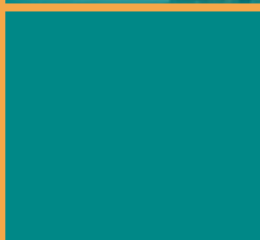
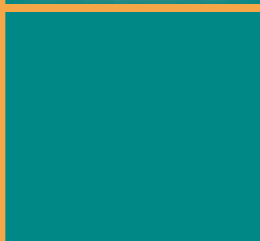


city® pumps



SUBMERSIBLE ELECTRIC WATER PUMPS
FOR DOMESTIC AND INDUSTRIAL USE





Introduction



Company profile

CITY PUMPS is the latest breakthrough from INOX POMPE. The company has undergone a restyling with a European brand image and an international repute in the manufacture of electric water pumps for civilian, agricultural and industrial applications.

The productive standards implement all the electric and hydraulic inspections prescribed by the EU safety regulations and use productive plants that are among the technologically most advanced in the electro technical and mechanical industry.

We export to over 50 countries.

CITY PUMPS works in conjunction with leading international groups in the research and production of civilian and industrial electric water pumps.





a wide range of...

Performances of City Pumps' submersible range of water pumps

City Pumps offers a wide range of electric water pumps for domestic, civilian and industrial applications.

Its range of products meets the requirements of an efficient product, simple to use, flexible and with low power consumption.





	Products	Range of performance	Applications	Page
SPEED PLURI		Flow rate up to 100 l/min (6 m³/h) Head up to 42 m	<p>They are recommended for pumping clean water with a sand content no higher than 50 g/m³. Their high efficiency and reliability makes them suitable for supplying domestic water from tanks, reservoirs or relatively deep wells, drawing rainwater from cisterns, watering by hand or feeding.</p>	Page 10
SPEED		Flow rate up to 400 l/min (24 m³/h) Head up to 14.5 m	<p>The SPEED series is suitable for draining clear water without abrasive particles. The construction guarantees simple and safe operation due to the complete cooling of the motor by the pumped water and the double seal design. They are recommended for emergency draining of small flooded areas (rooms, cellars, garages), for the disposal of waste water in the home (dishwasher, washing machine) and for emptying drainage traps.</p>	Page 12
SPEED MOP		Flow rate up to 220 l/min (13.2 m³/h) Head up to 9 m	<p>The SPEED MOP series is suitable for draining clear water without abrasive particles. Their ability to drain water down to 2 millimetres from the floor makes them ideal for emergency domestic use of small flooded areas and in all those applications where maximum drainage is required.</p>	Page 14
SPEED VORTEX		Flow rate up to 180 l/min (10.8 m³/h) Head up to 7 m	<p>The SPEED VORTEX pump is suitable for draining dirty water that is chemically non aggressive. The construction guarantees simple and safe operation due to the complete cooling of the motor by the pumped water and the double seal design. It is recommended for domestic use, for the clearing of dirty water, for emptying tanks, domestic drains and collection traps, even with suspended solid bodies with dimensions up to ø 20 mm.</p>	Page 16
F1		Flow rate up to 300 l/min (18 m³/h) Head up to 23 m	<p>F1 pumps are suitable for draining clear water without abrasive particles. The construction guarantees simple and safe operation due to the complete cooling of the motor by the pumped water, and the double seal design. They are recommended for fixed installations, emergency draining of small flooded areas (basement rooms, cellars, garages), for disposal of dirty water used in the home by washing machines and dishwashers and for draining collection traps.</p>	Page 18



	Products	Range of performance	Applications	Page
F1 VORTEX		Flow rate up to 450 l/min (27 m³/h) Head up to 14.5 m	F1 VORTEX pumps are suitable for draining dirty water. The construction guarantees simple and safe operation, due to the complete cooling of the motor by the pumped water. They are recommended for domestic use, for draining dirty water containing suspended solids.	Page 20
DRENO		Flow rate up to 300 l/min (18 m³/h) Head up to 14 m	Designed for draining clear or slightly dirty water, they are suitable for domestic use, for draining flooded areas such as cellars and for emptying tanks and reservoirs; they are outstanding in both their simplicity of installation and their reliability in fixed installations with automatic operation.	Page 22
COBRA		Flow rate up to 300 l/min (18 m³/h) Head up to 10 m	COBRA pumps are recommended for draining waste water in the domestic sector, for clearing dirty water, even containing suspended solid bodies with dimensions up to \varnothing 40 mm. They are outstanding in both their simplicity of installation and their reliability in fixed installations with automatic operation.	Page 24
SECURITY		Flow rate up to 400 l/min (24 m³/h) Head up to 27 m	Designed for draining clear or slightly dirty water with small solids, they are recommended for domestic, civil and professional use, for draining flooded areas such as cellars and garages or for emptying swimming pools or tanks and for disposing of non-sewage waste water. These pumps are outstanding in their reliability in fixed installations with automatic operation.	Page 26
RANGER		Flow rate up to 500 l/min (30 m³/h) Head up to 15 m	They are recommended for domestic, civil and industrial use, in applications where the water contains suspended solids with dimensions up to \varnothing 50 mm. Their use is recommended for draining flooded areas such as cellars, underground car parks, car washing areas, or domestic drains and for emptying cesspits or sewage disposal. These pumps are outstanding in their reliability in fixed installations with automatic operation.	Page 28



	Products	Range of performance	Applications	Page
RANGER MC		Flow rate up to 800 l/min (48 m³/h) Head up to 15 m	<p>RANGER MC submersible pumps are recommended for draining dirty water and sewage in the domestic and civil sectors. They are equipped with a DOUBLE-CHANNEL stainless steel impeller which allows the pumping of liquids containing suspended solid bodies with dimensions up to ø 50 mm and short fibres. They are ideal for pumping drainage water, sewage or waste water for a single dwelling, and for clearing surface or nuisance water, even if muddy. These pumps are outstanding in their reliability in fixed installations with automatic operation.</p>	Page 30
RANGER SS		Flow rate up to 400 l/min (24 m³/h) Head up to 10 m	<p>They are recommended for draining waste water in the domestic, civil and industrial sectors, in applications where the water contains suspended solids with dimensions up to ø 50 mm. Their use is recommended for drying flooded areas such as cellars, underground car parks, car washing areas and for emptying cesspits or sewage disposal. These pumps are outstanding in their reliability in fixed installations with automatic operation.</p>	Page 32
RANGER MC SS		Flow rate up to 800 l/min (48 m³/h) Head up to 15 m	<p>RANGER MC SS submersible pumps are recommended for draining dirty water and sewage in the domestic and civil sectors. They are equipped with a DOUBLE-CHANNEL stainless steel impeller which allows the pumping of liquids containing suspended solid bodies with dimensions up to ø 50 mm and short fibres. They are ideal for pumping drainage water, sewage or waste water for a single dwelling, and for clearing surface or nuisance water, even if muddy. These pumps are outstanding in their reliability in fixed installations with automatic operation.</p>	Page 34
SECURITY G		Flow rate up to 400 l/min (24 m³/h) Head up to 27 m	<p>SECURITY G submersible pumps, made of exceptionally sturdy heavy-gauge cast iron, resistant to abrasion and long-lasting, are recommended for draining clear or slightly dirty water and for disposing of non-sewage waste water; they are outstanding both in their sturdiness and their reliability in fixed installations with automatic operation.</p>	Page 36
TITAN 35-45		Flow rate up to 500 l/min (30 m³/h) Head up to 15 m	<p>The pumps in the TITAN series are made of exceptionally robust heavy-gauge cast iron, resistant to abrasion and are equipped with a vortex type impeller. They are recommended for draining waste water containing suspended solid bodies, sewage and water mixed with mud.</p>	Page 38

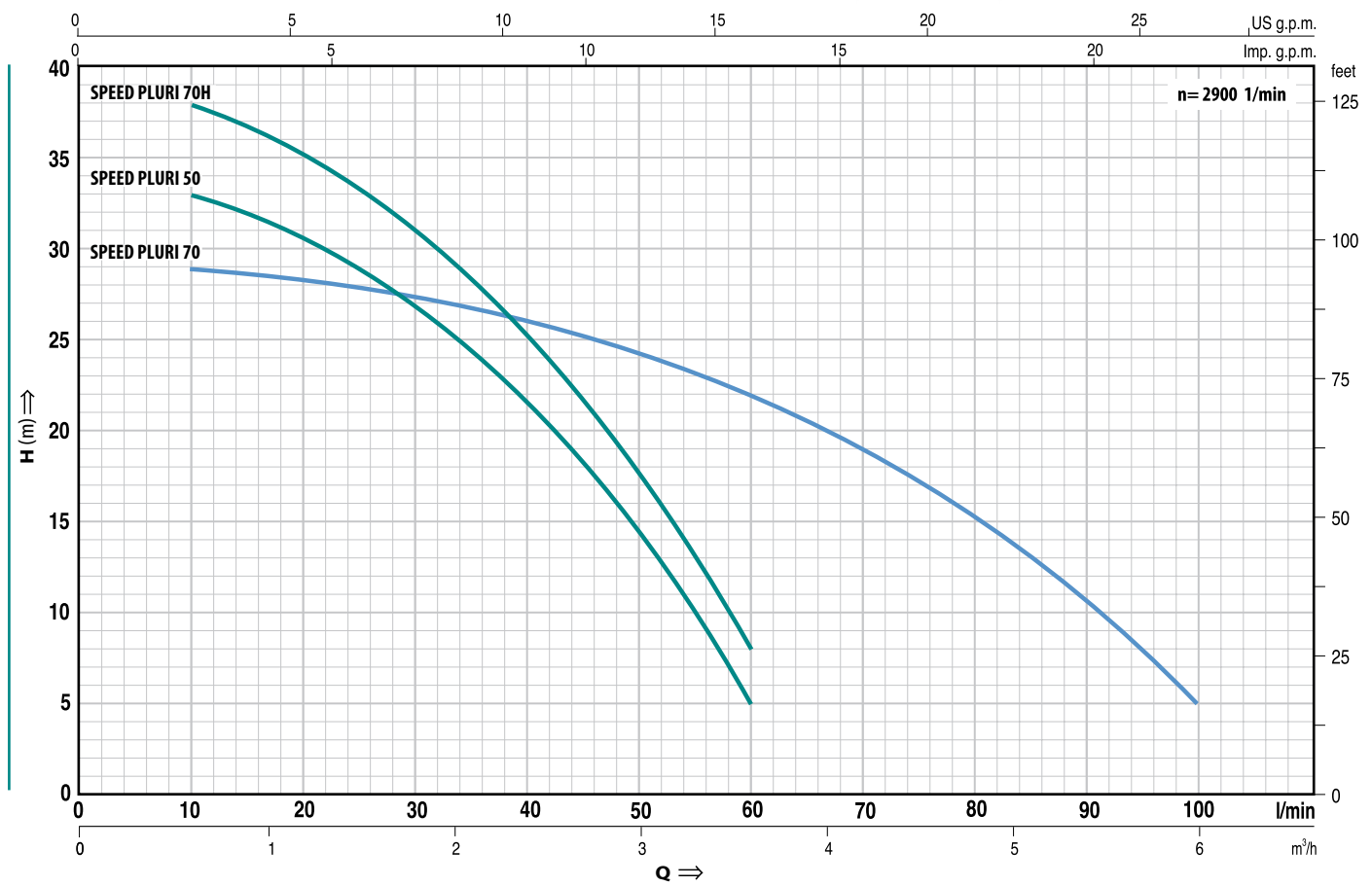


	Products	Range of performance	Applications	Page
PATROL 45		Flow rate up to 800 l/min (48 m³/h) Head up to 15 m	<p>The pumps in the PATROL series are made of exceptionally robust heavy-gauge cast iron, resistant to abrasion and long-lasting. They are equipped with a double-channel impeller which allows the drainage of liquids containing suspended solid bodies with dimensions up to ø 45 mm and short fibres. They are ideal for pumping drainage water and sewage, waste water including water mixed with mud, groundwater and surface water in applications such as: condominiums, multi-storey and underground car parks, washing areas and industry.</p>	Page 40
TITAN 50-70		Flow rate up to 1200 l/min (72 m³/h) Head up to 16 m	<p>TITAN series pumps are made of exceptionally robust heavy-gauge cast iron, resistant to abrasion and long-lasting, and have a vortex type impeller. They are suitable for sewage, waste water and sludge, including water containing solids or mud. They are ideal for sewage installation, tunnels and other excavations, underground car parks and similar applications.</p>	Page 42
PATROL 50-70		Flow rate up to 1600 l/min (96 m³/h) Head up to 24 m	<p>PATROL series pumps are made of exceptionally robust heavy gauge cast iron, abrasion resistant and long-lasting, with a single-channel impeller which can handle liquids with suspended solids and short fibres. They are ideal for sewage, waste and ground water, even with solids or mud, and are therefore recommended for building or industrial effluent and drainage of large areas such as car parks.</p>	Page 44
TITAN P		Flow rate up to 1200 l/min (72 m³/h) Head up to 16 m	<p>TITAN P series pumps are made of exceptionally robust heavy gauge cast iron, resistant to abrasion and long lasting, and have a vortex type impeller. They are suitable for sewage, waste water and sludge, including water containing solids or mud. They are ideal for fixed sewage installations, tunnels, underground carparks, sumps and similar applications.</p>	Page 46
PATROL P		Flow rate up to 1600 l/min (96 m³/h) Head up to 24 m	<p>PATROL P series pumps are made of exceptionally robust heavy gauge cast iron, abrasion resistant and long-lasting, with a single-channel impeller which can handle liquids with suspended solids and short fibres. They are ideal for sewage, waste and ground water, even with solids or mud, and are therefore recommended for building or industrial effluent and drainage of large areas such as car parks.</p>	Page 48



SPEED PLURI

multi-stage submerged pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE	POWER		m³/h l/min	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
	kW	HP		0	10	20	30	40	50	60	70	80	90	100
SPEED PLURI 50M	0.37	0.50	H metres	36	33	30.5	26.5	21.5	14.5	5				
SPEED PLURI 70M	0.55	0.75		30	29	28	27	26	24	22	19	15	10.5	5
SPEED PLURI 70HM	0.55	0.75		42	38	35	31	25	17.5	8				

DIMENSIONS AND WEIGHTS

TYPE	PORT DN	N° stages	DIMENSIONS						kg	
			a	h	h1	d	e	p		
SPEED PLURI 50M	1 1/4"	6	176	380	345	30	adjustable	350	350	8.4
SPEED PLURI 70M		5								8.1
SPEED PLURI 70HM		7								8.9



RANGE OF PERFORMANCE

Flow rate up to 100 l/min (6 m³/h)

Head up to 42 m

LIMITS OF USE

Submersion depth up to 10 m

Liquid temperature up to + 40°C

Maximum sand content 50 g/m³

Emptying level up to 30 mm from the bottom

INSTALLATION AND USE

THEY ARE RECOMMENDED FOR PUMPING CLEAN WATER WITH A SAND CONTENT NO HIGHER THAN 50 g/m³.

THEIR HIGH EFFICIENCY AND RELIABILITY MAKES THEM SUITABLE FOR SUPPLYING DOMESTIC WATER FROM TANKS, RESERVOIRS OR RELATIVELY DEEP WELLS, DRAWING RAINWATER FROM CISTERNS, WATERING BY HAND OR FEEDING.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

• **DELIVERY BODY AND SUCTION GRID:** glass filled technopolymer, particularly resistant to impact and corrosion, with threaded port ISO 228/1.

• **IMPELLERS and DIFFUSERS:** technopolymer.

• **DIFFUSER CONTAINER:** stainless steel AISI 304.

• **MOTOR SUPPORT:** stainless steel AISI 304.

• **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4104.

• **DOUBLE SEAL:** mechanical seal ceramic -silicon carbide-NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.

• **MOTOR:** asynchronous, for continuous duty.

SPEED PLURI M: single-phase 220-240 V - 50 Hz with capacitor and thermal overload protector.

• **INSULATION:** class F.

• **PROTECTION:** IP 68.

STANDARD FEATURES:

• Float switch Neoprene power cable "H05 RN-F"

• length **10 metres** with Schuko plug

• Hosetail.

• Coupling with non-return valve.

OPTIONS ON REQUEST

⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

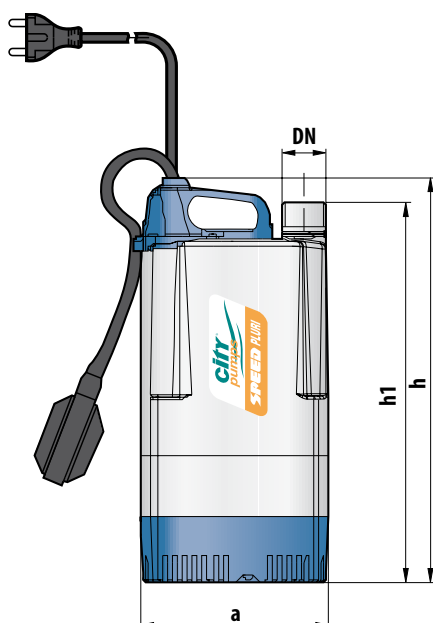
IEC 34-1

CEI 61-150

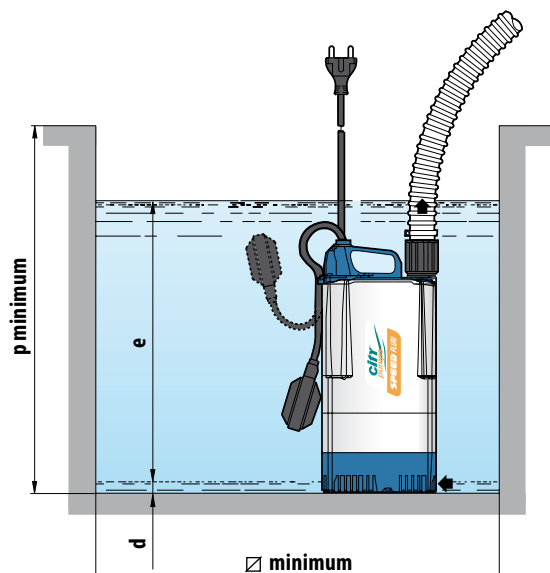
CEI 2-3



DIMENSIONS



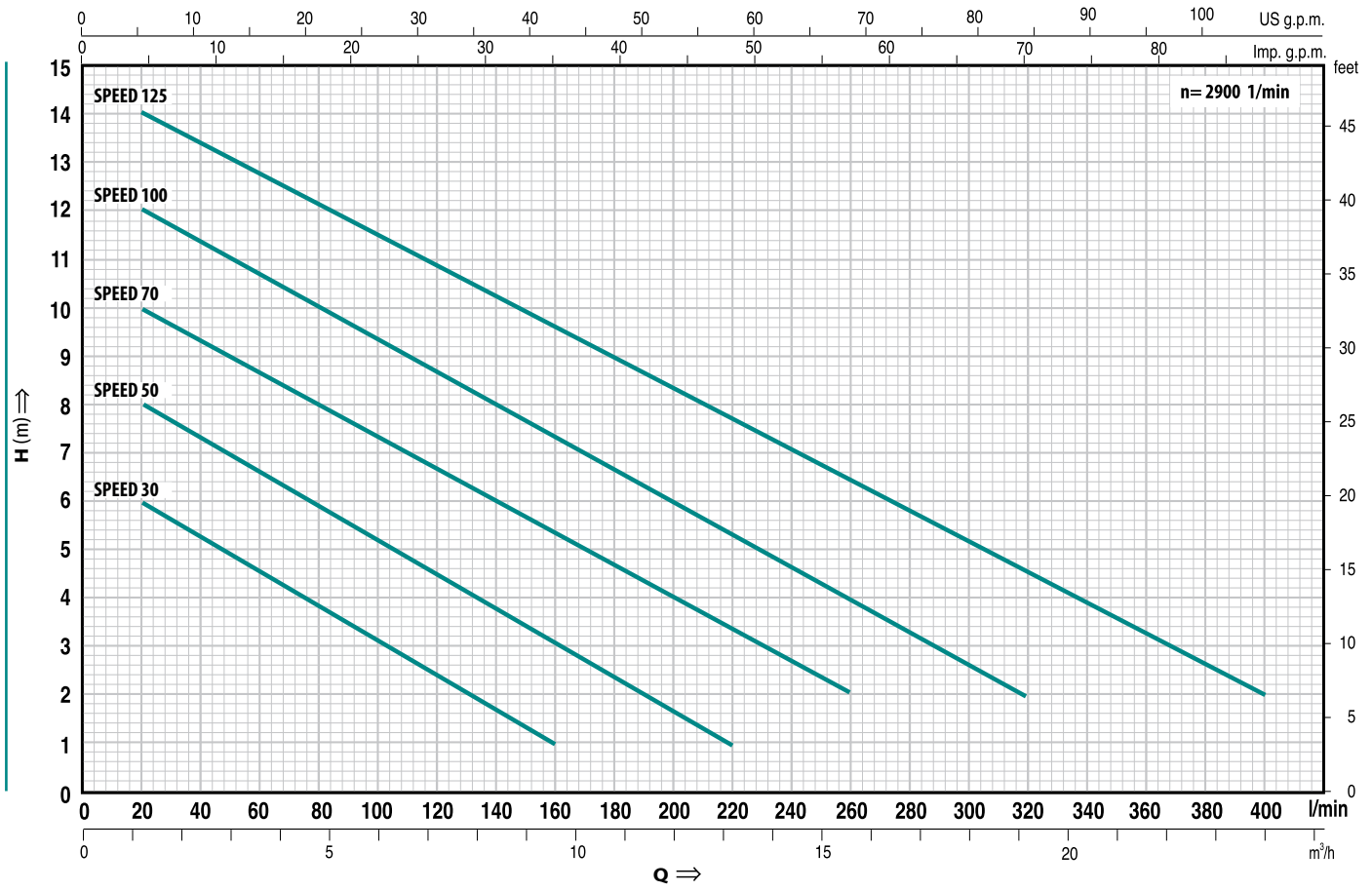
Typical portable application





SPEED

DRAINAGE submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE	POWER		m³/h l/min	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12	13.2	14.4	15.6	16.8	18.0	19.2	20.4	21.6	22.8	24		
	kW	HP		0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400		
SPEED 30M	0.25	0.33	H metres	7	6	5.5	4.5	4	3	2.5	1.5	1														
SPEED 50M	0.37	0.50		9	8	7.5	6.5	6	5.5	4.5	4	3	2.5	1.8	1											
SPEED 70M	0.55	0.75		10.5	10	9	8.8	8	7.5	6.5	6	5.5	4.8	4	3.5	2.5	2									
SPEED 100M	0.75	1		12.6	12	11.5	10.7	10	9.3	8.7	8	7.3	6.7	6	5.3	4.7	4	3.3	2.7	2						
SPEED 125M	0.92	1.25		14.5	14	13.5	12.7	12.1	11.5	10.8	10.2	9.6	8.9	8.3	7.7	7.1	6.4	5.8	5.2	4.5	3.9	3.3	2.6	2		

DIMENSIONS AND WEIGHTS

TYPE	PORT DN	DIMENSIONS mm							kg
		a	h	h1	d	e	p	∅	
SPEED 30M	1"	152	232	217	14	adjustable	350	350	4.1
SPEED 50M	1 1/4"		257	237					5.0
SPEED 70M	1 1/4"		287	267					6.4
SPEED 100M	1 1/2"	204	334	310	21		450	450	9.8
SPEED 125M									10.8



RANGE OF PERFORMANCE

Flow rate up to 400 l/min (24 m³/h)

Head up to 14.5 m

LIMITS OF USE

Depth up to 5 metres (3 metres up to 0.55 kW)

Liquid temperature up to +40°C

(+90°C for a maximum period of 3 minutes)

Passage of solid bodies up to Ø 10 mm

Drainage level:

14 mm from the bottom for SPEED 30-50-70M

30 mm from the bottom for SPEED 100-125M

INSTALLATION AND USE

THE SPEED SERIES IS SUITABLE FOR DRAINING CLEAR WATER WITHOUT ABRASIVE PARTICLES. THE CONSTRUCTION GUARANTEES SIMPLE AND SAFE OPERATION DUE TO THE COMPLETE COOLING OF THE MOTOR BY THE PUMPED WATER AND THE DOUBLE SEAL DESIGN. THEY ARE RECOMMENDED FOR EMERGENCY DRAINING OF SMALL FLOODED AREAS (ROOMS, CELLARS, GARAGES), FOR THE DISPOSAL OF WASTE WATER IN THE HOME (DISHWASHER, WASHING MACHINE) AND FOR EMPTYING DRAINAGE TRAPS.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **DELIVERY BODY:** glass filled **technopolymer**,

particularly resistant to impact and corrosion, with threaded port ISO 228/1.

