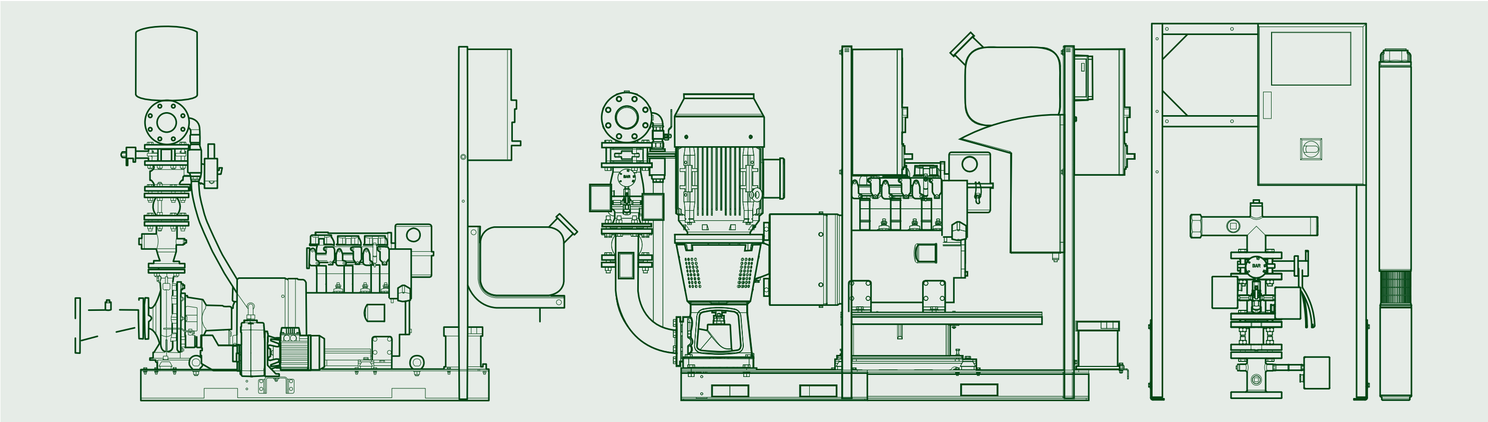
FIRE FIGHTING



TECHNICAL CATALOGUE

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and its partner
CISQ/IMQ-CSQ
hereby certify that the organization

DWT HOLDING SPA
VIA MARCO POLO 14 - 35035 MESTRINO (PD)
BRENDOLA (VI) - CASTELLO DI GODEGO (TV) - BIENTINA (PI) -
SAN GERMANO DEI BERICI (VI) - PRC CHINA - HUNGARY

for the following field of activities
Design, production, sale and assistance of components and electronic controls for pumps, electropumps, and pump sets for cold and hot water for civil, industrial and agricultural use

has implemented and maintains a
Quality Management System
which fulfills the requirements of the following standard

ISO 9001:2008

Issued on: 2015 - 05 - 28 Expiry date: 2018 - 05 - 27

Registration Number: IT – 824

Michael Drechsel
President of IQNET

Ing. Claudio Provetti
President of CISQ

IQNet Partners*:

ALLEGATO CERTIFICATO n. 9101.COGE
ANNEX CERTIFICATE

(*) Unità Operative:
(*) *Operative Units:*

DAB PUMPS SPA
VIA BONANNO PISANO 1 - 56031 BIENTINA (PI)

DAB PUMPS SPA
VIA DEL LAVORO 3 - 36040 SAN GERMANO DEI BERICI (VI)

DAB PUMPS QINGDAO CO. LTD
40 KAITUO ROAD, QINGDAO DEVELOPMENT ZONE - SHANGDONG PROVINCE, PRC CHINA

DAB PUMPS HUNGARY KFT
BUDA ERNO H - 8800 NAGYKANISZA HUNGARY

DATE:	PRIMA CERTIFICAZIONE *FIRST CERTIFICATION*	EMISSIONE CORRENTE *CURRENT ISSUE*	SCADENZA *EXPIRY*
	1995-07-17	2015-05-28	2018-05-27

IAF: 18, 19, 29

CERTIFICATO N.
CERTIFICATE N. 9101.COGE

SI CERTIFICA CHE IL SISTEMA QUALITA' DI
WE HEREBY CERTIFY THAT THE QUALITY SYSTEM OPERATED BY

DWT HOLDING SPA
VIA MARCO POLO 14 - 35035 MESTRINO (PD)

UNITA' OPERATIVE
OPERATIVE UNITS
DAB PUMPS SPA
VIA MARCO POLO 14 - 35035 MESTRINO (PD)
DAB PUMPS SPA
VIA EINAUDI 2 - 36040 BRENDOLA (VI)
DAB PUMPS SPA
VIA E. FERMI 6-8-10 - 31030 CASTELLO DI GODEGO (TV)

Vedere gli Allegati per le altre Unità Operative (n° 1 pagina)
View the Annexes for the other Operative Units (n° 1 page)

E' CONFORME ALLA NORMA
IS IN COMPLIANCE WITH THE STANDARD
ISO 9001:2008

PER LE SEGUENTI ATTIVITA'
FOR THE FOLLOWING ACTIVITIES

Progettazione, produzione, commercializzazione e assistenza di componenti e controlli elettronici per pompe, elettropompe e gruppi di pompaggio per acqua fredda e calda ad uso civile, industriale ed agricolo
Design, production, sale and assistance of components and electronic controls for pumps, electropumps, and pump sets for cold and hot water for civil, industrial and agricultural use

DATE:	PRIMA CERTIFICAZIONE *FIRST CERTIFICATION*	EMISSIONE CORRENTE *CURRENT ISSUE*	SCADENZA *EXPIRY*
	1995-07-17	2015-05-28	2018-05-27

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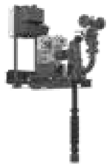

1KVT

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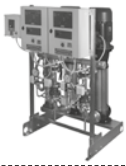

1/2 NKV

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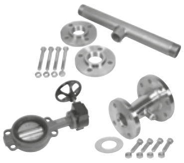
ACCESSORIES



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TECHNICAL APPENDIX

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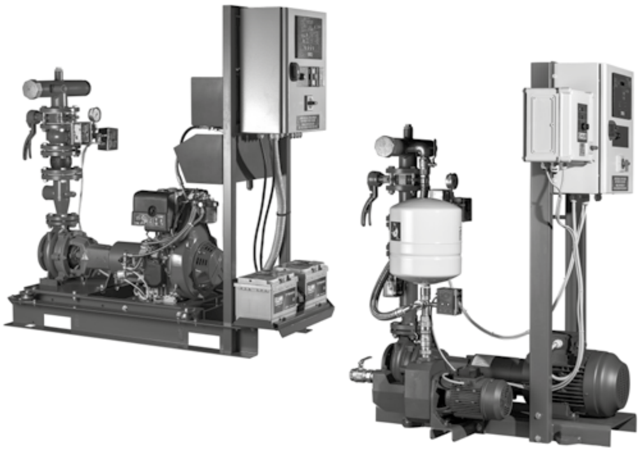
1 KDN COMPACT

UNI EN 12845 FIRE-FIGHTING PUMP SETS



TECHNICAL DATA

Operating range: from 10 to 650 m^3/h
Pumped liquid: clean, free of solids and abrasives, non-viscous, non-aggressive, non-crystallised and chemically neutral, with properties similar to water.
Pumped liquid temperature range: from 0 to 70 °C.
Maximum ambient temperature: + 40°C
Maximum operating pressure: 16 bar (1600kPa) PN16
Special executions on request:
Diesel version with water/water heat exchanger.
Electric 230 three-phase 50 or 60 Hz, bronze impeller.

APPLICATIONS

Fire fighting sets with diesel engine and electric motor, ideal for commercial building automatic sprinklers and/or hydrants. Designed to be used in conjunction with each other, to meet the requirements of all the versions pursuant to UNI EN 12845 and UNI 10779 standards.

CONSTRUCTION FEATURES OF THE UNI EN 12845 FIRE-FIGHTING PUMP SET

Pre-assembled set on RAL3000 red painted steel base, supporting the pump, the motor, and the electric control panel. The pump is coupled, by means of a spacer elastic coupling, to an electric **(efficiency level IE3)** or Diesel motor capable of providing the power absorbed by the pump at any pump load condition, from no-load, to a load corresponding to**NPSH16m (as requested by section 10.1 of the UNI EN 12845 standard).**
The UNI EN 12845 DAB fire-fighting sets are supplied in modular version. This type of solution facilitates the transport, as well as the installation of DAB fire-fighting sets in pump rooms, even in case of narrow entrance doors. Thanks to a coupling kit (supplied as accessory), it is possible to complete all the compositions contemplated by the standard (one, two, three pumps, electric or Diesel, with or without compensation pump).
Each module has a serial number with its own declaration of conformity, and its own installation and maintenance manual.

Specific characteristics of the Diesel engine-driven pump
Diesel engine-driven pump sets have a vibration dampening system that reduces the amount of the vibrations produced by the Diesel engine reaching the system. This consists of rubber anti-vibration feet and couplings. Each Diesel engine-driven pump includes two start-up batteries and a Diesel tank providing 6 hours of continuous operation. Motor pumps with diesel engine cooled by a 37 kW water/water heat exchanger available on request. The Diesel engine has an air/air cooling system for low powers (up to 26 kW), and air/water cooling system for higher powers (37 kW and over). The Diesel engine can operate continuously at full load in accordance with ISO 3046 standards, curve NA (section 10.9.1 of UNI EN 12845).

CONSTRUCTION FEATURES OF THE PUMP

KDN range pump with cast iron single stage spiral body in accordance with DIN-EN 733 (formerly DIN 24255); cast iron seal cover and support. Flanges in accordance to DIN 2533 (DIN 2532 for DN 200). Cast iron impeller, closed and dynamically balanced, with compensation of the axial thrust through balancing holes, operation on interchangeable wear rings (on request). Stainless steel pump shaft supported by two permanently lubricated oversized ball bearings, housed inside an appropriate chamber in the support.
Standard seal device: standardised mechanical seal according to DIN 24960 in carbon/silicon carbide with EPDM OR rings.

COMPENSATION PUMP

All the DAB fire-fighting pump sets are available with or without compensation pump. The compensation pump (JET, KV, or KVC models) intervenes automatically in case of small pressure drops in the fire-fighting system, reinstating the pressure to the required level, and therefore avoiding pointless starts of the main pumps. Installed on the main pump base side, it is connected to the delivery manifold of the main pump, and includes: ball valves on the suction and delivery, check valve on the delivery, pressure switch, 18 litre expansion vessel, protection and control panel.

HYDRAULIC STRUCTURE

The suction of the KDN pump is supplied with flange for the connection to the suction kit (supplied as accessory). The suction kit consists of an eccentric diverter adaptor with opening angle of less than 20 °. The kit can keep the water speed lower than 1,5 m/s, as required by section 10.6.2.3 of the UNI EN 12845 standard. On the delivery side are a concentric diverter adaptor ready for the connection of a 2” union for the connection of the priming tank (positive suction installation), vibration coupling (in the Diesel version), Inspectable clapet non-return valve and circuit with no. 2 start-up pressure switches with test valve for the same, shut-off valve (with manual reducer from DN125) and RAL3000 red painted steel delivery manifold ready for the connection of the compensation pump and expansion vessel* **(expansion vessels are guaranteed for 5 years)**.
(*Supplied as standard only in the versions with compensation pump).

ELECTRIC CONTROL BOX

Fire-fighting pump sets include an electric control panel for each pump, connected to the main components (motor, pressure switches, sensors, batteries, etc.).

ELECTRIC PUMP CONTROL PANEL

UNI EN 12845 FIRE-FIGHTING PUMP SETS

TECHNICAL DATA

Nominal power input voltage: 400 V +/- 5%
Phases: 3
Frequency: 50-60 Hz
Number of pumps that can be connected: 1
Maximum nominal power of use:
from 3 to 110 kW (depending on model).
Maximum nominal current of use: from 10 Amp to 250 Amp.
Ambient temperature operation limits: from +4 °C to +40 °C.
Relative humidity (without condensation):
50% at 40 °C MAX (90% a 20 °C)
Max. altitude: 3000 m (a.s.l.).
Protection class: IP55
Control panel construction:
According to EN60204, EN 60439-1, and UNI EN 12845/10779.

COMPONENTS

The control and protection panel includes the following components

INTERIOR OF CABINET

Connector for the powering of a GSM Modem (230 V, protected by fuse).
Motor protection fuses (aM type); current surge relay-motor protectors are not permitted by the standard.
Auxiliary circuit protection fuses (Gg type).
Direct pump starters (up to 15 kW).
Star/triangle starters (18,5 kW and over).
24 V auxiliary circuit transformers.
Alarm relay with terminal box for remote status control (as required by the UNI EN 12845 standard).
System start-up input connection terminal box.

ON FRONT PANEL

Electric pump control unit with:
Multifunction instrument with display (voltmeter, ammeter, cosfi metre, wattmeter, alarms and status).
Start and stop pushbuttons.
Status and alarm notification lamps.
Alarm/notification lamp test pushbutton.
0 - 1 selector (0 = automatic disabled; 1 = automatic on), key removable only for position one (AUTOMATIC ON).

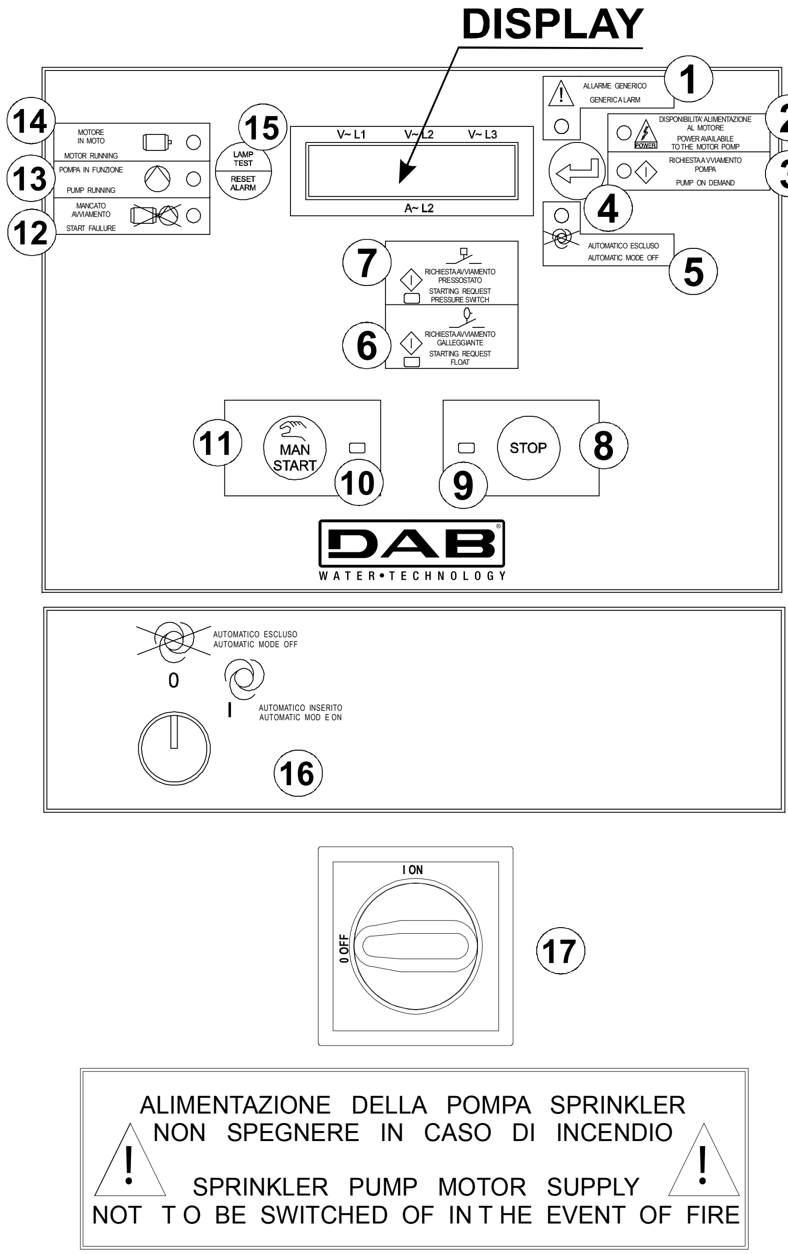
REMOTELY CONTROLLED ALARMS:

Voltage present.
Phase sequence.
Pump start request from the pressure switches.
Pump start request from priming tank.
Pump in operation.
Start failed.

The above alarms can be remotely controlled in the following ways:
With relay wiring to the alarm monitoring control panel.
With RS-485 wiring to the alarm monitoring control panel.
With GSM Modem inside the cabinet alarm monitoring, for forwarding status and/or alarm signals (optional).

ELECTRIC PUMP CONTROL UNIT

The A1 electronic control unit supplied with the control panel offers the following features: automatic start from the pressure switches or the priming float switch, manual start, automatic monitoring of pump set faults and incorrect or unavailable power input voltage.



REF.	FUNCTION
1	LAMP - Generic alarm
2	LAMP - Power input to the motor detected
3	LAMP - Pump START request
4	Press to display the instruments
5	LAMP - Automatic start disabled
6	LAMP - START request from the priming tank float switch
7	LAMP - START request (call) from the pressure switches
8	MANUAL STOP pushbutton
9	LAMP - MANUAL STOP with STOP pushbutton notification

REF.	FUNCTION
10	LAMP - MANUAL START with MAN START pushbutton notification
11	MANUAL START pushbutton
12	LAMP - Start failed
13	LAMP - ELECTRIC PUMP RUNNING with motor running; detected by the electric pump running pressure switch
14	LAMP - MOTOR RUNNING; controlled by the ammeter detection
15	Reset lamp test pushbutton
16	Automatic mode disabling selector
17	Power input disconnection switch

DIESEL PUMP CONTROL PANEL

UNI EN 12845 FIRE-FIGHTING PUMP SETS

TECHNICAL DATA

Nominal power input voltage: 230V +/- 5%
Phases: 1+N
Frequency: 50-60 Hz
Number of pumps that can be connected: 1
Maximum nominal power of use:
from 7,5 to 197 kW (Diesel motor power)
Nominal power absorbed by the users:
approximately 790 W (3 Amp) at full load, 16 Amp power input line
Ambient temperature operation limits: from +4 °C to +40 °C
Relative humidity (without condensation):
50% at 40 °C MAX (90% a 20 °C)
Max. altitude: 3000 m (a.s.l.).
Protection class: IP55
Control panel construction:
According to EN60204, EN 60439-1, and UNI EN 12845/10779.

DIESEL PUMP CONTROL PANEL

COMPONENTS

The control and protection panel includes the following components

INTERIOR OF CABINET
Connector for the powering of a GSM Modem (12V, protected by fuse).
Auxiliary circuit protection fuses (Gg type).
2 x 12 V Diesel engine start relays (for 12 V starter motors with powers up to 145 kW).
2 x 24 V Diesel engine start relays (for 24 V starter motors with powers over 145 kW).
2 automatic battery chargers.
Alarm relay with terminal box for remote status control (as required by the UNI EN 12845 standard).
System start-up input connection terminal box.

ON FRONT PANEL
Diesel pump control unit with:
Multifunction instrument with display (voltmeter, ammeter, revolution counter, hours of operation counter, Diesel percentage level, oil pressure).
Start and Stop pushbuttons (one for each battery).
Status and alarm notification lamps.
Lamp test pushbutton.
First start-up TEST pushbutton (*).
Breakable glass protected rocker switch for pump start, bypassing the control unit in case of fault.
0 - 1 selector (0 = automatic disabled; 1 = automatic on), key removable only for position one (AUTOMATIC ON).

REMOTELY CONTROLLED ALARMS
Voltage present.
Phase sequence.
Pump start request from the pressure switches.
Pump start request from priming tank.
Pump in operation.
Start failed.

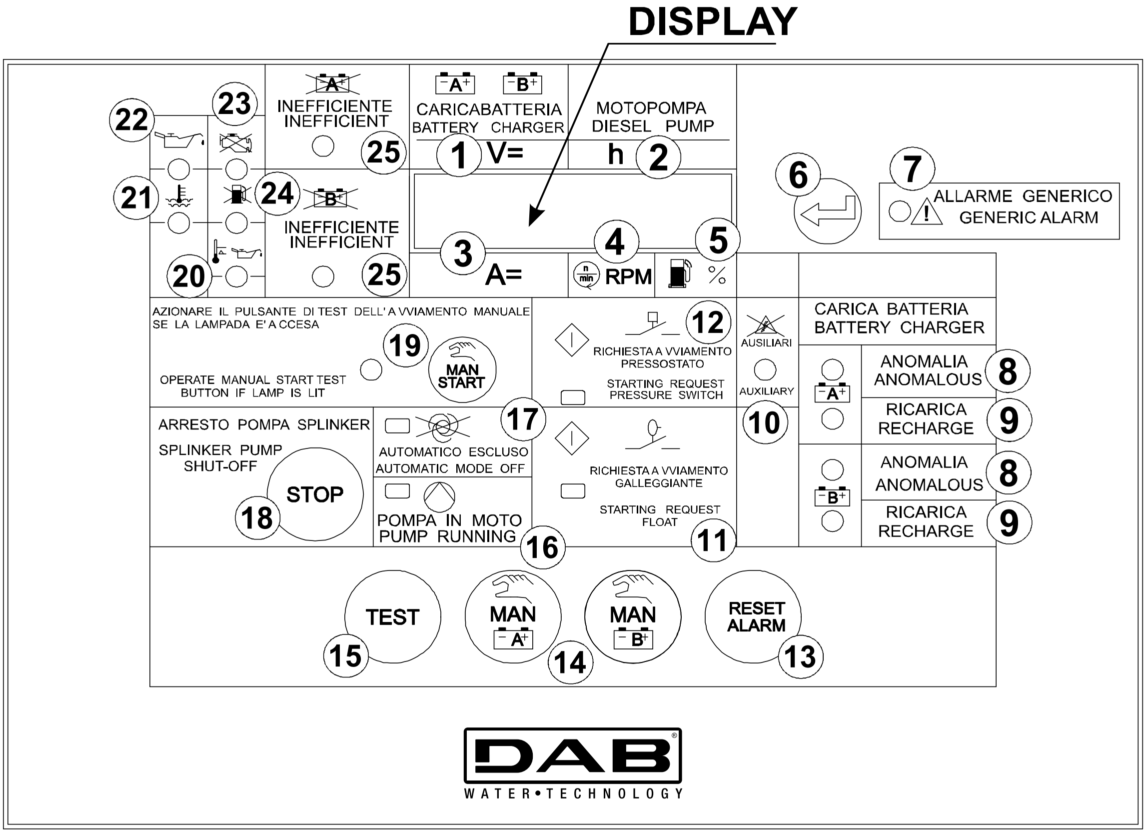
The above alarms can be remotely controlled in the following ways:
With relay wiring to the alarm monitoring control panel (optional).
With RS-485 wiring to the alarm monitoring control panel (optional).
With GSM Modem inside the cabinet, for forwarding status and/or alarm signals (optional).

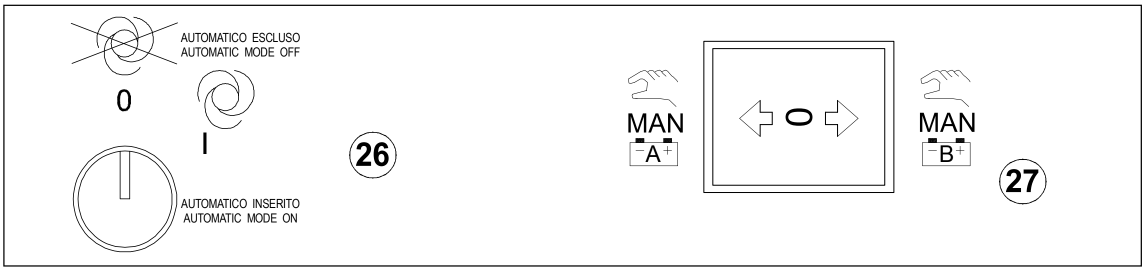
The control panel receives the signal from the pressure switches and starts the engine-driven pump also when no power network voltage is detected. The pump running status is detected through the speed/revolution sensor signal (as required by section 10.9.8 of UNI EN 12845). The panel is equipped with a start-up system with two 12V batteries (as required by section 10.9.8. of UNI EN 12845). If one of the batteries is faulty, the panel automatically starts the pump up using the other battery (6 alternated starts).

(*) When the engine-driven pump is put into operation on site for the first time, it will be necessary to check the start failure alarm (in accordance with section 10.9.12.2 of UNI EN 12845). For this purpose, on the front of the control panel is a TEST pushbutton that simulates no. 6 alternate start attempts on the two batteries, if there is no fuel. At the end of the TEST, the start failure alarm activates (lamp + N.O. contact)

DIESEL ENGINE-DRIVEN PUMP CONTROL UNIT

The A1 electronic pump control unit supplied with the control panel offers the following features: automatic start with 6 alternate pulses on the 2 batteries, with starter gear engaged check, manual start, battery efficiency check, particularly during start-up, automatic monitoring of pump set faults and display of battery charge signals.



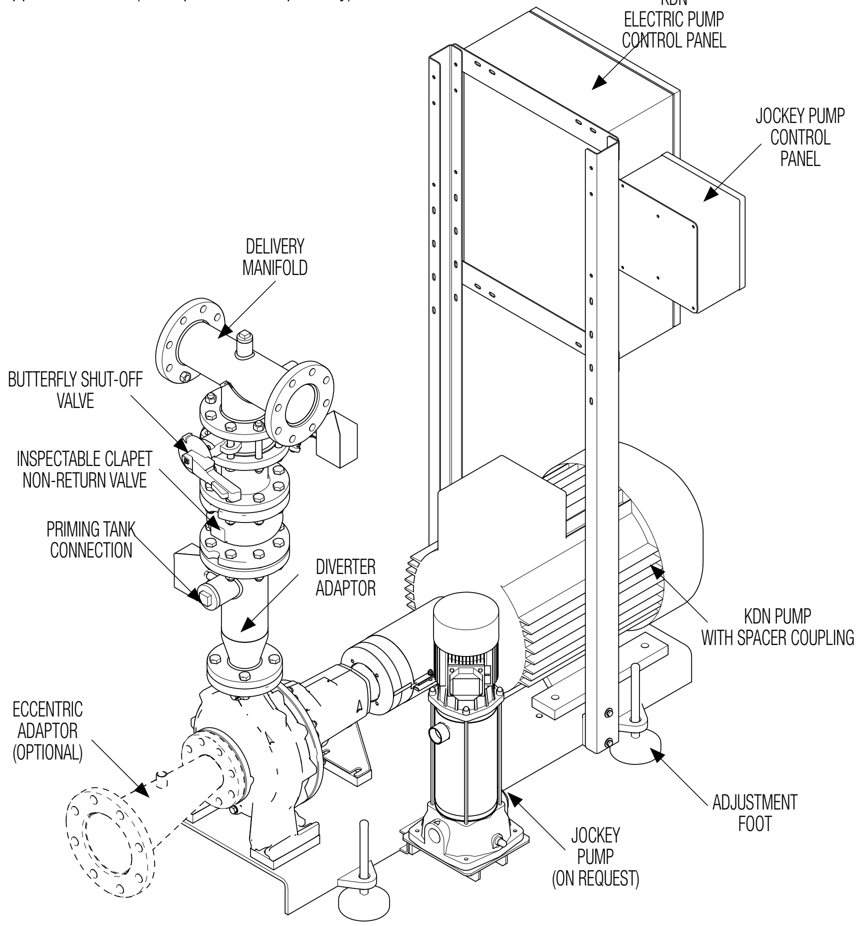


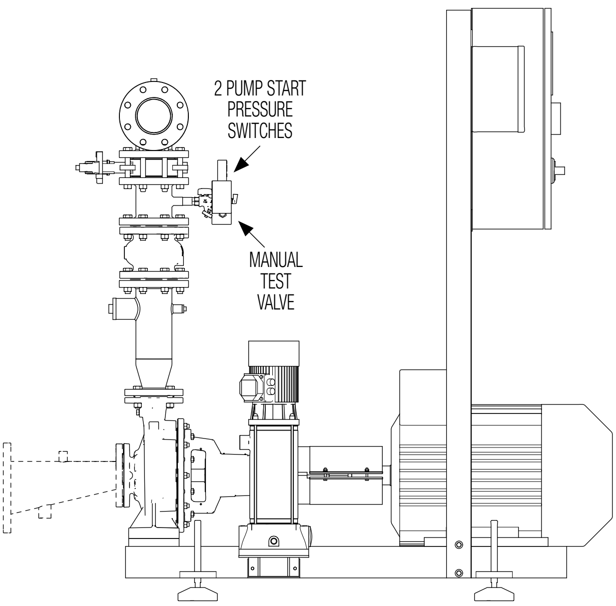
REF.	FUNCTION
1	A and B battery charger voltmeters
2	Hour meter
3	A and B battery charger ammeters
4	Hour meter
5	Fuel level gauge
6	- Press briefly to show instruments - Press and hold down for LED test
7	Generic alarm
8	Fault detected by the battery charger during battery charging
9	Battery charger ON
10	No power input to the battery charger detected alarm
11	Start request from the pump priming tank flow switch
12	START request (call) from the pressure switches
13	Fault reset

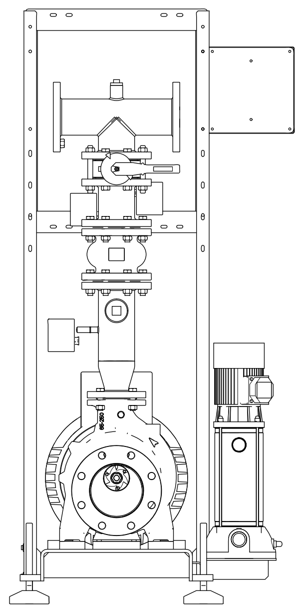
REF.	FUNCTION
14	Manual engine-driven pump start using batteries A and B (always active)
15	Start-up test
16	Engine-driven pump running
17	Automatic mode disabled
18	Engine-driven pump set stop pushbutton
19	Manual start test pushbutton and lamp
20	Oil or water heater not heating
21	Overtemperature alarm
22	Insufficient oil pressure alarm
23	Start failed alarm
24	Low fuel alarm
25	Faulty A and B battery alarm
26	Automatic mode disabling selector
27	Breakable glass protected pushbutton for emergency start of battery A or B

UNI EN 12845 SET COMPONENTS - ELECTRIC PUMP + JOCKEY PUMP

– – – – – – – – – element not supplied in the kit (to be purchased separately)

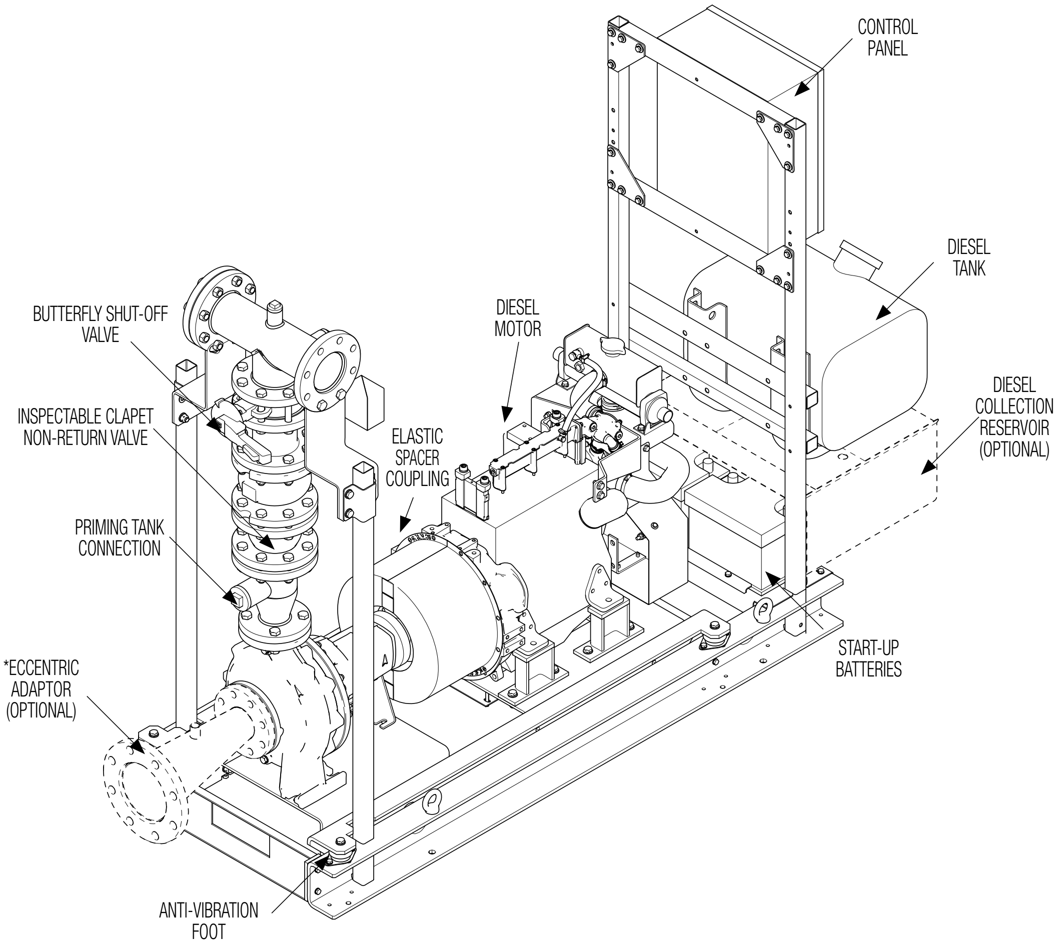


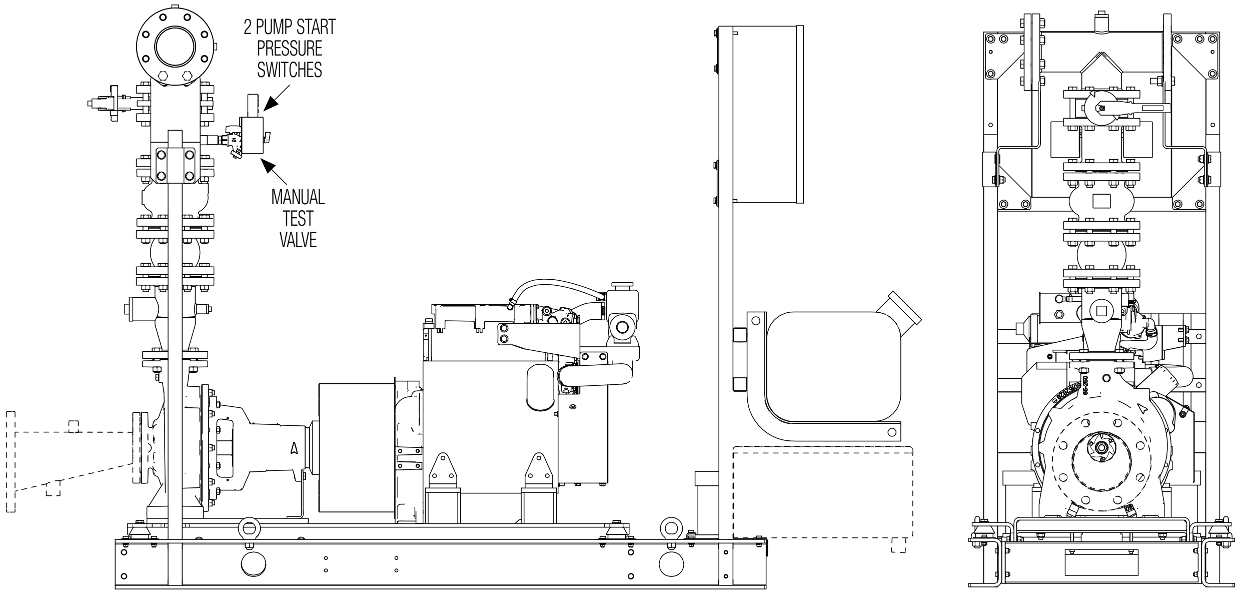




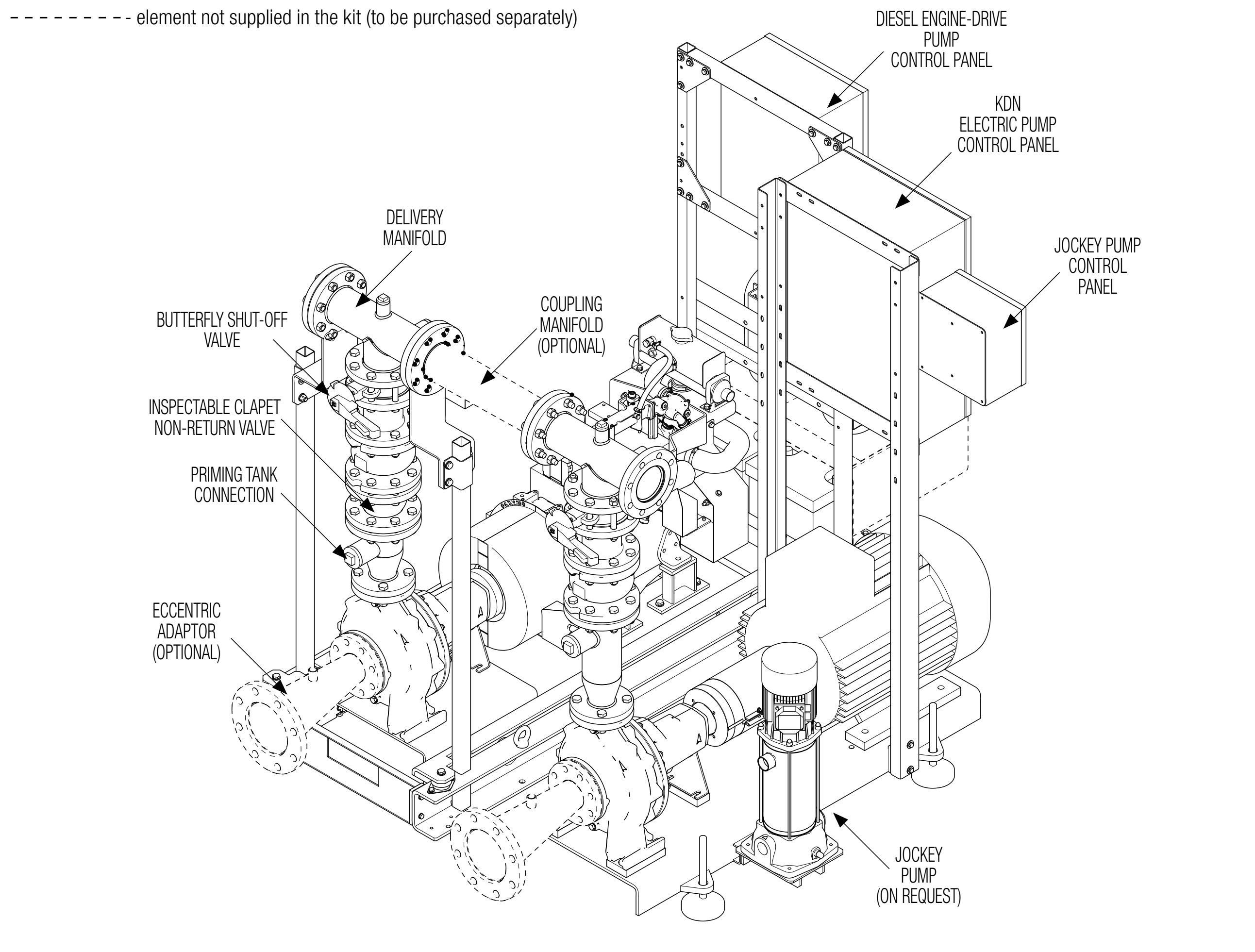
UNI EN 12845 SET COMPONENTS - ENGINE-DRIVEN PUMP SET

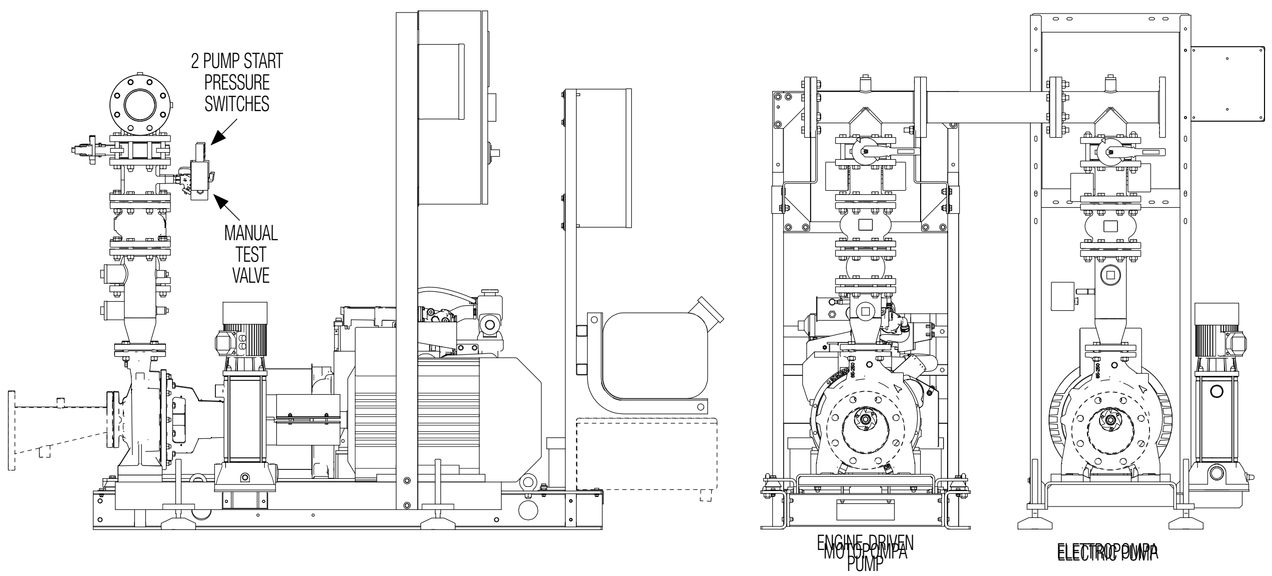
- - - - - - - - - element not supplied in the kit (to be purchased separately)





