خانصاحب سايكس

Khansaheb Sykes

THE MIDDLE EAST'S LEADING DEWATERING PUMP HIRE SPECIALIST




HIRE SALES SERVICE INSTALL

[00971] 800 79537

khansahebsykes.com

CONTENTS

WELCOME TO KHANSAHEB SYKES

The past, present and future of pumping in the Middle East.

Established for over 160 years, Sykes Pumps is the UK's largest specialist hire company. Solutions focused, our industry experienced teams provide 24/7 planned and preventative pumping and specialist fluid moving, via a network of nationwide locations.

Khansaheb Sykes was set up in 1976 following our involvement with Costain International on the Shindegah Tunnel Crossing of the Dubai Creek. As a joint venture with Khansaheb Civil Engineering L.L.C., Khansaheb Sykes was created as a specialised dewatering contractor and pumping equipment supplier for building, construction and petrochemical operations together with water companies and local municipalities, we have been involved with dewatering of major infrastructure projects including Jebel Ali Port and Dubai Dry Docks.

Khansaheb Sykes employs over 150 personnel from its locations at Al Sharjah, Dubai and Abu Dhabi in the Western Region of the UAE. From our inception Khansaheb Sykes has grown into one of the most recognised dewatering companies located within the UAE and GCC countries. Our specialist knowledge in dewatering sets us apart from our competitors

From straight forward hire services to full solution provision including design, planning, project management, installation and running of complex temporary and permanent solutions. We can provide an extensive range of diesel, electric, submersible, hydraulic and air pumps to withstand the toughest applications and the most demanding environments.

With an impressive and varied client portfolio, our ability to provide a competitive and engineered solution for every pumping requirement, coupled with bespoke, flexible contract terms to suit, provides ultimate peace of mind and makes us the preferred choice when it comes to business critical equipment hire.

We look forward to working with you.

AN UNBEATABLE RANGE

We provide pumps for virtually every conceivable need and application. This guide should provide all the information you need to select the right unit for you, including detailed technical data.

- General Purpose (Diesel or Electric)
- Super Silenced
- High Performance
- Submersible Hydraulic

- Submersible Drainage
- Submersible Sludge
- Submersible Wastewater
- Submersible Borehole

For Groundwater Control Services, our in-house expertise includes specialist de-watering advice and feasibility studies, proven people and equipment, installation and removal, and backup from our depots across the middle east.

We provide a similar end-to-end approach for offshore projects including float-outs.

You also have access to an unbeatable range of accessories that includes high performance hoses, pipes and tubing, Bauer, flanged and NP16 fittings, plus cost-effective fuel supplies nationwide.

Khansaheb Sykes are proud to invest in the latest technologies and strive to improve our ever growing range of pumps and accessories. We encourage you to visit our website khansahebsykes.com as we regularly add new products and update our technical specifications.

THE SYKES CHARTER

Our mission is to be a world-class pump hire and pumping services company, helping our customers to address the real-life challenges they face - whether planned or emergency - in the fastest, most expert, professional and cost effective ways. We want to help our customers pump more and pay less.

For our extensive range of standard pumps, our commitments are:

1. We will respond to any breakdown within 4 hours of being notified.
2. We will have pumps available 24 hours a day 7 days a week.
3. In the unlikely event that we are unable to repair a pump at site then that pump will be exchanged with rapid response timing.
4. Any standard pump ordered before 12.00 midday on a normal working day will be delivered the same day (if required).
5. Free of charge site surveys will be carried out.
6. We offer a dedicated service team for routine scheduled service, breakdowns and emergency call-outs at any time covering 24 hours a day and 7 days a week.
7. Any account queries will be resolved within 14 working days.

GENERAL PURPOSE

Sykes' general purpose GP Range has long been considered the industry standard for Contractors, Water Companies and Utilities. The Sykes Univac range has evolved over many years and is specifically designed for arduous duties and applications.

Maximum performance and reliability is achieved by incorporating tried and tested components, resulting in the GP Range becoming the market leader in 50 – 300mm heavy duty pumps.

Used wherever there is a need for automatic self-priming, the GP Range incorporates the unique Sykes Univac vacuum system, enabling the pump to prime and re-prime automatically from dry and operate with the suction intake intermittently exposed to the atmosphere.

GP pumps are available with alternative prime movers and mountings, together with a wide choice of accessories and fittings for all kinds of applications. Robust design built for the toughest site conditions.

We can offer a range of engines with our standard GP range (50 to 300) and our WP pump. This range can also be offered as electric as an alternative to diesel.

Other modifications available such as:

- Road towable chassis
- Lowering pump for improved suction lift and for specialist applications such as float outs

Control options include:

- Manual start/stop
- Auto Start/Stop with water level sensor
- Solar panel charging
- Full telemetry service for performance monitoring and remote control

For more information regarding these options, call our team on 0800 79537 today.

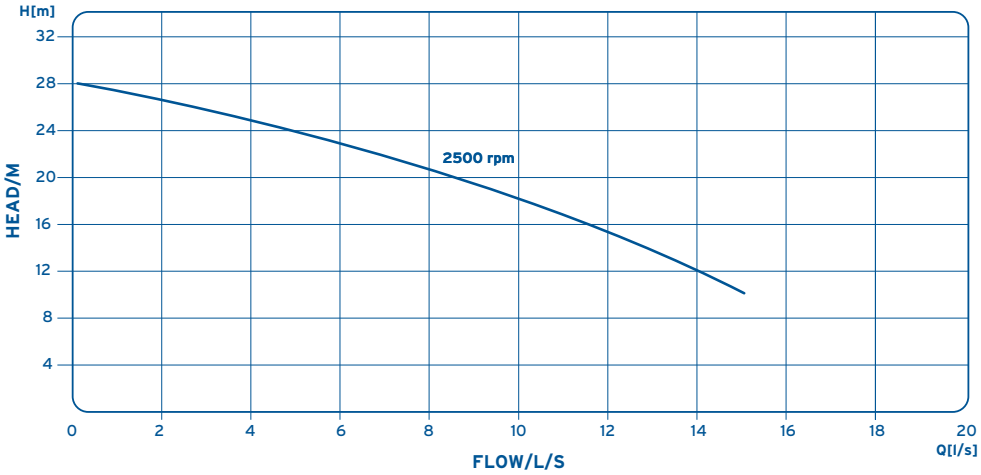
MINIVAC ECO

PUMP PERFORMANCE

Performance:	Max head: 28 m
	Max flow: 15 l/s
	Max solid: 28 mm
Weight:	180 kg with fuel
	168 kg without fuel
Dimensions: (L x W x H) mm	1,350 x 600 x 840
Noise level:	@ 7m = 70 - 77 dBA
Fuel tank capacity:	5 litres. Max 8 hours separate 24 hour fuel tank available
Pipe connections:	Suction: 3" BSP Female thread
	Discharge: 2" BSP Female thread
	Bauer couplings option 2" or 3"
Typical Fuel consumption:	Fuel Consumption @ 2,000 rpm: 0.71 litres/hour

Fuel efficiency varies subject to engine type and operating conditions

Bespoke options available please see page 29



Performance and fuel consumption may vary, call 0800 79537 for further information

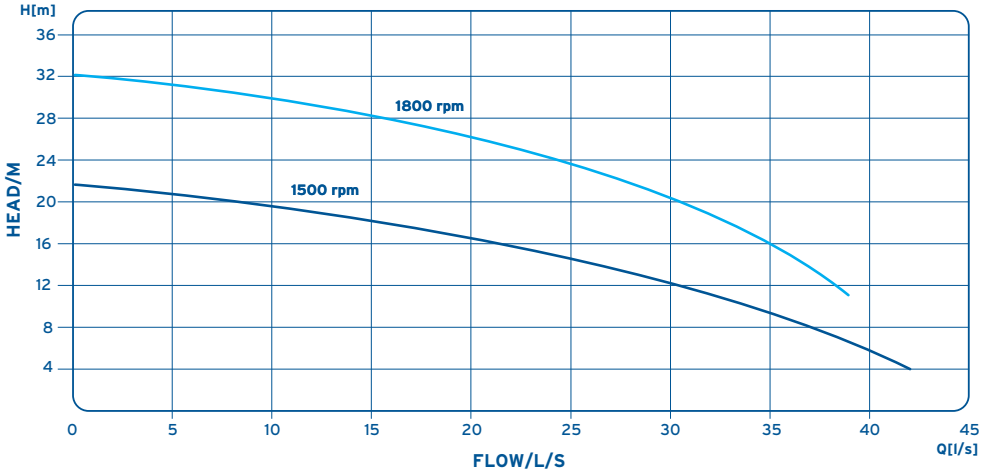
GP100M

Bespoke options available
please see page 29

PUMP PERFORMANCE

Performance:	Max head: 31 m
	Max flow: 45 l/s
	Max solid: 44 mm
Weight:	1,026 kg with fuel
	907 kg without fuel
Dimensions: (L x W x H) mm	2,100 x 1,445 x 1,550 Typical length including tow bar 2,820
Noise level:	@ 1m = 94 - 98 dBA
	@ 7m = 77 - 82 dBA
Fuel tank capacity:	140 litres. Max 24 hours with cleaning and flushing facilities
Pipe connections:	Suction: 4" table D
	Discharge: 4" table D
	Bauer couplings option: 4"
Typical Fuel consumption:	Fuel Consumption @ 1,500 rpm: 2.9 litres/hour

Fuel efficiency varies subject to engine type and operating conditions



Performance and fuel consumption may vary, call 0800 79537 for further information

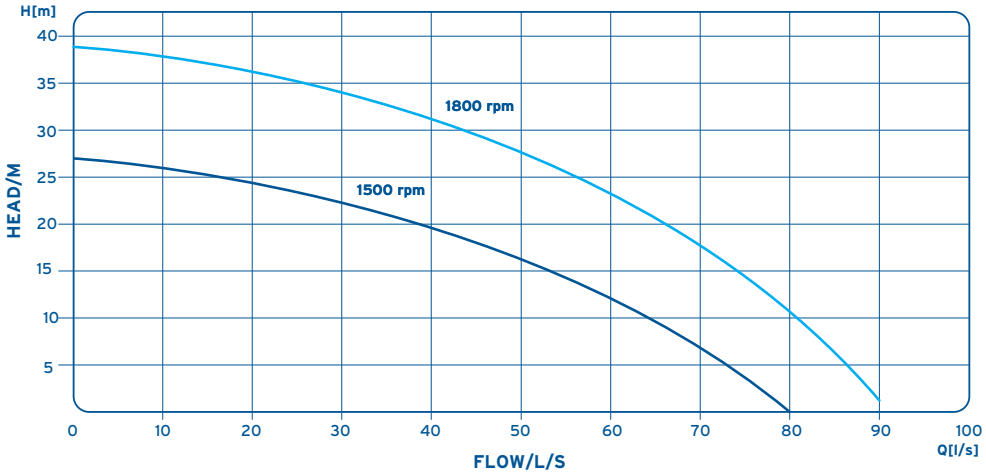
GP150M

Bespoke options available
please see page 29

PUMP PERFORMANCE

Performance:	Max head: 38 m
	Max flow: 90 l/s
	Max solid: 52 mm
Weight:	1,252 kg with fuel
	1,133 kg without fuel
Dimensions: (L x W x H) mm	2,200 x 1,445 x 1,550 Typical length including tow bar 2,920
Noise level:	@ 1m = 94 - 98 dBA
	@ 7m = 77 - 82 dBA
Fuel tank capacity:	140 litres. Max 24 hours with cleaning and flushing facilities
Pipe connections:	Suction: 6" table D
	Discharge: 6" table D
	Bauer couplings option: 6"
Typical Fuel consumption:	Fuel Consumption @ 1,500 rpm: 3.75 litres/hour

Fuel efficiency varies subject to engine type and operating conditions



Performance and fuel consumption may vary, call 0800 79537 for further information

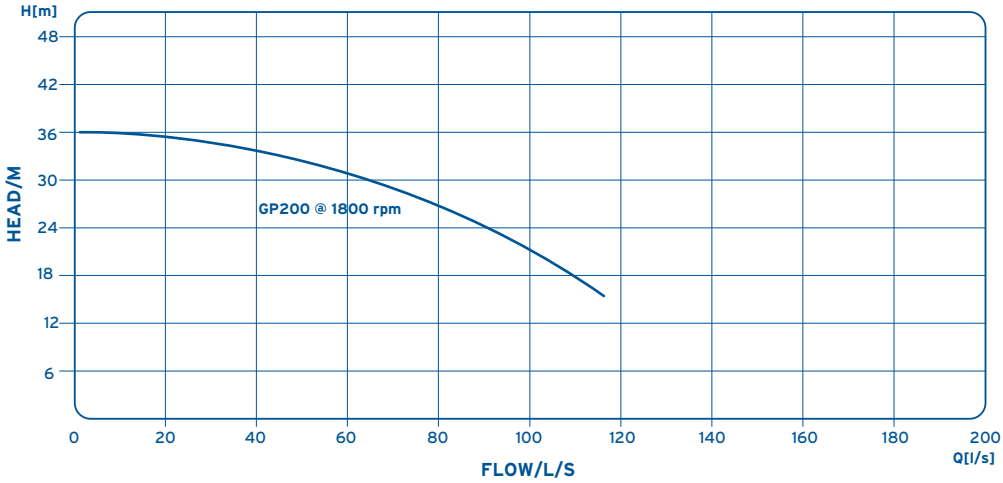
GP200

Bespoke options available
please see page 29

PUMP PERFORMANCE

Performance:	Max head: 36 m
	Max flow: 138 l/s
	Max solid: 48 mm
Weight:	1,603 kg with fuel
	1,440 kg without fuel
Dimensions: (L x W x H) mm	2,300 x 1,450 x 1,650 Typical length including tow bar 3310
Noise level:	@ 1m = 98 - 106 dBA
	@ 7m = 89 - 95 dBA
Fuel tank capacity:	192 litres. Max 24 hours with cleaning and flushing facilities
Pipe connections:	Suction: 8" table D
	Discharge: 8" table D
	Bauer couplings option: 8"
Typical Fuel consumption:	Fuel Consumption @ 1,500 rpm: 8.59 litres/hour