- **SUCTION GRID:** **technopolymer**.
 - **IMPELLER:** open type in **technopolymer**.
 - **MOTOR SUPPORT:** **stainless steel AISI 304**.
 - **MOTOR SHAFT:** **stainless steel EN 10088-3 - 1.4104**.
 - **DOUBLE SEAL:** **mechanical seal ceramic - graphite - NBR**, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
 - **MOTOR:** submersible asynchronous single-phase for continuous duty.
- SPEED M:** single-phase 220÷240 V - 50 Hz with capacitor and thermal overload protector built into the winding.
- **INSULATION:** class F.
 - **PROTECTION:** IP 68.

STANDARD FEATURES:

SPEED 30-50-70 M(single-phase)

- Float switch.
- Hosetail.
- Power cable in neoprene "H05RN-F" length **5 metres** with Schuko plug.

SPEED 100-125 M (single-phase)

- Float switch.
- Hosetail.
- Coupling with flap valve.
- Neoprene power cable "H05 RN-F" length **10 metres** with Schuko plug.

OPTIONS ON REQUEST

⇒ pumps for aggressive liquids **SPEED - AF**

- ⇒ special mechanical seal
- ⇒ 10 metres power cable. N.B. required for outdoor use to comply with standard EN 60335-2-41
- ⇒ versions without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

IEC 34-1

CEI 61-150

CEI 2-3

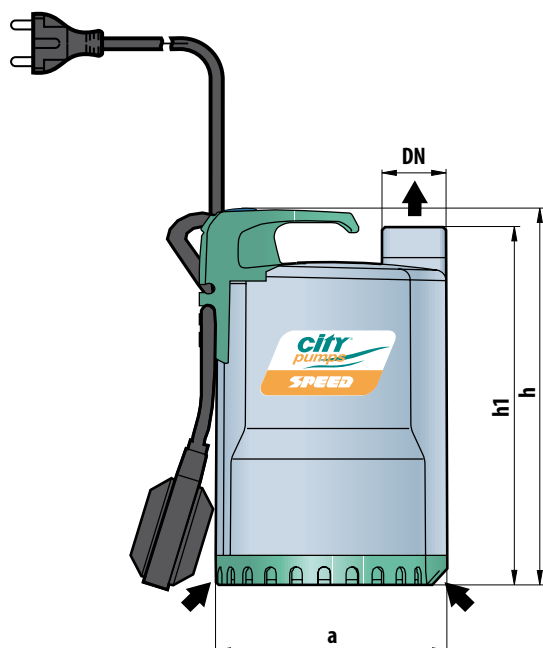


DIMENSIONS

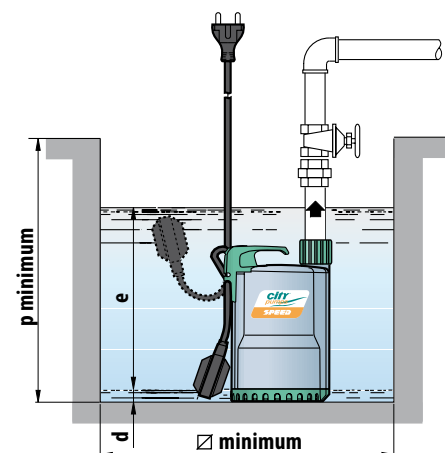
SPEED-AF*
for aggressive liquids

TYPE
Single-phase
SPEED 30M - AF
SPEED 50M - AF
SPEED 70M - AF
SPEED 100M - AF
SPEED 125M - AF

* Wetted metal parts in AISI 316 stainless steel.



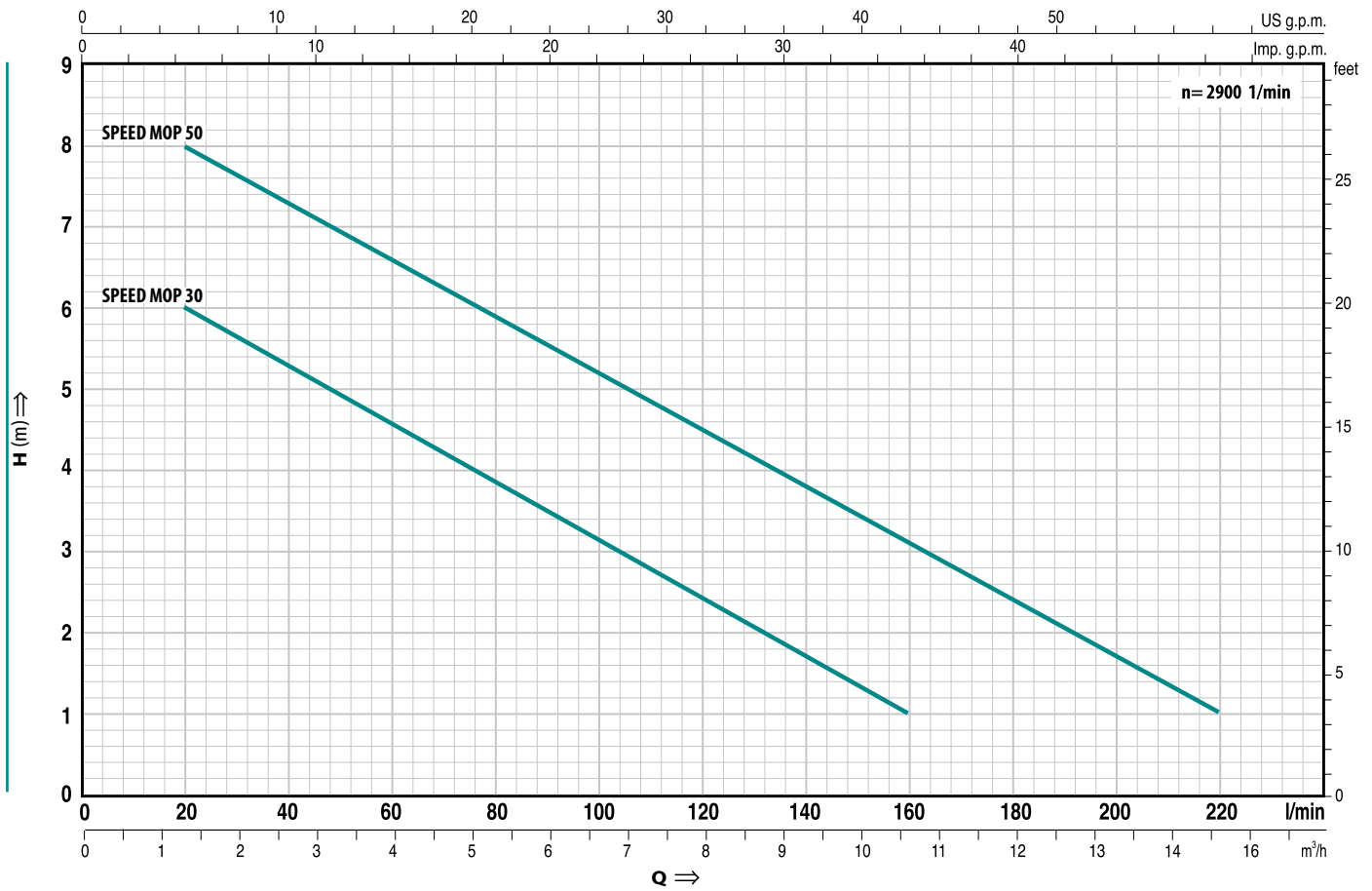
Typical portable application





SPEED MOP

DRAINAGE submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE	POWER		m³/h l/min	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2
	kW	HP		0	20	40	60	80	100	120	140	160	180	200	220
SPEED MOP 30M	0.25	0.33	H metres	7	6	5.5	4.5	4	3	2.5	1.5	1			
SPEED MOP 50M	0.37	0.50		9	8	7.5	6.5	6	5.5	4.5	4	3	2.5	1.8	1

DIMENSIONS AND WEIGHTS

TYPE	PORT DN	DIMENSIONS mm			Minimum drying level	kg
		a	h	h1		
SPEED MOP 30M	1"	152	232	217	2 mm	3.9
SPEED MOP 50M	1 1/4"		257	237		4.9



RANGE OF PERFORMANCE

Flow rate up to 220 l/min (13.2 m³/h)

Head up to 9 m

LIMITS OF USE

Depth up to 3 m

Liquid temperature up to +40°C

(+90°C for a maximum period of 3 minutes)

Passage of solid bodies up to Ø 5 mm

Drainage level 2 mm from the bottom

INSTALLATION AND USE

THE SPEED MOP SERIES IS SUITABLE FOR DRAINING CLEAR WATER WITHOUT ABRASIVE PARTICLES. THEIR ABILITY TO DRAIN WATER DOWN TO 2 MILLIMETRES FROM THE FLOOR MAKES THEM IDEAL FOR EMERGENCY DOMESTIC USE FOR SMALL FLOODED AREAS AND IN ALL THOSE APPLICATIONS WHERE MAXIMUM DRAINAGE IS REQUIRED.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **DELIVERY BODY:** glass filled **technopolymer**,

particularly resistant to impact and corrosion, with threaded port ISO 228/1.

- **SUCTION GRID:** **technopolymer**.
- **IMPELLER:** open type in **technopolymer**.
- **MOTOR SUPPORT:** **stainless steel AISI 304**.
- **MOTOR SHAFT:** **stainless steel EN 10088-3 - 1.4104**.
- **DOUBLE SEAL:** **mechanical seal ceramic - graphite - NBR**, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
- **MOTOR:** submersible asynchronous single-phase for continuous duty.

SPEED MOP:

single-phase 220÷240 V-50 Hz with capacitor and thermal overload protector.

- **INSULATION:** class F.
- **PROTECTION:** IP 68.

STANDARD FEATURES:

- Neoprene power cable "H05 RN-F"
- length **5 metres** with Schuko plug.
- Hosetail.

OPTIONS ON REQUEST

- ⇒ versions with external float switch
- ⇒ special mechanical seal
- ⇒ 10 metres power cable. N.B. required for outdoor

use to comply with standard EN 60335-2-41
⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

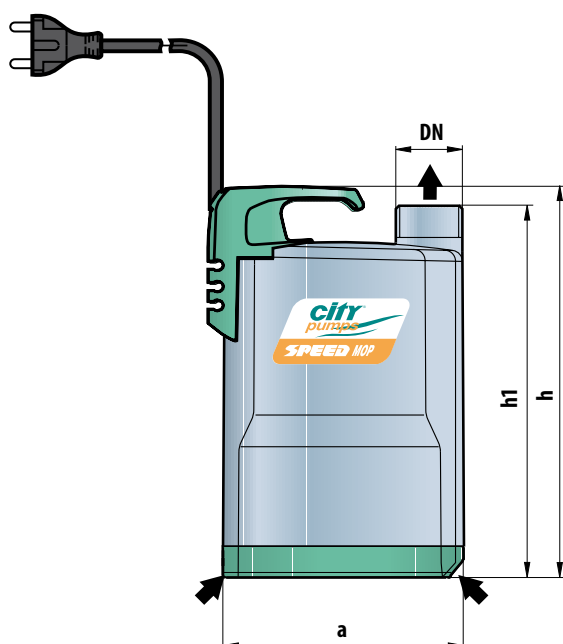
IEC 34-1

CEI 61-150

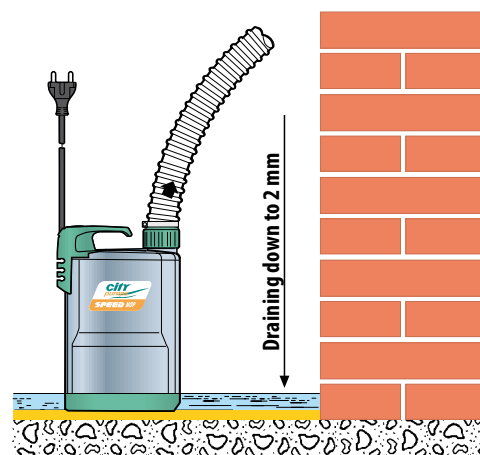
CEI 2-3



DIMENSIONS



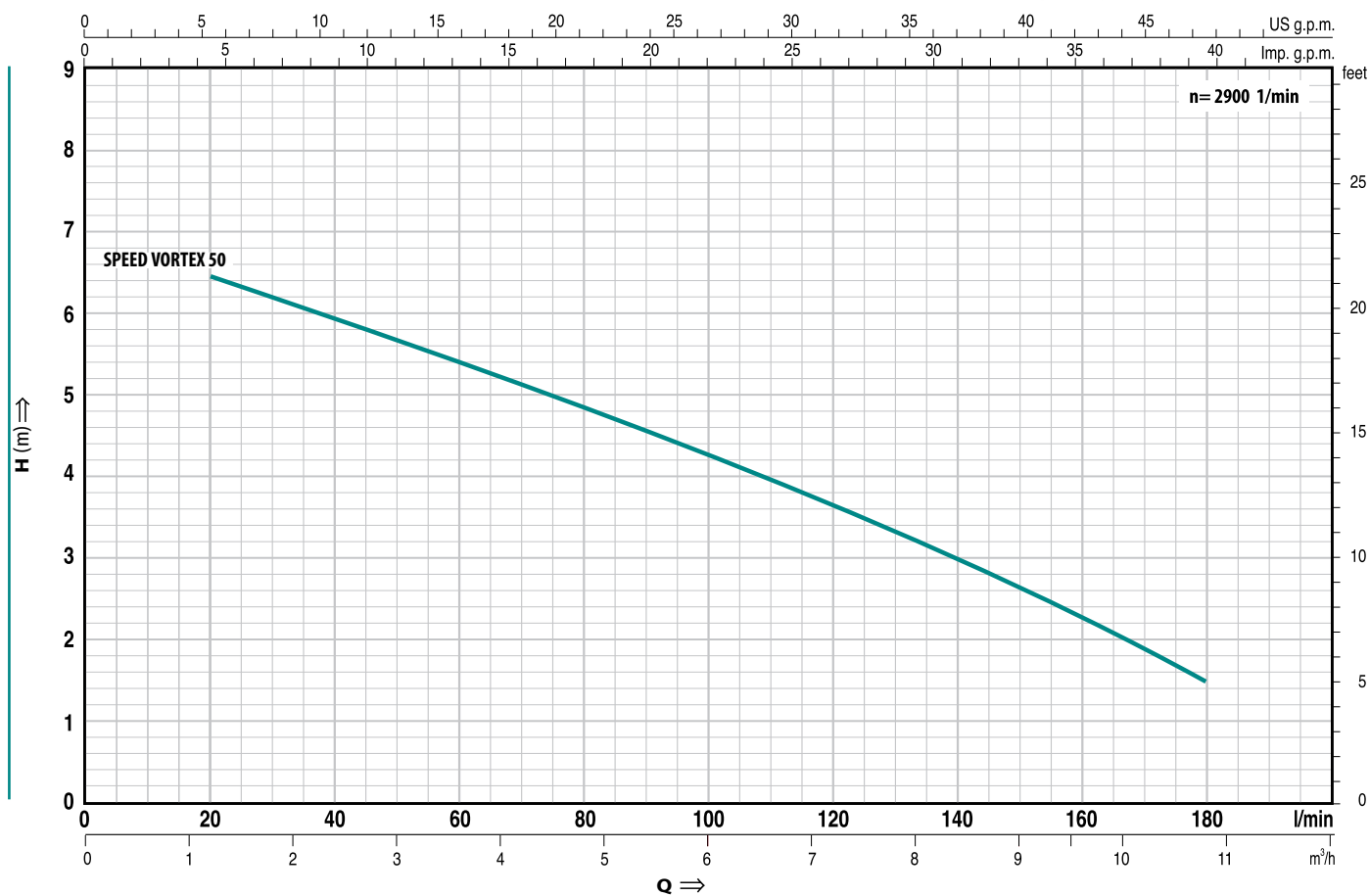
Typical portable application





SPEED VORTEX

VORTEX submersible pump



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE	POWER		m³/h l/min	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8
	kW	HP		0	20	40	60	80	100	120	140	160	180
SPEED VORTEX 50M	0.37	0.50	H metres	7	6.5	6	5.4	4.8	4.2	3.5	3	2.5	1.5

DIMENSIONS AND WEIGHTS

TYPE	PORT DN	DIMENSIONS mm							kg
		a	h	h1	d	e	p	∅	
SPEED VORTEX 50M	1 1/4"	152	288	268	25	adjustable	350	350	5.0



RANGE OF PERFORMANCE

Flow rate up to 180 l/min (10.8 m³/h)

Head up to 7 m

LIMITS OF USE

Depth up to 3 m

Liquid temperature up to + 40°C

(+90°C for a maximum period of 3 minutes)

Passage of solid bodies up to Ø 20 mm

Drainage level 25 mm from the bottom

INSTALLATION AND USE

THE SPEED VORTEX PUMP IS SUITABLE FOR DRAINING DIRTY WATER THAT IS CHEMICALLY NON AGGRESSIVE. THE CONSTRUCTION GUARANTEES SIMPLE AND SAFE OPERATION DUE TO THE COMPLETE COOLING OF THE MOTOR BY THE PUMPED WATER AND THE DOUBLE SEAL DESIGN.

IT IS RECOMMENDED FOR DOMESTIC USE, FOR THE CLEARING OF DIRTY WATER, FOR EMPTYING TANKS, DOMESTIC DRAINS AND COLLECTION TRAPS, EVEN WITH SUSPENDED SOLID BODIES WITH DIMENSIONS UP TO Ø 20 mm.

GUARANTEE 2 YEARS:

subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

• DELIVERY BODY:

glass filled **technopolymer**, particularly resistant to impact and corrosion, with threaded port ISO 228/1.

• SUCTION GRID: **technopolymer**.

• IMPELLER: **technopolymer**.

• MOTOR SUPPORT: **stainless steel AISI 304**.

• MOTOR SHAFT:

stainless steel EN 10088-3 - 1.4104.

• DOUBLE SEAL:

mechanical seal ceramic - graphite - NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.

• MOTOR:

submersible asynchronous single-phase for continuous duty.

SPEED VORTEX 50M:

single-phase 220÷240 V - 50 Hz with capacitor and thermal overload protector.

• INSULATION: class F.

• PROTECTION: IP 68.

STANDARD FEATURES:

- Float switch.
- Hosetail.
- Neoprene power cable "H05 RN-F"
- length **5 metres** with Schuko plug.

OPTIONS ON REQUEST

- ⇒ special mechanical seal
- ⇒ 10 metres power cable. N.B. required for outdoor use to comply with standard EN 60335-2-41
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

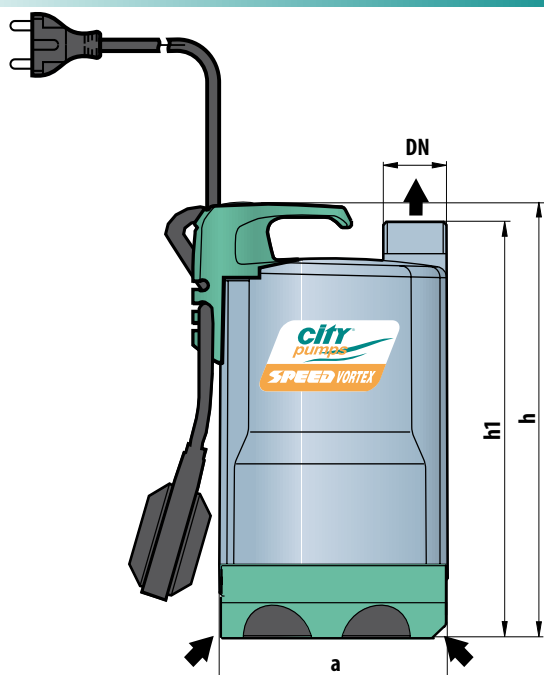
IEC 34-1

CEI 61-150

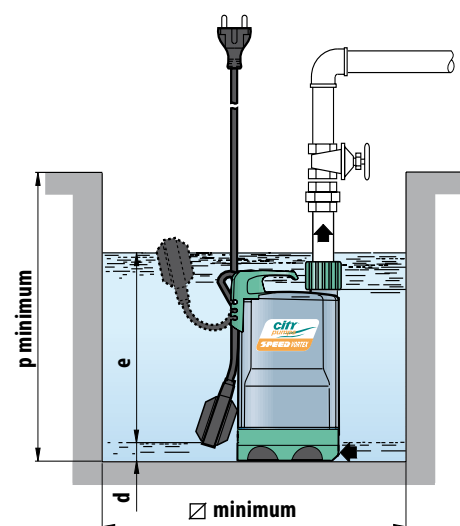
CEI 2-3

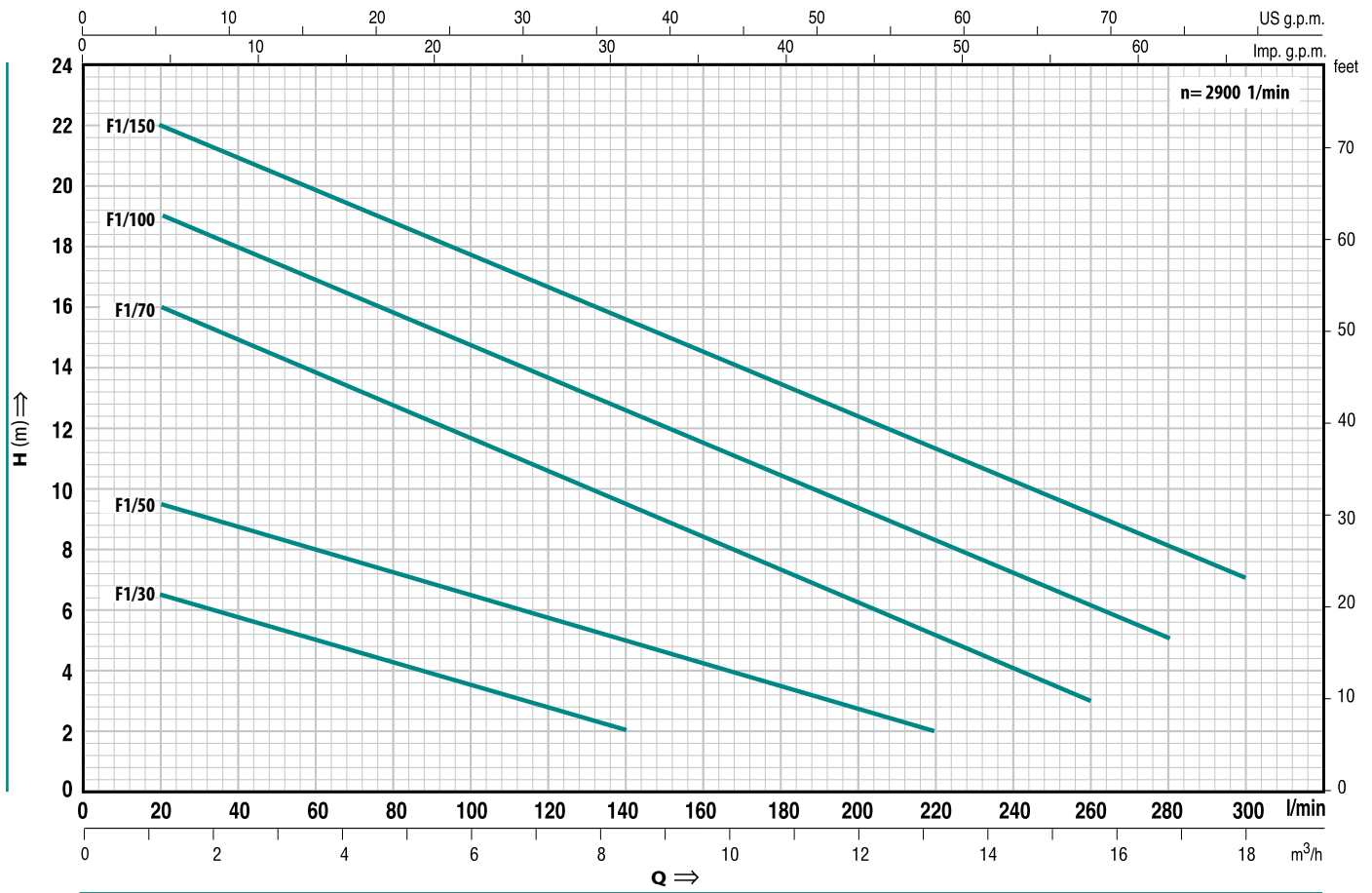


DIMENSIONS



Typical installation





Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	15.6	16.8	18.0		
Single-phase	Three-phase	kW	HP		0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300		
F1/30M	-	0.25	0.33	H metres	7.5	6.5	5.8	5	4.3	3.5	2.8	2										
F1/50M	F1/50	0.37	0.50		10	9.5	8.8	8	7.3	6.5	5.8	5	4.3	3.5	2.8	2						
F1/70M	F1/70	0.55	0.75		17	16	15	13.8	12.8	11.7	10.5	9.5	8.5	7.3	6.3	5.2	4	3				
F1/100M	F1/100	0.75	1		20	19	18	16.8	15.8	14.7	13.5	12.5	11.5	10.5	9.3	8.2	7.2	6	5			
F1/150M	F1/150	1.1	1.5		23	22	21	20	18.8	17.7	16.5	15.5	14.5	13.5	12.4	11.3	10.2	9	8	7		

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	DIMENSIONS mm							kg	
Single-phase	Three-phase		a	h	h1	d	e	p	∅	1~	3~
F1/30M	-	1 1/4"	147	255	247	17	adjustable	350	350	4.7	-
F1/50M	F1/50									5.7	5.5
F1/70M	F1/70	1 1/2"	215	355	336	30		500	500	12.0	10.7
F1/100M	F1/100									13.0	11.7
F1/150M	F1/150									14.0	12.7



RANGE OF PERFORMANCE

Flow rate up to 300 l/min (18 m³/h)

Head up to 23 m

LIMITS OF USE

Depth up to 10 m

Liquid temperature up to + 50°C

Liquid temperature up to + 60°C for intermittent duty.