UNI EN 12845 SET COMPONENTS - ELECTRIC PUMP SET + ENGINE-DRIVEN PUMP SET

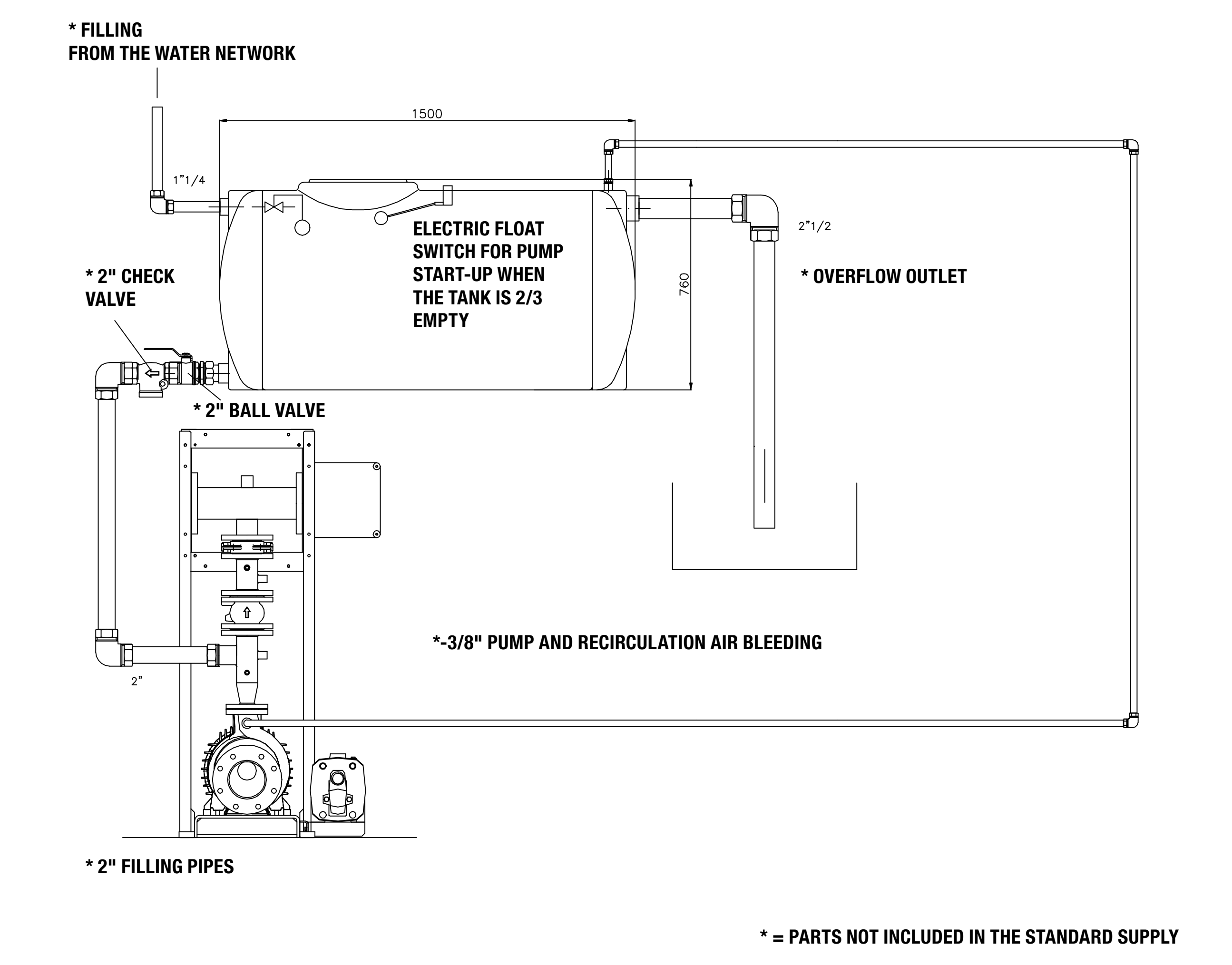




ACCESSORIES

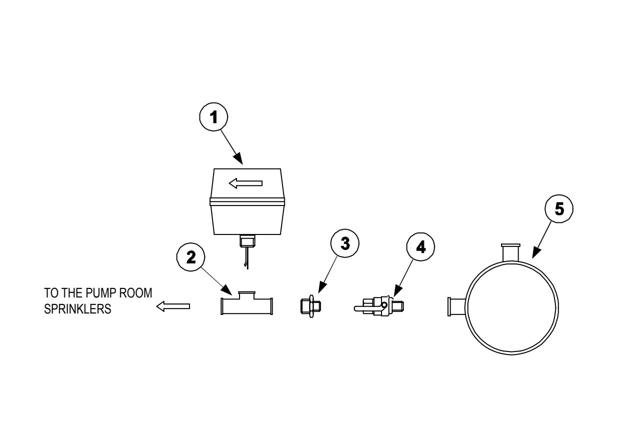
PRIMING TANK FOR POSITIVE SUCTION INSTALLATION

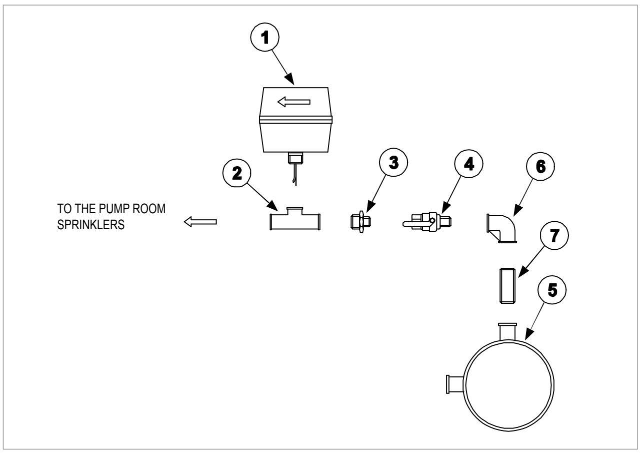
One 500 l priming tank must be installed for each main pump.



FLOW SWITCH KIT

The flow switch detects the activation of the sprinklers of the pump house (UNI EN 12845 10.3.2).
The flow switch kit must be installed on the 1" pipe of the delivery manifold of the DAB fire-fighting pump, and then connected to the CSR-1 alarm control panel.

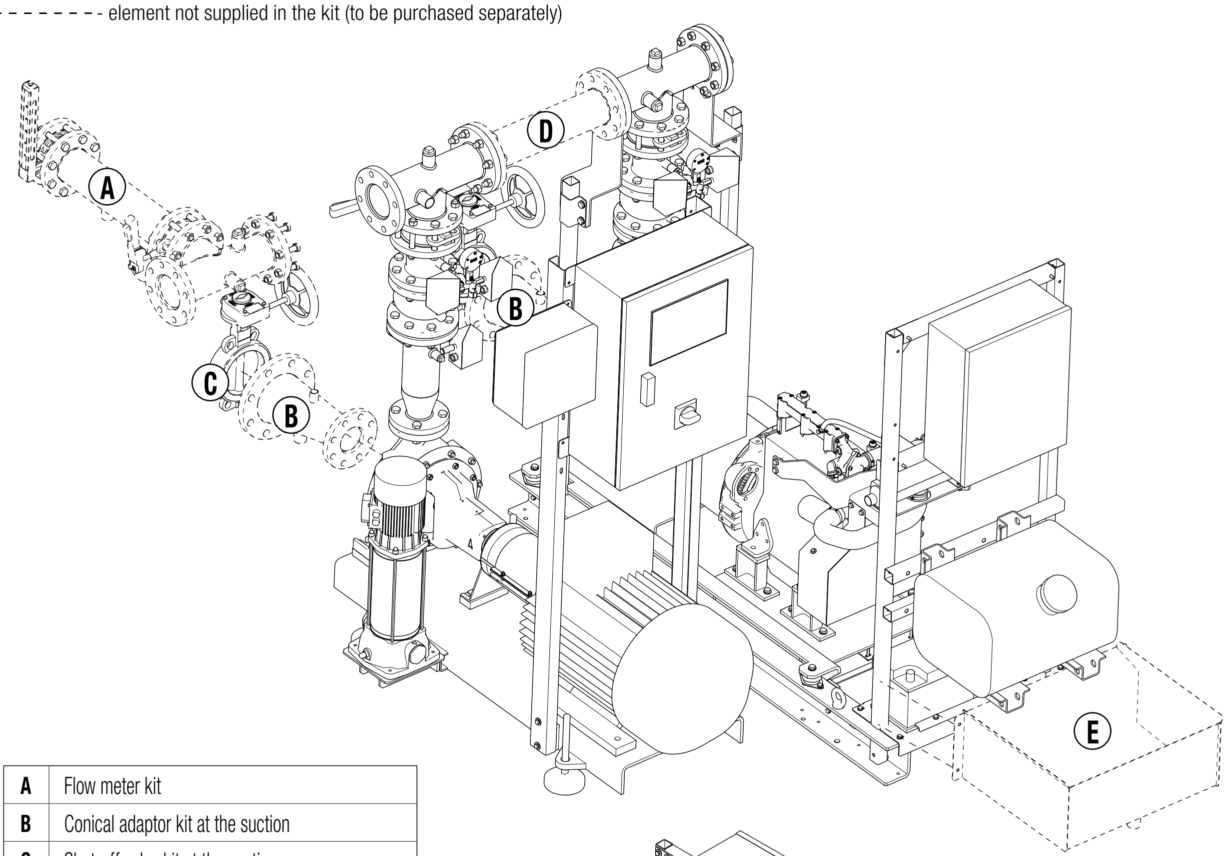




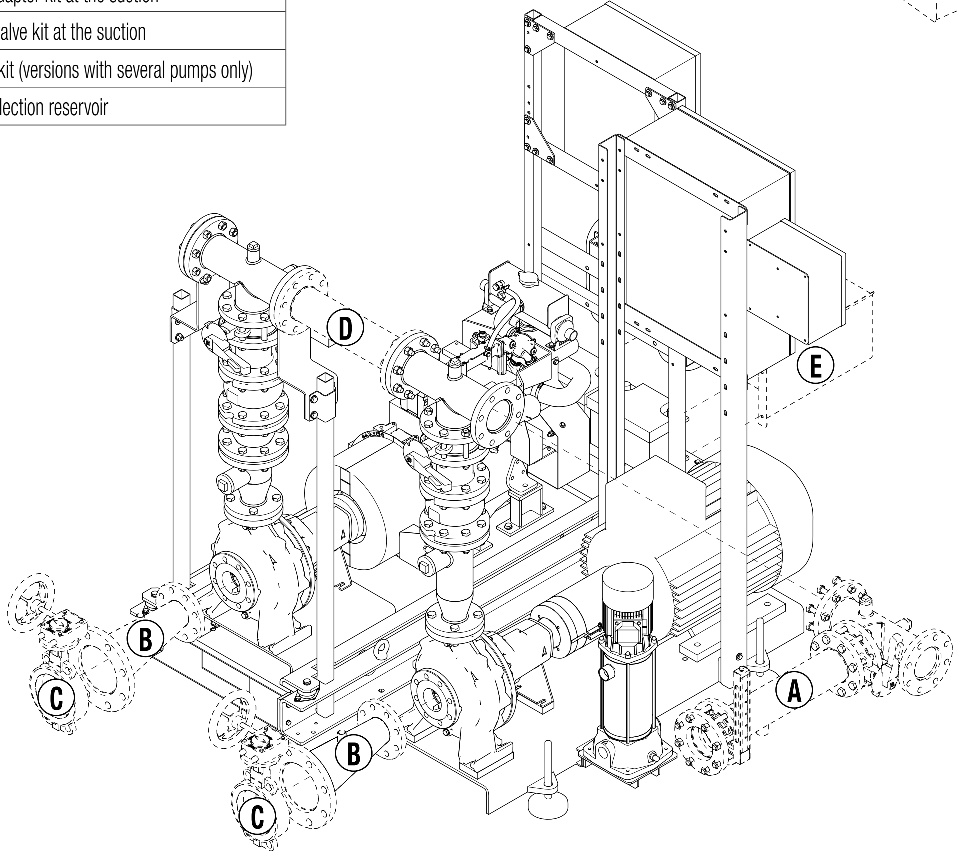
- The flow switch kit must be installed on the 1" pipe of the delivery manifold of the DAB fire-fighting pump. Seal the threads of the various components with Teflon, plumber's hemp, or anaerobic sealing paste.
- The flow switch detects activation of the sprinklers of the pump house as per section 10.3.2 of UNI EN 12845.
- The Normally Open contact of the 1" flow switch must be connected to an alarm device installed in a manned location (e.g. DAB alarm control panel – CSR-1 model, UNI EN 12845).

EXAMPLE OF ASSEMBLY OF UNI EN 12845 SETS - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP SET

- - - - - - - - - element not supplied in the kit (to be purchased separately)



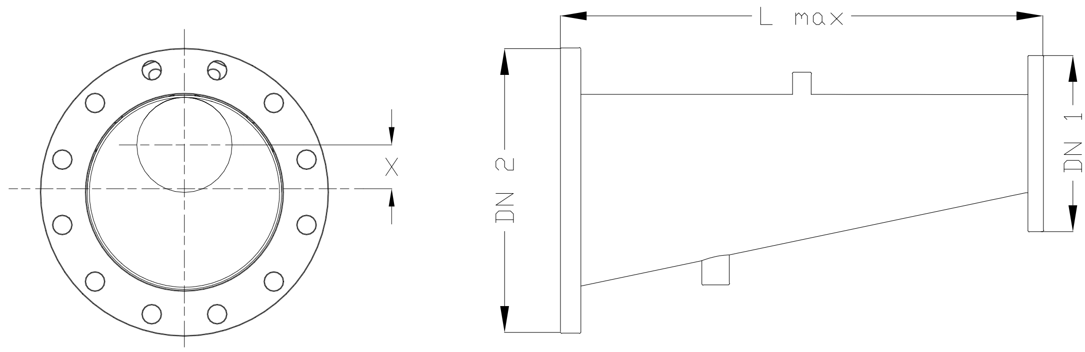
A	Flow meter kit
B	Conical adaptor kit at the suction
C	Shut-off valve kit at the suction
D	Coupling kit (versions with several pumps only)
E	Diesel collection reservoir



ACCESSORIES

SUCTION KIT

The kit consists of a conical eccentric adaptor, screws and washers.
It is required in order to avoid air pockets at the suction, and to keep the water speed below 1,5 m/s, as required by section 10.6.2.3 of UNI EN 12845.
No. 1 kit must be installed at the suction of each main pump.



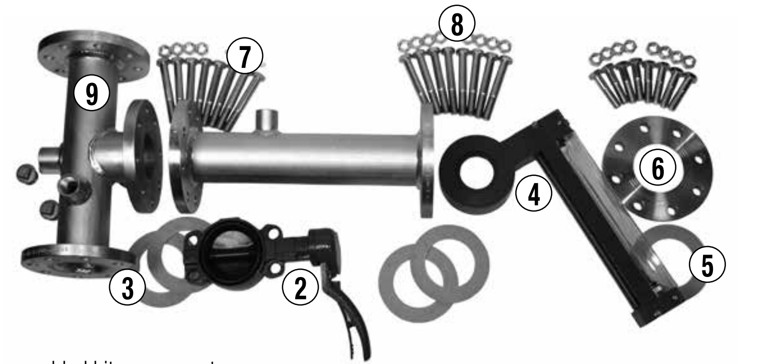
UNI EN 12845 ECCENTRIC SUCTION ADAPTORS					
PUMP MODEL	**ADAPTOR MODEL**	**DN1 –PN 16 PUMP SIDE**	**DN2 – PN16 SYSTEM SIDE**	**L (mm)**	**X (mm)**
NKV 10	KIT ASP.NKV10 EN12845 (DN65 - 19°)	DN 40	DN 65*	145	14
NKV 15 – NKV 20 KDN 32	KIT ASP.KDN32/NKV15-20 EN12845(DN80-19°)	DN 50	DN 80	200	14
KDN 40	KIT ASP.KDN40 EN12845 (DN100 - 19°)	DN 65	DN 100	204	19
KDN 50	KIT ASP.KDN50 EN12845 (DN125 - 19°)	DN 65	DN 125	320	32
KDN 65	KIT ASP.KDN65 EN12845 (DN150 - 19°)	DN 80	DN 150	380	40
KDN 80	KIT ASP.KDN80 EN12845 (DN200 - 19°)	DN 100	DN 200	570	52
KDN 100	KIT ASP.KDN100 EN12845 (DN250 - 19°)	DN 125	DN 250	685	67

*The standard requires DN 80 minimum for positive suction installations. In this case contact our sales network.

ACCESSORIES

FLOW METER

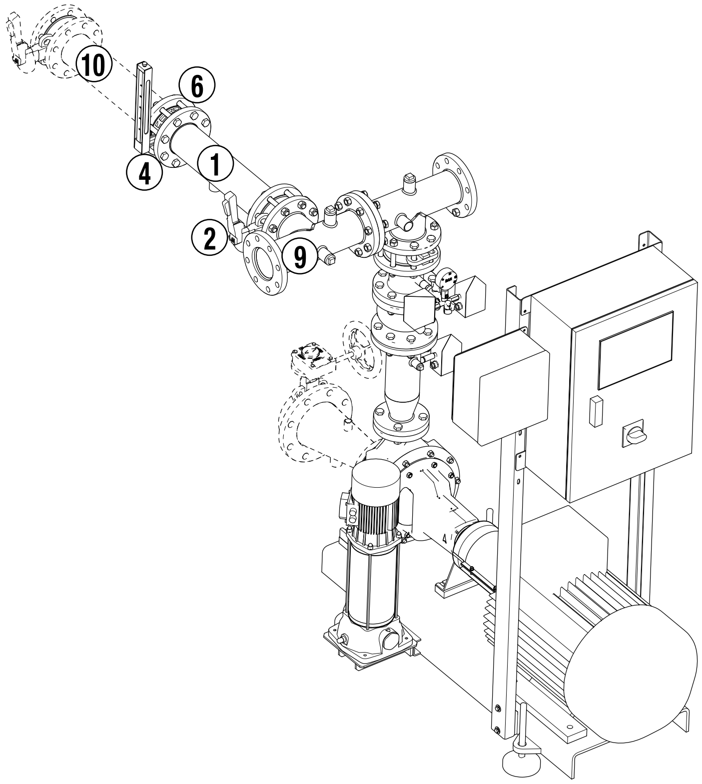
To be installed on a branch on the delivery manifold. The kits are suitable for both 1-pump and 2-pump sets, and are supplied unassembled.



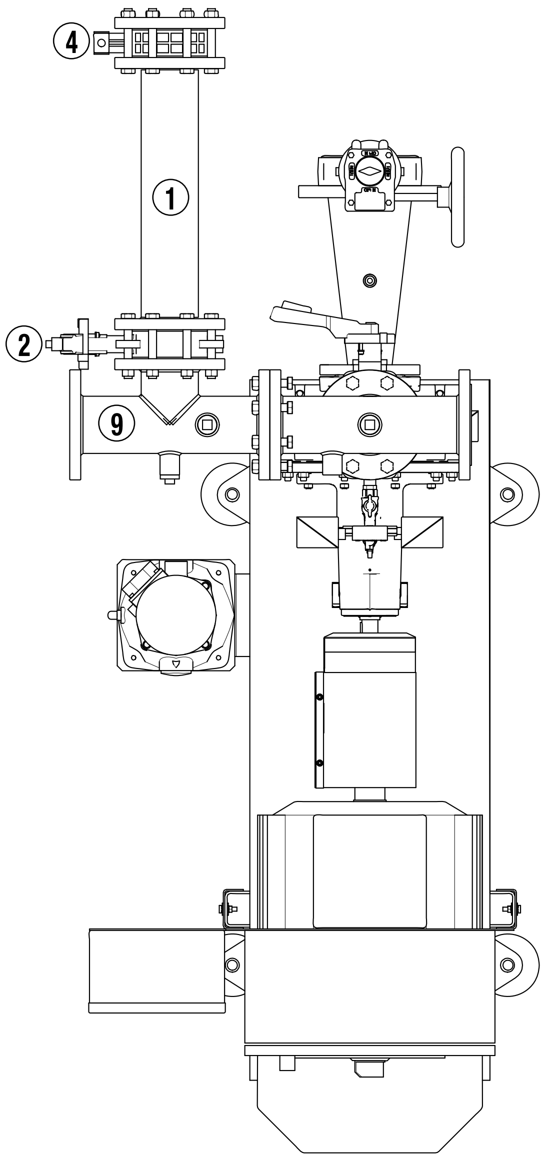
Disassembled kit components

Assembled kit components

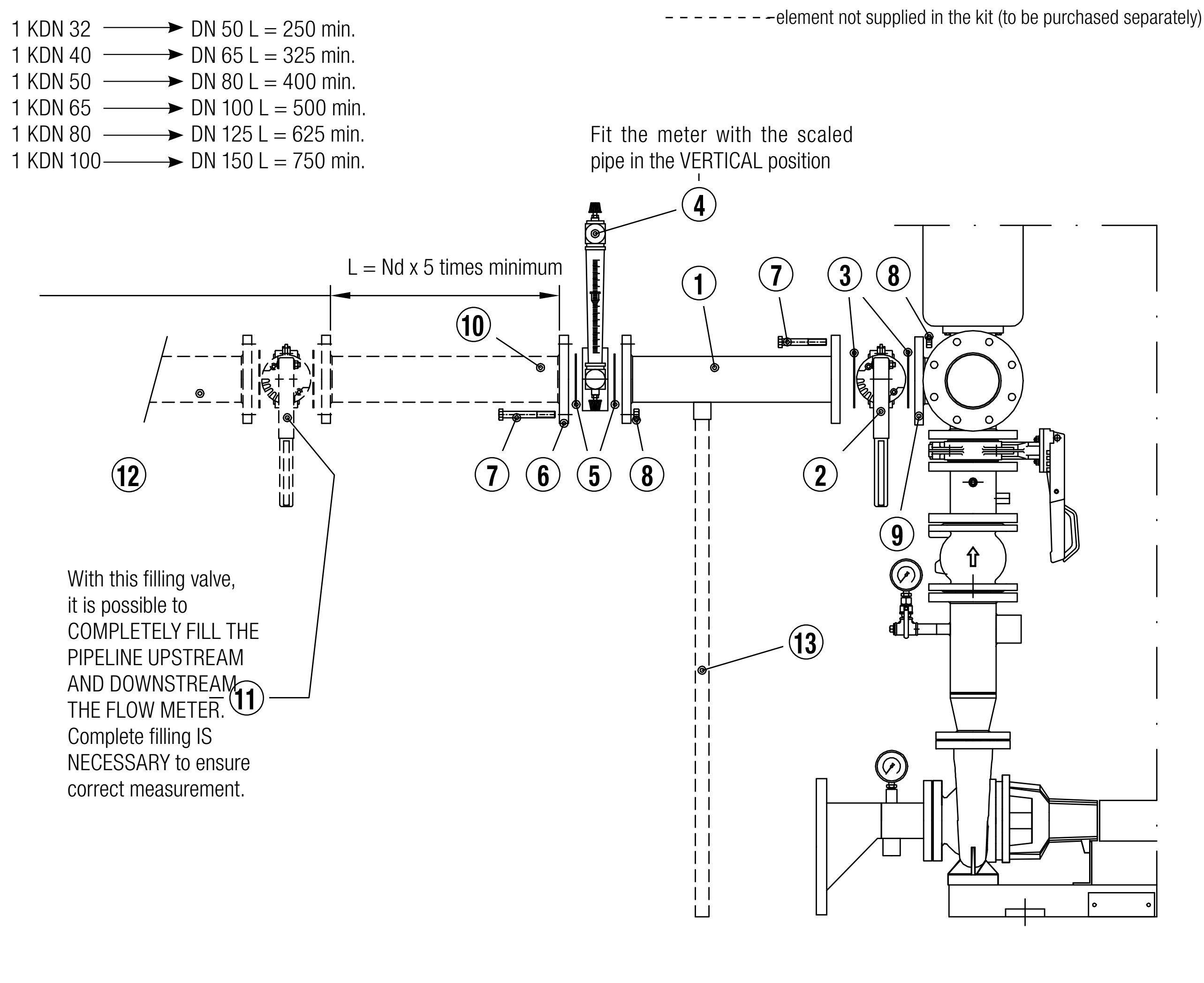
ASSEMBLY INDICATIONS FOR UNI EN 12845 1 AND 2 PUMP SETS (EXAMPLE)



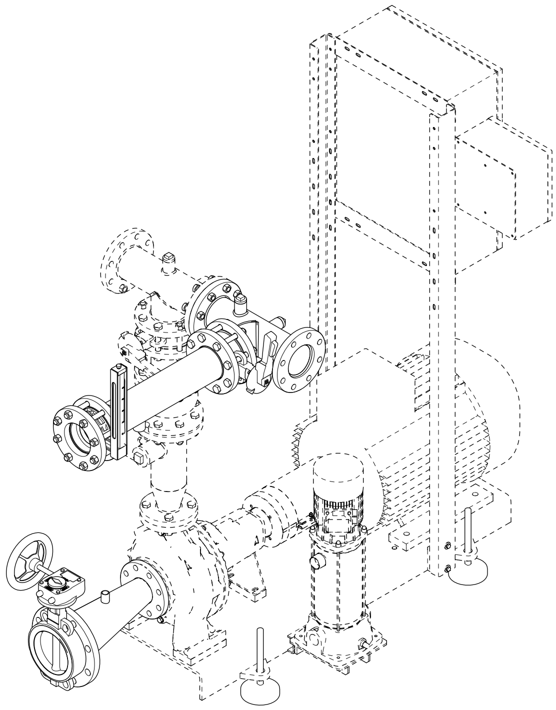
- - - - - - - - - element not supplied in the kit (to be purchased separately)



1	Flow meter extension
2	Butterfly valve
3	Butterfly valve seal
4	Flow meter - flow rate meter
5	Flow meter seals
6	Counter flanges
7	Fixing screws
8	Nuts
9	Meter adaptor



- - - - - - - - : fire-fighting set



E.FIRE MONITOR

DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

TECHNICAL DATA

Nominal power input voltage: 230/400 Vac +/-10% (power input voltage 230 Vac)
Phases: 1+N (230 V) 1+1 (400 V)
Frequency: 50-60 Hz
Sound power level: 75 dB at 30 cm 12 Vdc
Absorption: 0,1 Amp
Battery type: 12 V 1.2 Ah lead battery, sealed, Faston contact
Acoustic alarm autonomy in case of power cut: 5 hours
Characteristic features of the serial communication cable:
2 twisted wire shielded cable plus shield, 600 V, class 1, 15-18 AWG.
Maximum impedance 120 ohm, maximum capacity 50 pF/m.
Ambient temperature operation limits: -10 °C + 50 °C
Relative humidity: 50 % at 40 °C MAX (90 % at 20 °C) without condensation
Max. altitude: 2000m (asl)
Protection class: IP54
Construction: Max RS485 line length 500 m

ACCESSORY - E.FIRE MONITOR CONTROL PANEL

The UNI EN 12845 standard requires that a range of alarms are forwarded to a permanently manned location, inside or outside the building, or to a plant manager.

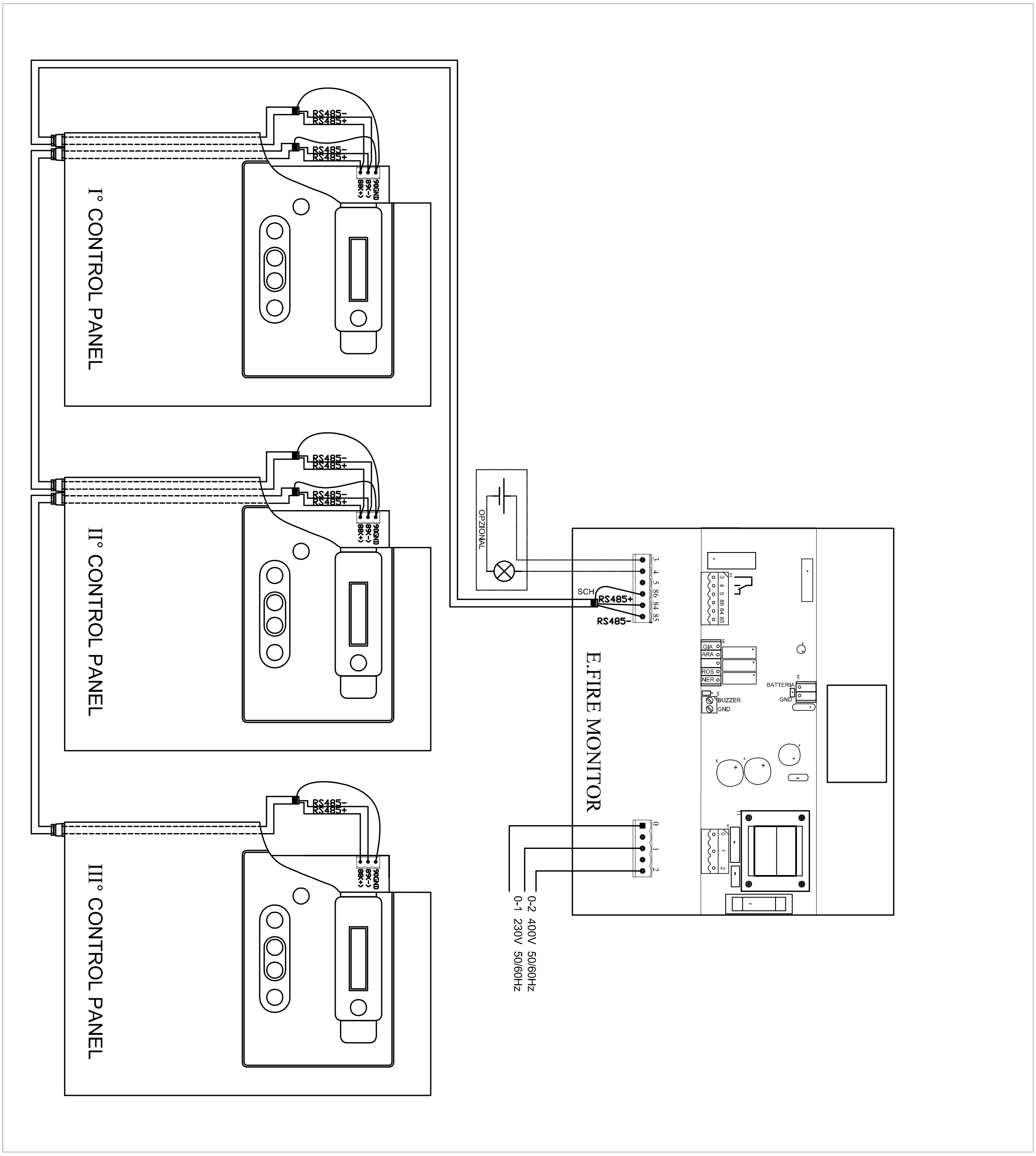
In order to fulfil this requirement of the UNI EN 12845 standard, it is possible to use the E.FIRE MONITOR alarm control unit, which notifies the operating conditions of the fire-fighting pump station by means of an acoustic signal.
The E.FIRE MONITOR alarm control unit can be connected to the fire-fighting pump station using a telephone pair (485 serial type connection), to the electric or diesel engine-driven pump control panels.
One single E.Fire Monitor can control up to three pump sets, electric or Diesel, in the various required configurations.

FUNCTIONS
The control unit visually and acoustically notifies, by LED and buzzer respectively, the operating conditions of the pump sets in the different installation solutions:

- all the possible combinations with up to three pumping units maximum

E.Fire Monitor is a necessary accessory for the supervision of remote alarms, and guarantees autonomy of at least 5 hours, as far as the operation of the alarms, in case of electric power cuts. It is also possible to connect a GSM Modem (optional), in order to display alarms on a mobile phone, receiving system status SMS messages.
Alarms may be replicated at two different positions by connecting two E.Fire Monitors.

DIAGRAM FOR THE CONNECTION OF E.FIRE MONITOR TO THE CONTROL PANELS
ELECTRIC OR ENGINE-DRIVEN PUMP WITH SERIAL CONNECTION



1 KDN COMPACT

UNI EN 12845 FIRE-FIGHTING PUMP SETS

TECHNICAL DATA

Nominal power input voltage: 230 AC +/- 10%
Phases: 1
Frequency: 50-60 Hz
Sound power level: 75 dB A
Absorption: 0,1 Amp
Battery type: 12 V; 2,3 Ah lead battery (Faston output)
Acoustic alarm autonomy in case of power cut: 20 hours
Characteristic features of the serial communication cable:
2 twisted wire shielded cable plus shield, 600 V, class 1, 15-18 AWG. Maximum impedance 120 ohm, maximum capacity 50 pF/m.
Ambient temperature operation limits: -10 °C + 40 °C
Relative humidity: 50 % at 40 °C MAX (90 % at 20 °C) without condensation
Max. altitude: 2500 m (a.s.l.).
Protection class: IP55
Construction: According to UNI EN 12845

ACCESSORY - CSR-1 ALARM CONTROL PANEL

The UNI EN 12845 standard requires that a range of alarms are forwarded to a permanently manned location, inside or outside the building, or to a plant manager.

In order to fulfil this requirement of the UNI EN 12845 standard, it is possible to use the CSR-1 alarm control panel, which notifies the operating conditions of the fire-fighting pump stations by means of an acoustic signal.
The CSR-1 alarm control unit can be connected to the fire-fighting pump station using multi-conductor cables (contact connection), or using a telephone pair (485 serial type connection), to the electric or Diesel engine-driven pump control panels.
One single CSR-1 can control one or both pumps, electric or Diesel, in the various required configurations.

FUNCTIONS

The control unit controls and notifies, using a 2x16 character display - visually by means of LEDs, and acoustically by means of a buzzer -, the operating conditions of the pump sets in the different installation solutions:

- system for one electric pump,
- system for two electric pumps,
- system for electric pump and Diesel pump,
- system for Diesel pump,
- system for two Diesel pumps.

The CSR-1 is a necessary accessory for the supervision of remote alarms, and guarantees autonomy of at least 20 hours as far as the operation of the alarms in case of power cuts from the electricity network. It is also possible to connect a GSM Modem (optional) in order to display alarms on a mobile phone, receiving system status SMS messages.
It is possible to remotely forward a cumulative signal of all the alarms using one output (XC9) with clean contact (without voltage) with remote silencing.

