

YOUR PUMPING PARTNER FOR RESIDENTIAL AND APARTMENT COMPLEXES



be
think
innovate

GRUNDFOS 

Water pump solutions for Residential Building Services such as multi-residential spaces with home dwellers living in:



Group housing complexes



Independent Villas / bungalows



Multi-family homes



Apartment blocks (limited to 7 floors includes ground floor)

This booklet is intended to offer the choice of pumping solutions that can be incorporated in a residential project. It is a ready reckoner guide to:



Architects



Services Consultants



Project managers



Property developers & renovators



Independent home builders



Why Grundfos is the best fit?



Known for a partnership approach in addressing low water pressure challenges, optimisation of energy & water consumption



Efficient pumps for plumbing, landscaping and wastewater systems



Grundfos is an ideal choice for long term sustainable solutions



Reliable products and systems



Space-saving & low noise products



State-of-the-art technology in terms of metallurgy, digitalization and connectivity



Pre and post sales service capability



An organization with countrywide partners



HYDRO MULTI-E

Compact, reliable and versatile booster solution with system control redundancy

Intelligent pressure boosting system with built-in controls

The unique feature of Hydro Multi-E is its lack of a conventional control unit. In this intelligent solution, control of the system lies within the pumps, which are able to communicate with each other.

Since each pump can function as the controlling unit, there is full redundancy if a sensor or pump should fail.

Together with Grundfos GO, the Multi-E presents a highly reliable and versatile booster solution.



Applications

- Apartment buildings
- Domestic irrigation

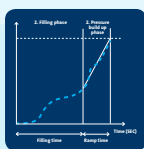
HYDRO MULTI-E

In more detail



High efficiency IE5 Motors

All motors used within the range comes with IE5 rating the highest energy efficiency for electrical motors.



No water hammer

Slow pipe filling is a feature used to slowly fill up e.g. an empty riser pipe in a high-rise building to avoid water hammering.



Multi-master control

Multi-master and redundant sensor, will enable the system to operate disregarding which pump is the controlling pump, with seamless switch-over in case a faulty sensor or pump.



The full overview with Grundfos GO

Need operation information such as operating hours, power consumption and energy consumption? With Grundfos GO every system operation detail is only a click away.

System Features

Perfect constant - pressure control



The speed-controlled pumps are perfectly controlled and adjusted by the PI controller of Hydro Multi-E to deliver the correct pressure at the required flow

Proportional pressure



Proportional pressure reduces friction losses in the pipe, providing lower operation costs, less water leakage, greater comfort for the end-user and reduced energy consumption.

Communication interfaces



Integrate fully into existing BMS or SCADA systems using the Grundfos CIM interfaces, which enable data communication via open and interoperable networks and ensure one solution offering complete process monitoring and control, increasing reliability.

Low energy consumption

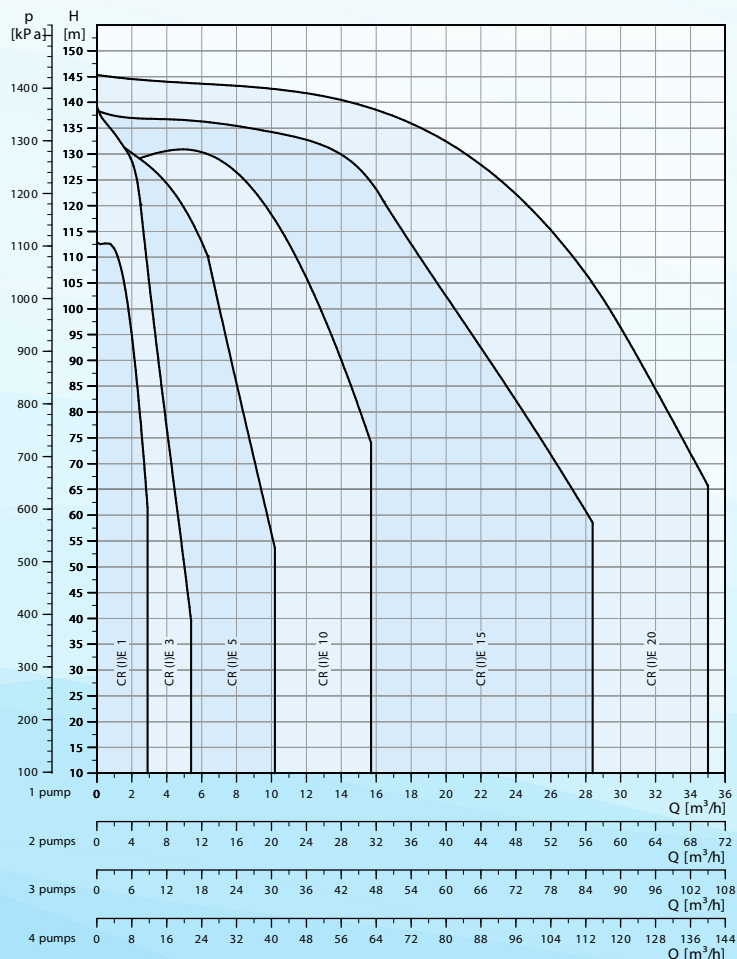


Hydro Multi-E ensures low energy consumption through speed-controlled pumps, automatic cascade control of the pumps and highly efficient low-flow operation. The highly efficient motors and pumps also contribute to the overall high efficiency of Hydro Multi-E system.