Fuel efficiency varies subject to engine type and operating conditions



Performance and fuel consumption may vary, call 0800 79537 for further information

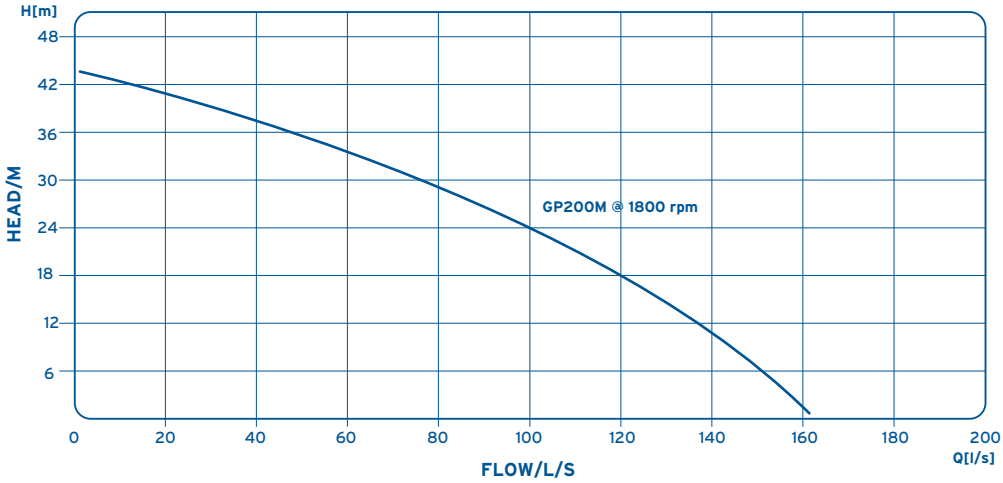
GP200M

PUMP PERFORMANCE

Performance:	Max head: 43 m
	Max flow: 161 l/s
	Max solid: 75 mm
Weight:	1,744 kg with fuel
	1,550 kg without fuel
Dimensions: (L x W x H) mm	2,800 x 1,450 x 1,650 Typical length including tow bar 3,800
Noise level:	@ 1m = 98 - 106 dBA
	@ 7m = 89 - 95 dBA
Fuel tank capacity:	230 litres. Max 24 hours with cleaning and flushing facilities
Pipe connections:	Suction: 8" table D
	Discharge: 8" table D
	Bauer couplings option: 8"
Typical Fuel consumption:	Fuel Consumption @ 1,500 rpm: 12 litres/hour

Fuel efficiency varies subject to engine type and operating conditions

Bespoke options available please see page 29



Performance and fuel consumption may vary, call 0800 79537 for further information

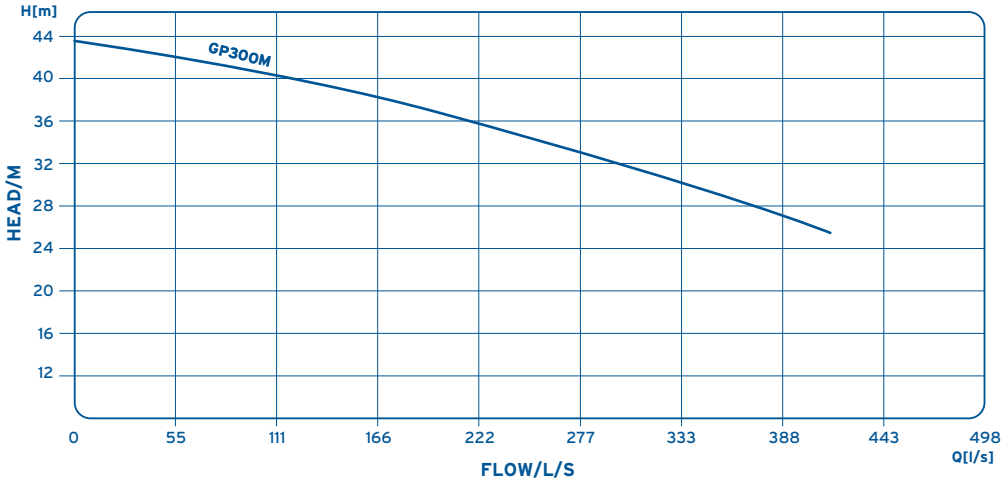
GP300M

PUMP PERFORMANCE

Performance:	Max head: 42 m
	Max flow: 390 l/s
	Max solid: 75 mm
Weight:	4,500 kg
Dimensions: (L x W x H) mm	3,920 x 1,709 x 1,670 Typical length including tow bar 3,800
Noise level:	@ 1m = 90 dBA
	@ 7m = 80 dBA
Fuel tank capacity:	Supplied with our 2000 litre bunded fuel tanks
Pipe connections:	Suction: 14" PN10
	Discharge: 12" PN16
	Bauer couplings option
Typical Fuel consumption:	Fuel Consumption @ 1,500 rpm: 40 litres/hour

Fuel efficiency varies subject to engine type and operating conditions

Bespoke options available please see page 29



Performance and fuel consumption may vary, call 0800 79537 for further information

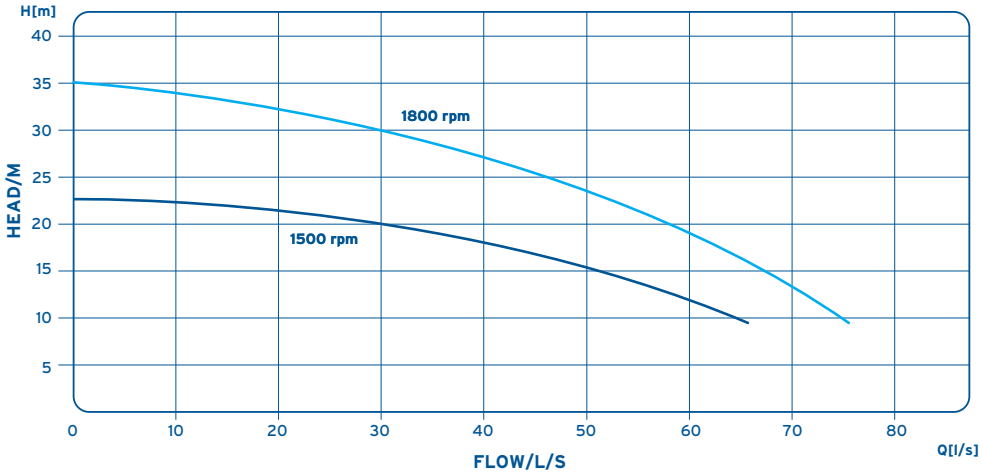
WP 150/60 DEWATERING PUMP

Bespoke options available
please see page 29

PUMP PERFORMANCE

Performance:	Max head: 33 m
	Max flow: 78 l/s
	Max solid: 44 mm
Weight:	1,252 kg with fuel
	1,133 kg without fuel
Dimensions: (L x W x H) mm	2,100 x 1,455 x 1,550 Typical length including tow bar 2,820
Noise level:	@ 1m = 94 - 98 dBA
	@ 7m = 77 - 82 dBA
Fuel tank capacity:	140 litres. Max 24 hours with cleaning and flushing facilities
Pipe connections:	Suction: 6" table D
	Discharge: 6" table D
	Bauer couplings option: 6"
Typical Fuel consumption:	Fuel Consumption @ 1,500 rpm: 3.75 litres/hour

Fuel efficiency varies subject to engine type and operating conditions



Performance and fuel consumption may vary, call 0800 79537 for further information

SUPER SILENCED

Our superb range of super silenced pumps raises the bar in low-noise pumping without

compromising on power, reliability and flexibility. They set the benchmark against which other pumps are measured, with noise levels down to an average 58 dBA at 7m.

Telemetry can be added for remote pump operation and monitoring. This innovative remote management system can reduce costs associated with regular visits from engineers, as any problems are picked up immediately, often before users are aware, and remedial action taken.

Technically excellent, these portable super silenced pumps have been developed with a clear focus on environmental issues such as sound attenuation, the eradication of fuel spillage, improved fuel economy and reduced emissions from using highly efficient engines.

For more information regarding our super silenced pump, call our expert team on 00971 800 7953 or visit us online khansahebsykes.com

CUSTOMISATION

We can offer a range of engines with our standard GP range (50 to 200) and our WP pump. This range can also be offered as electric as an alternative to diesel.

We can also offer a range of controls:

- Manual start/stop
- Auto start stop with water level sensor
- Solar panel charging units
- Telemetry for remote start/stop and monitoring

We can offer road towable sets on request, as well as modifications such as lowering the pumps to reduce suction lift and for specialist applications such as float outs.

HIGH PERFORMANCE

Specifically designed for medium and high head duties, Khansaheb Sykes Pumps offer a unique combination of features that provide high performance, improved efficiency and reliability.

The MH, HP and UVO medium and high head high performance pumps are suitable for specific heavy duty and high lift applications.

Pumps are built with enhanced specifications, using proven hard wearing and corrosion resistant parts robustly designed to deliver reliable, sustained performance at the lowest possible cost.

Typical applications for our High Performance range include the need to pump abrasive slurries, heavy sewage sludge or clean water, or to provide specialist solutions such as high pressure jetting, pipe flushing, pigging or fire fighting.

For specialist high performance pumps we always recommend that a free of charge survey from one of our professional sales engineers be completed prior to use, to ensure that the correct unit is selected for your application.

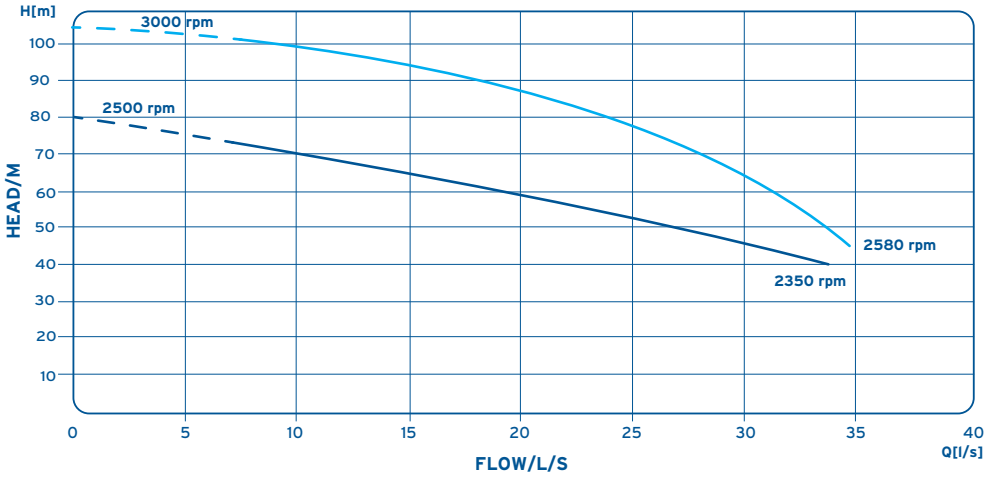
3H JETTING PUMP

PUMP PERFORMANCE

Performance:	Max head: 105 m
	Max flow: 32 l/s
Weight:	457 kg without fuel
Dimensions: (L x W x H) mm	2,000 x 860 x 1,400
Noise level:	@ 1m = 94 - 98 dBA
	@7m = 77 - 82 dBA
Fuel tank capacity:	90 litres. Max 24 hours with cleaning and flushing facilities
Typical Fuel consumption:	Full load @ 2,800 rpm: 6.2 litres/hour
Chassis:	2 wheeled site trailer
Pump Materials:	Enclosed type Impeller for high efficiency, close grain Cast iron volute with 3" BS table D flanged adaptor
Pipe connections:	Suction