DIAGRAM FOR SERIAL CONNECTION OF THE CSR-1 TO THE ELECTRIC AND DIESEL PUMP CONTROL PANELS

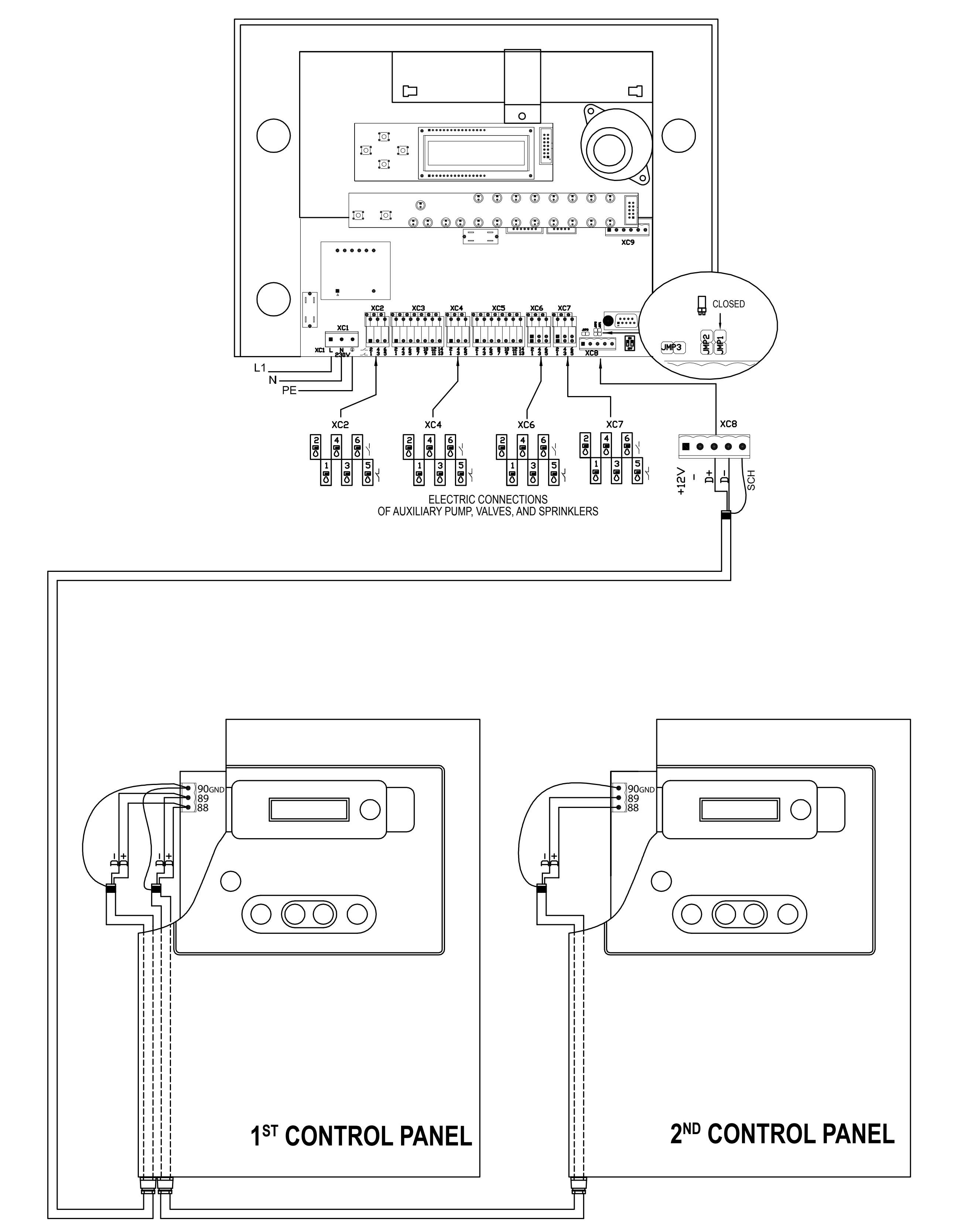
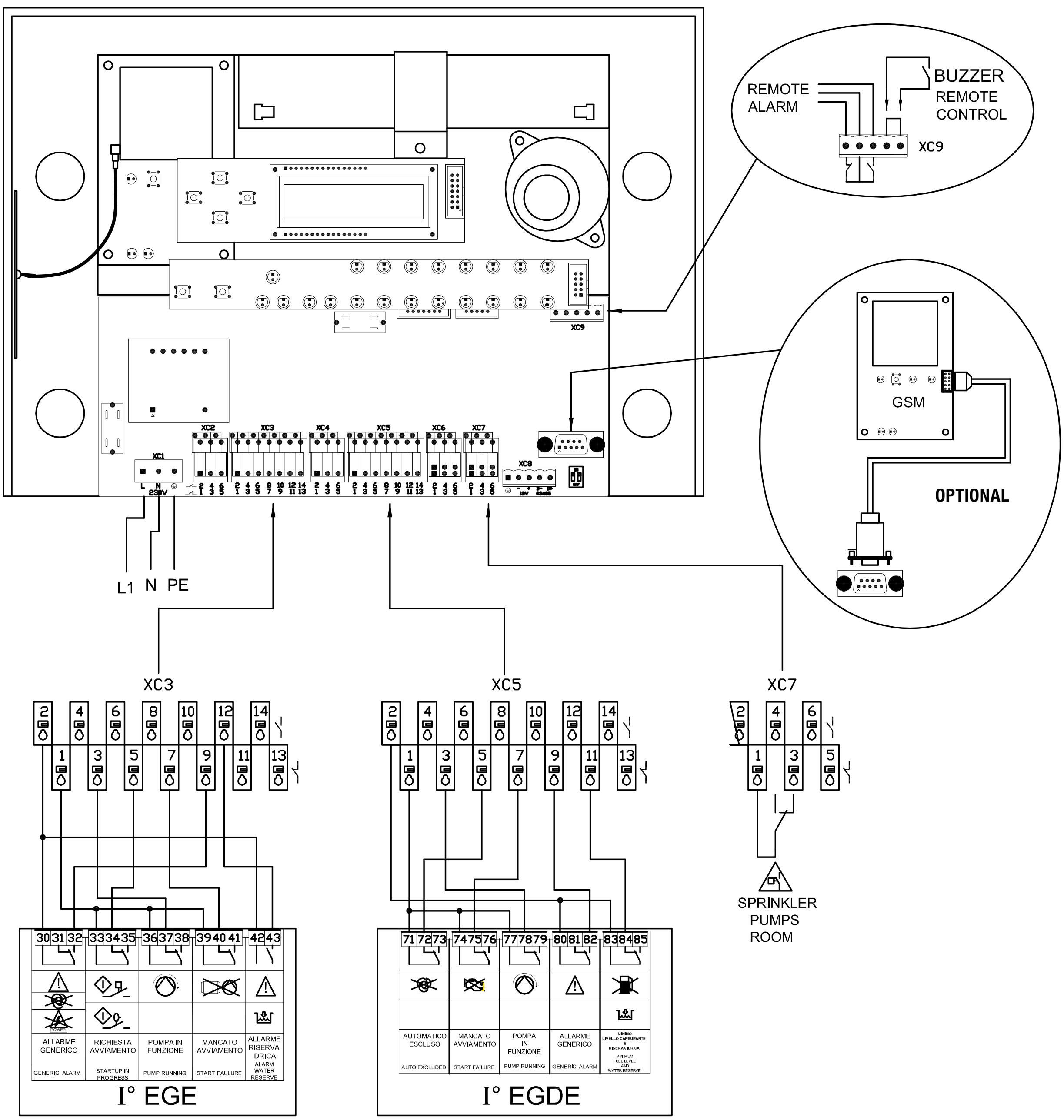


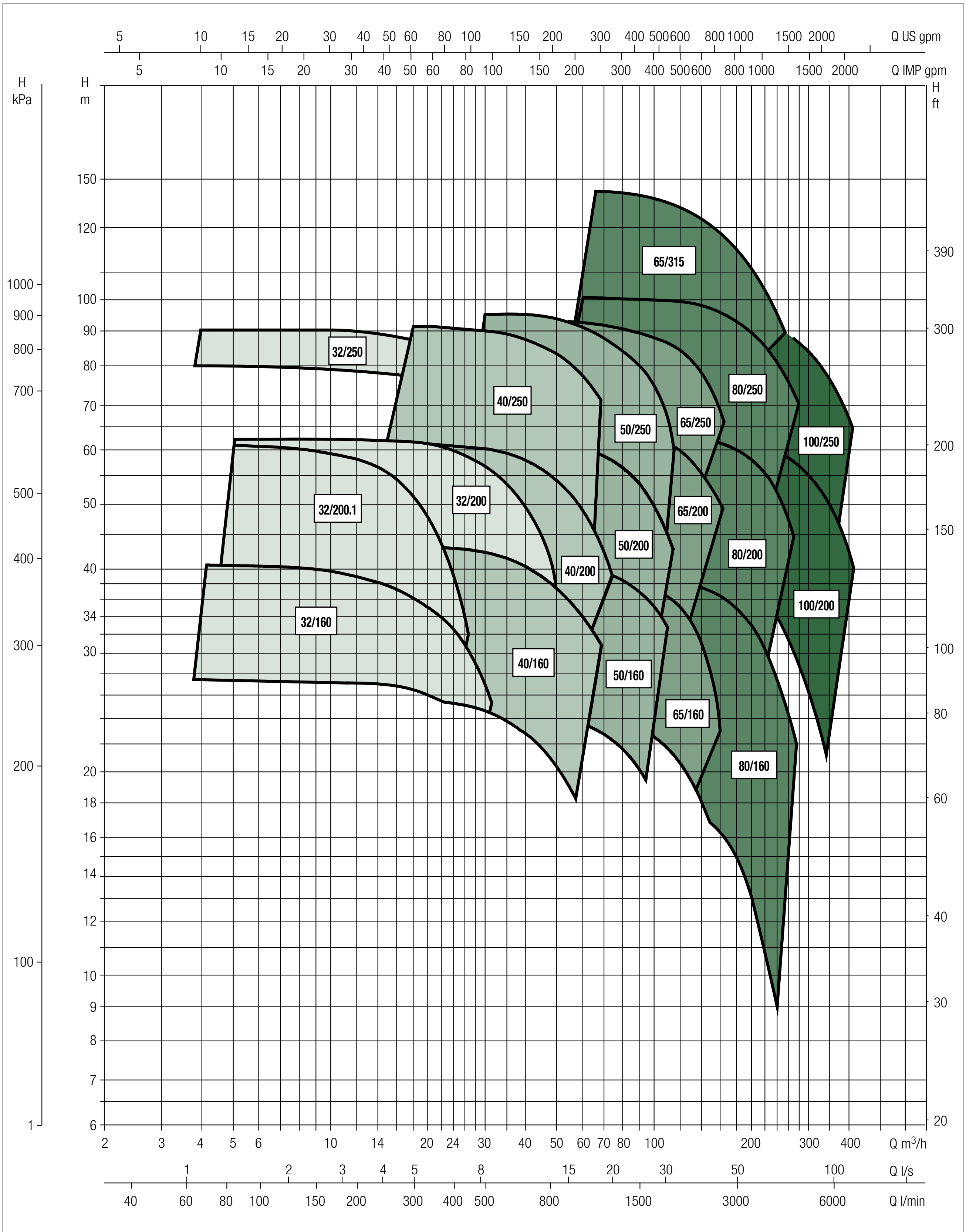
DIAGRAM FOR CONTACT CONNECTION OF THE CSR-1 TO THE ELECTRIC AND DIESEL PUMP CONTROL PANELS



PERFORMANCE RANGE

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

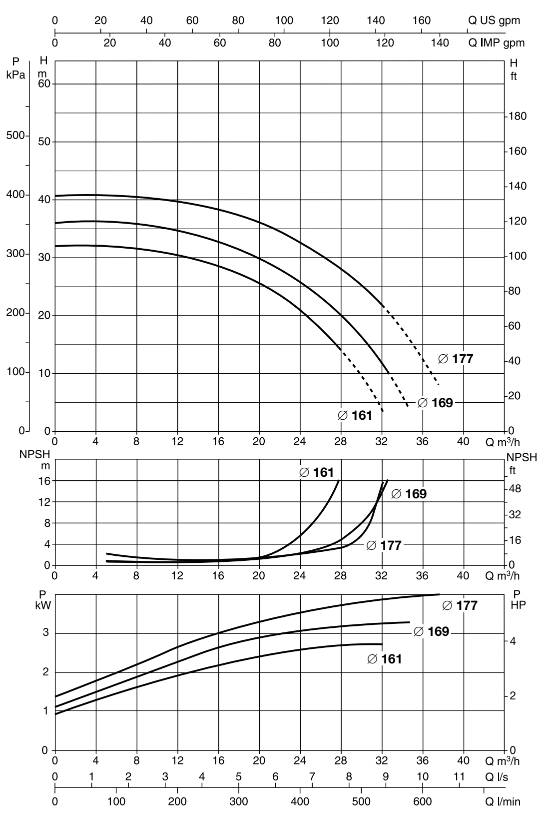
GRAPHIC SELECTION TABLE



For higher performances contact our sales team

1 KDN 32-160.1/161-169-177 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from 0°C to +70°C - **Maximum ambient temperature:** from+4°C to +40°C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1KDN 32-160.1/161 3	3x400 V ~	JET 251 T	3	1,85	5,9	KDN32 EN 12845
1KDN 32-160.1/169 4	3x400 V ~	JET 251 T	4	1,85	8,1	KDN 32 EN 12845
1KDN 32-160.1/177 5,5	3x400 V ~	JET 251 T	5,5	1,85	10,4	KDN 32 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

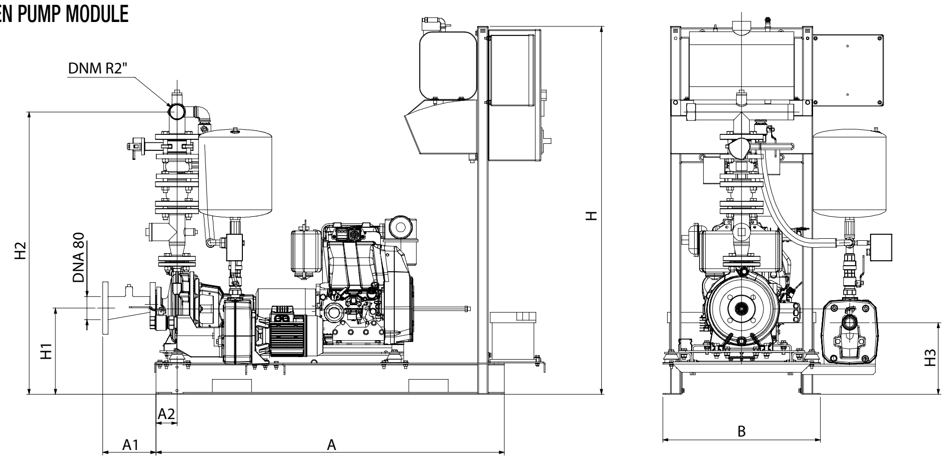
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1KDN 32-160.1/161 MD	3x230 / 400 V ~	JET 251 T	7,1	1,85	KDN32 EN 12845	0,22 m²
1KDN 32-160.1/169 MD	3x230 / 400 V ~	JET 251 T	7,1	1,85	KDN32 EN 12845	0,22 m²
1KDN 32-160.1/177 MD	3x230 / 400 V ~	JET 251 T	7,1	1,85	KDN32 EN 12845	0,22 m²

* Jockey pump on request.

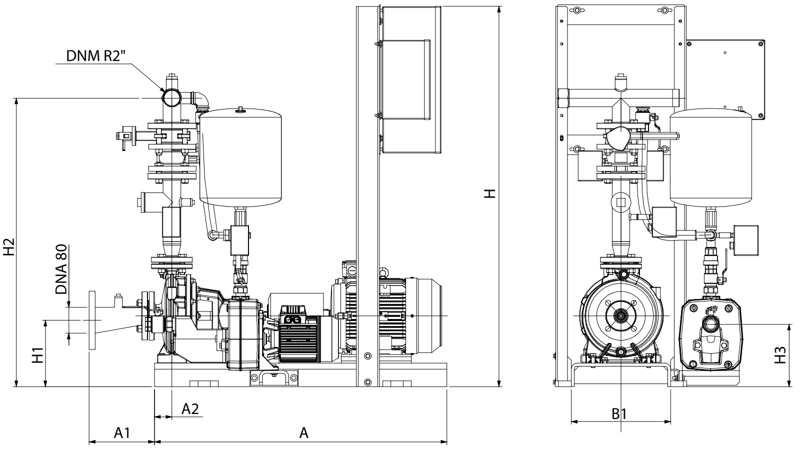
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE

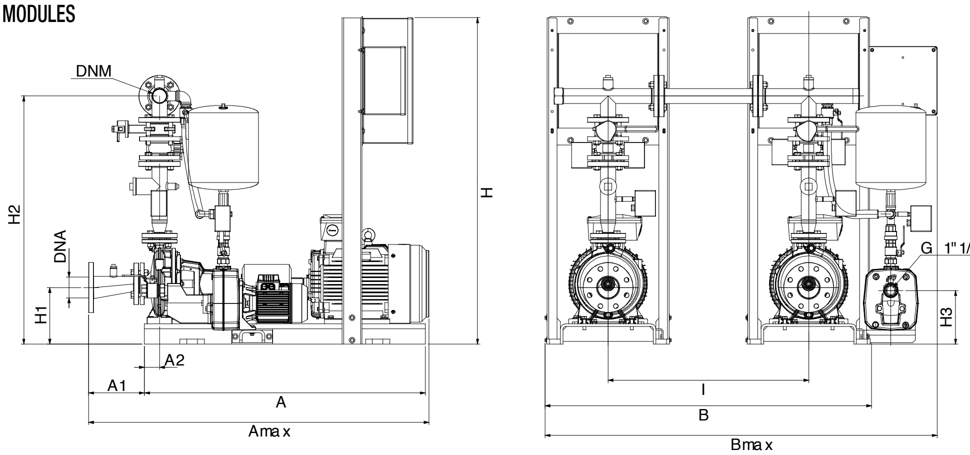


ELECTRIC PUMP MODULE

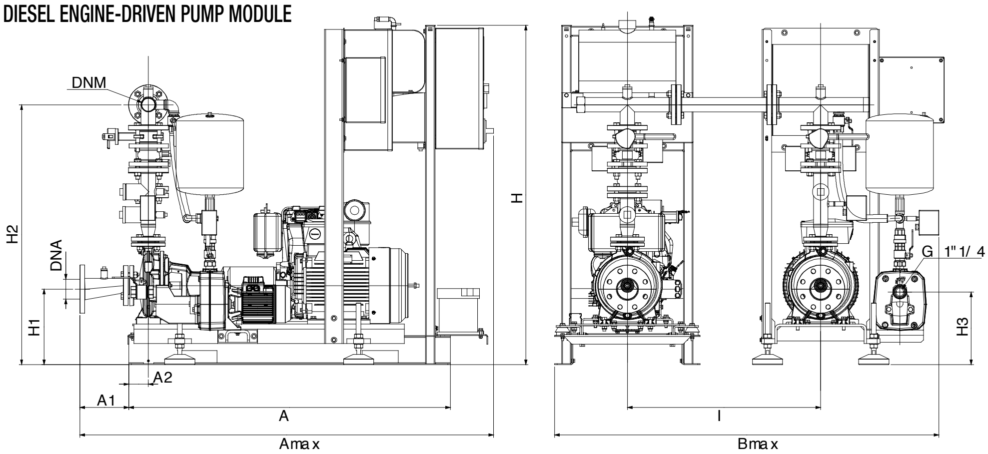


1 KDN 32-160.1/161-169-177 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

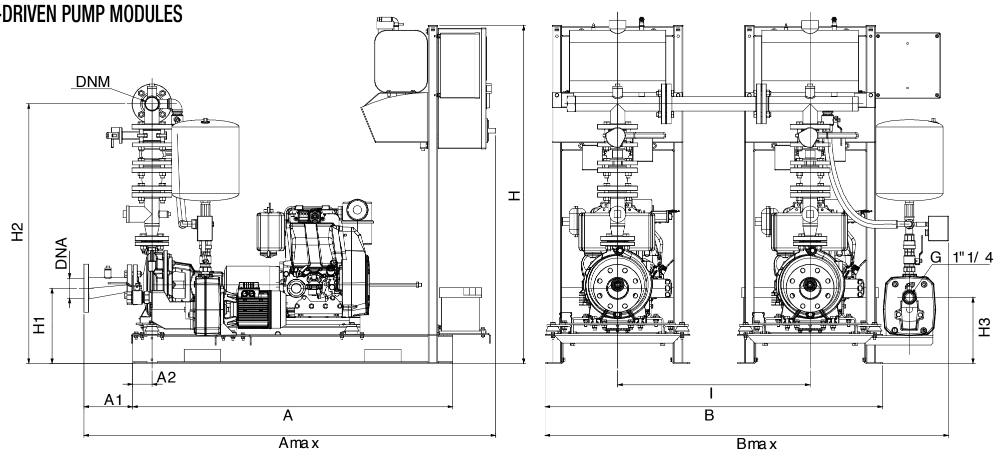
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



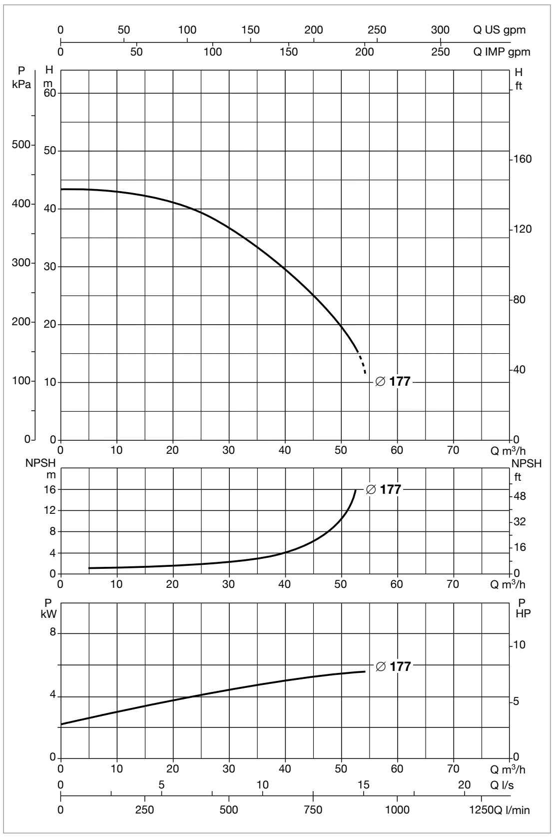
2 DIESEL ENGINE-DRIVEN PUMP MODULES



MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1KDN 32-160.1/161-169-177 - DIESEL ENGINE DRIVEN PUMP MODULE	1330	203	81	1711	602	-	876	1505	876	1131	274	-	80	2"	344	384
1KDN 32-160.1/161-169-177 - ELECTRIC PUMP MODULE	1000	223	60	1223	462	340	723	1400	197	1037	213	-	80	2"	276	316
1KDN 32-160.1/161-169-177 - 2 ELECTRIC PUMP MODULES	1000	223	60	1223	1324	-	1585	1400	197	1037	213	-	80	2"	552	592
1KDN 32-160.1/161-169-177 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1330	203	81	1711	1604	-	1878	1505	277	1131	274	800	80	2"	620	660
1KDN 32-160.1/161-169-177 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1330	203	81	1711	274	-	274	1505	277	1131	274	800	80	2"	688	728

1 KDN 32-160/177 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from 0°C to +70°C - **Maximum ambient temperature:** from+4°C to +40°C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1KDN 32-160/177 5,5	3x400 V ~	JET 251 T	5,5	1,85	10,4	KDN 32 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

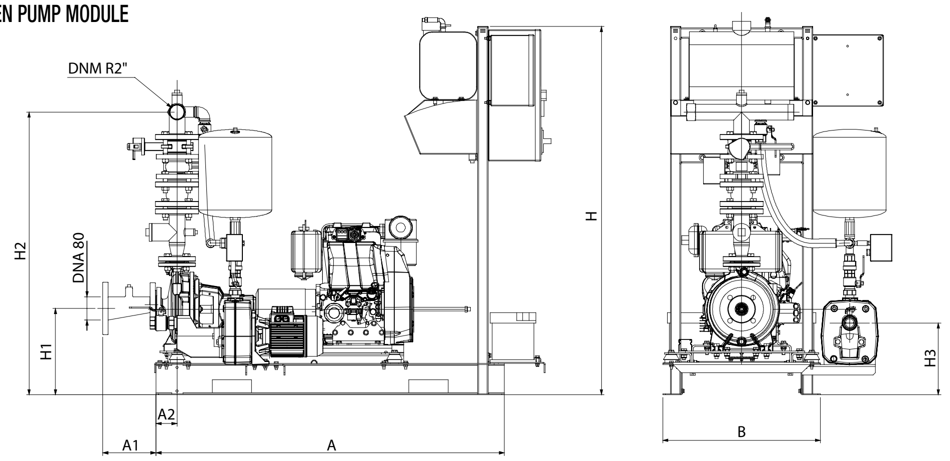
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1KDN 32-160/177 MD	3x230 / 400 V ~	JET 251 T	7,1	1,85	KDN32 EN 12845	0,22 m^2

* Jockey pump on request.

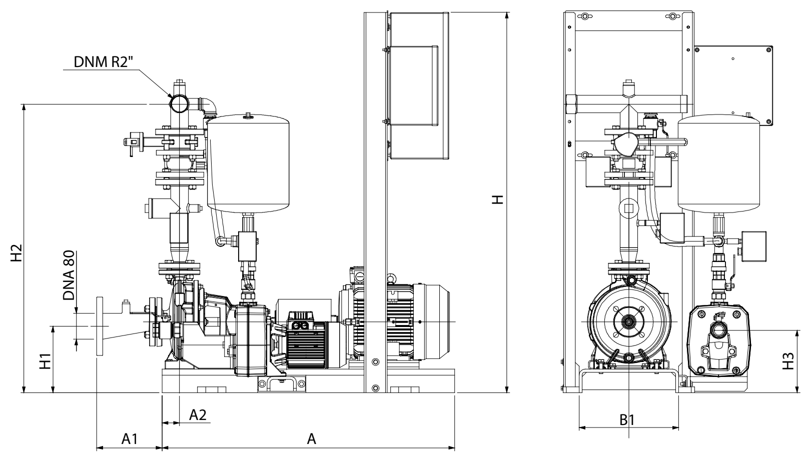
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/ m^3. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE

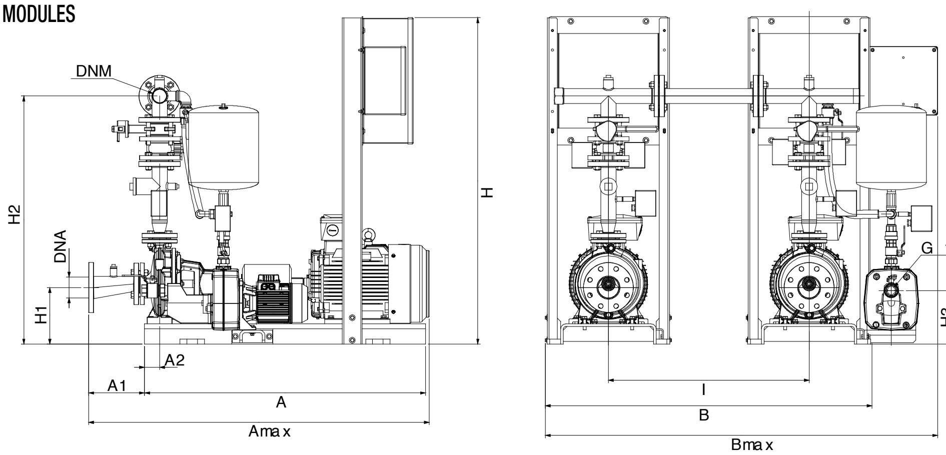


ELECTRIC PUMP MODULE

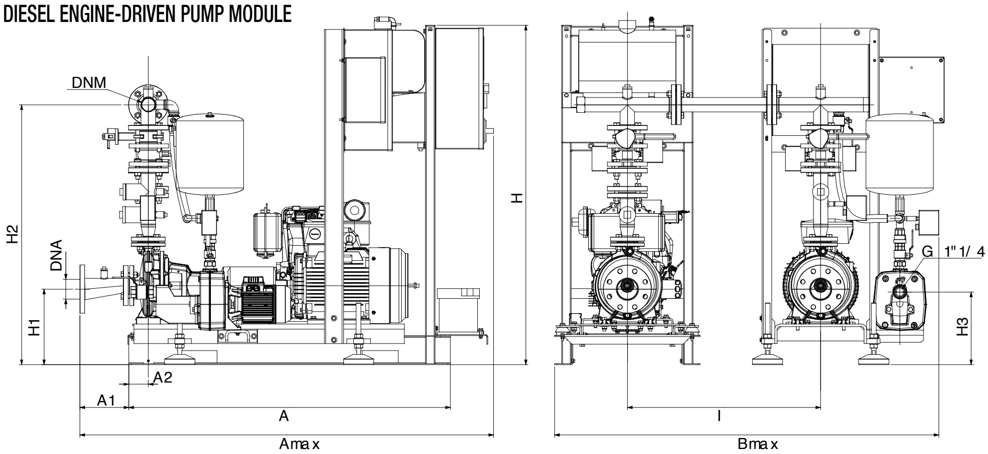


1 KDN 32-160/177 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

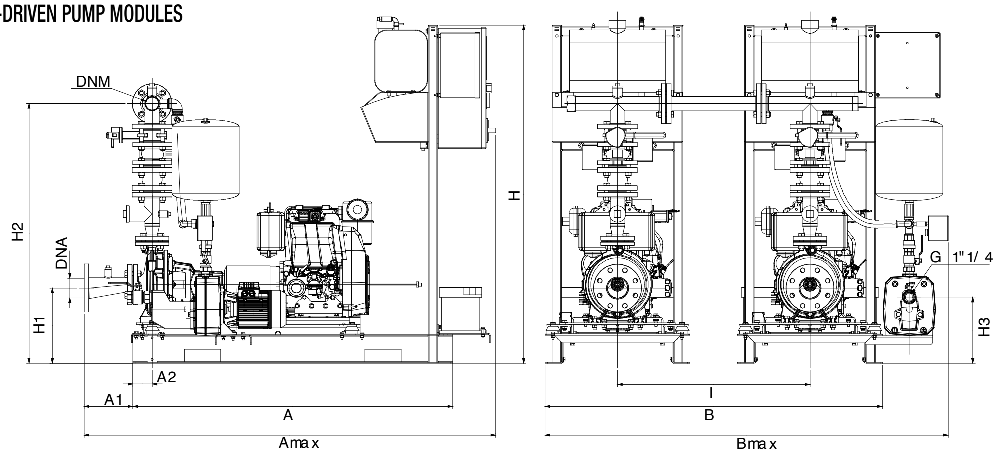
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



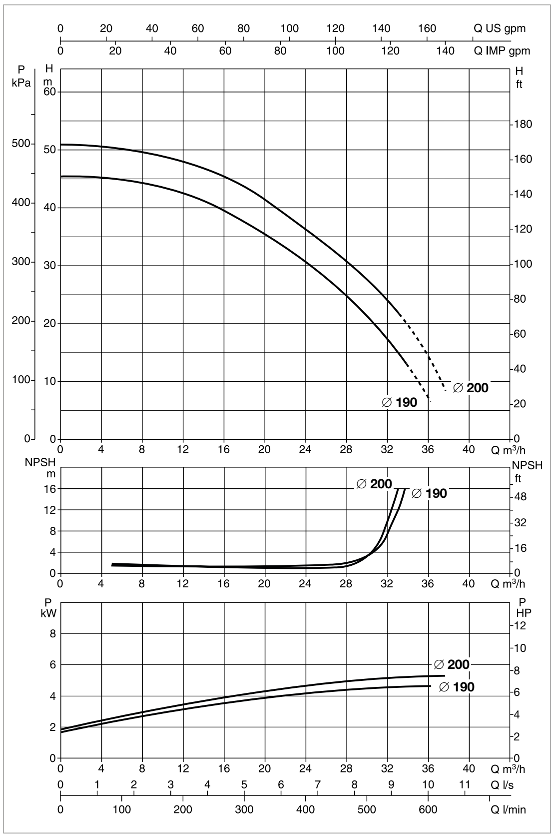
2 DIESEL ENGINE-DRIVEN PUMP MODULES



MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1KDN 32-160/177 - DIESEL ENGINE DRIVEN PUMP MODULE	1330	203	81	1711	602	-	876	1505	284	1131	274	-	80	2"	344	384
1KDN 32-160/177 - ELECTRIC PUMP MODULE	1000	223	60	1223	462	340	723	1401	197	1037	213	-	80	2"	286	326
1KDN 32-160/177 - 2 ELECTRIC PUMP MODULES	1000	223	60	1223	1324	-	1585	1401	197	1037	213	-	80	2"	572	612
1KDN 32-160/177 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1330	203	81	1711	1318	-	1878	1505	284	1131	274	-	80	2"	630	670
1KDN 32-160/177 -2 DIESEL ENGINE DRIVEN PUMP MODULES	1330	203	81	1711	1604	-	1878	1505	284	1131	274	-	80	2"	688	728

1 KDN 32-200.1/190-200 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from 0°C to +70°C - **Maximum ambient temperature:** from+4°C to +40°C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1KDN 32-200.1/190 5,5	3x400 V ~	JET 251 T	5,5	1,85	10,4	KDN32 EN 12845
1KDN 32-200.1/200 5,5	3x400 V ~	JET 251 T	5,5	1,85	10,4	KDN 32 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

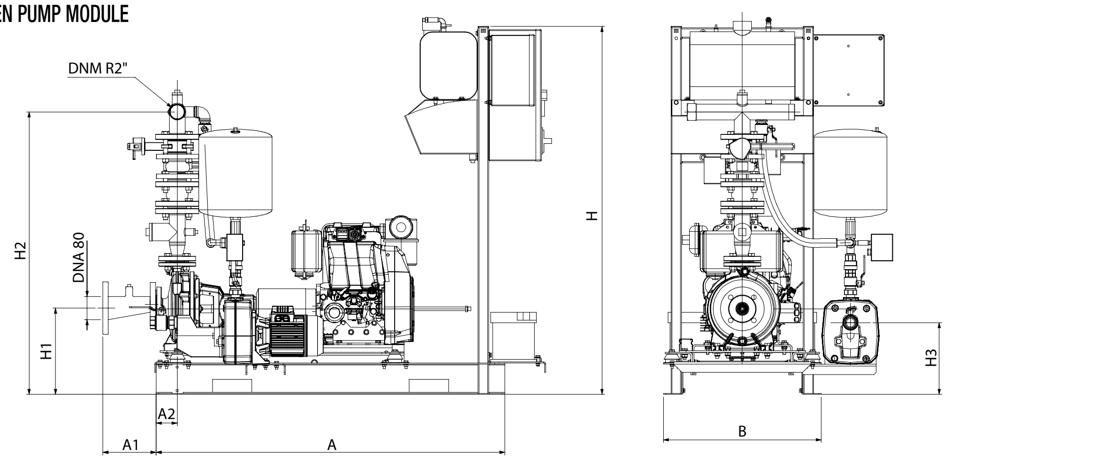
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1KDN 32-200.1/190 MD	3x230 / 400 V ~	JET 251 T	7,1	1,85	KDN32 EN 12845	0,22 m²
1KDN 32-200.1/200 MD	3x230 / 400 V ~	JET 251 T	7,1	1,85	KDN32 EN 12845	0,22 m²

* Jockey pump on request.

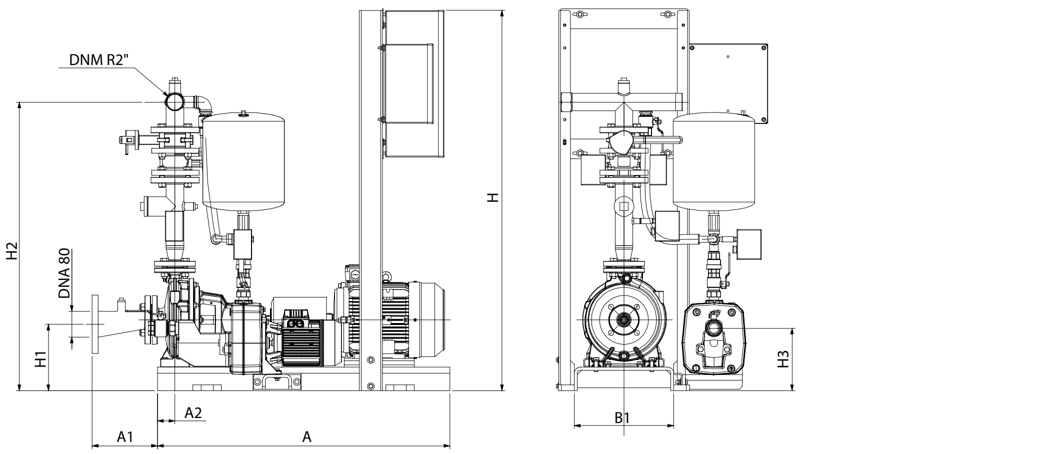
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

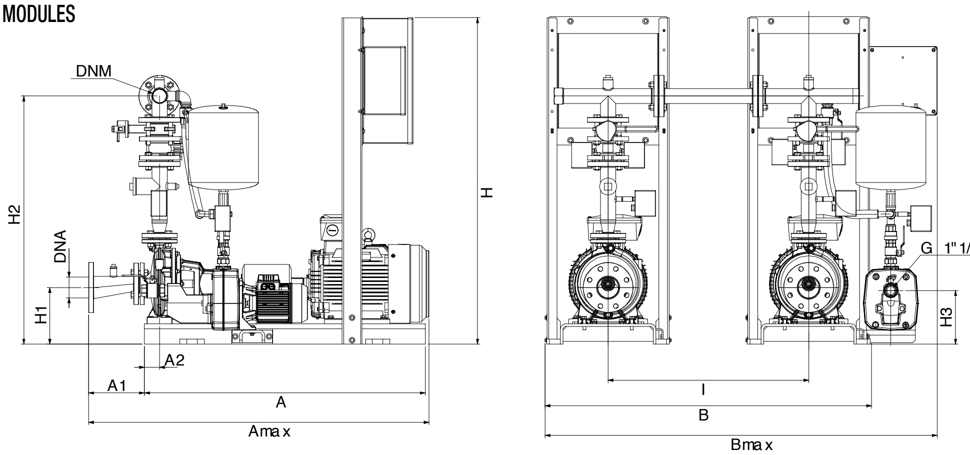
DIESEL ENGINE-DRIVEN PUMP MODULE



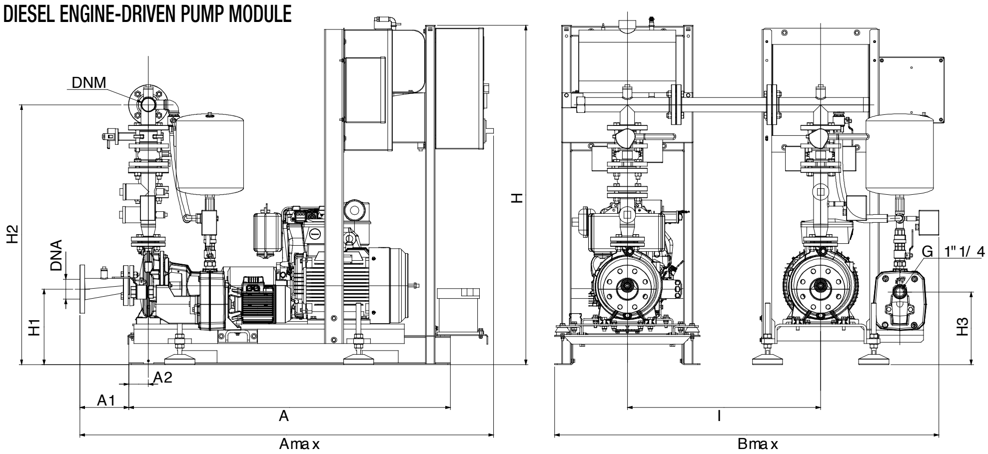
ELECTRIC PUMP MODULE



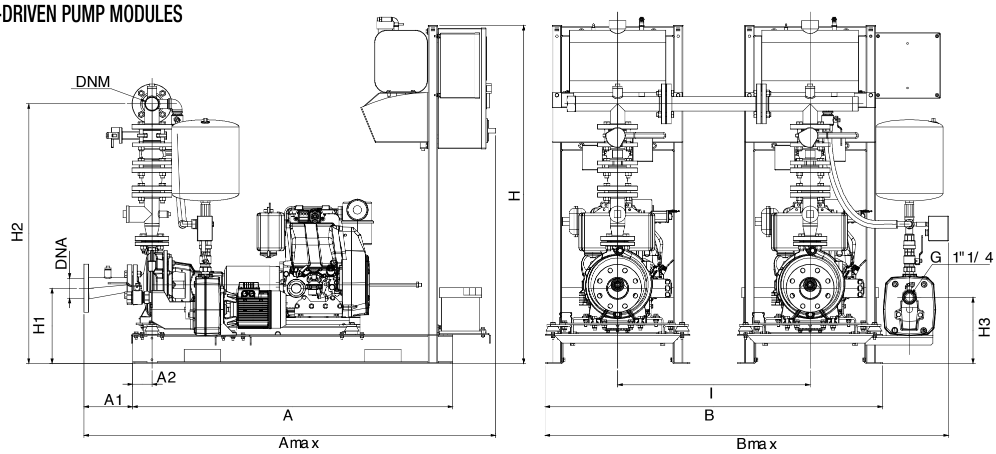
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



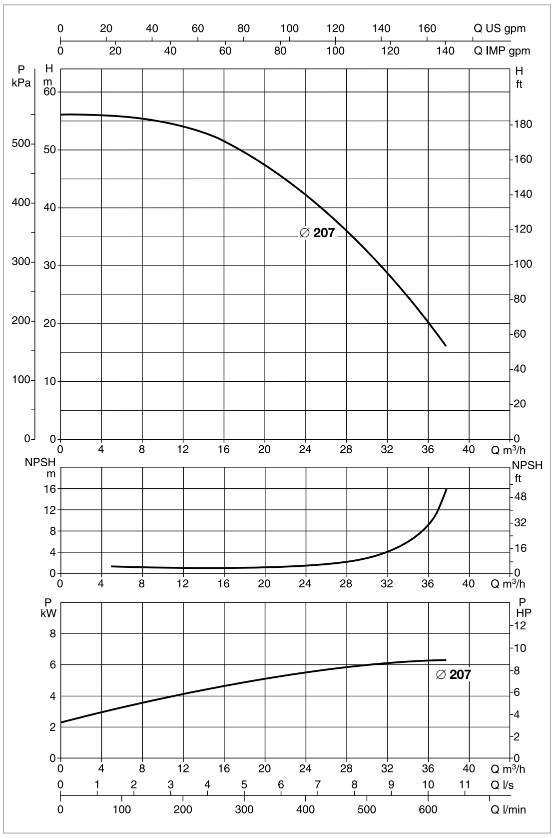
2 DIESEL ENGINE-DRIVEN PUMP MODULES



MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1KDN 32-200.1/190-200 - DIESEL ENGINE DRIVEN PUMP MODULE	1330	202	81	1711	602	-	876	1505	330	1179	274	-	80	2"	371	411
1KDN 32-200.1/190-200 - ELECTRIC PUMP MODULE	1000	223	60	1223	462	340	723	1401	227	1089	213	-	80	2"	312	352
1KDN 32-200.1/190-200 - 2 ELECTRIC PUMP MODULES	1000	223	60	1223	1324	-	1585	1401	227	1089	213	800	80	2"	624	664
1KDN 32-200.1/190-200 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1330	202	81	1711	1604	-	1878	1505	330	1179	274	800	80	2"	683	723
1KDN 32-200.1/190-200 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1330	202	81	1711	1604	-	1878	1505	330	1179	274	800	80	2"	742	782

1 KDN 32-200.1/207 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 32-200.1/207 7,5	3x400 V ~	JET 251 T	7,5	1,85	13,4	KDN 32 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

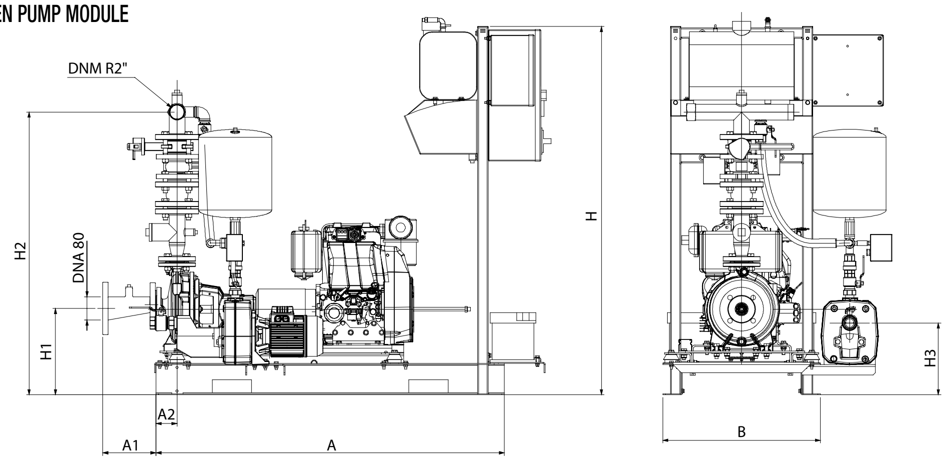
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 32-200.1/207 MD	3x230-400 V ~	JET 251 T	7,1	1,85	KDN 32 EN 12845	0,22 m²

* Jockey pump on request.