Technical details

Product range:	2-4 pumps
Flow range:	0-140m ³ /h - CRE & CRIE 0-80m ³ /h - CME
Pressure range:	PN10 & PN16
Max power:	4 x 11 kW
Liquid temp.:	0-60°C
Ambient temp.:	0-50°C

Performance curve: HYDRO MULT-E, CRE/CRIE



HYDRO MPC

Improves ease of operation and energy-efficiency

The Grundfos Hydro MPC booster systems are renowned for their high performance and extreme reliability – and now the new advanced controller improves ease of operation and energy-efficiency even further.

If standard is simply not good enough for your building in terms of clean water pressure boosting, the Grundfos MPC booster system is the obvious choice. It combines unrivalled efficiency with an extremely simple user interface to ensure that all daily operations are easily handled in a variety of applications.

Applications

- Residential
- Domestic irrigation
- villa Complex



System Control At Your Fingertips CU 352 Controller

The mastermind behind the efficiency and flexibility of our Hydro MPC booster systems is the Multi Pump Controller, CU 352. The primary job of the CU 352 is to determine the number of pumps that should be in operation and the speed of each individual pump. The advanced controller optimises the performance of the booster system and thereby minimises energy costs.

CU 352 Controller

The CU 352 controller controls up to six pumps and features both digital and analog outputs. Control functions include pump start and stop speed, compensation for start-up time, forced pump changeover, dry run protection, clock program and soft pressure build-up.

Features include:

- Colour screen
- Back-up battery (optional battery required)
- BUS communication (optional CIM card required)
- Log function

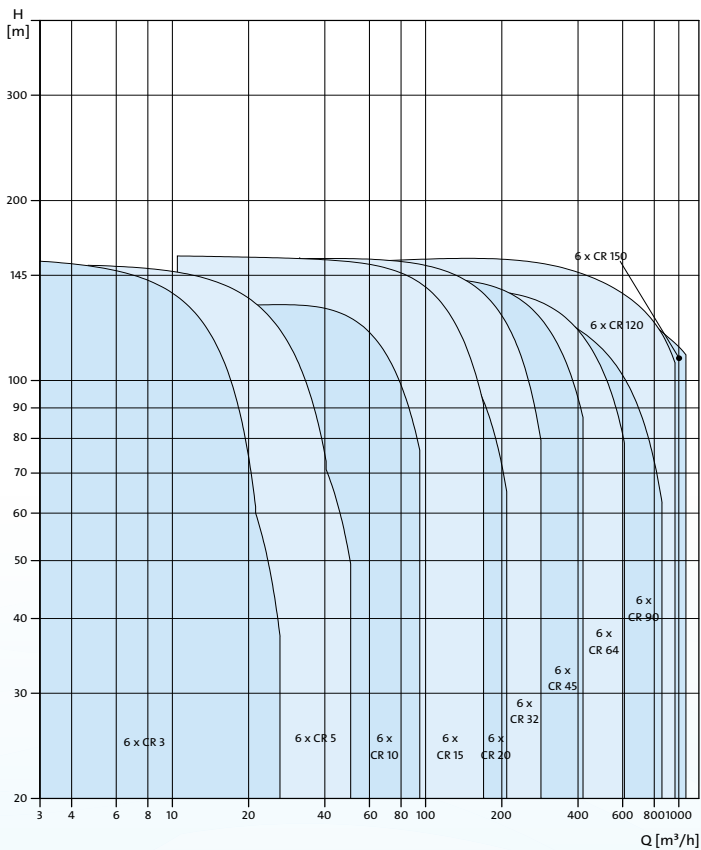
For a complete overview of functions, please consult the Hydro MPC Data booklet.

The Hydro MPC booster set is compatible with the following communication systems: Ethernet (built-in VNC server is standard) With optional CIM modules;

- PROFIBUS
- PROFINET IO
- LON
- Modbus RTU
- Modbus TCP
- GSM and GPRS
- GRM (Grundfos Remote Management)
- BACnet MS/TP
- BACnet IP

Connecting Hydro MPC to a computer via Ethernet allows remote monitoring and control of your booster system. This gives you easy and unlimited access to system performance and allows you to optimise system settings wherever you are.

Performance curve: HYDRO MPC



Product Variant

E

EF

F

S

Product image



Description

E system is with all integrated MGE motors which gives superior level of pressure regulation and energy performance.

EF system is with all external frequency converter which gives high level of pressure regulation and energy performance.

F System is with a single frequency converter, giving user a cost effective system with pressure regulation

S system is with all constant speed pumps controlled by a CU 352 controller

Suitable for

Any application with changing flow where precise pressure control and high level of system optimization is needed

Any application with changing flow where precise pressure control is needed

Applications with changing flow, where user can accommodate a pressure variation

For transport of water and pressure boosting where the operating within a pressure band is accepted

Max Head [m]

155

155

155

155

Max Flow Rate [m³/h]

1088

1088

1088

1088

Max operating pressure [bar] std

16

16

16

16

Max operating pressure [bar] req.

40

40

40

40

Number of Pumps

2-6

2-6

2-6

2-6

Motor Type

MGE 0.55 to 11KW (IE5)

75 kW

75 kW

37 kW

Pump Type

CRE/CRIE/CRNE

CR/CRI/CRN

CR/CRI/CRN

CR/CRI/CRN

Energy Marking

IE5

IE3

IE3

IE3

HYDRO MULTI B - CR / CM

Constant pressure, regardless of flow fluctuations

The Grundfos Hydro Multi-B is a booster system designed to maintain a constant pressure, regardless of flow fluctuations. The system can be installed in buildings where the mains water supply does not deliver a sufficient pressure or is unstable. The system is ideal for any clear water pressure-boosting application where adaptability and user comfort are in focus.