Fuel efficiency varies subject to engine type and operating conditions

Bespoke options available



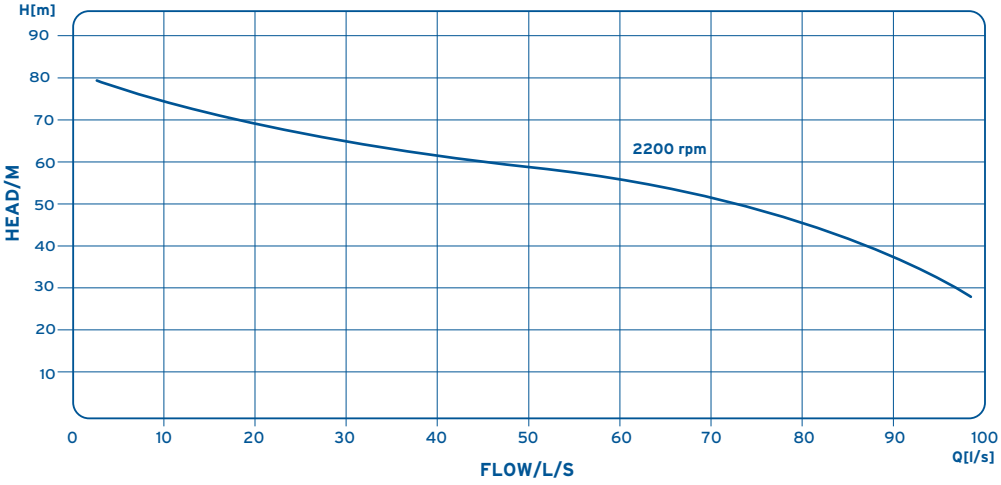
Performance and fuel consumption may vary, call 0800 79537 for further information

Bespoke options available

PUMP PERFORMANCE

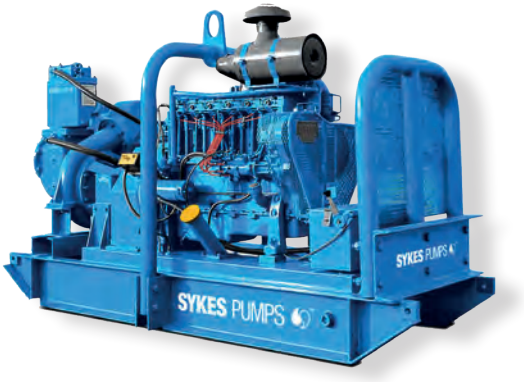
Performance:	Max head: 82 m
	Max flow: 100 l/s
	Max solid: 25 mm
Weight:	1,966 kg with fuel
	1,750 kg without fuel
Dimensions: (L x W x H) mm	2,600 x 1,100 x 1,800
Noise level:	@ 1m = 99 - 105 dBA
	@7m = 88 - 94 dBA
Fuel tank capacity:	250 litres. Max 24 hours with cleaning and flushing facilities
Pipe connections:	Suction:- 6" table D
	Discharge:- 4" table D "
	Bauer couplings option
Typical Fuel consumption:	Full load @ 1,800 rpm: 17.1 litres/hour

Fuel efficiency varies subject to engine type and operating conditions



Performance and fuel consumption may vary, call 0800 79537 for further information

MH150

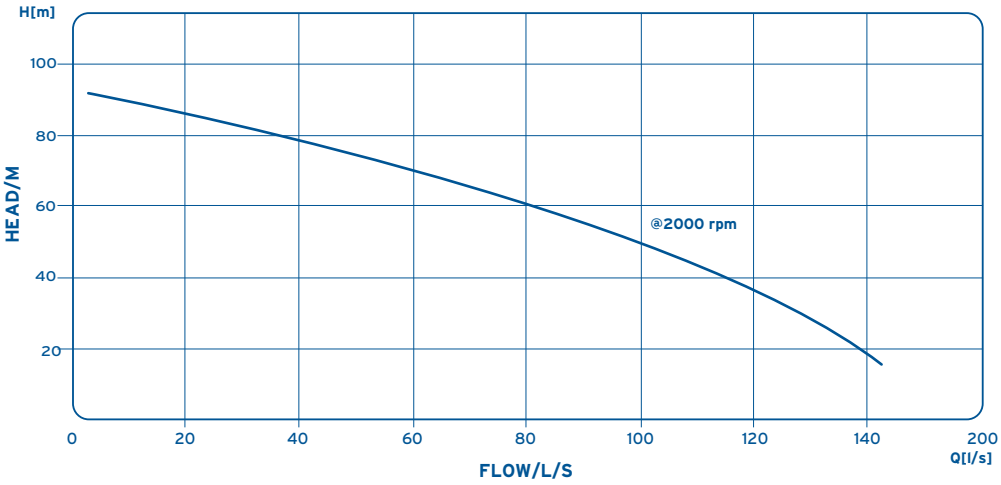


Bespoke options available

PUMP PERFORMANCE

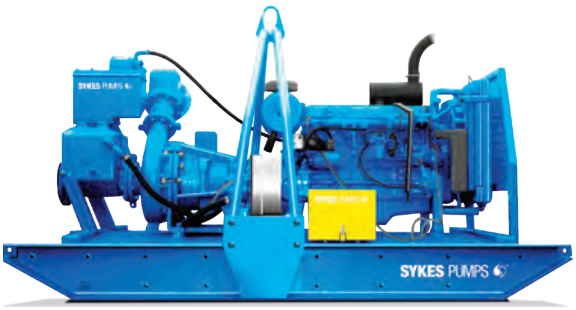
Performance:	Max head: 91 m
	Max flow: 144 l/s
	Max solid: 25 mm
Weight:	2,905 kg with fuel
	1,805 kg without fuel
Dimensions: (L x W x H) mm	3,100 x 1,200 x 1,800
Noise level:	@7m = 70 dBA
Fuel tank capacity:	Max 24h running/ Tank Capacity 375 litres/ Cleaning and Flushing Facility
Pipe connections:	Suction: 8" Table D
	Discharge: 6" NP16
	Bauer couplings option
Pump materials main pump:	SG grade iron/ impeller: Stainless Steel
Typical Fuel consumption:	Full load @ 2,000 rpm: 26 litres/hour

Fuel efficiency varies subject to engine type and operating conditions



Performance and fuel consumption may vary, call 0800 79537 for further information

UVO 150/100E

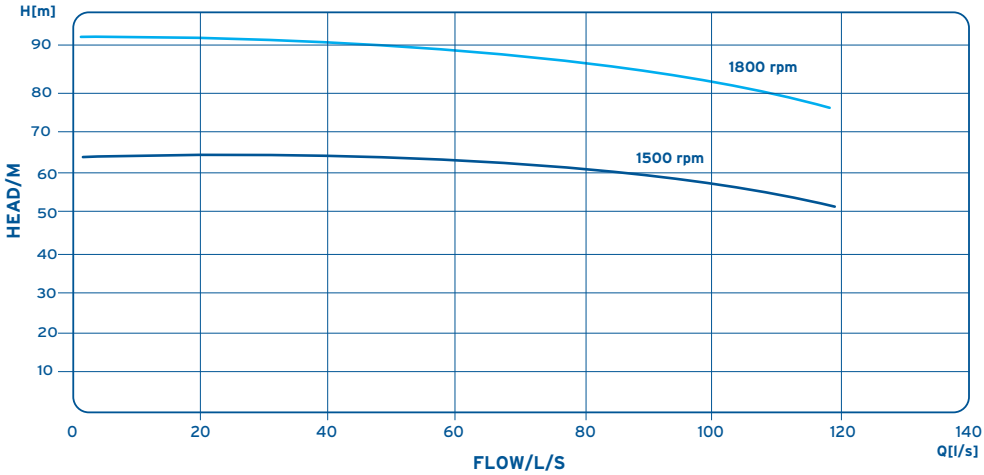


PUMP PERFORMANCE

Performance:	Max head: 93 m
	Max flow: 120 l/s
	Max solid: 38 mm
Weight:	3,750 kg with fuel
	3,400 kg without fuel
Dimensions: (L x W x H) mm	3,505 x 1,608 x 1,977
Fuel tank capacity:	Fuel tank size on application where fitted, separate bunded tanks available.
Pipe connections:	Suction: 6" Table D
	Discharge: 4" Table D
	Option Bauer Couplings
Typical Fuel consumption:	Full load @ 1,800 rpm: 30 litres/hour

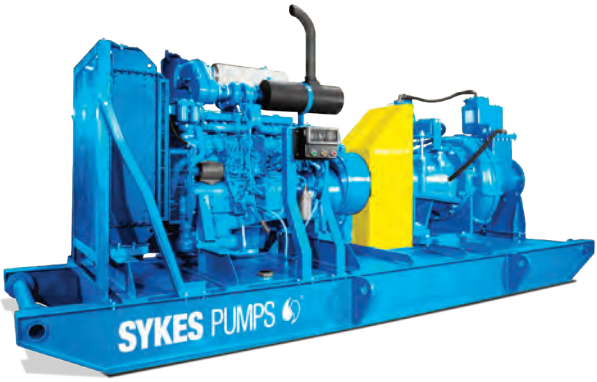
Fuel efficiency varies subject to engine type and operating conditions

Bespoke options available



Performance and fuel consumption may vary, call 0800 79537 for further information

UVO 200/150F (D70)

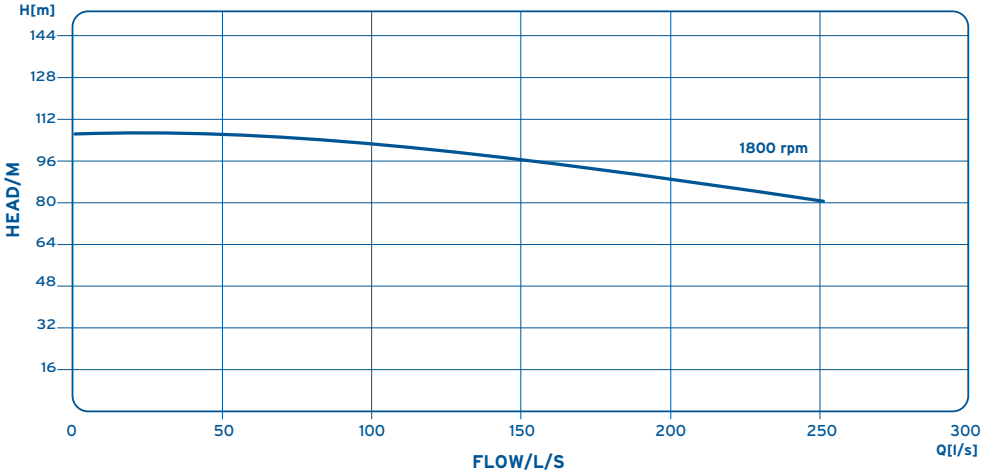


PUMP PERFORMANCE

Performance:	Max head: 108 m
	Max flow: 325 l/s
	Max solid: 60 mm
Weight:	8,450 kg with fuel
	6,320 kg without fuel
Dimensions: (L x W x H mm)	5,330 x 2,385 x 2,260
Fuel tank capacity:	Fuel tank size on application where fitted, separate bunded tanks available.
Pipe connections:	Suction: 8" Table D
	Discharge: 6" Table D
	Option Bauer Couplings
Typical Fuel consumption:	Full load @ 1,800 rpm: 99.99 litres/hour

Fuel efficiency varies subject to engine type and operating conditions

Bespoke options available



Performance and fuel consumption may vary, call 0800 79537 for further information

SUBMERSIBLE HYDRAULIC

Our range of high performance hydraulic submersible pumps provides users with a credible alternative to conventional diesel driven units in environments with no accessible power supply.

A semi-silenced engine drives the hydraulic system enabling quiet operation, making it ideal for assignments carried out in noise sensitive areas. Robustly manufactured for the most arduous locations, our pumps are fitted with high pressure motors and replaceable stainless steel wear plates, reducing the risk of abrasion and other damage. Perfect for non-stop dry running, these self-priming pumps are capable of automatic shutdown should they become blocked at any point.

Sykes Hydrasets are available for hire and will help clients streamline projects without raising energy costs. This latest innovation comprises of a Sykes Hydrapak, a Sykes Hydrapump and a set of Sykes Hydrahose and provides an alternative solution where suction lift requirements exceed nine metres, or where access is limited.

Each pump can be easily manoeuvred into position using the site chassis and if required, forklifted or craned into place. Hydrasets can offer an effective substitute to end suction diesels and come complete with different Pump-end options for sewage and drainage applications.

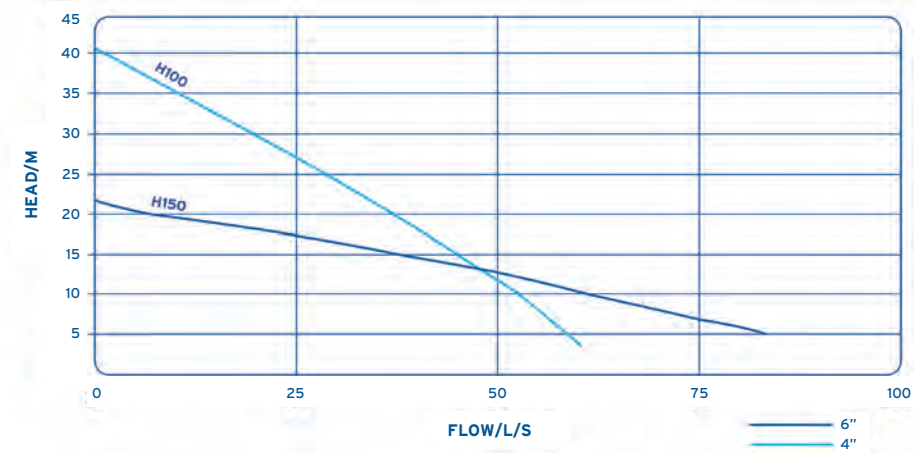
H100 & H150

Please see the pump accessory section

PUMP PERFORMANCE

Model:	H100	H150
Max head:	40 m	22 m
Max flow:	62 l/s	95 l/s
Max solid:	38 mm	65 mm
Discharge:	4" Bauer	6" Bauer
Weight (kg):		
Pump End:	51 kg	105 kg
Powerpack:	995 kg	995 kg
Dimensions: (L x H x W) mm		
Pump End (H100):	465 x 350 x 745	
Pump End (H150):	650 x 500 x 970	
Powerpack:	1,900 x 1,100 x 1,720	
Hydraulic lines:	20 metres	
Fuel tank capacity:	145 litres	
Fuel consumption:	9 litres/hour	
Noise Level:	@ 7m = 75 dBA	

Fuel efficiency varies subject to engine type and operating conditions



Performance and fuel consumption may vary, call 0800 79537 for further information

SUBMERSIBLE DRAINAGE

Khansaheb Sykes submersible drainage pumps have an unrivalled history of dewatering construction sites allowing programs to be effectively managed, irrespective of site conditions. Their easy handling and excellent capacity also make them ideal for shipyards, mines, quarries and any other situation where the control of water is important.