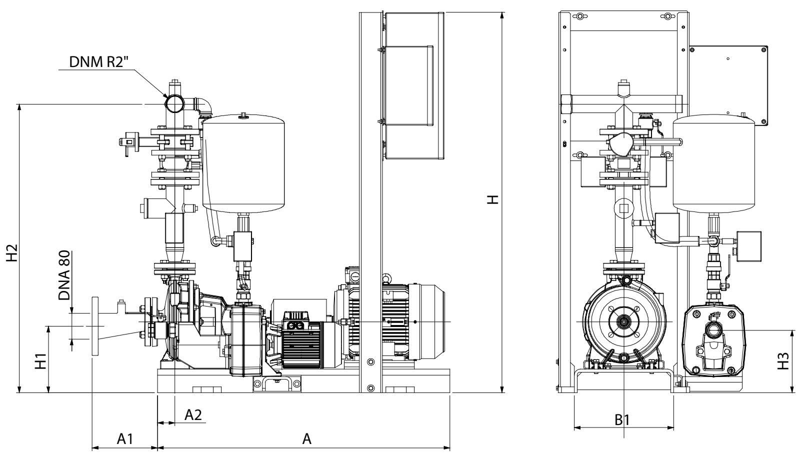
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE

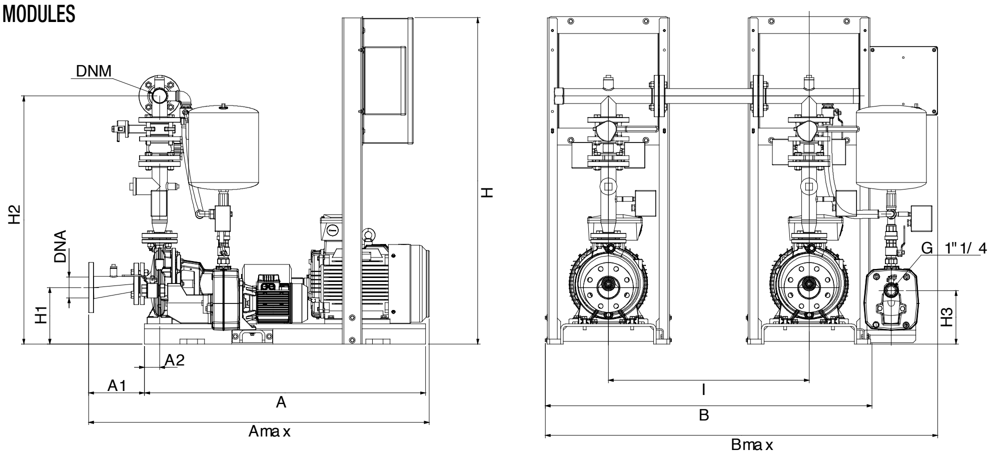


ELECTRIC PUMP MODULE

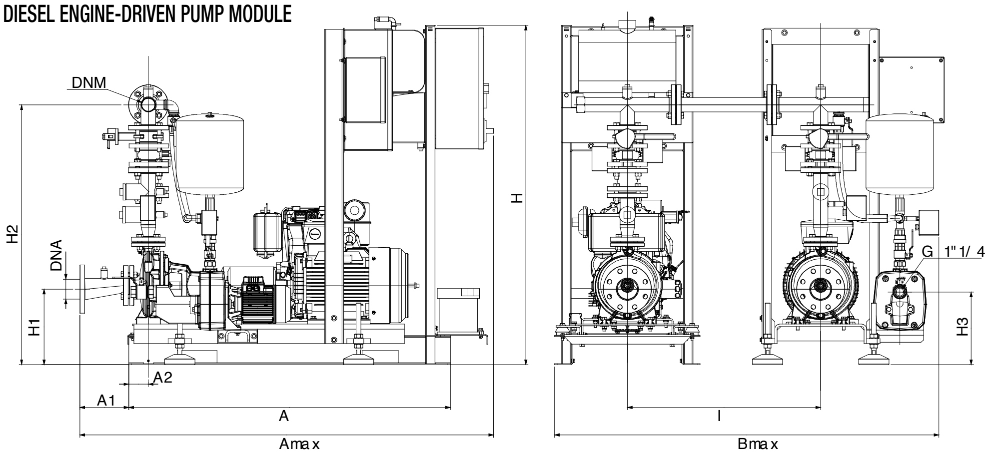


1 KDN 32-200.1/207 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

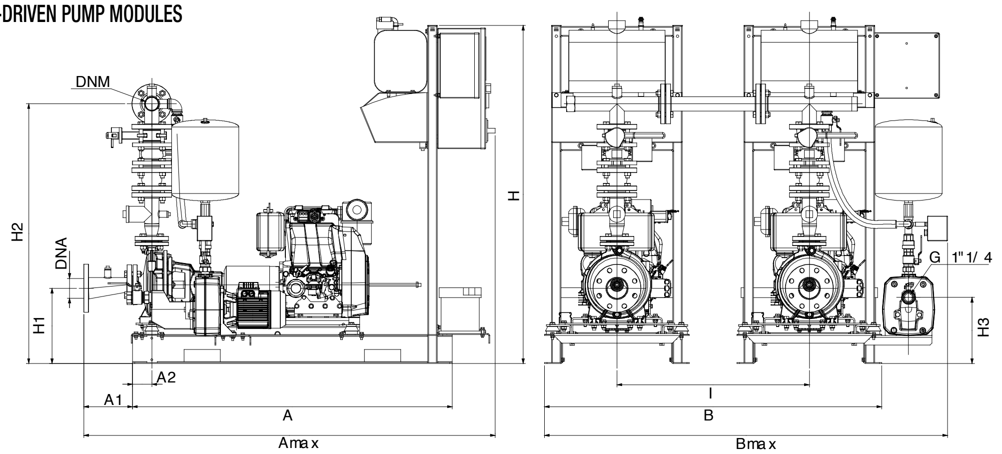
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



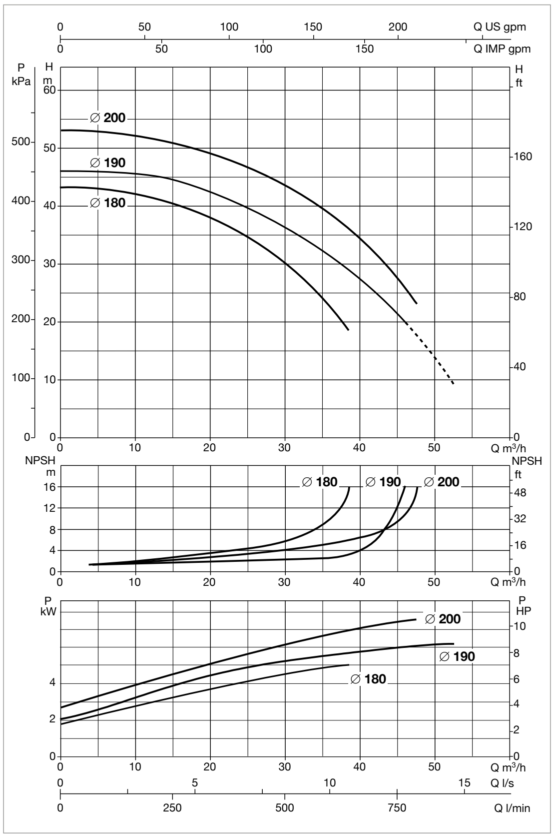
2 DIESEL ENGINE-DRIVEN PUMP MODULES



MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 32-200.1/207 - DIESEL ENGINE DRIVEN PUMP MODULE	1330	202	81	1711	1604	1878	-	1505	330	1179	274	-	80	2"	371	411
1 KDN 32-200.1/207 - ELECTRIC PUMP MODULE	1000	223	60	1223	462	340	723	1401	227	1089	213	-	80	2"	317	357
1 KDN 32-200.1/207 - 2 ELECTRIC PUMP MODULES	1000	223	60	1223	1324	-	1585	1401	227	1089	213	800	80	2"	634	674
1 KDN 32-200.1/207 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1330	202	81	1711	1604	-	1878	1505	330	1179	274	800	80	2"	688	728
1 KDN 32-200.1/207 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1330	202	81	1711	1604	-	1878	1505	330	1179	274	800	80	2"	742	782

1 KDN 32-200/180-190-200 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 32-200/180 5,5	3x400 V ~	JET 251 T	5,5	1,85	10,4	KDN 32 EN 12845
1 KDN 32-200/190 7,5	3x400 V ~	JET 251 T	7,5	1,85	13,4	KDN 32 EN 12845
1 KDN 32-200/200 7,5	3x400 V ~	JET 251 T	7,5	1,85	13,4	KDN 32 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

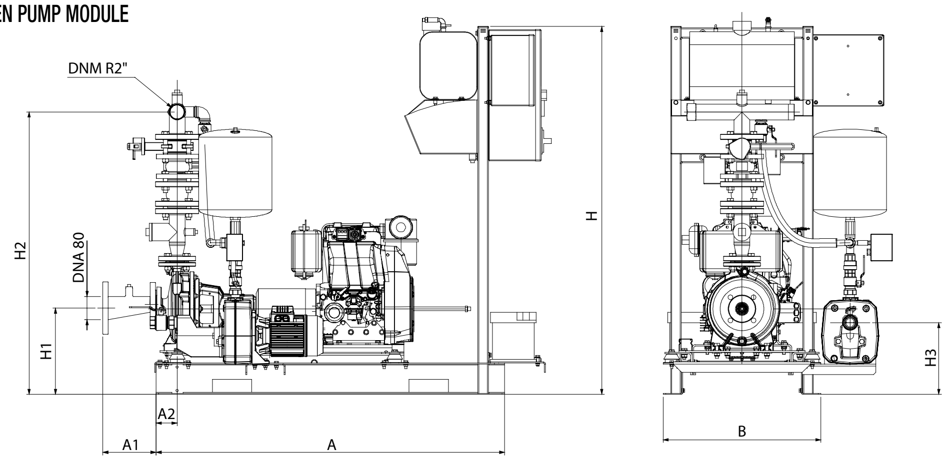
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 32-200/180 MD	3x230-400 V ~	JET 251 T	7,1	1,85	KDN 32 EN 12845	0,22 m²
1 KDN 32-200/190 MD	3x230-400 V ~	JET 251 T	7,1	1,85	KDN 32 EN 12845	0,22 m²
1 KDN 32-200/200 MD	3x230-400 V ~	JET 251 T	7,1	1,85	KDN 32 EN 12845	0,22 m²

* Jockey pump on request.

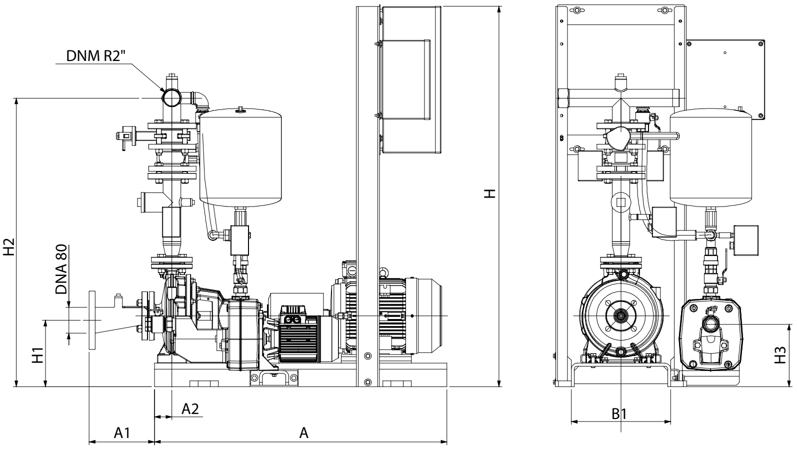
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE

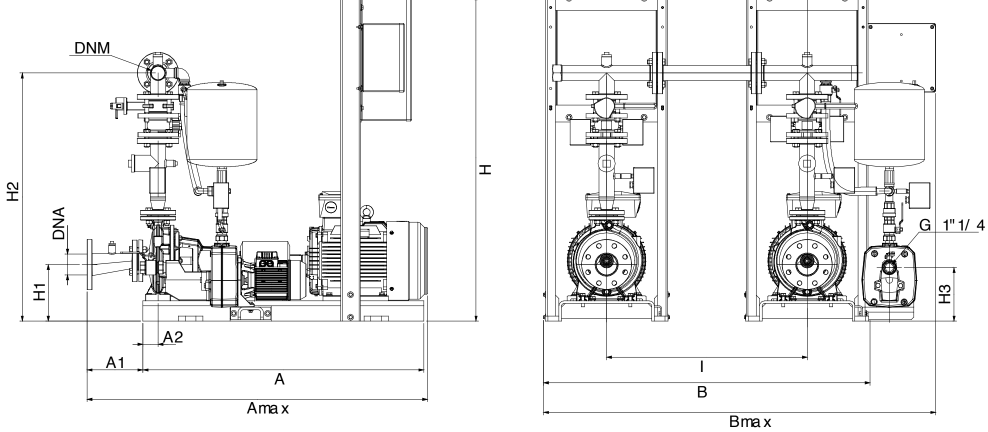


ELECTRIC PUMP MODULE

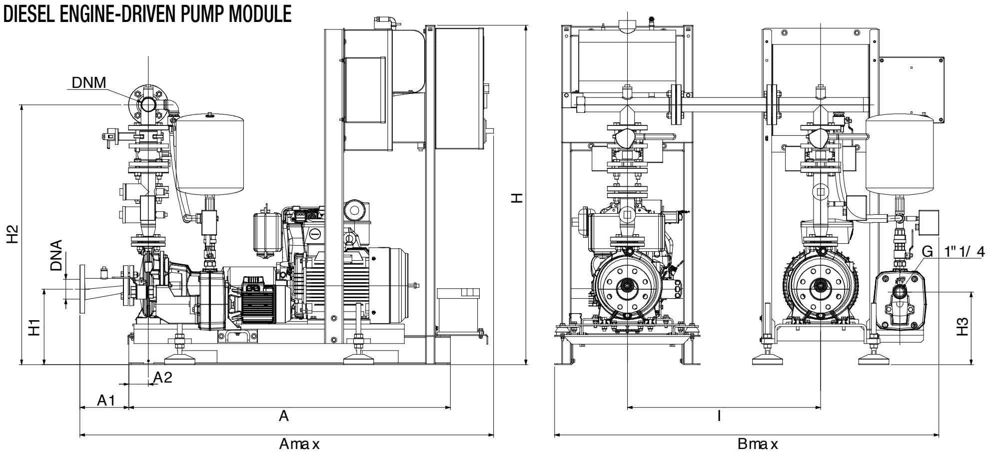


1 KDN 32-200/180-190-200 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

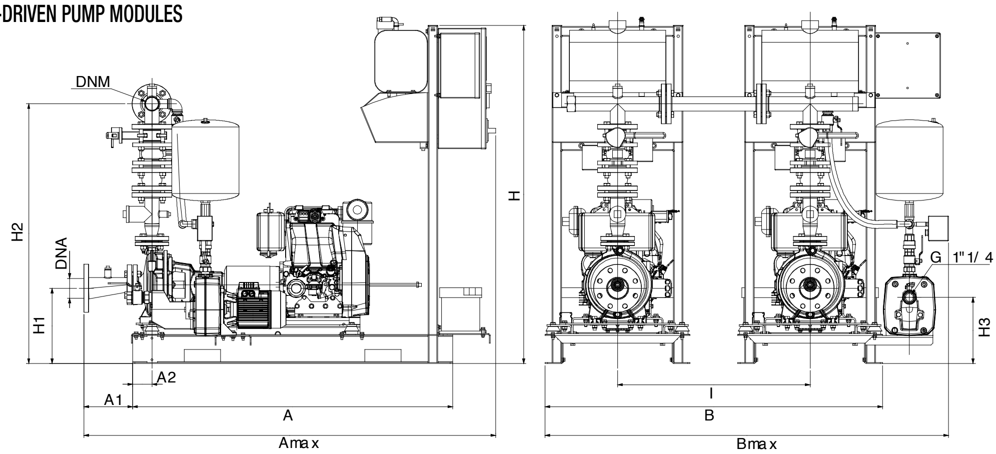
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



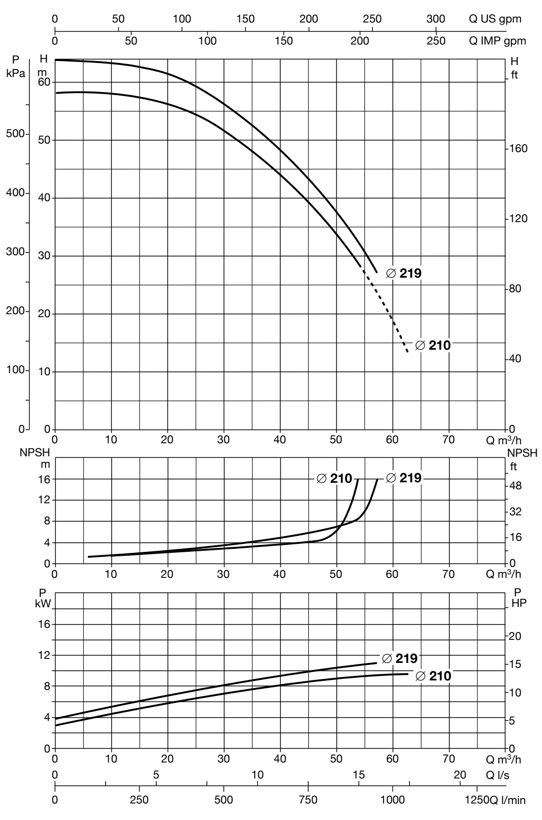
2 DIESEL ENGINE-DRIVEN PUMP MODULES



MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 32-200/180-190-200 - DIESEL ENGINE DRIVEN PUMP MODULE	1330	202	81	1711	602	-	876	1505	330	1179	274	-	80	2"	356	396
1 KDN 32-200/180-190-200 - ELECTRIC PUMP MODULE	1000	223	60	1223	462	340	723	1401	227	1087	213	-	80	2"	351	397
1 KDN 32-200/180-190-200 - 2 ELECTRIC PUMP MODULES	1000	223	60	1223	1324	-	1585	1401	227	1087	213	800	80	2"	702	748
1 KDN 32-200/180-190-200 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1330	202	81	1711	1604	-	1878	1505	330	1179	274	800	80	2"	707	753
1 KDN 32-200/180-190-200 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1330	202	81	1711	1604	-	1878	1505	330	1179	274	800	80	2"	712	752

1 KDN 32-200/210-219 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 32-200/210 11	3x400 V ~	JET 251 T	11	1,85	19,4	KDN 32 EN 12845
1 KDN 32-200/219 11	3x400 V ~	JET 251 T	11	1,85	19,4	KDN 32 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

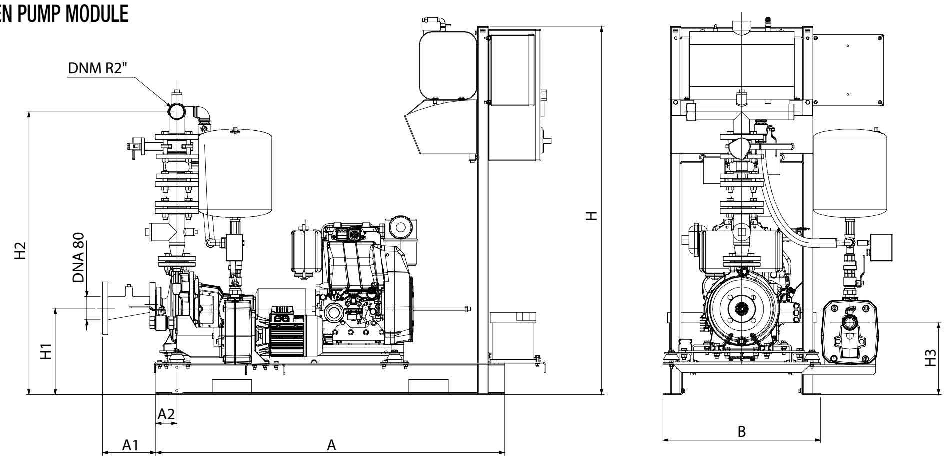
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 32-200/210 11	3x230-400 V ~	JET 251 T	11	1,85	KDN 32 EN 12845	0,22 m²
1 KDN 32-200/219 MD	3x230-400 V ~	JET 251 T	11	1,85	KDN 32 EN 12845	0,22 m²

* Jockey pump on request.

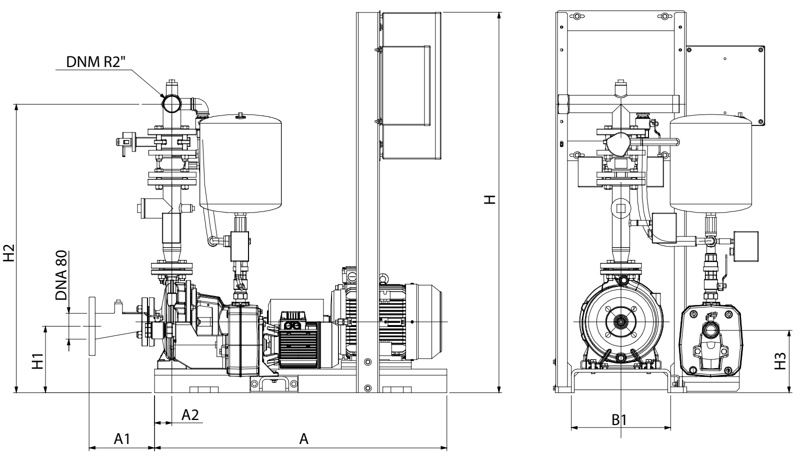
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE

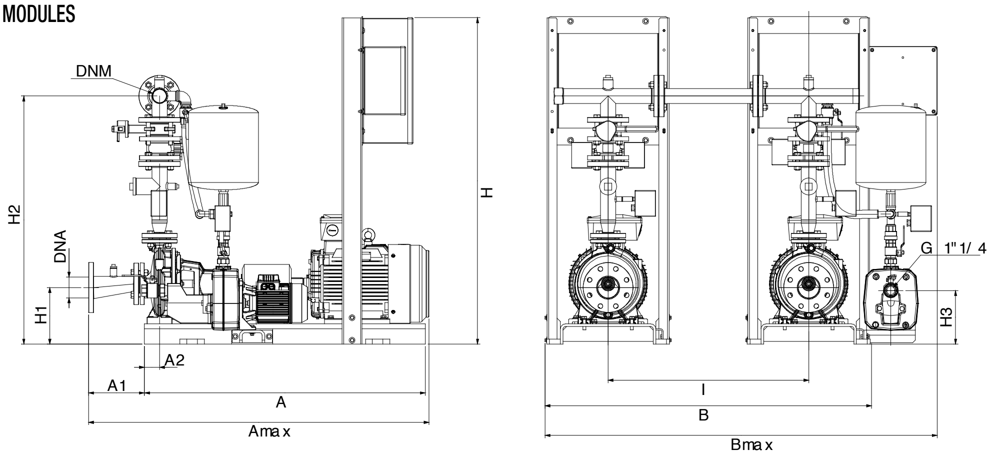


ELECTRIC PUMP MODULE

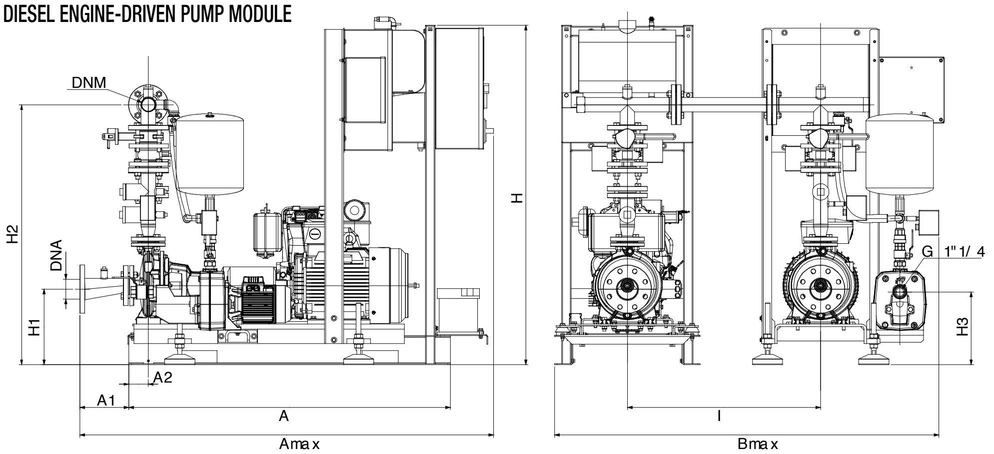


1 KDN 32-200/210-219 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

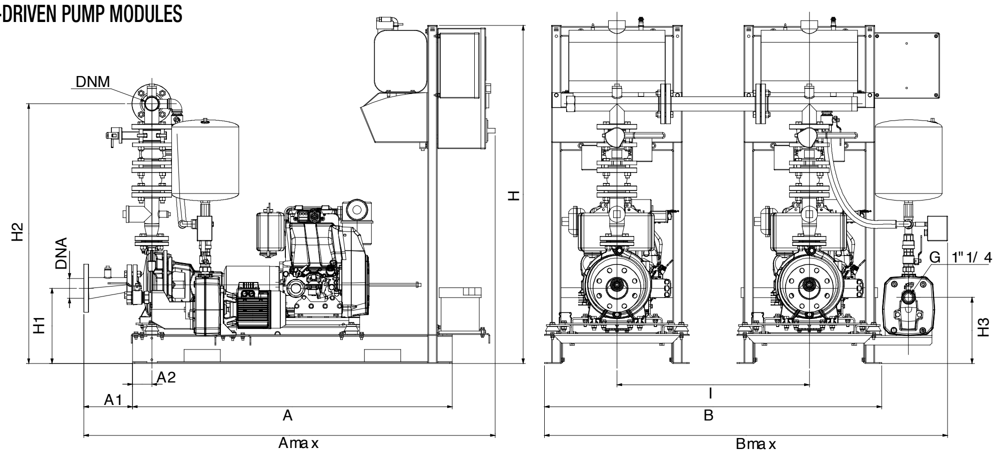
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



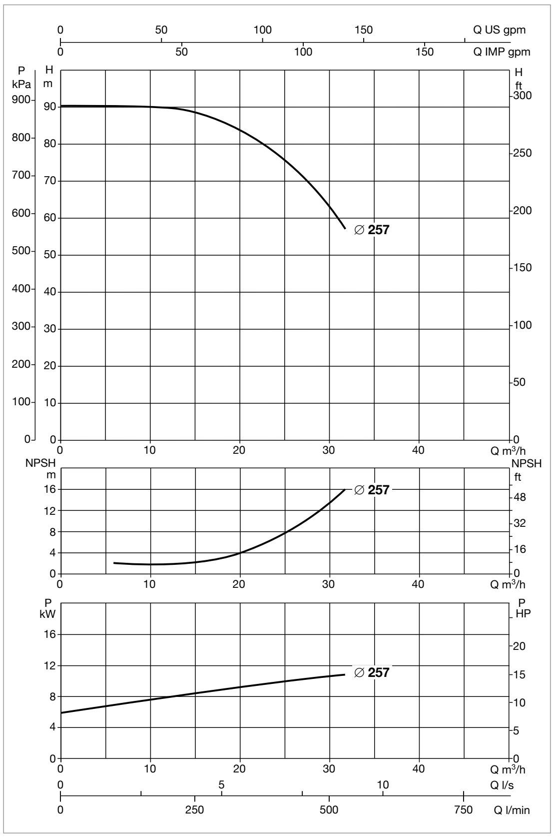
2 DIESEL ENGINE-DRIVEN PUMP MODULES



MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 32-200/210-219 - DIESEL ENGINE DRIVEN PUMP MODULE	1330	203	81	1711	602	-	876	1505	330	1179	274	-	80	2"	356	396
1 KDN 32-200/210-219 - ELECTRIC PUMP MODULE	1120	223	60	1358	502	380	763	1401	225	1087	213	-	80	2"	361	400
1 KDN 32-200/210-219 - 2 ELECTRIC PUMP MODULES	1120	223	60	1358	1404	-	1665	1401	225	1087	213	800	80	2"	722	761
1 KDN 32-200/210-219 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1330	203	81	1711	1604	-	1878	1505	330	1179	274	800	80	2"	717	756
1 KDN 32-200/210-219 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1330	203	81	1711	1604	-	1878	1505	330	1179	274	800	80	2"	712	752

1 KDN 32-250/257 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 32-250/257 15	3x400 V ~	KVCX 65/80 T	15	2,2	26,5	KDN 32 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

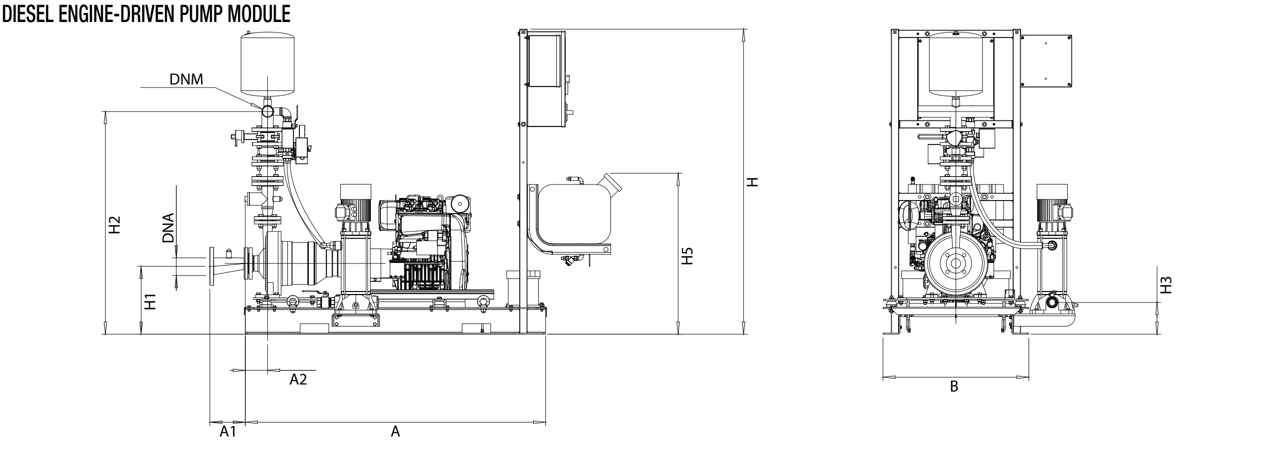
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 32-250/257 15	3x230-400 V ~	KVCX 65/80 T	15	2,2	KDN 32 EN 12845	0,22 m²

* Jockey pump on request.

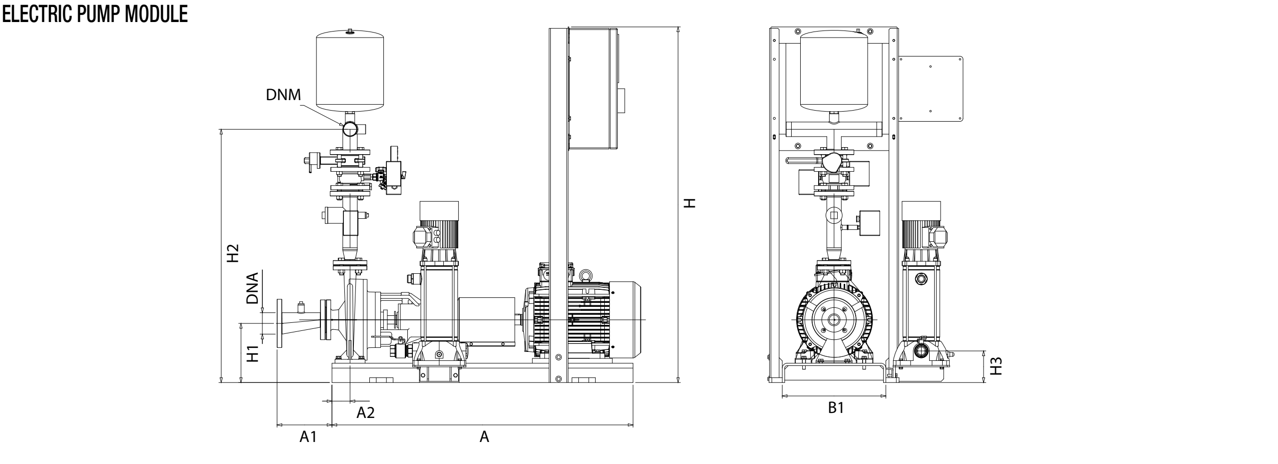
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



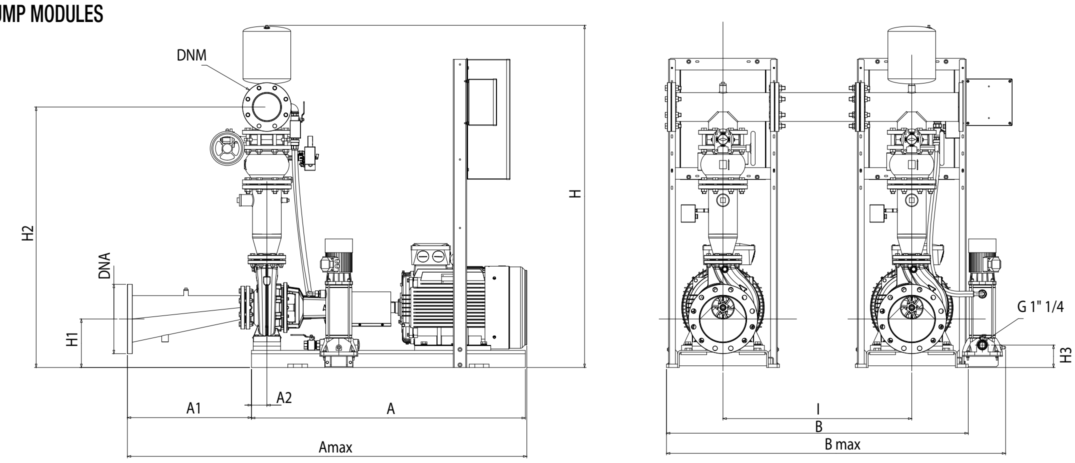
ELECTRIC PUMP MODULE



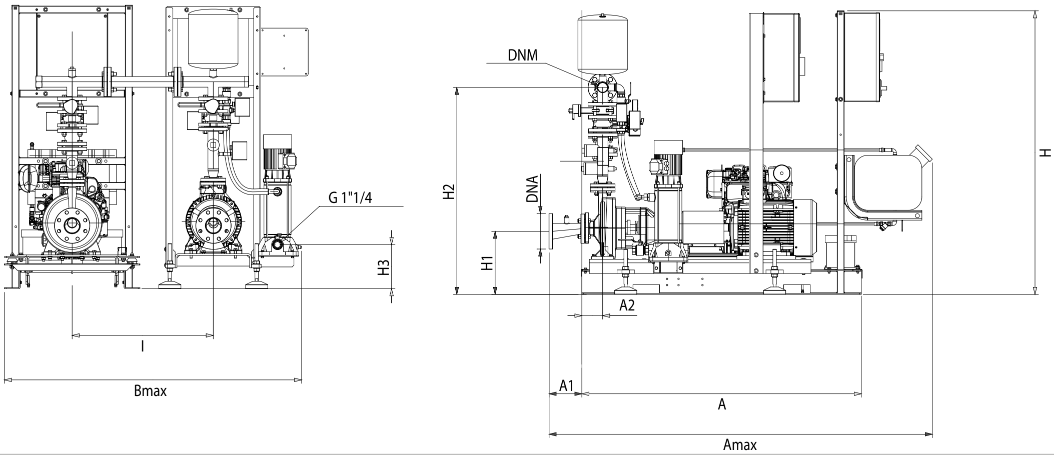
The dashed components are not included in the standard supply.

1 KDN 32-250/257- UNI EN 12845 FIRE-FIGHTING PUMP SETS

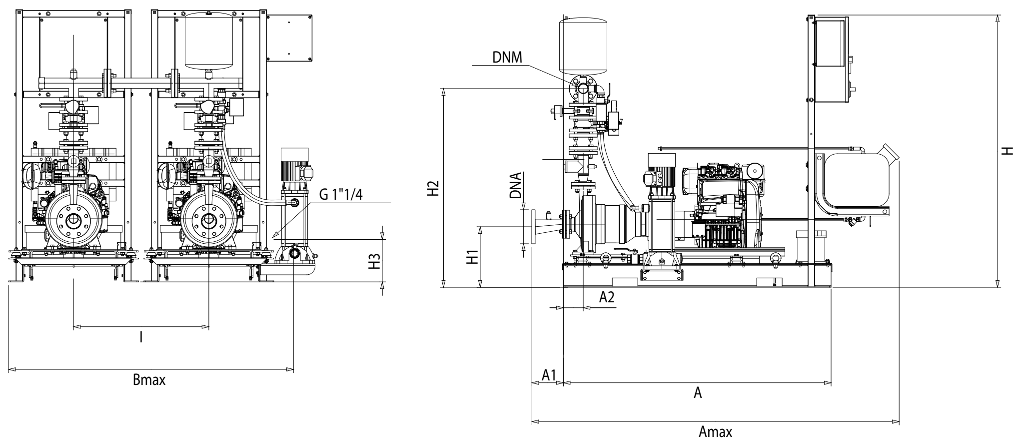
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

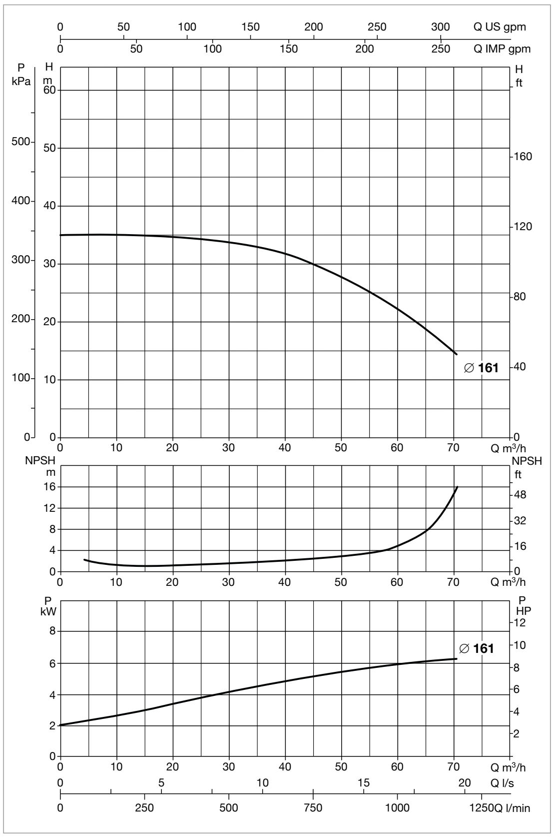


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 32-250/257 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	186	117	2163	765	-	1024	1700	356	1268	167	844	-	80	2"	367	400
1 KDN 32-250/257 - ELECTRIC PUMP MODULE	1250	228	75	1511	552	430	804	1574	245	1150	131	-	-	80	2"	390	414
1 KDN 32-250/257 - 2 ELECTRIC PUMP MODULES	1250	228	75	1511	1504	-	1756	1574	245	1150	131	-	800	80	2"	780	804
1 KDN 32-250/257 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	186	117	2163	-	-	2189	1700	356	1268	167	844	800	80	2"	757	781
1 KDN 32-250/257 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	186	117	2163	-	-	2189	1700	356	1268	167	844	800	80	2"	734	767

1 KDN 40-160/161 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 40-160/161 7,5	3x400 V ~	JET 251 T	7,5	1,85	13,4	KDN 40 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

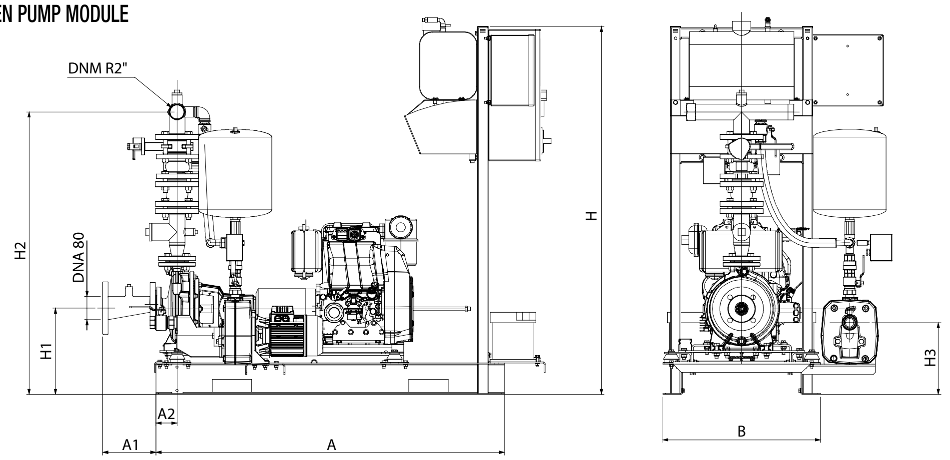
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 40-160/161 MD	3x230-400 V ~	JET 251 T	7,1	1,85	KDN 40 EN 12845	0,22 m^2

* Jockey pump on request.