As standard, the booster systems consist of two, three or four CR / CM pumps coupled in parallel and mounted on a common base frame with all the necessary fittings and a control cabinet.

The booster system comes in two control variants with minimum of one CR/CM pump connected with an external frequency drive. This ensures perfect adaptation to the demand, high efficiency and protection against pressure surges in the installation.

The pumps are controlled in automatic cascade via the control cabinet mounted on the base frame. The CU 323 controller controls the speed of the CR/CM pumps and starts and stops the required number of pumps in order to adapt perfectly to the water demand of the application.

Applications

- Boosting & Distribution
- Terrace Boosting
- In -
 - Independent bungalows
 - Block of apartments
 - Row villas



Features of CU 323 Controller

- User-friendly and ease of operation
- Easy to control and monitor the system
- CU 323 - the controller takes care of the daily operation
- Compact and designed to last
- Constant-pressure control
- Pump cascade control
- Automatic pump changeover
- Proportional-pressure control (only for constant pressure applications)
- Stop function
- Speed-controlled pump
- Water shortage protection (dry-run protection)
- Bus communication
- Redundant primary sensor
- Standby pumps
- Tank-filling software

CU 323 Controller

Brain of Multi-B pump system developed and manufactured by Grundfos to control parallel connected pumps in pressure boosting applications.

Benefits include

- Simple and easy to use
- Energy efficient optimized cascade control of pumps
- Protects pumps against dry-run
- Protects pipe system against minimal pressure (pipe failure) and maximum pressure
- SCADA communication possible through expansion card installation in controller. Commonly used --- protocols available.

Technical Data

Variant	MULTI -B	
	CM	CR
Description	Multi-B ES system has only one speed controlled pump (External VFD) and rest are fixed speed pumps. Multi-B EF system has all pumps with external VFD for speed control.	
Suitable	Perfect booster for small and medium size residential buildings where a pressure band is allowed	
Max Head [m]	120	125
Max Flow Rate [m ³ /hr]	108	108
Max Operating Pressure (BAR)	16	16
Number of pumps	2-4	2-4
Power upto	7.5 kW	7.5 kW

Controls
2 – 4 pumps
in parallel
Simple interface!



HYDRO MULTI S

Custom-built booster systems with two or three CM / CR pumps

Grundfos Hydro Multi-S booster systems consist of two or three identical Grundfos CM or CR pumps connected in parallel and mounted on a common base frame and a control cabinet with motor-protective circuit breaker and integrated controller. Hydro Multi-S booster systems are supplied as complete, pre-assembled and tested systems

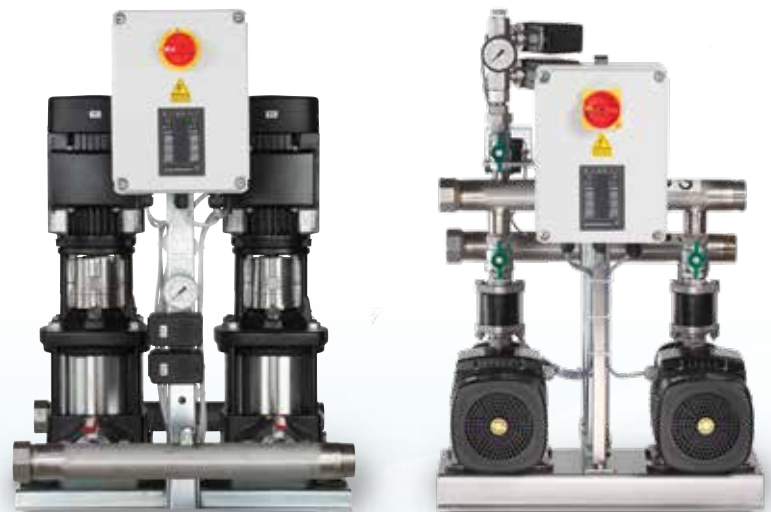
including suction and discharge manifolds, isolating valves, non-return valves, pressure gauge and pressure switches. To ensure reliable operation, the booster system must be fitted with a suitable diaphragm tank. Automatic pump operation is based on system demand and controlled by pressure switches (one for each pump)

Applications

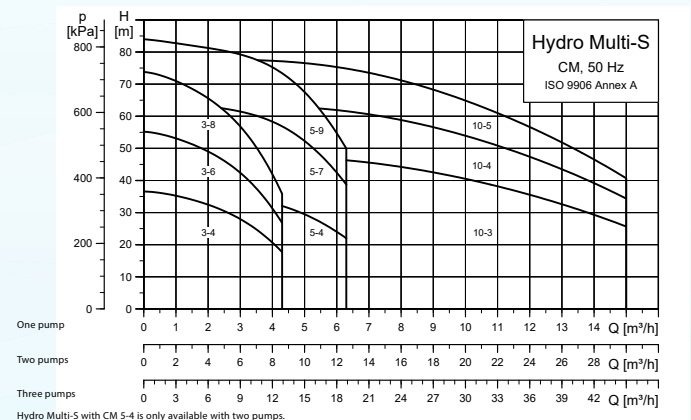
- Independent homes/ group homes
- Blocks of apartments
- Terrace booster