Manufactured from aluminium and stainless steel they offer the perfect balance between strength and weight with a high chrome alloy impeller offering excellent wear resistance. The use of non-toxic coatings and environmentally safe white oil ensures that there is no risk of contamination on even the most sensitive site. Highly efficient motors ensure that noise is kept to an absolute minimum with most units undetectable even when close by.

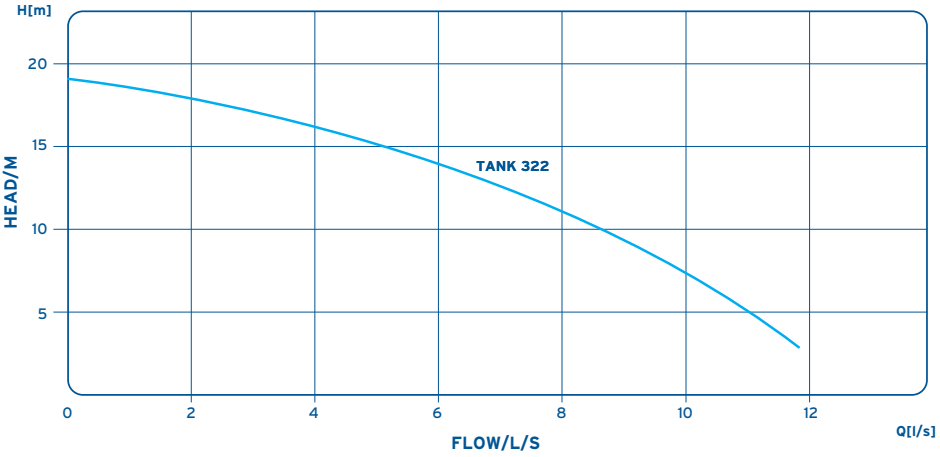
Khansaheb Sykes Pumps has an unsurpassed reputation and our range of electric submersible pumps has enhanced that reputation with the quality and breadth of pumps available to meet any dewatering application. Utilising our experts in the field to conduct the initial survey, our engineers and electricians to service and maintain the pumps as well as our own delivery fleet to get the pumps to you, we have complete control of the service we provide our customers.

TANK 322

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) 50Hz
Motor rating (Kw):	2.2
Discharge Spigot:	3" Bauer
Weight: (excl cable) Kg	35
Max Solid:	9 mm
Height mm:	598
Diameter mm:	267

Please see the pump accessory section

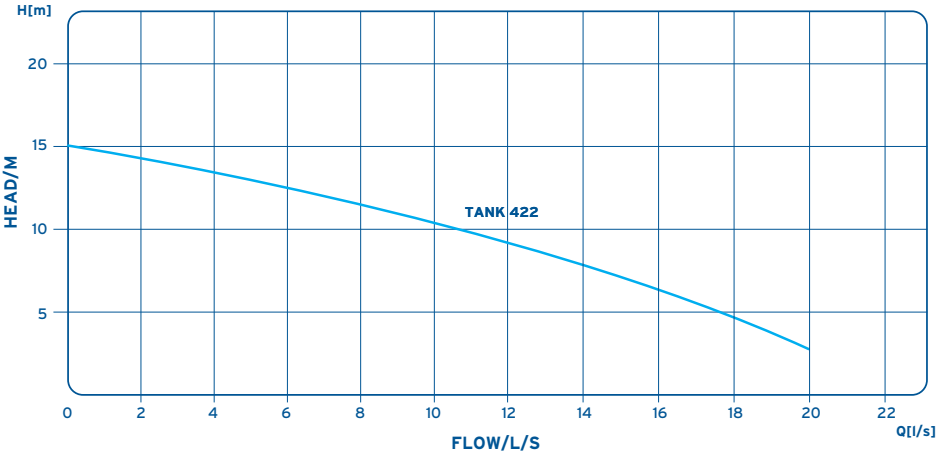


TANK 422

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) 50Hz
Motor rating (Kw):	2.2
Discharge Spigot:	4" Bauer
Weight: (excl cable) Kg	43
Max Solid:	9 mm
Height mm:	630
Diameter mm:	284

Please see the pump accessory section

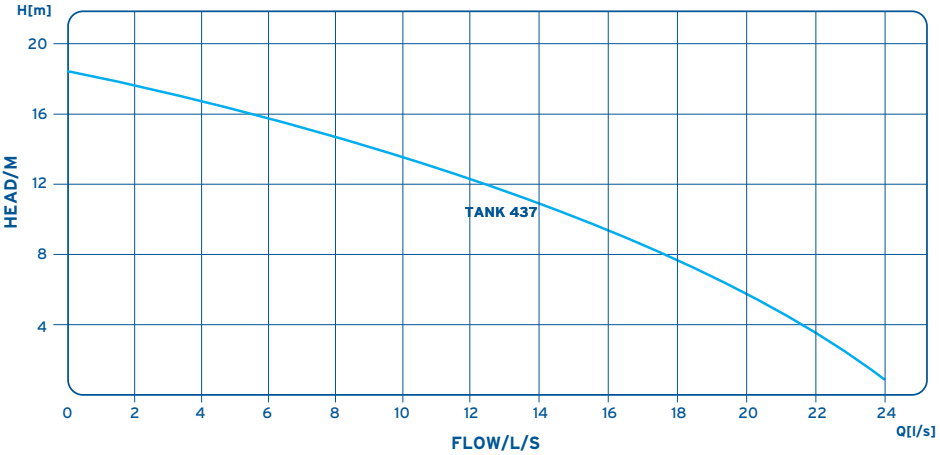


TANK 437

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) 50Hz
Motor rating (Kw):	3.7
Discharge Spigot:	4" Bauer
Weight: **(excl cable) Kg**	42
Max Solid:	10 mm
Height mm:	630
Diameter mm:	284

Please see the pump accessory section

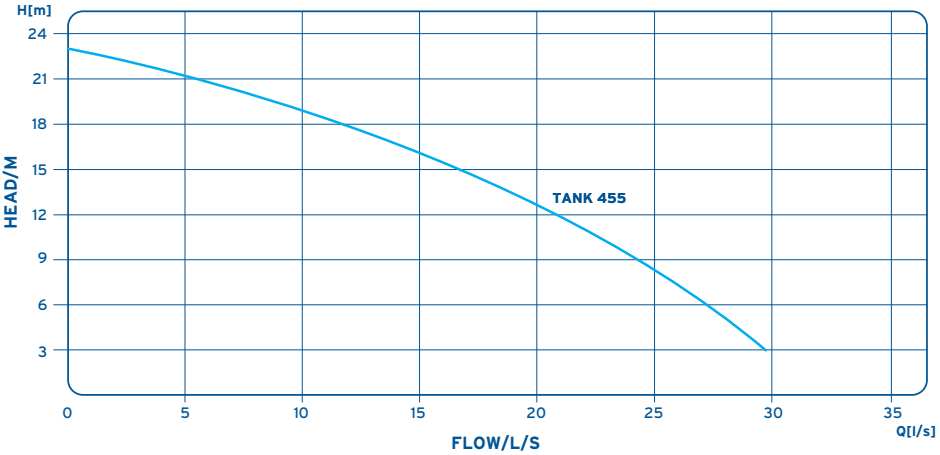


TANK 455

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) 50Hz
Motor rating (Kw):	5.5
Discharge Spigot:	4" Bauer
Weight: **(excl cable) Kg**	60
Max Solid:	10 mm
Height mm:	656
Diameter mm:	320

Please see the pump accessory section

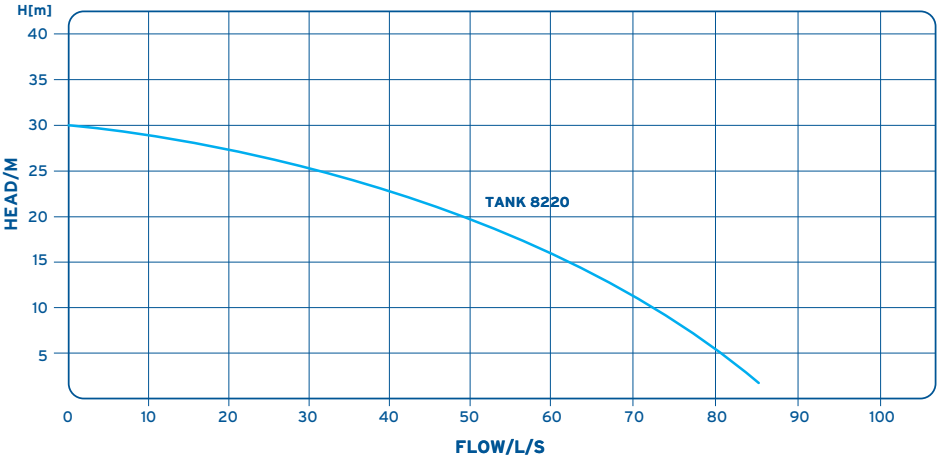


TANK 8220

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) 50Hz
Motor rating (Kw):	22
Discharge Spigot:	8" Bauer
Weight: (excl cable) Kg	264
Max Solid:	20 mm
Height mm:	1,154
Diameter mm:	424

Please see the pump accessory section

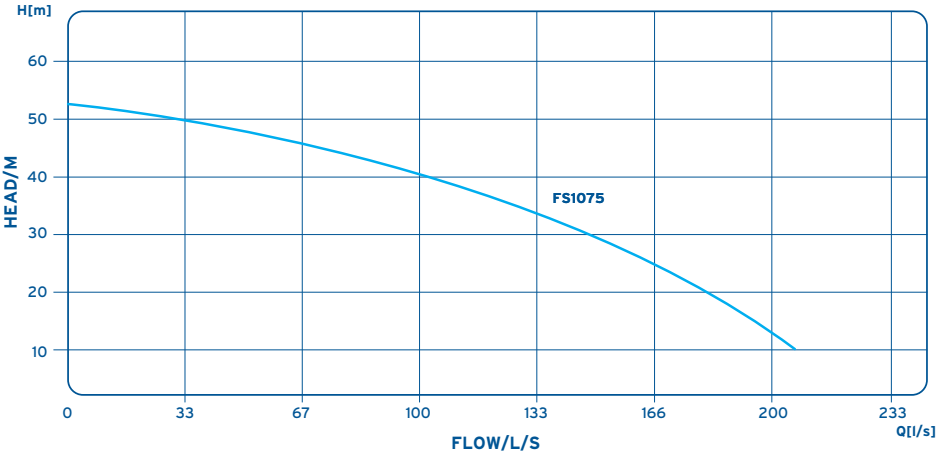


TANK 1075

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) 50Hz
Motor rating (Kw):	75
Discharge Spigot:	8" Bauer
Weight: (excl cable) Kg	1,200
Max Solid:	25 mm
Height mm:	1,733
Diameter mm:	1,050

Please see the pump accessory section



SUBMERSIBLE OPTIONS

Zinc Anodes

Bauer Couplings

Please see the pump accessory section

Zinc Anodes

All P series pumps can be equipped with zinc anodes for protection against galvanic corrosion, eg. when pumping saline or brackish water.

The zinc anodes are screwed onto the base plate and the main cover of the pump. They act as sacrificial anodes and protect the aluminium parts of the pump from galvanic corrosion attacks.

Bauer Couplings

Bauer couplings are available for quick connection of the delivery hose. The couplings can be supplied in sizes from 2" to 8".

Series Connection

Two or more pumps can be connected in series for pumping against high heads. Special series connections are available. The series connections have a centre inlet for hose connection. It is recommended to space the pumps at equal head intervals in order to distribute counter pressure evenly along the line.

Bottom Suction Adaptor

With a standard pump the water level cannot be lowered below the diffuser centre inlet. On all our drainage submersible pumps, standard bottom plate may be replaced by a bottom suction adaptor, which feeds the water directly into the diffuser through a bottom intake with strainer.

A basement floor can be pumped practically dry with this adaptor.

SUBMERSIBLE WASTEWATER

We offer a wide range of electric submersible wastewater pumps.

Perfect for sewage pumping station/manhole bypass pumping during new infrastructure construction or rectification work.