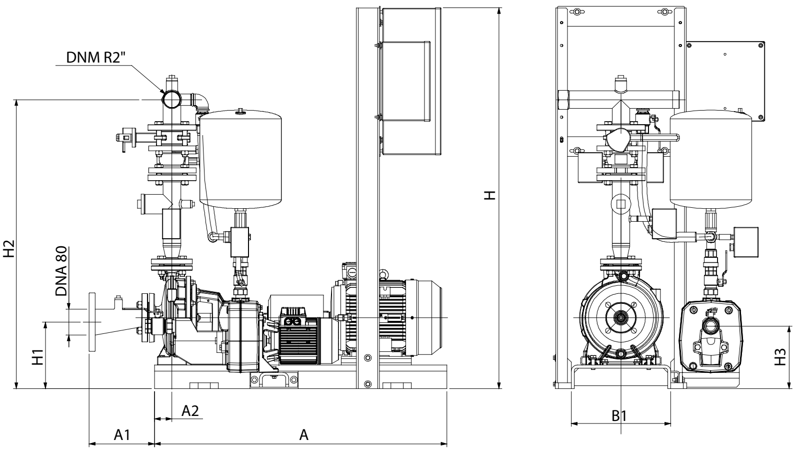
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE

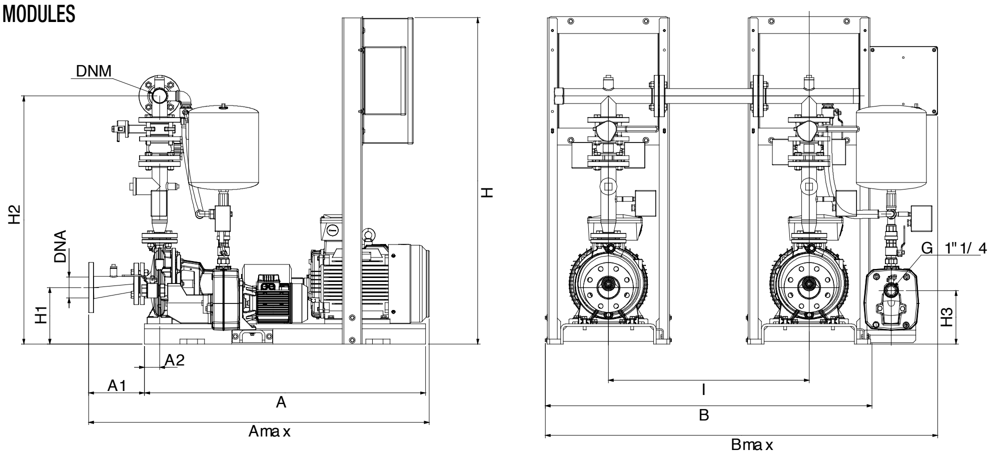


ELECTRIC PUMP MODULE

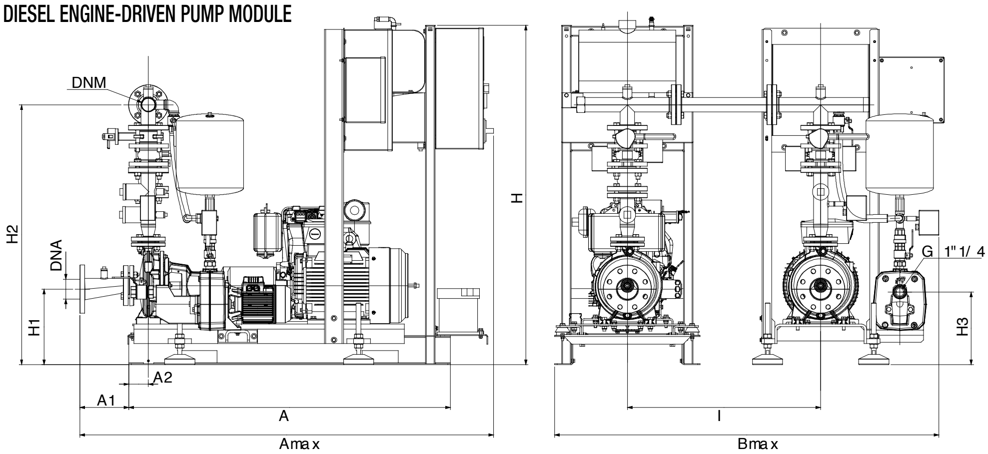


1 KDN 40-160/161 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

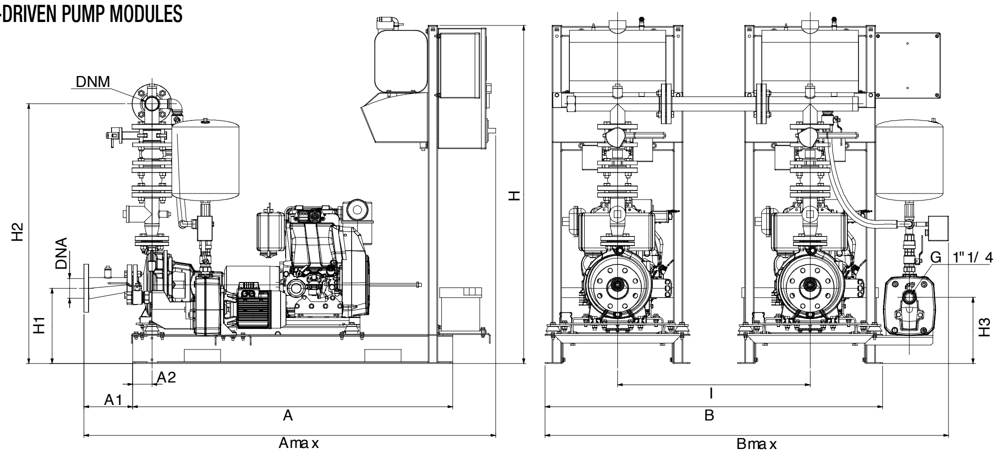
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



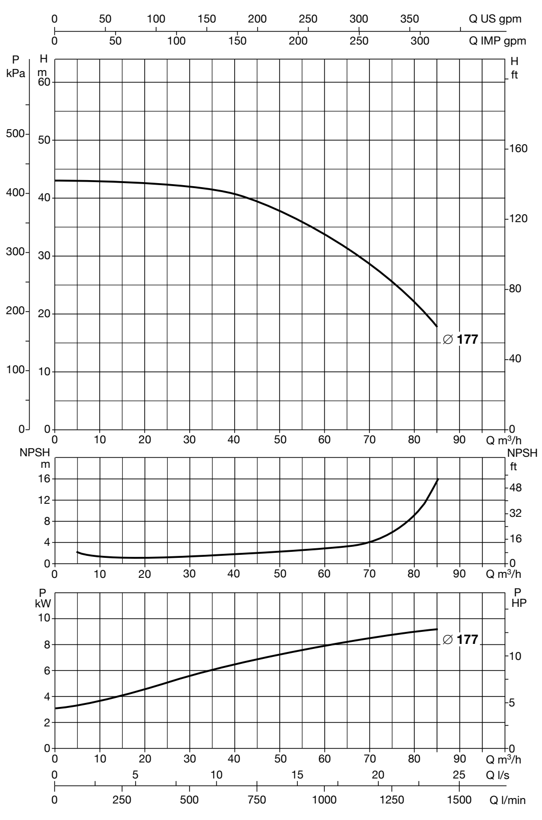
2 DIESEL ENGINE-DRIVEN PUMP MODULES



MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 40-160/161 - DIESEL ENGINE DRIVEN PUMP MODULE	1330	207	81	1715	602	-	876	1525	280	1219	274	-	100	2" $^1/_2$	395	435
1 KDN 40-160/161 - ELECTRIC PUMP MODULE	1000	237	60	1237	462	340	723	1421	167	1124	213	-	100	2" $^1/_2$	275	310
1 KDN 40-160/161 - 2 ELECTRIC PUMP MODULES	1000	240	60	1240	1324	-	1585	1421	167	1124	213	800	100	2" $^1/_2$	550	585
1 KDN 40-160/161 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1330	207	81	1715	1604	-	1878	1525	280	1219	274	800	100	2" $^1/_2$	670	705
1 KDN 40-160/161 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1330	207	81	1715	1604	-	1878	1525	280	1219	274	800	100	2" $^1/_2$	790	830

1 KDN 40-160/177 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 40-160/177 11	3x400 V ~	JET 251 T	11	1,85	19,4	KDN 40 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

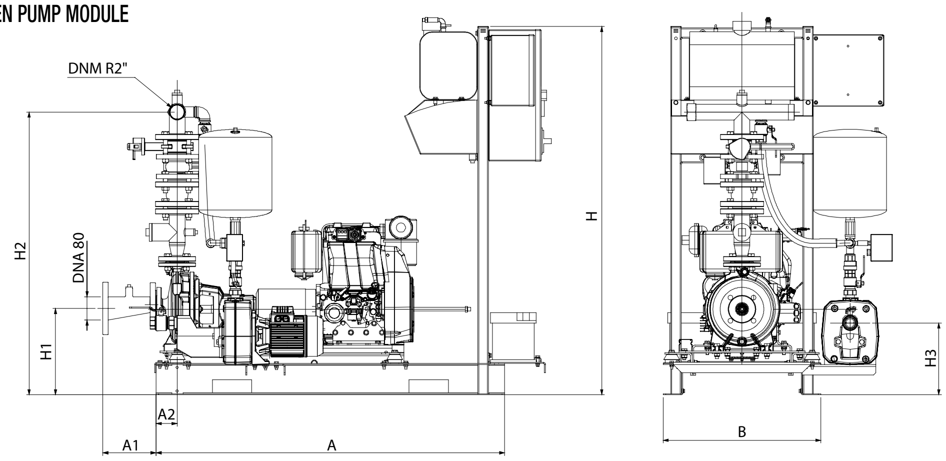
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 40-160/177 MD	3x230-400 V ~	JET 251 T	11	1,85	KDN 40 EN 12845	0,22 m²

* Jockey pump on request.

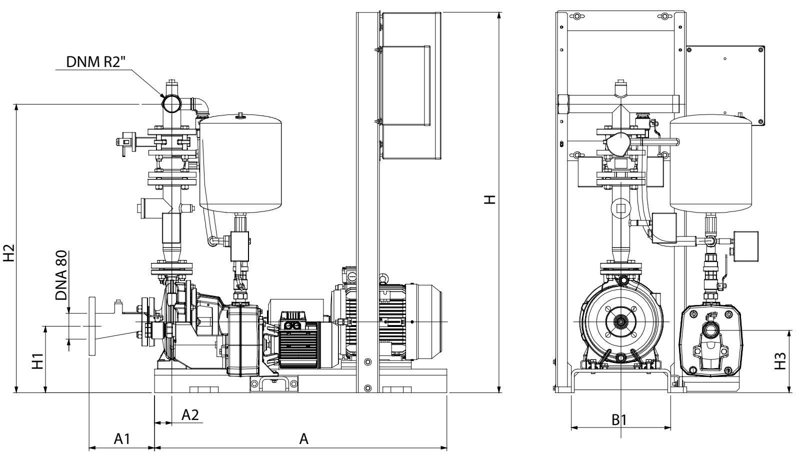
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE

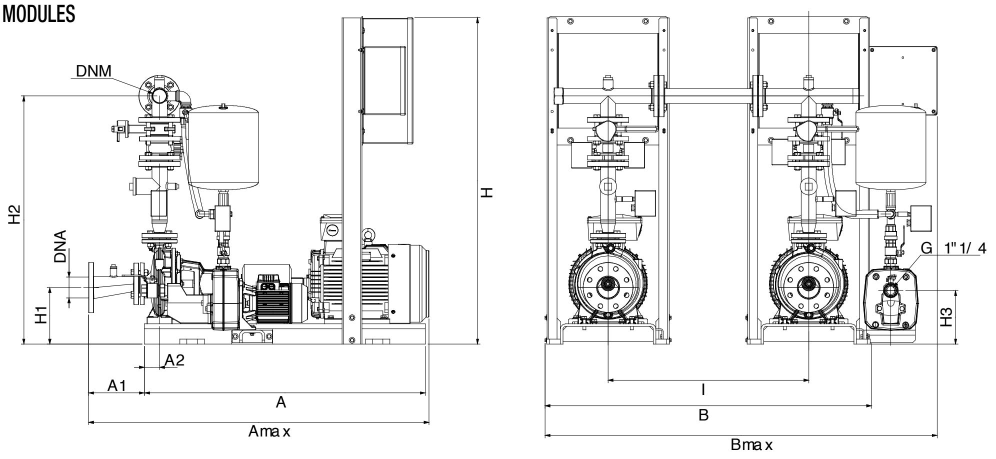


ELECTRIC PUMP MODULE

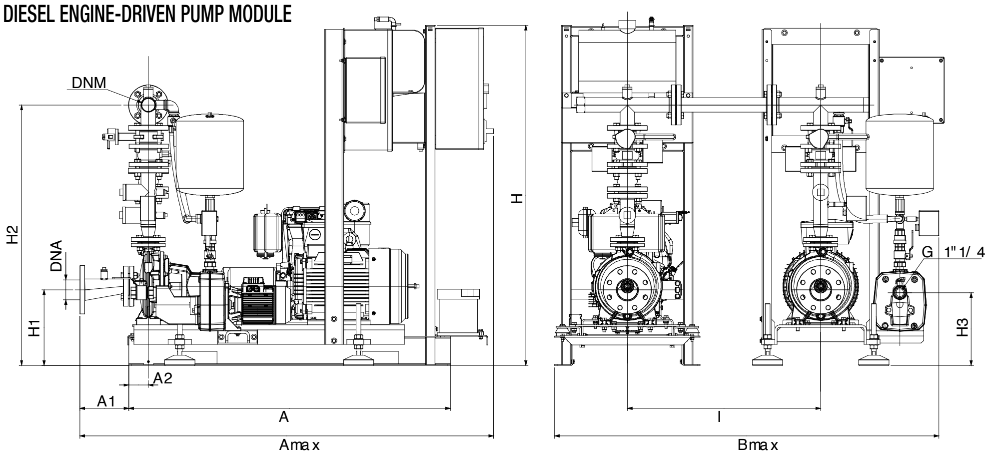


1 KDN 40-160/177 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

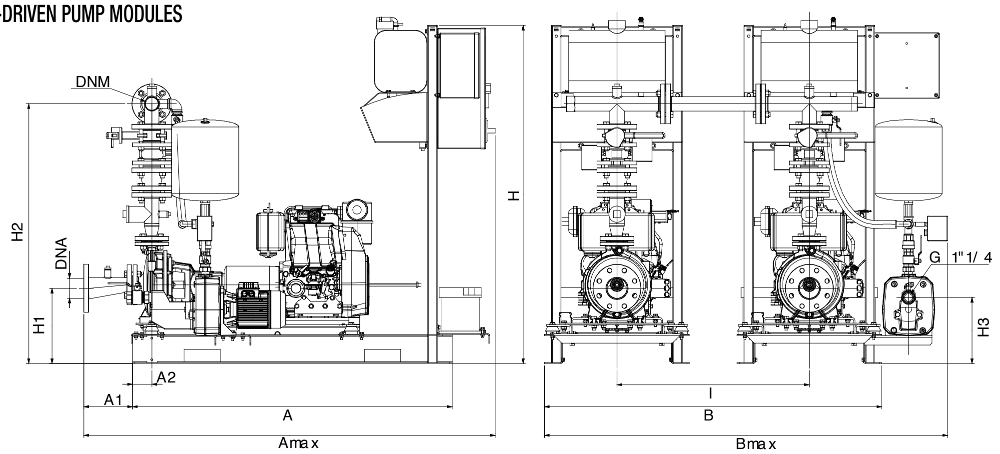
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



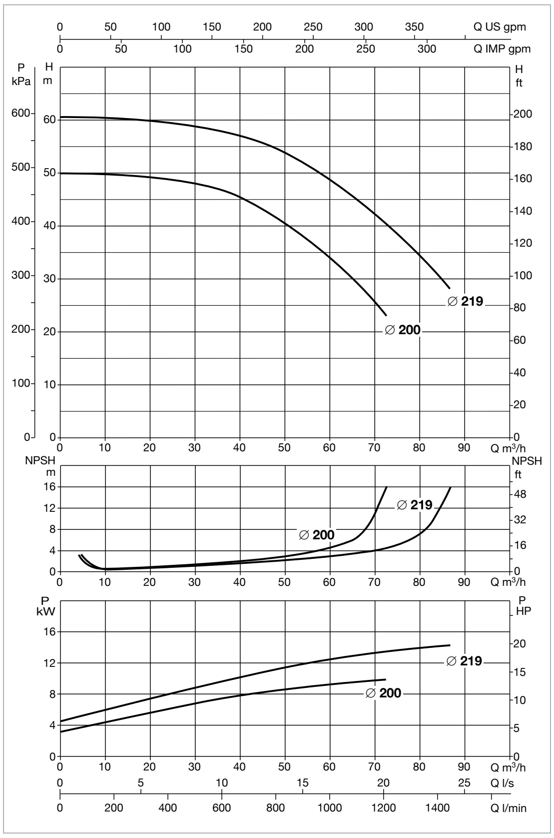
2 DIESEL ENGINE-DRIVEN PUMP MODULES



MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 40-160/177 - DIESEL ENGINE DRIVEN PUMP MODULE	1330	207	81	1715	602	-	876	1525	280	1219	274	-	100	2" 1/2	405	445
1 KDN 40-160/177 - ELECTRIC PUMP MODULE	1120	247	60	1362	502	380	763	1421	223	1157	213	-	100	2" 1/2	403	415
1 KDN 40-160/177 - 2 ELECTRIC PUMP MODULES	1120	247	60	1382	1404	-	1665	1421	223	1157	213	800	100	2" 1/2	806	818
1 KDN 40-160/177 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1330	207	81	1715	1604	-	1878	1525	280	1219	274	800	100	2" 1/2	808	820
1 KDN 40-160/177 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1330	207	81	1715	1604	-	1878	1525	280	1219	274	800	100	2" 1/2	810	850

1 KDN 40-200/200-219 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 40-200/200 11	3x400 V ~	JET 251 T	11	1,85	13,4	KDN 40 EN 12845
1 KDN 40-200/219 15	3x400 V ~	JET 251 T	15	1,85	26,5	KDN 40 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

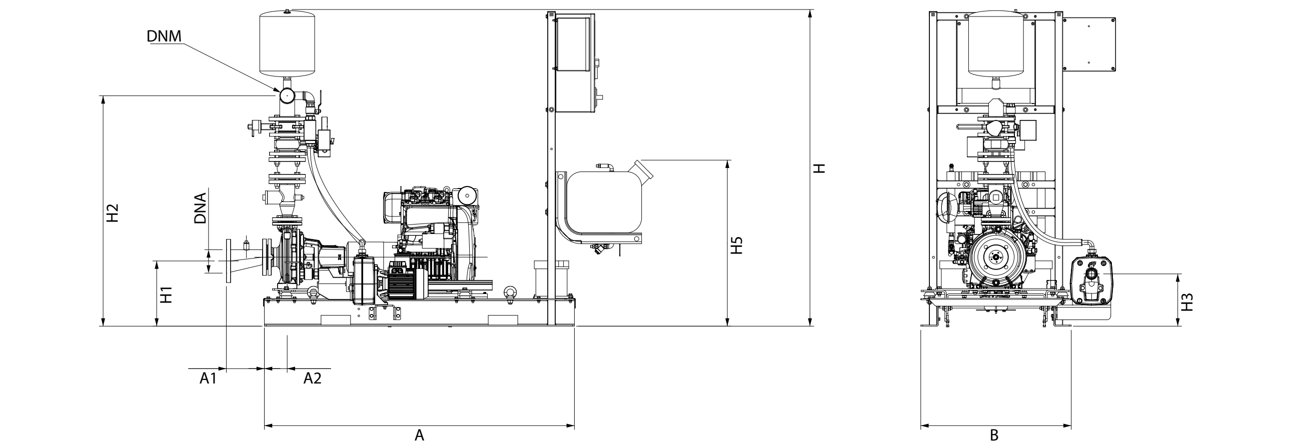
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 40-200/200 MD	3x230-400 V ~	JET 251 T	11	1,85	KDN 40 EN 12845	0,22 m^2
1 KDN 40-200/219 MD	3x230-400 V ~	JET 251 T	15	1,85	KDN 40 EN 12845	0,22 m^2

* Jockey pump on request.

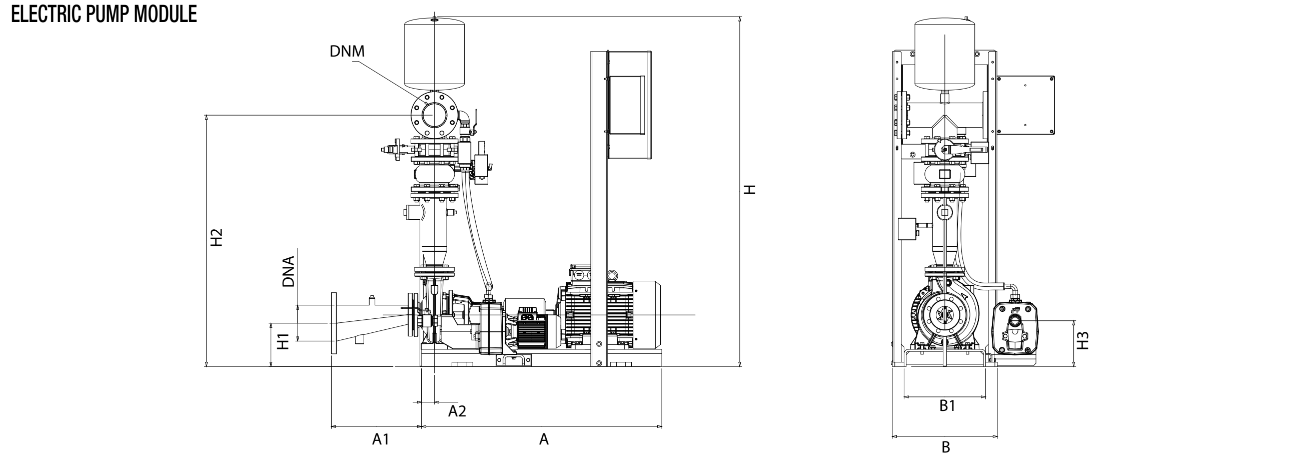
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



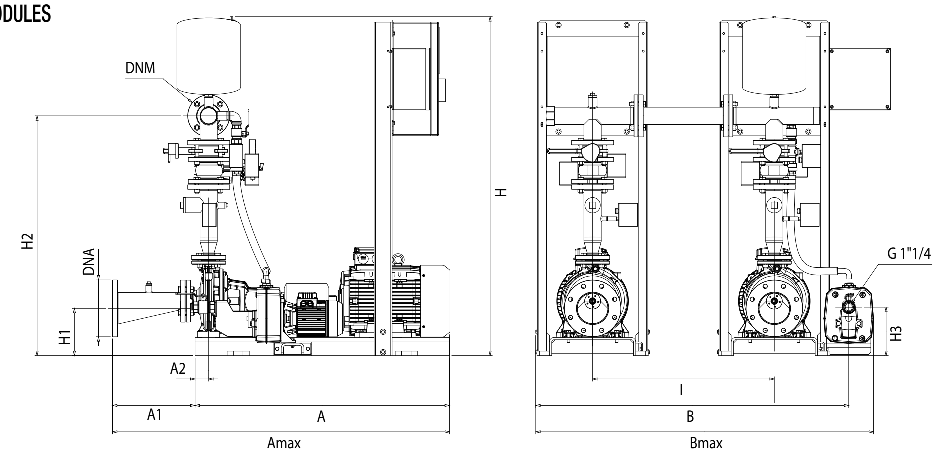
ELECTRIC PUMP MODULE



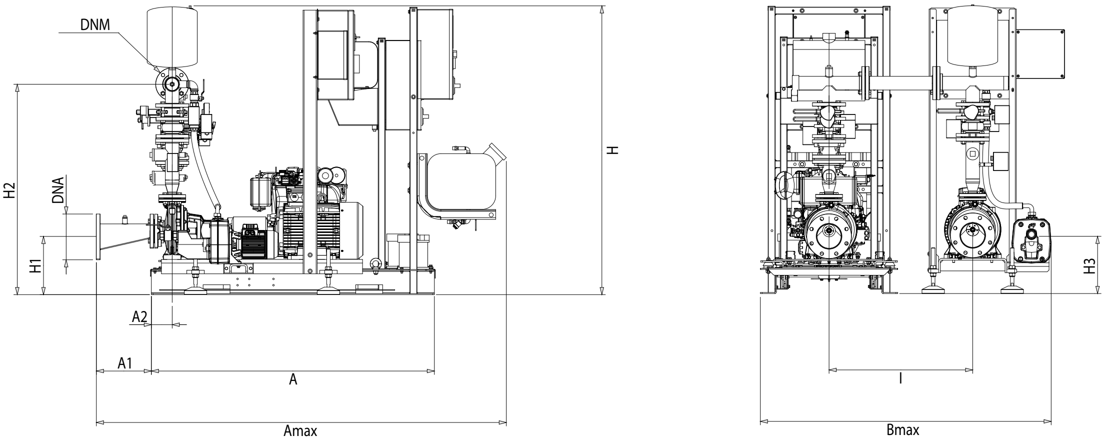
The dashed components are not included in the standard supply.

1 KDN 40-200/200-219 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

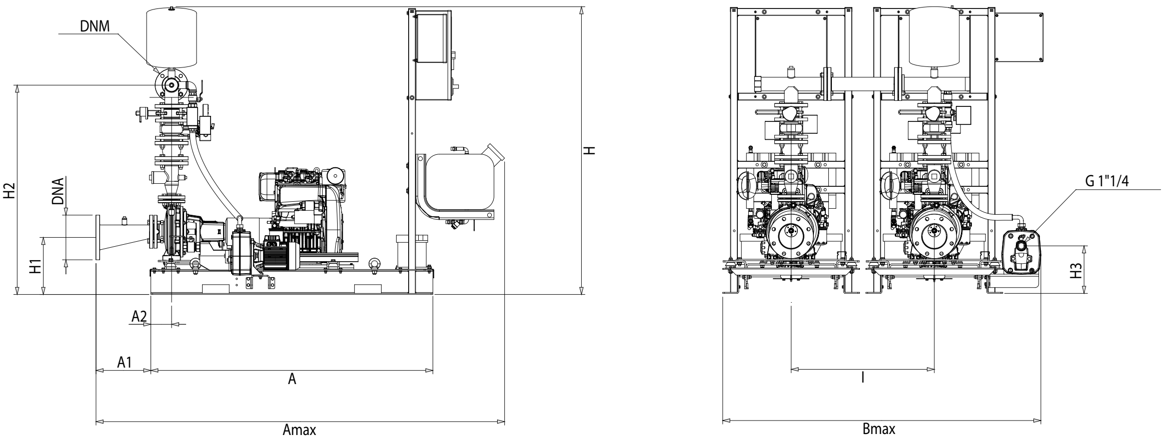
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

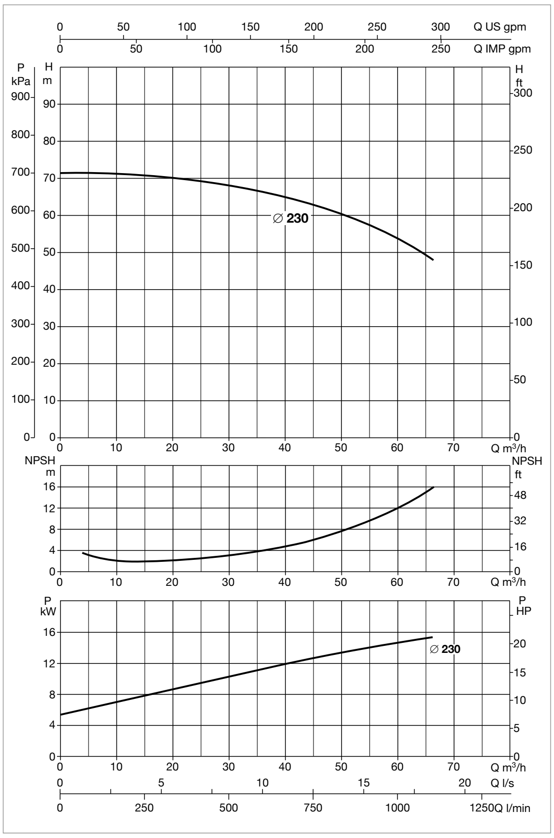


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 40-200/200-219 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	193	116	2170	765	-	991	1730	322	1291	266	844	-	100	2" $^1/_2$	443	475
1 KDN 40-200/200-219 - ELECTRIC PUMP MODULE	1120	247	60	1382	502	430	757	1588	221	1175	213	-	-	100	2" $^1/_2$	425	455
1 KDN 40-200/200-219 - 2 ELECTRIC PUMP MODULES	1120	247	60	1382	1404	-	1659	1588	221	1175	213	-	800	100	2" $^1/_2$	850	880
1 KDN 40-200/200-219 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	193	116	2170	1930	-	2156	1730	322	1291	266	844	800	100	2" $^1/_2$	868	898
1 KDN 40-200/200-219 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	193	116	2170	1930	-	2156	1730	322	1291	266	844	800	100	2" $^1/_2$	886	918

1 KDN 40-250/230 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 40-250/230 15	3x400 V ~	JET 251 T	15	1,85	26,5	KDN 40 EN 12845

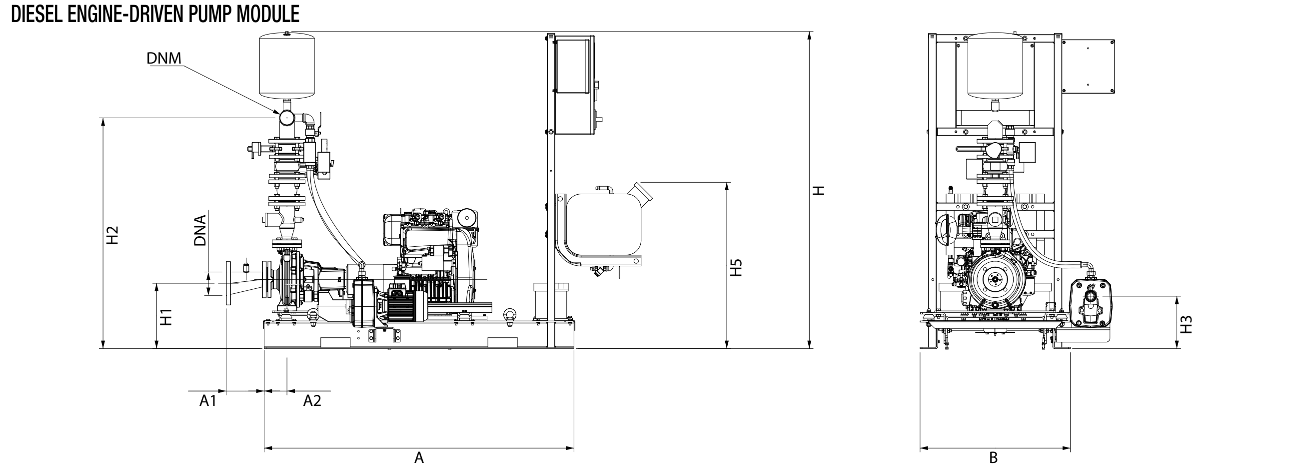
KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

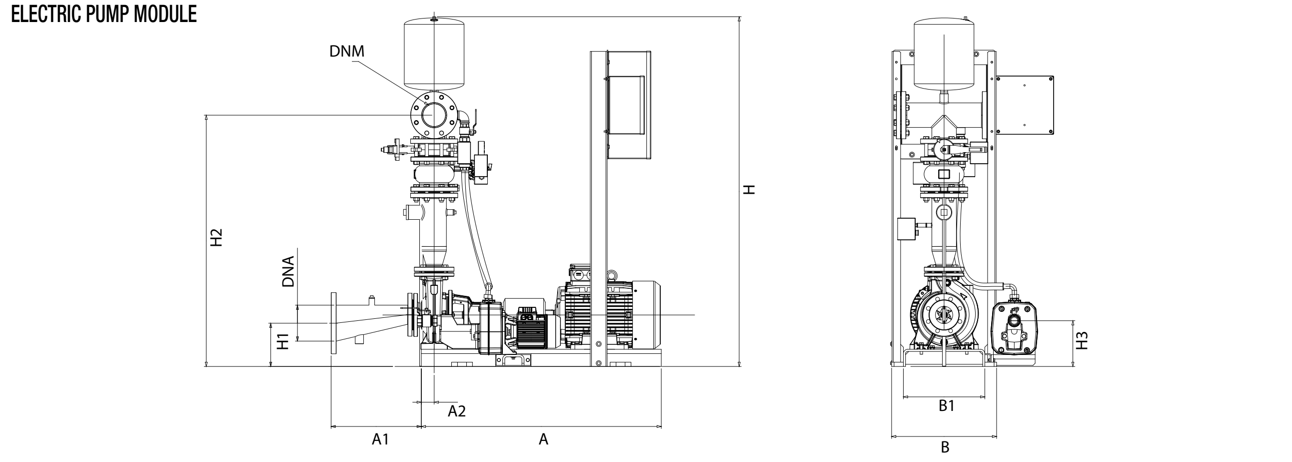
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 40-250/230 MD	3x230-400 V ~	JET 251 T	19	1,85	KDN 40 EN 12845	0,22 m²

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

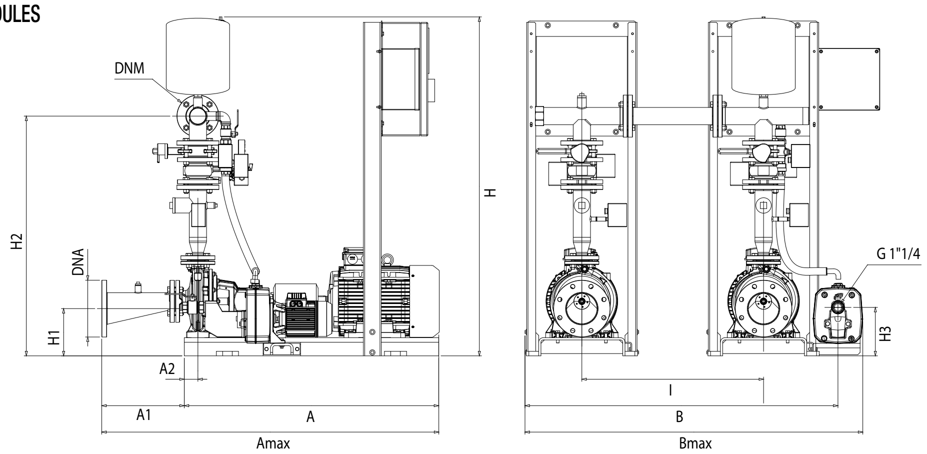




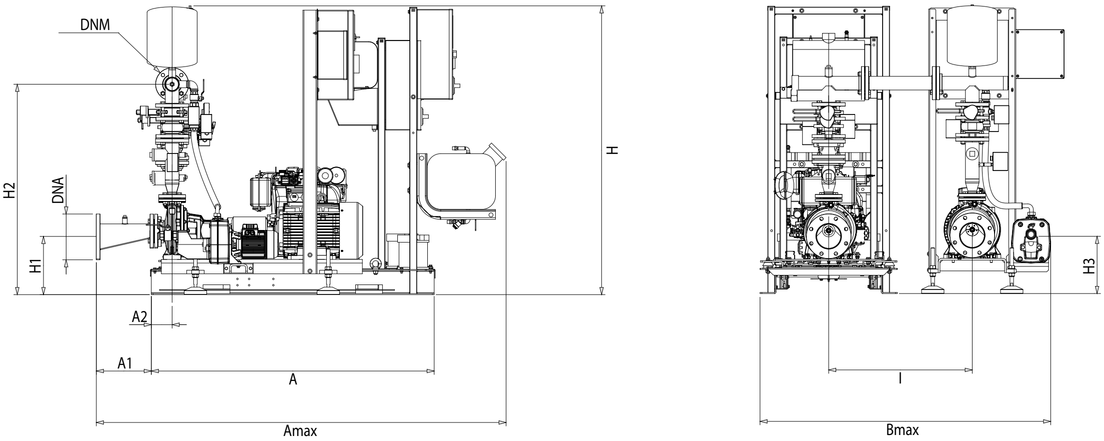
The dashed components are not included in the standard supply.

