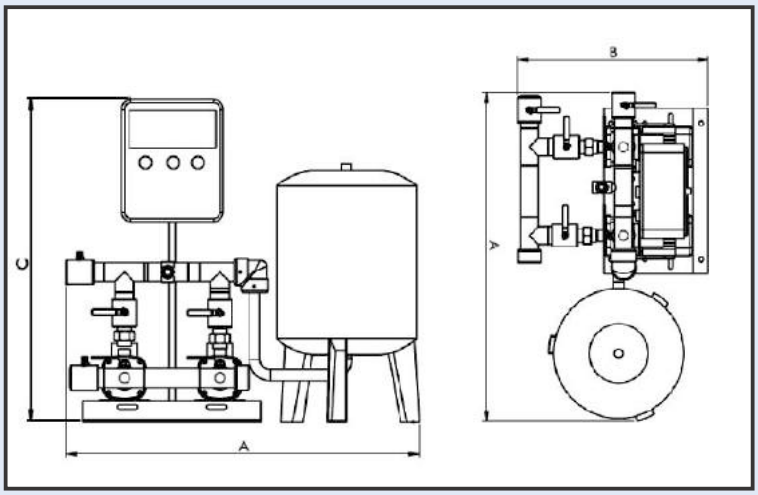
Specifications

Supply Pumps: Dayliff DE end suction bareshaft or DMS horizontal multistage centrifugal pumps featuring gland packing seal and heavy duty cast iron construction. DE pumps have bronze impellers while DMS pumps have cast iron stage, impellers and diffusers. Pump models are selected to meet the design pressure and flow rates. Detail performance curves are available on request.
Diesel Engine: Options of Dayliff DLA air cooled, Kohler KD naturally aspirated air-cooled or KDI water cooled engines fitted with automatic electric start, engine mounted fuel tank (not KDI) and a dual 65AH battery set. Alternative engines are available on request.
Electric Motor: TEFC squirrel cage 2-pole 2900 rpm electric motors suitably rated for the pump load.
Jockey Pump: Option of DB4-60 horizontal multistage pump or Dayliff DI 3-19 vertical multistage centrifugal pump fitted with electric motor. The pump is set to maintain system pressure at 10bar thus avoids cycling of the service pumps due to minor system leakages.
Pressure Vessel: GWS pressure vessel featuring polyproplene liner with special diaphragm and air valve design that eliminates leaks and the need for maintenance.
Piping: Suitably sized piping and fittings are provided for direct suction and delivery line connections including necessary isolating gate valves, non-return valves on the system outlet. The limit of piping is shown in the schematic drawing.
Control Panel: Electric pump control panel with star-delta starter, Jockey pump control panel with DOL starter and engine pump control panel with DC power circuit for engine and DC battery charging system. The control panels are integrally mounted as standard though can be supplied loose for remote installation if required.

Operational Data

Model	Nominal Flow (m^3/hr)		Medium Pressure 5Bar					Model	High Pressure 10Bar					Piping Size
			Electric Pump		Diesel Pump				Electric Pump		Diesel Pump			
	Parallel Duty	Single Duty	Pump	Power (kW)	Engine	Power (kW)	Wt (kg)		Pump	Power (kW)	Engine	Power (kW)	Wt (kg)	
FLA 40M	40	20	DE 32-20	7.5	DLA20D	13	570	FLA 40H	DMS 25/4	15	KD625-2	15	690	2.5″
					KD477-2	13.5								
FLA 60M	60	30	DE 40-20	11	DLA20D	13	600	FLA 60H	DMS 46/3	18.5		15	990	3″
					KD477-2	13.5								
FLA 100M	100	50	DE 50-20	15	KD625-2	17.1	665	FLA 100H	DMS 46/4	30	KD626-3	23.6	1100	4″
FLA 120M	120	60	DE 65-20	30	KD626-3	26.3	730	FLA 120H	DMS 85/3	45	KDI2504	33	1420	6″





DAYLIFF DFS Fire Hose Reel pump sets are specifically designed for the automatic operation of hose reels in commercial and industrial buildings. All systems are rated at 4Bar and various sizes are available with single or twin pump options. Systems include the following components:-

- High performance Dayliff DB multistage horizontal stainless steel booster pumps. Grundfos CM alternatives are available on request.
- Electronic Dayliff Drytek (one pump) and Smart Evo (twin pump) controllers that include pump protection functions. Twin pump sets are connected for parallel operation with the second pump set to operate at higher demand conditions.
- Low maintenance GWS diaphragm type pressure tank incorporating a special diaphragm and air valve design that eliminates air leaks and the need for regular maintenance. This is especially important for fire systems that can remain unused for long periods of time.
- Compact frame mounting incorporating all necessary accessories including reliable pressure switches for pump control and pump piping and valves for simple site installation.

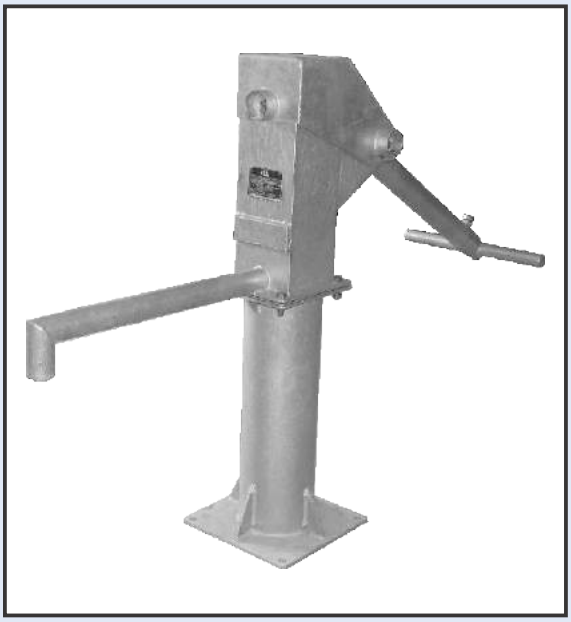
For full details of component performance and specification refer to the individual Product Data Sheets.

For firefighting applications high levels of equipment performance and dependability are especially important. Dayliff DFS Fire Hose Reel sets combine carefully matched quality components that give optimal operating efficiency with high levels of reliability and competitive pricing to provide effective and dependable firefighting solutions.

Operational Data

DAYLIFF Fire Hose Reel				Single Pump							Twin Pump						
Model	Hose Reel	Flow (m^3/hr)	Pressure (m)	Pumps	Power (kW)	Pressure Tank	Dimensions (mm)			Weight kg	Pumps	Power (kW)	Pressure Tank	Dimensions (mm)			Weight kg
							A	B	C					A	B	C	
DFS1	1	1.5m^3/hr	40	DB 2-50	0.68x1Ph	1x24L	850	400	820	50	–	–		–	–	–	–
DFS2	2	3m^3/hr	40	DB 4-60	1.45x1Ph	2x24L	850	400	820	50	DB 2-50	1.36x1Ph	2x24L	850	400	820	70
DFS5	3,4&5	6m^3/hr	40	DB 8-50	1.7x 3Ph	1x100L	1030	500	900	80	DB 4-60	2.9x1Ph	1x100L	1200	500	900	70
DFS8	6,7&8	12m^3/hr	40	DB 12-50	2.7x3Ph	1x300L	1200	650	1400	100	DB 8-50	3.4x3Ph	1x300L	1200	650	1400	100

Note: This table gives details of the standard product range available. Other systems can be specified to suit particular site requirements in terms of control features, flow and pressure.



The Afridev reciprocating type hand pump has been specially designed by SKAT-HTN (Swiss Centre for Development Cooperation in Technology and Management) to meet the requirements for Village Level Operation and Maintenance (VLOM) as specified by the UNDP/World Bank. The pump has undergone extensive laboratory and field development tests and is one of only two designs which fulfils all aspects of the UNDP/World Bank specification at depths between 0 and 45m.

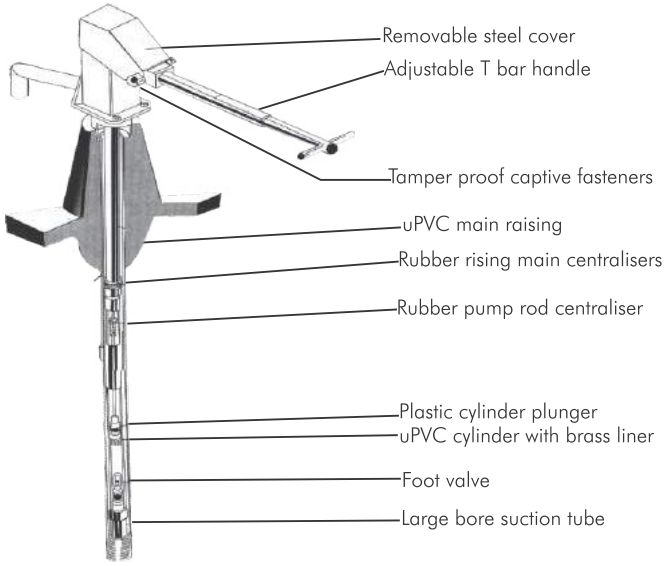
Features:

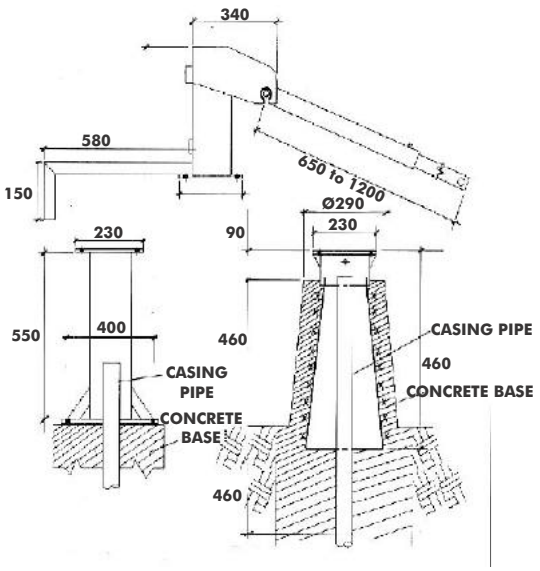
- Up to 1300 litres/hour output at pumping lifts up to 45m.
- Heavy duty design suitable for continuous operation over long periods.
- Rugged all galvanised steel construction for corrosion resistance and long life.
- Simple to install, operate and maintain at the village level.
- Designed for ease of maintenance with basic tools and cheap, readily available spare parts.

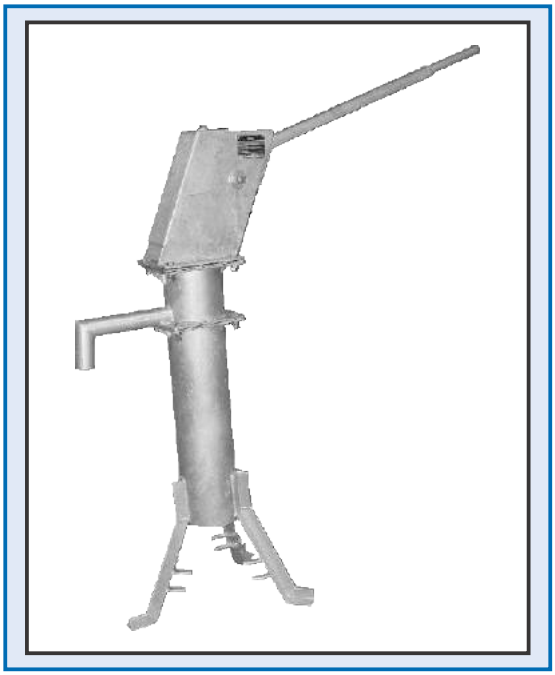
Though the Afridev design is widely manufactured throughout the world, quality of the product itself is determined by that of the manufacuring process. The DAYLIFF Afridev is manufactured to exacting standards in a fully equipped ISO 9000:2000 certified factory with cumulative production experience of hundreds of thousands of units. The combination of this highest level of manufacturing quality, a tried and tested design and DAYLIFF service commitment result in a rugged and dependable product ideal for all hand powered gound water pumping applications.

Specification

Pump Head: Fabricated throughout from mild steel hot dip galvanised for corrosion protection. Long life nylon bushes are provided for the handle fulcrum and rod hanger bearing.
Pump Stand: Option of free standing or concrete encased fabricated galvanised pump stand.
Cylinder: 50mm diameter single acting PVC cylinder with brass liner, plastic plunger and plastic foot valve. Displacement per stroke is 0.44 litres.
Rising Main: 63mm O/D PVC rising main provided as standard in 3m lengths.
Pump Rods: Option of 10mm galvanized mild steel or stainless steel rods in standard lengths of 3m. Connection arrangement is by hook and eye with the option of cast or fabricated connectors.







The 'India' range of positive displacement reciprocating cylinder type hand pumps are long established, robust products for general borehole and well applications. Designed to international standards, reliability has been extensively proved in a huge number of installations throughout the world, their heavy-duty construction being suitable for continuous operation over long periods. 'India' hand pumps are also simple to install and maintain at the village level using basic tools and cheap spare parts and they fulfill all aspects of UNDP/World bank hand pump specifications. Basic models are offered as follows:-

India MKII - Standard pump head with 1¼" GI drop pipes and 2½" standard cylinder. Output is approx 15 litres/min at up to 40m depth.

India MKIII - Standard pump head with alternative of 2" GI or PVC drop pipes and 2" VLOM open top cap cast iron or 'Afridev'cylinder. Output is approximately 12 litres/min at up to 40m depth.

India Extra Depth - Heavy-duty pump head with extended counterbalanced handle, 1¼"GI drop pipe and 2½" high pressure cylinder. Output is approximately 10litres/min at up to 90m depth.

India Forcelift - Modified head with sealed water chamber to accommodate a 10m surface lift to an adjacent tank or water point with 2" GI or PVC drop pipes and 2" VLOM cast iron or 'Afridev' cylinder. Output is approximately 10 litres/min at up to 40m depths.

Specifications

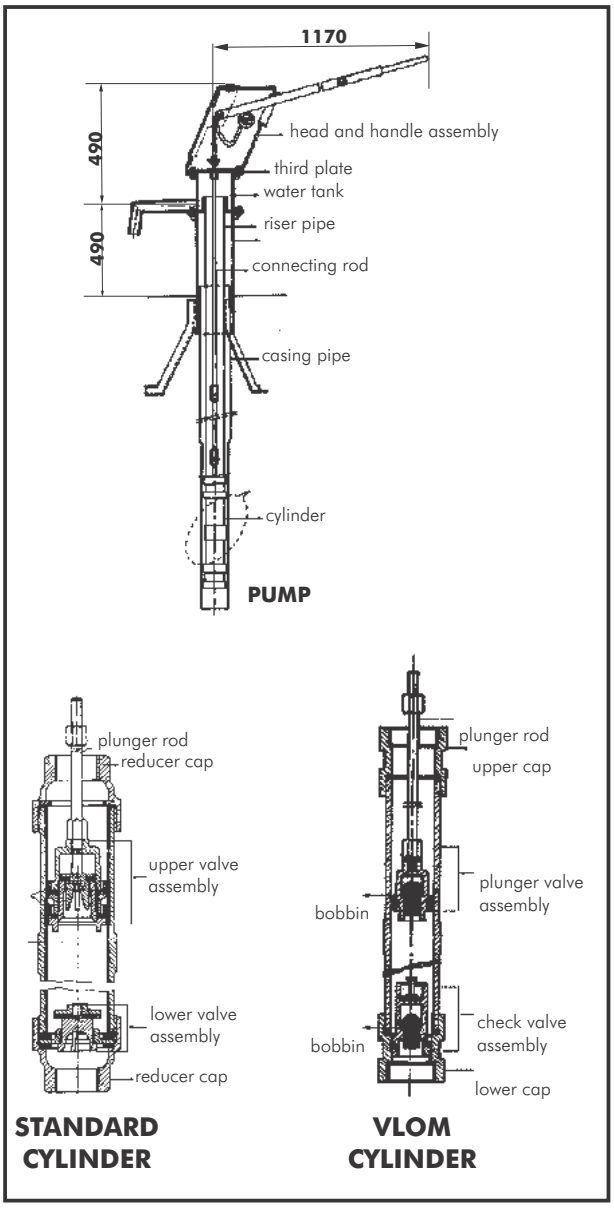
Pump Head: Fabricated throughout from hot dipped galvanized mild steel components for corrosion protection with tri-leg pedestal design. Pre-greased ball bearings are provided at the handle for long life and ease of operation. Pump stroke is 125mm.

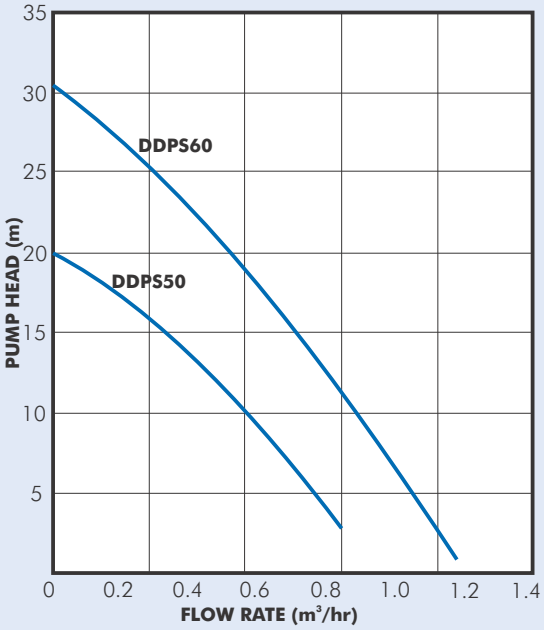
Cylinders: The following options are available:

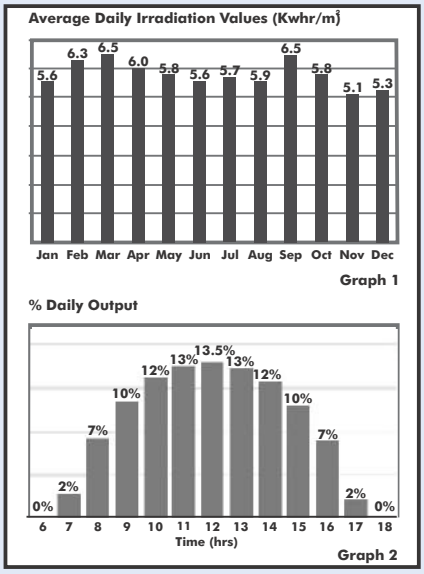
- 2½" (65mm) diameter Standard cylinder with brass liner, cast iron closed end caps and double nitrile rubber plunger seals. Capacity per stroke is 400cc.
- 2½" (65mm) diameter Extra Deepwell cylinder as above with triple nitrile rubber plunger rod seals. Capacity per stroke is 400cc.
- 2" (50mm) diameter VLOM cylinder with brass liner, cast iron open top end caps and double nitrile rubber plunger rod seals. Capacity is 250cc per stroke.
- 2" (50mm) diameter VLOM UPVC 'Afridev' cylinder with brass liner, plastic plunger and foot valve. Capacity is 250cc per stroke.