Liquid temperature up to + 90°C for intermittent duty maximum 3 minutes.

Passage of solid bodies up to Ø 10 mm

Drainage level:

14 mm from the bottom for F1 1-2

30 mm from the bottom for F1 3-4-5

INSTALLATION AND USE

F1 PUMPS ARE SUITABLE FOR DRAINING CLEAR WATER WITHOUT ABRASIVE PARTICLES. THE CONSTRUCTION GUARANTEES SIMPLE AND SAFE OPERATION DUE TO THE COMPLETE COOLING OF THE MOTOR BY THE PUMPED WATER, AND THE DOUBLE SEAL DESIGN. THEY ARE RECOMMENDED FOR FIXED INSTALLATIONS, EMERGENCY DRAINING OF SMALL FLOODED AREAS (BASEMENT ROOMS, CELLARS, GARAGES), FOR DISPOSAL OF DIRTY WATER USED IN THE HOME BY WASHING MACHINES AND DISHWASHERS AND FOR DRAINING COLLECTION TRAPS.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **DELIVERY BODY:** stainless steel AISI 304, with threaded port ISO 228/1.
 - **SUCTION GRID:** stainless steel AISI 304.
 - **IMPELLER:** stainless steel AISI 304.
 - **MOTOR SUPPORT:** stainless steel AISI 304.
 - **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4104.
 - **DOUBLE SEAL:** mechanical seal ceramic - graphite - NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
 - **MOTOR:** submersible asynchronous single-phase for continuous duty.
- F1 M:** single-phase 220±240 V - 50 Hz with capacitor and thermal overload protector.
- F1:** three-phase 380±415 V - 50 Hz.
- **INSULATION:** class F.
 - **PROTECTION:** IP 68.

STANDARD FEATURES:

F1 M (single-phase)

- float switch.
- Neoprene power cable "H05 RN-F"
- length **5 metres** with Schuko plug.

F1 (three-phase)

- Neoprene power cable "H05 RN-F" length **5 metres**.

OPTIONS ON REQUEST

- ⇒ special mechanical seal
- ⇒ 10 metres power cable. N.B. required for outdoor



- ⇒ use to comply with standard EN 60335-2-41
- ⇒ control box for three-phase electropumps 1.1 kW
- ⇒ single-phase versions without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

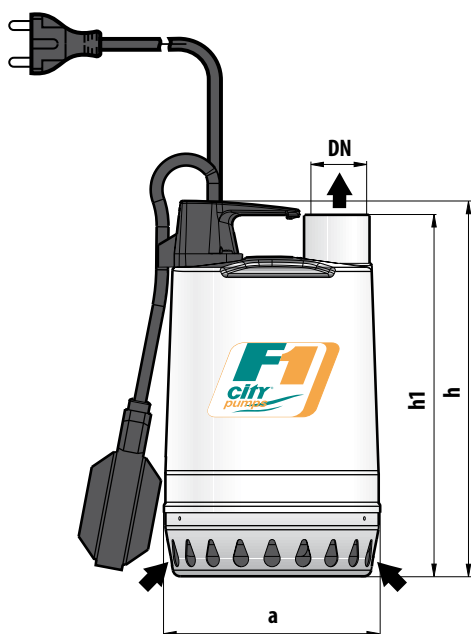
IEC 34-1

CEI 61-150

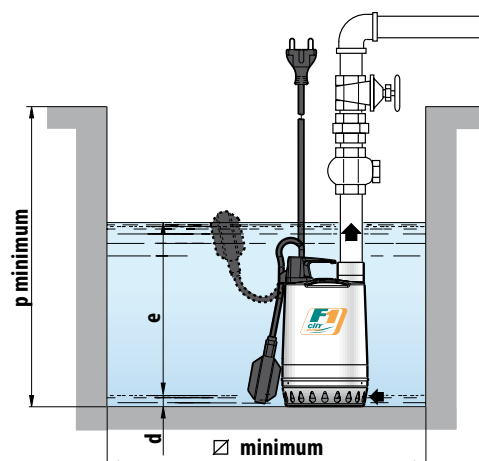
CEI 2-3



DIMENSIONS



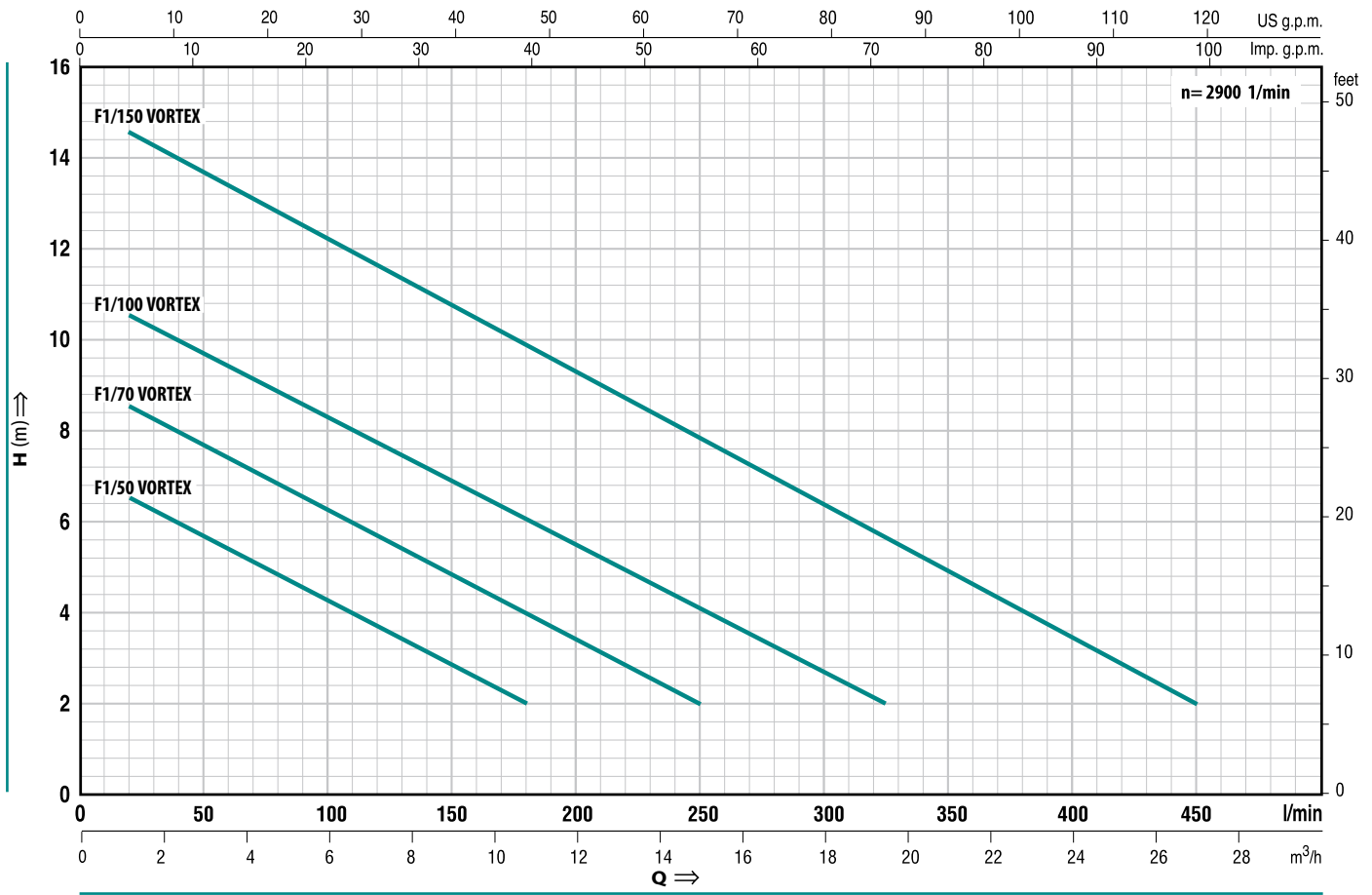
Typical single-phase installation





F1 VORTEX

VORTEX submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12	15	18	19.5	21	24	27		
Single-phase	Three-phase	kW	HP		0	20	40	60	80	100	120	140	160	180	200	250	300	325	350	400	450		
F1/50M VORTEX	F1/50 VORTEX	0.37	0.50	H metres	7	6.5	6	5.4	4.8	4.3	3.7	3.1	2.5	2									
F1/70M VORTEX	F1/70 VORTEX	0.55	0.75		9	8.5	8	7.4	6.8	6.3	5.7	5.1	4.5	4	3.4	2							
F1/100M VORTEX	F1/100 VORTEX	0.75	1		11	10.5	10	9.4	8.8	8.3	7.7	7.1	6.6	6	5.5	4	2.7	2					
F1/150M VORTEX	F1/150 VORTEX	1.1	1.5		15	14.5	14	13.3	12.8	12.2	11.6	11	10.4	9.8	9.2	7.8	6.3	5.6	4.9	3.5	2		

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	DIMENSIONS mm							kg	
Single-phase	Three-phase		a	h	h1	d	e	p	∅	1~	3~
F1/50M VORTEX	F1/50 VORTEX	1 1/4"	147	286	278	25	adjustable	350	350	5.9	5.7
F1/70M VORTEX	F1/70 VORTEX	1 1/2"	215	405	386	40		500	500	12.4	11.1
F1/100M VORTEX	F1/100 VORTEX									13.4	12.1
F1/150M VORTEX	F1/150 VORTEX									14.4	13.1



RANGE OF PERFORMANCE

Flow rate up to 450 l/min (27 m³/h)

Head up to 14.5 m

LIMITS OF USE

Depth up to 10 m

Liquid temperature up to + 50°C

Liquid temperature up to + 60°C for intermittent duty.

Liquid temperature up to + 90°C for intermittent duty maximum 3 minutes.

Passage of solid bodies:

up to 20 mm for F1/50 - up to 40 mm for F1/70-100-150

Drainage level from the bottom:

25 mm for F1/50 - 40 mm for F1/70-100-150

CONSTRUCTION CHARACTERISTICS

• **DELIVERY BODY:** stainless steel AISI 304, with threaded port ISO 228/1.

• **SUCTION GRID:** stainless steel AISI 304.

• **IMPELLER:** stainless steel AISI 304.

• **MOTOR SUPPORT:** stainless steel AISI 304.

• **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4104.

• **DOUBLE SEAL:** mechanical seal silicon carbide - NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.

• **MOTOR:** submersible asynchronous single-phase for continuous duty.

F1 M VORTEX: single-phase 220÷240 V - 50 Hz with capacitor and thermal overload protector.

F1 VORTEX: three-phase 380÷415 V - 50 Hz.

• **INSULATION:** class F.

• **PROTECTION:** IP 68.

INSTALLATION AND USE

F1 VORTEX PUMPS ARE SUITABLE FOR DRAINING DIRTY WATER. THE CONSTRUCTION GUARANTEES SIMPLE AND SAFE OPERATION, DUE TO THE COMPLETE COOLING OF THE MOTOR BY THE PUMPED WATER.

THEY ARE RECOMMENDED FOR DOMESTIC USE, FOR DRAINING DIRTY WATER CONTAINING SUSPENDED SOLIDS.

GUARANTEE 2 YEARS subject to our general terms of sale.

STANDARD FEATURES:

F1 M VORTEX (single-phase)

- Float switch.
- Neoprene power cable "H05 RN-F"
- Length **5 metres** with Schuko plug.

F1 VORTEX (three-phase)

- Neoprene power cable "H05 RN-F"
- Length **5 metres**.

OPTIONS ON REQUEST

- ⇒ special mechanical seal
- ⇒ 10 metres power cable.

N.B. required for outdoor use to comply with standard EN 60335-2-41

- ⇒ control box for three-phase pumps 1.1 kW
- ⇒ single-phase versions without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

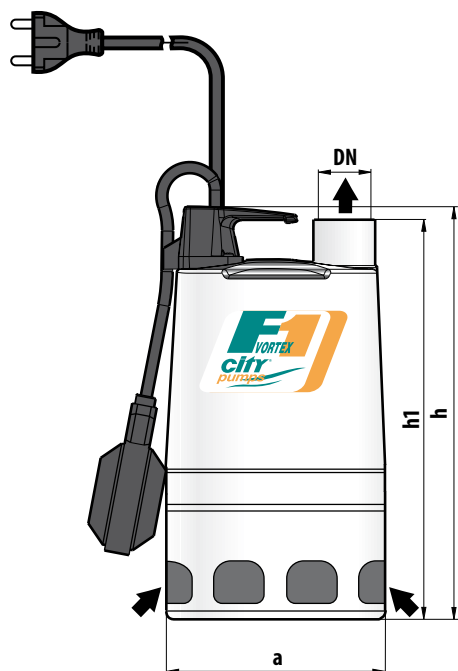
IEC 34-1

CEI 61-150

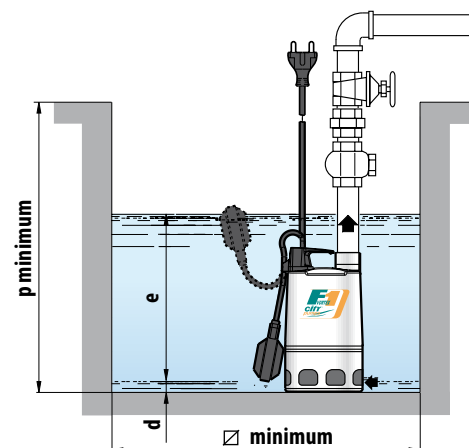
CEI 2-3



DIMENSIONS



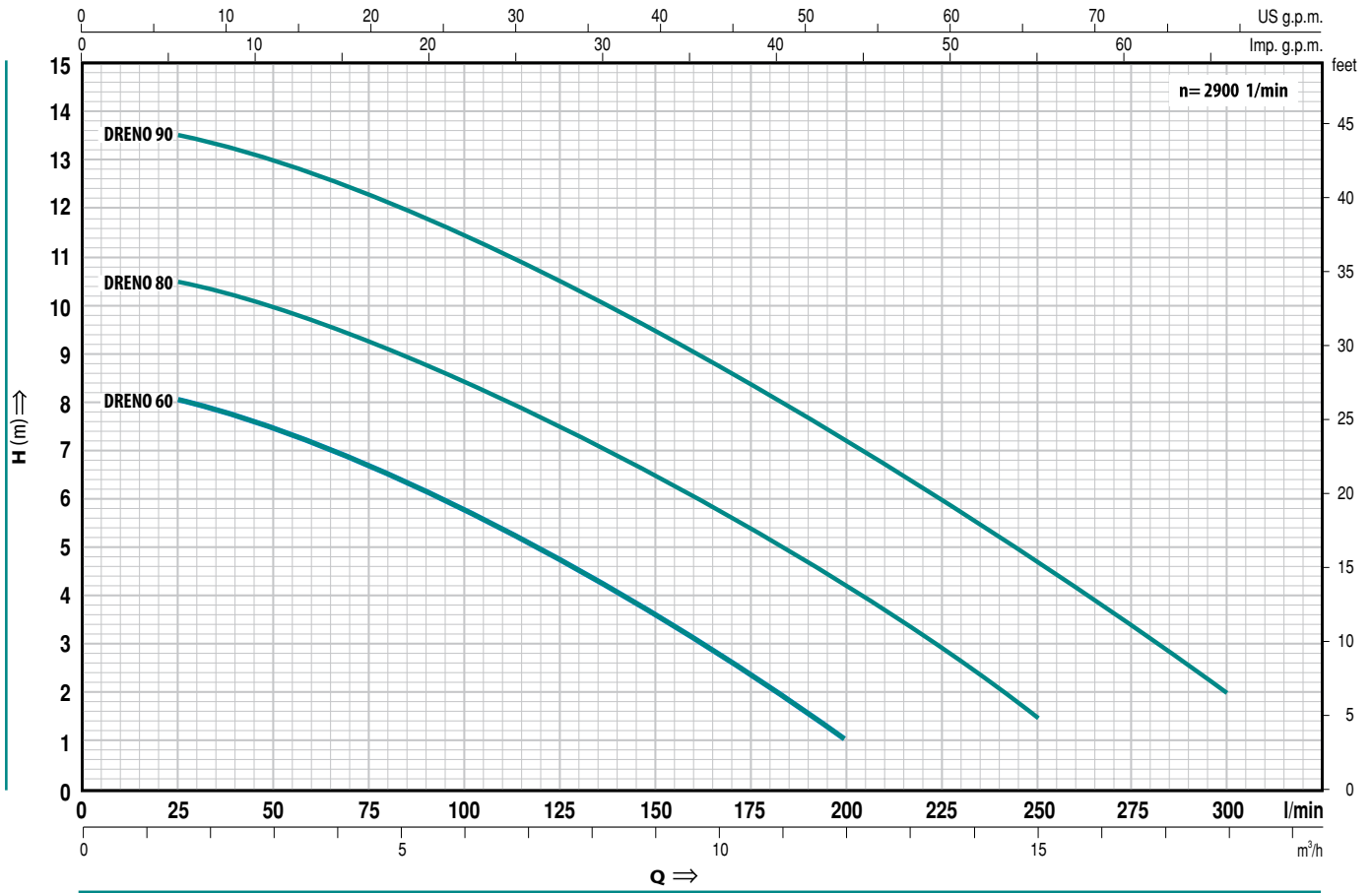
Typical single-phase installation





DRENO

DRAINAGE submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE	POWER		m³/h l/min	0	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	15.0	16.5	18.0
	kW	HP		0	25	50	75	100	125	150	175	200	225	250	275	300
DRENO 60M	0.37	0.50	H metres	8.5	8	7.5	6.5	5.5	4.8	3.5	2.5	1				
DRENO 80M	0.50	0.70		11	10.5	10	9	8.5	7.5	6.5	5.5	4	2.5	1.5		
DRENO 90M	0.60	0.85		14	13.5	13	12.2	11.5	10.5	9.5	8.3	7	5.7	4.5	3.2	2

DIMENSIONS AND WEIGHTS

TYPE	PORT DN	DIMENSIONS mm									kg
		a	b	c	h	h1	d	e	p	∅	
DRENO 60M	1 1/2"	110	81	142	310	66	15	adjustable	450	450	9.8
DRENO 80M											10.4
DRENO 90M											11.3



RANGE OF PERFORMANCE

Flow rate up to 300 l/min (18 m³/h)

Head up to 14 m

LIMITS OF USE

Depth up to 5 m

Liquid temperature up to + 40°C

Passage of suspended solid bodies up to
Ø 10 mm

Drainage level 15 mm from the bottom

For continuous duty: minimum immer-
sion 180 mm from pump base

INSTALLATION AND USE

DESIGNED FOR DRAINING CLEAR OR SLIGHTLY DIRTY WATER, THEY ARE SUITABLE FOR DOMESTIC USE, FOR DRAINING FLOODED AREAS SUCH AS CELLARS AND FOR EMPTYING TANKS AND RESERVOIRS; THEY ARE OUTSTANDING IN BOTH THEIR SIMPLICITY OF INSTALLATION AND THEIR RELIABILITY IN FIXED INSTALLATIONS WITH AUTOMATIC OPERATION.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **DELIVERY BODY:** cast iron, with threaded port ISO 228/1.
- **MOTOR CASING:** stainless steel AISI 304.
- **SUCTION GRID:** stainless steel AISI 304.
- **IMPELLER:** open type, in technopolymer.
- **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4104.
- **MECHANICAL SEAL:** ceramic - graphite - NBR.
- **MOTOR:** submersible asynchronous single-phase for continuous duty.
- **DRENO M:** single-phase 220÷240 V - 50 Hz with capacitor and thermal overload protector.
- **INSULATION:** class F.
- **PROTECTION:** IP 68.

STANDARD FEATURES:

- Float switch.
- Neoprene power cable "H07 RN-F"
- length 5 metres with Schuko plug.

OPTIONS ON REQUEST

- ⇒ special mechanical seal
- ⇒ 10 metres power cable. N.B. required for outdoor use to comply with standard EN 60335-2-41
- ⇒ versions without float switch
- ⇒ other voltages or frequency 60 Hz



CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

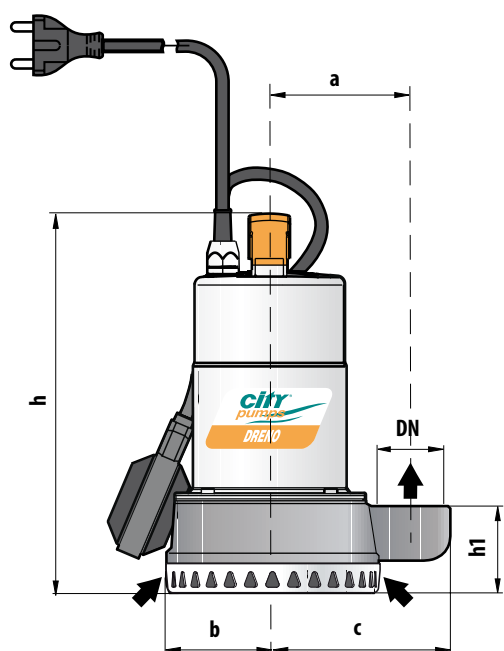
IEC 34-1

CEI 61-150

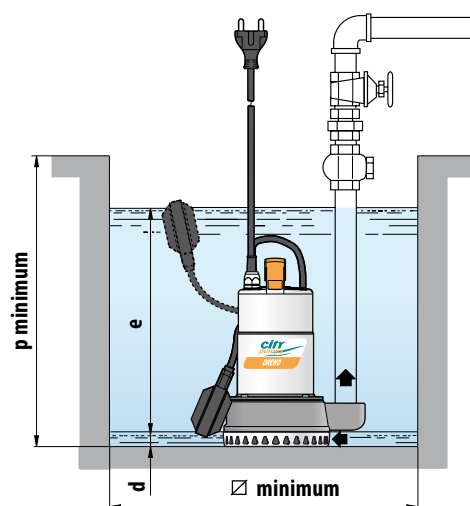
CEI 2-3



DIMENSIONS



Typical single-phase installation





RANGE OF PERFORMANCE

Flow rate up to 300 l/min (18 m³/h)

Head up to 10 m

LIMITS OF USE

Depth up to 5 m

Liquid temperature up to + 40°C

Passage of suspended solid bodies up to
Ø 40 mm

Drainage level 40 mm from the bottom

For continuous duty: minimum immer-
sion 240 mm from pump base

INSTALLATION AND USE

COBRA PUMPS ARE RECOMMENDED FOR DRAIN-
ING WASTE WATER IN THE DOMESTIC SECTOR,
FOR CLEARING DIRTY WATER, EVEN CONTAINING
SUSPENDED SOLID BODIES WITH DIMENSIONS
UP TO Ø 40 mm.

THEY ARE OUTSTANDING IN BOTH THEIR
SIMPLICITY OF INSTALLATION AND THEIR
RELIABILITY IN FIXED INSTALLATIONS WITH
AUTOMATIC OPERATION.

GUARANTEE 2 YEARS subject to our general
terms of sale.

CONSTRUCTION CHARACTERISTICS

- **DELIVERY BODY:**
cast iron, with threaded port ISO 228/1.
- **MOTOR CASING:** stainless steel AISI 304.
- **IMPELLER:**
open type, in glass filled **technopolymer**.
- **MOTOR SHAFT:**
stainless steel EN 10088-3 - 1.4104.
- **MECHANICAL SEAL:**
ceramic - graphite - NBR.
- **MOTOR:** submersible asynchronous single-phase
for continuous duty.
- **COBRA M:** single-phase 220÷240 V - 50 Hz with
capacitor and thermal overload protector.
- **INSULATION:** class F.
- **PROTECTION:** IP 68.