Inflatable stopper supply, installation and monitoring available on request.

Sykes Electric Submersible Wastewater Pumps, are smooth running and vibration free. Built from ductile cast iron, these hardwearing, precision machined pumps work to maximum hydraulic efficiency and due to their modular design, are inexpensive to maintain, and assure long trouble free performance. The range starts at 100mm with larger pumps available up to 300mm discharge, with a selection of motor sizes to complement the range.

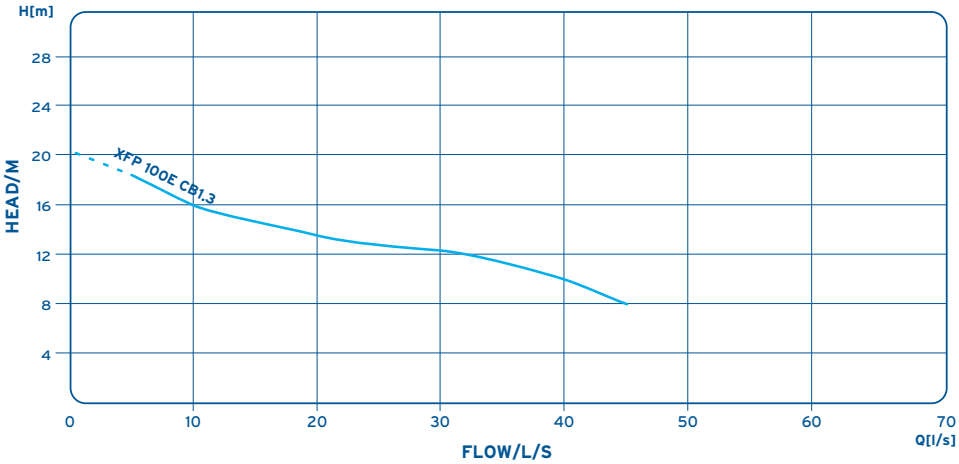
The amount of material Sykes Submersible Wastewater Pumps can shift depends on the size of the pump, the power of the drive motor and the constitution of the material being pumped for each application. To ensure the correct type and model is selected, we recommend one of our specialist pump engineers visits to survey your requirement free of charge.

XFP100E.CB1.3

PUMP PERFORMANCE

Motor type (V):	415
Motor rating (Kw):	6
Max power input (Kw):	6.7
Running current: (Amps)	13.6
Discharge spigot:	4" Bauer
Maximum solids (mm):	80
Cooling jacket:	Yes
Dimensions (mm):	
Height	835
Maximum Width	835
Minimum Width	490
Weight (Kg):	180

Please see the pump accessory section

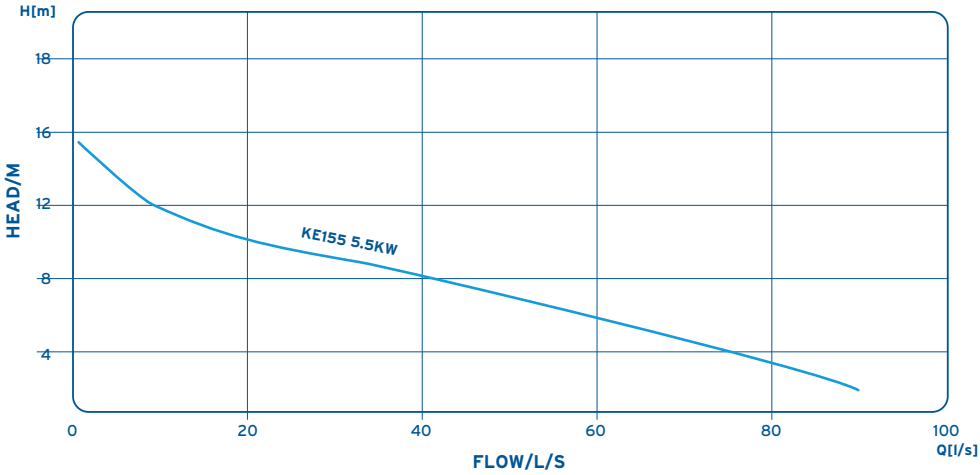


KE155

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) 50Hz
Motor rating (Kw):	5.5
Running current: (Amps)	11
Running speed:	1,450 rpm
Discharge spigot:	6" Bauer
Maximum solids (mm):	80
Cooling jacket:	No
Dimensions (H x W) mm:	1,025 x 630
Weight (Kg):	260

Please see the pump accessory section

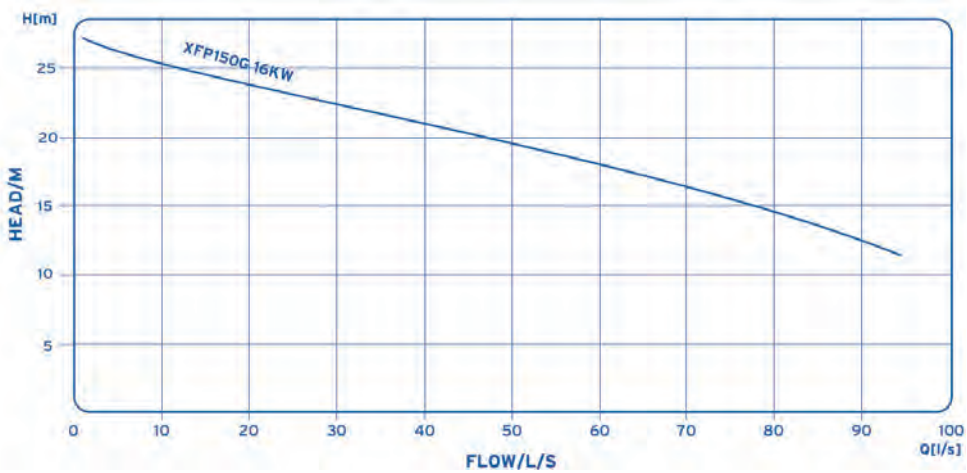


XFP150G

PUMP PERFORMANCE

Motor type (V):	415
Motor rating (Kw):	16
Max power input (Kw):	17.4
Running current: (Amps)	33.1
Discharge spigot:	6" Bauer
Maximum solids (mm):	100
Cooling jacket:	Yes
Dimensions (mm):	
Height	1,470
Maximum Width	1,000
Minimum Width	630

Please see the pump accessory section

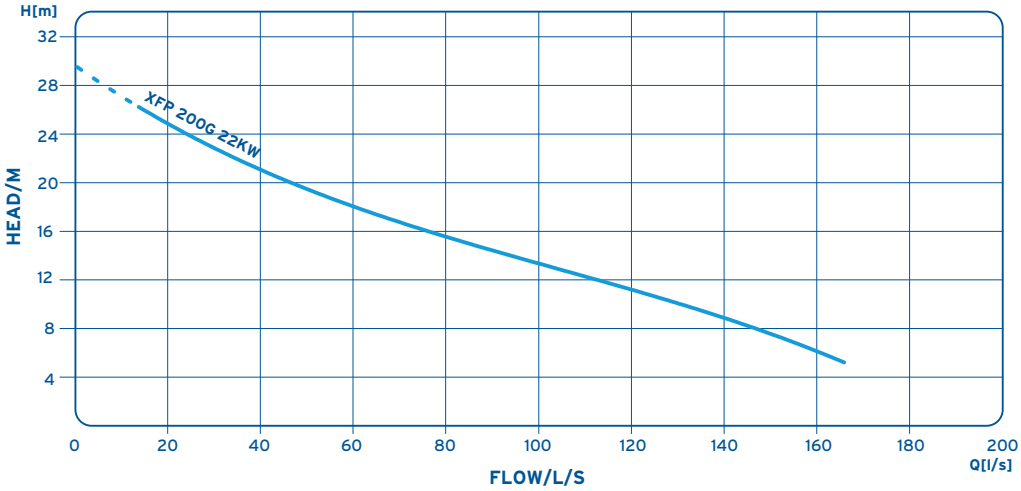


XFP200G

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) 50Hz
Motor rating (Kw):	22
Running current: (Amps)	42.6
Running speed:	1,450 rpm
Discharge spigot:	6" Bauer
Maximum solids (mm):	125
Cooling jacket:	Yes
Dimensions (H x W) mm:	1,541 x 1,150
Weight (Kg):	397
Weight (Kg):	460

Please see the pump accessory section

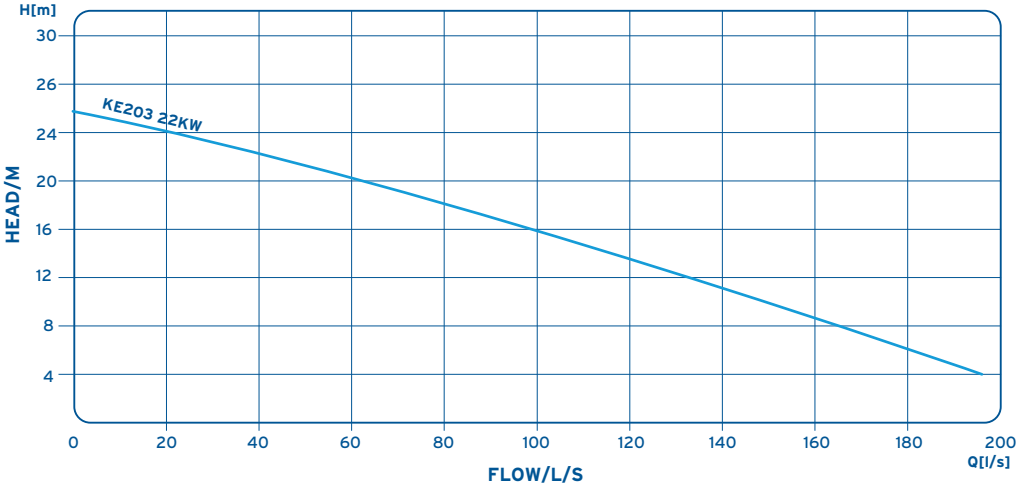


KE203

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) 50Hz
Motor rating (Kw):	22
Running current: (Amps)	44
Running speed:	450 rpm
Discharge spigot:	8" Bauer
Maximum solids (mm):	90 x 70
Cooling jacket:	Yes
Dimensions (H x W) mm:	
Guide rail option:	380 x 1,255
Weight (Kg):	440
Weight (Kg):	500

Please see the pump accessory section

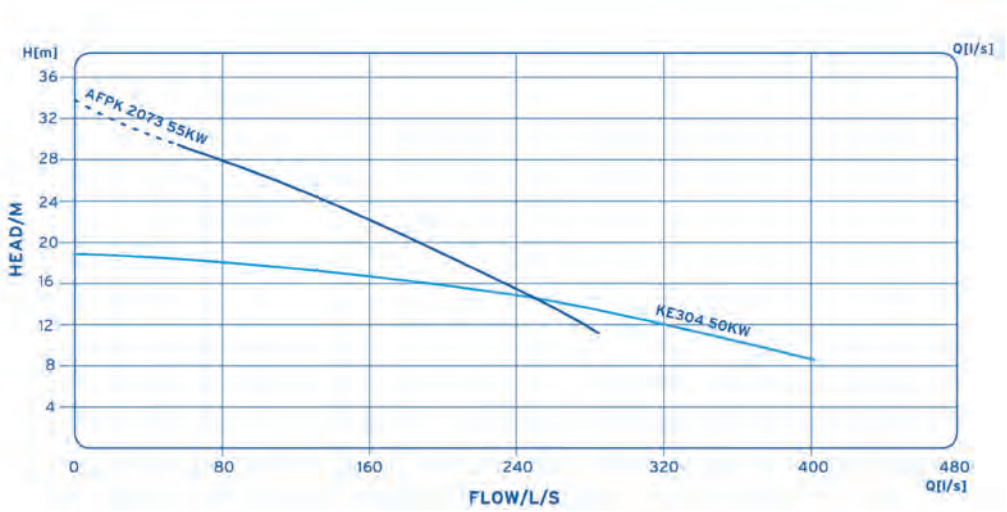


KE304

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) 50Hz
Motor rating (Kw):	50
Running current: (Amps)	91
Running speed:	980 rpm
Discharge spigot:	12" Bauer
Maximum solids (mm):	100 x 150
Cooling jacket:	Yes
Dimensions (H x W) mm:	1,630 x 1,100
Weight (Kg):	1,060
Weight (Kg):	1,070

Please see the pump accessory section



SUBMERSIBLE SLUDGE

The Sykes sludge pump range is specifically designed for applications where the fluid to be moved has a higher viscosity than water and/or contains solids up to 65mm. Especially effective in returning activated sludge in wastewater treatment works, temporary sewage bypass pumping and emptying polluted excavations or tanks, these units are robust in design and capable of delivering months of continuous operation with no maintenance requirements.

The units boast excellent corrosion resistance, critical for the working environments, due to their aluminium and stainless steel construction. They are lightweight making them easy to handle and extremely portable.