Rising Main: Option of 1¼" GI for closed cap cylinders and 2" GI or PVC for VLOM 2" open top cap cylinders supplied in 3m lengths. PVC drop pipes require rod and pipe centralisers to prevent wear damage. Note that rising mains need removal for servicing of closed cap cylinders, though remain in place in VLOM installations.

Pump Rods: Option of 10mm electro galvanized mild steel or stainless steel rods in standard 3m lengths with screwed couplings







Dayliff DDPS range of solar powered booster pump suitable for water transfer in small scale applications where grid power is unavailable.

Features

- Pump constructed of cast iron pump body, aluminium motor body, peripheral brass impeller and silicon carbide mechanical seal.
- Inbuilt controller that provides thermal and over voltage protection and can be connected directly to power supply.
- Pumps are supplied complte with 1m long PV cable with MC4 connection for quick and easy installation.
- Coupled to higher efficiency permanent magnet brushless DC motor rated for continuous operation.
- Enclosure Class: IP54
- Insulation Class: B
- Speed: 2900rpm

Power Outputs

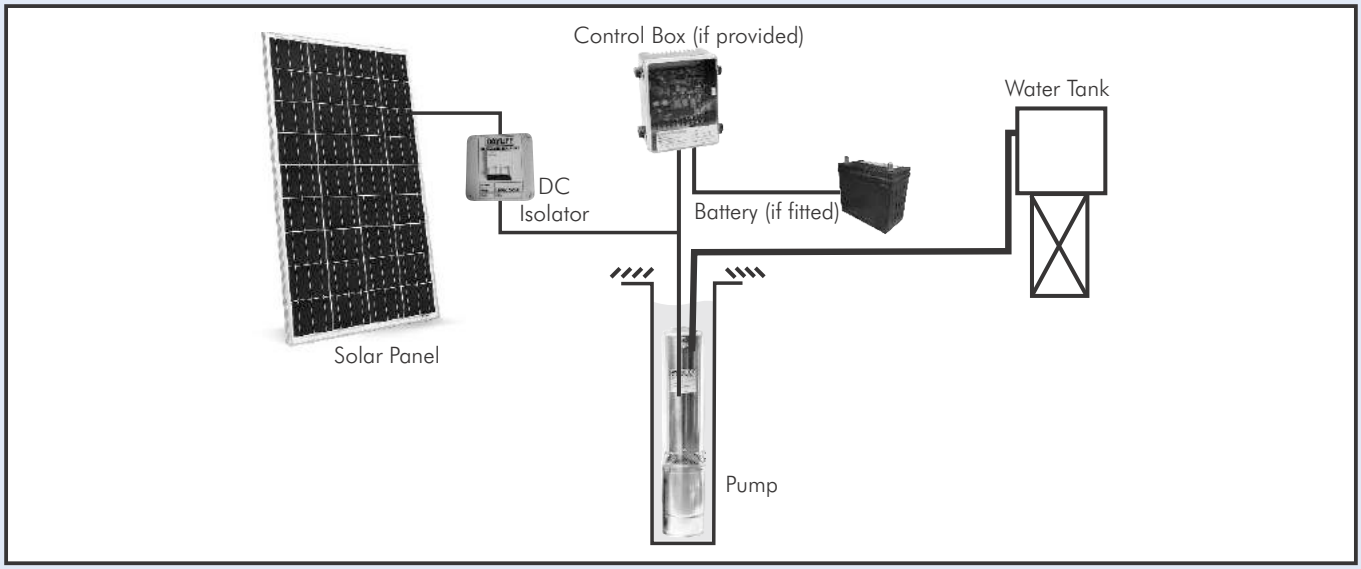
Pump output curves are given at standard test conditions of 1000W/m^2 solar irradiance and 25^{0}C. Output will vary throughout the year depending upon prevailing irradiation levels. For estimated daily outputs at continuous pumping, multiply the indicated output at the duty point by the daily irradiation given in Graph 1. For indicative purposes, factors of 1.1 can be applied for hot arid areas and 0.9 for temperate high altitude areas in the tropics. Output will vary throughout the day as a proportion of the estimated hourly irradiation as shown in Graph 2.

Operating Conditions

Pumped Liquid: Thin, clean, chemically non-aggressive liquid without solids or fibres
Max. Ambient Temperature: +35^{0}C
Max. Liquid Temperature: +40^{0}C

Pump Data

Model	Motor Input Power (W)	Voltage (V)	Inlet/Outlet	Dimensions (mm)			Weight (kgs)
				L	W	H	
DDPS50	220	12	1″	265	120	150	5.5
DDPS60	370	24	1″	265	120	150	5.5



Solar pumping is now firmly established as the technology for water supply in remote off-grid applications and also as the costs reduce increasingly for general pumping duties. Dayliff have been leaders in the technology since the birth of the industry and today offer a wide range of options for every solar pumping requirement imaginable. Particularly a range of competitive, high specification solar pumping systems have been developed for smaller scale applications which are based on robust submersible solar pumps specially designed for PV powered water supply from wells and boreholes.

Together with the pump all systems include:-

- The appropriate specifications and number of Grade 1 PV modules with connectors for simplified installation
- Submersible drop cable and joint together with 10m module connection cable
- DC solar isolator with MCB control provided for module isolation
- Safety rope and HDPE pipe connectors

Module supports and piping are not included. The various systems offered give a wide range of duties, indicative performance being given. Full details of pump performance and specification is given in the Dayliff Product Manual and should be referred to when selecting equipment.

SUNFLO-S

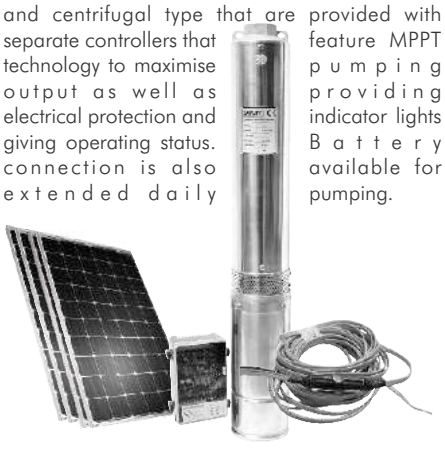
Positive displacement type of three chamber diaphragm design. They are manufactured from high quality engineering plastics with plastic casings for the 150 model and stainless steel for the 300. Pumps can be connected directly to a 24V PV power supply for daytime only pumping or through a charge controller connected to batteries for extended daily operation.

SUNFLO-A

All models are of helical rotary screw stainless steel design for high efficiency and feature an inbuilt controller that gives operating protection for direct connection to the PV modules. All models are of narrow 3" diameter specifically designed for boreholes.

SUNFLO-B

Higher specification pumps of both helical rotor and centrifugal type that are provided with separate controllers that feature MPPT technology to maximise pumping output as well as providing electrical protection and indicator lights giving operating status. Battery connection is also available for extended daily pumping.



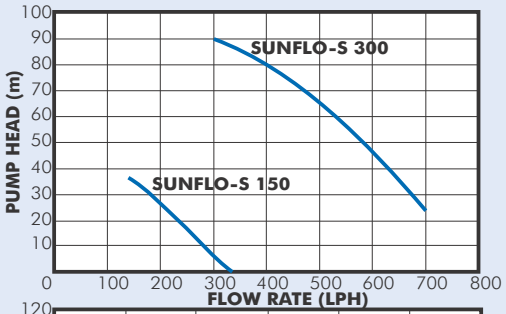
System Options

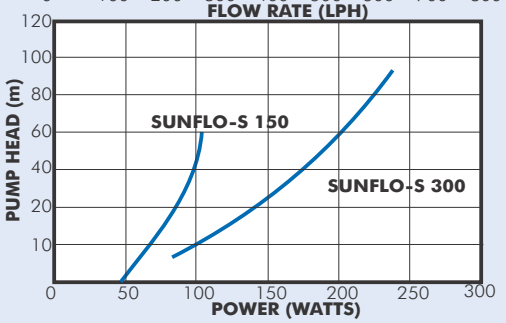
Pump Model	Indicative Performance	Input Voltage (V)	Motor Rating Watts	Peak Voltage (V)	Open Circuit Voltage (VoC)	PV Modules	Cable length, 2.5mm²	Outlet Size
SUNFLO-S 150	1m³/day at 30m	24	120	24	<50	1x200W	30m	½"
SUNFLO-S 300	3m³/day at 60m	24	300	24	<50	2x200W	60m	¾"
SUNFLO-A 150H	2m³/day at 30m	24	150	≥30	<50	1x200W	30m	¾"
SUNFLO-A 270H	3m³/day at 50m	36	270	≥45	<100	2x200W	50m	¾"
SUNFLO-A 600H	4m³/day at 70m	48	600	≥60	<100	4x200W	70m	¾"
SUNFLO-B 120H	3m³/day at 30m	24	120	≥30	<50	1x200W	30m	¾"
SUNFLO-B 500C	6m³/day at 40m	48	500	≥60	<100	4x200W	40m	1"
SUNFLO-B 1000C	12m³/day at 70m	110	1000	≥112	<200	8x200W	70m	1¼"

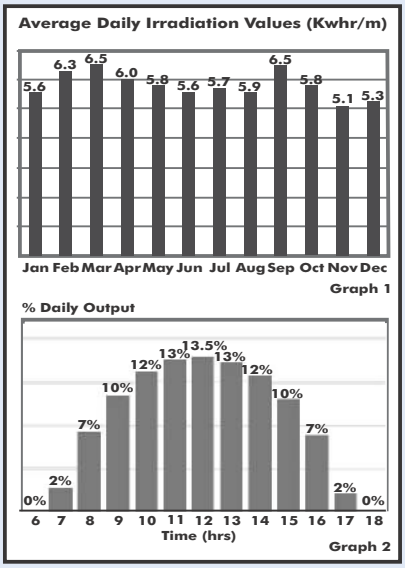
Note1: Greater water outputs will be available at lower heads Note2: Actual performance will be determined by site conditions and irradiation levels.

DC Solar Submersible Pump

SUNFLO-S







DAYLIFF SUNFLO-S series submersible pumps are designed for reliable small-scale water supply from boreholes and wells and are the ideal solution for remote pumping requirements in livestock watering, irrigation and general water supply applications. They are of positive displacement three-chamber diaphragm design and can run dry without damage. An internal bypass is also incorporated to prevent pump damage in the event of delivery cut-off.

Pump components are manufactured from high quality engineering plastics with santoprene used for the diaphragm and EPDM for the valves. Pump casings are plastic for 150 and stainless steel for 300 and a 50-mesh stainless steel screen is also incorporated.

Pumps can be installed either with a direct connection to the PV module or through a charge controller that is connected to a battery for 24hr operation.

Pump Outputs

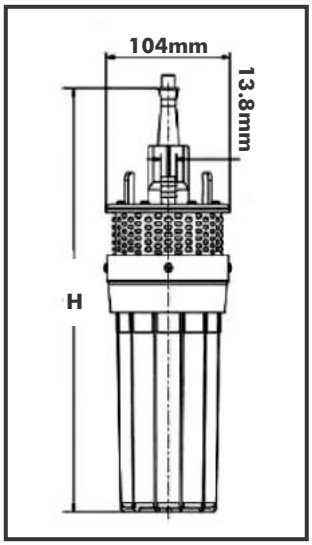
Performance curves are given at standard test conditions of 1000W/m^2 solar irradiance and 25^{0}C. Output will vary throughout the year depending upon prevailing irradiation levels. For estimated daily outputs at continuous pumping multiply the indicated output at the duty point by the daily irradiation given in Graph 1. For indicative purposes factors of 1.1 can be applied for hot arid areas and 0.9 for temperate high altitude areas in the Tropics. Output will vary throughout the day as a proportion of the estimated hourly irradiation as shown in Graph 2.

Motor

The pump motor is of permanent magnet type for 24V DC power input from either a direct source or photovoltaic modules. Internal thermal protection is also provided.

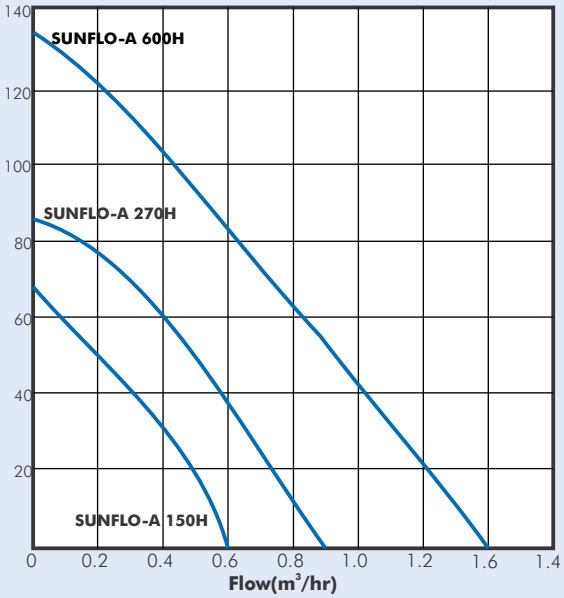
Operating Conditions

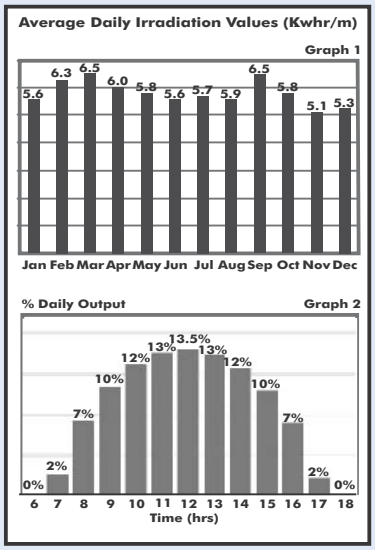
Pumped Liquid: Thin, clean, chemically non-aggressive liquids without solid particles.
Max. Liquid Temperature: +77^{0}C
Ambient Temperature: -40^{0}C-+60^{0}C
Max. Immersion Depth: 30m
Internal by-pass Pressure: 7.5bar



Pump Data

Model	Power (W)	Input Power (W)	Voltage (VDC)	Current (A)	Outlet (")	Height L(mm)	Weight (kg)
SUNFLO-S 150	120	150	24	4	½	329	2.7
SUNFLO-S 300	300	375	24	5	¾	335	3





DAYLIFF SUNFLO-A pumps are specifically designed for PV solar powered water supply from wells and boreholes. They are of rotary screw design and material of construction for rotary screw is stainless steel with a rubber stator. Pumps are of simple structure and features an inbuilt controller.

Motor

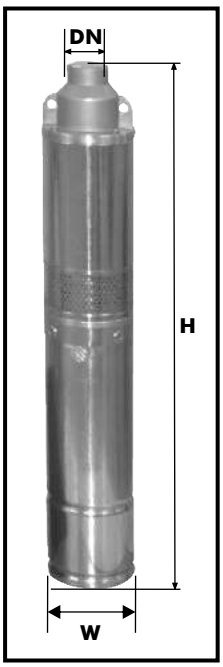
Permanent magnet, oil filled, brushless, DC motor specifically designed for maximum efficiency from solar module power source. It should be powered by solar array configured to provide the input voltage and sized at approximately 130% of the rated motor power.

Pump Outputs

Performance curves are given at standard test conditions of 1000W/m^2 solar irradiance and 25^{0}C. Output will vary throughout the year depending upon prevailing irradiation levels. For estimated daily outputs at continuous pumping, multiply the indicated output at the duty point by the daily irradiation given in Graph 1. For indicative purposes, factors of 1.1 can be applied for hot arid areas and 0.9 for temperature high altitude areas in the Tropics. Output will vary throughout the day as a proportion of the estimated hourly irradiation as shown in Graph 2.

Operating Parameters

Pumped liquid: Thin, clean, chemically non-aggressive liquids with a sand content of less than 0.1%.
Max. Liquid Temperature: +40^{0}C
Ambient Temperature: -20^{0}C - +50^{0}C
Min. Immersion Depth: 0.5m
Max Immersion Depth: 30m
Min. Borehole Diameter: 125m
Enclosure Class: IP68
Insulation Class: B
Speed: 2900rpm

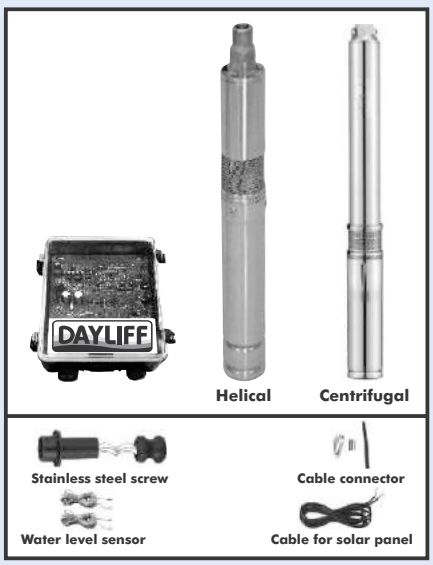


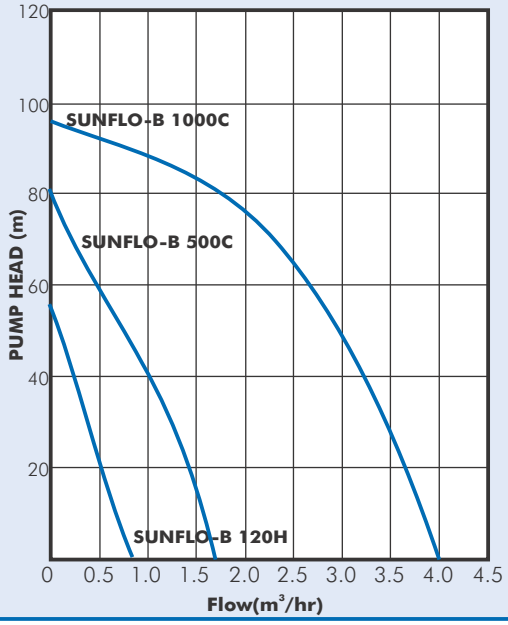
Pump Data

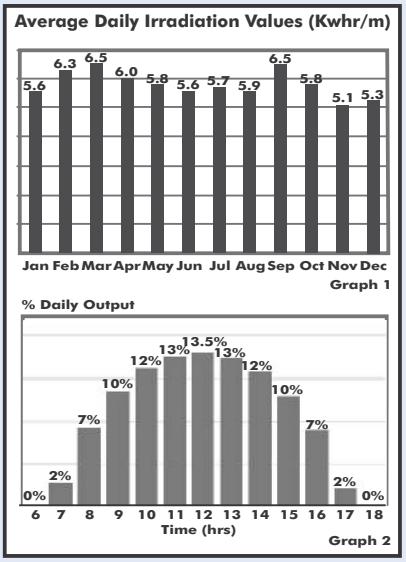
Model	Input Voltage (V)	Motor Rating (W)	Input Power (W)	Peak Voltage (V)	Open Cicrcuit Voltage (VOC)	DN (")	Dimensions (mm)		Weight (kg)
							H	W	
SUNFLO-A 150H	24	150	200	≥30	<50	3/4	680	76	7
SUNFLO-A 270H	36	270	350	≥45	<100	¾	860	76	7
SUNFLO-A 600H	48	600	780	≥60	<100	3/4	1350	76	8

DC Solar Submersible Pump

SUNFLO-B







DAYLIFF SUNFLO-B pumps are specifically designed for PV solar powered water supply from wells and boreholes. They are of centrifugal and rotary screw design and material of construction for rotary screw design are principally stainless steel with a rubber stator while centrifugal design features noryl impellers and stainless steel chambers. Pumps are supplied complete with a controller, cable connectors, water level sensor, solar PV connecting cables and spare rotor for helical type.