STANDARD FEATURES:

- Float switch.
- Neoprene power cable "H07 RN-F"
- length 5 metres with Schuko plug.

OPTIONS ON REQUEST

- ⇒ special mechanical seal 10 metres power cable.
N.B. required for outdoor use to comply with
standard EN 60335-2-41
- ⇒ versions without float switch
- ⇒ other voltages or frequency 60 Hz



CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

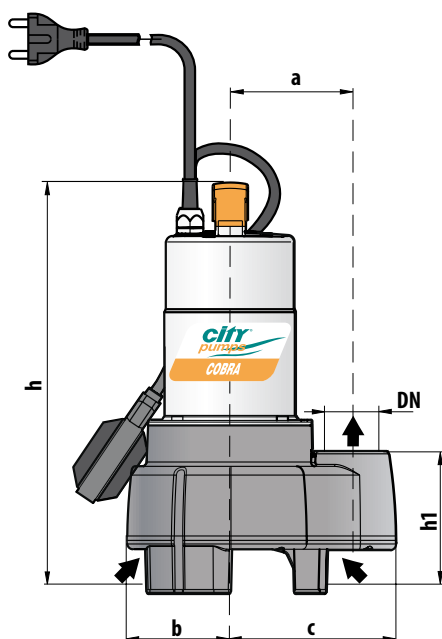
IEC 34-1

CEI 61-150

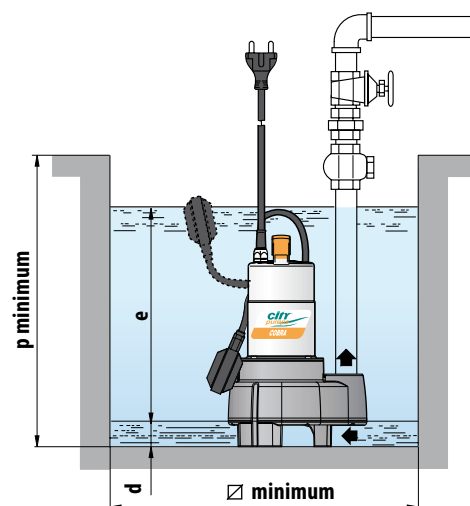
CEI 2-3



DIMENSIONS



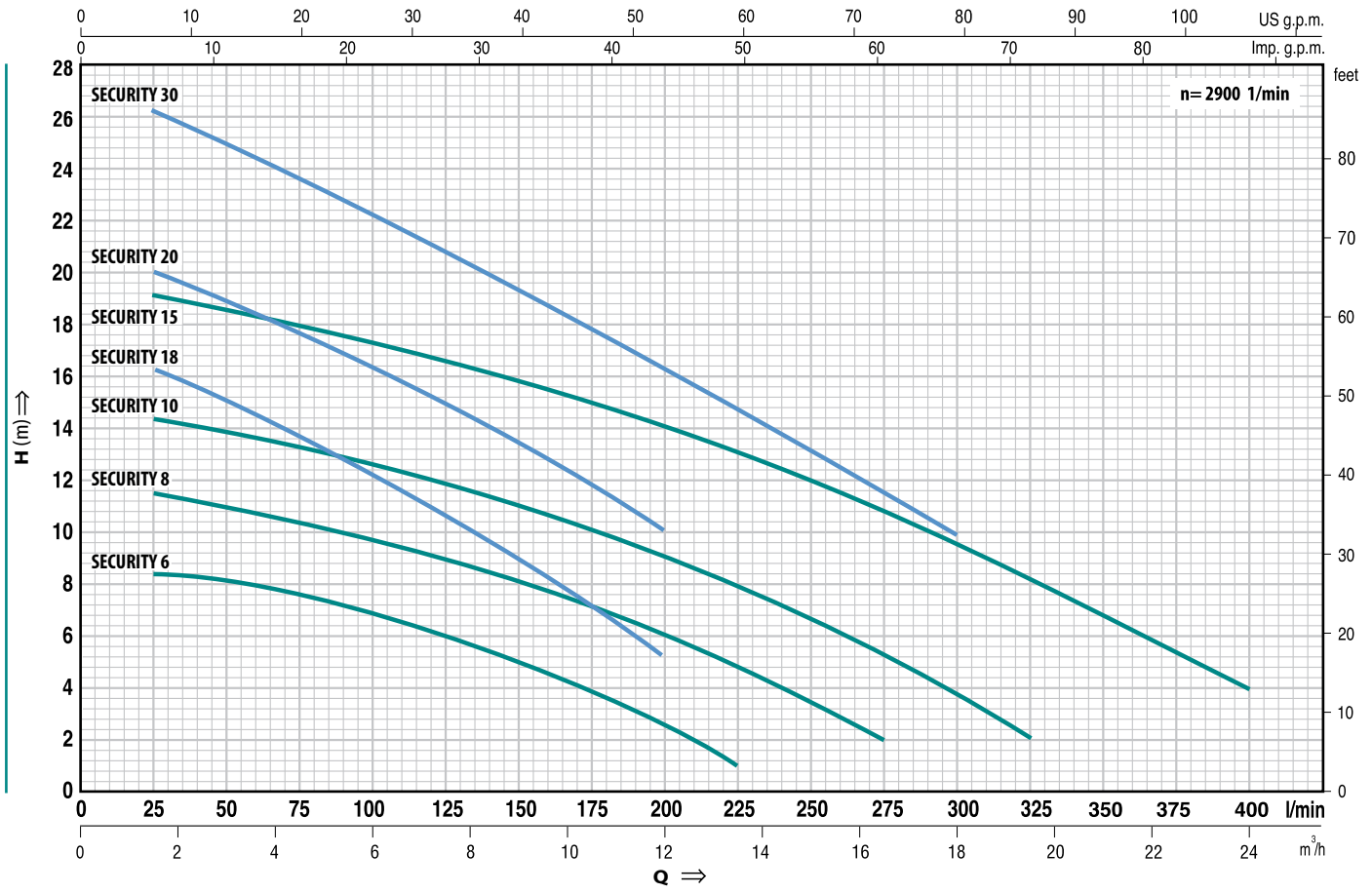
Typical installation





SECURITY

DRAINAGE submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	H metres																		
Single-phase	Three-phase	kW	HP		0	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	15.0	16.5	18.0	19.5	21.0	24.0			
				0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	400				
SECURITY 6M	----	0.45	0.60	9	8.5	8	7.5	6.8	6	5.2	4	2.6	1										
SECURITY 8M	----	0.60	0.85	12	11.5	11	10.5	9.8	9	8.2	7.2	6	4.8	3.5	2								
SECURITY 10M	SECURITY 10	0.75	1	15	14.5	14	13.2	12.5	11.8	11	10	9	8	6.8	5.4	3.5	2						
SECURITY 15M	SECURITY 15	1.1	1.5	19.5	19	18.5	18	17.5	16.5	16	15	14	13	11.8	10.5	9.2	8	7	4				
SECURITY 18M	----	0.6	0.85	17	16.5	15	13.5	12	10.7	9	7.7	5											
SECURITY 20M	SECURITY 20	0.75	1	21	20	19	17.5	16	15	13.5	12	10											
SECURITY 30M	SECURITY 30	1.1	1.5	27	26	25	23.5	22	21	19.5	18	16	14.5	13	11.5	10							

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	DIMENSIONS mm										kg	
Single-phase	Three-phase		a	b	c	h	h1	d	e	p	∅	1~	3~	
SECURITY 6M	----	1 1/2"	105	81	136	320	66	15	adjustable	500	500	10.6	-	
SECURITY 8M	----											11.9	-	
SECURITY 10M	SECURITY 10											13.0	11.9	
SECURITY 15M	SECURITY 15		110	90	140	340	80					15.2	14.1	
SECURITY 18M	----		105	81	136	320	66					12.0	-	
SECURITY 20M	SECURITY 20											13.0	11.9	
SECURITY 30M	SECURITY 30											110	90	140



RANGE OF PERFORMANCE

Flow rate up to 400 l/min (24 m³/h)

Head up to 27 m

LIMITS OF USE

Depth up to 5 m

Liquid temperature up to + 40°C

Passage of suspended solid bodies up to
Ø 10 mm

Drainage level 15 mm from the bottom

For continuous duty: minimum immer-
sion 220 mm from pump base

INSTALLATION AND USE

DESIGNED FOR DRAINING CLEAR OR SLIGHTLY DIRTY WATER WITH SMALL SOLIDS, THEY ARE RECOMMENDED FOR DOMESTIC, CIVIL AND PROFESSIONAL USE, FOR DRAINING FLOODED AREAS SUCH AS CELLARS AND GARAGES OR FOR EMPTYING SWIMMING POOLS OR TANKS AND FOR DISPOSING OF NON-SEWAGE WASTEWATER. THESE PUMPS ARE OUTSTANDING IN THEIR RELIABILITY IN FIXED INSTALLATIONS WITH AUTOMATIC OPERATION.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- DELIVERY BODY:

- cast iron, with threaded port ISO 228/1.
- **MOTOR CASING:** stainless steel AISI 304.
- **SUCTION GRID:** stainless steel AISI 304.
- **IMPELLER:** open type, in glass filled technopolymer
- **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4104.
- **DOUBLE SEAL:** mechanical seal silicon carbide - ceramic- NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
- **MOTOR:** submersible asynchronous for continuous duty.
- SECURITY M:** single-phase 220÷240 V - 50 Hz with capacitor and thermal overload protector.
- SECURITY:** three-phase 380÷415 V - 50 Hz.
- **INSULATION:** class F.
- **PROTECTION:** IP 68.

STANDARD FEATURES:

- SECURITY M** (single-phase)
 - Float switch.
 - Neoprene power cable "H07 RN-F" length **5 metres** with Schuko plug.
- SECURITY** (three-phase)
 - Neoprene power cable "H07 RN-F" length **5 metres**.

OPTIONS ON REQUEST

⇒ 10 metres power cable. N.B. required for outdoor use to comply with standard EN 60335-2-41



- ⇒ control box for three-phase pumps 1.1 kW
- ⇒ single-phase pumps without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

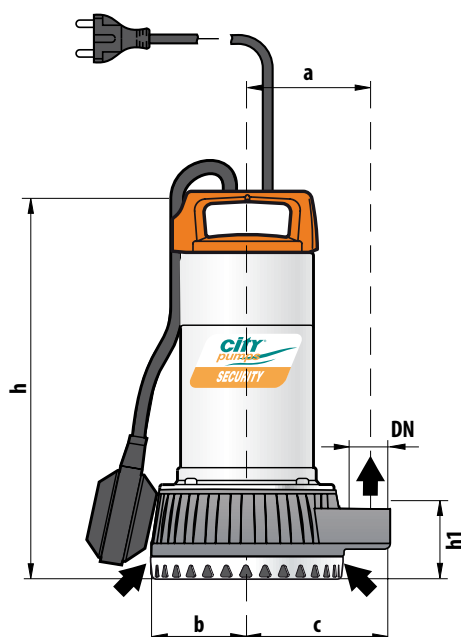
IEC 34-1

CEI 61-150

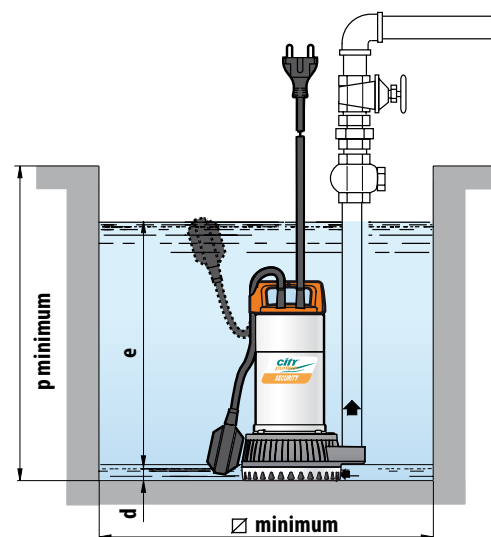
CEI 2-3



DIMENSIONS

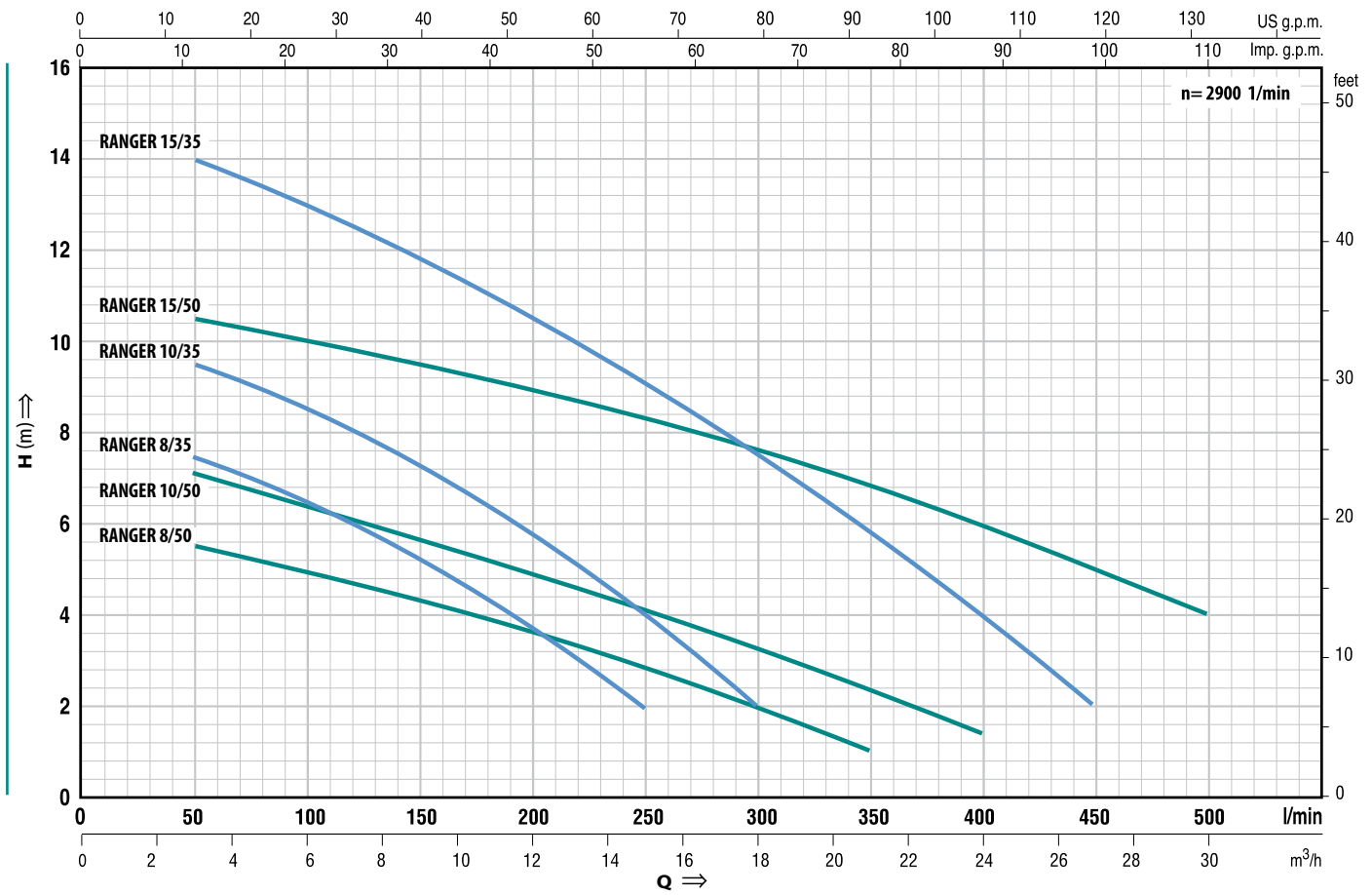


Typical single-phase installation



RANGER

VORTEX submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	0	3	6	9	12	15	18	21	24	27	30	
Single-phase	Three-phase	kW	HP		0	50	100	150	200	250	300	350	400	450	500	
RANGER 8/35M	---	0.60	0.85	H metres	8.4	7.5	6.5	5.2	3.7	2						
RANGER 10/35M	RANGER 10/35	0.75	1		10	9.5	8.5	7.2	5.8	4	2					
RANGER 15/35M	RANGER 15/35	1.1	1.5		15	14	13	11.8	10.5	9	7.5	6	4	2		
RANGER 8/50M	---	0.60	0.85		6	5.5	5	4.4	3.6	2.8	2	1				
RANGER 10/50M	RANGER 10/50	0.75	1		7.5	7	6.5	5.8	5	4	3.2	2.4	1.5			
RANGER 15/50M	RANGER 15/50	1.1	1.5		11	10.5	10	9.5	9	8.3	7.5	6.8	6	5	4	

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	passage of solid bodies	DIMENSIONS mm									kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	p	∅	1~	3~
RANGER 8/35M	---	1 1/2"	∅ 35 mm	105	87	137	380	123	40	adjustable	500	500	12.4	-
RANGER 10/35M	RANGER 10/35				92	143	400	133					13.5	12.1
RANGER 15/35M	RANGER 15/35			110	90	150	410	153	55				15.7	14.6
RANGER 8/50M	---	2"	∅ 50 mm	110	90	150	410	153	65				13.4	-
RANGER 10/50M	RANGER 10/50				120	97	163	430					158	13.9
RANGER 15/50M	RANGER 15/50			120	97	163	430	158	65				16.1	15.0



RANGE OF PERFORMANCE

Flow rate up to 500 l/min (30 m³/h)

Head up to 15 m

LIMITS OF USE

Depth up to 5 m

Liquid temperature up to + 40°C

Passage of suspended solid bodies up to
Ø 50 mm

For continuous duty: minimum immer-
sion 290 mm from pump base

INSTALLATION AND USE

THEY ARE RECOMMENDED FOR DOMESTIC, CIVIL AND INDUSTRIAL USE, IN APPLICATIONS WHERE THE WATER CONTAINS SUSPENDED SOLIDS WITH DIMENSIONS UP TO Ø 50 mm. THEIR USE IS RECOMMENDED FOR DRYING FLOODED AREAS SUCH AS CELLARS, UNDERGROUND CAR PARKS, CAR WASHING AREAS, OR DOMESTIC DRAINS AND FOR EMPTYING CESSPITS OR SEWAGE DISPOSAL. THESE PUMPS ARE OUTSTANDING IN THEIR RELIABILITY IN FIXED INSTALLATIONS WITH AUTOMATIC OPERATION.

GUARANTEE 2 YEARS: subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **DELIVERY BODY:** cast iron, with threaded port ISO 228/1.
 - **MOTOR CASING:** stainless steel AISI 304.
 - **BASE:** stainless steel AISI 304.
 - **IMPELLER:** stainless steel AISI 304.
 - **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4104.
 - **DOUBLE SEAL:** mechanical seal silicon carbide-ceramic-NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
 - **MOTOR:** submersible asynchronous for continuous duty.
- RANGER M:** single-phase 220÷240 V - 50 Hz with capacitor and thermal overload protector.
- RANGER:** three-phase 380÷415 V - 50 Hz.
- **INSULATION:** class F.
 - **PROTECTION:** IP 68.

STANDARD FEATURES:

RANGER M (single-phase)

- Float switch.
- Neoprene power cable "H07 RN-F" length 5 metres with Schuko plug.

RANGER (three-phase)

- Neoprene power cable "H07 RN-F" length 5 metres.

OPTIONS ON REQUEST

⇒ 10 metres power cable. N.B. required for outdoor use to comply to standard EN 60335-2-41



- ⇒ control panel for three-phase pumps 1.1 kW
- ⇒ single-phase pumps without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

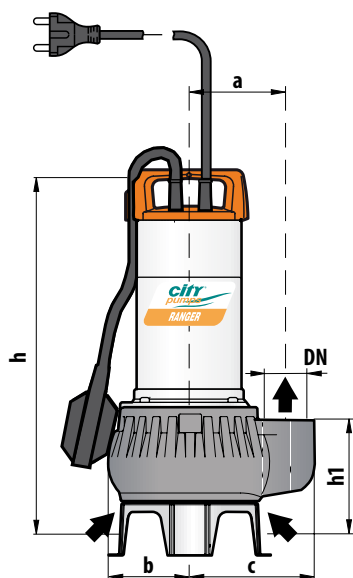
IEC 34-1

CEI 61-150

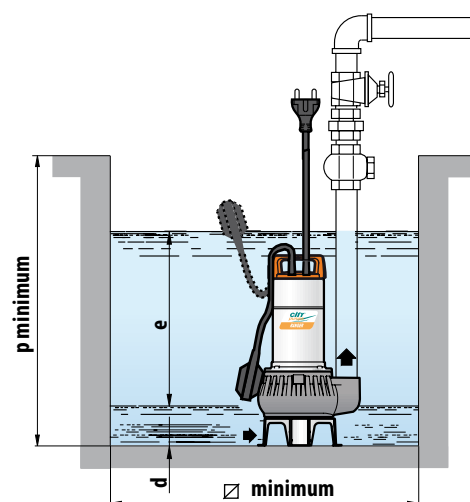
CEI 2-3



DIMENSIONS



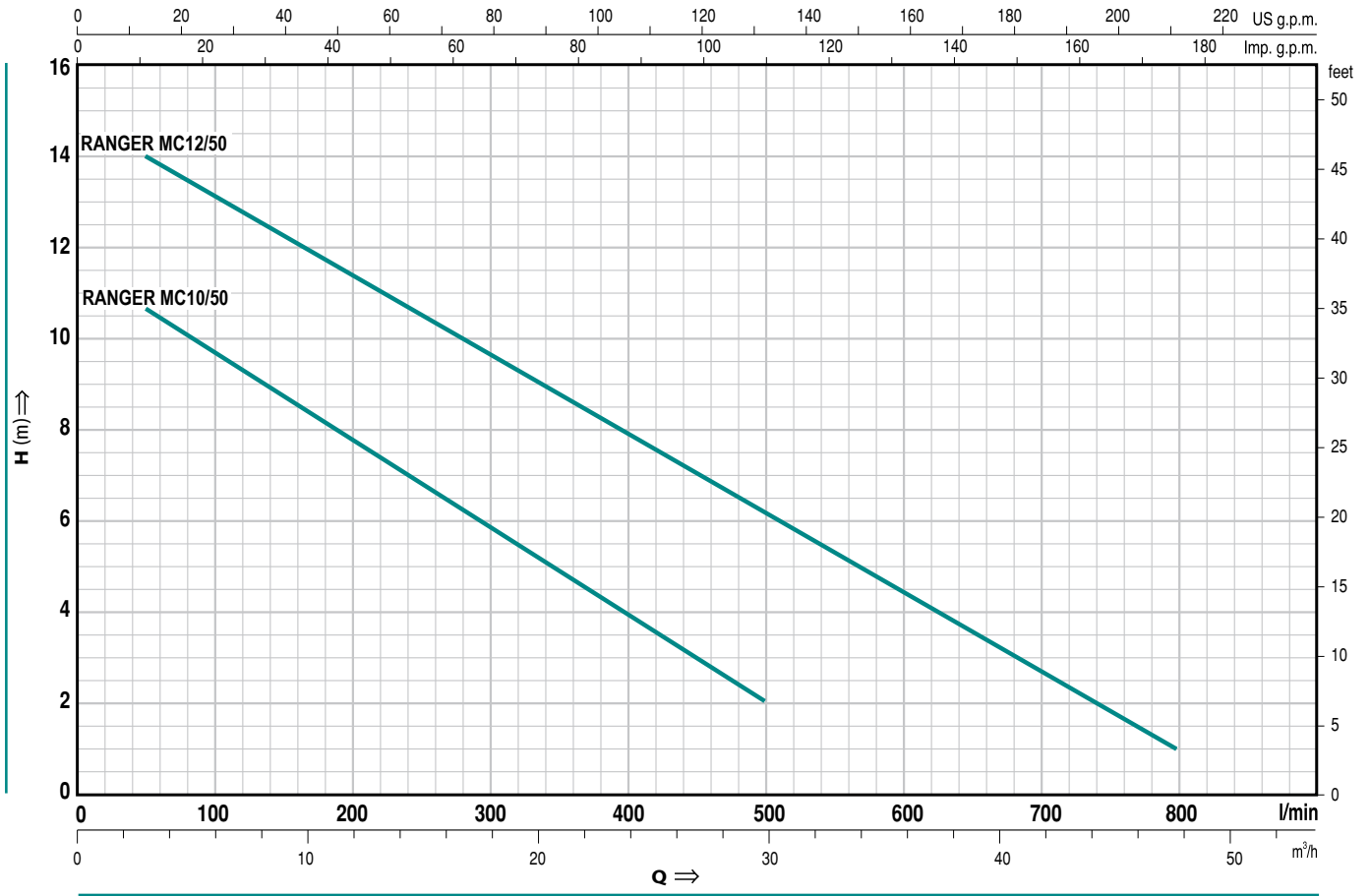
Typical single-phase installation





RANGER MC

DOUBLE-CHANNEL submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	0	3	6	9	12	15	18	21	24	27	30	36	42	48
Single-phase	Three-phase	kW	HP		0	50	100	150	200	250	300	350	400	450	500	600	700	800
RANGER MC 10/50M	RANGER MC 10/50	0.75	1	H metres	12	10.7	9.7	8.7	7.8	6.8	5.9	5	4	3	2			
RANGER MC 12/50M	RANGER MC 12/50	1.1	1.5		15	14	13	12.3	11.5	10.5	9.7	8.8	8	7	6.2	4.5	2.7	1

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	passage of solid bodies Ø 50 mm	DIMENSIONS mm									kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	p	∅	1~	3~
RANGER MC 10/50M	RANGER MC 10/50	2"	Ø 50 mm	110	90	150	410	153	55	adjustable	500	500	14.3	13.3
RANGER MC 12/50M	RANGER MC 12/50			120	97	163	430	158	65				16.5	14.3



RANGE OF PERFORMANCE

Flow rate up to 800 l/min (48 m³/h)

Head up to 15 m

LIMITS OF USE

Depth up to 5 m

Liquid temperature up to + 40°C

Passage of suspended solid bodies up to
Ø 50 mm

For continuous duty: minimum immer-
sion 290 mm from pump base

INSTALLATION AND USE

RANGER MC SUBMERSIBLE PUMPS ARE RECOM-
MENDED FOR DRAINING DIRTY WATER AND
SEWAGE IN THE DOMESTIC AND CIVIL SECTORS.
THEY ARE EQUIPPED WITH A "DOUBLE-CHANNEL"
STAINLESS STEEL IMPELLER WHICH ALLOWSTHE
PUMPING OF LIQUIDS CONTAINING SUSPENDED
SOLID BODIES WITH DIMENSIONS UP TO Ø
50mm AND SHORT FIBRES. THEY ARE IDEAL FOR
PUMPING DRAINAGE WATER, SEWAGE OR WASTE
WATER FOR A SINGLE DWELLING, AND FOR
CLEARING SUFACE OR NUISANCE WATER, EVEN
IF MUDDY. THESE PUMPS ARE OUTSTANDING
IN THEIR RELIABILITY IN FIXED INSTALLATIONS
WITH AUTOMATIC OPERATION.