Features

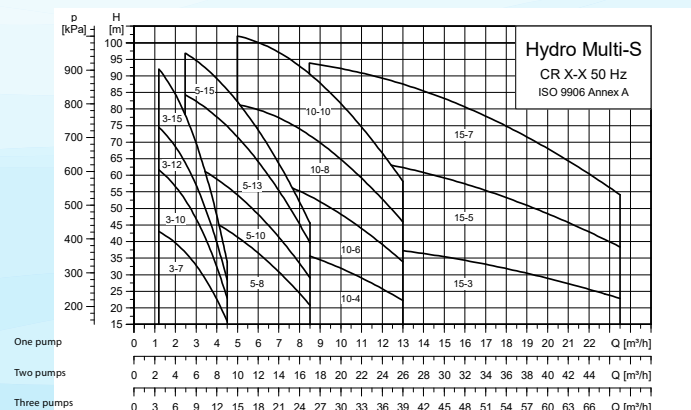
- Automatic cascade control
- Automatic pump changeover
- Dry-running protection
- Automatic resetting of dry-running fault
- Start-up delay between pumps
- Motor protection by means of a thermal overload relay
- Short-circuit protection by means of fuses



Hydro Multi-S with CM pumps



Hydro Multi-S with CR pumps



Technical Data

Variant	MULTI -S	
	CM	CR
Description	Multi-S with CM horizontal fixed speed pumps, has advantages of being compact and sturdy	Multi-S is an optimal fixed speed booster with CR - vertical Multi stage pumps which has all basic functionality of a booster
Suitable	As competitive solution in the fixed speed booster market	
Max Head [m]	84	103
Max Flow Rate [m³/hr]	43.5	69
Max Operating Pressure (BAR)	10	16
Number of pumps	2-3	2-3
Power	5.5 kW	7.5 kW

CRE

Optimum Performance For Pressure Boosting Applications

The CRE pumps are based on the CR pumps. CRE pumps belong to the E-pump family and hence are referred to as E-pumps. The difference between the CR and CRE pump ranges is the motor. CRE pumps are fitted with an E-motor, meaning a motor with a built-in frequency converter.

The E-pump motor is a Grundfos MGE motor designed to meet EN standards. The built-in frequency converter enables continuous variable control of the motor speed. This means that the pump can be set to operation

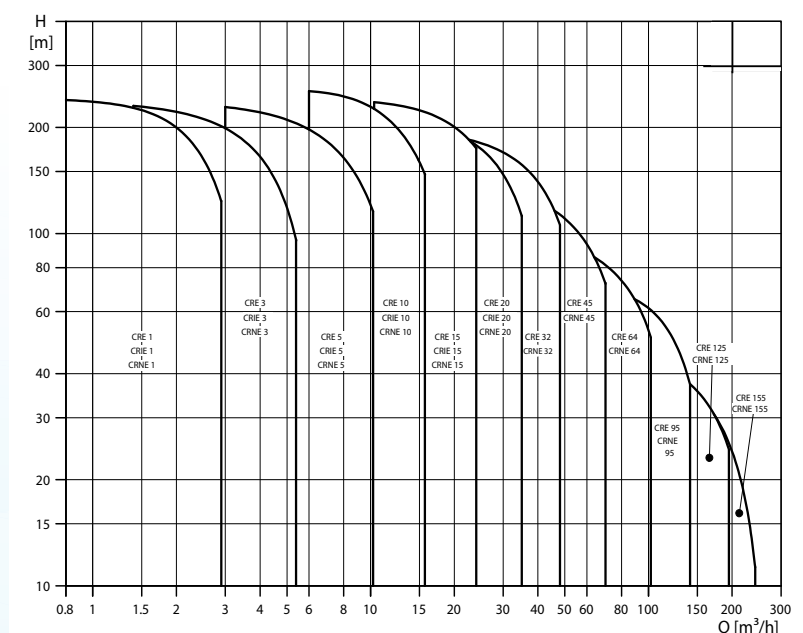
at any duty point.

The purpose of continuous variable speed control of the motor speed is to adjust the performance to a given requirement.

When to select an E-pump

controlled operation, meaning that the consumption fluctuates constant pressure communication with the pump without any additional controller.

Performance range



Booster accessories at extra cost.

CRE pumps can be integrated with pressure sensor (add on feature) connected to the frequency converter that functions as a feedback sensor for constant pressure control which can be used as pressure booster application (SOLO Pressure Booster Pump)

Features

- Easy and quick installation – simple plug-and-pump
- High comfort and operational safety – dry-running and anti-cavitation protection
- Flow monitoring and system protection – advanced flow estimation algorithm
- Easy performance overview – built-in graphical display
- Constant pressure control - Perfect water pressure regardless of consumption
- Dry-running protection - Less risk for pump damage
- Anti-cavitation protection (flow limit) - Protects pump operation
- Running/Alarm relay output - Easy and simple integration into a BMS system

Technical Data

Flow range :	0-71 m ³ /h
Pressure range :	PN10 & PN16
Max power :	11 kW
Liquid temp. :	0-60°C
Ambient temp. :	0-50°C

CR - VERTICAL MULTISTAGE PUMP

Suitable for a wide diversity of pumping systems

CR, CRI and CRN pumps are vertical multistage, centrifugal pumps. The in-line design of the pumps enables installation in a horizontal one-pipe system where the inlet and outlet ports are in the same horizontal level and have the same pipe dimensions. This design provides a more compact pump design. CR pumps are available in various sizes and various numbers of stages to deliver the flow rate and

pressure required. CR pumps are designed for a variety of applications ranging from the pumping of potable water to the pumping of chemicals. The pumps are therefore suitable for a wide diversity of pumping systems where the performance and material of the pump meet specific demands. CR pumps are available in various material versions according to the pumped liquid.