1 KDN 40-250/230 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

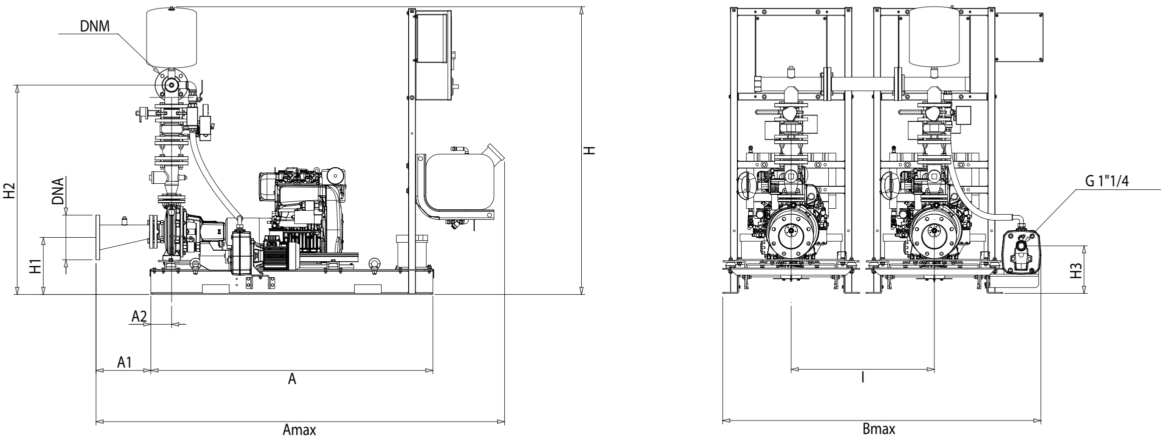
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

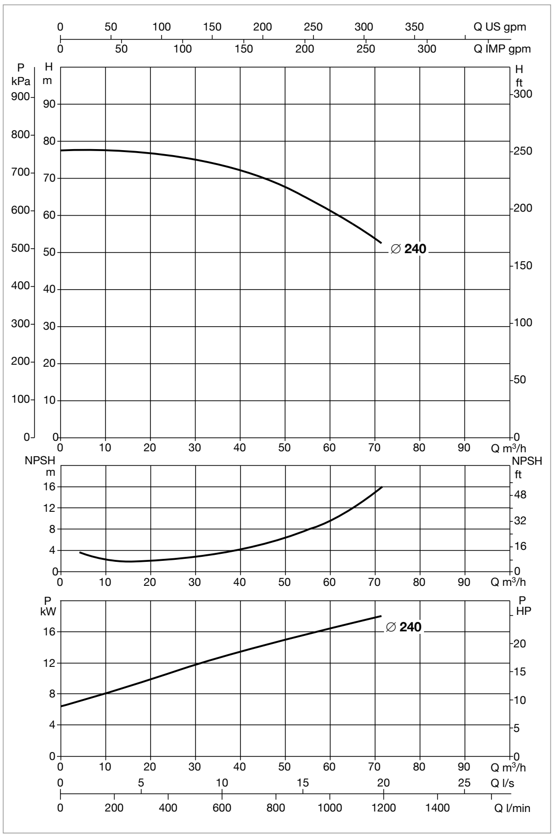


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 40-250/230 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	193	116	2170	978	-	991	1795	352	1356	266	844	-	100	2" $^1/_2$	502	558
1 KDN 40-250/230 -ELECTRIC PUMP MODULE	1250	232	75	1494	542	430	812	1675	241	1240	213	-	-	100	2" $^1/_2$	447	477
1 KDN 40-250/230 - 2 ELECTRIC PUMP MODULES	1250	232	75	1494	1484	-	1754	1675	241	1240	213	-	800	100	2" $^1/_2$	894	924
1 KDN 40-250/230 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	193	116	2170	2143	-	2369	1795	352	1356	266	844	800	100	2" $^1/_2$	949	979
1 KDN 40-250/230 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	193	116	2170	2143	-	2369	1795	352	1356	266	844	800	100	2" $^1/_2$	1004	1060

1 KDN 40-250/240 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 40-250/240 18,5	3x400 V ~	JET 251 T	18,5	1,85	32	KDN 40 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

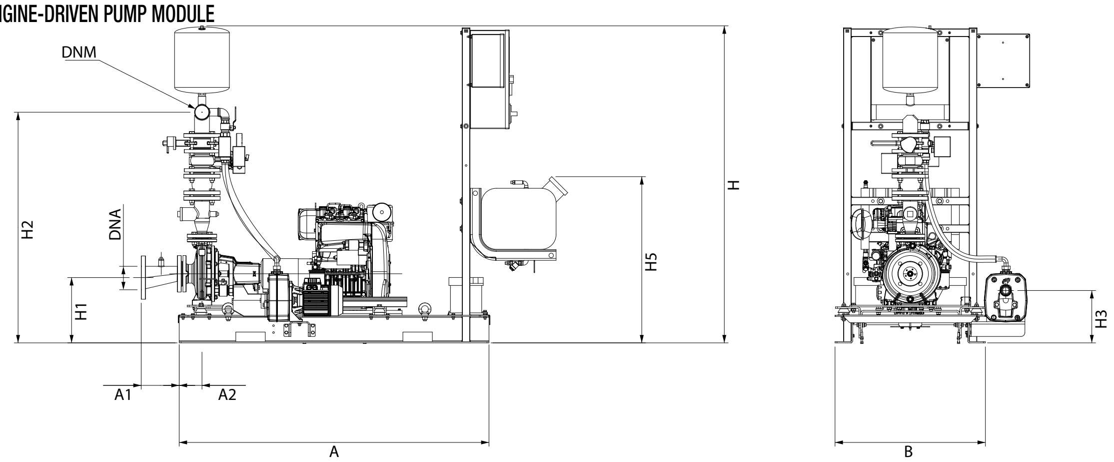
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 40-250/240 MD	3x230-400 V ~	JET 251 T	19	1,85	KDN 40 EN 12845	0,22 m²

* Jockey pump on request.

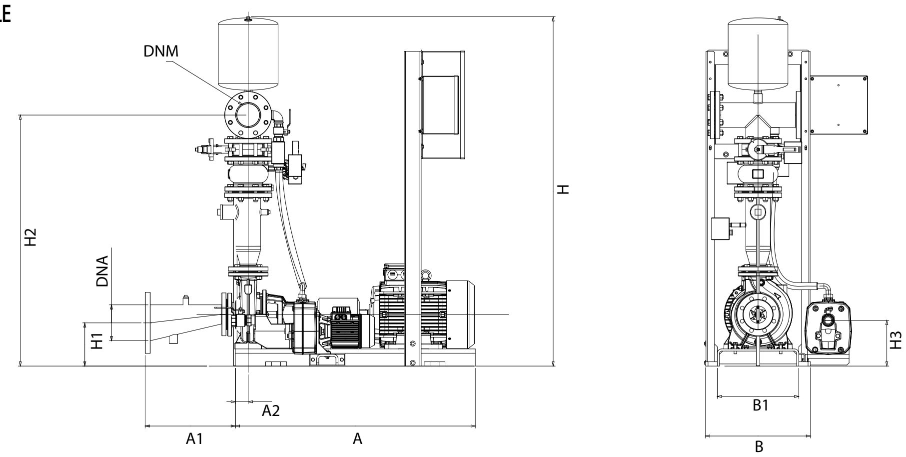
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



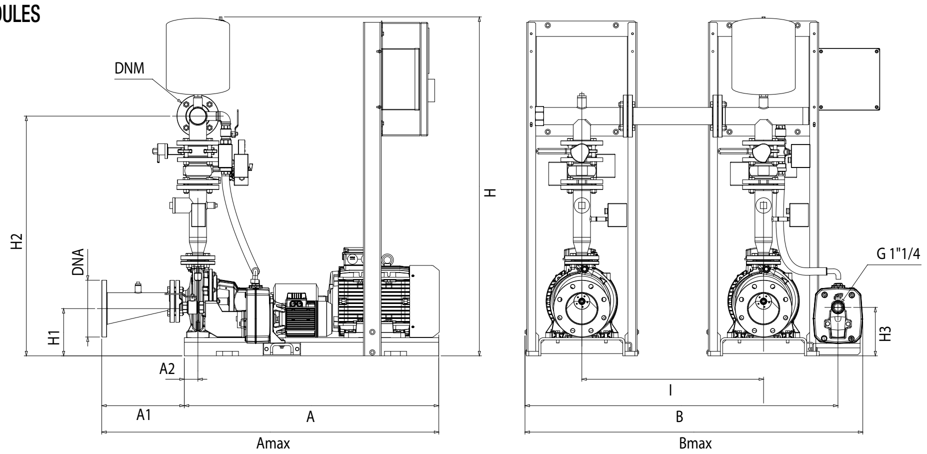
ELECTRIC PUMP MODULE



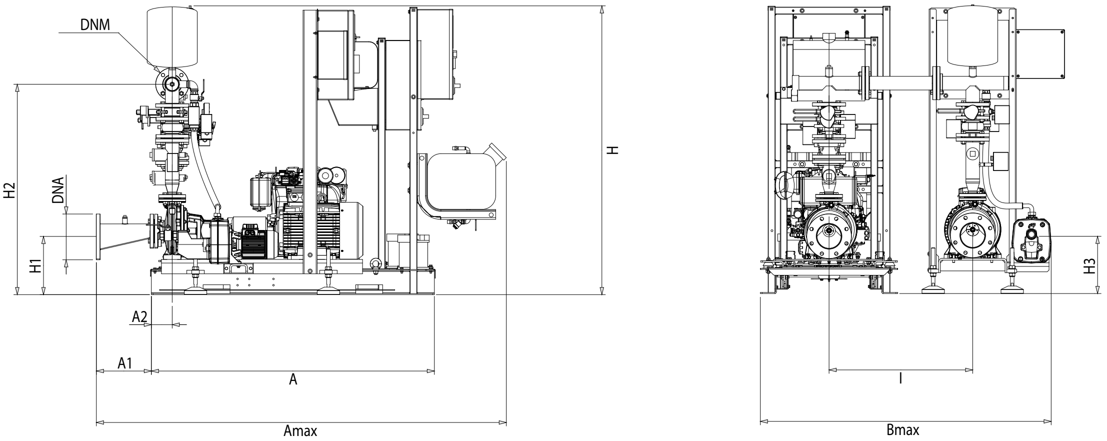
The dashed components are not included in the standard supply.

1 KDN 40-250/240 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

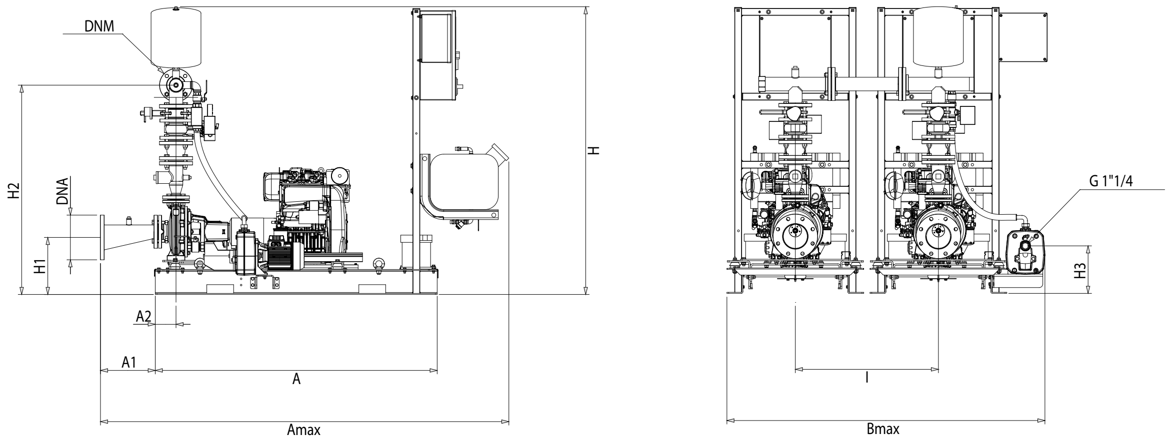
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

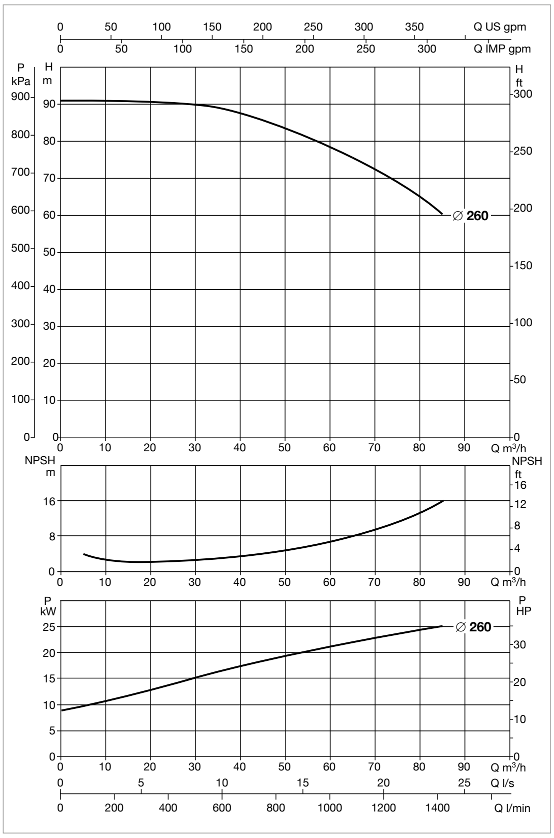


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 40-250/240 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	193	116	2170	978	-	991	1795	352	1356	266	844	-	100	2" $^1/_2$	539	570
1 KDN 40-250/240 - ELECTRIC PUMP MODULE	1250	232	75	1494	542	430	812	1682	241	1240	213	-	-	100	2" $^1/_2$	467	497
1 KDN 40-250/240 - 2 ELECTRIC PUMP MODULES	1250	232	75	1494	1484	-	1754	1682	241	1240	213	-	800	100	2" $^1/_2$	934	964
1 KDN 40-250/240 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	193	116	2170	2143	-	2369	1795	352	1356	266	844	800	100	2" $^1/_2$	1006	1036
1 KDN 40-250/240 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	193	116	2170	2143	-	2369	1795	352	1356	266	844	800	100	2" $^1/_2$	1078	1109

1 KDN 40-250/260 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 40-250/260 30	3x400 V ~	JET 251 T	30	1,85	52	KDN 40 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

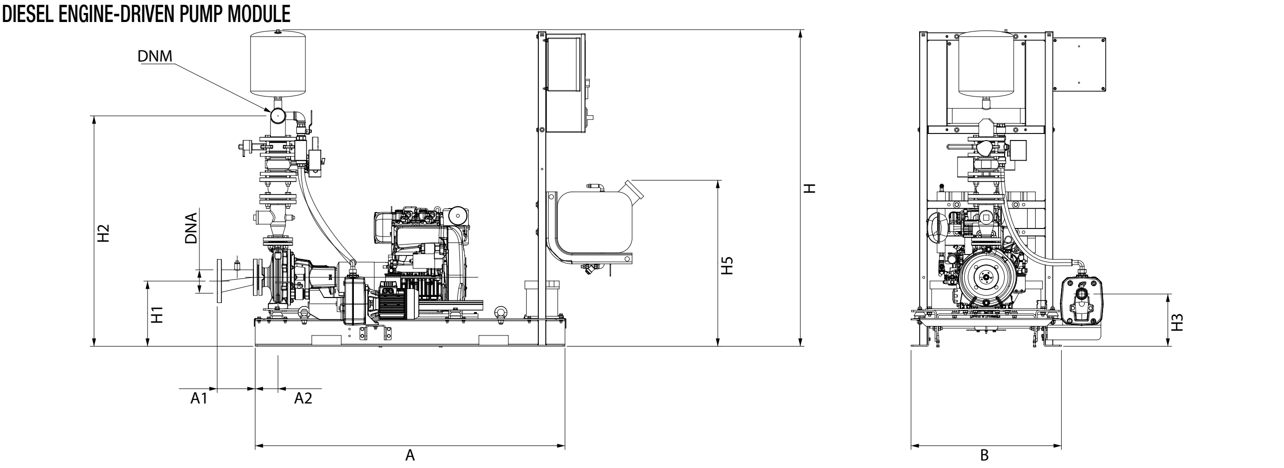
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 40-250/260 MD	3x230-400 V ~	JET 251 T	26	1,85	KDN 40 EN 12845	0,22 m²

* Jockey pump on request.

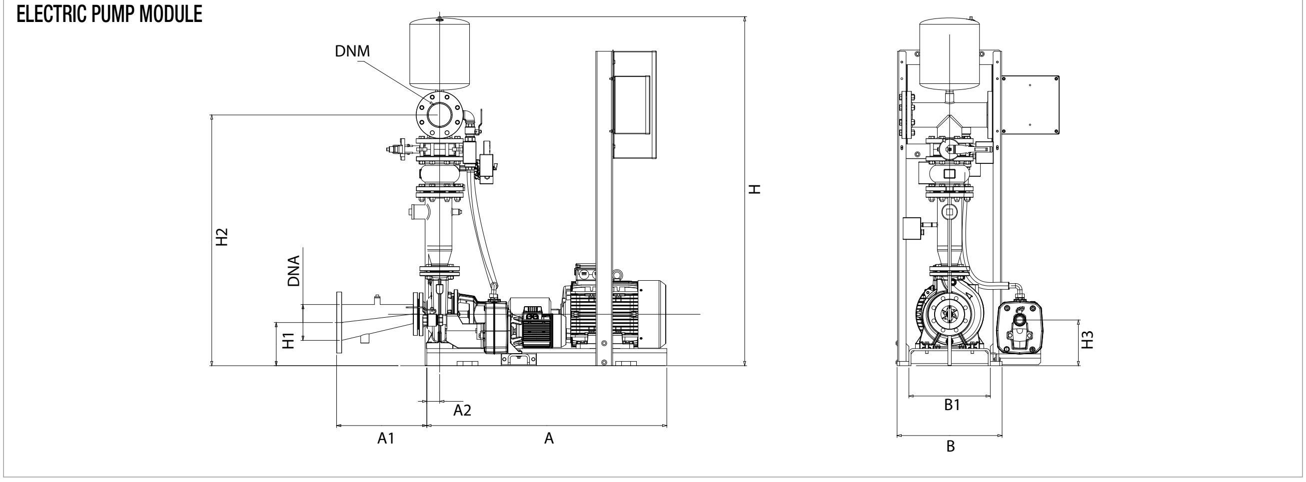
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



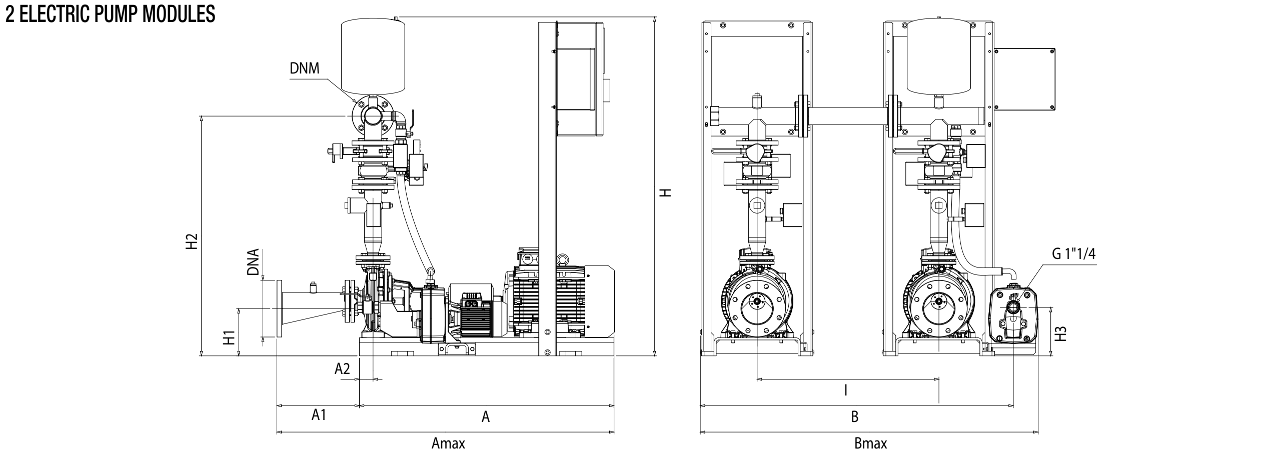
ELECTRIC PUMP MODULE



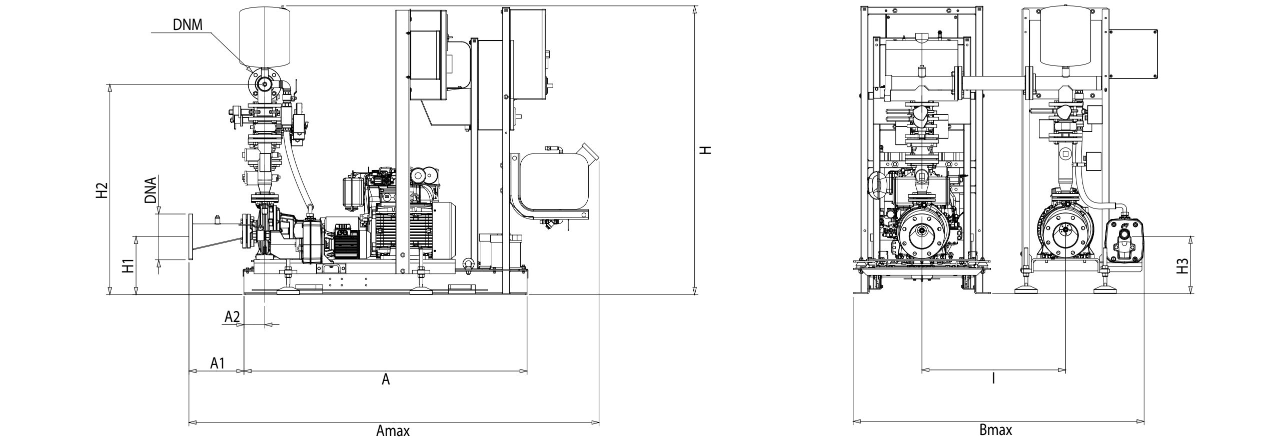
The dashed components are not included in the standard supply.

1 KDN 40-250/260 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

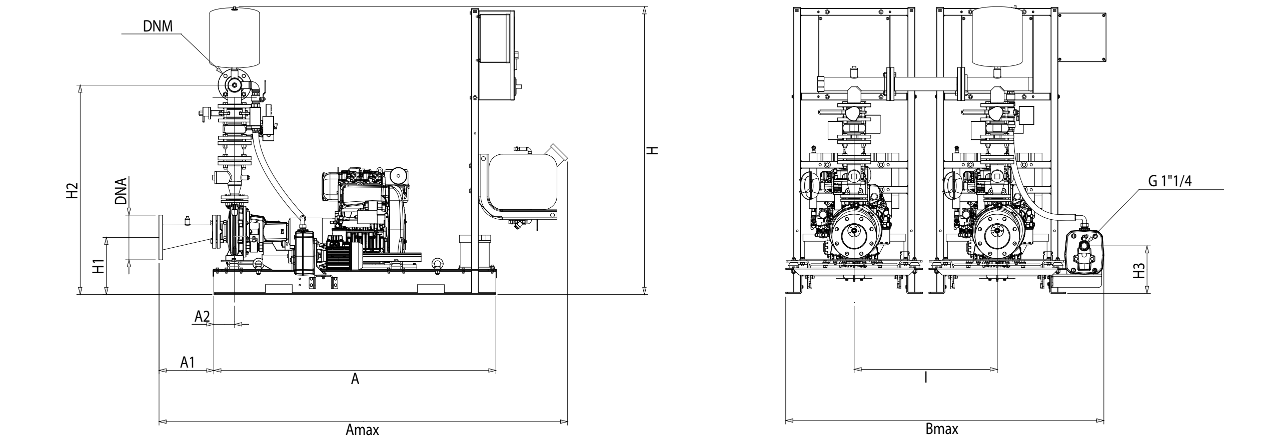
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

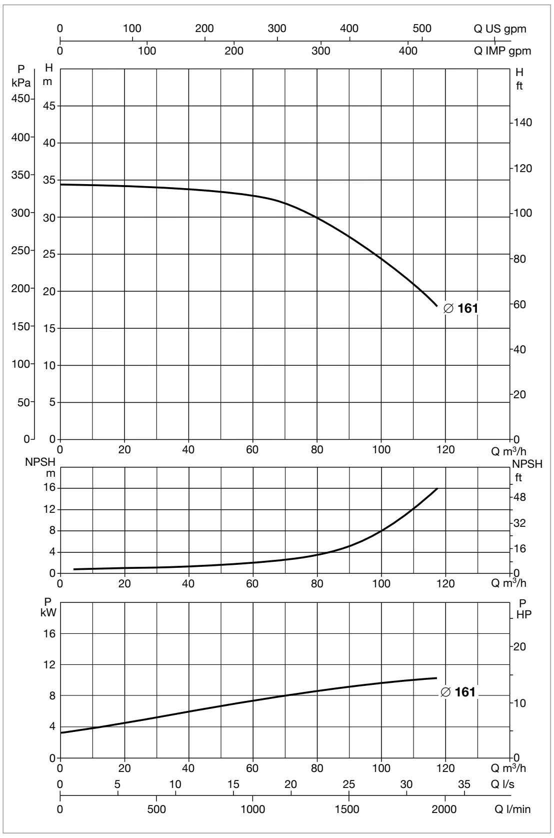


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 40-250/260 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	193	116	2170	978	-	1033	1795	352	1356	266	844	-	100	2" $^1/_2$	585	615
1 KDN 40-250/260 - ELECTRIC PUMP MODULE	1400	232	75	1632	550	480	550	1752	281	1280	213	-	-	100	2" $^1/_2$	695	695
1 KDN 40-250/260 - 2 ELECTRIC PUMP MODULES	1400	232	75	1632	1500	-	1500	1752	281	1280	213	-	800	100	2" $^1/_2$	1390	1390
1 KDN 40-250/260 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	193	116	2170	2356	-	2411	1795	352	1356	266	844	800	100	2" $^1/_2$	1280	1280
1 KDN 40-250/260 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	193	116	2170	2356	-	2411	1795	352	1356	266	844	800	100	2" $^1/_2$	1170	1200

1 KDN 50-160/161 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 50-160/161 11	3x400 V ~	JET 251 T	11	1,85	19,4	KDN 50 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

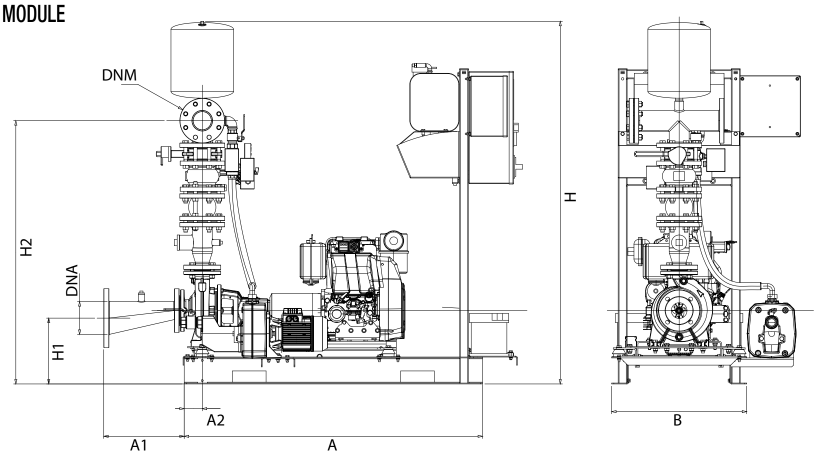
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 50-160/161 MD	3x230-400 V ~	JET 251 T	11	1,85	KDN 50 EN 12845	0,22 m²

* Jockey pump on request.

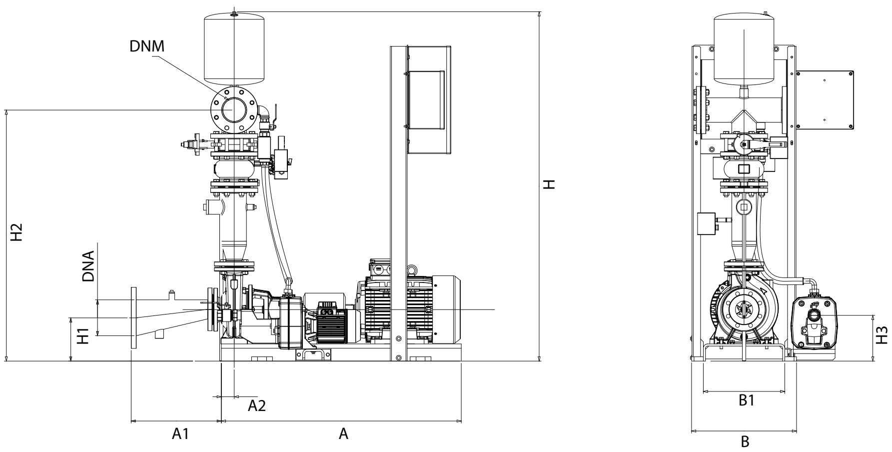
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



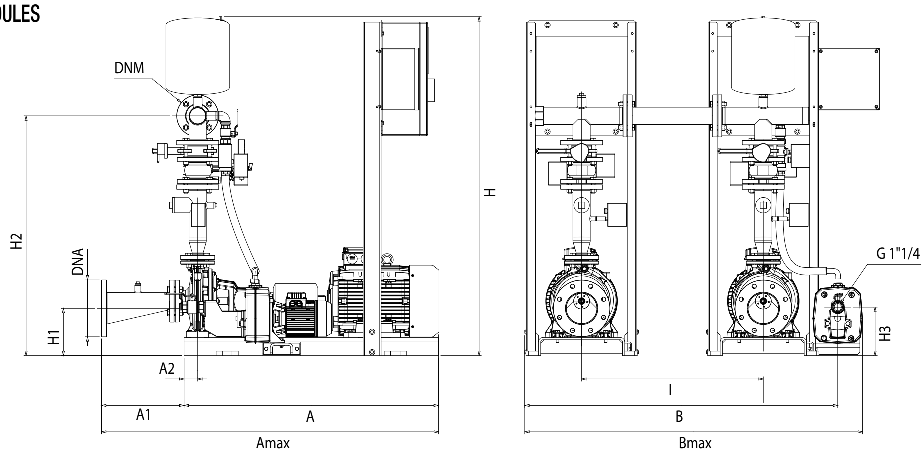
ELECTRIC PUMP MODULE



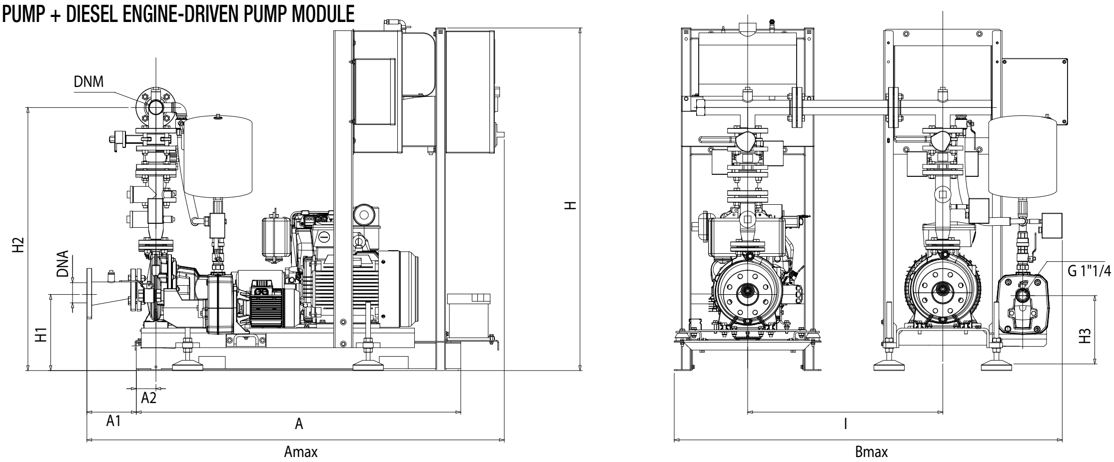
The dashed components are not included in the standard supply.

1 KDN 50-160/161 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

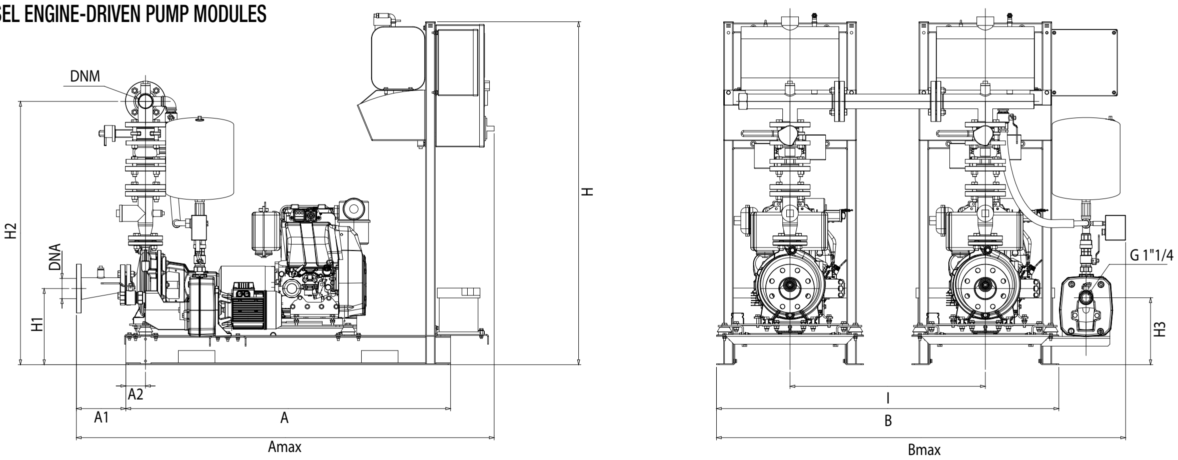
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

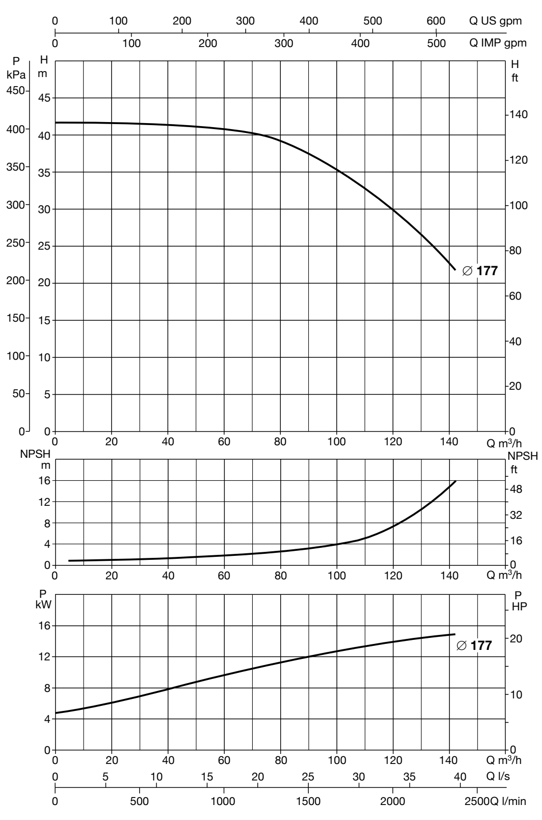


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 50-160/161 - DIESEL ENGINE DRIVEN PUMP MODULE	1330	359	81	1867	602	-	841	1736	293	1293	274	-	-	125	80	341	375
1 KDN 50-160/161 - ELECTRIC PUMP MODULE	1120	363	60	1483	490	380	762	1640	208	1200	213	-	-	125	80	471	496
1 KDN 50-160/161 - 2 ELECTRIC PUMP MODULES	1120	363	60	1483	1380	-	1652	1640	208	1200	213	-	800	125	80	942	967
1 KDN 50-160/161 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1330	359	81	1867	1604	-	1843	1736	293	1293	274	-	800	125	80	812	837
1 KDN 50-160/161 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1330	359	8 1	1867	1604	-	1843	1736	293	1293	274	-	800	125	80	682	716

1 KDN 50-160/177 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 50-160/177 15	3x400 V ~	JET 251 T	15	1,85	26,5	KDN 50 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

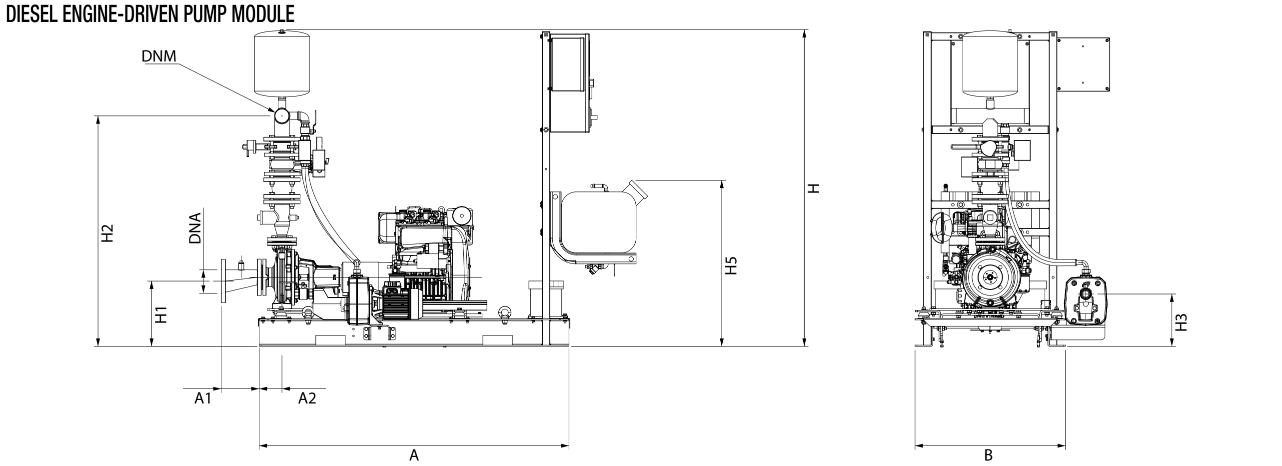
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 50-160/177 MD	3x230-400 V ~	JET 251 T	15	1,85	KDN 50 EN 12845	0,22 m²

* Jockey pump on request.

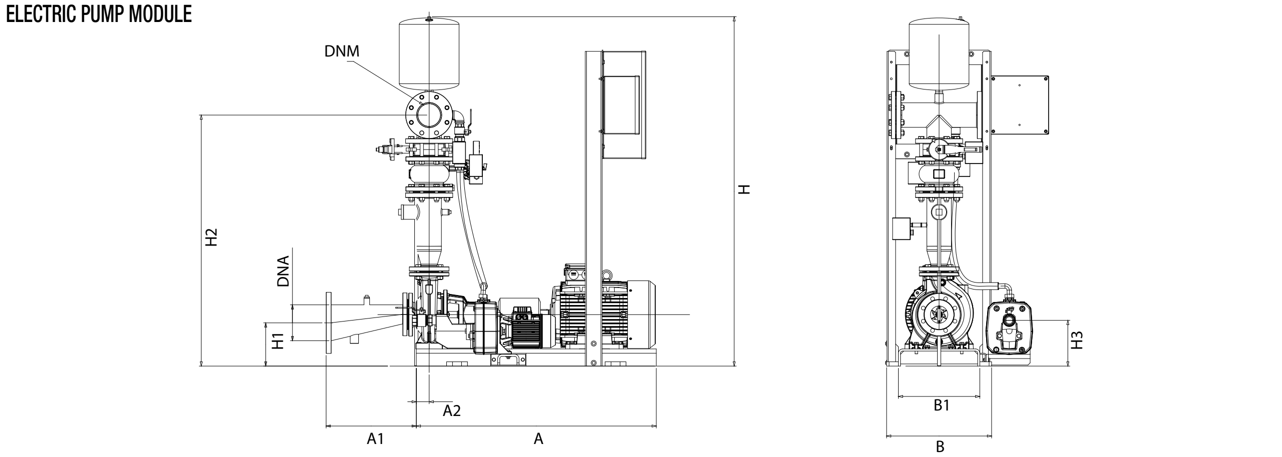
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



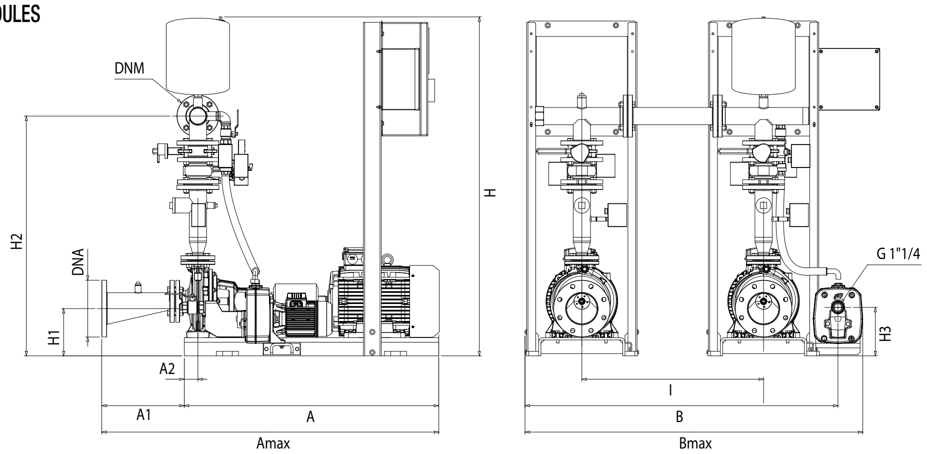
ELECTRIC PUMP MODULE



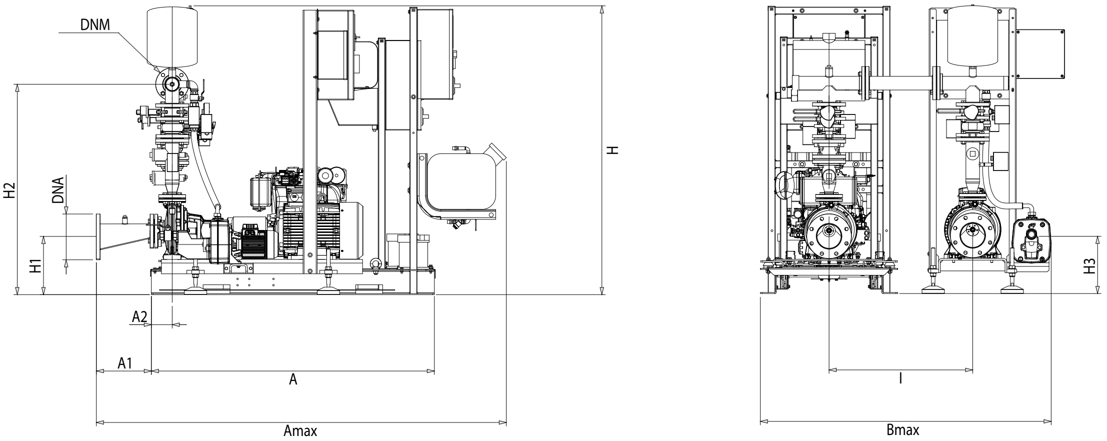
The dashed components are not included in the standard supply.