GUARANTEE 2 YEARS subject to our general
terms of sale.

CONSTRUCTION CHARACTERISTICS

- **DELIVERY BODY:**
cast iron, with threaded port ISO 228/1.
- **MOTOR CASING:** stainless steel AISI 304.
- **BASE:** stainless steel AISI 304.
- **IMPELLER:**
double-channel in stainless steel AISI 304.
- **MOTOR SHAFT:**
stainless steel EN 10088-3 - 1.4104.
- **DOUBLE SEAL:**
mechanical seal silicon carbide-ceramic-NBR,
with oil barrier chamber and inner lip seal to
protect the seal in the event of dry running.
- **MOTOR:**
submersible asynchronous for continuous duty.
RANGER MC M: single-phase 220÷240 V - 50 Hz
with capacitor and thermal overload protector.
RANGER MC: three-phase 380÷415 V - 50 Hz.
- **INSULATION:** class F.
- **PROTECTION:** IP 68.

STANDARD FEATURES:

RANGER MC M (single-phase)

- Float switch.
- Neoprene power cable "H07 RN-F" length 5 me-
tres with Schuko plug.

RANGER MC (three-phase)

- Neoprene power cable "H07 RN-F" length
5 metres.

OPTIONS ON REQUEST

⇒ 10 metres power cable. N.B. required for outdoor



- use to comply with standard EN 60335-2-41
- ⇒ control box for three-phase pumps 1.1 kW
- ⇒ single-phase pumps without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

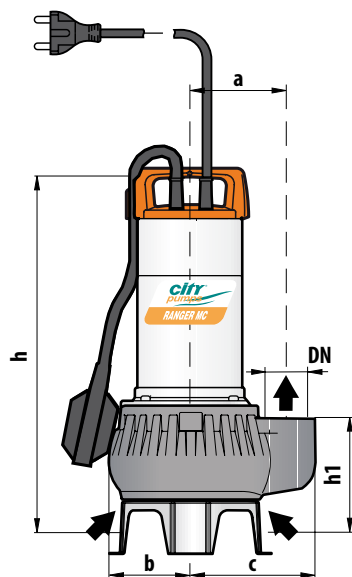
IEC 34-1

CEI 61-150

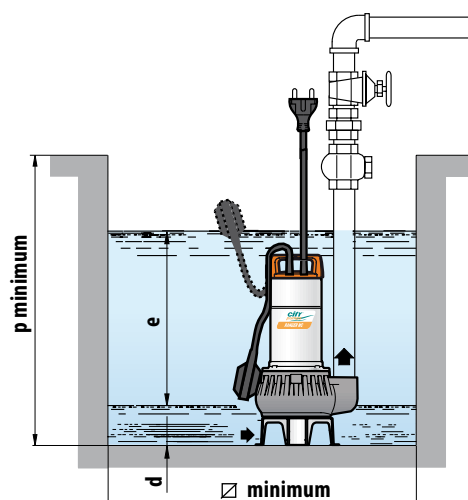
CEI 2-3



DIMENSIONS



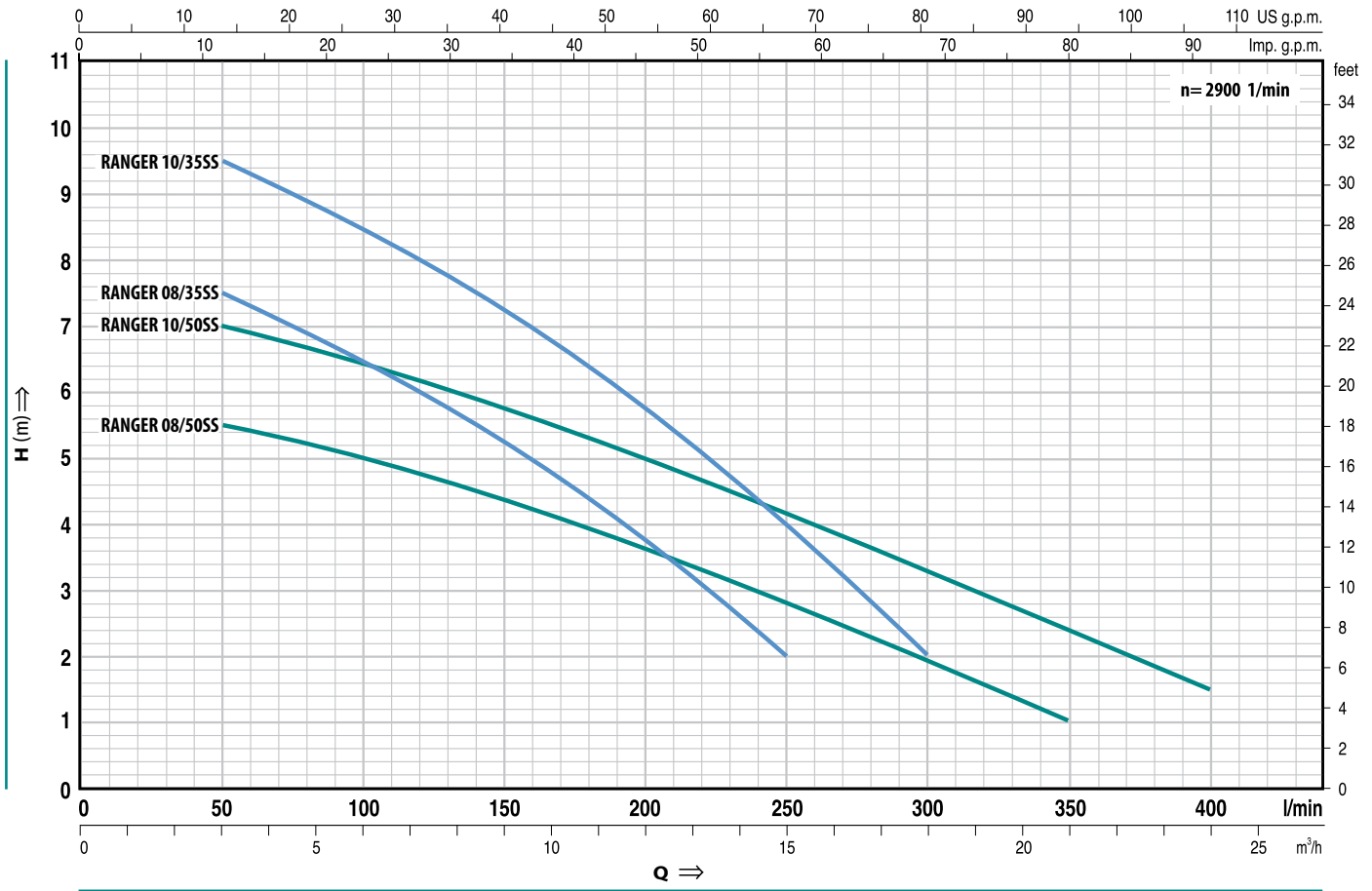
Typical single-phase installation





RANGER SS

VORTEX submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	0	3	6	9	12	15	18	21	24
Single-phase	Three-phase	kW	HP		0	50	100	150	200	250	300	350	400
RANGER 8/35M SS	---	0.60	0.85	H metres	8.4	7.5	6.5	5.2	3.7	2			
RANGER 10/35M SS	RANGER 10/35SS	0.75	1		10	9.5	8.5	7.2	5.8	4	2		
RANGER 8/50M SS	---	0.60	0.85		6	5.5	5	4.4	3.6	2.8	2	1	
RANGER 10/50M SS	RANGER 10/50SS	0.75	1		7.5	7	6.5	5.8	5	4	3.2	2.4	1.5

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	passage of solid bodies	DIMENSIONS mm								kg	
Single-phase	Three-phase			a	b	h	h1	d	e	p	∅	1~	3~
RANGER 8/35M SS	---	1 1/2"	∅ 35 mm	108	166	380	87	40	adjustable	500	500	9.7	-
RANGER 10/35M SS	RANGER 10/35SS												
RANGER 8/50M SS	---	2"	∅ 50 mm	118		410	108	55				12.8	-
RANGER 10/50M SS	RANGER 10/50SS												



RANGE OF PERFORMANCE

Flow rate up to 400 l/min (24 m³/h)

Head up to 10 m

LIMITS OF USE

Depth up to 5 m

Liquid temperature up to + 40°C

Passage of suspended solid bodies up to Ø 50 mm

For continuous duty: minimum immersion 280 mm from pump base.

INSTALLATION AND USE

THEY ARE RECOMMENDED FOR DRAINING WASTE WATER IN THE DOMESTIC, CIVIL AND INDUSTRIAL SECTORS, IN APPLICATIONS WHERE THE WATER CONTAINS SUSPENDED SOLIDS WITH DIMENSIONS UP TO Ø 50 mm. THEIR USE IS RECOMMENDED FOR DRYING FLOODED AREAS SUCH AS CELLARS, UNDERGROUND CAR PARKS, CAR WASHING AREAS AND FOR EMPTYING CESSPITS OR SEWAGE DISPOSAL.

THESE PUMPS ARE OUTSTANDING IN THEIR RELIABILITY IN FIXED INSTALLATIONS WITH AUTOMATIC OPERATION.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **DELIVERY BODY:** stainless steel AISI 304, with threaded port ISO 228/1.
- **MOTOR CASING AND BASE:** stainless steel AISI 304.
- **IMPELLER:** stainless steel AISI 304.
- **MOTOR SHAFT:** stainless steel AISI 316.
- **DOUBLE SEAL:** mechanical seal silicon carbide - ceramic - NBR - stainless steel AISI 316, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
- **MOTOR:** submersible asynchronous for continuous duty.

RANGER M SS: single-phase 220÷240 V - 50 Hz with capacitor and thermal overload protector.

RANGER SS: three-phase 380÷415 V - 50 Hz.

• **INSULATION:** class F.

• **PROTECTION:** IP 68.

STANDARD FEATURES:

RANGER M SS (single-phase)

- Flow switch.
- Neoprene power cable "H07 RN-F" length **5 metres** with Schuko plug.

RANGER SS (three-phase)

- Neoprene power cable "H07 RN-F" length **5 metres**.



OPTIONS ON REQUEST

- ⇒ 10 metres power cable. N.B. required for outdoor use to comply with standard EN 60335-2-41
- ⇒ single-phase pumps without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

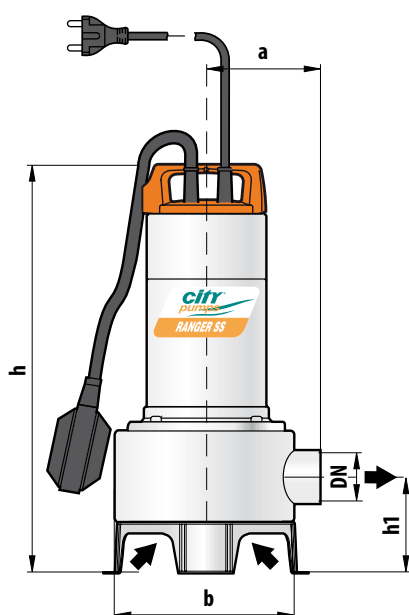
IEC 34-1

CEI 61-150

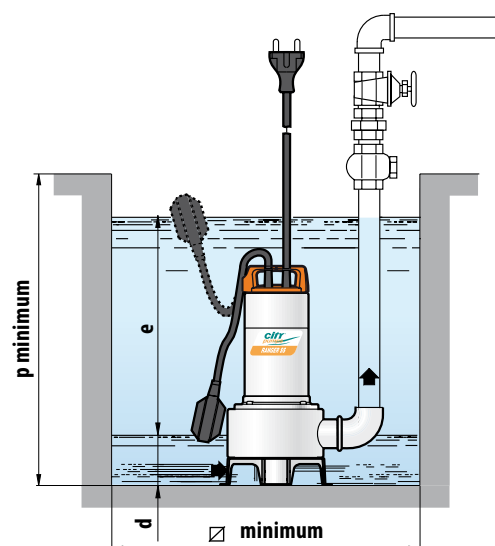
CEI 2-3



DIMENSIONS



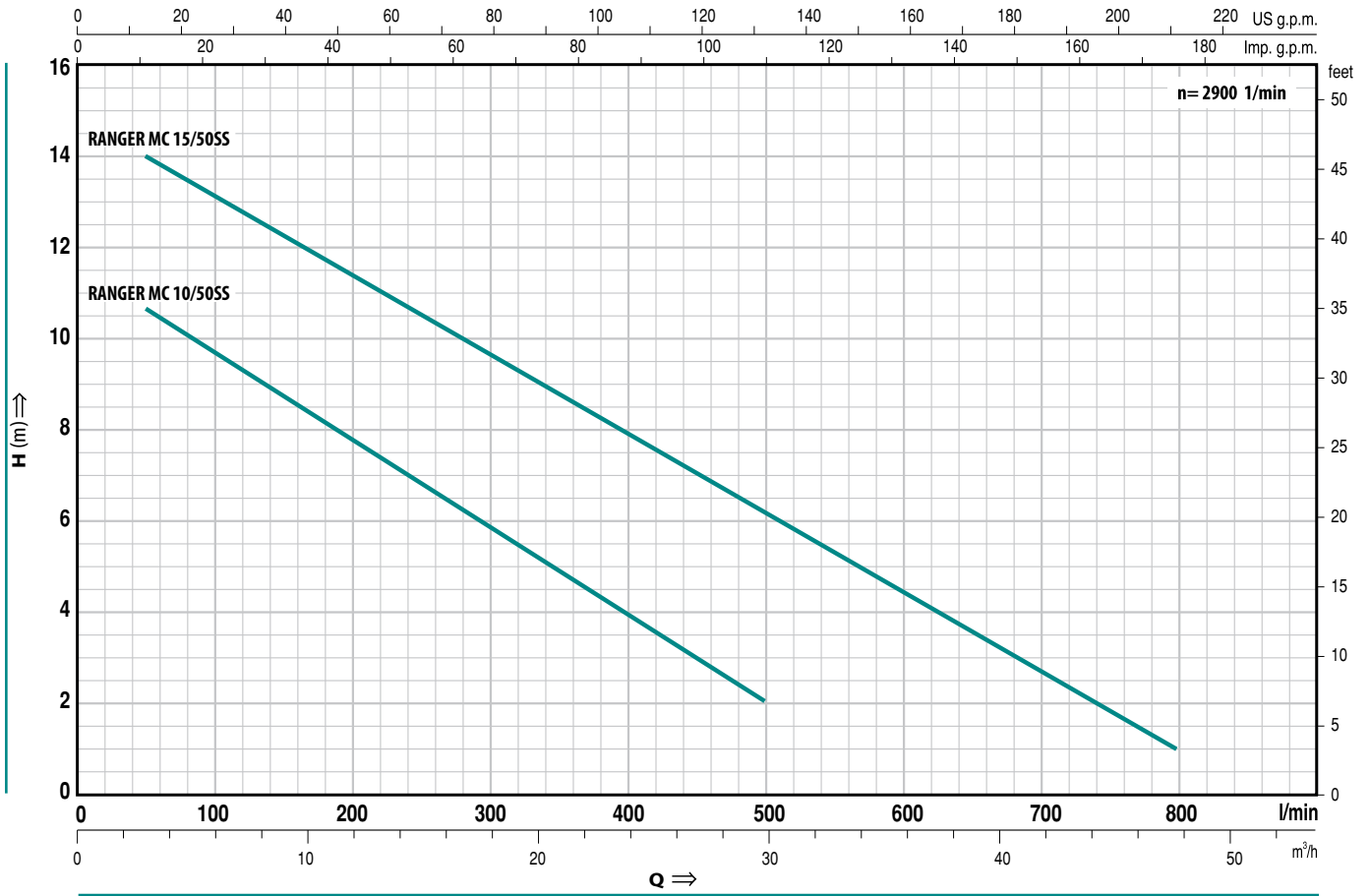
Typical single-phase installation





RANGER MC SS

DOUBLE-CHANNEL submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	0	3	6	9	12	15	18	21	24	27	30	36	42	48
Single-phase	Three-phase	kW	HP		0	50	100	150	200	250	300	350	400	450	500	600	700	800
RANGER MC 10/50M SS	RANGER MC 10/50SS	0.75	1	H metres	12	10.7	9.7	8.7	7.8	6.8	5.9	5	4	3	2			
---	RANGER MC 15/50SS	1.1	1.5		15	14	13	12.3	11.5	10.5	9.7	8.8	8	7	6.2	4.5	2.7	1

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	passage of solid bodies	DIMENSIONS mm								kg	
Single-phase	Three-phase			a	b	h	h1	d	e	p	∅	1~	3~
RANGER MC 10/50M SS	RANGER MC 10/50SS	2"	∅ 50 mm	118	166	410	109	55	adjustable	500	500	12.8	9.8
---	RANGER MC 15/50SS											-	12.8



RANGE OF PERFORMANCE

Flow rate up to 800 l/min (48 m³/h)

Head up to 15 m

LIMITS OF USE

Depth up to 5 m

Liquid temperature up to + 40°C

Passage of suspended solid bodies up to Ø 50 mm

For continuous duty: minimum immersion 280 mm from pump base

INSTALLATION AND USE

RANGER MC SS SUBMERSIBLE PUMPS ARE RECOMMENDED FOR DRAINING DIRTY WATER AND SEWAGE IN THE DOMESTIC AND CIVIL SECTORS. THEY ARE EQUIPPED WITH A "DOUBLE-CHANNEL" STAINLESS STEEL IMPELLER WHICH ALLOWS THE PUMPING OF LIQUIDS CONTAINING SUSPENDED SOLID BODIES WITH DIMENSIONS UP TO Ø 50 mm AND SHORT FIBRES. THEY ARE IDEAL FOR PUMPING DRAINAGE WATER, SEWAGE OR WASTE WATER FOR A SINGLE DWELLING, AND FOR CLEARING SURFACE OR NUISANCE WATER, EVEN IF MUDDY. THESE PUMPS ARE OUTSTANDING IN THEIR RELIABILITY IN FIXED INSTALLATIONS WITH AUTOMATIC OPERATION.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **DELIVERY BODY:** stainless steel AISI 304, with threaded port ISO 228/1.
- **MOTOR CASING AND BASE:** stainless steel AISI 304.
- **IMPELLER:** double-channel, in stainless steel AISI 304.
- **MOTOR SHAFT:** stainless steel AISI 316.
- **DOUBLE SEAL:** mechanical seal silicon carbide - ceramic - NBR - stainless steel AISI 316, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
- **MOTOR:** submersible asynchronous for continuous duty.

RANGER MC M SS: single-phase 220÷240 V - 50 Hz with capacitor and thermal overload protector.

RANGER MC SS: three-phase 380÷415 V - 50 Hz.

- **INSULATION:** class F.

- **PROTECTION:** IP 68.

STANDARD FEATURES:

RANGER MC M SS (single-phase)

- Float switch.
- Neoprene power cable "H07 RN-F"
- length **5 metres** with Schuko plug.

RANGER MC SS (three-phase)

- Neoprene power cable "H07 RN-F" length **5 metres**.