Motor

Permanent magnet, oil filled, brushless, DC motor specifically designed for maximum efficiency from solar module power sources. It should be powered by solar array configured to provide the input voltage required and sized at approximately 130% of the rated motor power.

Controller

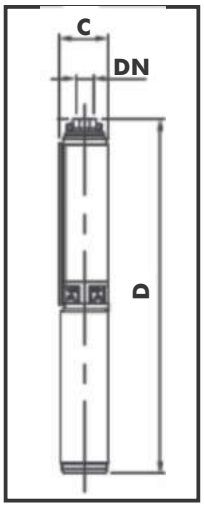
The pump is supplied with a self-contained multifunction MPPT (Maximum Power Point Tracking) controller that tracks the solar module's maximum power output voltage which varies with module temperature and irradiation levels. This ensures maximum current output, typically +25% higher than conventional module controllers and a similar increase in daily water output. The controller also protects from over and under voltage, over current and low water level (if electrodes are fitted) and features various indicator lights that give the pump's operating status. The system can be installed either with or without batteries. If batteries are included, the pump will operate when there is insufficient solar irradiation for direct power.

Pump Outputs

Performance curves are given at standard test conditions of 1000W/m^2 solar irradiance and 25^{0}C. Output will vary throughout the year depending upon prevailing irradiation levels. For estimated daily outputs at continuous pumping, multiply the indicated output at the duty point by the daily irradiation given in Graph 1. For indicative purposes, factors of 1.1 can be applied for hot arid areas and 0.9 for temperate high altitude areas in the Tropics. Output will vary throughout the day as a proportion of the estimated hourly irradiation as shown in Graph 2.

Operating Parameters

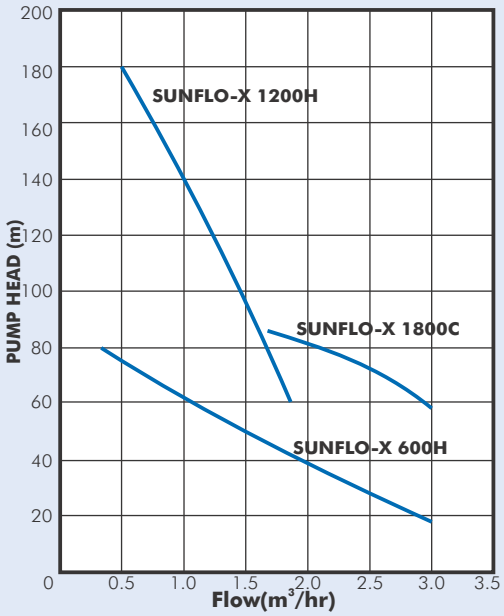
Pumped Liquid: Thin, clean, chemically non-aggressive liquids with a sand content of less than 0.1%.
Ambient Temperature: -20^0 C - +50^0 C
Maximum Liquid Temperature: +40^0 C
Minimum Immersion Depth: 0.5m
Maximum Immersion Depth: 30m
Minimum Borehole Diameter: 125mm
Enclosure Class: IP68
Insulation Class: B
Speed:2900rpm

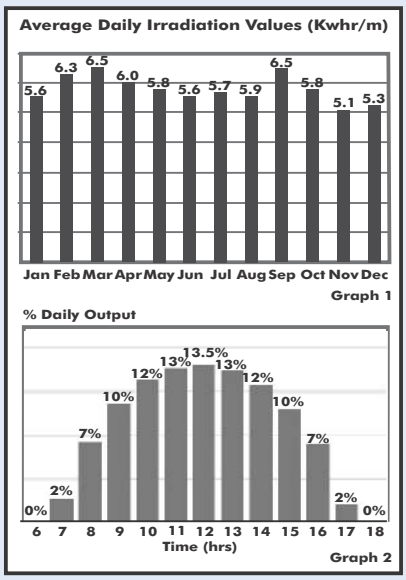


Pump Data

Model	Type	Input Voltage (V)	Motor Rating (W)	Max Input Voltage (V)	Input Power (W)	Peak Voltage (V)	Open Circuit Voltage (VOC)	DN (")	Dimensions (mm)		Weight (kg)
									C	D	
SUNFLO-B 120H	Helical Rotor	24	120	50	160	≥30	<50	¾"	76	820	12
SUNFLO-B 500C	Centrifugal	48	500	100	680	≥60	<100	1"	76	1020	17
SUNFLO-B 1000C	Centrifugal	100	1000	200	1400	≥112	<200	1¼"	100	860	21

DC Solar Submersible Pump





DAYLIFF SUNFLO-X Range of pumps are high specification solar powered centrifugal and helical rotor DC pumps specifically designed for borehole applications and feature a remote surface mounted controller. Pumps are constructed principally from AISI 304 stainless steel and are engineered to the highest standards to give serviceability, excellent efficiency, high reliability and long life. Helical rotor type are supplied with spare rotor.

Motor

Pumps are fitted with Permanent Magnet brushless high efficiency, maintenance free DC motors without integrated electronics specifically designed for maximum efficiency. They should be powered by solar arrays configured to provide the input voltage required and sized at approximately 130% of the rated motor power.

Controller

Pumps are provided with matched controllers for monitoring, protecting and controlling pump operations with the following features:-

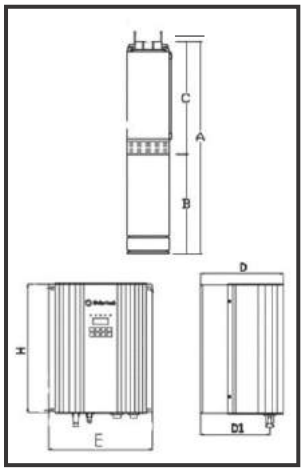
- Protection against reverse polarity, overload and over temperature.
- Integrated MPPT (Maximum Power Point Tracking) with 99% energy conversion efficiency to maximize module power output.
- Fully automatic operation and complete protection including low level control, dry running and over/under voltage.
- Enhanced pump start on low sun intensity.
- Easy trouble shooting, where fault code is displayed on LCD screen for fast identification and problem solving.
- Enclosure Class: IP52

Pump Outputs

Performance curves are given at standard test conditions of 1000W/m^2 solar irradiance and 25^{0}C. Output will vary throughout the year depending upon prevailing irradiation levels. For estimated daily outputs at continuous pumping multiply the indicated output at the duty point by the daily irradiation given in Graph 1. For indicative purposes factors of 1.1 can be applied for hot arid areas and 0.9 for temperate high altitude areas in the Tropics. Output will vary throughout the day as a proportion of the estimated hourly irradiation as shown in Graph 2.

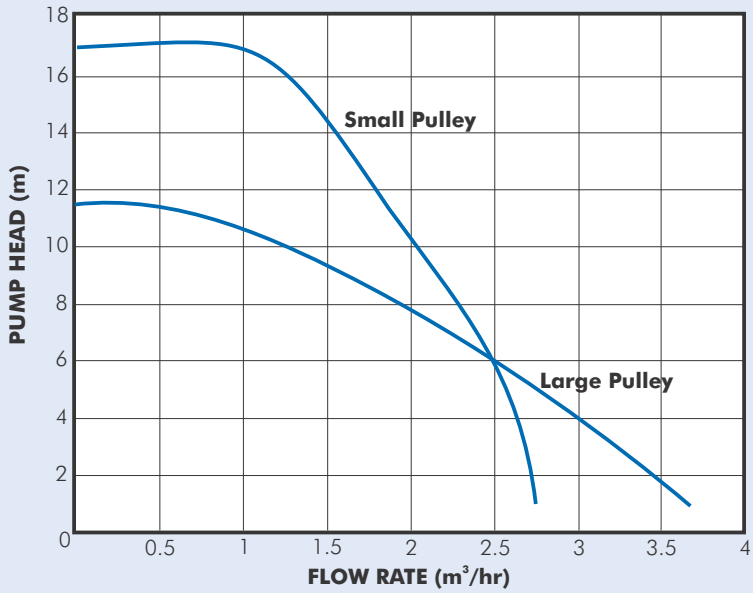
Operating Conditions

Pumped Liquid: Thin, clean, chemically non-aggressive liquids with a sand content of less than 0.1%.
Maximum Liquid Temperature: 0-35^{0}C
Controller Ambient Temperature: -20^{0}C to +60^{0}C
Max Immersion Depth: 250m
Minimum Borehole Diameter: 125mm
Insulation Class: F
Enclosure Class: IP68
Speed: 3300rpm



Pump Data

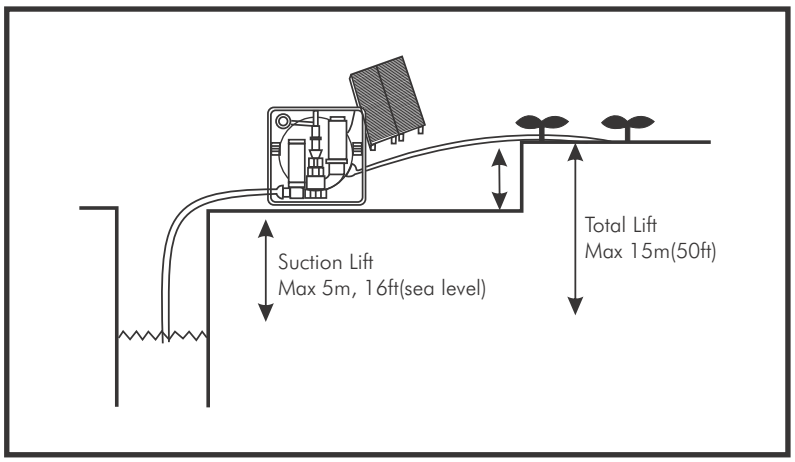
Model	Type	Power			Required MPP Voltage	Dimensions (mm)								Weight (kg)
		kW	Max Current (A)	Max Voltage (VDC)		A	B	C	D	D1	Ø	E	H	
SUNFLO-X 600H	Helical Rotor	0.6	15	150	60-120VDC	560	351	209	146	113	32	202	244	16
SUNFLO-X 1200H	Helical Rotor	1.2	15	200	120-160VDC	600	358	242	146	113	32	202	284	20
SUNFLO-X 1800C	Centrifugal	1.8	15	200	120-160VDC	1040	389	651	146	113	40	202	284	24

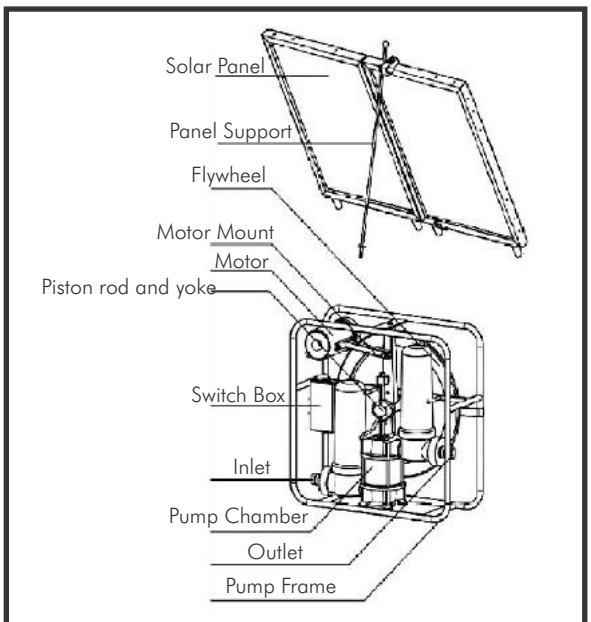


The Futurepump SF2 is a robust solar powered irrigation pump specially designed for small scale agricultural uses using low pressure spray, hoses and drip applications. It comprises three principal components, the PV solar panels, a specially designed DC motor that is coupled to a flywheel and a positive displacement reciprocating piston type pump. Features include:-

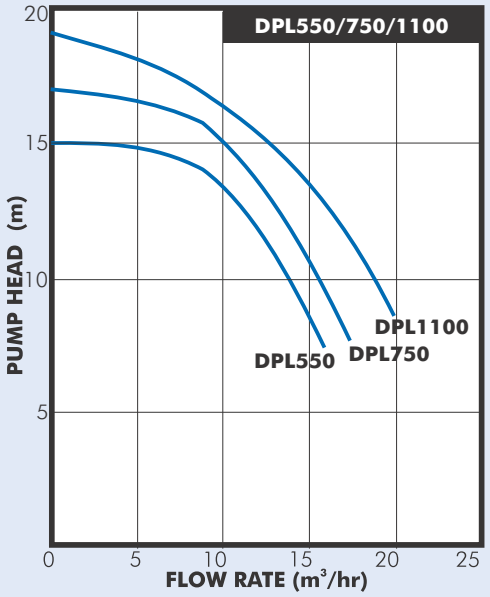
- Suitable for irrigating up to 1 acre
- Supplied with 2x60W (120W) solar panels. Panels include USB port for powering phone charging and other small electronic devices.
- High efficiency pump that is tolerant to water containing suspended solids and also capable of running dry without damage.
- Fitted with a 60V DC motor with in-built controller.
- Two pulley sizes for motor drive for low and high head applications.
- Supplied complete with 6m x 11/4" inlet/suction hose with couplers and strainer.
- Provided with comprehensive spare parts kit and tools.
- Systems include remote performance monitoring data logger that indicates pump performance and tracked location.
- Manufacturer supported five-year operating warranty.

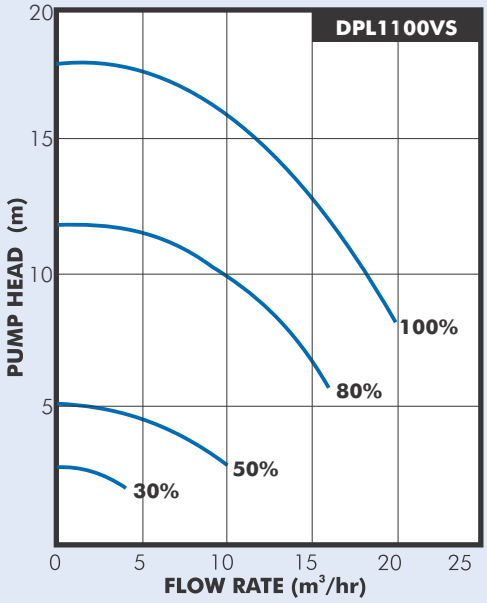
A special feature of the Future pump is its simplicity of design and operation being simple to set up and maintain by the user. It is also flexible in operation and efficient and is an ideal solution for all small scale farmer irrigation applications.





Weight: 36.7Kgs, **Dimensions** (LxWxH): 520mmx530mmx200mm





The DAYLIFF DPL range of swimming pool pumps are quiet running and reliable products suitable for all domestic pool applications. Fixed and variable speed model options are available, variable speed providing three pre-set speed options for reduced energy consumption in periods of low pool usage.

Features

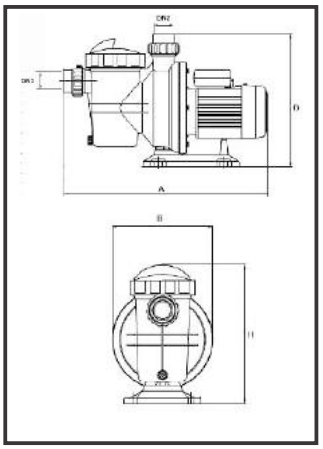
- A large strainer basket with easy-open transparent cover and connecting unions
- All hydraulic components are made from high strength glass reinforced corrosion resistant polypropylene
- DPL 750/1100 Fixed Speed pumps feature an asynchronous two pole TEFC motor designed for continuous duty and provided with built-in thermal overload protection.
- DPL 1100 VS Variable Speed pumps feature an asynchronous motor fitted with an inbuilt frequency converter to provide three pre-set operating speeds at 100%, 80% and 50% of maximum as well a fractional speed adjustment facility down to 30%.
- Motor control is through an easy to operate control module on the pump which provides various control options and digital speed indication. Intelligent protection from over voltage, under voltage, overload and short circuit is also provided for extended motor life. The motor is suitable for 50 & 60Hz frequency supply.
- All motors can be connected directly to the mains electrical supply through a 10A MCB or switch fuse
- Insulation Class: F
- Enclosure Class: IP55

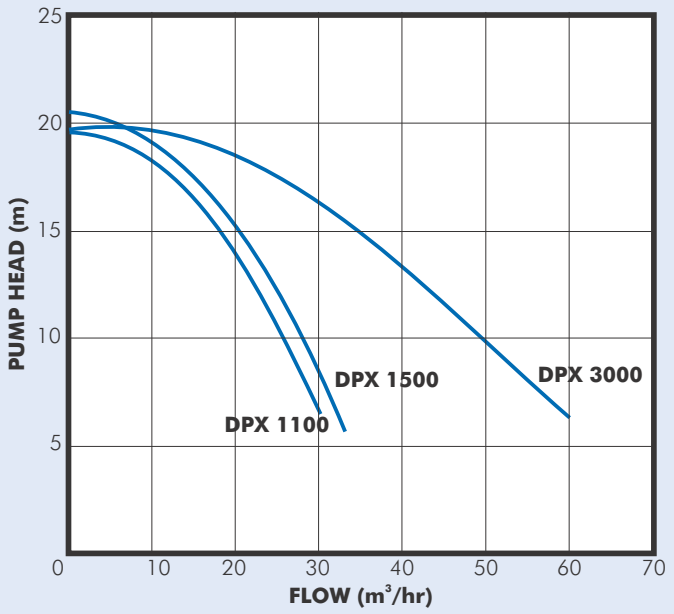
Operating Conditions

Pumped Liquid: Thin, clean non-chemically aggressive liquid without solid particles or fibers
Max. Fluid Temperature: 60°C
Max Ambient Temperature: -10°C - +40° C

Pump Data

Model	Speed (rpm)	Power (kW)	Current (A)	Dimensions (mm)					Weight (kgs)
				DN1/DN2	A	B	D	H	
DPL 550	2850	0.55	4.2	50	550	238	345	330	13
DPL 750	2850	0.75	5.3	50	550	238	345	330	14
DPL 1100	2850	1.1	7.4	50	570	238	345	330	14
DPL 1100VS	100%/3500	1.6	9	50	570	238	345	330	15
DPL 1100VS	80%/2850	0.9	5.5	50	570	238	345	330	15
DPL 1100VS	50%/1800	0.3	2.2	50	570	238	345	330	15





The DAYLIFF DPX range of swimming pool pumps are quiet running and reliable products suitable for light and medium duty pool applications.