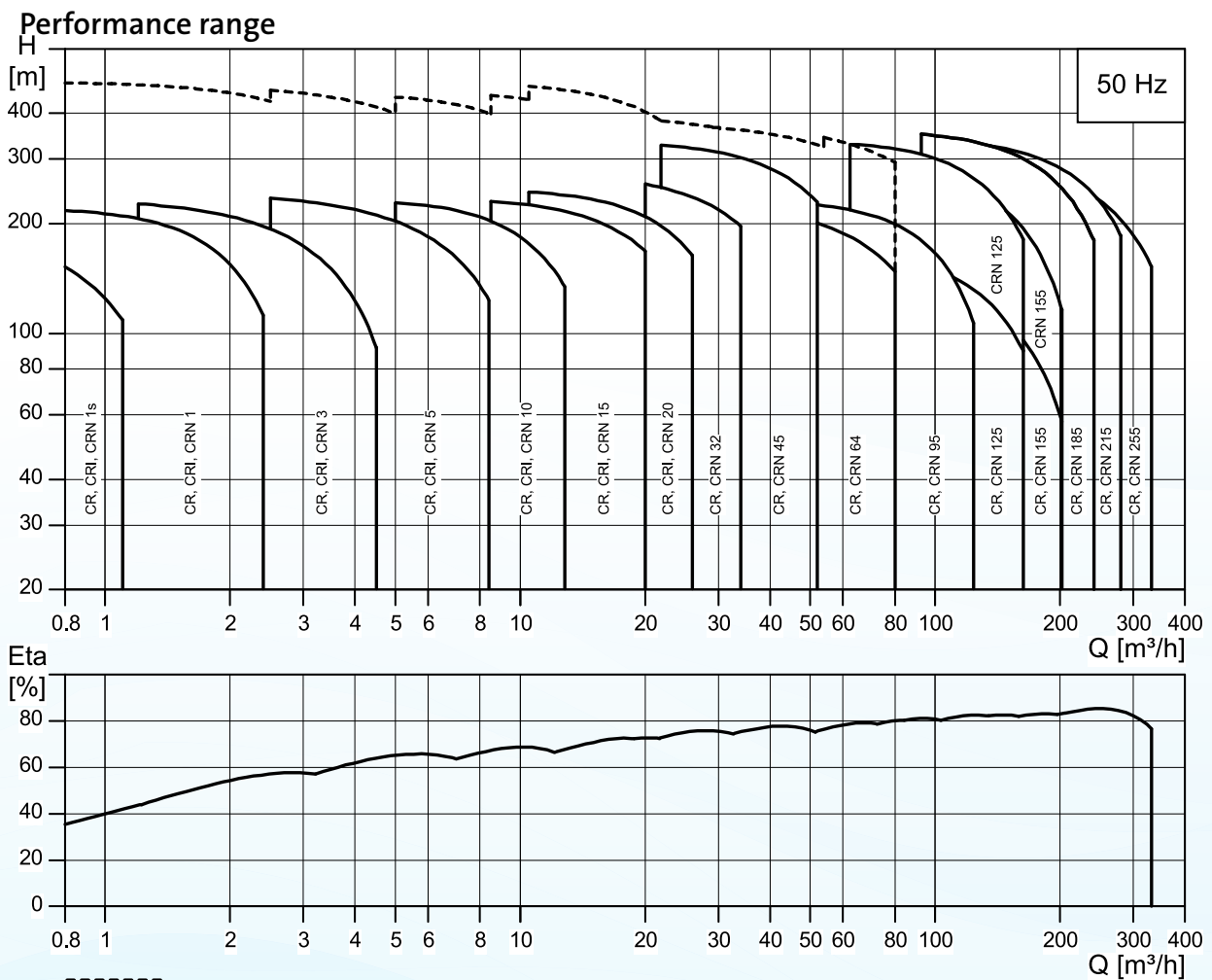
Applications

- Water supply
- Cooling
- Heating
- Pressure boosting
- Water treatment
- Transfer of clean liquids (cold or hot)



Technical Data

- Liquid temperature -20 to +120 °C (standard)
- Flow Range – 0.5m³/h to 255m³/h
- Motor Power : 0.37 – 200 kW
- Max Pressure : upto 35bar
- Motor efficiency class : IE3
- Insulation Class : F
- MOC : Available in Cast Iron(CR), Stainless Steel 304(CRI), Stainless Steel 316(CRN).



Performance range for CR, CRI, CRN 50 Hz

Key Features

Superior Reliability

The CR pumps are renowned for its reliability. The CR pumps design has all the durability that customers expect from high quality multistage pump.

We have added unique features to ensure unsurpassed reliability:

- Dry running protection by introducing the Grundfos Liq Tec.
- A unique cartridge seal for a safe and easy handling
- Hard-wearing materials

Focus on Cost of Ownership

Electricity is the most expensive part of any pump operation. This simple fact is often overlooked when pumps are compared.

It may still surprise some to learn that the purchase price and maintenance costs account for less than 25% of the total life-time cost of a pump. Obviously, this means that electricity accounts for a staggering 85% or more of the the total costs. This is where the Grundfos CR pump makes a real difference.

SEG TOUGH WASTEWATER PUMPS

With Grinder System

In areas with no sewer systems or where gravitation systems are unsuitable, pressurised systems can transfer wastewater to the sewer mains. The Grundfos grinder pump range (SEG) is ideal for such systems. The grinder system makes it possible to use smaller pressure pipes and reduce investment costs.