OPTIONS ON REQUEST



- ⇒ 10 metres power cable. N.B. required for outdoor use to comply with standard EN 60335-2-41
- ⇒ control box for three-phase pumps 1.1 kW
- ⇒ single-phase pumps without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

EN 60 335-1

EN 60034-1

IEC 335-1

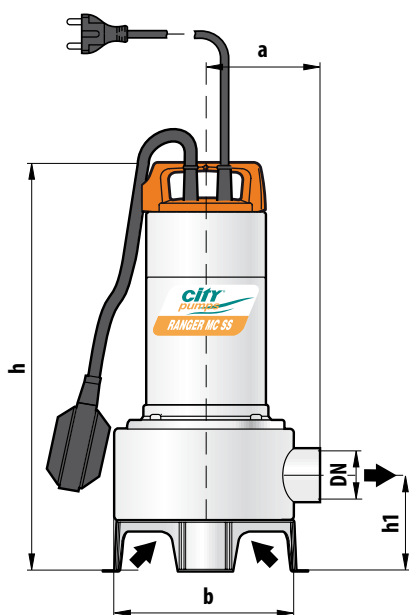
IEC 34-1

CEI 61-150

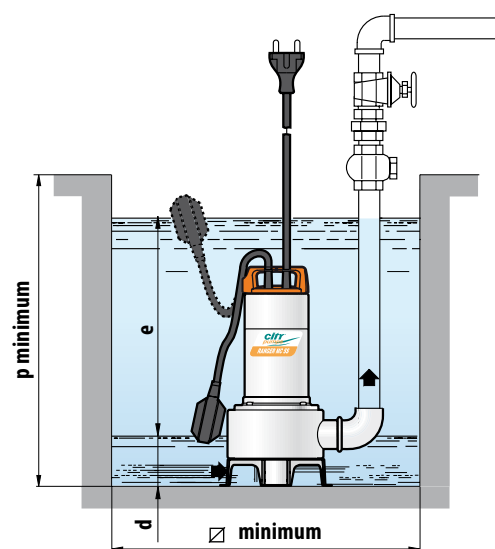
CEI 2-3



DIMENSIONS



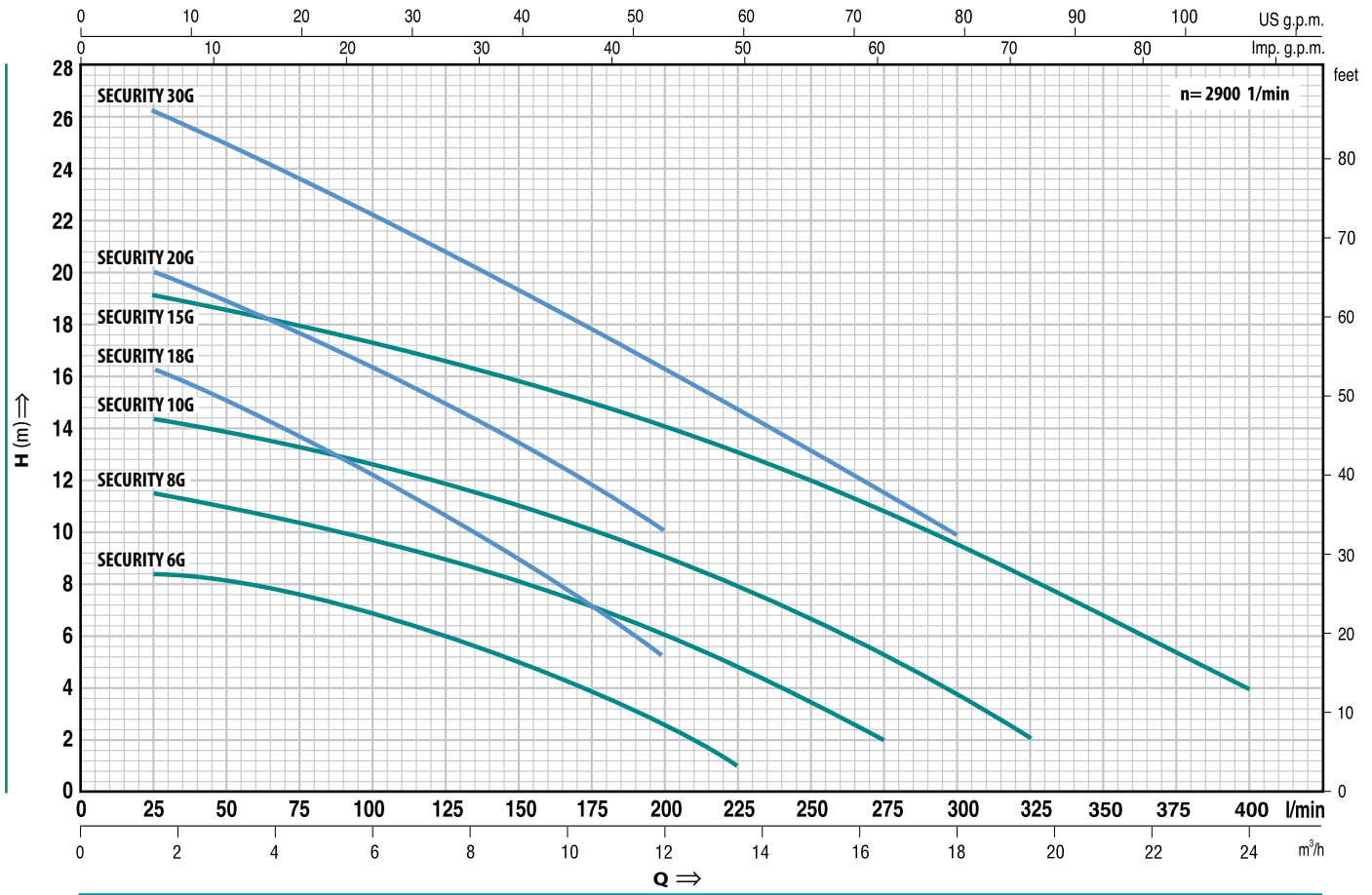
Typical single-phase installation





SECURITY G

DRAINAGE submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	H metres															
Single-phase	Three-phase	kW	HP		0	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	15.0	16.5	18.0	19.5	21.0	24.0
				0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	400	
SECURITY G 6M	----	0.45	0.60	H metres	9	8.5	8	7.5	6.8	6	5.2	4	2.6	1						
SECURITY G 8M	----	0.60	0.85		12	11.5	11	10.5	9.8	9	8.2	7.2	6	4.8	3.5	2				
SECURITY G 10M	SECURITY G 10	0.75	1		15	14.5	14	13.2	12.5	11.8	11	10	9	8	6.8	5.4	3.5	2		
SECURITY G 15M	SECURITY G 15	1.1	1.5		19.5	19	18.5	18	17.5	16.5	16	15	14	13	11.8	10.5	9.2	8	7	4
SECURITY G 18M	----	0.6	0.85		17	16.5	15	13.5	12	10.7	9	7.7	5							
SECURITY G 20M	SECURITY G 20	0.75	1		21	20	19	17.5	16	15	13.5	12	10							
SECURITY G 30M	SECURITY G 30	1.1	1.5		27	26	25	23.5	22	21	19.5	18	16	14.5	13	11.5	10			

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	DIMENSIONS mm											kg		
Single-phase	Three-phase		a	b	c	h	h1	m	n	o	d	e	p	∅	1~	3~
SECURITY G 6M	----	1 1/2"	105	90	136	285	66	81	200	66	15	adjustable	500	500	14.8	-
SECURITY G 8M	----					16.1	-									
SECURITY G 10M	SECURITY G 10					17.1	16.1									
SECURITY G 15M	SECURITY G 15		110	140	310	80	19.3	18.2								
SECURITY G 18M	----		105	136	285	66	16.1	-								
SECURITY G 20M	SECURITY G 20		105	136	285	66	17.1	16.1								
SECURITY G 30M	SECURITY G 30		110	140	310	80	19.3	18.2								



RANGE OF PERFORMANCE

Flow rate up to 400 l/min (24 m³/h)

Head up to 27 m

LIMITS OF USE

Depth up to 10 m

Liquid temperature up to + 40°C

Passage of suspended solid bodies up to
Ø 10 mm

Drainage level to 15 mm from the bottom

For continuous duty: minimum immer-
sion 210 mm from pump base

INSTALLATION AND USE

SECURITY G SUBMERSIBLE PUMPS, MADE OF EXCEPTIONALLY STURDY HEAVY-GAUGE CAST IRON, RESISTANT TO ABRASION AND LONG-LASTING, ARE RECOMMENDED FOR DRAINING CLEAR OR SLIGHTLY DIRTY WATER AND FOR DISPOSING OF NON-SEWAGE WASTE WATER; THEY ARE OUTSTANDING BOTH IN THEIR STURDINESS AND THEIR RELIABILITY IN FIXED INSTALLATIONS WITH AUTOMATIC OPERATION.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **PUMP BODY:**
cast iron, with threaded port ISO 228/1.
 - **MOTOR CASING:** cast iron.
 - **SUCTION GRID:** stainless steel AISI 304.
 - **IMPELLER:** cast iron.
 - **MOTOR SHAFT:**
stainless steel EN 10088-3 - 1.4104.
 - **DOUBLE SEAL:**
mechanical seal silicon carbide-ceramic-NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
 - **MOTOR:**
submersible asynchronous for continuous duty.
- SECURITY G M:** single-phase 220÷240 V - 50 Hz with thermal overload protector.
- SECURITY G:** three-phase 380÷415 V - 50 Hz.
- **INSULATION:** class F.
 - **PROTECTION:** IP 68.

STANDARD FEATURES:

SECURITY G M (single-phase)

- Float switch.
- Neoprene power cable "H07 RN-F" length **10 metres** with Schuko plug.
- Electric panel with capacitor.

SECURITY G (three-phase)

- Neoprene power cable "H07 RN-F" length **10 metres**.



OPTIONS ON REQUEST

- ⇒ control box for three-phase pumps 1.1 kW
- ⇒ single-phase pumps without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

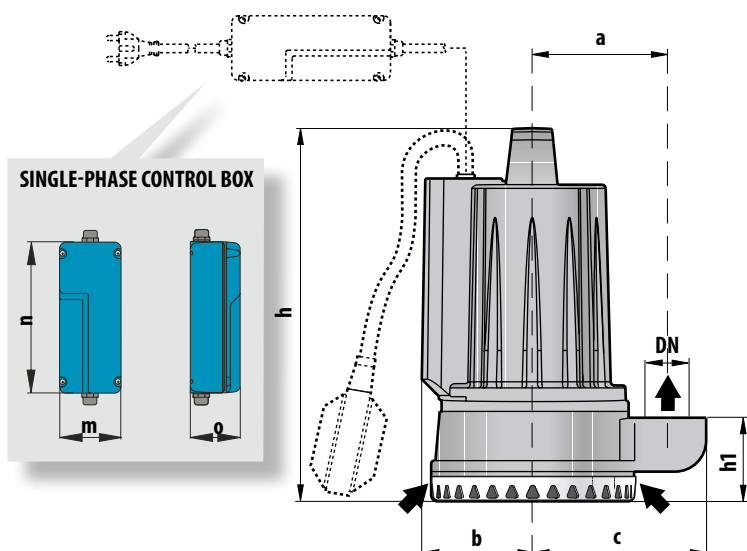
EN 60034-1

IEC 34-1

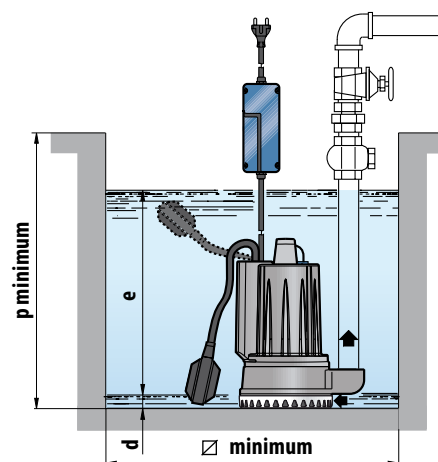
CEI 2-3



DIMENSIONS

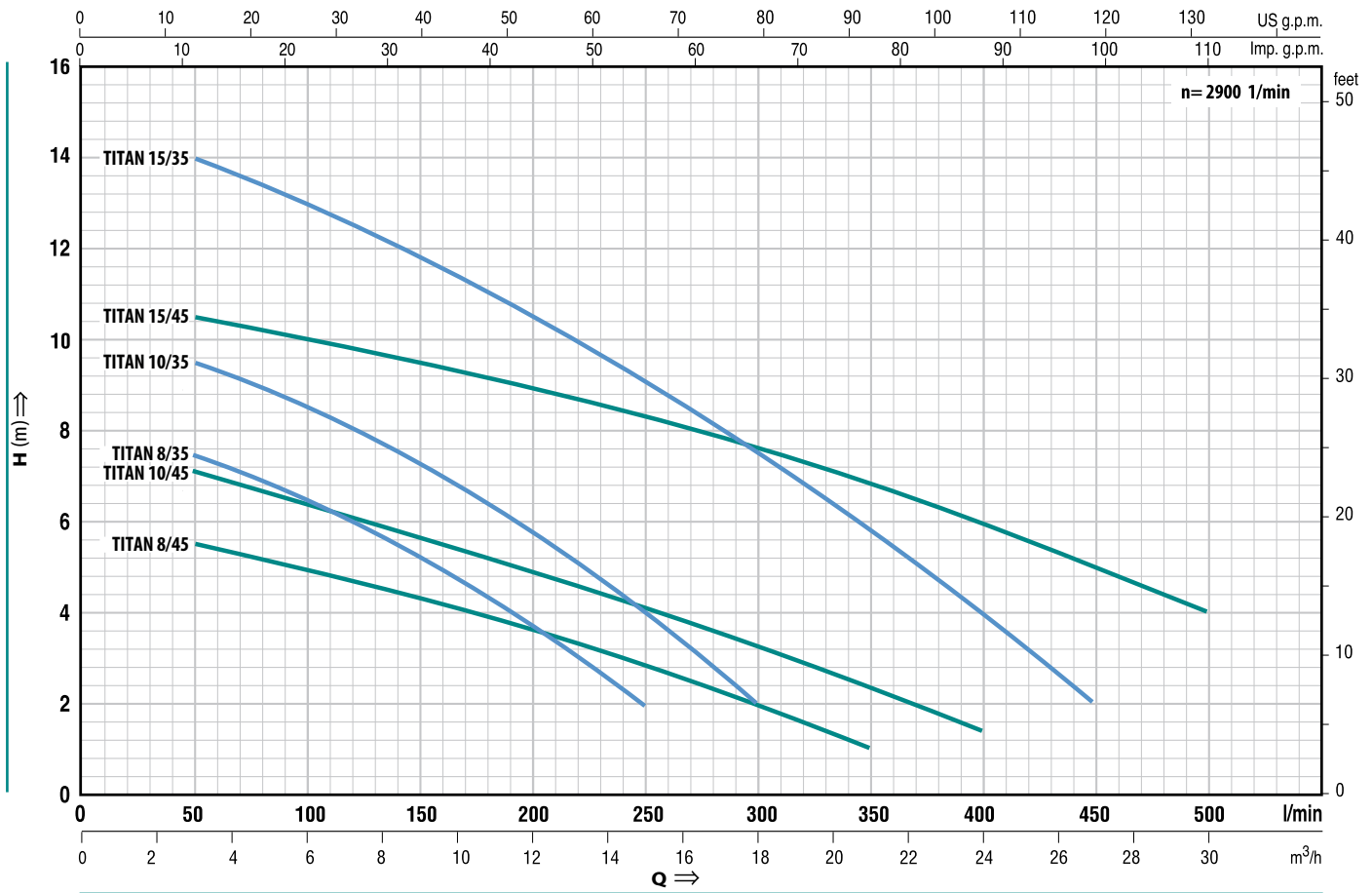


Typical installation



TITAN 35-45

VORTEX submersible pumps



Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	0	3	6	9	12	15	18	21	24	27	30	
Single-phase	Three-phase	kW	HP		0	50	100	150	200	250	300	350	400	450	500	
TITAN 8/35M	---	0.60	0.85	H metres	8.4	7.5	6.5	5.2	3.7	2						
TITAN 10/35M	TITAN 10/35	0.75	1		10	9.5	8.5	7.2	5.8	4	2					
TITAN 15/35M	TITAN 15/35	1.1	1.5		15	14	13	11.8	10.5	9	7.5	6	4	2		
TITAN 8/45M	---	0.60	0.85		6	5.5	5	4.4	3.6	2.8	2	1				
TITAN 10/45M	TITAN 10/45	0.75	1		7.5	7	6.5	5.8	5	4	3.2	2.4	1.5			
TITAN 15/45M	TITAN 15/45	1.1	1.5		11	10.5	10	9.5	9	8.3	7.5	6.8	6	5	4	

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	passage of solid bodies	DIMENSIONS mm											kg		
Single-phase	Three-phase			a	b	c	h	h1	m	n	o	d	e	p	∅	1~	3~
TITAN 8/35M	---	1 1/2"	∅ 35 mm	105	90	137	350	123	81	200	66	40	adjust- able	500	500	17.0	-
TITAN 10/35M	TITAN 10/35			92	143	370	133	18.7				17.1					
TITAN 15/35M	TITAN 15/35			110	90	150	375	148				20.9				19.8	
TITAN 8/45M	---	2"	∅ 45 mm	110	90	150	375	148	81	200	66	55	adjust- able	500	500	18.0	-
TITAN 10/45M	TITAN 10/45			120	97	163	395	153				19.7				18.0	
TITAN 15/45M	TITAN 15/45			120	97	163	395	153				21.9				20.8	



RANGE OF PERFORMANCE

Flow rate up to 500 l/min (30 m³/h)

Head up to 15 m

LIMITS OF USE

Depth up to 10 m

Liquid temperature up to + 40°C

Passage of solid bodies max Ø 35 mm for TITAN/35

Passage of solid bodies max Ø 45 mm for TITAN/45

For continuous duty: minimum immersion 290 mm from pump base

INSTALLATION AND USE

THE PUMPS IN THE TITAN SERIES ARE MADE OF EXCEPTIONALLY ROBUST HEAVY-GAUGE CAST IRON, RESISTANT TO ABRASION AND ARE EQUIPPED WITH A VORTEX TYPE IMPELLER. THEY ARE RECOMMENDED FOR DRAINING WASTE WATER CONTAINING SUSPENDED SOLID BODIES, SEWAGE AND WATER MIXED WITH MUD.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **PUMP BODY:** cast iron, with threaded port ISO 228/1.

- **MOTOR CASING AND BASE:** cast iron.
 - **IMPELLER:** vortex in stainless steel AISI 304.
 - **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4104.
 - **DOUBLE SEAL:** mechanical seal silicon carbide - ceramic - NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
 - **MOTOR:** submersible asynchronous for continuous duty.
- TITAN M:** single-phase 220÷240 V - 50 Hz with thermal overload protector.
- TITAN:** three-phase 380÷415 V - 50 Hz.
- **INSULATION:** class F.
 - **PROTECTION:** IP 68.

STANDARD FEATURES:

TITAN M (single-phase)

- Float switch.
- Neoprene power cable "H07 RN-F" length **10 metres** with Schuko plug.
- Control box with capacitor (Protection IP 64).

TITAN (three-phase)

- Neoprene power cable "H07 RN-F" length **10 metres**.

OPTIONS ON REQUEST

- ⇒ control box for three-phase pumps 1.1 kW
- ⇒ single-phase pumps without float switch
- ⇒ other voltages or frequency 60 Hz



CONSTRUCTION AND SAFETY STANDARDS

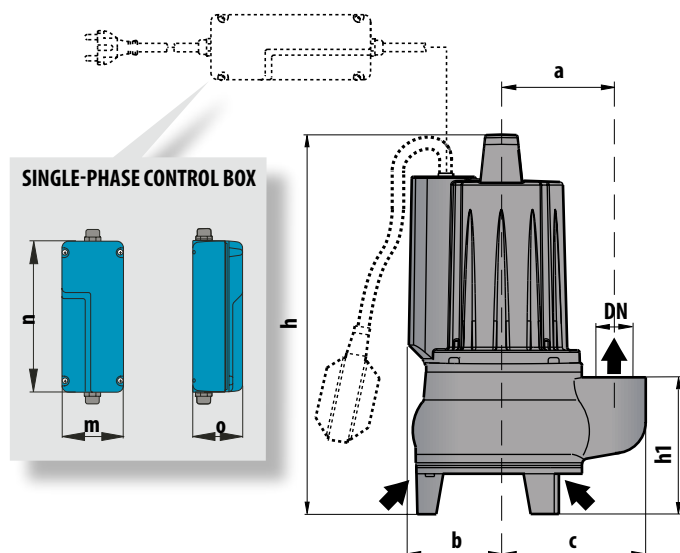
EN 60034-1

IEC 34-1

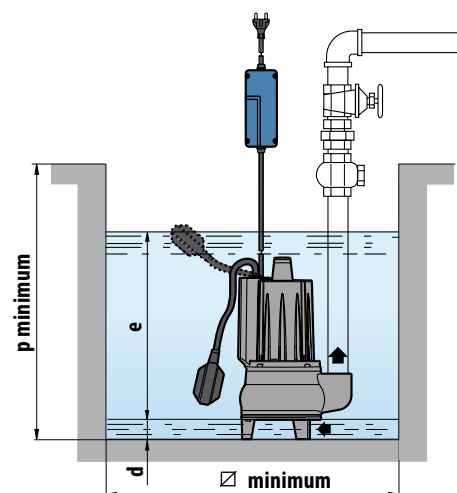
CEI 2-3



DIMENSIONS



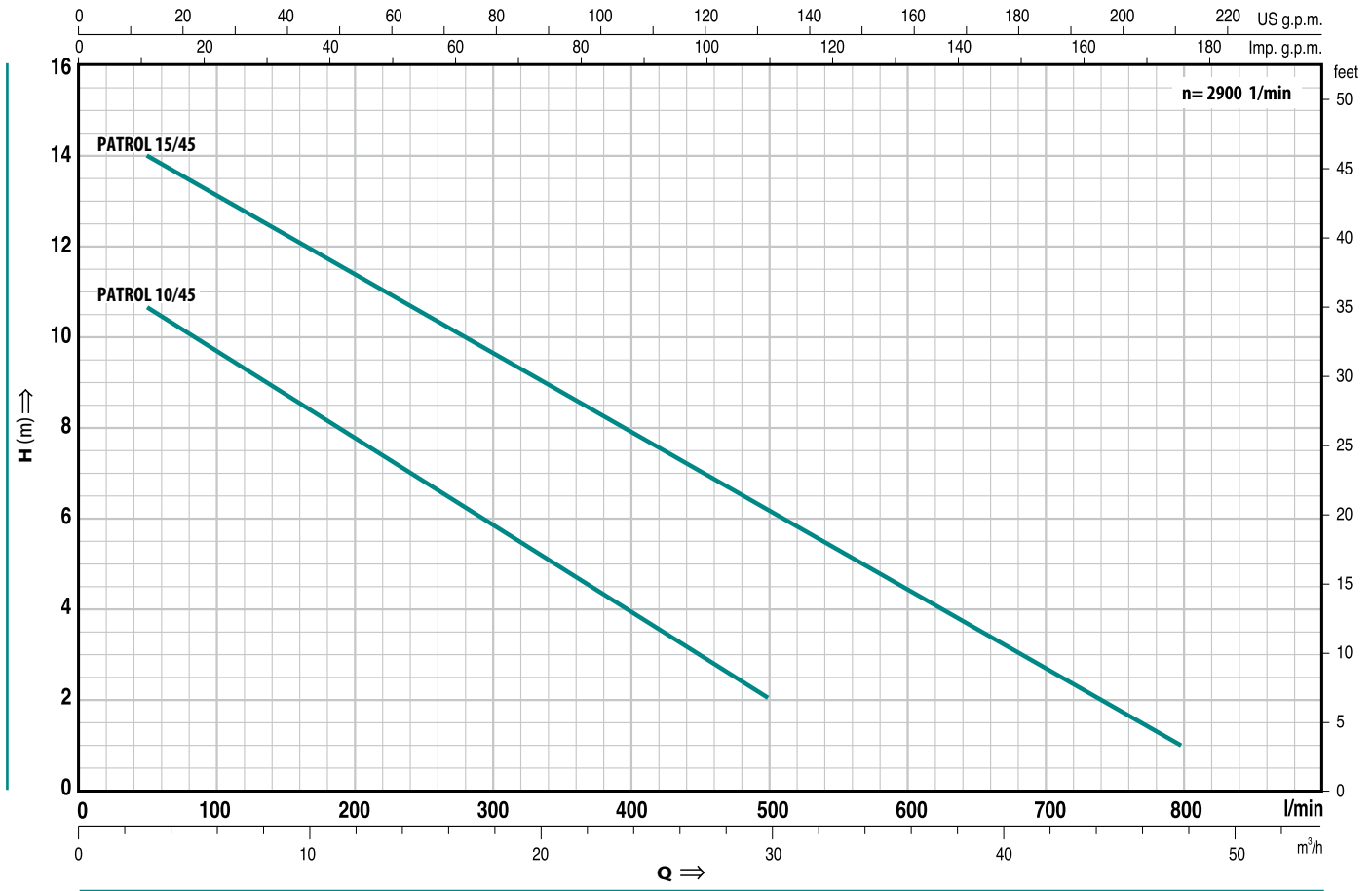
Typical installation





PATROL 45

DOUBLE-CHANNEL submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	0	3	6	9	12	15	18	21	24	27	30	36	42	48
Single-phase	Three-phase	kW	HP		0	50	100	150	200	250	300	350	400	450	500	600	700	800
PATROL 10/45M	PATROL 10/45	0.75	1	H metres	12	10.7	9.7	8.7	7.8	6.8	5.9	5	4	3	2			
PATROL 15/45M	PATROL 15/45	1.1	1.5		15	14	13	12.3	11.5	10.5	9.7	8.8	8	7	6.2	4.5	2.7	1

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	passage of solid bodies Ø 45 mm	DIMENSIONS mm												kg	
Single-phase	Three-phase			a	b	c	h	h1	m	n	o	d	e	p	∅	1~	3~
PATROL 10/45M	PATROL 10/45	2"	Ø 45 mm	110	90	150	375	148	81	200	66	55	adjust- able	500	500	19.9	18.3
PATROL 15/45M	PATROL 15/45			120	97	163	395	153								22.1	21.0



RANGE OF PERFORMANCE

Flow rate up to 800 l/min (48 m³/h)

Head up to 15 m

LIMITS OF USE

Depth up to 10 m

Liquid temperature up to + 40°C

Passage of suspended solid bodies up to
Ø 45 mm

For continuous duty: minimum immer-
sion 290 mm from pump base

INSTALLATION AND USE

THE PUMPS IN THE PATROL SERIES ARE MADE OF EXCEPTIONALLY ROBUST HEAVY-GAUGE CAST IRON, RESISTANT TO ABRASION AND LONG-LASTING. THEY ARE EQUIPPED WITH A DOUBLE-CHANNEL IMPELLER WHICH ALLOWS THE DRAINAGE OF LIQUIDS CONTAINING SUSPENDED SOLID BODIES WITH DIMENSIONS UP TO Ø 45 mm AND SHORT FIBRES. THEY ARE IDEAL FOR PUMPING DRAINAGE WATER AND SEWAGE, WASTE WATER INCLUDING WATER MIXED WITH MUD, GROUNDWATER AND SURFACE WATER IN APPLICATIONS SUCH AS: CONDOMINIUMS, MULTI-STORY AND UNDERGROUND CAR PARKS, WASHING AREAS AND INDUSTRY.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **PUMP BODY:** cast iron, with threaded port ISO 228/1.
- **MOTOR CASING AND BASE:** cast iron.
- **IMPELLER:** double-channel, in stainless steel AISI 304.
- **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4104.
- **DOUBLE SEAL:** mechanical seal silicon carbide-ceramic-NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
- **MOTOR:** submersible asynchronous for continuous duty.
PATROL M: single-phase 220÷240 V - 50 Hz with thermal overload protector.
PATROL: three-phase 380÷415 V - 50 Hz.
- **INSULATION:** class F.
- **PROTECTION:** IP 68.