Features

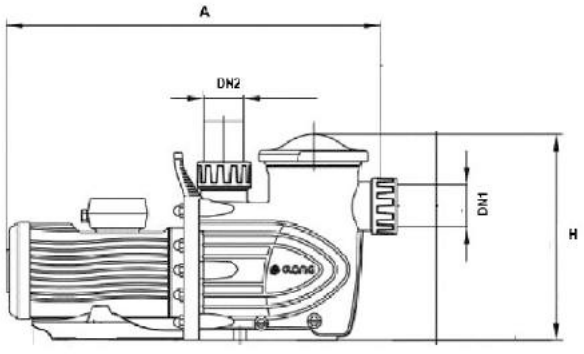
- All models feature a large strainer basket with easy-open transparent cover and connecting unions
- All hydraulic components are made from high strength glass reinforced corrosion resistant polypropylene for long life.
- Asynchronous 2-pole TEFC motor designed for continuous duty.
- Single phase motors are provided with built-in thermal overload protection
- Can be connected directly to the mains electrical supply through a 10A MCB or switch fuse.
- Three phase motors need to be connected through a DOL starter.

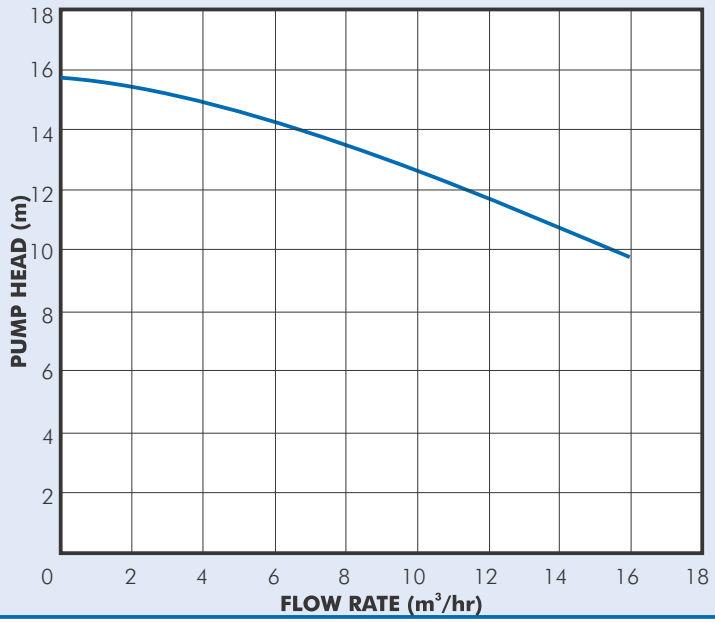
Operating Conditions

Pumped Liquid: Thin, clean non-chemically aggressive liquid without solid particles or fibers
Max. Fluid Temperature: 60°C
Max Ambient Temperature: -10°C - +40° C
Insulation Class: F
Enclosure Class: Ip55
Speed: 2800rpm

Pump Data

Model	Voltage (V)	Power (kW)	Current (A)		Dimensions (mm)			Weight (kg)
			1ph	3ph	DN1/DN2	A	H	
DPX1100	1x240	1.1	6.5	-	75	656	358	22
DPX1500	1x240	1.5	8.5	-	75	656	358	24
DPX3000	3x415	3	-	6.4	75	708	358	31





The DAYLIFF JetSpa pump is a high flow, high pressure pump for particular application in spas and water features. The high efficiency impeller gives enhanced performance.

Features

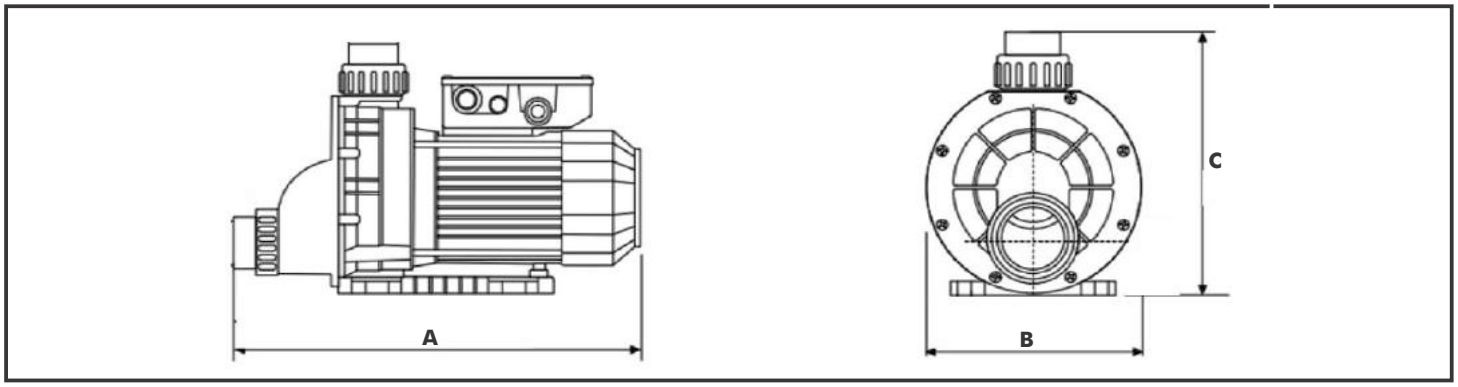
- Materials of construction is engineering plastic with Noryl impeller.
- Close coupled to an asynchronous two pole motor with continuous operation rating and overload protection.
- Motor can be connected directly to mains electrical supply through 10a fuse or MCB.
- Enclosure: IP44
- Insulation Class: F
- Voltage: 1x240V
- Speed:2900rpm

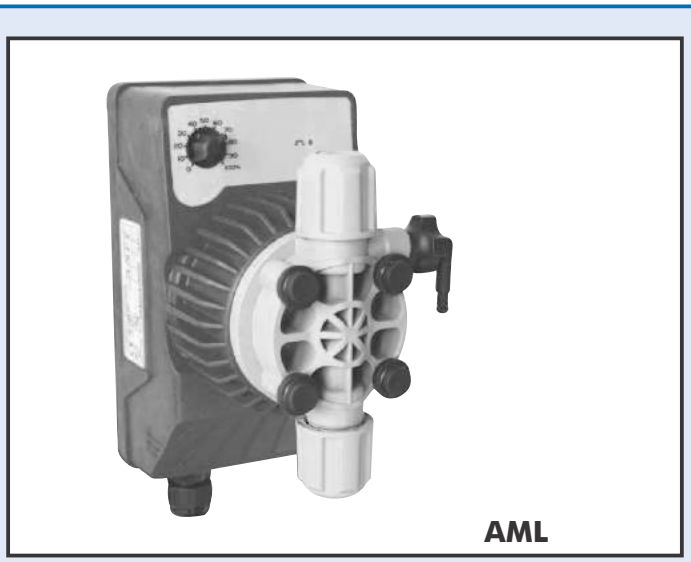
Operating Conditions

Pumped Liquid: Thin, clean non-chemically aggressive liquid without solid particles or fibers
Max. Liquid Temperature: +60°C
Max. Ambient Temperature: -10°C - +40°C

Pump Data

Model	Power (kW)	Current (A)	Dimensions (mm)				Weight (kg)
			Outlet/Inlet	A	B	C	
JetSpa 1.5	1.5	6.2	50	550	187	280	10




AML


AMM

Dayliff Seko AM chemical dosing pumps are high specification products for the accurate dosage of a wide range of chemicals in general water treatment and industrial process applications.

Features

- Positive displacement diaphragm type with micro processor based analogue magnetic solenoid motors
- Adjustable flow rate via a control dial on the front panel which varies stroke frequency
- Fitted with an operating status LED which indicates stroke cycles and fault conditions
- Level control input to stop pump when solution tank empties
- Construction of corrosion resistant PVC for the pump bodies and dosing heads, PTFE diaphragm for universal chemical resistance and ceramic ball valve
- Supplied complete with installation kits including foot valve, mounting screws, injection valve, 2m PE delivery tube, 4m PVC suction and bleeding tube and a wall mounting bracket
- Two models available, AML with manually adjustable flow rate in ranges 0-20%, 0-100% and AMM with proportional flow rate determined by an external analogue signal

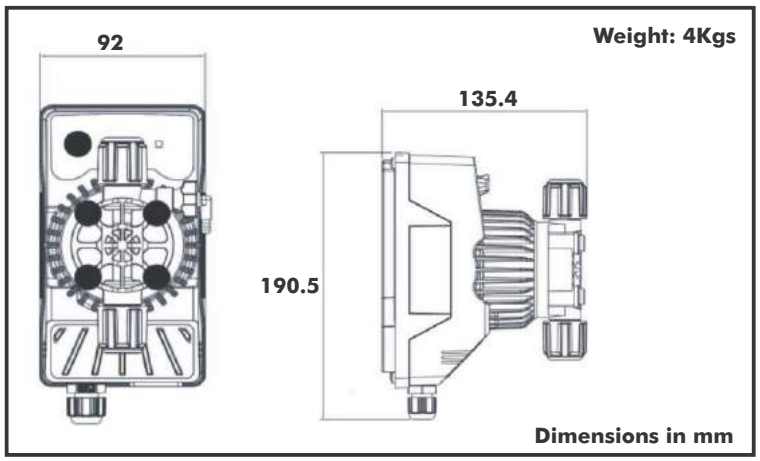
Operating Conditions

Max Flow: 5l/hr
Max Stroke Rate: 160/min
Power Input: 240 VAC/50 Hz

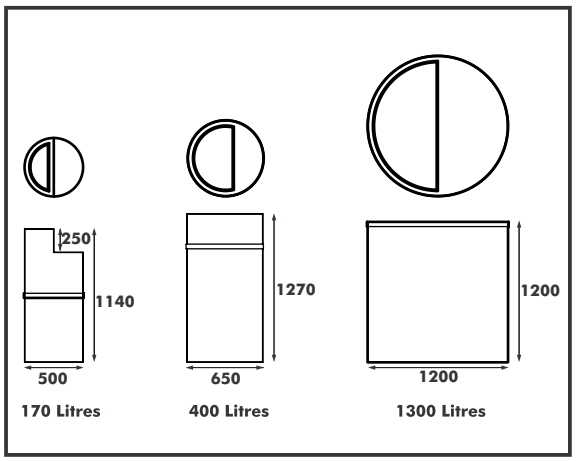
Max Pressure: 8 Bar
Connections: 4/6 mm

V Stroke: 0.52cc
Input Power: 14W

Pump Features and Dimensions



Chemical Tanks



Pump Controllers

PRESS PUMP CONTROLLER


Auto


Manual

In-line electronic pump controllers for automatic operation of pressurised water supplies. Features include:-

- Starts pump on pressure (fixed at 1.5 Bar) and stops on low flow
- Dry run protection provided. Standard models require manual reset, Automatic models restart when supply returns (Positive suction)
- Incorporates a spring activated hydraulic accumulator to control pump cycling
- LED power on, pump run and run dry indicators

Max Motor size: 0.75kW auto,1.1kW/1ph manual ***Max Current:*** 10A ***Max Operating Pressure:*** 10 Bar
Connection: 1"M ***Dimensions (L/W/H):*** 227/130/168mm ***Protection:*** IP54 auto, IP64 manual

BRIO PUMP CONTROLLER

An in-line electronic pump controller for automatic operation of pressurised pump supplies. Features include:-

- Starts pump on pressure and stops on low flow. The start pressure is adjustable between 1.3 - 5 Bar
- Inbuilt timer delays pump starting and controls pump cycling in low flow conditions eliminating the need for a separate pressure vessel
- Dry run protection with automatic reset
- LED power and run dry indicators
- Built in pressure gauge

Max Motor Size: 1.5kW/1ph ***Max Current:*** 12A ***Max Operating Pressure:*** 10 Bar
Connection: 1" M ***Max Fluid/Ambient Temp:*** 55°C ***Protection***: IP65
Dimensions (L/W/H): 190/105/96mm

BRIO TOP PUMP CONTROLLER

A high specification in-line electronic pump controller that starts on pressure and stops on either low flow or a settable pressure. It completely replaces the traditional pressure tank/pressure switch systems whilst providing a number of additional control features. These include:-

- Simple start and stop pressure setting with digital pressure display.
- Dry run protection and alternative start
- Motor over current providing protection against overload and blocked water conditions.
- Options of master/slave configuration in twin booster set application.
- Operating/error status indicator via LED's and display alerts.
- Input and output terminals for remote connection.
- Rotor anti-blocking function used to prevent seizure of mechanical parts during prolonged periods of pump inactivity.

Max. Motor Size: 2.2kW/1ph ***Connection:*** 1" M ***Max. Stop Pressure:*** 10 Bar
Start Pressure Range: 0.5-8 Bar ***Max. Rated Current:*** 16A ***Protection:*** Ip65
Max fluid / Ambient Temperature: 55°C ***Dimensions (L/W/H):*** 225/150/115mm

SPIN FLOW SWITCH

An in-line pump controller for automatic operation by flow sensing and suitable for boosting from header tanks. Features include:-

- Starts pump when flow is sensed (minimum 2.4litres/min) and stops when flow ceases
- Pump stop time adjustable between 10 to 180 secs
- System is un-pressured in no flow condition so eliminating pump cycling

Max Motor Size: 1.5kW ***Max Current:*** 12A ***Max Operating Pressure:*** 10 Bar
Connection: 1"M ***Max Water/Ambient Temps:*** 50°C/55°C ***Protection:*** IP65
Dimensions (L/W/H): 142/118/112mm

PRESSURE SWITCH

Adjustable pressure switch for pressure control of pumps featuring normally closed brass alloy contacts and tear resistant cable glands

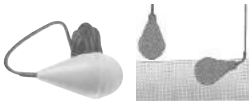
Type	Pressure range (Bar)	Factory setting (Bar)	Differential (Bar)	Rated current (A)
PM/5	1-5	1.4-2.8	0.6-2.3	16
PM/12	3-12	5-7	1.5-5	16

PADDLE FLOAT SWITCH

Paddle type float switch with weight and 3m PVC cable. The switch is suitable for both high level and low level control according to the wiring connections.

Max Current: 8A ***Max Immersion:*** 3m
Max Working Temp: 60°C ***Protection:*** IP68

BULB FLOAT SWITCH



Bulb float switches are suitable for dirty and waste water applications. They are made from non corroding PVC and are supplied with 5m cable. Applications can be for high or low level control according to the wiring connections.

Max Current: 8A ***Max Depth:*** 40m
Max Working Temp: 50°C ***Protection:*** IP68

GENERAL PUMP CONTROL


SCM2

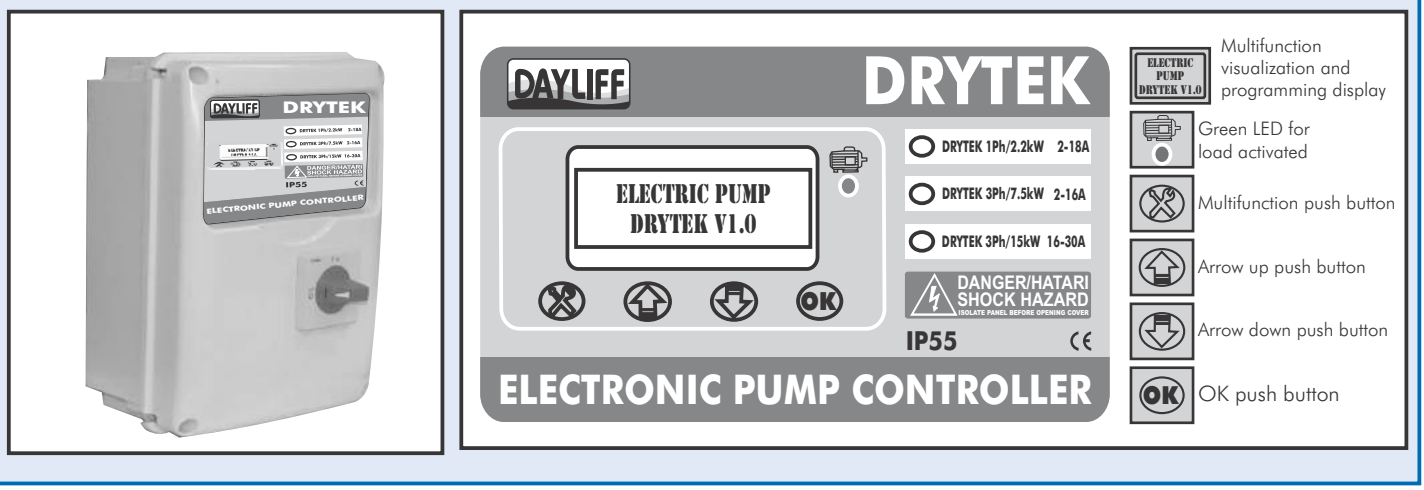
SCT7

SCT15

Higher specification multi functional electronic controllers or operation and running of single and three phase submersible pumps. Salient features include: Overload protection, dry-run protection, over/under voltage protection, phase loss -phase failure protection (3 phase units) and transient surge protection. The Controllers have LCD display for running status and can hold memory fo upto last five failure events.

Max Motor Size:SCM2: 0.37 - 2.2kW, 1ph, 220-240V, **SCT7:** 1.1-7.5kW, 3ph, 380-415V, **SCT15:** 7.5-15kW, 3ph, 380-415V

Enclosure Class: IP22, IP54 (SCT15) ***Temperature:*** 25°-55°C ***Protection:*** IP68
Derating: 1% of motor output current for every 100m above 1000m altitude



The Dayliff Drytek Electronic Pump Controller is a solid state integrated control unit for all types of pumps with a particular application to borehole installations. Panels are fitted with a digital display of both operating and fault parameters and settings are simply made using fascia mounted push buttons. A range of sizes are available for single and three phase motors, settings for particular motor sizes being effected by simple adjustment of the running current.