The Grundfos SEG pumps are specifically designed for pumping untreated wastewater from domestic,

commercial or municipal sources. The high discharge pressure enables transfer of wastewater over longer distances.

To reduce maintenance time, the effective grinder system is easily and quickly dismantled in the event of replacement. The unique SmartTrim simplifies maintenance adjustments of the impeller clearance for optimum pressure at all times.

Applications

- Commercial wastewater
- Domestic wastewater
- Flood control
- Wastewater transport

Features

- Enhanced reliability
- Improved discharge pressure over longer distances
- Highly effective grinder system enables smaller pressure pipes
- SmartTrim system maintains high pressure by simple adjustment of impeller clearance
- Cable plug is sealed against moisture entering via the cable core



Tough and reliable pumps – with many unique features



Moisture-proof plug
A two-component sealant filling the plug prevents moisture from entering the motor via the cable core.



Short rotor shaft
Compact motor construction reduces vibration to protect bearings.



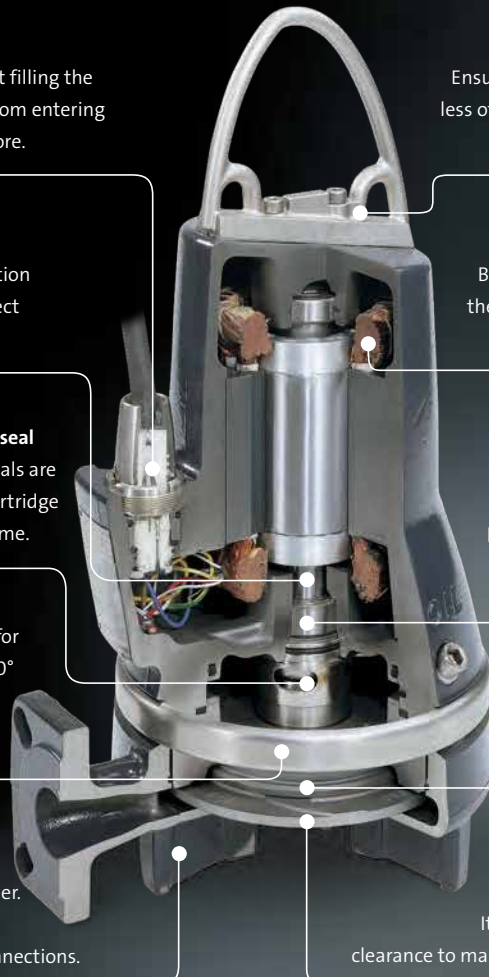
Double mechanical shaft seal
Primary and secondary seals are combined into a single cartridge to reduce maintenance time.



Easy-to-open clamp
Easy to access the pump for maintenance. Enables 180° rotation of the motor housing.



Cast-iron flange and feet
Feet on the pump housing protect the grinder. The discharge flange fits both DN40 and DN50 connections.



Multiple lifting points
Ensures correct lifting regardless of the angle of installation or cable position.



Motor protection
Built-in thermal sensors in the motor windings protect against overheating.



Heavy-duty ball bearings
Maintenance-free ball bearings. Greased for life.



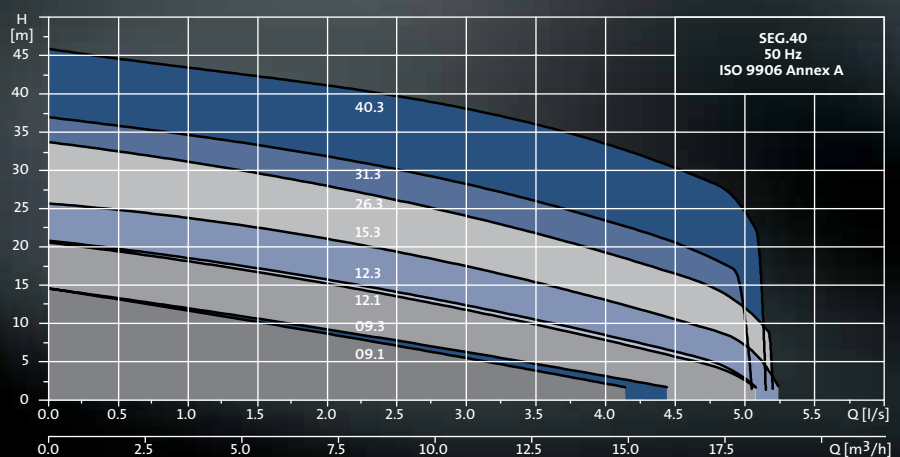
Highly effective grinder
Effective cutting by a highly reliable, patented grinder.



SmartTrim impeller adjustment
It's easy to adjust impeller clearance to maintain peak performance.



Performance overview



DPK - SUBMERSIBLE DRAINAGE PUMPS

High pressure and reliable drainage pumps – designed for your varied needs

The DPK range of submersible drainage pumps from Grundfos provides surface water drainage, combining installation flexibility and high-pressure capabilities with reliability and ease of service.