1 KDN 50-160/177 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

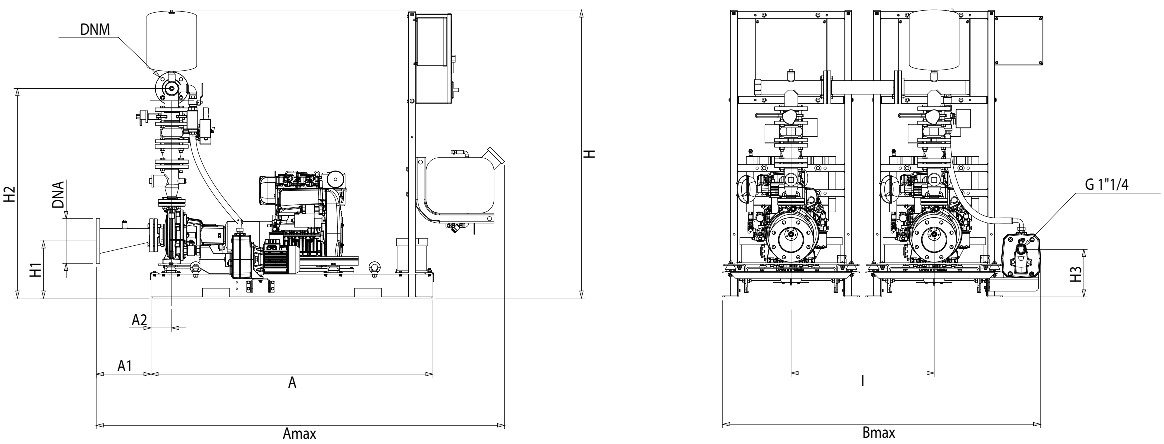
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

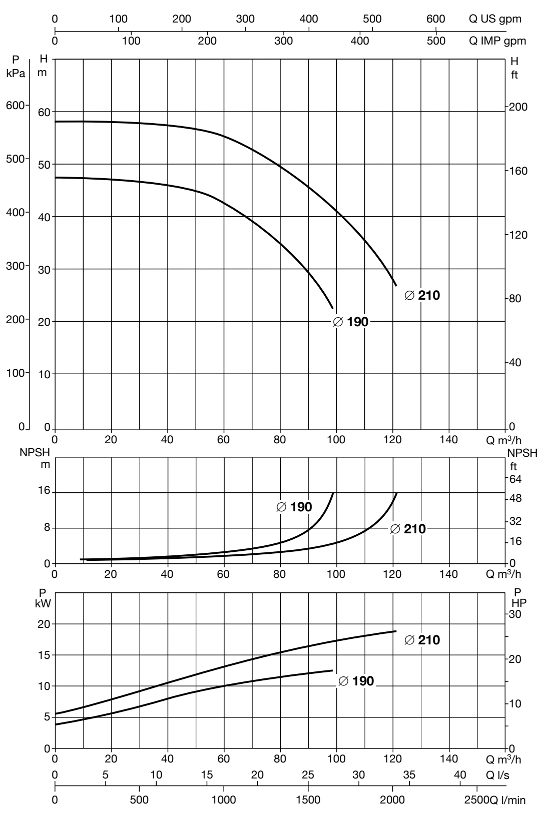


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 50-160/177 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	306	117	2284	765	-	991	1736	319	1293	266	844	-	125	80	435	466
1 KDN 50-160/177 - ELECTRIC PUMP MODULE	1120	363	60	1483	490	380	762	1640	208	1200	213	-	-	125	80	480	500
1 KDN 50-160/177 - 2 ELECTRIC PUMP MODULES	1120	363	60	1483	1380	-	1652	1640	208	1200	213	-	800	125	80	960	980
1 KDN 50-160/177 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	306	117	2284	-	-	2156	1736	319	1293	266	844	800	125	80	915	935
1 KDN 50-160/177 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	306	117	2284	-	-	2156	1736	319	1293	266	844	800	125	80	870	901

1 KDN 50-200/190-210 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 50-200/190 15	3x400 V ~	JET 251 T	15	1,85	26,5	KDN 50 EN 12845
1 KDN 50-200/210 18,5	3x400 V ~	JET 251 T	18,5	1,85	32	KDN 50 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

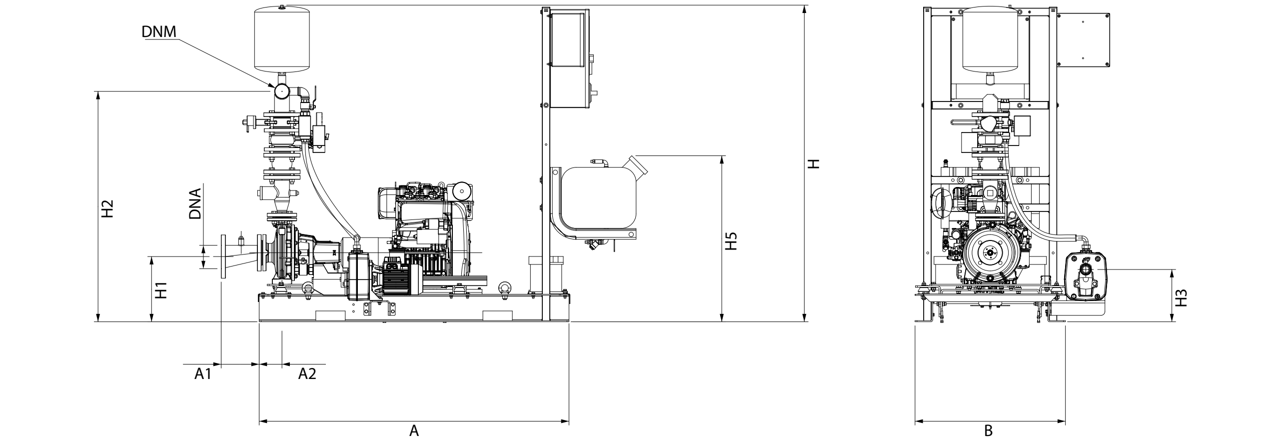
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 50-200/190 MD	3x230-400 V ~	JET 251 T	15	1,85	KDN 50 EN 12845	0,22 m^2
1 KDN 50-200/210 MD	3x230-400 V ~	JET 251 T	19	1,85	KDN 50 EN 12845	0,22 m^2

* Jockey pump on request.

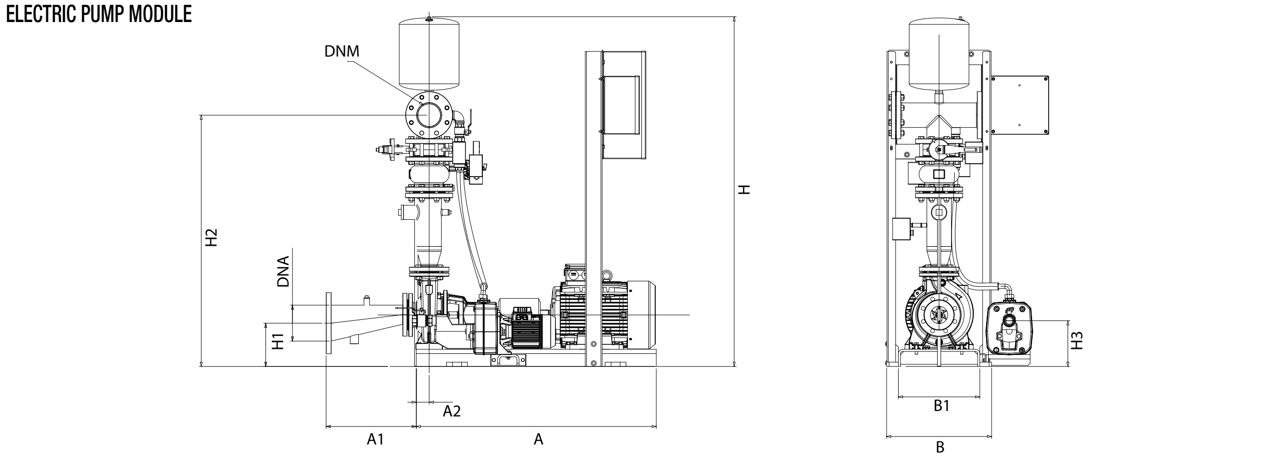
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



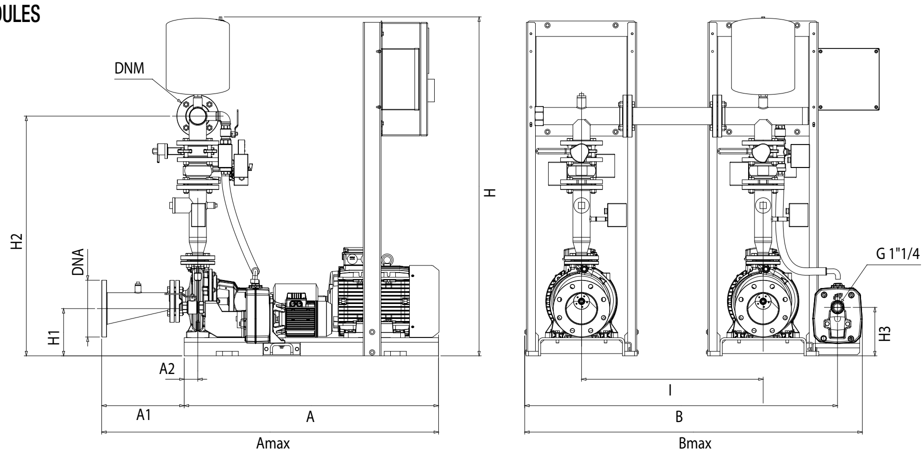
ELECTRIC PUMP MODULE



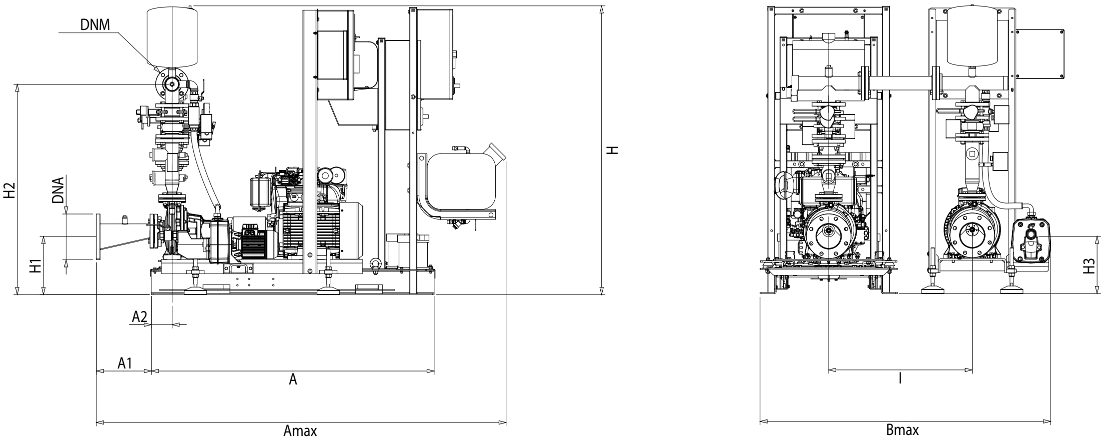
The dashed components are not included in the standard supply.

1 KDN 50-200/190-210 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

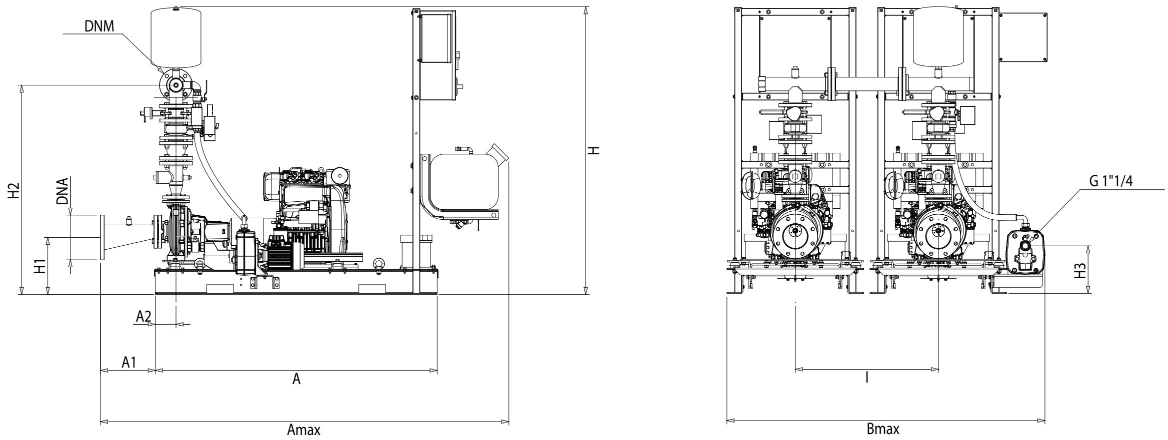
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

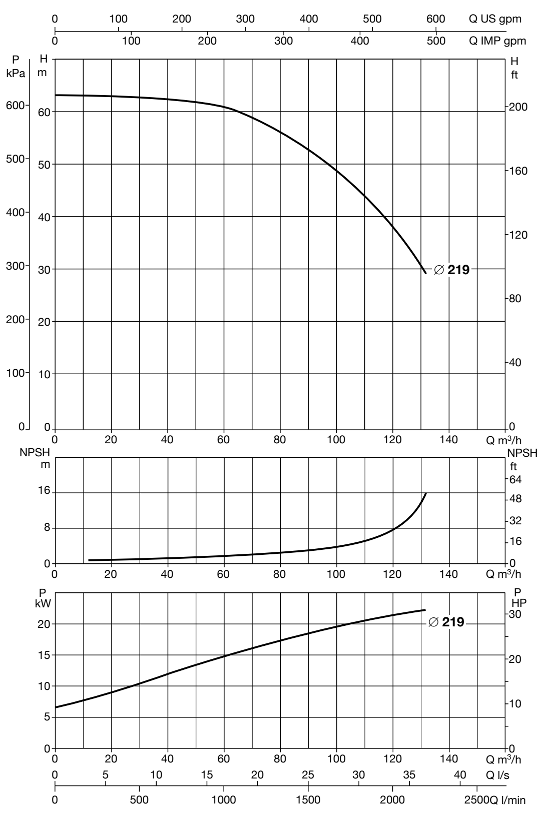


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 50-200/190-210 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	306	117	2284	765	-	991	1771	319	1331	266	844	-	125	80	461	481
1 KDN 50-200/190-210 - ELECTRIC PUMP MODULE	1120	363	60	1534	490	380	762	1660	208	1220	213	-	-	125	80	571	576
1 KDN 50-200/190-210 - 2 ELECTRIC PUMP MODULES	1120	363	60	1534	1380	-	1652	1660	208	1220	213	-	800	125	80	1142	1147
1 KDN 50-200/190-210 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	306	117	2284	-	-	2156	1771	319	1331	266	844	800	125	80	1032	1037
1 KDN 50-200/190-210 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	306	117	2284	-	-	2156	1771	319	1331	266	844	800	125	80	922	942

1 KDN 50-200/219 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 50-200/219 22	3x400 V ~	JET 251 T	22	1,85	38	KDN 50 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

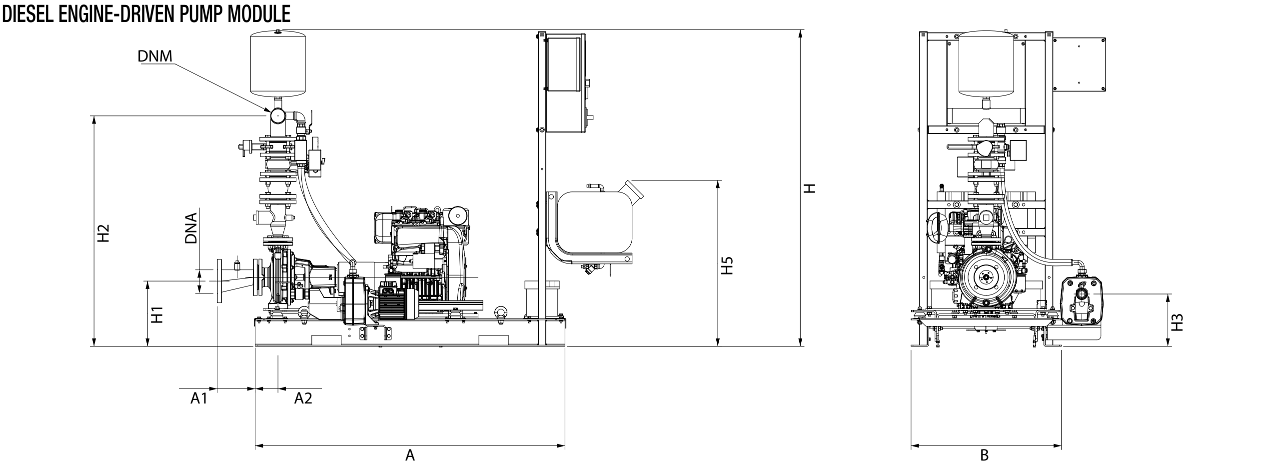
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 50-200/219 MD	3x230-400 V ~	JET 251 T	26	1,85	KDN 50 EN 12845	0,22 m²

* Jockey pump on request.

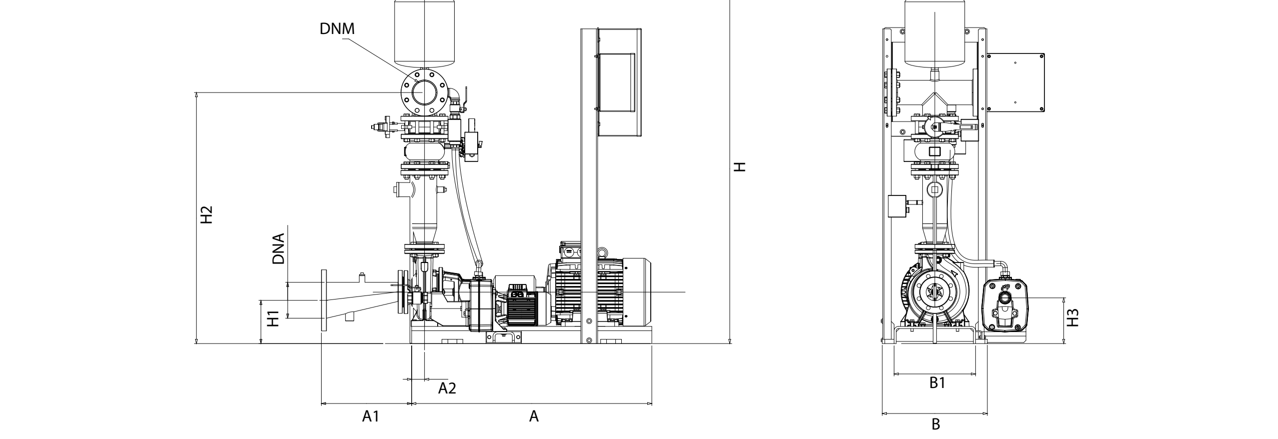
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



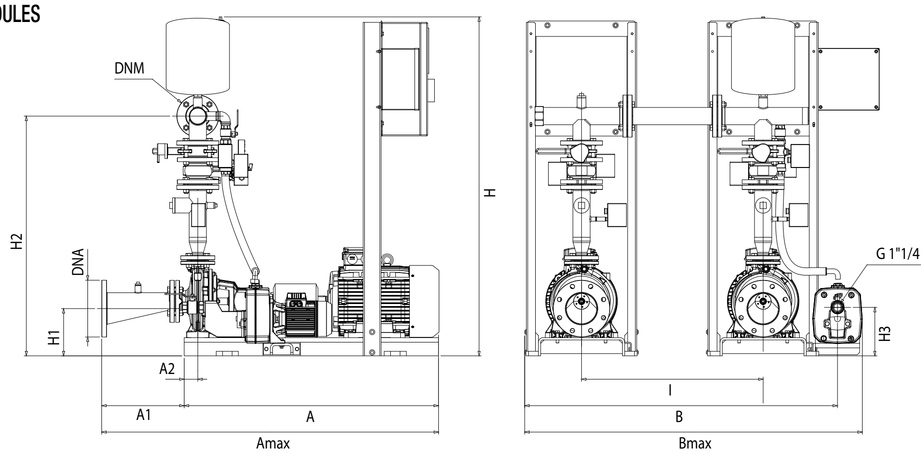
ELECTRIC PUMP MODULE



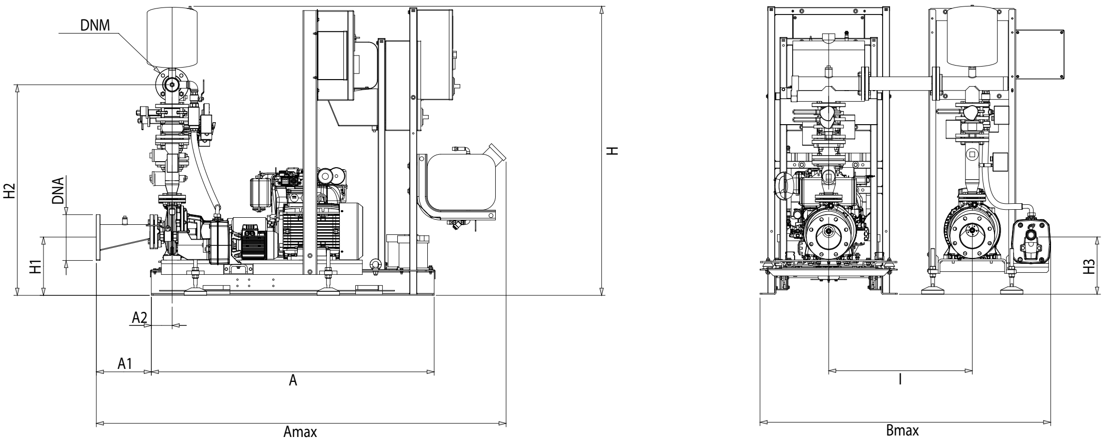
The dashed components are not included in the standard supply.

1 KDN 50-200/219 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

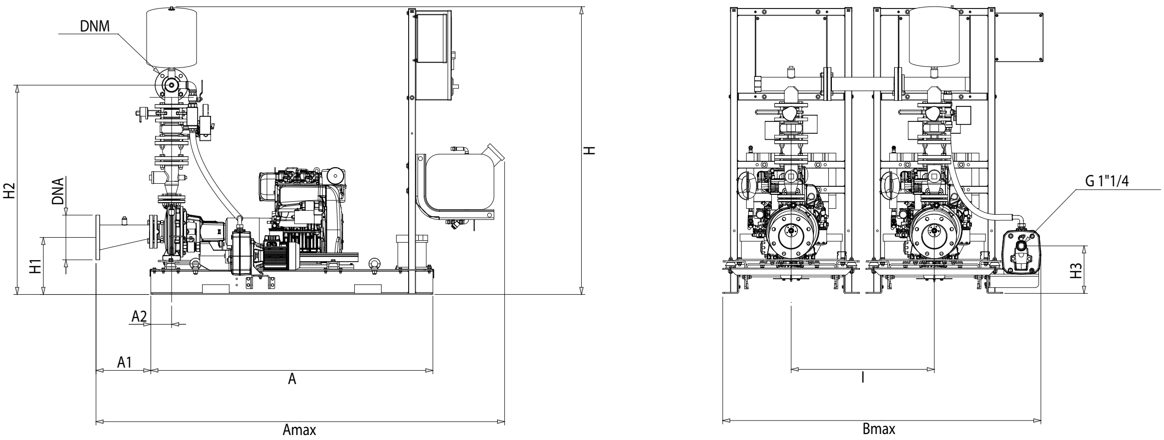
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

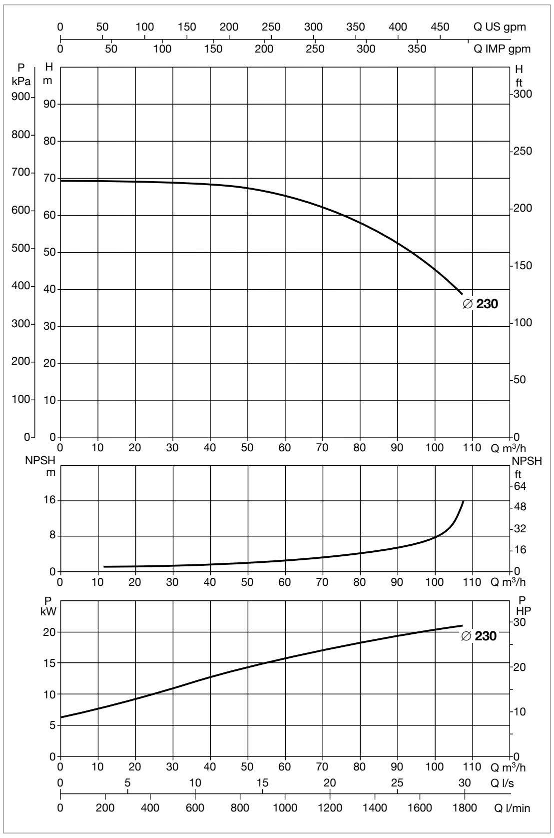


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 50-200/219 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	306	117	2284	765	-	991	1771	319	1331	266	844	-	125	80	626	649
1 KDN 50-200/219 - ELECTRIC PUMP MODULE	1120	363	60	1568	490	380	762	1680	228	1240	213	-	-	125	80	594	609
1 KDN 50-200/219 - 2 ELECTRIC PUMP MODULES	1120	363	60	1568	1380	-	1652	1680	228	1240	213	-	800	125	80	1188	1203
1 KDN 50-200/219 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	306	117	2284	-	-	2156	1771	319	1331	266	844	800	125	80	1220	1235
1 KDN 50-200/219 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	306	117	2284	-	-	2156	1771	319	1331	266	844	800	125	80	1252	1275

1 KDN 50-250/230 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 50-250/230 22	3x400 V ~	JET 251 T	22	1,85	38	KDN 50 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

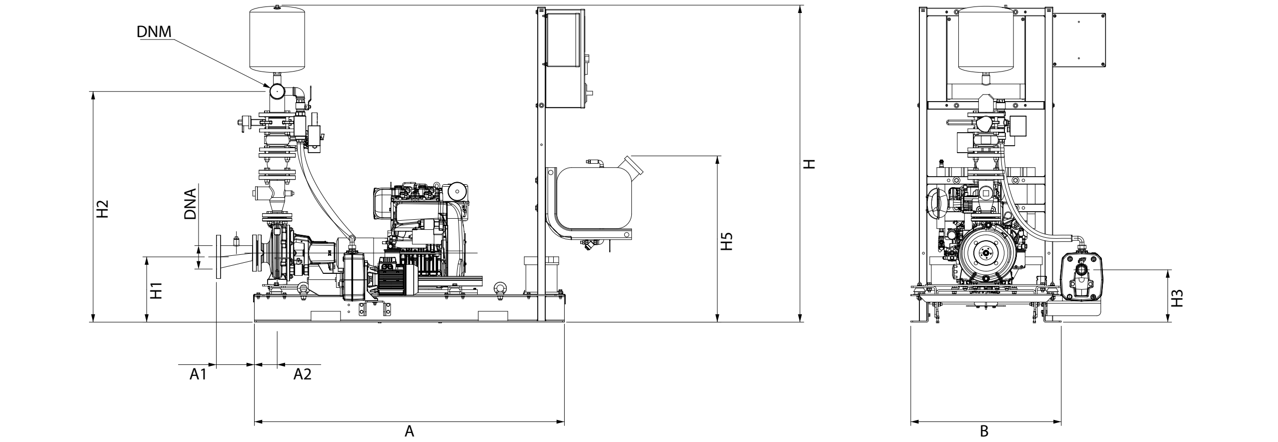
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 50-250/230 MD	3x230-400 V ~	JET 251 T	26	1,85	KDN 50 EN 12845	0,22 m²

* Jockey pump on request.

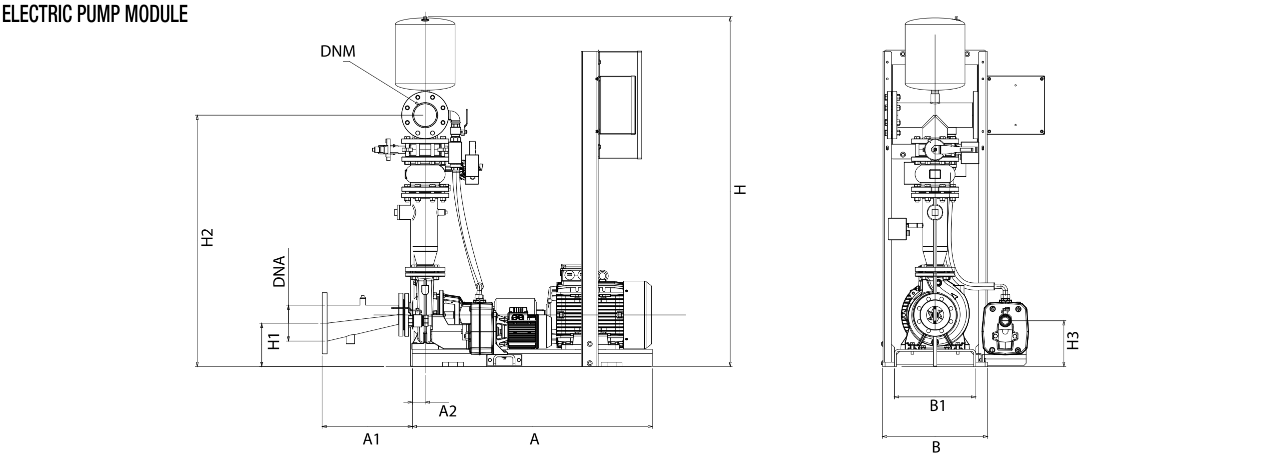
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



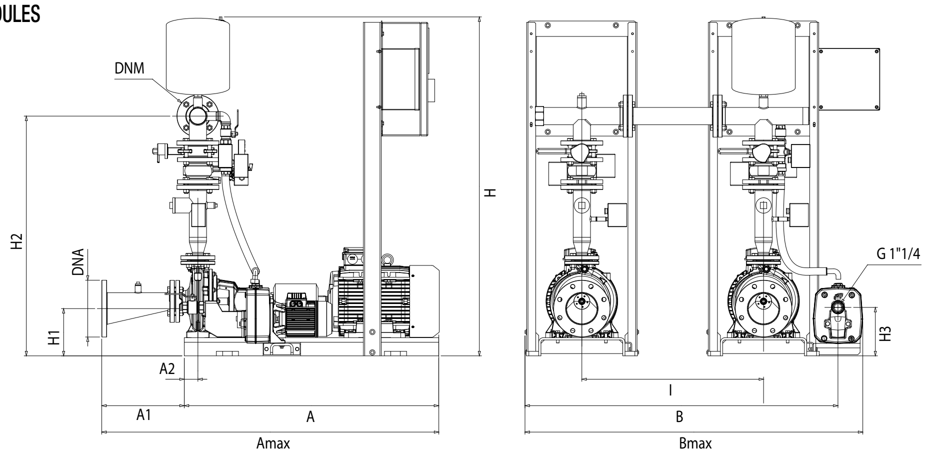
ELECTRIC PUMP MODULE



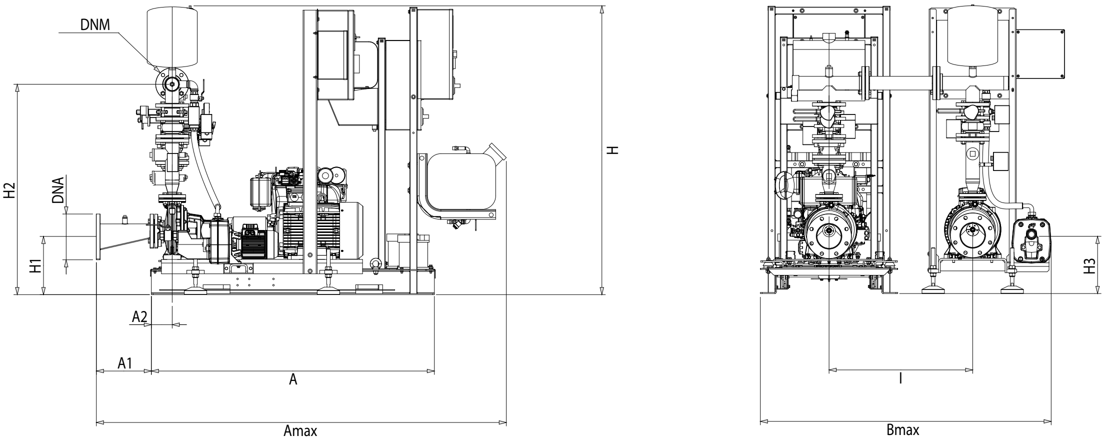
The dashed components are not included in the standard supply.

1 KDN 50-250/230 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

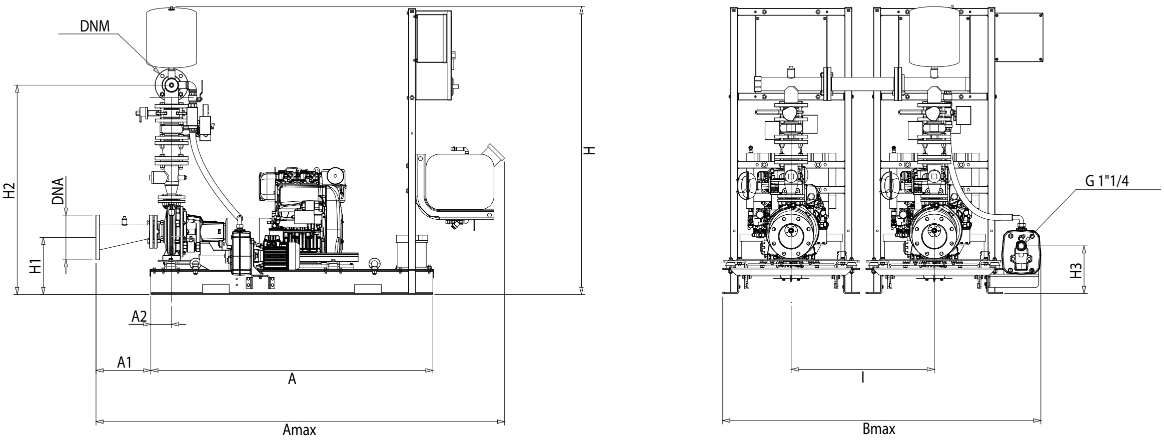
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

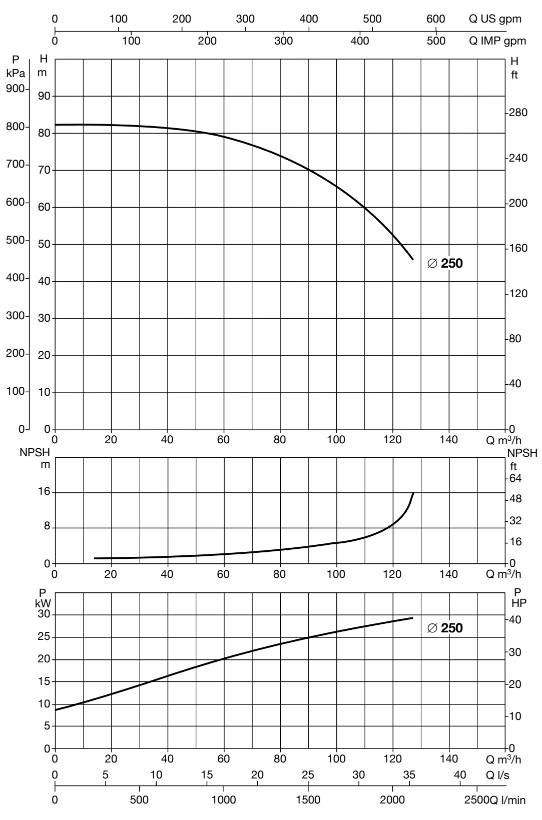


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 50-250/230 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	306	117	2284	765	-	991	1816	339	1376	266	844	-	125	80	631	651
1 KDN 50-250/230 - ELECTRIC PUMP MODULE	1250	348	75	1598	490	430	812	1705	228	1265	213	-	-	125	80	601	626
1 KDN 50-250/230 - 2 ELECTRIC PUMP MODULES	1250	348	75	1598	1380	-	1702	1705	228	1265	213	-	800	125	80	1202	1227
1 KDN 50-250/230 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	306	117	2284	-	-	2156	1816	339	1376	266	844	800	125	80	1232	1257
1 KDN 50-250/230 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	306	117	2284	-	-	2156	1816	339	1376	266	844	800	125	80	1262	1282

1 KDN 50-250/250 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 50-250/250 30	3x400 V ~	JET 251 T	30	1,85	52	KDN 50 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

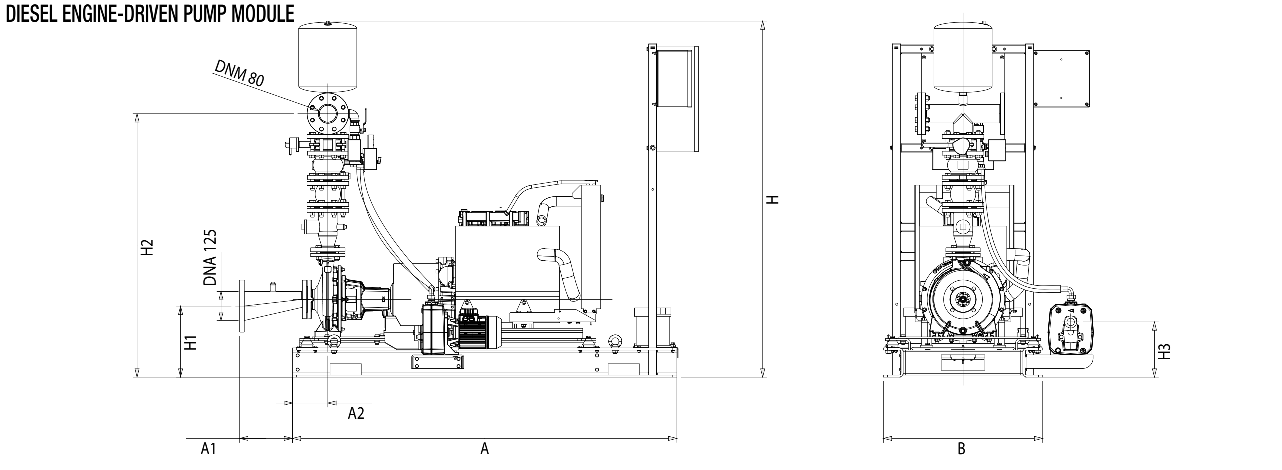
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 50-250/250 MD	3x230-400 V ~	JET 251 T	37	1,85	KDN 50 EN 12845	0,40 m²

* Jockey pump on request.