Features

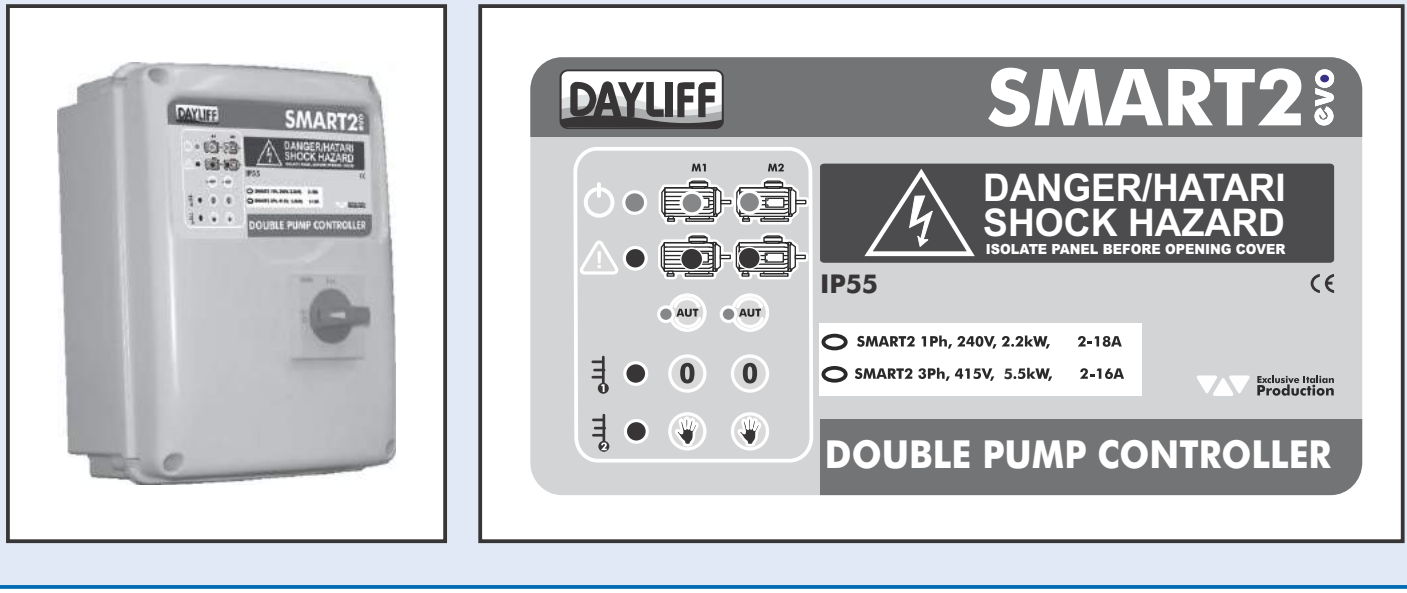
- Incoming mains isolator switch with fuse protection and door interlock.
- Digital display of motor operating status including voltage, amps, cos ∅ and fault messages.
- Protection against over/under voltage, motor overload and phase sequence/loss.
- Electronic dry run protection using cos ∅ sensitivity adjustment dispensing with the need for low level electrodes and cables.
- Selectable auto/manual operation with an extra terminal set for an additional external control function, e.g float switch or pressure switch.
- Auto restart for fault signals with 4 separate adjustable times from 0-250 mins.
- Large IP55 rated flame-proof plastic enclosure with space for additional accessories as may be specified.

Dayliff Drytek Electronic Pump Controllers are high specification units that provide comprehensive protection for all pump motors. The combination of extensive built-in functionality that eliminates the need for expensive separate components, a wide application range through easy adjustment and simple operation provides units of great versatility and effectiveness. These features combined with exceptional value results in one of the best pump controllers available.

Enclosure Class: IP55
Temperature Range: -5^0 to +40^{0}C
Power Supply: 240V±10% / 415V±10%

General Data

Controller Model	Power (kW)		Current Range (A)	Dimensions (mm)	Weight (kg)
	Min	Max		LxWxH	
DRYTEK 1Ph/2.2kW	0.37	2.2	2-18	340x240x170	1.5
DRYTEK 3Ph/7.5kW	0.55	7.5	2-16	340x240x170	2.5
DRYTEK 3Ph/15kW	7.5	15	16-30	340x240x170	3.5



The DAYLIFF Smart 2 Evo is a high specification integrated electronic controller available in single and three phase for the automatic operation of two pump systems. It includes an electronic circuit board that provides the control functionality as well as terminals for incoming power and pump operating auxiliaries all mounted in an ABS enclosure to give a complete control solution.

Features

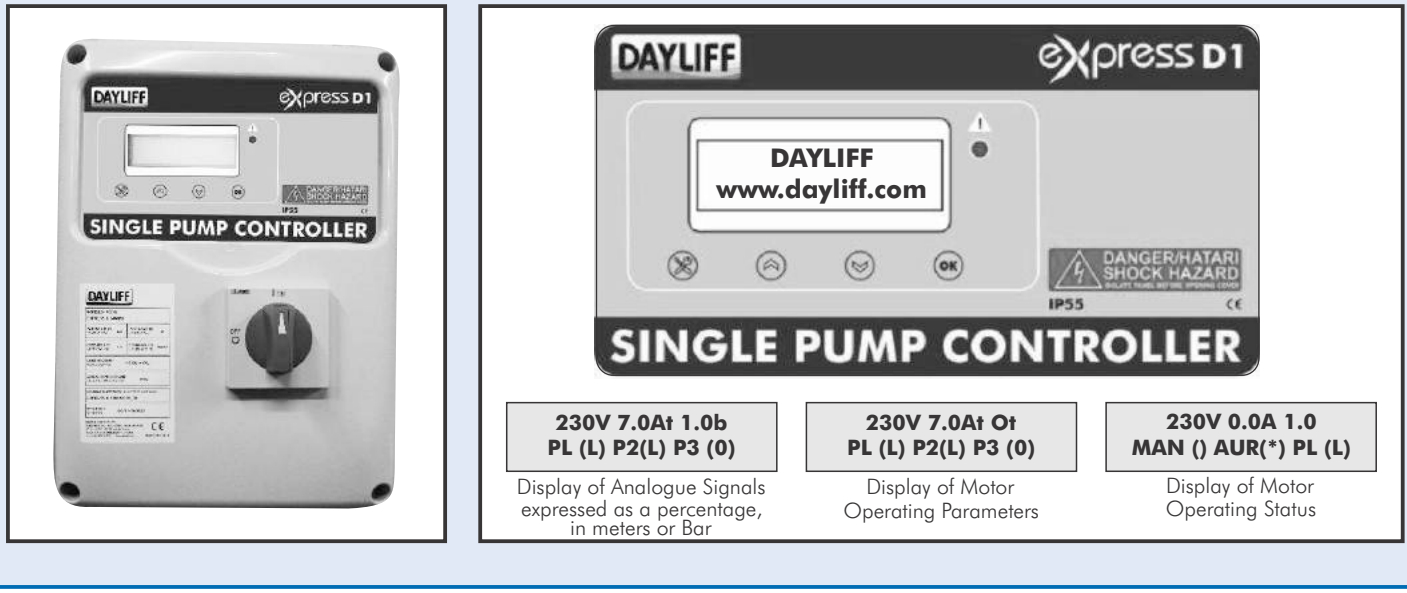
- Incoming mains isolator and door interlock.
- Incoming mains current overload protection and individual contactors for each pump (three phase only)
- Adjustable motor overload protection for each pump as well as phase loss and sequence sensing (3phase only).
- Selectable filling and emptying configuration with three external control floats and separate alarm connection.
- Normally open contacts for the connection of low and high level pressure switch control input for each pump and alarm.
- Selectable parallel or duty/standby pump operation with auto cycle changeover and delay relay.
- Multiple system configuration options through dip switch selection
- Selectable auto/manual operation with Run and Auto operation indicator lights.
- Fault indicators for low level and motor overload conditions.
- Dry running protection and automatic reset.

Smart Evo 2 is a highly effective fully integrated controller that includes all the functionality for pump control and operation in one compact unit. It is simple, effective and reliable with the added benefit of lower cost than conventional alternatives and is the most complete control system for sewage and water boosting systems available.

Enclosure Class: IP55
Temperature Range: -5°C -+40°C
Power Supply: 110V-240V, ±10%1Ph, 310V-450V, ±10%3Ph
Relative humidity: 50% @ 40°C (condensate free)

General Data

Controller Model	Power (kW)		Current Range (A)	Dimensions (mm)	Weight (kg)
	Min	Max		LxWxH	
SMART Evo 2-1pH/2.2kW	0.37	2.2	2-18	320x240x190	2.5
SMART Evo 2-3pH/7.5kW	0.55	7.5	2-16	320x240x190	5.5



Dayliff EXPRESS is a high specification multi-function electronic controller suitable for allborehole, waste water, sewage and general water supply pump applications. Controllers are fitted with a digital display that indicates both operating and fault parameters and can be programmed using fascia mounted panel buttons. A range of specifications are available for single and three phase motors, configuration to a particular motor size being effected by adjustments of the maximum running current.

Features

- Incoming mains isolator and door interlock
- Multifunction LCD display of voltage, current, power factor (cos∅), operating status and system faults
- In built protection for over current, over or under voltage, phase sequence and phase failure.
- In built power factor dry run protection or connections for remote low level float switch/probes provided.
- Connections for various analogue (eg pressure and float switch) or digital (eg PLC's and transducers) signal inputs provided.
- Large enclosure with space for capacitors in single phase pump installations.
- Adjustable maximum operating current and voltage limit settings.
- Twin pump controllers provide for selection of duty/standby, alternate duty cycling with auto trip changeover and parallel operation configurations.

Single and twin pump EXPRESS controllers for DOL start are available as standard while panels for 3 and 4pump operation and Star-Delta start can be suppled on request.

Dayliff EXPRESS is a fully integrated controller that is adaptable to almost any pump control requirement as well as giving full motor protection and operating and fault status indications. It is compact, simple to install and exceptional value for the functionality provided and the ultimate control solution for all booster pumping requirements.

Enclosure Class: IP55
Power Supply: 110V-240V±10%-1pH
310V-450V±10%-3pH

General Data

Controller Data	Start Method	Motor Size (kW)	Current (A)	Dimensions (mm) LxWxH	Weight (kg)
EXPRESS D1-1ph	DOL	0.37-2.2	18	320x240x190	2
EXPRESS D1-3ph/7.5	DOL	0.55-7.5	16	320x240x190	2.5
EXPRESS D1-3ph/15	DOL	0.55-15	32	320x240x190	2.5
EXPRESS D2-1ph	DOL	0.37-2.2	18	320x240x190	2.5
EXPRESS D2-3ph/7.5	DOL	0.55-7.5	16	320x240x190	3.5

Pump Control Panels

The DAYLIFF range of pump control panels have been specially designed to provide effective protection and reliable control of all electric pumps. Standard panels are available for one and two pump installation in all sizes up to 90kW for both manual and automatic installations operation. In addition various optional accessories are offered so panels can be customised to suit site requirements. Panels for multi pump, large motors and specialised control applications can also be supplied, these being individually designed to suit the particular installation.

All panels utilise quality components and are supplied completely pre-wired with terminals for control accessories (where applicable) as well as incoming and outgoing power connections. Comprehensive wiring diagrams are provided with all panels.

Enclosures are manufactured of mild steel and finished with a hard baked non-chip dry powder epoxy finish. The degree of ingress protection is IP54 or higher. As a standard, the enclosures are wall mounted type with hinged lockable door fronts. Free standing enclosures can be provided on order.

All panels are manufactured to exacting standards and are quality products which complement the wide range of pumps available from DAVIS & SHIRTLIFF to provide cost effective, reliable and efficient water installations.

STANDARD PANELS

Standard panels are categorized based on the Starting Methods of the motor. Motor Manufacturers usually specify the starting methods and voltage on the motor name plates.

All panels are available in two quality specifications;

- Standard, which includes quality components with essential functionalities.
- Premium, which includes internationally branded quality components from Schneider, Lovato, Siemens, ABB, Danfoss (VFD) according to availability.

Type 1PM (one pump) and 2PM (two pumps):

Manual panel for small single-phase pumps. Specification includes Incoming isolator, MCB, 'ON' indicator and (motor sizes> 1.1kW), Relay and Auto/Hand selector switch. Two pump panels have paired component sets with a 102 Changeover switch. These are suitable for use with single phase borehole motors where control box is provided complete with capacitors.

Type 1PD (one pump) and 2PD (two pumps):

Standard panels for Direct-On-Line (DOL) start. Specification includes Incoming Isolator, individual pump MCB's, DOL Starter (Contactor & Overload relay), 'On' and 'Trip' indicators and Auto-Off-Hand Selector Switch. Two pump panels have paired component sets and a 102 Changeover when CCA (Auto Cycle & Auto Trip Changeover) is specified and individual Auto-Off-Hand Selector Switches when independent pump operation is specified.

Type 1PY (one pump) and 2PY (two pumps):

Standard panels for Star-Delta start. Specification is as for type 1&2PD with the alternative fitting of a Star-Delta Starter(s) with three Contactors, Overload Relay and Timer.

Type 1PS (one pump) and 2PS (two pumps):

Standard panels for Soft starters. Specification includes Incoming Isolator, individual pump MCB's, SOFT-STARTER, Line and Bypass Contactors, 'On' and 'Trip' indicators, Start-Stop push button, Reset push button and Auto-Off-Hand Selector Switch. The advantage of these panels is that they reduce mechanical stress on the motor and shafts for extended motor life. They also lower starting current and system electrical load reduce water hammer effect and check valve slamming.

The DAYLIFF range of pump control panels have been specially designed to provide effective protection and reliable control of all electric pumps. Standard panels are available for one and two pump installation in all sizes up to 90kW for both manual and automatic installations operation. In addition various optional accessories are offered so panels can be customised to suit site requirements. Panels for multi pump, large motors and specialised control applications can also be supplied, these being individually designed to suit the particular installation.

	TYPE	PREFIX	RATING	MOTOR
SINGLE PHASE	M	1	1	0.37 - 0.75kW
	M or D	1	2	1.1 - 1.5kW
	D	1	3	2.2kW
THREE PHASE	D|Y|S|V	3	4	1.1 - 4kW
		3	6	5.5kW
		3	8	7.5kW
		3	11	9.2 - 11kW
		3	15	13 - 15kW
		3	18	18.5kW
		3	22	22kW
		3	30	26 - 30kW
		3	45	37 - 45kW
		3	55	55kW
		3	75	75kW

STANDARD OPTIONS

Analog Ammeter (MA): Indication of current on one phase. As an option, a phase selection switch can be provided for three phase control panels.

Analog Voltmeter (PV): Indication of voltage on one phase and all phases for single-phase and three-phase respectively. A phase selection switch is included for three phase control panels.

Voltage Relay (PP): Protects against over/under voltage, phase sequence, phase asymmetry and phase failure.

Surge Protection Device (SPD): Protects equipment against indirect power surges.

Lightning & Surge Protection Device (LSPD): Protects equipment against high current surges arising from lightning strikes in addition to indirect power surges. Required for protection of equipment in buildings with Lightning Protection System.

Liquid Level Control (CL): For control of low water levels using electrodes.

Analog Frequency Meter (FF): Indication of power frequency.

Analog Hour meter (MH): Indication of running hours.

Digital Multi-Function Monitor (MD): Includes selectable amps, volts, cos φ

Timer (CT): Delay timer for automatic control, especially when using pressure switches.

Timer Switch (CS): 24hrs time switch to set the desired time for pump operation.

Level Alarm (CA): Activates an alarm to indicate high or low water levels. The alarm can be Audio (Siren) or Visual (Flasher) which should be specified during order placement.

Grundfos MP204 Controller (MP204): Includes the Grundfos MP204 integral pump controller unit and necessary fuse protection. The MP204 controller digitally monitors current consumption and asymmetry, supply voltage, phase sequence, motor temperature and insulating resistance and protects installation against dry running, mechanical motor defects and high temperature.

Note: Temperature monitoring and protection is only available for Grundfos motors with tempcon.

Auto Cycle & Auto Trip Changeover (CCA): For two pump Duty Standby operation only. Balances operating time through alternating the duty pump at each call of pressure switch/floatswitch.

Duty-Standby-Assist configuration is also available and should be specified during order placement.

Power Factor Correction Capacitors (PFC): For Reactive Energy Management, capacitors are used to improve the power factor (PF) hence power quality. Size (kvar) depends on motor load (kW), existing PF and desired PF.

Note: SPD , LSPD and PFC options are provided in separate enclosures. The can also be fitted in the pump control panel. This should be specified during order placement.

NOMENCLATURE

Panels are referenced as follows:

1 or 2: No of pumps

P: Pump Control Panel

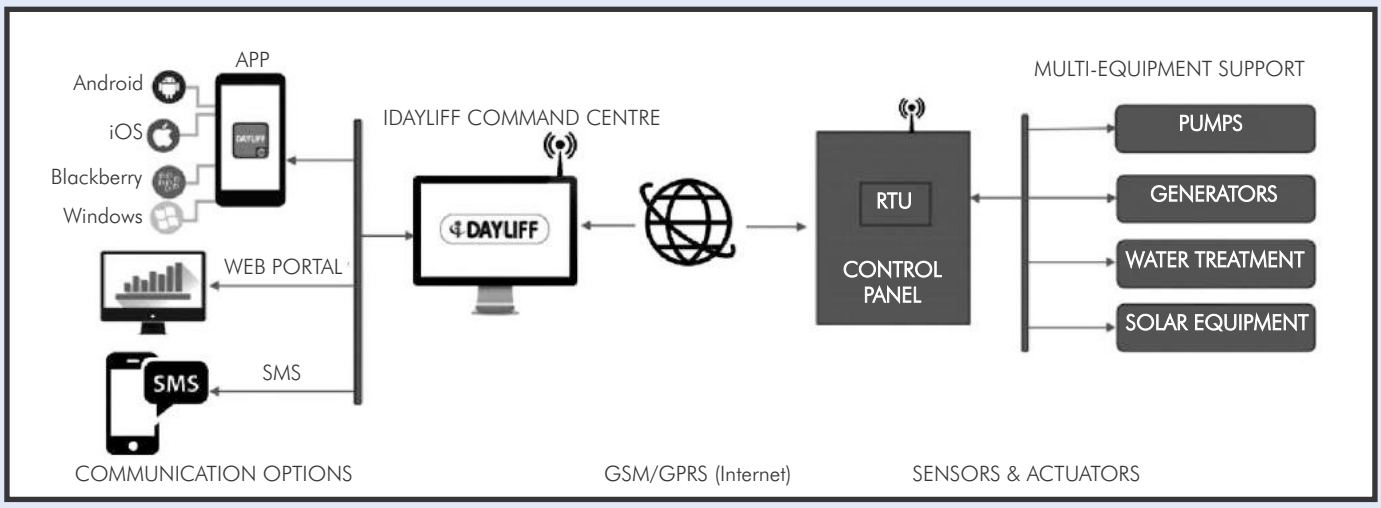
M, D, Y, S, V: Starting specification

S,P: Standard or Premium Quality

1xx, 3xx : Rating

Example: 1PDS304 – One pump, DOL start Standard panel, three phase 4kW

2PYP345 – Two pump, YD start, Premium panel, three phase 45kW



DAYLIFF is a high specification internet-based system for remote monitoring and control of equipment. It is available as an option with any DAYLIFF pump, generator, solar and water treatment installation and provides users with specific information regarding the operation of their equipment. The iDAYLIFF system is built on modern infrastructure to ensure reliability, speed and accuracy of information.

RTU (Remote Terminal Unit)

The heart of the system is the RTU controller that monitors various selected conditioned signals and relays the data to the iDAYLIFF Command Center from where such information is disseminated to respective mobile phones and internet applications. The RTU is fitted with a SIM card and so the installation must have a mobile GSM network signal available to operate. It then transmits the data received in selectable communication channels depending on availability.

iDAYLIFF Command Center

This forms the data terminal for the entire system. Data sent from the various RTUs are received, interpreted, stored and dispatched to various channels. It also issues user generated commands to the RTUs to action on the monitored equipment.