STANDARD FEATURES:

PATROL M (single-phase)

- Float switch.
- Neoprene power cable "H07 RN-F" length **10 metres** with Schuko plug.
- Control box with condenser.

PATROL (three-phase)

- Neoprene power cable "H07 RN-F" length **10 metres**.



OPTIONS ON REQUEST

- ⇒ control box for three-phase pumps 1.1 kW
- ⇒ single-phase pumps without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

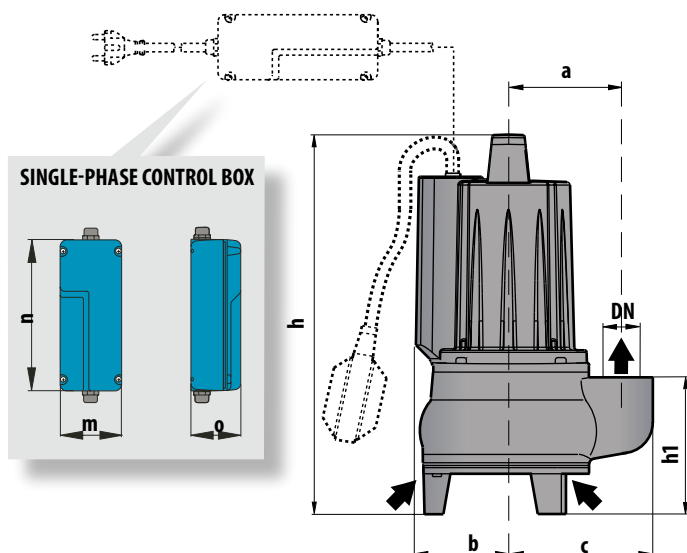
EN 60034-1

IEC 34-1

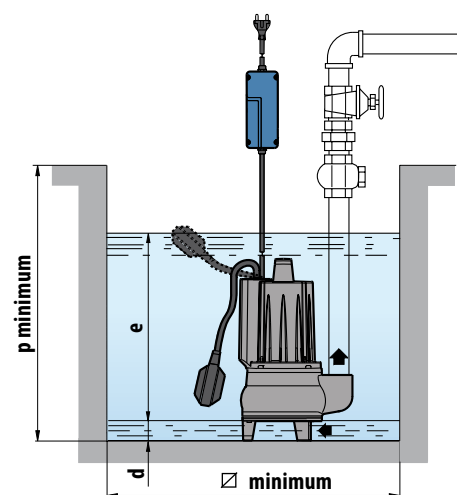
CEI 2-3



DIMENSIONS



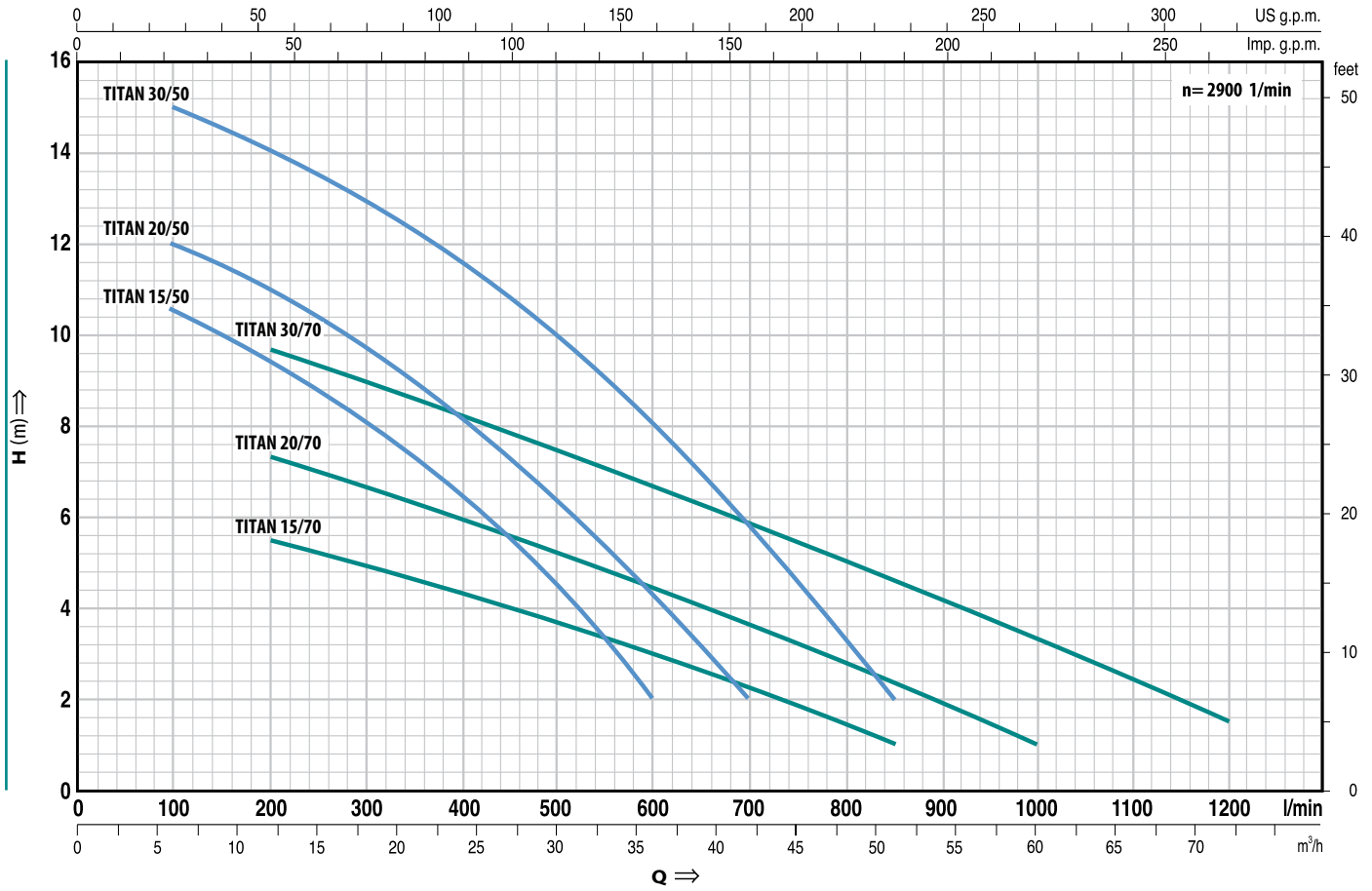
Typical installation





TITAN 50-70

VORTEX submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	H metres																
Single-phase	Three-phase	kW	HP		0	6	12	18	21	24	30	36	42	48	51	54	60	66	72		
				0	100	200	300	350	400	500	600	700	800	850	900	1000	1100	1200			
TITAN 15/50M	TITAN 15/50	1.1	1.5	11.5	10.5	9.5	8.2	7.2	6.5	4.5	2										
TITAN 20/50M	TITAN 20/50	1.5	2	13	12	11	9.5	9	8	6.5	4.5	2									
TITAN 30/50M	TITAN 30/50	2.2	3	16	15	14	13	12.3	11.5	10	8	5.9	3.3	2							
TITAN 15/70M	TITAN 15/70	1.1	1.5	6.5	---	5.5	5	4.7	4.4	3.7	3	2.2	1.5	1							
TITAN 20/70M	TITAN 20/70	1.5	2	8.5	---	7.4	6.7	6.3	6	5.2	4.5	3.6	2.8	2.4	2	1					
TITAN 30/70M	TITAN 30/70	2.2	3	11	---	9.7	9	8.6	8.2	7.5	6.7	5.8	5	4.6	4.2	3.3	2.5	1.5			

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	passage of solid bodies	DIMENSIONS mm											kg		
Single-phase	Three-phase			a	b	c	h	h1	m	n	o	d	e	p	∅	1~	3~
TITAN 15/50M	TITAN 15/50	2 1/2"	∅ 50 mm	162	135	212	490	188	81	200	85	75	adjust- able	800	800	33.3	31.0
TITAN 20/50M	TITAN 20/50						500/490					40.7				33.3	
TITAN 30/50M	TITAN 30/50						530					40.7				34.8	
TITAN 15/70M	TITAN 15/70	3"	∅ 70 mm	180	150	240	530	230	81	200	85	85	adjust- able	800	800	38.9	36.6
TITAN 20/70M	TITAN 20/70						540/530					40.8				38.9	
TITAN 30/70M	TITAN 30/70						540/530					47.0				41.1	



RANGE OF PERFORMANCE

Flow rate up to 1200 l/min (72 m³/h)

Head up to 16 m

LIMITS OF USE

Depth up to 10 m

Liquid temperature up to + 40°C

Passage of solid bodies max Ø 50 mm for TITAN 15-20-30/50

Passage of solid bodies max Ø 70 mm for TITAN 15-20-30/70

For continuous duty: minimum immersion 420 mm from pump base

INSTALLATION AND USE

TITAN SERIES PUMPS ARE MADE OF EXCEPTIONALLY ROBUST HEAVY-GAUGE CAST IRON, RESISTANT TO ABRASION AND LONG-LASTING, AND HAVE A VORTEX TYPE IMPELLER. THEY ARE SUITABLE FOR SEWAGE, WASTE WATER AND SLUDGE, INCLUDING WATER CONTAINING SOLIDS OR MUD. THEY ARE IDEAL FOR SEWAGE INSTALLATION, TUNNELS AND OTHER EXCAVATIONS, UNDERGROUND CARPARKS AND SIMILAR APPLICATIONS.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- PUMP BODY, MOTOR CASING: cast iron.
- IMPELLER: cast iron.

- **BASE:** stainless steel AISI 304.
 - **MOTOR SHAFT:** vortex, stainless steel EN 10088-3 - 1.4057.
 - **DOUBLE SEAL:** mechanical seal silicon carbide - widia -NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
 - **MOTOR:** submersible asynchronous, 2 pole, for continuous duty.
- TITAN M:** single-phase 220÷240 V - 50 Hz Models up to 1.5 kW have built in thermal protection 2.2 kW single-phase versions have a thermal protector provided in the winding for connection to the control box.
- TITAN:** three-phase 380÷415 V - 50 Hz. Thermal protectors are provided in the winding for connection to the external control panel
- **INSULATION:** class F.
 - **PROTECTION:** IP 68.

STANDARD FEATURES:

- TITAN M** (single-phase)
- Float switch.
 - **10 metres** "H07 RN-F" submersible power cable with Schuko plug.
 - 1.1 to 1.5 kW models are supplied with control box with capacitor and manual reset motor protector. 2.2 kW models are supplied with control box type QES 300 MONO.
- TITAN** (three-phase)
- **10 metres** "H07 RN-F" neoprene power cable



OPTIONS ON REQUEST

- ⇒ control box for three-phase pumps
- ⇒ dual voltage: 230/400 V or 400/690 V
- ⇒ single-phase versions without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

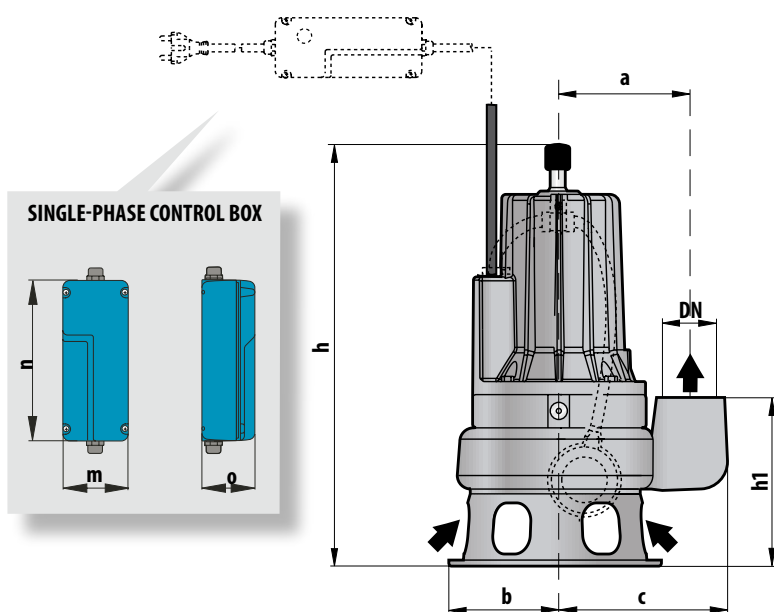
EN 60034-1

IEC 34-1

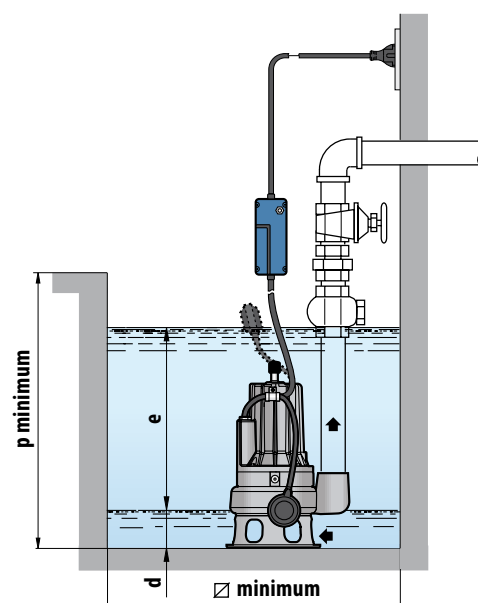
CEI 2-3



DIMENSIONS

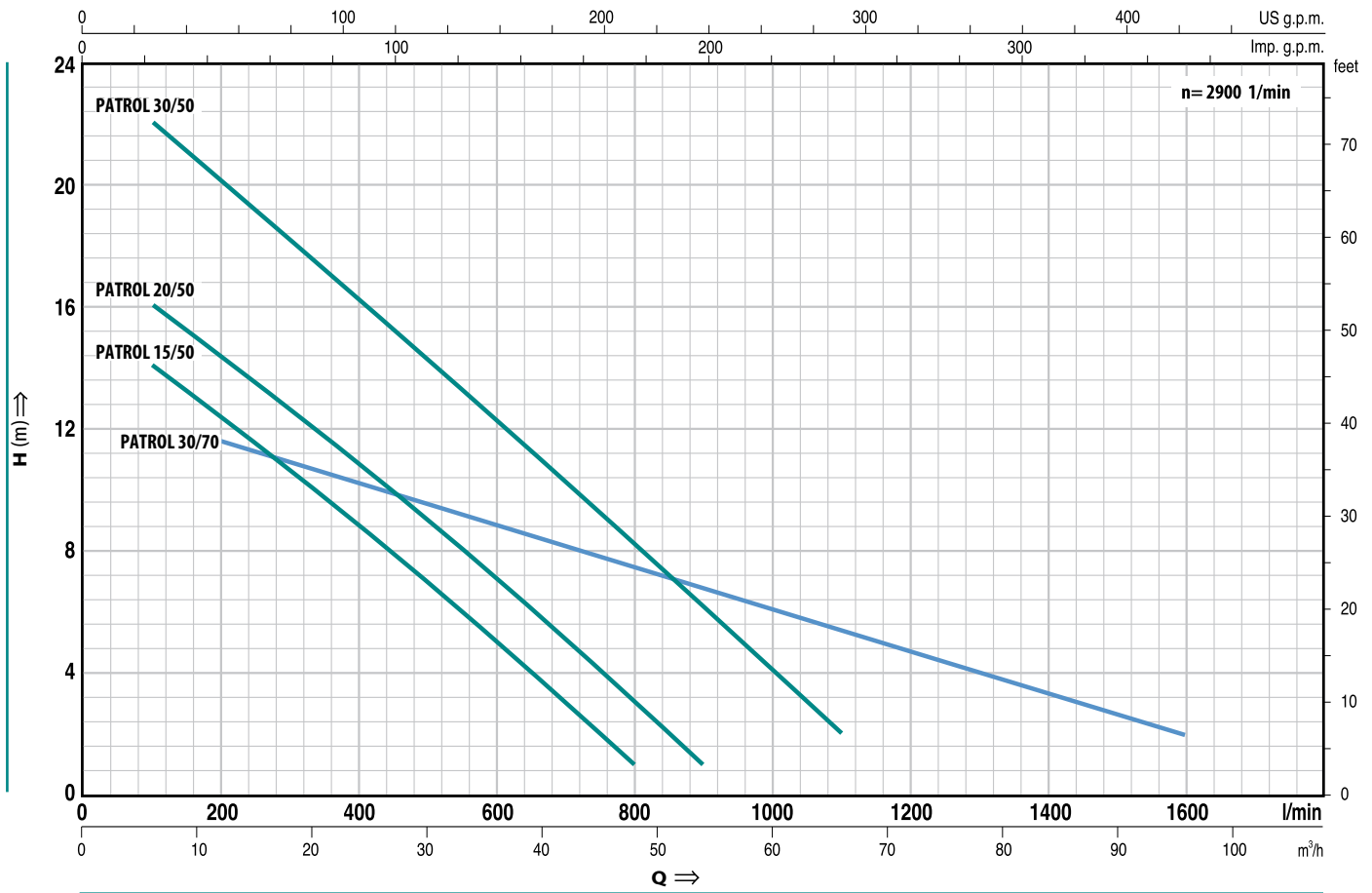


Typical single-phase installation



PATROL 50-70

elettropompe sommergibili MONOCANALE



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	H metres															
Single-phase	Three-phase	kW	HP		0	3	6	12	18	24	30	36	42	48	54	60	66	72	84	96
				0	50	100	200	300	400	500	600	700	800	900	1000	1100	1200	1400	1600	
PATROL 15/50M	PATROL 15/50	1.1	1.5	16	---	14	12.5	10.5	8.5	7	5	3	1							
PATROL 20/50M	PATROL 20/50	1.5	2	18	---	16	14	12.5	10.5	9	7	5	3	1						
PATROL 30/50M	PATROL 30/50	2.2	3	24	---	22	20	18	16	14	12	10	8	6	4	2				
PATROL 30/70M	PATROL 30/70	2.2	3	13	---	---	11.5	11	10.2	9.5	8.8	8.2	7.6	6.8	6	5.3	4.8	3.2	2	

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	passage of solid bodies	DIMENSIONS mm											kg		
Single-phase	Three-phase			a	b	c	h	h1	m	n	o	d	e	p	∅	1~	3~
PATROL 15/50M	PATROL 15/50	2 1/2"	∅ 50 mm	162	135	212	490	188	81	200	85	75	adjust- able	800	800	34.0	31.8
PATROL 20/50M	PATROL 20/50						500/490					75				35.7	34.0
PATROL 30/50M	PATROL 30/50	3"	∅ 70 mm	180	150	240	540/530	230	81	200	85	85	adjust- able	800	800	41.7	35.8
PATROL 30/70M	PATROL 30/70						85					48.0				42.1	



RANGE OF PERFORMANCE

Flow rate up to 1600 l/min (96 m³/h)

Head up to 24 m

LIMITS OF USE

Depth up to 10 m

Liquid temperature up to + 40°C

Passage of solid bodies max Ø 50 mm for PATROL 15-20-30/50 P

Passage of solid bodies max Ø 70 mm for PATROL 30/70 P

For continuous duty: minimum immersion 420 mm from pump base

INSTALLATION AND USE

PATROL SERIES PUMPS ARE MADE OF EXCEPTIONALLY ROBUST HEAVY GAUGE CAST IRON, ABRASION RESISTANT AND LONG-LASTING, WITH A SINGLE-CHANNEL IMPELLER WHICH CAN HANDLE LIQUIDS WITH SUSPENDED SOLIDS AND SHORT FIBRES. THEY ARE IDEAL FOR SEWAGE, WASTE AND GROUND WATER, EVEN WITH SOLIDS OR MUD, AND ARE THEREFORE RECOMMENDED FOR BUILDING OR INDUSTRIAL EFFLUENT AND DRAINAGE OF LARGE AREAS SUCH AS CAR PARKS.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- PUMP BODY, MOTOR CASING: cast iron.

- **IMPELLER:** single-channel, in cast iron.
- **BASE:** stainless steel AISI 304.
- **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4057.
- **DOUBLE SEAL:** mechanical seal silicon carbide - widia - NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
- **MOTOR:** submersible asynchronous, 2 pole, for continuous duty.

PATROL M: single-phase 220÷240 V - 50 Hz
Models up to 1.5 kW have built in thermal protection - 2.2 kW single-phase versions have a thermal protector provided in the winding for connection to the control box.

PATROL: three-phase 380÷415 V - 50 Hz.
Thermal protectors are provided in the winding for connection to the external control panel

- **INSULATION:** class F.
- **PROTECTION:** IP 68.

STANDARD FEATURES:

PATROL M (single-phase)

- Float switch.
- **10 metres** "H07 RN-F" submersible power cable with Schuko plug.
- 1.1 to 1.5 kW models are supplied with control box with capacitor and manual reset motor protector. 2.2 kW models are supplied with control box type QES 300 MONO.