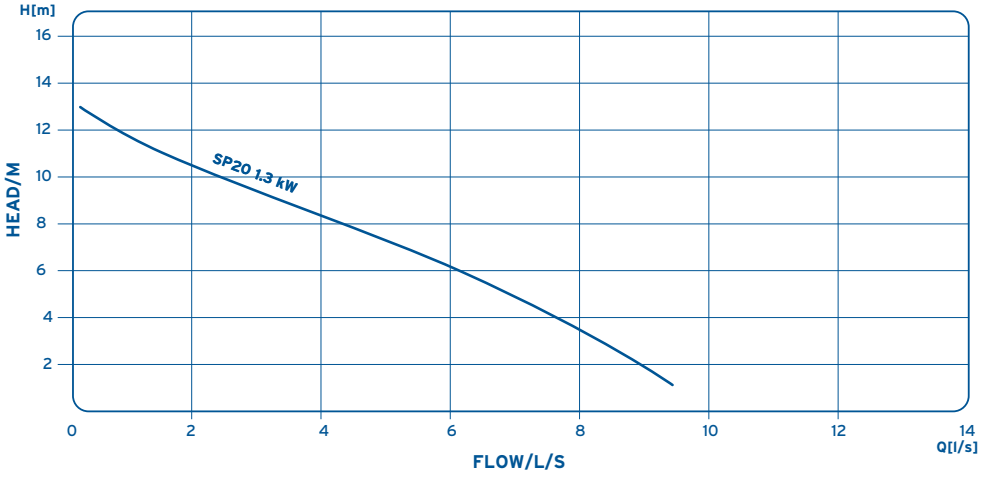
A small footprint means that the pumps are ideal where space or access is an issue. With different voltages available, as well as being available for plug and play, these units offer the flexibility of use required to meet today's demands. Optional automatic level control panels ensure that the pump only operates when required.

SP20

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) - 50 Hz
Motor rating (Kw):	1.3
Max power input (Kw):	1.7
Running current: (Amps)	4.2
Max solids (mm):	40
Discharge Spigot:	3" Bauer
Dimensions: (H x W) mm	700 x 320
Weight: (excl cable) Kg	29

Please see the pump accessory section

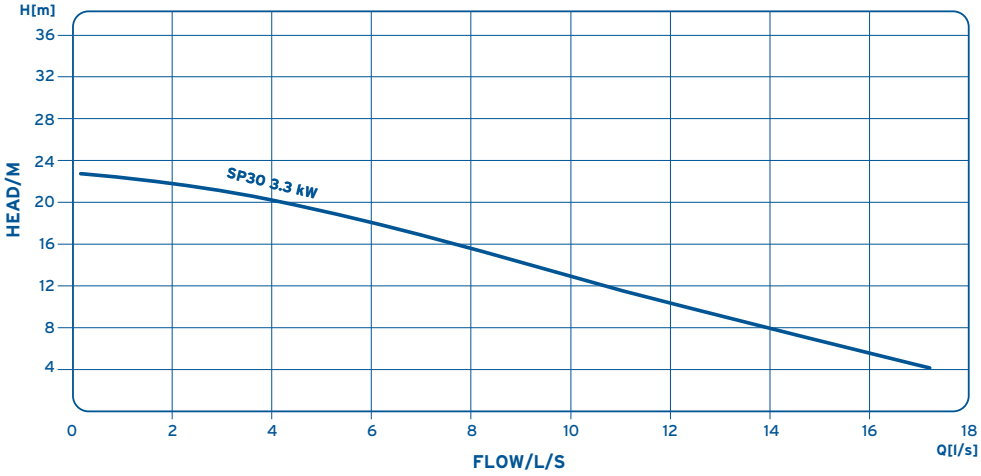


SP30

PUMP PERFORMANCE

Motor type (V):	415 (3-Phase) - 50 Hz
Motor rating (Kw):	3.3
Max power input (Kw):	3.9
Running current: (Amps)	6.8
Max solids (mm):	60
Discharge Spigot:	3" Bauer
Dimensions: (H x W) mm	700 x 320
Weight: (excl cable) Kg	34

Please see the pump accessory section

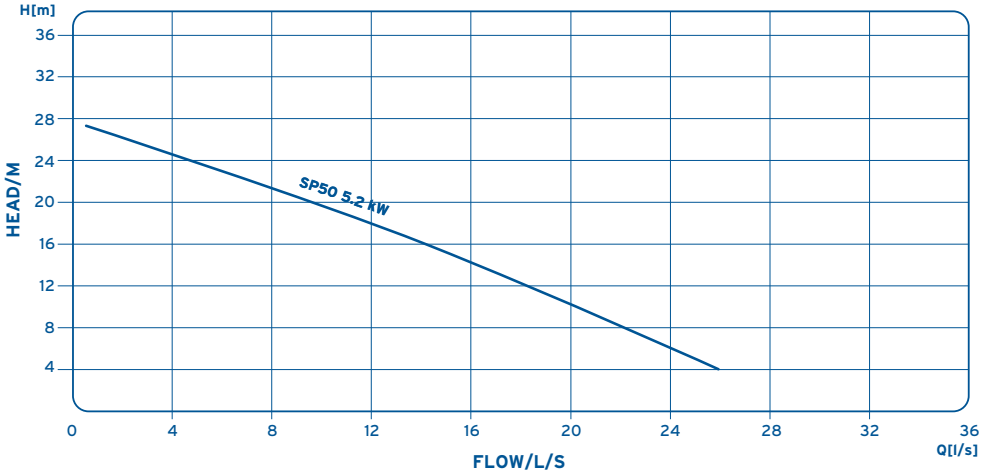


SP50

PUMP PERFORMANCE

Model:	SP 50
Motor type (V):	415 (3-Phase) - 50 Hz
Motor rating (Kw):	5.2
Max power input (Kw):	6.2
Running current: (Amps)	11
Max solids (mm):	65
Discharge Spigot:	3" Bauer
Dimensions: (H x W) mm	760 x 410
Weight: (excl cable) Kg	52

Please see the pump accessory section

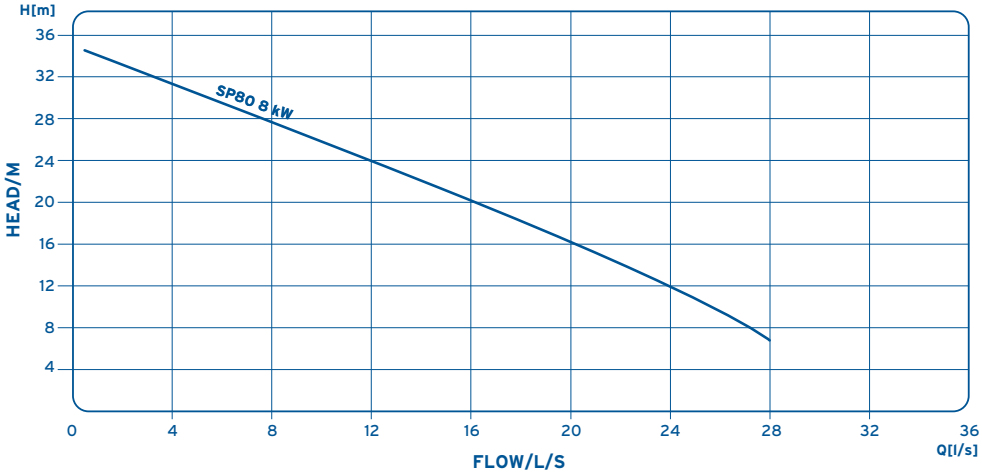


SP80

PUMP PERFORMANCE

Model:	SP 80
Motor type (V):	415 (3-Phase) - 50 Hz
Motor rating (Kw):	8.0
Max power input (Kw):	9.4
Running current: (Amps)	18
Max solids (mm):	65
Discharge Spigot:	4" Bauer
Dimensions: (H x W) mm	810 x 560
Weight: (excl cable) Kg	67

Please see the pump accessory section



SUBMERSIBLE BOREHOLES

Our Khansaheb Sykes Borehole Pumps come in a range of sizes and diameters to fit your deep well perfectly and deliver the maximum capacity for the given well size and depth. With an extra-slim design for wells from 100mm diameter, these innovative multi-stage units are constructed from highly durable stainless steel and plastic. They are ideal for applications including:

Lowering groundwater

Spray and general irrigation

Domestic water supplies

Pressure boosting

Fountains

Fire protection

Cooling circuits

PUMP PERFORMANCE

To suit well screen:	4" - 6" 100 - 150mm	6" - 8" 150 - 200mm
Flow (l/s)	0.5 to 15	10 to 40
Max Head (m)	300+	300+
Discharge outlet (inches)	1-3	3-4

Please call 0800 79537 to discuss your requirements with our technical sales team.

ACCESSORIES

The diversity of duties encountered by Sykes Pumps demands an equally versatile and durable range of hoses and accessories. The products shown on the following pages have been manufactured to conform to the rigorous standards established by Sykes Pumps engineering department and are readily available from the company's nationwide network of depots in the U.K.

FLEXIBLE BAUER WIRE ARMOURED SUCTION HOSE

SPECIFICATION

Diameter (mm):	50	80	100	150	200	300
Length (m):	6	6	6	3	3	3
Weight (Kg):	11	21	29	37	66	157
Pressure (Bar):	9	9	7	6	5	3.5

HIGH PRESSURE WIRE ARMOURED FLANGED NP16 HOSE

SPECIFICATION

Diameter (mm):	80	100	150	200	300
Length (m):	3	3	3	3	3
Weight (Kg):	22	30	61	103	189
Pressure (Bar):	16	16	16	16	16

LAYFLAT HOSE

SPECIFICATION

Diameter (mm):	50	75	100	150	200
Length (m):	Yes	Yes	Yes	Yes	Yes
25 (m):	Yes	Yes	Yes	Yes	Yes
50 (m):	Yes	Yes	Yes	Yes	Yes
100(m):	Yes	Yes	Yes	Yes	No
Complete: (with bauer coupling)	Y/N	Y/N	Y/N	Y/N	Y/N
Pressure (Bar):	4 to 7	4 to 6	4 to 6	3 to 5	3 to 4
Weight (Kg):					
25:	6	9	11	23	32
50:	12	18	22	46	63
100:	24	34	45	96	
Weight (Kg): c/w Fittings					
25:	7	13	16	34	47
50:	13	22	27	57	78
100:	25	38	50	107	

HDPE PIPE

SPECIFICATION

Diameter (mm):	50	75	100	150	200
Length (m):	6	6	6	6	6
Weight (Kg):	5	16	20	28	55
Pressure (Bar):	5	5	4	4	4

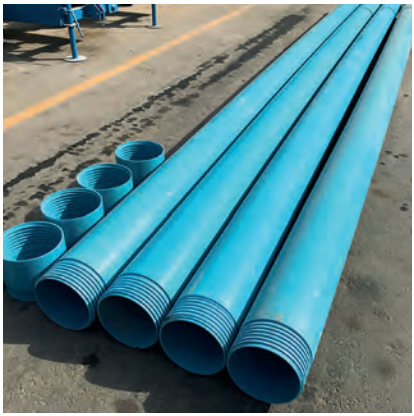
WELLPOINT ACCESSORIES

SPECIFICATION

Header Pipe (m):	6
Wellpoints (m):	4 - 7
Slotted Length (cm):	63
Flex bow (m):	1

Khansaheb Sykes offer all the necessary equipment for a wellpoint installation. We have UPVC header pipes, wellpoints, flex bows and rubber bungs available in various lengths, all in weather and corrosion resistant material.

WELL SCREENS



SPECIFICATION

WELL CASINGS

Nominal sizes (''):	2 - 12
Wall thickness (mm):	4.0 - 14.5
Actual screw length (mm):	51 - 95
Slot size (mm):	1 - 2

Khansaheb Sykes offer all the necessary equipment to install a deep well system.

Additional specification available upon request.

FITTINGS AND VALVES

Intakes:	50 - 300mm
Flanged Bauer Fittings:	50 - 300mm
Bauer Hosetails:	50 - 300mm
Gate Valves:	50 - 300mm
Non Return Valves:	50 - 300mm
Flanged Reducers/Enlargers:	50 - 300mm
Bauer Reducers/Enlargers:	50 - 300mm
'Y' Pieces:	50 - 300mm
'T' Pieces:	50 - 300mm
45° Bauer bends:	50 - 300mm
90° Bauer bends:	50 - 300mm

FUEL TANKS

SPECIFICATION

Capacity (litres)	2,000
Length (mm):	2,300
Width (mm):	1,150
Height (mm):	1,320
Weight at empty (kg)	865
Weight when full (kg)	2,665

At Khansaheb Sykes, we offer customers fuel tanks that have been specifically designed for use in environmentally sensitive applications. All tanks within our hire fleet are double bunded, guaranteeing our client complete protection even if internal leaks occur. A single unit is capable of offering customers capacities up to 2,000 litres, with every model in our range fully tested to ADR requirements for IBC standards.

SILT AWAY

SPECIFICATION

Settlement area:	10 m^3
Water capacity:	5,000 litres
Weight empty :	1,196 kg
Dimensions (L x W x H):	2,320 x 2,320 x 2,015 mm

The Silt Away unit has been specifically designed to separate suspended solids from water pumped from various ground sources, including construction sites, rivers and drains.

Pumped water passes through the Siltaway filters via a Lamella platebox, allowing solids contained in water to drop into a discharge chamber below.