Depending on system specification and fitted sensors, the iDAYLIFF user is able to see real time equipment operation status, alarms and parameter readings such as:

- Start and Stop.
- Trip due to overload.
- Current and Voltage
- Power supply failure.
- Water flow rate and system pressures (special sensors required)
- Energy consumption (special sensor required)

The user is also able to perform the following:

- Start and stop equipment.
- Schedule equipment operations.
- Report emergency conditions to the iDAYLIFF Field Service team.

Multi-Platform Mobile Application

An iDAYLIFF App is available for all popular mobile and computer platforms – Android, iOS, Microsoft (Windows Phone & Windows 10) and Blackberry. The app receives information through automated Push Notifications to the user in real time.

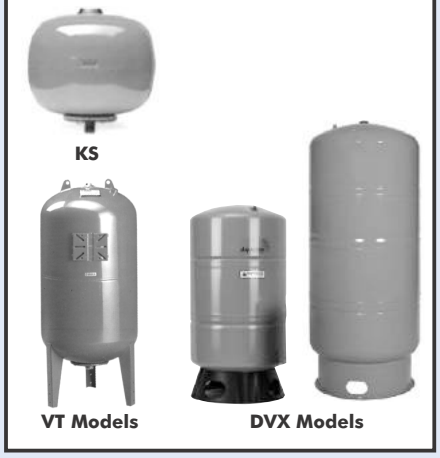
iDAYLIFF Web Portal

Features a web version of iDAYLIFF that can be accessed via the internet and provides a dashboard showing graphical data of equipment status and history. The web portal includes a choice to receive notifications via e-mail regarding the status of the equipment.

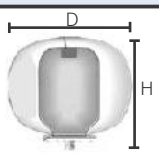
SMS Notification

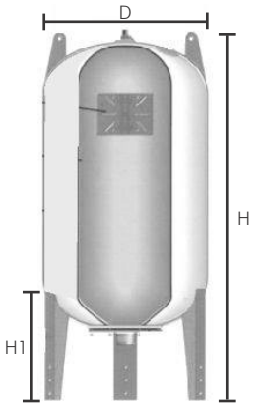
Alerts are delivered on an event based frequency via SMS texts to the selected users. SMS is specifically meant for areas with low GPRS coverage.

iDAYLIFF enables equipment operators to improve operating efficiency and monitor system non-conformities that will greatly improve the reliability of water and energy supply, the only running cost being SMS and data bundle charges. The technology is well-proven and reliable and iDAYLIFF is an invaluable tool that reduces overall system operating costs.



TANK DATA





Model	Volume (Litres)	Max Pressure (Bar)	Outlet DN	Dimensions (mm)			Gross Wt (kg)	Packed Volume (m^3)
				D	H	H1		
KS	24	8	1″	360	335	-	6	0.047
VT60	60	8	1″	380	850	165	17	0.150
VT100	100	10	1″	450	965	170	26	0.240
VT300	300	10	1½″	630	1400	160	59	0.600
DVX58	60	10	1″	381	620	130	10	0.108
DVX100	100	10	1″	381	985	130	16	0.170
DVX305	300	10	1¼″	559	1450	130	47	0.462

Max Temperature Range -10°C - +100°C **Test Pressure** - 1.5 times the max. working pressure

Pressure tanks are important components of pressurised booster supply systems where automatic pumped water supply is provided by means of pressure switch controlled pumps. The tanks have two functions; to cushion pressure surges as the pump starts and stops and also to provide a drainage supply into the system to control pump cycling. Options are as follows:-

Dayliff VT series pressure tanks have been specially designed for pressurised booster installations and are also suitable for firefighting and irrigation systems. The design incorporates a replaceable butyl rubber membrane which offers the following features:-

- Suitable for all types, including corrosive and hard, waters as the water only comes into contact with the membrane.
- Membrane design eliminates the necessity for constant air recharging.
- Horizontally collapsing membranes (except KS model) avoids contact with tank sides and therefore increases life.
- Membrane is simply replaceable.

Dayliff DVX series are higher specification diaphragm type tanks which are specially suited for medium to heavy duty pressure boosting and storage applications where value and reliability are demanded. Features include;

- Polypropylene liner and butyl diaphragm for long life and safety.
- Corrosion resistant baked epoxy coating finish.
- Leaf-free, O-ring sealed air valve cap dispensing the need for maintenance.
- AISI S/S 304 water connection to protect against corrosion

All Dayliff pressure tanks are thoroughly tested and conform to various international standards and when properly specified will provide many years of reliable maintenance free operation

PRESSURE TANK SIZING GUIDE

Correct tank sizing is important and is determined by the system flow rate and pump start and stop pressure settings. Sizing must be based upon the system flow at which the maximum cycle frequency occurs. As a rule of thumb this can be taken as 65% of the flow at pump stop pressure.

Required draining volume is then the maximum cycle frequency flow divided by twice the specified maximum number of cycles per hour. Generally 60 cycles per hour is considered acceptable. Tank size selected is then that nearest to the volume required. Drainage volume is as follows:-

Tank Pre-charge (Bar)	1.35	1.65	1.85	2.35	2.35	2.83	3.85	4.85
Pump Start Pressure (Bar)	1.5	1.8	2.0	2.5	2.5	3.0	4.0	5.0
Pump Stop Pressure (Bar)	2.5	3.0	3.5	4.0	4.5	4.5	6	7.5
Drainage (%)	26	28	31	28	34	26	28	29
Tank Model	**Drainage Volume (Litres)**							
KS (24 Litres)	6	7	7	7	8	6	7	7
VT 60/DVX58 (60 Litres)	15	17	19	17	21	16	17	17
VT 100/DVX100 (100 Litres)	26	28	31	28	34	26	28	29
VT 300/DVX305 (300 Litres)	77	83	93	85	103	78	83	86

Note that when specifying pressure systems the following is important:

- Correct tank pre-charge is critical and must be 0.15 Bar below the pump start pressure. Efficiency is greatly reduced if pre-charge is either too high or too low.
- Ensure that the difference between start and stop pressure is as high as possible as the larger the differential the greater the tank drainage capacity.
- Ensure the pump start pressure is higher than the system static pressure or else the pump will not start.
- Adjust pump stop pressure to be about 90% of the pumps closed head pressure.

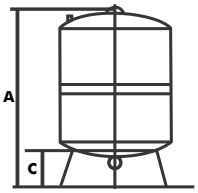
SELECTION EXAMPLE

System Parameters

Pump Stop Pressure = 4.5 Bar
Stop Flow = 11m^3/hr
Pump Start Pressure = 2.5 Bar
Start Flow = 16m^3/hr
System flow at maximum cycle frequency = 65% of Pump Stop Flow = 0.65x11=7.2m^3/hr or 7200l/hr
Max Cycle frequency = 60cycles/hr therefore required drainage volume = 7200/60x2=60litres

From table: 100 litre tank has drainage volume of 34 litres at defined pressures.
300 litre tank has drainage volume of 103 litres at defined pressures.
Therefore select either 2x100litre tanks (68 litres drainage volume) or 1x300 litre tank (103 litres drainage volume).

1. Leak free, o-ring sealed air valve cap
2. Single diaphragm design
3. Two part polyurethane, epoxy primed paint finish
4. Virgin polypropylene liner
5. Patented stainless steel water connections



Model	Max. Pressure (bar)	Type	Dimensions			Weight (kg)
			A	B	C	
GWS24	10	Diaphragm	447	293	–	9
GWS60	16	Diaphragm	620	390	127	15
GWS100	16	Diaphragm	804	431	129	22
GWS300	10	Bladder	1511	534	130	79
GWS300	16	Diaphragm	1230	640	130	79

Pressure vessels are important components in automatic booster systems, the vessels cushioning pressure surges as the pump starts and stops and also provide drainage supply in to the system to reduce pump cycle frequency.

DAYLIFF Global Max pressure tanks are high specification units that are suitable for high pressure applications and include the following features:

- Super thick steel construction with polyurethane and epoxy painted paint finish for corrosion protection
- Polypropylene liner so tanks can be used for corrosive and hard waters
- Special diaphragm and air valve design that eliminates air leaks and the need for maintenance.

DAYLIFF Global Max pressure tanks are comprehensively tested and quality approved by a number of international standards organisations and are also FDA food grade approved pressure tanks. They are the ideal solution for all high specification water booster applications and will provide many years of maintenance free operations.

PRESSURE TANK SIZING GUIDE

Correct tank sizing is important and is determined by the system flow rate and pump start and stop pressure setings. Sizing must be based upon the system flow at which the maximum cycle frequency occurs. As a rule of thumb this can be taken as average flow between the cut-in and cut-out flow rates.

Required drain volume is then the maximum cycle frequency flow divided by twice the specified maximum number of cycles per hour. Generally 60 cycles per hour is considered acceptable. Tank size selected is then that nearest to the volume required. Some selected examples are as follows;

Pump Start Pressure (Bar)	2.5	3	3	4	5	6	10
Pump Stop Pressure (Bar)	4	5	6	8	10	12	15
Drainage (%)	28	31	41	43	43	45	29
Tank Model	**Drainage Volume (Litres)**						
GWS 24 Litres	7	8	10	11	11	12	7
GWS 60 Litres	17	18	24	26	26	27	17
GWS 100 Litres	28	31	41	43	43	45	29
GWS 300 Litres	84	93	123	129	179	135	87

- Correct tank precharge is critical and must be 0.2 Bar below the pump start pressure for pressure switch systems or 65% of the pump stop pressure for variable speed systems. Efficiency is greatly reduced if precharge is either too high or too low.
- Ensure that the difference between start and stop pressure is as high as possible as the larger the differential the greater the tank drainage capacity.
- Ensure the pump start pressure is higher than the system static pressure or else the pump will not start.
- Adjust pump stop pressure to be about 90% of the pumps closed head pressure.

NOTE: Oversizing tank size has many advantages including reduced energy consumption, reduced cycling, extended pump life due to reduced wear and reduced noise. As a rule doubling the calculated size will bring substantial benefits.

SELECTION EXAMPLE

System Parameters

Pump Start Pressure: 5 Bar

Pump Stop Pressure: 10 Bar

Stop Flow: $5m^3/hr$

Start Flow: $10m^3/hr$

Required Drainage Volume:

$$= \frac{\text{Average Flow Rate}}{\text{start per hour}} /2 = \frac{7500ltr/hr}{60\ starts/hr} /2 = 63ltr$$

Drainage % based on start/stop pressure as per table: 43%

Required Tank Volume:

$$= \frac{\text{Required Drainage Volume}}{\text{Drainage \%}} = \frac{63}{0.43} = 146ltr$$

Tank Specification:

Use 2x100ltrs or 3x60ltrs

1. PUMP TYPES

There are two principal categories of pumps:-

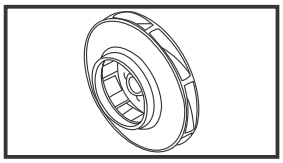
Positive Displacement use the principal fluid displacement by a mechanical device and have the characteristics of when priming at a constant speed they pump fluid at a fixed flow irrespective of system pressure. There are two main types, reciprocating and rotary, the most common being the rotary peripheral type as used for small domestic pumps, though they come in many configurations.

Rotodynamic Pumps depend upon the rotation of a rotor to provide the pumping force and have the characteristics that at a given speed flow varies with pressure. They are further classified according to the type of rotor into radial flow, mixed flow and axial flow types. In radial flow pumps fluid moves through the rotor (or impeller) in a radial direction and pressure is developed by centrifugal force.

In axial flow pumps the fluid is pumped through the rotor (or propeller) in a direction axial to the motor shaft and pressure is developed by the lifting action of the propeller. Mixed flow pumps have impellers that are a mixture of both types.

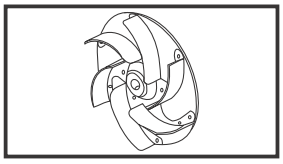
The most common rotodynamic pump is the centrifugal type, which are mechanically simple, efficient and economical. Centrifugal pumps also have different types categorised by the impeller design as follows:-

Closed Impeller
The impeller vanes are enclosed between two discs. This is the most efficient design though is only suitable for clear water as the vanes tend to clog when pumping suspended solids.

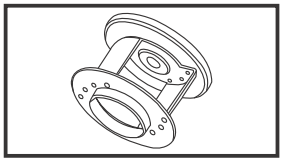


Open Impeller
The vanes are open on one side which improves silt handling capacity but reduces efficiency.

Vortex Impeller
Pumps by creating a vortex in the pump chamber so providing a freer flow passage giving improved silt and solid handling capacity.



Single and Double Channel Impeller
Designed with large flow passages within the impeller for the pumping of fluids with large size solid content.



Cutter & Grinder Impellers
Specialised designs for macerating string materials and small solids before being passed as sludge through the pumps.

When choosing a pump it is most important to select the correct impeller type and impeller materials to avoid operational problems. Generally if water is clean and thin with no suspended solids a closed impeller or peripheral pump should be used. For silted or polluted water an appropriate impeller type should be selected, details of pumps' capacity and applications being given in the product data.

2. PUMP SELECTION

There are three principal performance parameters relating to pump selection:-

- Flow (or Capacity)
- Total Delivery Head
- Suction Lift

2.1 Capacity

Required capacity, measured in flow per unit time is determined by one of two factors:-

- If there is storage capacity it is related to total daily demand. Daily demand must first be estimated and then the hourly requirement calculated by dividing the daily demand by the number of hours the pump is required to work.
- If there is direct supply pump capacity should be related to peak hourly demand. This would be appropriate in irrigation or pressure systems.

Capacity is measured in various units including gallons per hour (gph), gallons per minute (gpm), litres per minute (l/min) and cubic metres (1000 litres) per hour (m^3/hr). All Davis & Shirtliff products are rated in cubic metres per hour (m^3/h), conversion factors being given in Section C.

2.2 Total Head

There are three principal components to total head of importance when specifying a pump: static head, dynamic head (friction loss) and pressure head.

Total Head = Static Head + Dynamic Head + Pressure Head

Static Head (H)

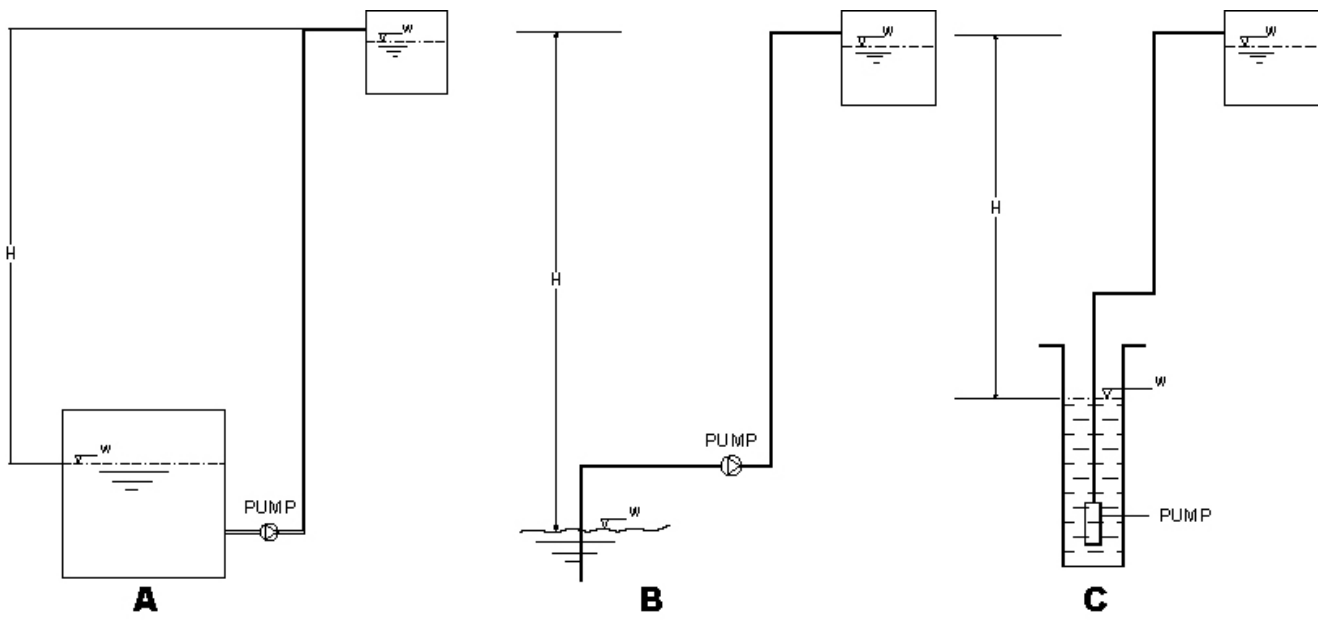


DIAGRAM 1 - Static Head Conditions

Static head is the vertical linear distance between the level of the water being pumped and either the delivery outlet or the reservoir water level, whichever is higher (see A&B). Of great importance to note is that it is not necessarily the distance between the pump itself and the delivery point. This has particular reference to submersible pumps where the level the pump is set in the water does not determine static head. It is determined by the pumping water level (see C). In summary the static head may be considered as the vertical height difference between the water level at the source and the level at the highest point of delivery.

2.3 Dynamic Head

The only important component of dynamic head is pipe friction, this being determined by water velocity in the delivery pipe. The higher the velocity the higher the friction loss and it is important to match the pump to the pipeline. Friction loss values for GI and PVC pipes are given in table 1. Some important points to note when matching pumps and pipelines are:-

- The smoother the pipe's internal surface, the less the friction loss experienced.
- The larger the pipe diameter for a given flow, the less the frictional loss experienced.
- Friction losses are considerably lower in PVC pipes than GI ones. For long pipelines the use of PVC will therefore reduce pump size and energy consumed.
- For long pipe lines the piping cost can be considerably more expensive than the pumping installation and a pipe size smaller matched to a pump size larger can reduce the investment cost. Running costs will be higher though.
- Total head reduces up the pipeline and lighter duty pipes can be used towards the system's delivery point.

Total friction loss for a pipeline, $H_f = (FxL)/100$

Where:-

F = Friction loss given for a particular flow in a specified pipe size (m per 100m pipe length).
L= Pipe length (m)

Pipe friction is not linear and increases logarithmically as velocity (or flow) increases. A typical friction loss curve is given below.

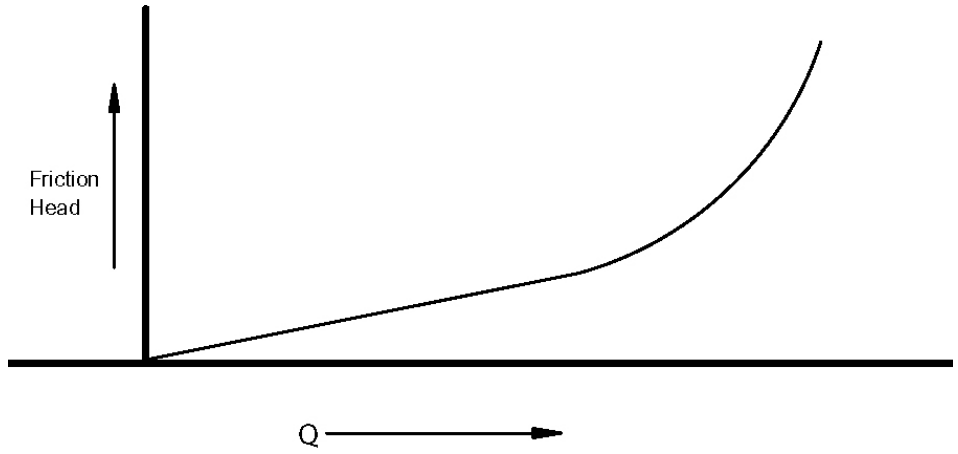


DIAGRAM 2 - Typical Friction Head Loss Curve

This diagram can be plotted using friction loss values given for a particular pipe specification at different flow rates.