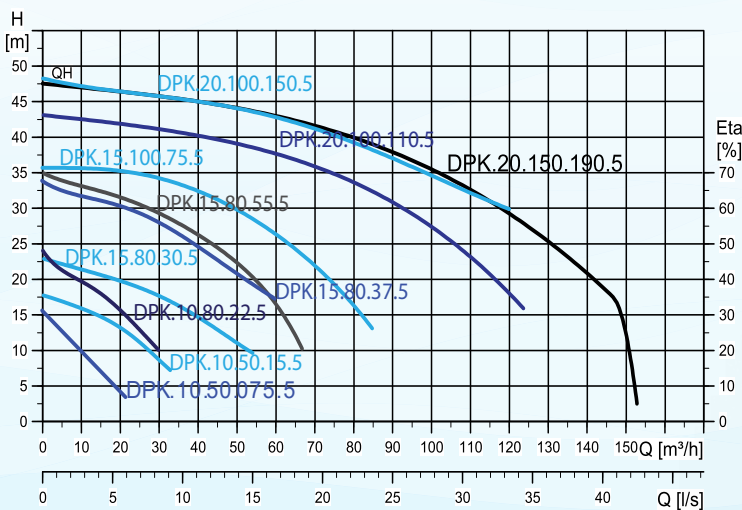
The DPK range presents a surprisingly compact design, considering the pressure capabilities on offer. Together with the solid cast-iron construction and available

installation options, the DPK range is perfect for drainage pit applications.

Flexibility characterizes the DPK range. Simply install the pump on an auto-coupling rail or use free-standing with a flexible hose or flange connection for an incredibly easy to service, cost effective drainage solution.

Applications

- Flood Control
- Underground drainage pits
- Courts drainage solutions



Features

- Motor protection
- Semi-open ductile cast iron impeller
- The double mechanical seal
- Easy maintenance oil plug
- Flange or hose connection
- Auto-coupling or ring stand - Flexible submerged installation
- DPK pumps upto 2.2 kW are supplied with ring stand

Technical data

Motor size :	0.75 - 22 kW
Flow rate (Q) :	45 l/s (165 m³/h)
Head (H) :	56 m
Liquid temperature :	0°C to +40°C
Discharge diameter :	DN 50-DN 150
Free passage :	10 to 20 mm
Insulation class :	F
Maximum hydraulic efficiency :	Upto 74%

DPK.V SUBMERSIBLE SEWAGE PUMPS DURABLE AND RELIABLE VORTEX SEWAGE PUMPS

– designed for building service applications

The DPK.V range of submersible sewage pumps from Grundfos combines durable performance with ease of installation, providing an immediate return on your building service investment.

The DPK.V is intended for submersible use in

underground sewage collection tanks in or around buildings when cost-effective and reliable sewage transport is required. The compact and service friendly design and the flexible installation options combine to make the DPK.V the perfect choice.

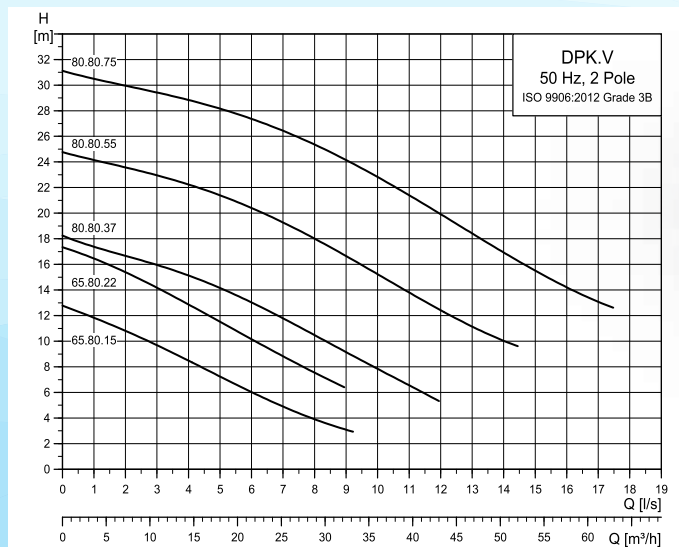
Applications

- Effluent
- Screened wastewater
- Waste water treatment

Technical data

Impeller :	Vortex
Free Passage :	65mm -80mm
Motor Size :	1.5 to 7.5 kW
Liquid temperature:	0°C to +40°C
Head Max:	31 mts
Flow Max:	60m ³ /hr

DPK.V Performance curve



DWK -SUBMERSIBLE CONTRACTOR PUMPS

Durable and compact dewatering pumps
- designed for simplicity and use

The DWK range of submersible contractor pumps from Grundfos combines durable performance with ease of installation, providing an immediate return on your dewatering solution investment.

The solid cast iron construction and narrow design means the DWK range is ideal for pits, for temporary or fixed installation, in fact any situation where effective dewatering is needed.

If high-pressure pump performance unhindered by sand or other abrasives is required, or if the available power supply is limited, the DWK range provides the effective dewatering solution for you.

Applications

- Raw Water Intake
- Drinking Water Treatment
- Water Distribution
- Wastewater Transport and Flood Control
- Wastewater Treatment

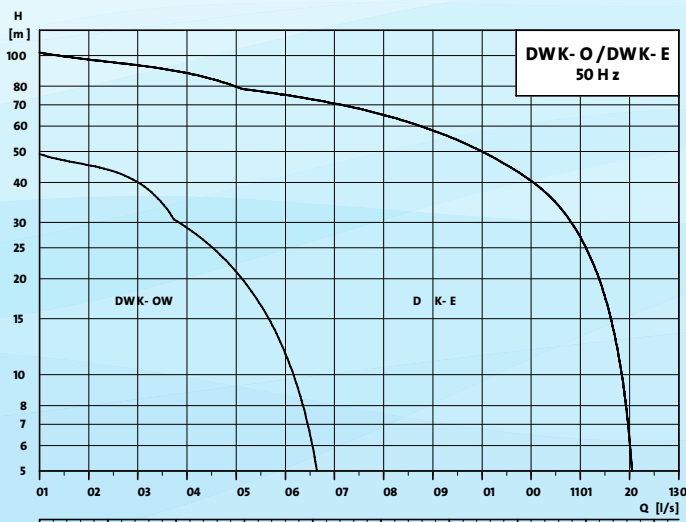


Features

- High efficiency motor
- Hose, Storz or flange connection on the top
- Integrated thermal protection
- Shaft seal
- Easy maintenance oil plug
- Highly efficient and wear-resistant impeller