SETTLEMENT TANKS

v-notch weir tanks available on request

SPECIFICATION

Capacity (litres):	5,625
Length (mm):	2,500
Width (mm):	1,500
Height (mm):	1,500
Weight Empty (Kg):	1,140

Our settlement tanks help clients remove sediment and other contaminants from the groundwater, enabling the water to be discharged as per Municipality and other Government Bodies strict discharge guidelines. A Sykes pump is connected to the inlet of our settlement tank, pumping water through the tank and over a series of weir plates. The tanks are designed to capture the suspended solids in the discharge water.

DRIP TRAYS

Drip trays can be provided for all pumps to avoid environmental pollution due to fuel or oil spillage when refuelling or maintaining the pumpset.

Even if the pump has a built in drip tray an additional full length tray gives extra protection. Environmental authorities would insist on using interceptor drip trays whilst working close to waterways or when there is a risk of ground water pollution.

This simple yet highly effective design which negates the need for filters or chemicals, giving you instant environmental protection.

FLOW METRES

SPECIFICATION

Size: 50 - 300 mm

Khansaheb Sykes offer a broad selection of flow metres, ensuring our customers can accurately measure and then control the flow of liquid on a particular project. We supply digital, mechanical, magnetic and ultrasonic gauges which are simple to operate and provide reliable measurement results for an assortment of applications - including pump performance. Our flow meters are capable of handling clean water, dirty water and sewage.

DRILL RIGS

DEEP WELL DRILLING RIGS

Our deep well drilling rig machines are capable of drilling to depths of 60 metres making them suited for any type of deep well dewatering project.

A range of Drill Heads also available

GENERATORS

SPECIFICATION

Continuous Power (kVA):	45	65	100	160
Dimensions (mm):	2,250 x 840 x 1,350	3,050 x 1,150 x 1,850	3,270 x 1,170 x 2,050	3,730 x 1,160 x 2,210
Engine:	Electric start	Electric start	Electric start	Electric start
Fuel:	Diesel	Diesel	Diesel	Diesel
Tank Capacity:	81 litres	150 litres	225 litres	350 litres
Generated Voltage:	415V (3 phase)	415V (3 phase)	415V (3 phase)	415V (3 phase)
Weight:	1,000 kg	1,630 kg	2170 kg	2,780 kg

STANDARD PLC PANELS

For Pumps up to 11kw the PLC, DOL range of Panels can be used.

- These are available in 1 Phase or 3 phase
- Strong robust frame
- DOL Starter
- Overloads
- Run and Tripped lamps
- Door interlocking isolator
- RCCD Fitted as standard
- Float Switch Level Control
- On - OFF Auto selector
- Mains Terminal
- Plug and Play

For Specialist applications Dual or Multi Pump Panels are Available. Telemetry, High Level Alarms and Ultrasonic Level Controls can also be provided.

For Pumps which require a greater capacity our Range of soft start panels ensure smooth starting From the minimum mains or generator power supply.

- Robust free standing panel
- Variable Soft Starter
- Overloads
- Run and Tripped lamps
- Door interlocking isolator
- RCCD Fitted as standard
- Float Switch Level Control
- On - OFF Auto selector
- Mains Terminal
- Emergency stop pushbutton
- Removable cable gland plates

VARIABLE DOL PANEL 1 - 15KW

EXTERNAL FEATURES

- Controls and protects from 1kw to 15kw
- For internal and external applications
- Lifting hook
- Rain canopy
- Socket for motor connection
- Sockets for float switch or ultrasonic level control
- 2 line lcd digital display
- Local / remote selector switch
- Emergency stop pushbutton
- Load break isolator
- Rust resistant panel
- Rigid free standing frame
- Plug and Play

INTERNAL FEATURES

- DOL starter unit
- Rotary kw overload selector
- Up to 16 overload settings
- Earth leakage protection
- Control terminals
- Motor terminals
- Float switch terminals
- Emergency stop facility
- Mains terminals
- Pre-drilled gland plate
- Motor overheat protection
- Inter panel interlock system
- Provision for telemetry
- Door close security system

VARIABLE SOFT START PANEL 18 - 75KW

EXTERNAL FEATURES

- Controls and protects from 18kw to 56kw
- For internal and external applications
- Lifting hook
- Rain canopy
- Float switch or ultrasonic level control
- 2 line lcd digital display
- Local / remote selector switch
- Emergency stop pushbutton
- Isolator
- Rust resistant panel
- Rigid free standing frame
- Plug and Play

INTERNAL FEATURES

- Soft start unit
- Main contactor
- Bypass contactor
- Earth leakage protection
- Control terminals
- Motor terminals
- Transformer
- Mains terminals
- Pre-drilled gland plate
- Motor overheat protection
- Provision for telemetry
- Emergency stop facility
- Door close security system

VARIABLE SPEED DRIVE PANEL

EXTERNAL FEATURES

- Padlockable 'door shut' overclasps
- Control and protect pumps 15kw to 75kw
- For internal and external applications
- Lifting hook
- Rain canopy
- Float switch control
- Isolator
- LCD digital display
- Potentiometer
- Emergency stop
- Running and tripped led
- Start / stop Pushbutton
- Rust resistant panel
- Rigid free standing frame
- Plug and Play

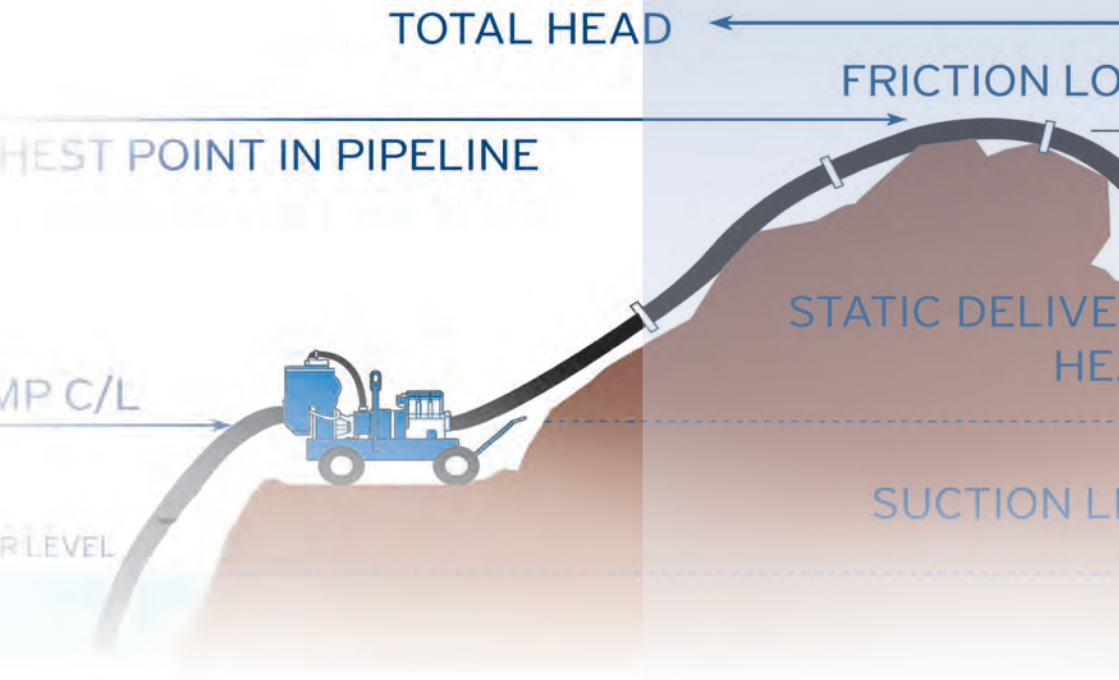
INTERNAL FEATURES

- Variable speed drive
- Built in fan and filter
- Main contactor
- Mains and motor terminals
- Control terminals
- Seal leak detection
- 4-20ma speed control (auto)
- Potentiometer speed control (hand)
- 'Door closed' security system
- Fuse protection for control circuit
- Provision for telemetry
- Provision for ultra-sonic input

INFORMATION

The following pages have been prepared as an easy reference guide to other useful supporting information that may not have been covered earlier in this document.

Whilst every care is taken to see that the information given in this document is correct and up to date it is not intended to form part of any contract or give rise to any collateral liability, which is hereby specifically excluded.



FLANGE SIZES

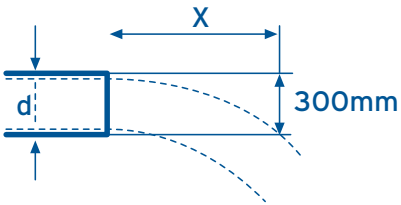
Imperial Flanges BS10 in Inches						
Nominal Bore	Table	Flange Diameter	P.C.D	Bolt Dimensions	Number of Holes	Flange Thickness
1	D	4 ½	3 ¼	1 x ½	4	3/16
1	E	4 ½	3 ¼	1 ¼ x ½	4	9/32
1 ½	D	5 ¼	3 7/8	1 ¼ x ½	4	¼
1 ½	E	5 ¼	3 7/8	1 ½ x ½	4	11/32
2	D	6	4 ½	1 ½ x 5/8	4	5/16
2	E	6	4 ½	1 ¾ x 5/8	4	3/8
3	D	7 ¼	5 ¾	1 ¾ x 5/8	4	3/8
3	E	7 ¼	5 ¾	1 ¾ x 5/8	4	7/16
4	D	8 ½	7	1 ¾ x 5/8	4	3/8
4	E	8 ½	7	2 x 5/8	8	½
6	D	11	9 ¼	2 x 5/8	8	½
6	E	11	9 ¼	2 ½ x ¾	8	11/16
8	D	13 ¼	11 ½	2 x 5/8	8	½
8	E	13 ¼	11 ½	2 ½ x ¾	8	¾
10	D	16	14	2 ½ x ¾	8	5/8
10	E	16	14	2 ¾ x ¾	12	7/8
12	D	18	16	2 ½ x ¾	12	¾
12	E	18	16	3 ¼ x ¾	12	1

Metric Flanges BS4504 in Millimeters						
Nominal Bore	NP	Flange Diameter	P.C.D	Bolt Dimensions	Number of Holes	Flange Thickness
25	10	115	85	12 x 50	4	16
25	16	115	85	12 x 50	4	16
40	10	150	110	16 x 60	4	16
40	16	150	110	16 x 60	4	16
50	10	165	125	16 x 60	4	18
50	16	165	125	16 x 60	4	18
80	10	200	160	16 x 65	8	20
80	16	200	160	16 x 65	8	20
100	10	220	180	16 x 70	8	20
100	16	220	180	16 x 70	8	20
150	10	285	240	20 x 70	8	22
150	16	285	240	20 x 70	8	22
200	10	340	295	20 x 80	8	24
200	16	340	295	20 x 90	12	24
250	10	395	350	20 x 80	12	26
250	16	405	355	24 x 90	12	26
300	10	445	400	20 x 80	12	26
300	16	460	410	24 x 90	12	28

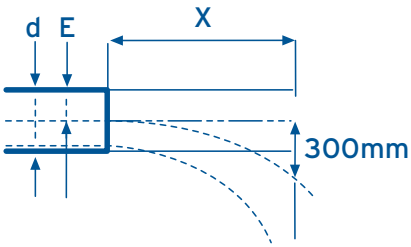
APPROXIMATE DISCHARGE FROM PIPES

How to approximate L/s flow from pipe by measuring "X"

Full Pipe



Partially Full Pipe



Formulae

Divide "E" by "d" for factor.
Multiply flow for full pipe of "d" diameter (Table 1) by % from Table 2.
E - Measure of empty portion of pipe
d - Measure of inside diameter of full pipe
Flow = L/s

Table 1
Pipe Diameter

Horizontal Distance (X)	50	70	100	150	200	250	300
300	2.6	5.7	9.5	22.2	38.5	60.5	87.0
350	3.0	6.6	11.5	25.8	44.9	70.7	101.0
400	3.5	7.5	13.0	29.6	51.3	80.8	116.0
450	3.9	8.5	14.6	33.3	57.7	90.9	128.0
500	4.3	9.5	16.3	36.4	64.2	101.0	145.0
550	4.7	10.4	17.9	40.1	70.6	111.0	159.0
600	5.2	11.4	19.5	44.5	77.1	121.0	174.0
650	5.6	12.3	21.2	48.1	83.4	131.0	188.0
700	6.1	13.3	22.8	51.8	89.8	141.0	202.0
750	6.4	14.2	24.4	55.5	96.4	151.0	215.0

Table 2
Flow from partially filled pipes

%	Factor	%	Factor
10	0.95	50	0.50
20	0.88	60	0.38
25	0.81	65	0.38
30	0.75	70	0.25
35	0.69	80	0.14
40	0.63	90	0.05
45	0.58	100	0.00

FRICTION LOSS

Losses in m/100 or ft/100									
IGPM	l/s	2" 50mm	3" 80mm	4" 100mm	6" 150mm	8" 200mm	10" 250mm	12" 300mm	m^3/hr
50	4	10	1.4	0.5					14
75	6	20	3	0.8					20
100	8	35	5	1.3					27
150	11		12	2.4					41
200	15		18	4.5	0.6				55
300	23		40	10	1.2	0.4			82
400	30			18	2.2	0.7			109
500	38			28	3.5	1.1	0.3		137
600	45			38	4.5	1.5	0.5		164
700	53				6.5	2	0.7		191
800	61				8	2.7	0.8		219
900	68				10	3.4	1	0.4	246
1000	76				13	4	1.4	0.5	273
1200	91				18	6	2	0.8	328
1400	106				28	8	3	1	383
1600	121					11	4	1.5	437
1800	136					14	4.5	2	492
2000	152					17	5	2.5	546
2500	189					25	9	4	683
3000	227						12	5	820
4000	303						21	8	1093
5000	379							13	1366

Friction Loss

In general, add 10% for sewage, and 2% per year for age of pipe.