2.4 Pressure Head

When delivering to an open outlet pressure at the delivery point is zero and so in most water supply installations this is not a factor in total head calculations. However, when pressure delivery is required e.g. for fire installations or irrigation nozzles the required pressure at the nozzle must be included when calculating total head.

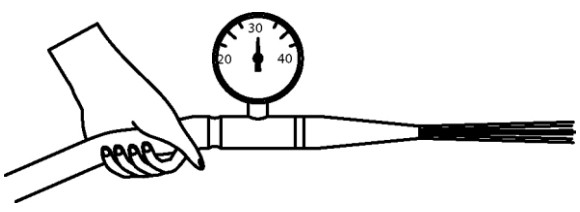


DIAGRAM 3 - Pressure Head Condition

2.5. System Head Curves

In order to find the total head required on a pump, static head plus dynamic head plus friction head must be added. This can be done graphically as follows:

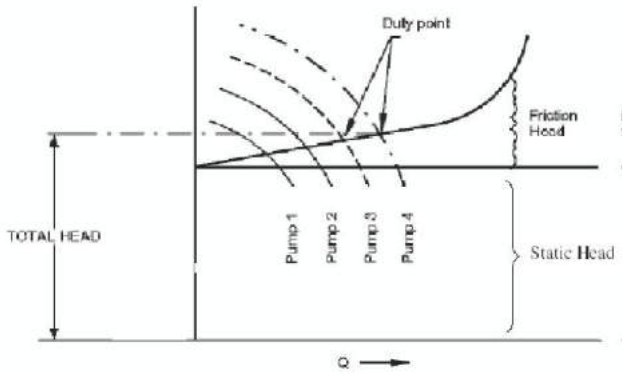


DIAGRAM 4 - System Head Curve

From the above graph pump 3 or pump 4 can be selected, depending upon required pump capacity.

2.6. Suction Lift

Centrifugal pumps have the capability of creating a vacuum in a suction pipe which enables them to suck water from below their setting level. The maximum theoretical suction lift is 1 atmosphere (approx 10m), though the maximum practical lift is well below this.

Maximum suction lift is determined by the formula:-

$H_{max} = A - NPSH - H_f - H_v - H_s$

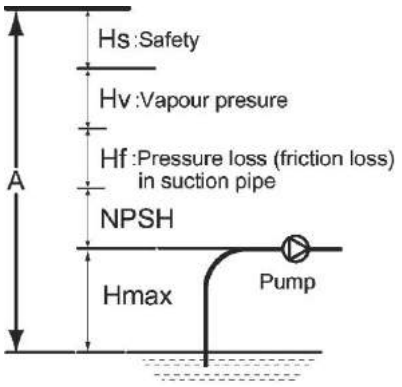


DIAGRAM 5 - Suction Lift Conditions

Considerations relating to the various parameters are as follows:-

A - *Atmospheric pressure. At sea level it is 10.3m reducing by approximate 3% per 300m rise in elevation above sea level. Suction lift is therefore reduced at higher altitudes.*

NPSH - *The suction characteristic of the pump which is shown on the pump manufacturer's curve.*

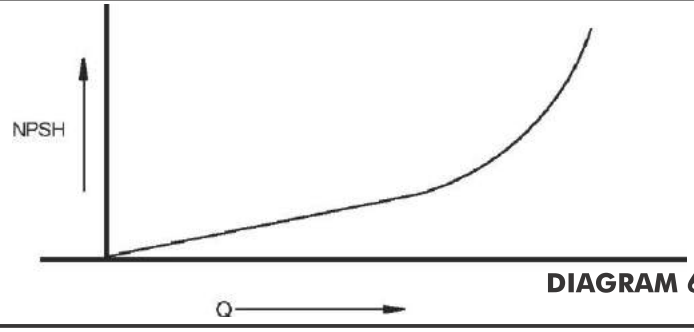


DIAGRAM 6 - Typical NPSH Curve

The higher the flow the higher the NPSH and therefore the lower the available suction lift.

H_f - Friction loss in the suction pipe. This is calculated in a similar way to friction loss under section 1.5.2. The value increases with increasing flow thereby reducing the available suction lift.

H_v - The water vapour pressure. This is an important factor for liquids above 30°C, though is not important at normal ambient temperatures.

Vapour pressure values are as follows:-

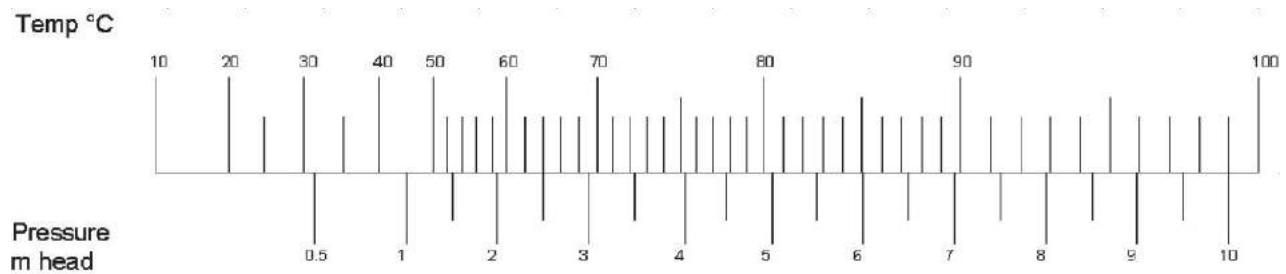


DIAGRAM 7 - Vapour Pressure Values

H_s - A safety margin, usually 1 m being acceptable.

Some general points about suction performance are as follows:-

- It is good practice to keep suction lift as low as possible and suction pipes as short as is practical.
- Suction pipes must be totally airtight. If there are any leaks the pump will be unable to create the vacuum condition for suction to occur.
- Suction pipes must be straight and laid to rise continuously to the pump. If there are any leaks in the pipe air pockets will form and the system will become air locked.
- Suction pipes must be generously sized, one size larger than the delivery pipe being standard practice. Also all suctions should be fitted with foot valves.
- Where the distance from the pump mounting point to the water level is greater than the available suction lift either a submersible or a jet pump should be used.

3. CENTRIFUGAL PUMP PERFORMANCE

3.1 Performance Parameters

When specifying centrifugal pumps it is important to understand the various parameters that effect pump performance and their relationship with one another.

Typically a pump curve will provide the following information.

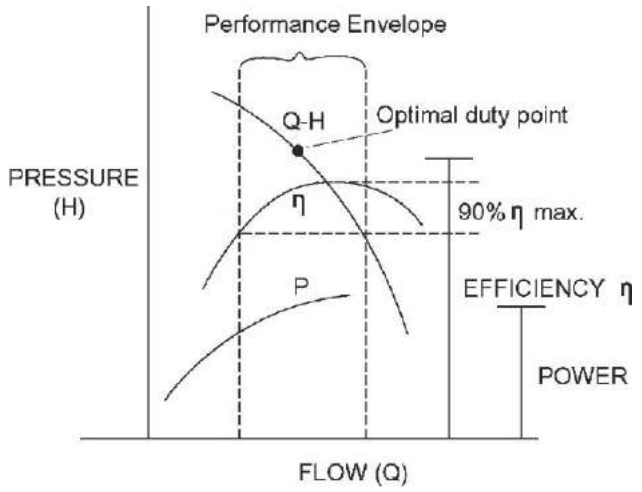


DIAGRAM 8 - Typical Centrifugal Pump Performance Curve

Three plots are given against flow - Pressure (or Q-H curve), Efficiency (η) and Power absorbed.

Pressure: Otherwise known as the pump performance or Q - H curve and plots the pressure/flow profile of the pump.

- At zero flow the pump will provide its maximum pressure (closed head pressure).
- At zero head the pump will provide its maximum flow.

Efficiency (η): The efficiency curve is the plot of overall efficiency against flow or the ratio of power applied to the hydraulic power output. Points to note are:-

- The pump's optimal duty point is that at which peak efficiency occurs and is usually around the mid point of the curve. The optimal performance envelop is the flow range which is greater than 90% of the pump's maximum efficiency and applications should be within this envelope.
- Efficiency drops considerably at high pressures and high flows and specifying a pump to operate in these sections of a curve must be avoided.
- Efficiency is the most important factor in the operating costs of a pump due to energy representing about 85% of the total life cycle costs while typically the purchase price will represent only about 5%. It is therefore most important to choose the optimal efficiency pump available, even if its purchase price may be higher.

Power: The power curve is a plot of power consumed against flow. Points of note are:-

- Maximum power consumption of a pump occurs at high flows/low pressures. Usually power consumed at high pressures is lower.
- When coupling motors to pumps it is important to ensure that the power consumed at open delivery is less than the motor size or else motor failure may occur.

The following parameters affect pump performance:-

- Speed
- Impeller Diameter
- Number of impellers

Speed:
Impeller speed effects power consumed and pump performance as follows:-

- *Speed = f (power^3)*
  Doubling Speed increases power consumed by a factor of $2^3 = 8$
- *Speed = f (Pressure^2)*
  Doubling Speed increases pressure by a factor of $2^2 = 4$
- *Speed = f (flow)*
  Doubling Speed increases flow by a factor of 2

Impeller Diameter:
Impeller diameter effects pump performance in a similar way to speed.

- *Diameter = f(Power^3)*
  A 10% decrease of impeller diameter reduces power consumed by $(0.9^3-1)x100 = 27\%$
- *Diameter = f(Pressure^2)*
  A 10% decrease of impeller diameter reduces pressure by $(0.9^2-1)x100 = 19\%$
- *Diameter =f(Flow)*
  A 10% decrease of impeller diameter reduces flow by $(0.9-1)x100 = 10\%$

Number of Impellers:

- Adding impellers in series increases pressure though has no effect on flow. This is the effect of a multistage pump.
- Adding impellers in parallel increases flow though has no effect on pressure. This is the effect of two pumps connected in parallel.

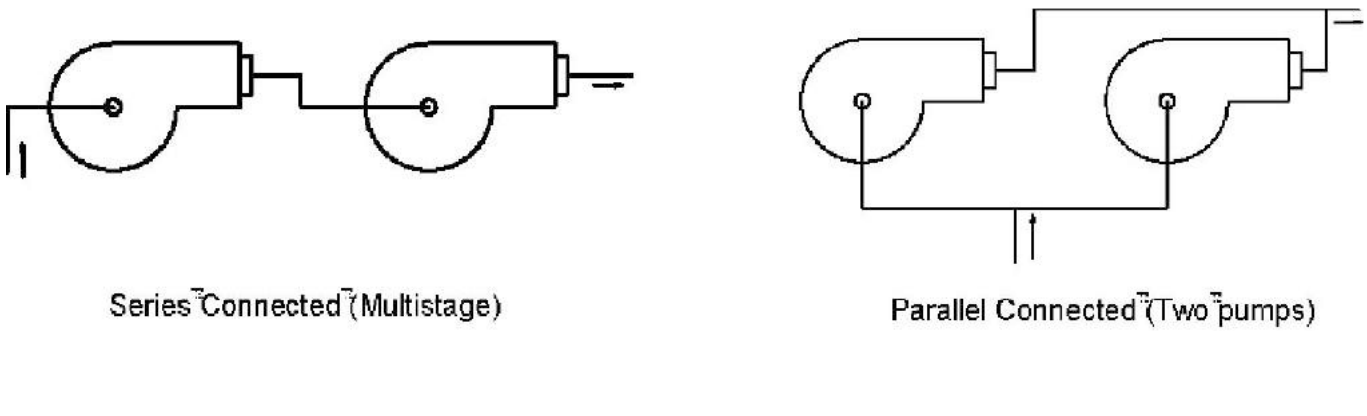


DIAGRAM 9- Impeller Configurations

3.2 Pump Shaft Horse Power

Pump Shaft Horse Power can be calculated from the formula:-

$$HP = \frac{Q \times H}{275x}$$

Where Q = flow in m^3/hr, H = Head in , η = Pump Efficiency

Most pumps are powered by electric motors and a correct electrical installation is essential to ensure effective operation of the pump.

1. MOTOR STARTING

The type of motor starter depends upon the type of motor being installed.

Small Single Phase Motors
Most small single-phase pumps are designed to operate without a remote starter and can be connected directly to the mains via an appropriate fuse or MCB. These pumps have built in thermal overload protection, which stops the motor in the event of an electrical or mechanical overload.

Large Single Phase Motors
Large single phase motors, usually greater than 1.5HP usually do not have built in motor protection and a Direct-on-Line starter should be used. If in doubt consult the pump supplier.

Small Three Phase Motors
Three phase motors for centrifugal surface pumps up to 7.5HP (5.5kW) need a Direct-on-Line starter with appropriate overload relay. Details are given in table 4.

Large Three Phase Motors
Three phase motors from 7.5kW to 30kW are usually specified with a Star Delta starter with appropriate overload relay. Details are given in table 4.

Borehole Pumps
Due to the particular design of a borehole pump motor manufacturers recommended the use of Direct-on-Line starters for all motor sizes up to 25kW and Auto-Transformer or suitable alternatives for motors above that size. Star Delta starters are not recommended.

2. MOTOR PROTECTION

Current overload can be caused by electrical or mechanical overloads in the motor or non-standard electrical supply voltages. All motor starters provide protection against current overload, the protection level being determined by the overload relay setting. It is very important to ensure that the overload relay fitted to the starter is correctly rated and set, these being determined by the full load current of the motor (see table 4). The correct overload setting is 5% above the full load motor current for DOL starters and 60% of the full load current for Star-Delta starters.

Irrespective of whether a starter is fitted or not, all pump installations must be provided with a switched coarse current protective device (either a fuse or MCB) which should be rated approximately 50% above the full load motor current.

For more sophisticated or high cost installations additional protection is often necessary and protective relays for sensing over and under supply voltage, phase asymmetry and phase failure are often provided. These units are installed as a supplement to the motor starter. Also available are electronic controllers which as well as providing a normal starting facility (usually DOL), also provide integrated current, voltage and run dry protection. It is important to discuss options with the pump supplier so the best motor protection accessories are specified.

3. PUMP CONTROLS

3.1 Level Control

Level controllers can be used to start and stop pumps either at high level or low level. A conventional installation is shown below.

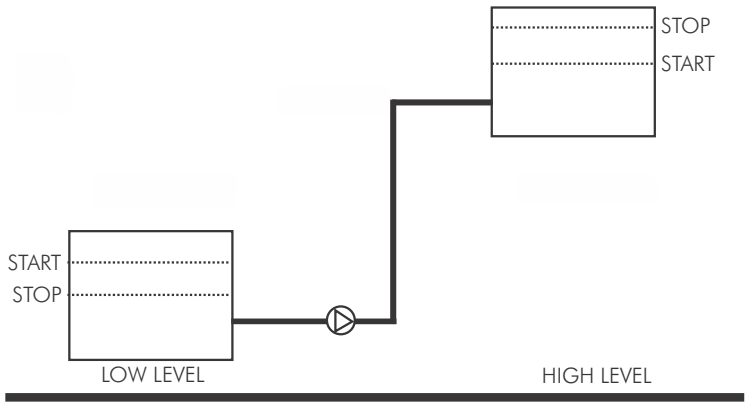


DIAGRAM 10 - Typical Pump Control Installation

Low level control is provided for pump protection to stop the pump in the event that the supply reservoir empties.

High level control is provided to stop and start the pump according to demand at the delivery reservoir.

Three types of level controllers are popularly used:-

Float Switch: This is the simplest device and operates via a float activating a lever which makes and breaks the electrical circuit. High and low level switching is adjusted by stops on a string. The advantage of these devices is their low cost, though they tend to be the least reliable of the options available.

Saddle Switch: The paddle switch is suspended above water level and makes and breaks the electrical circuit by changing from the vertical to the horizontal position. The device is reliable, economic and simple to install, though is restricted to fairly small level differentials.

Electrode Control: This is an electric device operated by means of suspended electrodes. Though the most expensive option, it is easy to install in difficult sites and provides precise level control.

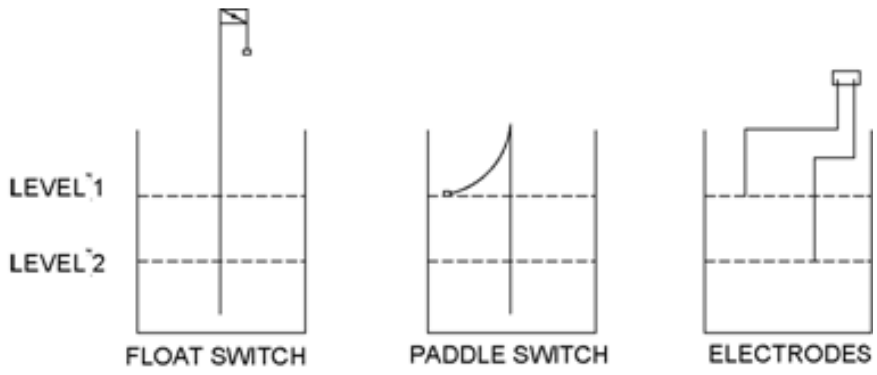


DIAGRAM 11 - Types of Level Controllers

Level controllers are generally operated by making or breaking the control circuit on a relay (often incorporated into the motor starter), which starts and stops the pump motor. For small pumps switches can be installed directly onto the pump's electrical supply, though care should be taken to make necessary connections on the neutral line to prevent switch damage.

3.2 Pressure Control

Pressure switch devices are used for two functions:-

Pressure Control: To start and stop a pump instead of a level controller. Such installations are necessary when the pump is some distance from the delivery point and cabling would be expensive. Pressure control requires an appropriately rated pressure switch wired through the pump starter to start and stop the pump at preset pressures. Pump cycling is avoided by using a time delay on the starter and a small surge vessel.

Pressure Supply: To control the operation of one or more pumps depending upon site demand. For larger systems a pressure switch is used to switch the pump. Pump cycling is controlled by a larger air vessel and a time delay relay should not be fitted. For smaller systems specialized integrated control devices are available including the 'Presscontrol' units which switch off a low flows and switch on at low pressures.

Systems design and vessel sizing should be referred to a pump specialist.