Technical data

Motor size:	0.75 - 90 kW
Flow rate (Q):	110 l/s (430 m ³ /h)
Head (H):	160m
Liquid temperature:	0° to +40°C
Discharge diameter:	2" - 6"
Free passage:	Strainer
Insulation class:	F



UNILIFT AP

Unilift ap range reliable & long-lasting Wastewater pumps

The UNILIFT AP are submersible wastewater pumps suitable for temporary as well as permanent free-standing installation. Furthermore, UNILIFT AP pumps are suitable for installation on an auto coupling. All pumps are fitted with carrying handles.

The UNILIFT AP pumps have a stainless steel sleeve for cooling during operation. All pumps can be supplied with plug or no plug options.

Applications

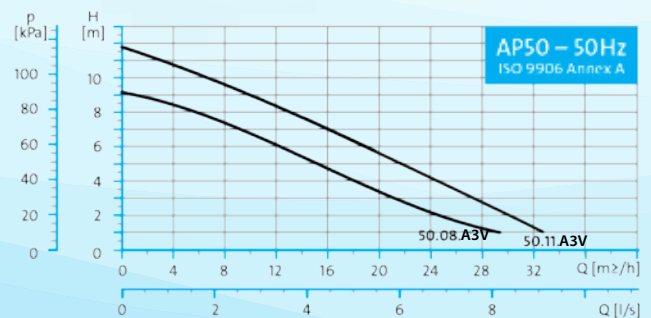
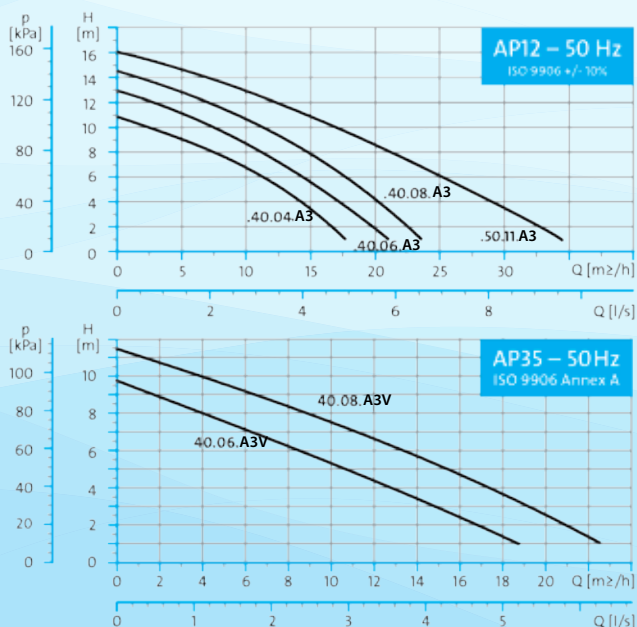
- Rainwater, drainage water and water from flooding
- Pool water
- Effluents from showers, washing machines and sinks below sewer level
- Water and rainwater in horticulture

Features

- Stainless steel
- Replaceable cable
- Single-phase protection - no additional motor protection needed
- Semi-open or vortex impeller
- Handy and easy to transport
- Clip-on strainer prevents large particles from entering
- Permanent as well as portable installation
- Optional automatic operation



UNILIFT AP – PERFORMANCE CURVES



Get the GO Remote app and control all Grundfos E-products

Take advantage of our mobile app for remote pump control and monitoring. Boost your workflow efficiency and make sure everything is running exactly as you want – at all times.



Control pumps remotely

With the app in your hand, you can control one or more pumps remotely, monitor their duty points, power consumption, speed and temperature.



Easy to use

The intuitive graphical interface supports 30+ languages, with step by step assistance available for online pump configuration, maintenance and repair



Generate pump reports

The app lets you generate and sign PDF reports on the spot to save you the hassle with pen, paper and printouts – and you can choose to mail the report to yourself or your customer.



Easy troubleshooting

No more guessing why a pump is not up to par. The app will tell you what's wrong and what to do about it.



Download our **Go Remote App** from



NEED SERVICE FOR GRUNDFOS PRODUCTS & SOLUTIONS USE GRUNDFOS SmArt Serv APP

Being the world's largest pump manufacturer, we are always committed to delivering service excellence to our customers. In an endeavor to providing prompt service, we have come up with an intelligent solution - the Grundfos SmArt Serv app. It is the quickest way of getting service support for Grundfos products and solutions



Smart Serv

With SmArt Serv App You can :

- Find the nearest service provider
- Track the status of service requests
- Escalate late responses
- Get a service report/quotation for spare parts
- Provide feedback on service quality



Download this app to know more





WORLD OF GRUNDFOS IN YOUR HAND



THE GRUNDFOS PRODUCT CENTER ONLINE TOOL LETS YOU SIZE PUMPS, BROWSE THE GRUNDFOS PRODUCT CATALOGUE, FIND APPROPRIATE REPLACEMENT PUMPS AND FIND PUMPS FOR HANDLING SPECIFIC LIQUIDS

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