PATROL (three-phase)

- **10 metres** "H07 RN-F" neoprene power cable



OPTIONS ON REQUEST

- ⇒ control box for three-phase pumps
- ⇒ dual voltage: 230/400 V or 400/690 V
- ⇒ single-phase versions without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

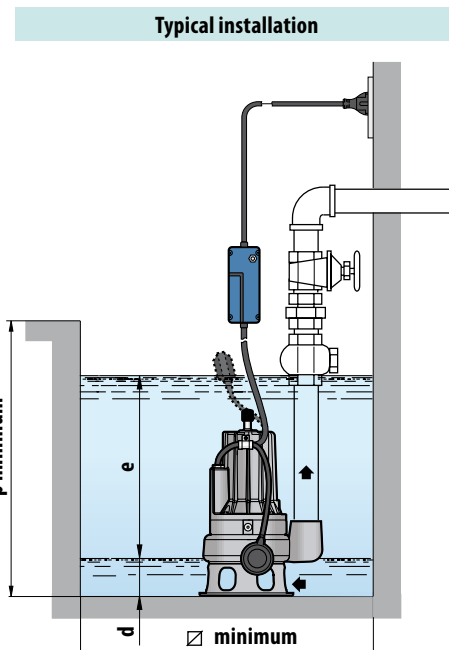
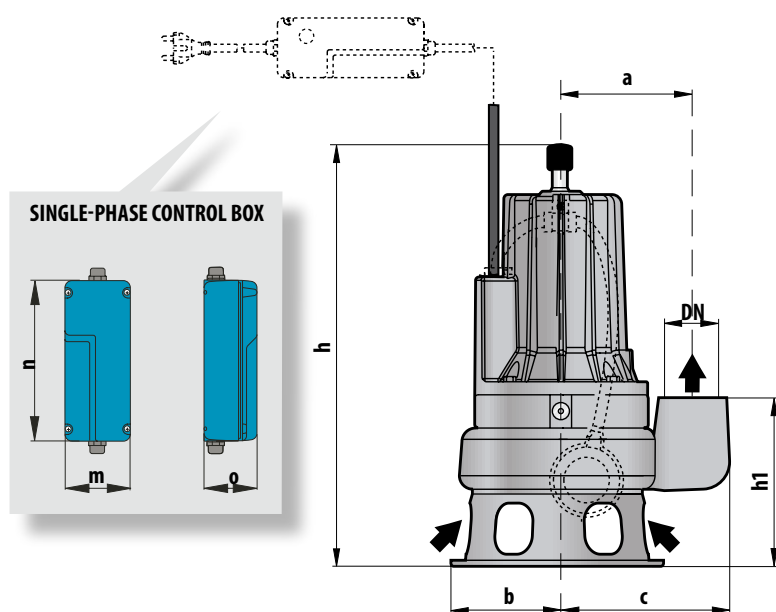
EN 60034-1

IEC 34-1

CEI 2-3

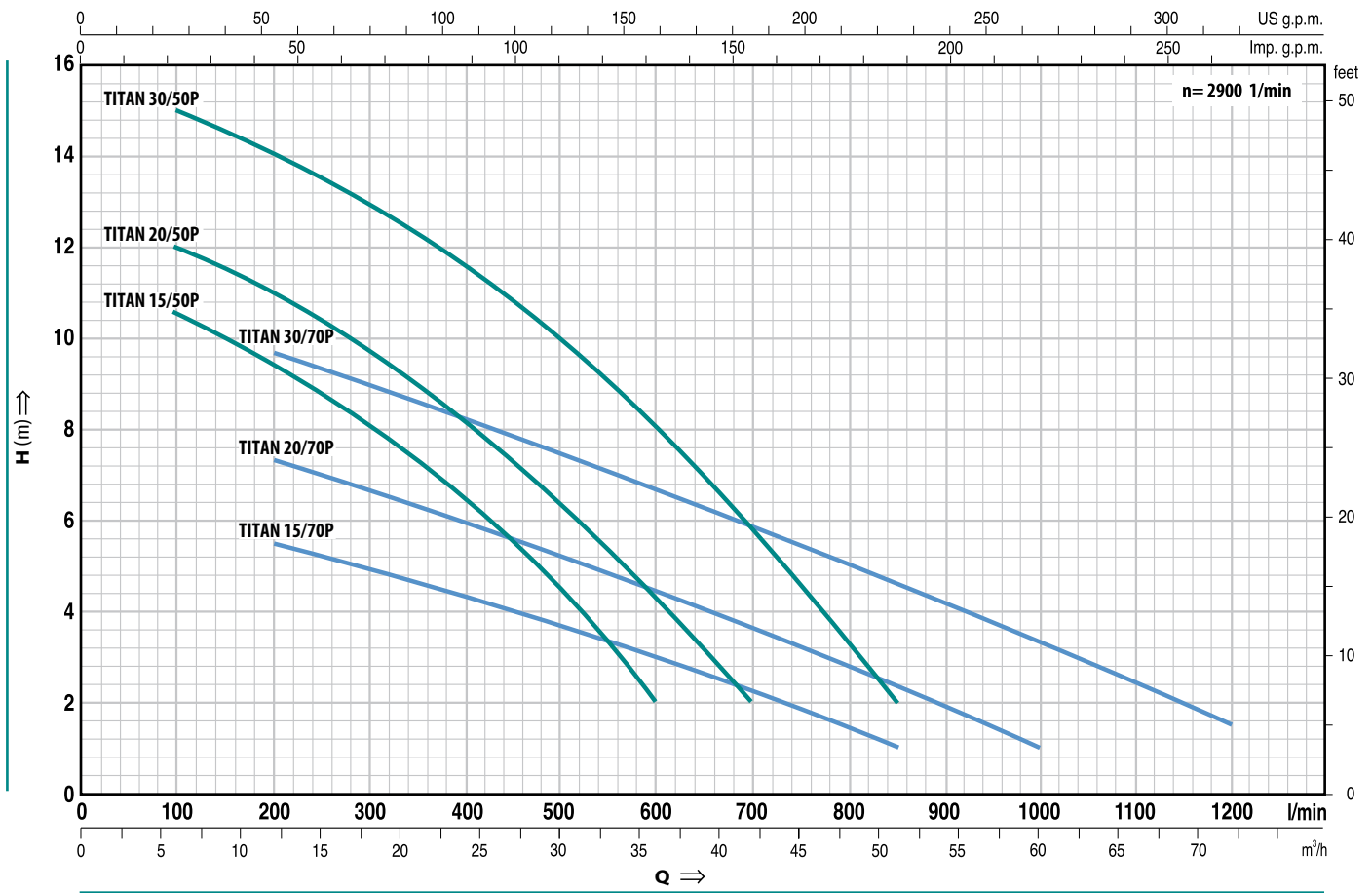


DIMENSIONS





stationary version
TITAN P
VORTEX submersible pumps



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	H metres																	
Single-phase	Three-phase	kW	HP		0	6	12	18	21	24	27	30	36	42	48	51	54	60	66	72		
				0	100	200	300	350	400	450	500	600	700	800	850	900	1000	1100	1200			
TITAN 15/50PM	TITAN 15/50P	1.1	1.5	H metres	11.5	10.5	9.5	8.2	7.2	6.5	5.6	4.5	2									
TITAN 20/50PM	TITAN 20/50P	1.5	2		13	12	11	9.5	9	8	7.2	6.5	4.5	2								
TITAN 30/50PM	TITAN 30/50P	2.2	3		16	15	14	13	12.3	11.5	10.8	10	8	5.9	3.3	2						
TITAN 15/70PM	TITAN 15/70P	1.1	1.5		6.5	---	5.5	5	4.7	4.4	4	3.7	3	2.2	1.5	1						
TITAN 20/70PM	TITAN 20/70P	1.5	2		8.5	---	7.4	6.7	6.3	6	5.6	5.2	4.5	3.6	2.8	2.4	2	1				
TITAN 30/70PM	TITAN 30/70P	2.2	3		11	---	9.7	9	8.6	8.2	7.8	7.5	6.7	5.8	5	4.6	4.2	3.3	2.5	1.5		

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	passage of solid bodies	DIMENSIONS mm										kg*		
Single-phase	Three-phase			a	b	c	d	e	f	g	h	m	n	w	1~	3~
TITAN 15/50PM	TITAN 15/50P	2 1/2"	Ø 50 mm	60	116	51	501	62	270	10	387	200	120	72	42.0	40.0
TITAN 20/50PM	TITAN 20/50P										397/387				43.8	42.3
TITAN 30/50PM	TITAN 30/50P										405				49.7	43.8
TITAN 15/70PM	TITAN 15/70P	3"	Ø 70 mm		150	70	585	95	300		415/405	256	150	92	53.0	50.7
TITAN 20/70PM	TITAN 20/70P											54.9			53.0	
TITAN 30/70PM	TITAN 30/70P											61.1			55.2	

(*weight including counterflange)



RANGE OF PERFORMANCE

Flow rate up to 1200 l/min (72 m³/h)

Head up to 16 m

LIMITS OF USE

Depth up to 10 m

Liquid temperature up to + 40°C

Passage of solid bodies max Ø 50 mm for TITAN 15-20-30/50 P

Passage of solid bodies max Ø 70 mm for TITAN 15-20-30/70 P

For continuous duty: minimum immersion 430 mm from pump base

INSTALLATION AND USE

TITAN P SERIES PUMPS ARE MADE OF EXCEPTIONALLY ROBUST HEAVY GAUGE CAST IRON, RESISTANT TO ABRASION AND LONG LASTING, AND HAVE A VORTEX TYPE IMPELLER. THEY ARE SUITABLE FOR SEWAGE, WASTE WATER AND SLUDGE, INCLUDING WATER CONTAINING SOLIDS OR MUD. THEY ARE IDEAL FOR FIXED SEWAGE INSTALLATIONS, TUNNELS, UNDERGROUND CARPARKS, SUMPS AND SIMILAR APPLICATIONS.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- PUMP BODY, MOTOR CASING AND BASE PED-ESTAL: cast iron.
- IMPELLER: vortex in cast iron.
- BASE: stainless steel AISI 304.

- **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4057.
- **DOUBLE SEAL:** mechanical seal silicon carbide - widia - NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
- **MOTOR:** submersible asynchronous, 2 pole, for continuous duty.
- **TITAN P M:** single-phase 220÷240 V - 50 Hz. Models up to 1.5 kW have built in thermal protection. 2.2 kW single-phase versions have a thermal protector provided in the winding for connection to the control box.
- **TITAN P:** three-phase 380÷415 V - 50 Hz. Thermal protectors are provided in the winding for connection to the external control panel
- **INSULATION:** class F.
- **PROTECTION:** IP 68.

STANDARD FEATURES:

- Base pedestal elbow (duct foot)
- Threaded delivery counterflange
- Top supports for guide tubes

TITAN P M (single-phase)

- Float switch.
- 10m "H07 RN-F" submersible power cable with Schuko plug.
- 1.1 to 1.5 kW models are supplied with control box with capacitor and manual reset motor protector. 2.2 kW models are supplied with control box type QES 300 MONO.

TITAN P (three-phase)

- 10m "H07 RN-F" neoprene power cable



OPTIONS ON REQUEST

- ⇒ control box for three-phase pumps
- ⇒ dual voltage: 230/400 V or 400/690 V
- ⇒ single-phase versions without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

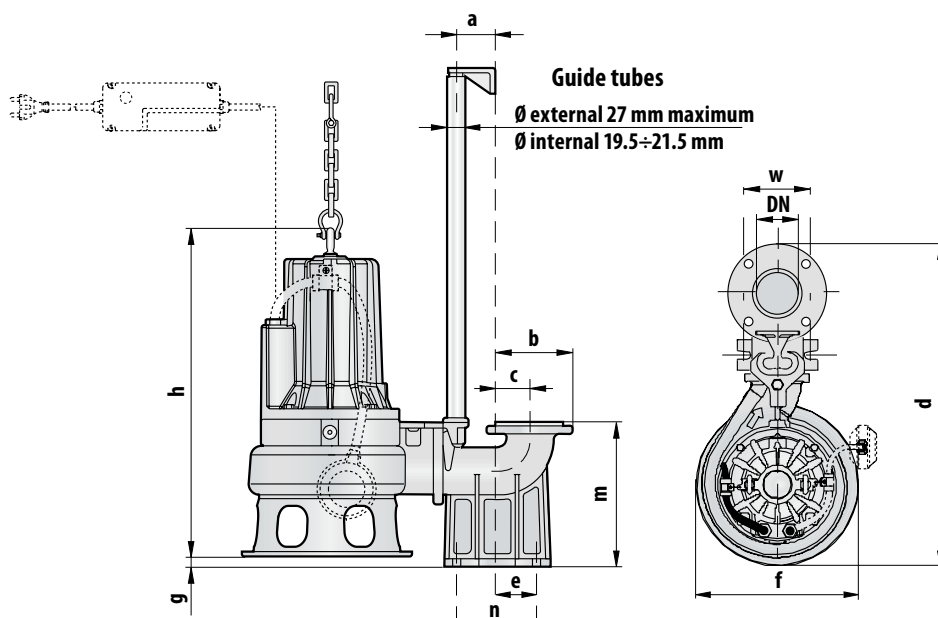
EN 60034-1

IEC 34-1

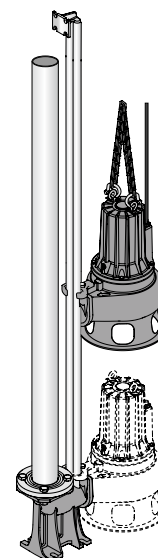
CEI 2-3



DIMENSIONS

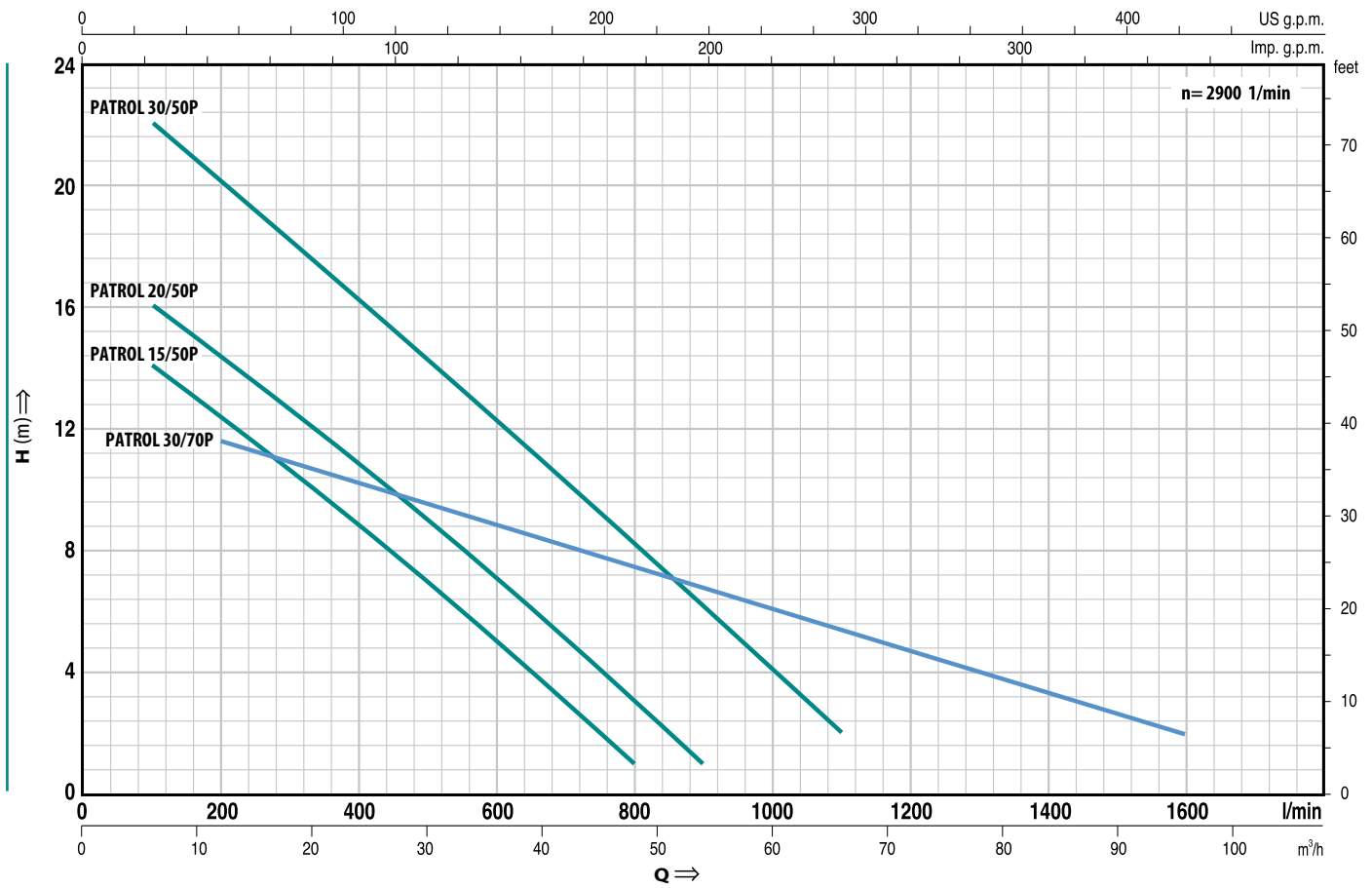


Typical installation



PATROL P

elettropompe sommergibili MONOCANALE



Q = Flow rate H = Total manometric head

Tolerance of the performance curves according to EN ISO 9906 App. A.

TYPE		POWER		m³/h l/min	H metres																
Single-phase	Three-phase	kW	HP		0	6	12	15	18	24	30	36	42	48	54	60	66	72	84	96	
				0	100	200	250	300	400	500	600	700	800	900	1000	1100	1200	1400	1600		
PATROL 15/50PM	PATROL 15/50P	1.1	1.5	H metres	16	14	12.5	11.5	10.5	8.5	7	5	3	1							
PATROL 20/50PM	PATROL 20/50P	1.5	2		18	16	14	13	12.5	10.5	9	7	5	3	1						
PATROL 30/50PM	PATROL 30/50P	2.2	3		24	22	20	19	18	16	14	12	10	8	6	4	2				
PATROL 30/70PM	PATROL 30/70P	2.2	3		13	---	11.5	11.2	11	10.2	9.5	8.8	8.2	7.6	6.8	6	5.3	4.8	3.2	2	

DIMENSIONS AND WEIGHTS

TYPE		PORT DN	passage of solid bodies	DIMENSIONS mm											kg*	
Single-phase	Three-phase			a	b	c	d	e	f	g	h	m	n	w	1~	3~
PATROL 15/50PM	PATROL 15/50P	2 1/2"	Ø 50 mm	60	116	51	501	62	270	10	387	200	120	72	43.0	40.8
PATROL 20/50PM	PATROL 20/50P										397/387				44.7	43.0
PATROL 30/50PM	PATROL 30/50P										415/405				50.7	44.8
PATROL 30/70PM	PATROL 30/70P	3"	Ø 70 mm		150	70	585	95	300		256	150	92	62.0	56.1	

(*weight including counterflange)



RANGE OF PERFORMANCE

Flow rate up to 1600 l/min (96 m³/h)
Head up to 24 m

LIMITS OF USE

Depth up to 10 m
Liquid temperature up to + 40°C
Passage of solid bodies max Ø 50 mm for PATROL P 15-20-30/50
Passage of solid bodies max Ø 70 mm for PATROL P 30/70
For continuous duty: minimum immersion 430 mm from pump base

INSTALLATION AND USE

PATROL P SERIES PUMPS ARE MADE OF EXCEPTIONALLY ROBUST HEAVY GAUGE CAST IRON, ABRASION RESISTANT AND LONG-LASTING, WITH A SINGLE-CHANNEL IMPELLER WHICH CAN HANDLE LIQUIDS WITH SUSPENDED SOLIDS AND SHORT FIBRES. THEY ARE IDEAL FOR SEWAGE, WASTE AND GROUND WATER, EVEN WITH SOLIDS OR MUD, AND ARE THEREFORE RECOMMENDED FOR BUILDING OR INDUSTRIAL EFFLUENT AND DRAINAGE OF LARGE AREAS SUCH AS CAR PARKS.

GUARANTEE 2 YEARS subject to our general terms of sale.

CONSTRUCTION CHARACTERISTICS

- **PUMP BODY, MOTOR CASING AND BASE PED-ESTAL:** cast iron.
- **IMPELLER:** single-channel, in cast iron.
- **BASE:** stainless steel AISI 304.

- **MOTOR SHAFT:** stainless steel EN 10088-3 - 1.4057.
 - **DOUBLE SEAL:** mechanical seal silicon carbide - widia - NBR, with oil barrier chamber and inner lip seal to protect the seal in the event of dry running.
 - **MOTOR:** submersible asynchronous, 2 pole, for continuous duty.
- PATROL PM:** single-phase 220÷240 V - 50 Hz. Models up to 1.5 kW have built in thermal protection. 2.2 kW single-phase versions have a thermal protector provided in the winding for connection to the control box.
- PATROL P:** three-phase 380÷415 V - 50 Hz. Thermal protectors are provided in the winding for connection to the external control panel
- **INSULATION:** class F.
 - **PROTECTION:** IP 68.

STANDARD FEATURES:

- Base pedestal elbow (duct foot)
- Threaded delivery counterflange
- Top supports for guide tubes

PATROL PM (single-phase)

- Float switch.
- 10m "H07 RN-F" submersible power cable with Schuko plug.
- 1.1 to 1.5 kW models are supplied with control box with capacitor and manual reset motor protector. 2.2 kW models are supplied with control box type QES 300 MONO.

PATROL P (three-phase)

- 10m "H07 RN-F" neoprene power cable



OPTIONS ON REQUEST

- ⇒ control box for three-phase pumps
- ⇒ dual voltage: 230/400 V or 400/690 V
- ⇒ single-phase versions without float switch
- ⇒ other voltages or frequency 60 Hz

CONSTRUCTION AND SAFETY STANDARDS

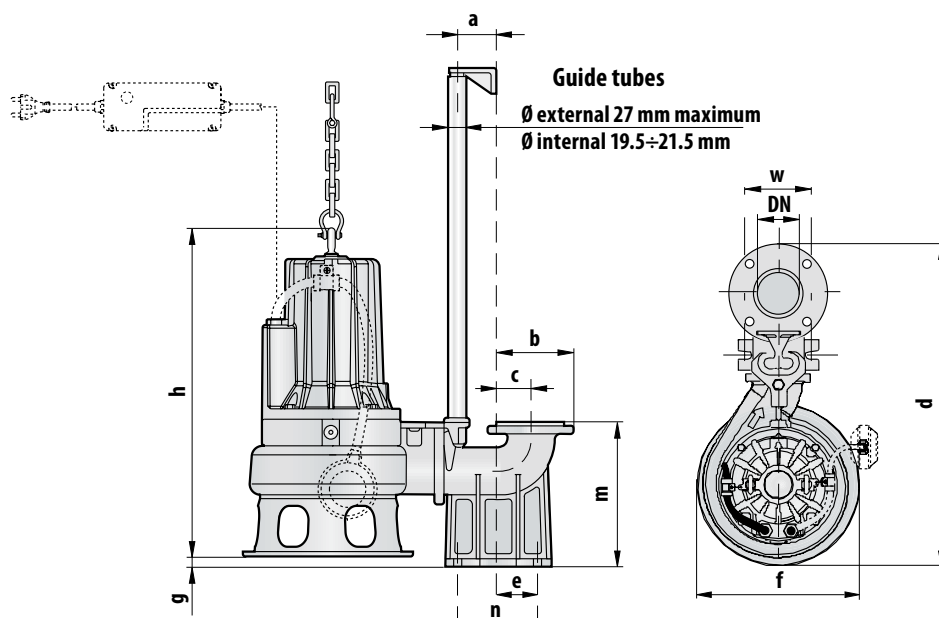
EN 60034-1

IEC 34-1

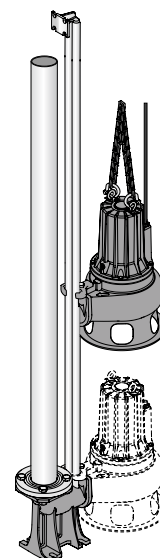
CEI 2-3



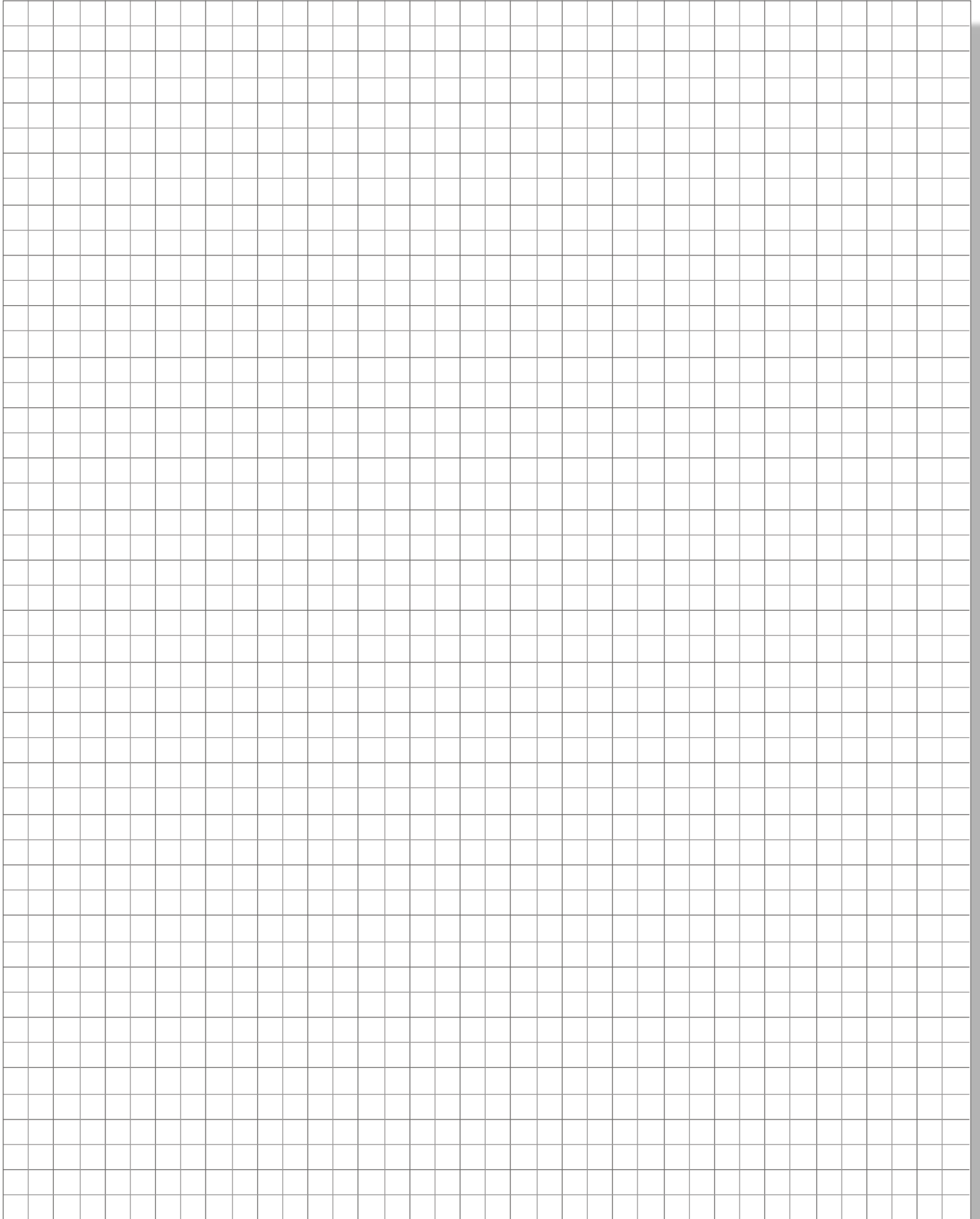
DIMENSIONS



Typical installation



NOTE

A large grid of graph paper for taking notes. The grid consists of 20 columns and 30 rows of small squares, providing a structured area for writing or drawing.