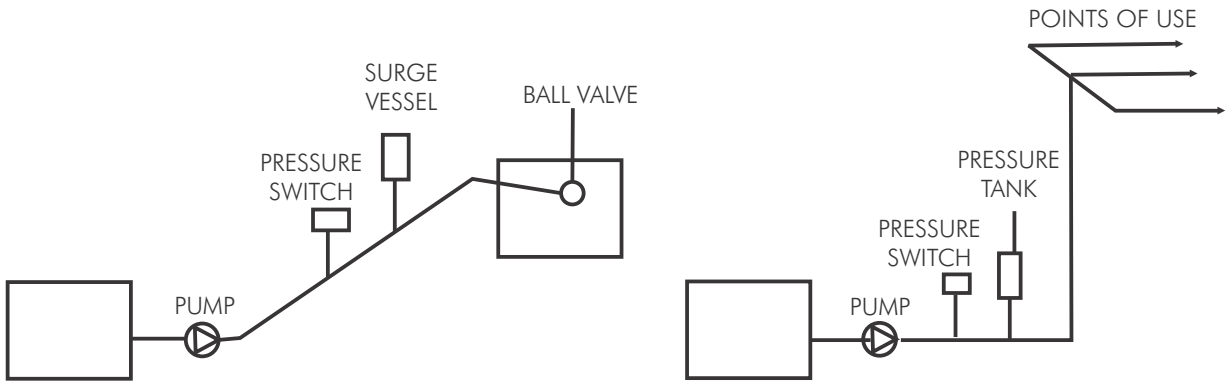


DIAGRAM 12 - Types of Pressure Control Installations

3.3 Electronic Controllers

Multi function electronic controllers are the modern and most effective form of pump control which offer the benefits of much simplified installation and a wide variety of control features. Various types are available as follows:

Presscontrol Activates pump starting when line pressure drops to a pre-set of level 1.5Bar and stops in a low flow condition, which also provides protection against dry running when there is no water in the suction.

Easypress Offers similar control features to the Presscontrol, though in addition includes auto restart in the run dry condition when water returns and adjustable cut-in pressures. The units include a built-in pressure gauge.

Brio Activates pump starting when line pressure drops to a set, though adjustable line pressure and stops on adjustable pressure so the stop pressure is not the closed head of the pump. The unit also self-adjusts to pressure drops resulting from system water seepage reducing pump cycling frequency.

Torrium The most sophisticated controller available that features an adjustable start pressure, pump stopping on low flow, an intelligent processor that adjusts pump cycling to system conditions and also protects against high running current and low incoming power supply voltage.

Variable Speed Drives Controls pump output to a fixed adjustable line pressure by varying the pump motor speed. Controllers also provide protection against running dry and non standard incoming power supply voltage.

4. ELECTRICAL INSTALLATION

Correct electrical installation for all pumps is essential to ensure adequate safety and operational efficiency. The following must be considered.

Control Panels A properly specified control panel is vital to the long life and efficient operation of all pumps with various options being available .

Cable Size: The appropriate sized cables must be used to avoid excessive voltage drops over the cable length. Voltage drops should be less than 5% from the power source to the pump, this being calculated by use of the voltage drop figures shown in table 5.

Voltage Drop = L x A x Vd
Where L = Cable Length (m)
A = Pump Operating Current (Amps)
Vd = Voltage Drop Amp/m for the cable size selected

Earthing: All installations must be correctly earthed either to the mains or to a separate earth rod installed adjacent to the control panel. Earthing has very important safety implications and a qualified electrician must be consulted on this aspect of an installation.

Wiring: Use only professional panels correctly wired to the laid down electrical standards. Inadequately wired control panels can be very dangerous and also lead to pump problems caused by bad connections.

PRESSURE

1 pound per square inch (PSI)
= 0.103 m head of water
= 2.31 feet head of water
= 0.068 Bar

1m head of water
= 3.28 feet head of water
= 1.42 pound per sq inch
= 0.097 Bar

1 Bar
= 9.8 m head of water
= 32.8 feet head of water
= 14.7 pounds per square inch

FLOW

1m^3/hr
= 16.7 litres/min
= 220 imperial gallons/hr
= 3.7 imperial gallons/min
= 277 U.S gallons/hr
= 4.6 U.S gallons per min

Imperial gallons/hr
= 1.2 U.S gallons/hr
= 4.5 litres/hr
= 0.075 litres/min

VOLUME

1 imperial gallon
= 4.545 litres
= 0.00455 cubic metre
= 1.2 U.S gallons
= 0.16 cubic feet
= 10 lbs water

1 Litre
= 0.22 imperial gallons
= 0.18 U.S gallons

1 Cubic Meter
= 20 imperial gallons
= 264 U.S gallons
= 2200 pounds water
= 35.31 cubic feet

WEIGHT

1 tonne
=1000 kgs
=2200 lbs

1 ton
= 1020 kgs
= 2240 lbs
= 20 cwt

1 Kg
= 2.2 lbs
= 35.3 ozs
= 1000 gms

1 lbs
= 160 ozs
= 454 gms
= 0.454kgs

DISTANCE

1 meter
= 3.28 ft
= 39.4 ins
= 100 cms

1 foot
=30.5 cms

1 km
= 1000 m
= 0.621 miles

1 mile
= 1.61 kms
= 5280 ft

SQUARE MEASURE

1 acre
= 4840 sq yrds
= 0.405 hectares

1 hectare
= 10,000 sq m
= 2.47 acres

TEMPERATURE

Water boils at 100°C or 212°F
Water freezes at 0°C or 32°F
Centigrade = (F-32) x $^5/_9$
Fahrenheit = (Cx$^9/_5$) + 32

POWER

1 H.P
= 746 watts
= 33,000 ft. lbs per min
= 550 ft. lbs per second

CIRCLE FORMULAE

Circumference = π D
Area = πD^2 x $^1/_4$
Surface area of a sphere = πD^2
Volume of cylinder = $\pi D^2 H$ x $^1/_4$
Volume of a sphere = $^1/_6$ x πD^3
Volume of a cone = $^1/_3 \pi D^2 H$ x $^1/_4$
D = diameter
H = height
π = 3.14

TABLE 1: PVC AND GI FRICTION LOSS TABLES

HEAD LOSS IN METRES PER 100m FOR DIFFERENT CLASSES OF PVCAND GI PIPES

Flow (m^3/hr)	3/4"			1"			1 1/4"			1 1/2"				2"				2 1/2"				3"				
	PVC		GI	PVC		GI	PVC		GI	PVC			GI		PVC		GI		PVC		GI	PVC				GI
1	D	E		D	E		D	E		C	D	E		C	D	E		C	D	E		B	C	D	E	
1.5	2.4	3.2	8.0			1.9			1.5																	
2	5.0	6.8	17.8	1.6	2.2	4.2			2.6																	
2.5	8.6	11	31.9	2.8	3.8	7.5	1.3	1.8	3.9				1.5													
3	12.9	17.4	49.8	4.2	5.7	11.6	2.0	2.7	5.7				2.3													
3.5	19.0	25.8	71.7	6.2	8.4	17.7	2.7	3.7	8.0	1.2	1.4	1.9	3.3													
4				8.5	11.6	25.2	3.5	4.7	10.3	1.5	1.8	2.4	4.3				1.0									
5				10.8	14.8	32.7	4.9	6.7	15.5	2.2	2.6	3.5	6.3				1.5									
6				15.5	21.3	50.5	6.9	9.3	21.7	3.1	3.6	4.9	9.0	1.0	1.2	1.6	2.1									
7				21.6	29.6	72.7	9.2	12.5	29.3	4.1	4.7	6.5	12.3	1.4	1.6	2.2	2.9									
8				28.8	41.8	98.9	11.5	15.6	38.8	5.1	5.9	8.1	15.6	1.7	2.0	2.7	3.7				1.2					
9							14.4	19.6	49.1	6.4	7.5	10.2	20.0	2.1	2.5	3.4	4.7				1.6					
10							17.5	23.8	60.7	7.8	9.0	12.4	24.6	2.6	3.0	4.1	5.8				1.9					
12								33.3	87.4	10.8	12.6	17.3	35.3	3.6	4.2	5.8	8.4	1.2	1.4	1.9	2.7					1.1
14										14.3	13.9	22.9	48.3	4.8	5.6	7.6	11.5	1.6	1.8	2.5	3.7					1.5
16										18.3	25.9	29.3	63.0	6.1	7.2	9.8	16.2	2.0	2.3	3.2	5.0					2.0
18														7.6	8.9	14.4	20.9	2.5	2.9	4.0	6.3	1.0	1.0	1.3	1.8	2.5
20														9.2	10.8	18.7	25.6	3.0	3.5	4.9	7.6	1.2	1.4	1.6	2.2	3.1

				2"				21/2"				3"					4"					6"			
				PVC			GI	PVC			GI	PVC				GI	PVC				GI	PVC			
				C	D	E		C	D	E		B	C	D	E		B	C	D	E		B	C	D	
20				9.2	10.8	18.7	25.6	3.0	3.5	4.9	7.6	1.2	1.4	1.6	2.2	3.1									
25				13.9	16.2	28.7	37.3	4.5	5.3	7.4	12.0	1.8	2.1	2.4	3.3	4.8					1.1				
30								6.4	7.5	10.4	17.2	2.5	2.9	3.4	4.7	6.9					1.7				
35								8.5	9.9	13.8	23.2	3.4	3.8	4.5	6.2	9.3	1.0	1.1	1.3	1.8	2.3				
40								10.9	12.5	17.7	30.3	4.3	4.9	5.8	8.0	2.2	1.2	1.4	1.7	2.3	2.9				
45								13.6	16.3	22.0	38.2	5.4	6.1	7.2	9.9	15.4	1.5	1.8	2.1	2.9	3.7				
50													7.5	9.2	12.0	19.0	1.9	2.2	2.5	3.5	4.6				
60													10.7	13.1	17.2	27.6	2.7	3.1	3.6	5.0	6.5				
70													14.3	17.8	23.0	37.3	3.6	4.1	4.8	6.7	8.8				1.2
80													17.8	23.3	28.8	48.7	4.5	5.2	6.1	8.4	11.5				1.5
90																	5.6	6.5	7.6	10.9	14.6				1.9
100																	6.8	7.9	9.2	13.5	18.0	1.0	1.2	1.4	2.4
120																	9.5	11.0	13.6	19.5	25.9	1.4	1.7	1.9	3.4
140																						1.9	2.2	2.6	4.7
160																						2.4	2.8	3.3	6.3
180																						3.0	3.5	4.1	7.9
200																						3.6	4.2	5.0	9.5
225																						4.5	5.3	6.2	11.4
250																						5.5	6.4	7.8	15.0

TABLE 2: GI PIPE SPECIFICATIONS

NOMINAL BORE (inch)	OUTSIDE DIAMETER (mm)	WALL THICKNESS (mm)			WEIGHTS (kgs per metre)			MAXIMUM WORKING PRESSURES (m)		
		CLASS A	CLASS B	CLASS C	CLASS A	CLASS B	CLASS C	CLASS A	CLASS B	CLASS C
1/2	21.4	2.0	2.6	3.3	1.0	1.2	1.5	100	200	250
3/4	27.0	2.3	2.9	3.7	1.4	1.8	2.1	100	200	250
1	34.1	2.6	3.3	4.1	2.0	2.5	3.0	100	200	250
1 1/4	42.9	2.6	3.7	4.5	2.6	3.5	4.2	85	175	200
1 1/2	48.4	2.9	4.1	4.9	3.3	4.5		85	175	200
2	60.3	2.9	4.1	4.9	4.2	5.7	6.7	70	140	175
2 1/2	76.2	3.3	4.5	5.4	5.9	8.0	9.5	70	140	175
3	88.9	3.3	4.5	5.4	7.0	9.5	11.2	70	140	175
4	114.3	3.7	4.5	5.4	10.2	12.3	14.7	55	100	140
5	139.7		4.5	5.4		15.3	18.2		100	140
6	165.1		4.5	5.4		18.3	21.8		85	100

TABLE 3: PVC PIPE SPECIFICATIONS

NOMINAL DIAMETRE (mm)	OUTSIDE DIAMETRE (mm)	WALL THICKNESS (mm)				PER 6 METRE EFFECTIVE LENGTH				IMPERIAL SIZE (inch)
		CLASS B	CLASS C	CLASS D	CLASS E	CLASS B	CLASS C	CLASS D	CLASS E	
D25	25.2			1.6	1.8				1.2	3/4
D32	32.0		1.6	1.9	2.35			1.6	1.9	1
D40	40.2		1.8	2.4	2.85		1.9	2.5	3.0	1 1/4
D50	50.2	1.6	2.2	2.9	3.5	2.1	3.0	3.8	4.6	1 1/2
D63	63.2	1.9	2.8	3.6	4.45	3.3	4.7	6.1	7.4	2
D75	75.2	2.2	3.3	4.2	5.15	4.6	6.7	8.5	10.2	2 1/2
D90	90.2	2.7	3.9	5.1	6.2	6.7	9.6	12.2	14.8	3
D110	110.2	3.3	4.8	6.1	7.55	10.0	14.3	18.4	22.2	4
D160	160.3	4.7	6.8	8.9	10.95	29.5	42.2	54.9	66.4	6
D200	200.3	5.2	7.6	10.0	12.3	37.6	53.7	69.1	83.9	7

NOTE: Maximum Pressure Ratings

Class B = 6 Bar Class D = 12 Bar
Class C = 9 Bar Class E = 15 Bar

TABLE 4: MOTOR CURRENT RATINGS, OVERLOAD & CIRCUIT BREAKER SIZES

MOTOR SIZE		SINGLE PHASE 240V			THREE PHASE 415V				
kw	HP	Max Full Load Current (A)	O/L Rating (A)	C/B Rating (A)	Max Full Load Current (A)	Direct On Line		Star/Delta	
						O/L (A)	C/B (A)	O/L (A)	C/B (A)
0.37	0.5	3.5	2.5 - 4	6					
0.75	1.0	6.0	5.5 - 8	10					
1.10	1.5	8.8	7 - 10	15	2.7	2.5 - 4	6		
1.50	2.0	11.0	9 - 13	16	3.6	2.5 - 4	6		
2.20	3.0	17.0	12 - 18	25	5.3	4 - 6	10		
3.70	5.0				8.4	7 - 10	16	4 - 6	16
5.50	7.5				12.0	9 - 13	16	5.5 - 8	16
7.50	10.0				16.0	12 - 18	20	7 - 10	20
11.20	15.0				23.0	17 - 25	32	9 - 13	32
15.00	20.0				29.0	23 - 32	40	12 - 18	40
18.50	25.0				36.0	28 - 36	50	17 - 25	50
22.00	30.0				42.0	37 - 50	63	17 - 25	63
30.00	40.0				56.0	48 - 65	80	23 - 32	80
37.00	50.0				69.0	55 - 70	100	30 - 40	100
45.00	60.0				82.0	80 - 125	125	37 - 50	125
55.00	75.0				100.0	80 - 125	175	48 - 65	175
75.00	100.0				134.0	100 - 160	225	63 - 80	225

NOTE: O/L = Overload C/B = Circuit Breaker

TABLE 5: CABLE CURRENT CAPACITY AND VOLTAGE DROP DATA

CONDUCTOR OR SIZE (mm^2)	MULTICORE AMOURED PVC INSULATED CABLE (PVC -SWA)				TWIN AND MULTICORE PVC INSULATED CABLE			
	Two core cable Single Phase supply		Three or four core cable Three phase supply		Two core cable Single phase supply		Three or four core cable	
	Max current capacity (A)	Voltage drop per amp per metre (mv)	Max current capacity (A)	Voltage drop per amp per metre (mv)	Max current capacity (A)	Voltage drop per amp per metre (mv)	Max current capacity (A)	Voltage drop per amp per metre (mV)
1.5	22	29.00	19	25.0	19.5	29.00	17.5	25.0
2.5	31	18.00	26	15.0	27	18.00	24	15.0
4.0	41	11.00	35	9.5	36	11.00	32	9.5
6.0	53	7.30	45	6.4	46	7.30	41	6.4
10.0	72	4.40	62	3.8	63	4.40	57	3.8
16.0	97	2.80	83	2.4	85	2.80	76	2.4
25.0	128	1.75	110	1.5	112	1.75	96	1.5
35.0	157	1.25	135	1.1	138	1.25	119	1.1
50.0	190	0.94	163	0.81	168	0.94	144	0.81

TABLE 6: BOREHOLE DROP CABLE SIZING

	MOTOR SIZE		FULL LOAD CURRENT	MIN. CABLE SIZE	CABLE DIMENSION						
					1.5mm²	2.5mm²	4mm²	6mm²	10mm²	16mm²	25mm²
	kW	HP	A	mm²	MAXIMUM LENGTHS FOR SUBMERSIBLE BOREHOLE CABLE (m)						
ONE PHASE	0.37	0.5	3.5	1.5	180						
	0.55	0.75	5.0	1.5	121	202					
	0.75	1.0	6.7	1.5	91	152	243				
	1.10	1.5	7.2	1.5	63	105	168	252			
	1.50	2.0	10.6	1.5	49	81	130	195	326		
	2.25	3.0	15.8	2.5		56	89	134	223		
THREE PHASE	1.10	1.5	3.1	1.5	382	636					
	1.50	2.0	3.9	1.5	303	505					
	2.25	3.0	5.5	1.5	210	350					
	3.75	5.0	8.7	1.5	131	218	349				
	5.63	7.5	13.0	2.5		155	248	372			
	7.50	10.0	17.2	2.5			184	276	460		
	11.30	15.0	24.0	4.0			126	190	316	505	
	15.00	20.0	32.0	4.0			95	142	237	308	
	18.80	25.2	40.0	6.0				114	190	304	
	22.00	30.0	46.0	10.0					164	262	380
	26.00	35.0	57.5	10.0					133	210	317
	30.00	40.0	66.5	16.0						180	275
	37.00	50.0	80.0	16.0						150	228

TABLE 7: ARMOURED CABLE SPECIFICATIONS

NOMINAL CONDUCTOR AREA (mm²)	THREE COR E - ARMOURED - 600/1000 VOLT CABLE Cable having stranded copper conductors				FOUR CORE - ARMOURED - 600/1000 VOLT CABLES Cable having stranded copper conductors			
	MAXIMUM RESISTANCE PER 1000m OF:		OVERALL DIAMETER (mm)	WEIGHT PER METRE (kg)	MAXIMUM RESISTANCE PER 1000m OF:		OVERALL DIAMETER (mm)	WEIGHT PER METRE (kg)
	Conductor (ohm)	Armour (ohm)			Conductor (ohm)	Armour (ohm)		
1.5	12.10	10.2	12.3	0.3	12.10	9.5	13.0	0.7
2.5	7.28	8.8	13.6	0.4	7.28	7.9	14.5	0.7
4.0	4.61	7.0	15.8	0.6	4.61	4.6	17.8	0.8
6.0	3.08	4.6	18.0	0.7	3.08	4.1	19.2	0.9
10.0	1.83	3.7	21.2	1.0	1.83	3.4	22.8	1.3
16.0	1.15	3.8	20.6	1.1	1.15	2.6	23.9	1.5
25.0	0.727	2.4	25.0	1.7	0.727	2.1	27.8	2.1
35.0	0.524	2.1	27.3	2.1	0.524	1.9	30.5	2.6
50.0	0.387	1.9	30.5	2.6	0.387	1.3	35.4	3.4

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