Loss of head due to fittings, expressed in pipe diameters, giving an equivalent length of straight pipe.

Bell mouth = 12
Sluice valve = 6
Heavy non return valve = 60
Short radius bend = 30
45 degree bend = 15
Radial tee = 45

Footvalve and strainer = 75
Light non return valve = 36
Elbow = 75
Long radius bend = 18
Equal tee = 90
Taper piece = 45

Effect of change in speed on pump performance.

There exist certain relationships which allow the performance of a centrifugal pump to be predicted for another speed when the performance for a given speed is known.

When the speed of a centrifugal pump changes, the throughput at any given point varies directly to the speed, the head varies to the square of the speed and power varies to the cube of the speed. These relations are termed the affinity laws and can be expressed as follows.

$Q \propto N$ where Q = throughput $\quad H \propto N^2$ where H = head
$P \propto N^3$ where P = absorbed power $\quad N$ = speed rpm

Then for a given change in speed, taking suffix 1 as relating to known performance, and suffix 2 as the performance which is required we have:

$$\frac{Q2}{Q1} = \frac{N2}{N1} \quad \text{therefore} \quad Q2 = \frac{Q1 \times N2}{N1}$$

and $$\frac{H2}{H1} = \left(\frac{N2}{N1}\right)^2 \quad \text{therefore} \quad H2 = H1\left(\frac{N2}{N1}\right)^2$$

and $$\frac{P2}{P1} = \left(\frac{N2}{N1}\right)^3 \quad \text{therefore} \quad P2 = P1\left(\frac{N2}{N1}\right)^3$$

Effect of change in diameter of impeller.

The performance of a centrifugal pump can be varied by reducing the impeller diameter. The effect of impeller reduction has the following relationships, when the performance of a full diameter impeller is known.

$Q \propto D$ where Q = throughput $\quad H \propto D^2$ where H = head
$P \propto D^3$ where P = absorbed power $\quad D$ = impeller

therefore $$\frac{Q2}{Q1} = \frac{D2}{D1} \quad \text{therefore} \quad Q2 = \frac{Q1 \times D2}{D1}$$

and $$\frac{H2}{H1} = \left(\frac{D2}{D1}\right)^2 \quad \text{therefore} \quad H2 = H1\left(\frac{D2}{D1}\right)^2$$

and $$\frac{P2}{P1} = \left(\frac{D2}{D1}\right)^3 \quad \text{therefore} \quad P2 = P1\left(\frac{D2}{D1}\right)^3$$

Standard electrical supplies in the UK

110 volt single phase (110/1/50) standard voltage found on construction sites for small tools and portable appliances usually only available up to 32 Amp.

415 volt three phase (415/3/50) standard voltage on site and within industry for the larger equipment that is not portable.

240 volt single phase (240/1/50) standard domestic voltage used for household appliances, retail and light industrial.

Power = kilowatts (kW)

Current = Amps (A)

Voltage = Volts (V)

	Single Phase	Three Phase
kW=	$\frac{\text{Volts x Amps x Eff \%}}{1000 \times 100}$	$\frac{\text{Volts x Amps x Eff \% x PF x 1.73}}{1000 \times 100}$

Volt drop

The amount of voltage lost when using long cable lengths, causes cable to get hot and become unsafe. The motor will also draw excessive current causing overloads to trip and motor to overheat the maximum permissible voltage drop over a length of cable is 2.5%.

To calculate volt drop use table on page 188 or use the following calculation, based on copper cable.

$$\frac{\text{Voltage drop} = \text{Length of cable (m)} \times 0.018 \text{ (resist)} \times \text{Amps} \times 1.73}{\text{Cross sectional area of cable (mm}^2\text{)}}$$

The above will give the voltage lost in cable length (v) divide by the supply voltage will give the % drop which must not exceed 2.5%

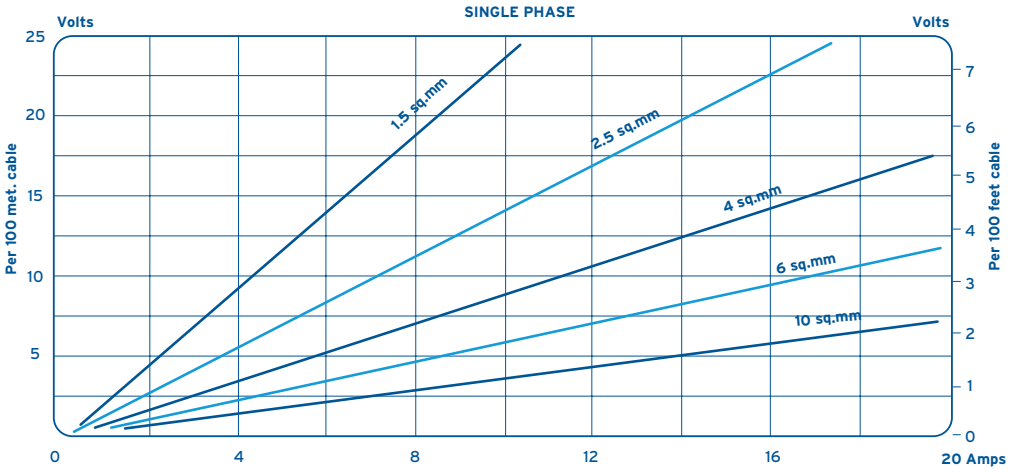
Example

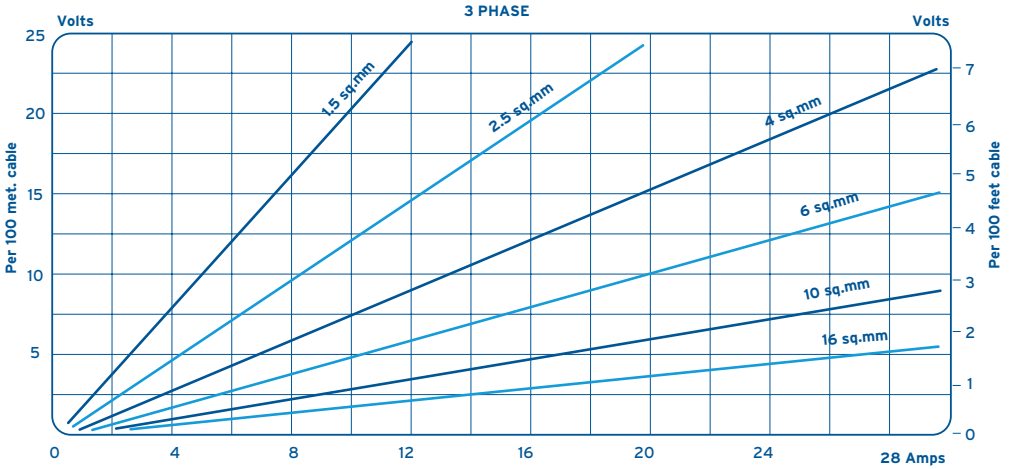
16 amp 3 phase 415 volt pump using 60 metres of 2.5 mm cable

$$\frac{60 \text{ X } 0.018 \text{ x } 16 \text{ x } 1.73}{2.5 \text{ mm}^2} = 11.96$$

11.96 volt / 415 volt = 2.8% Therefore a larger cable is required as the volt drop exceeds 2.5%

ELECTRICAL DATA





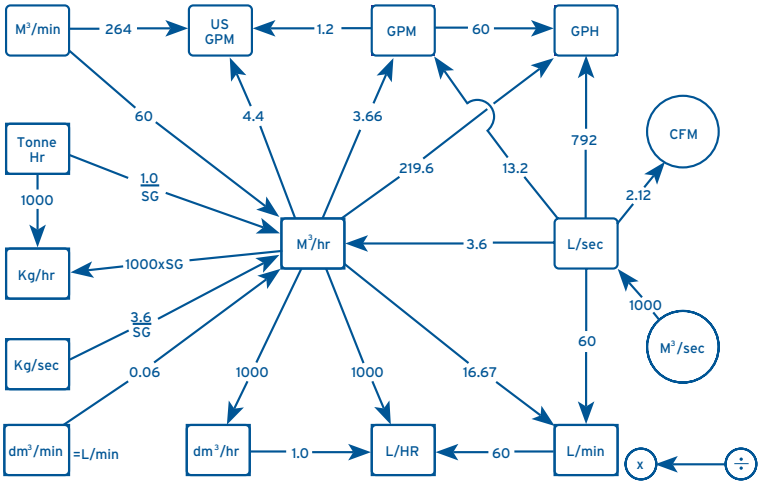
CONVERSION FACTORS

Inches	x	25.4	=	mm	x	0.0394	=	Inches
Feet	x	0.3048	=	m	x	3.281	=	Feet
Yards	x	0.9144	=	m	x	1.0936	=	Yards
Miles	x	1.609	=	km	x	0.6214	=	Miles
Ft2	x	0.0929	=	m^2	x	10.764	=	Ft^2
Miles2	x	2.59	=	km^2	x	0.3861	=	$Miles^2$
In3	x	16387	=	mm^3	x	0.000061	=	In^3
Ft3	x	0.02832	=	m^3	x	35.31	=	Ft^3
Gals (Imp)	x	4.546	=	L	x	0.22	=	Gals (Imp)
		0.004546	=	m^3	x	220	=	
Gals (US)	x	3.785	=	L	x	0.2642	=	Gals (US)

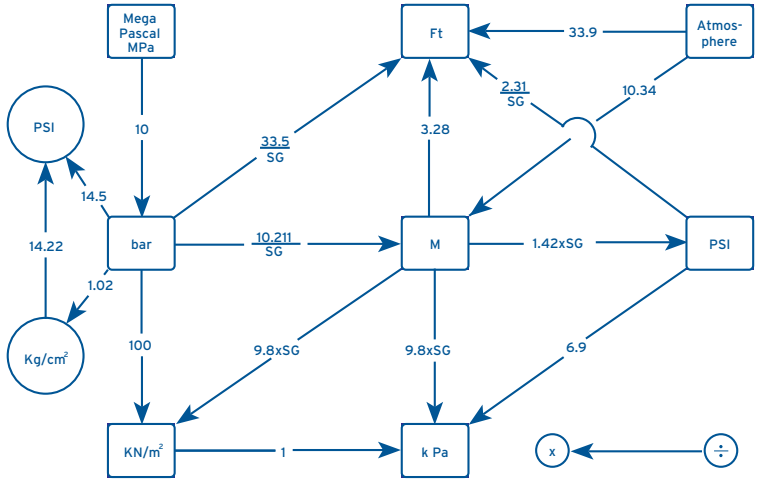
LBS	x	0.4536	=	kg	x	2.2046	=	LBS
Tons		1016		kg		0.000984		Tons
Gal/min (Imp)	x	0.2727	=	m^3/h	x	3.667	=	Gal/min (Imp)
		0.0757	=	L/ sec	x	13.21	=	
L/sec	x	3.6	=	m^3/h	x	0.277	=	L/sec
Gal/min (Imp)	x	1.2	=	USGPM	x	0.833	=	Gal/min (Imp)
PSI	x	0.06895	=	Bar	x	14.504	=	PSI
		0.703 S.G	=	M Liquid	x	1.422 x S.G	=	
Ft. Liquid	x	0.02989xS.G	=	Bar	x	33.456 S.G	=	Ft. Liquid
STD.ATM	x	1.01225	=	Bar	x	0.9879	=	STD.ATM
HP	x	0.7457	=	Kw	x	1.341	=	HP

CONVERSION FACTORS

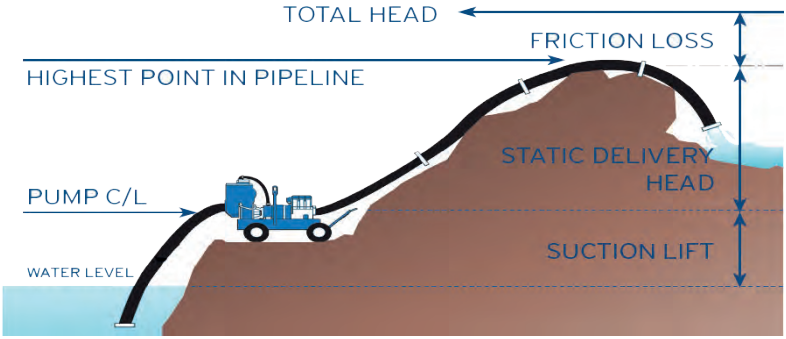
Flow Conversion



Head/Pressure Conversion



Self Priming Pump



Total Head

Total head is the sum of the static head from the water level to the highest point in the pipeline, plus the losses in the pipework, valves etc.

Head can be affected by the specific gravity and the viscosity of the pumped liquid. It would be normal to add 10% to the total head for sewage applications.

Submersible Pump