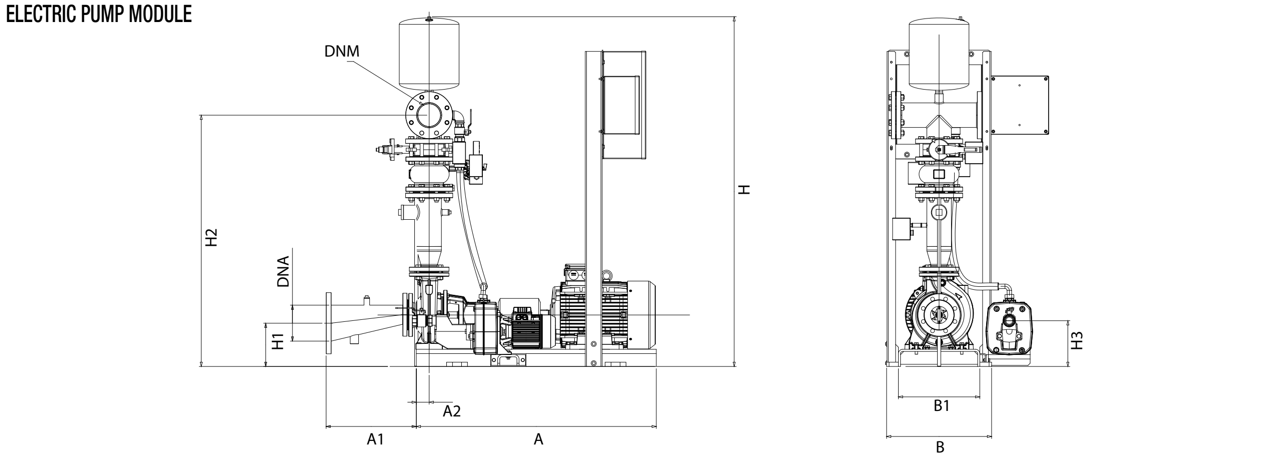
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



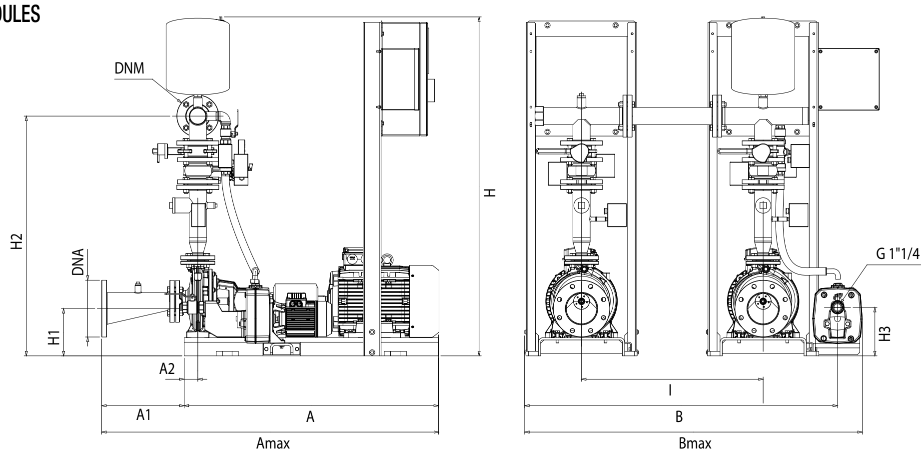
ELECTRIC PUMP MODULE



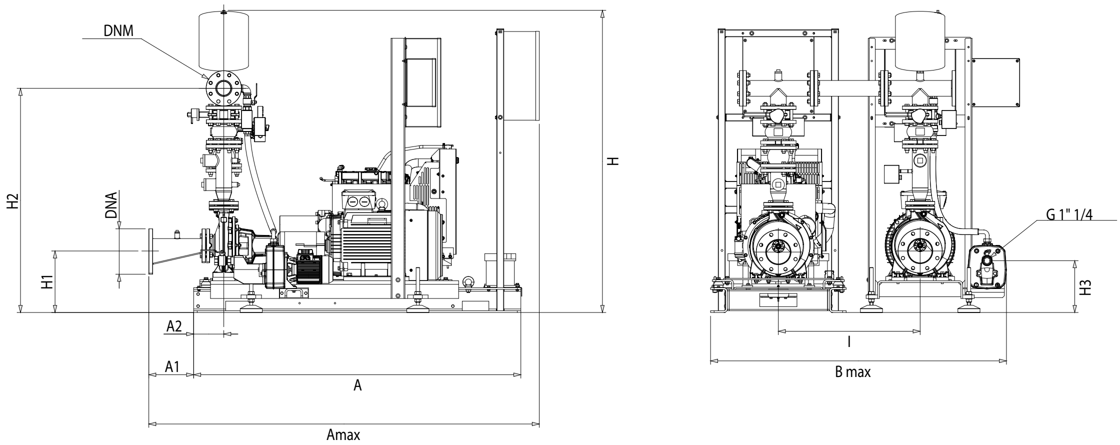
The dashed components are not included in the standard supply.

1 KDN 50-250/250 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

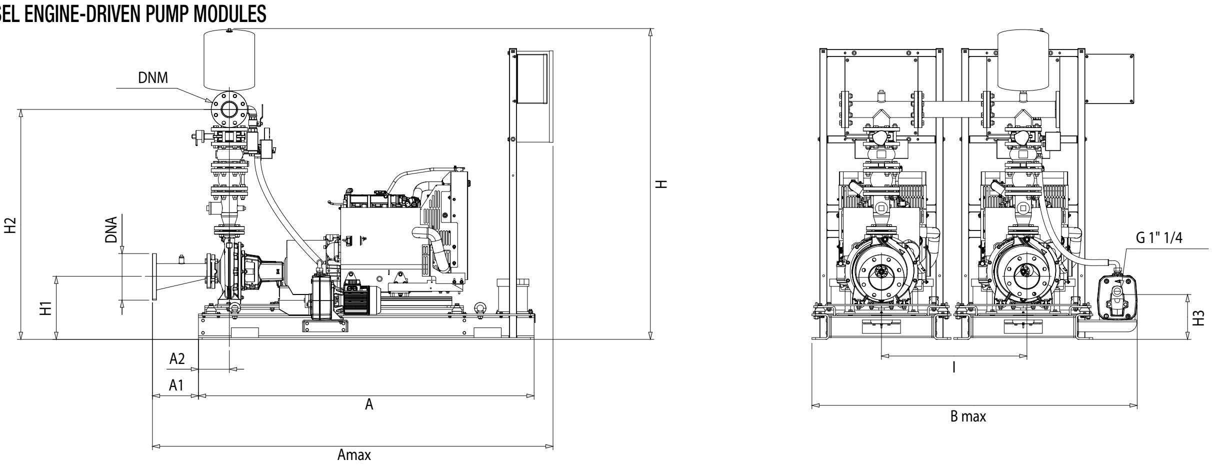
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

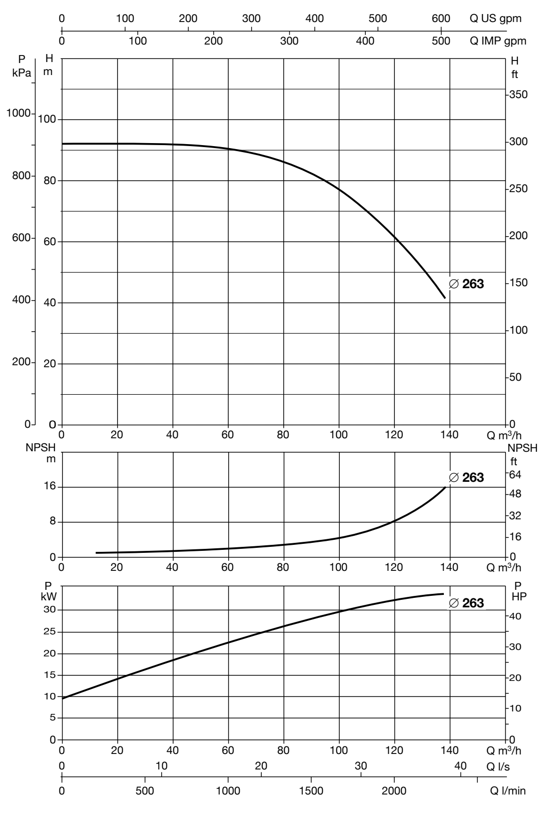


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 50-250/250 - DIESEL ENGINE DRIVEN PUMP MODULE	1846	253	170	2284	765	-	1007	1829	341	1384	265	-	-	125	80	804	804
1 KDN 50-250/250 - ELECTRIC PUMP MODULE	1325	348	75	1748	590	480	862	1745	266	1305	213	-	-	125	80	661	686
1 KDN 50-250/250 - 2 ELECTRIC PUMP MODULES	1325	348	75	1748	1580	-	1852	1745	266	1305	213	-	800	125	80	1322	1347
1 KDN 50-250/250 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1846	253	170	2284	-	-	2172	1829	341	1384	265	-	800	125	80	1465	1490
1 KDN 50-250/250 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1846	253	170	2284	-	-	2172	1829	341	1384	265	-	800	125	80	1608	1608

1 KDN 50-250/263 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 50-250/263 37	3x400 V ~	KV 3/12 T	37	1,5	63	KDN 50 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

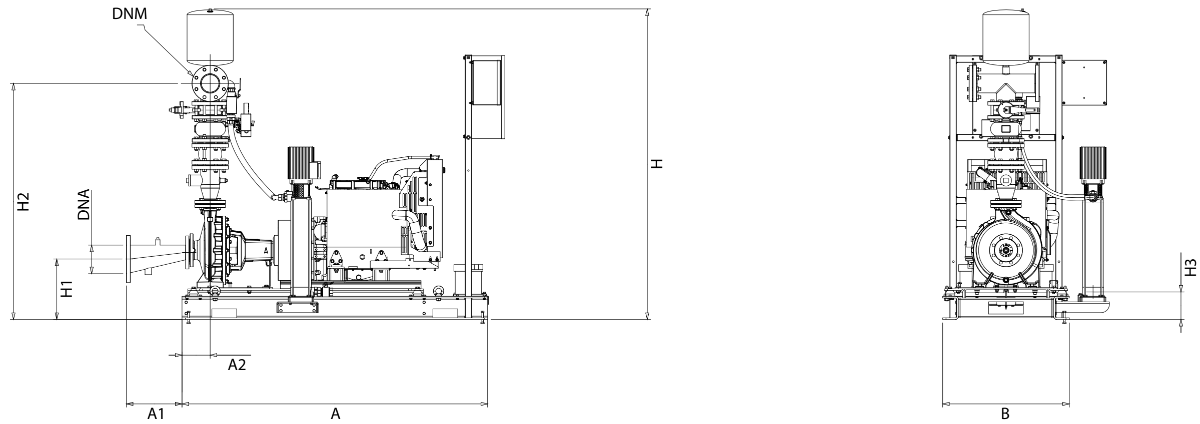
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 50-250/263 MD	3x230-400 V ~	KV 3/12 T	37	1,5	KDN 50 EN 12845	0,40 m²

* Jockey pump on request.

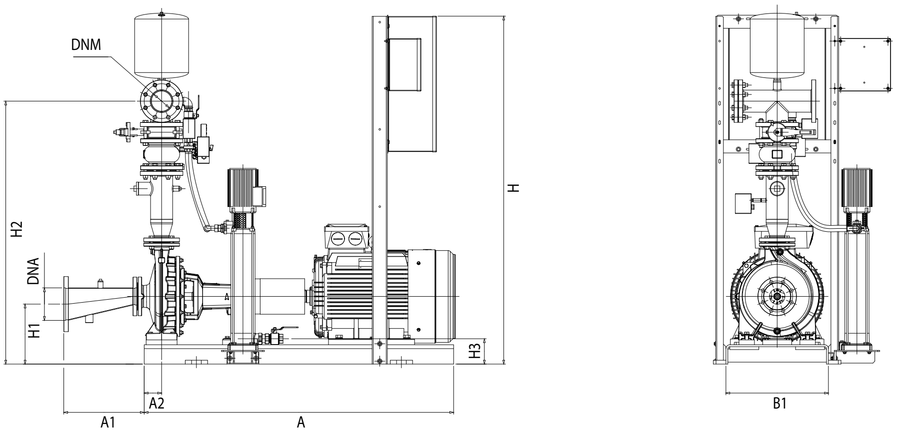
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



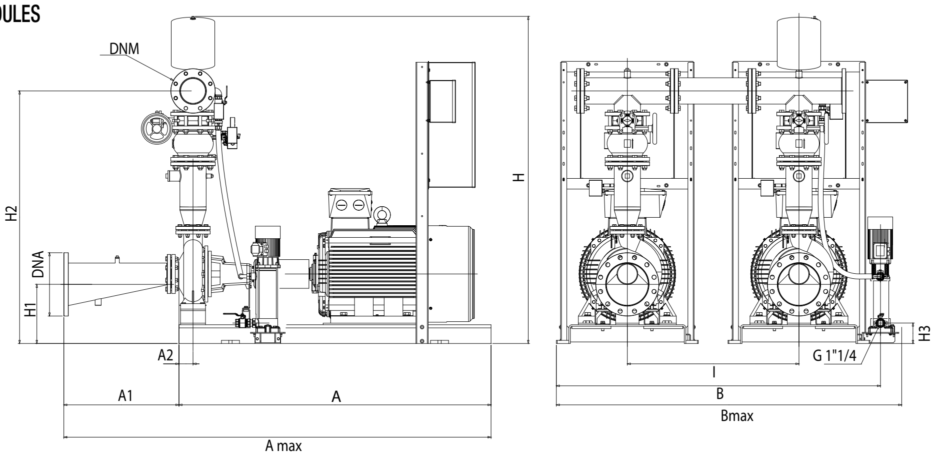
ELECTRIC PUMP MODULE



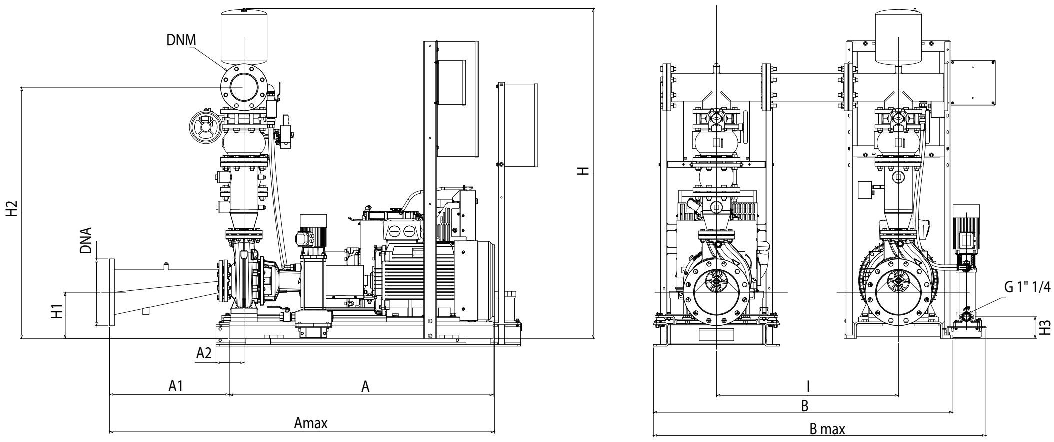
The dashed components are not included in the standard supply.

1 KDN 50-250/263 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

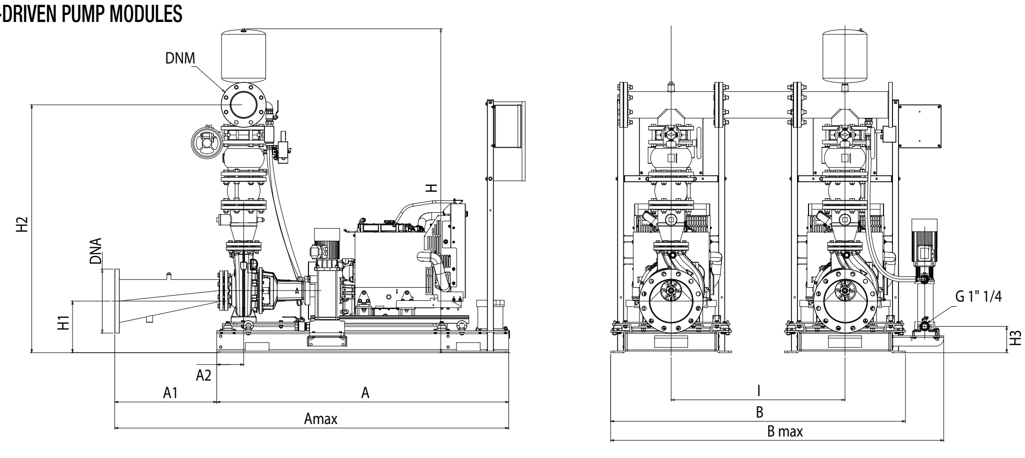
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

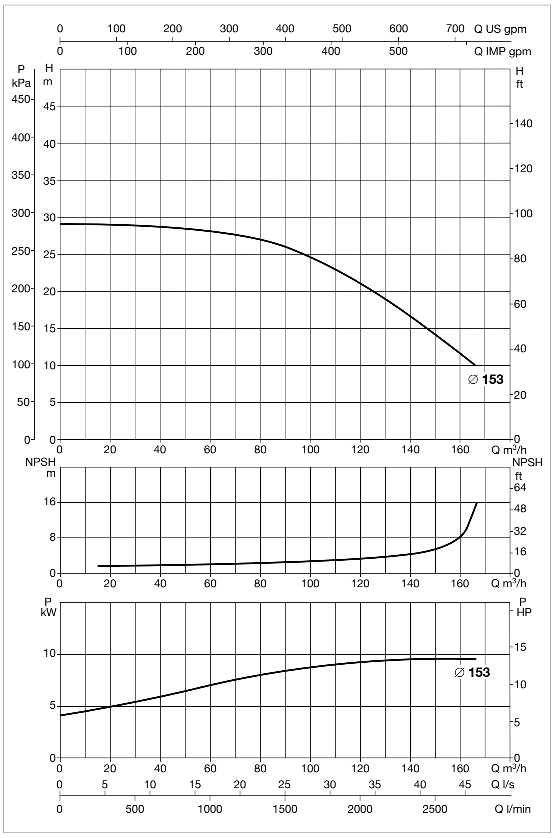


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 50-250/263 - DIESEL ENGINE DRIVEN PUMP MODULE	1846	253	170	2284	765	-	1007	1829	341	1384	265	-	-	125	80	809	818
1 KDN 50-250/263 - ELECTRIC PUMP MODULE	1325	348	75	1748	590	480	862	1745	266	1305	213	-	-	125	80	911	939
1 KDN 50-250/263 - 2 ELECTRIC PUMP MODULES	1325	348	75	1748	1580	-	1852	1745	266	1305	213	-	800	125	80	1822	1850
1 KDN 50-250/263 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1846	253	170	2284	-	-	2172	1829	341	1384	265	-	800	125	80	1720	1748
1 KDN 50-250/263 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1846	253	170	2284	-	-	2172	1829	341	1384	265	-	800	125	80	1618	1627

1 KDN 65-160/153- UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 65-160/153 11	3x400 V ~	JET 251 T	11	1,85	19,4	KDN 65 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

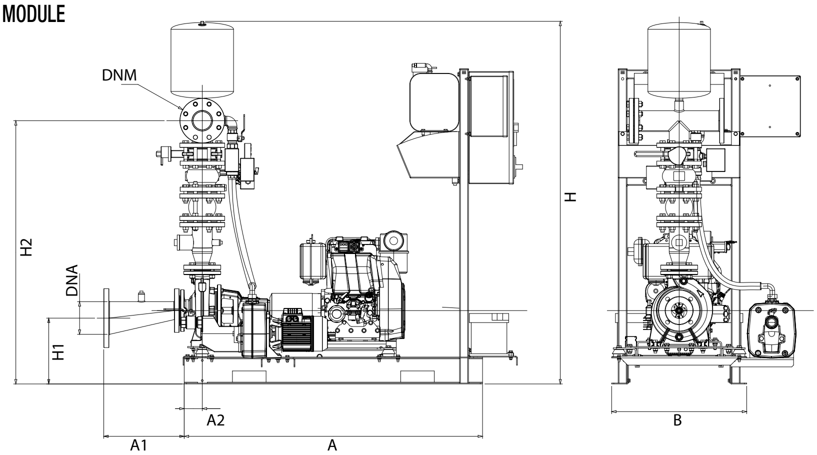
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 65-160/153 MD	3x230-400 V ~	JET 251 T	11	1,85	KDN 65 EN 12845	0,22 m^2

* Jockey pump on request.

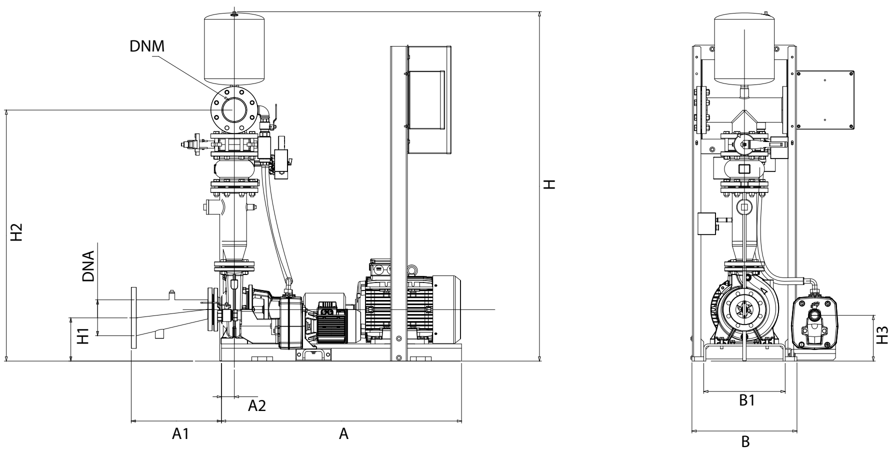
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



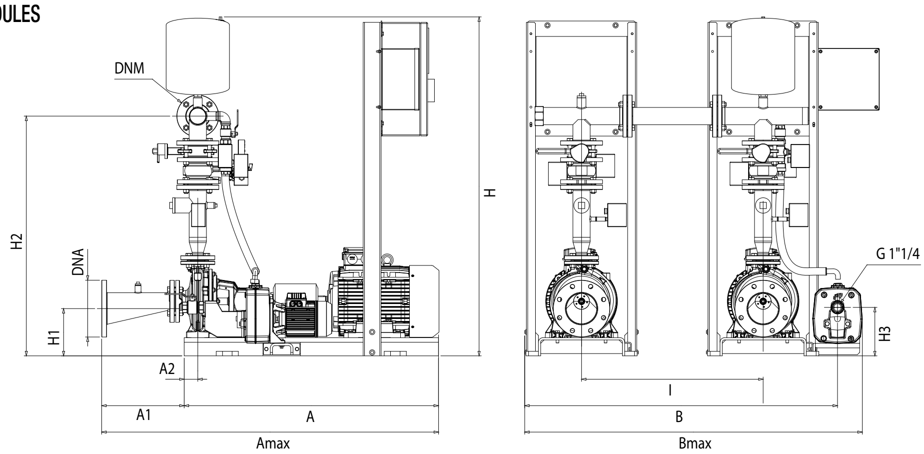
ELECTRIC PUMP MODULE



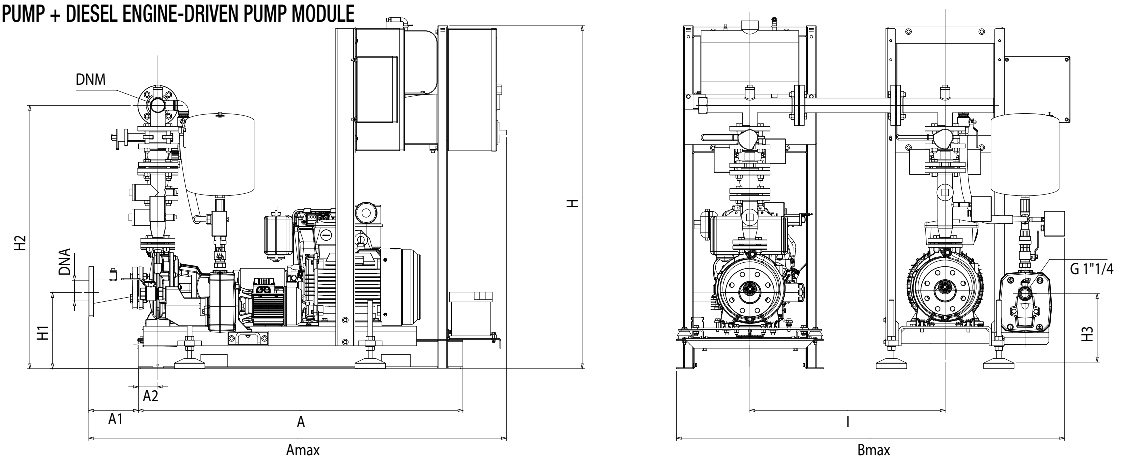
The dashed components are not included in the standard supply.

1 KDN 65-160/153 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

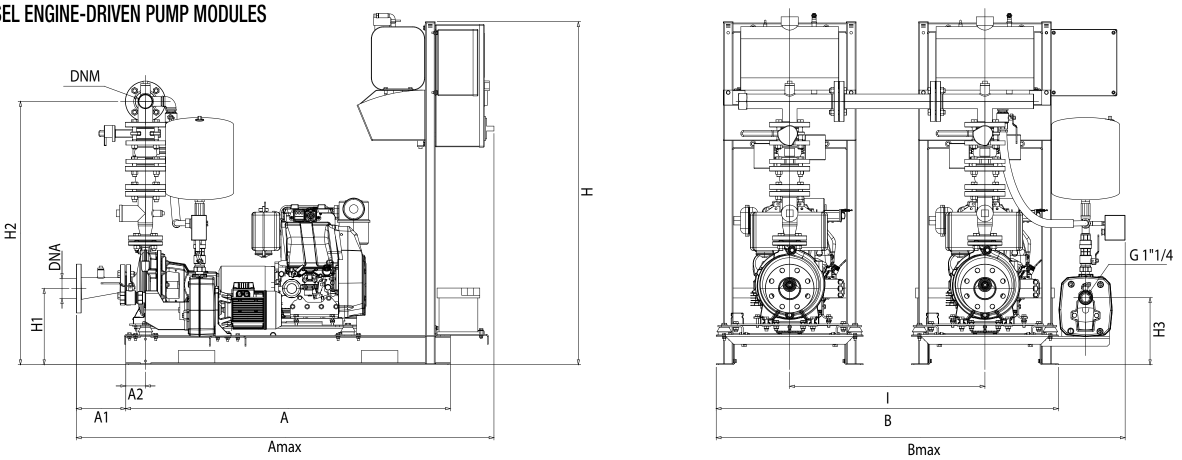
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

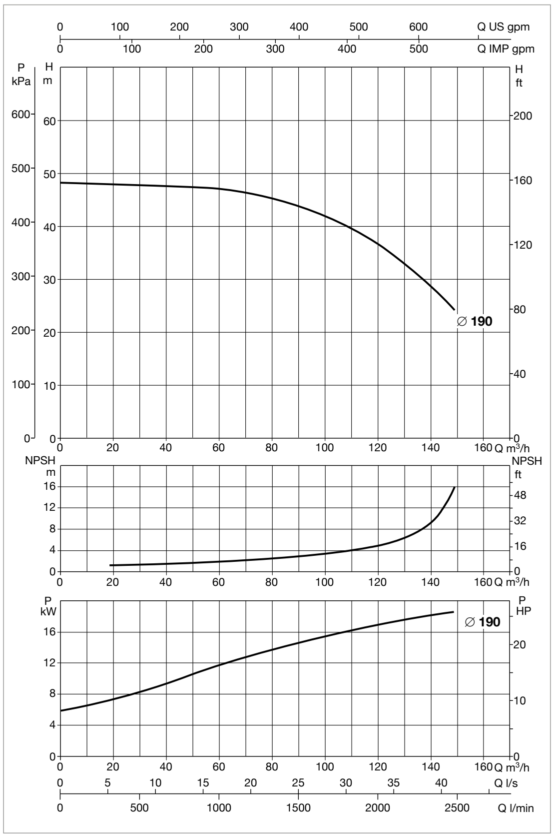


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 65-160/153 - DIESEL ENGINE DRIVEN PUMP MODULE	1330	400	81	1901	602	-	841	1847	290	1391	274	-	-	150	100	376	399
1 KDN 65-160/153 - ELECTRIC PUMP MODULE	1120	421	60	1543	490	380	762	1760	202	1301	213	-	-	150	100	487	510
1 KDN 65-160/153 - 2 ELECTRIC PUMP MODULES	1120	421	60	1543	1480	-	1752	1760	202	1301	213	-	800	150	100	974	997
1 KDN 65-160/153 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1330	40 0	81	1901	1704	-	1943	1847	290	1391	274	-	800	150	100	863	886
1 KDN 65-160/153 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1330	400	81	1901	1704	-	1943	1847	290	1391	274	-	800	150	100	752	775

1 KDN 65-200/190 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: from +4 °C to +40 °C



KDN UNI EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 65-200/190 18,5	3x400 V ~	JET 251 T	18,5	1,85	32	KDN 65 EN 12845

KDN UNI EN 12845 DIESEL ENGINE-DRIVEN PUMP

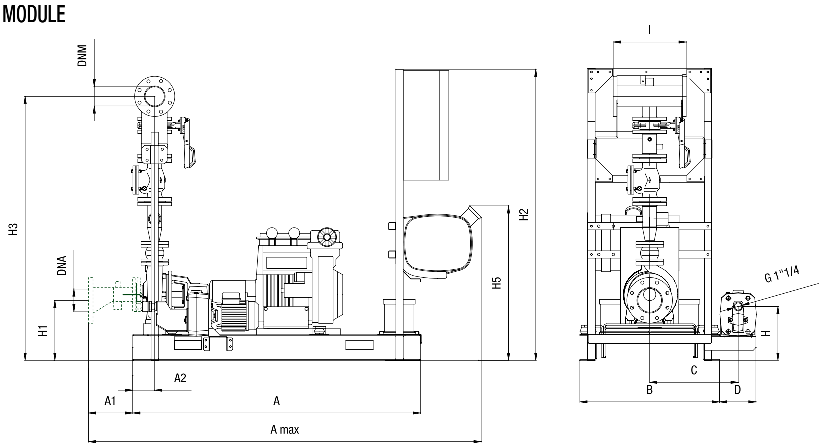
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 65-200/190 MD	3x230-400 V ~	JET 251 T	19	1,85	KDN 65 EN 12845	0,22 m^2

* Jockey pump on request.

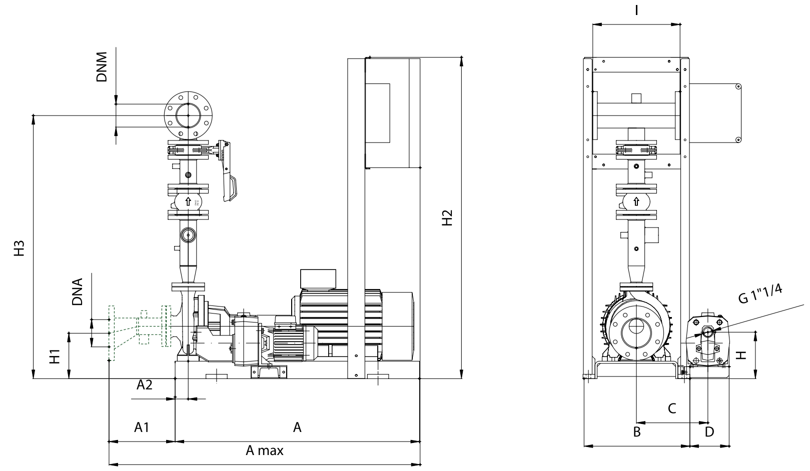
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



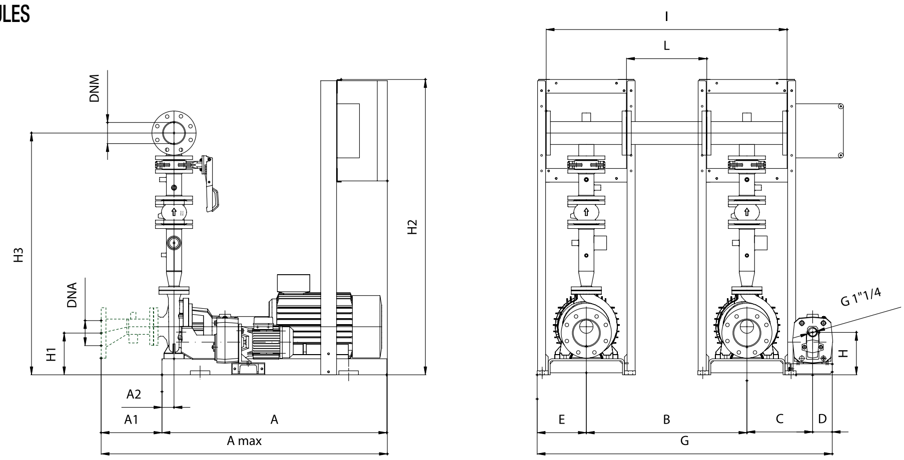
ELECTRIC PUMP MODULE



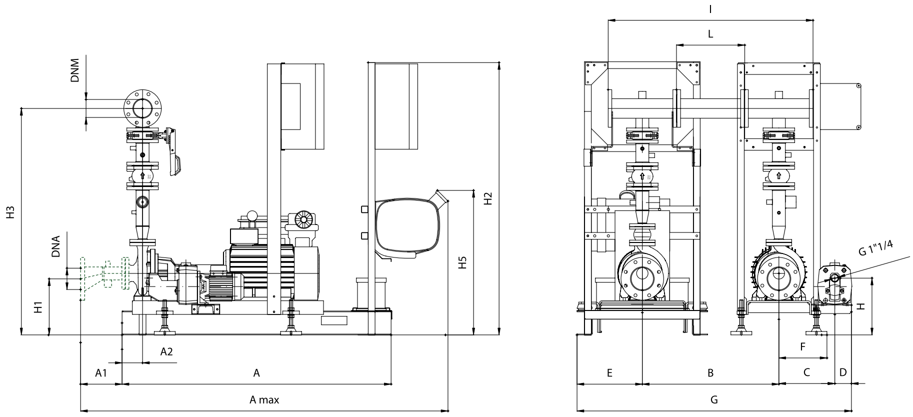
The dashed components are not included in the standard supply.

1 KDN 65-200/190 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

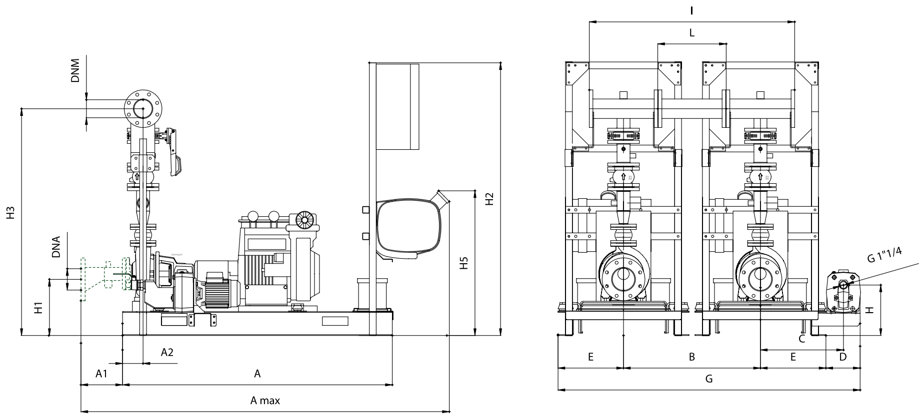
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

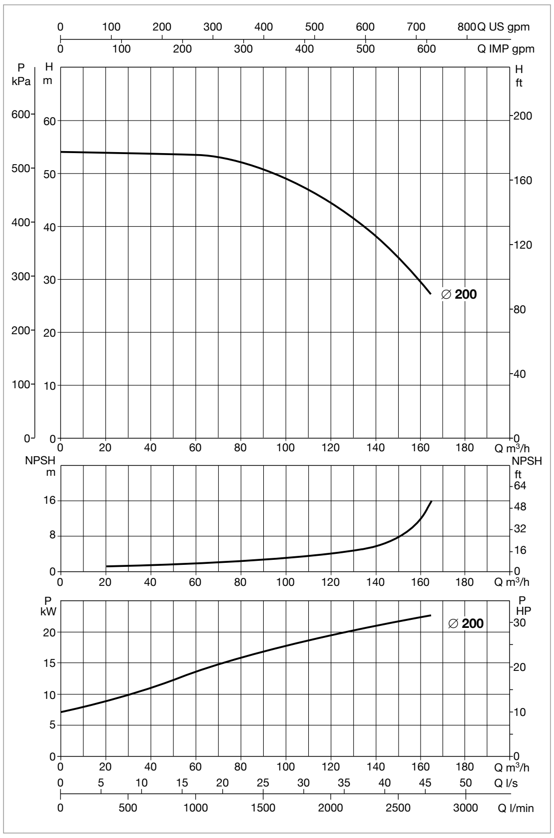


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 65-200/190 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	365	117	2342	765	-	991	1912	331	1456	266	844	-	150	100	585	606
1 KDN 65-200/190 - ELECTRIC PUMP MODULE	1175	481	75	1601	540	430	812	1802	220	1230	213	-	-	150	100	615	635
1 KDN 65-200/190 - 2 ELECTRIC PUMP MODULES	1175	481	75	1601	1580	-	1852	1802	220	1230	213	-	800	150	100	1230	1250
1 KDN 65-200/190 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	365	117	2342	-	-	2256	1912	331	1456	266	844	800	150	100	1200	1220
1 KDN 65-200/190 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	365	117	2342	-	-	2256	1912	331	1456	266	844	800	150	100	1170	1191

1 KDN 65-200/200 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 65-200/200 22	3x400 V ~	JET 251 T	22	1,85	38	KDN 65 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

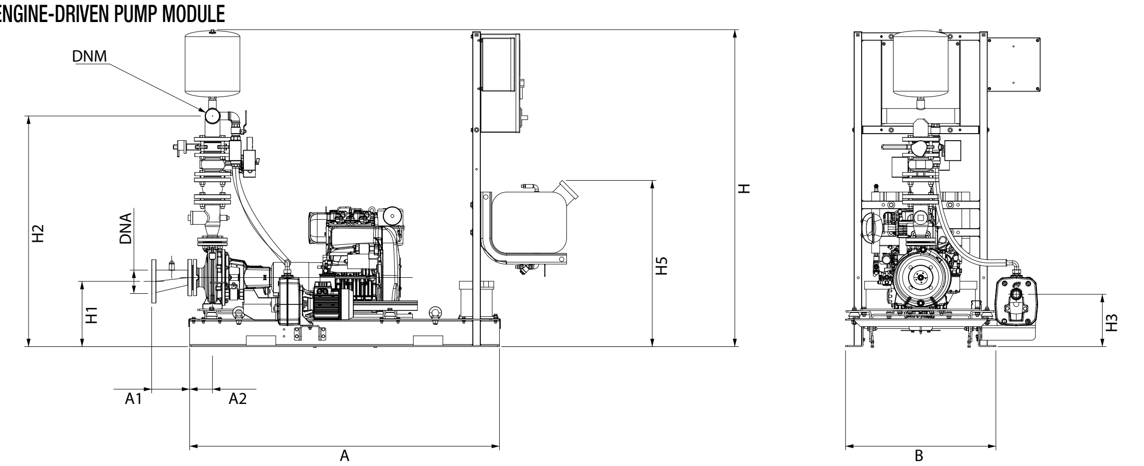
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 65-200/200 MD	3x230-400 V ~	JET 251 T	26	1,85	KDN 65 EN 12845	0,22 m²

* Jockey pump on request.

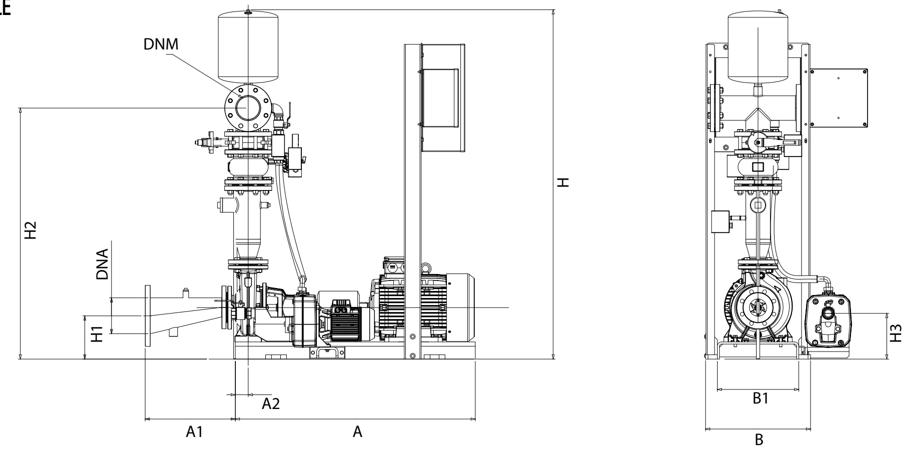
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



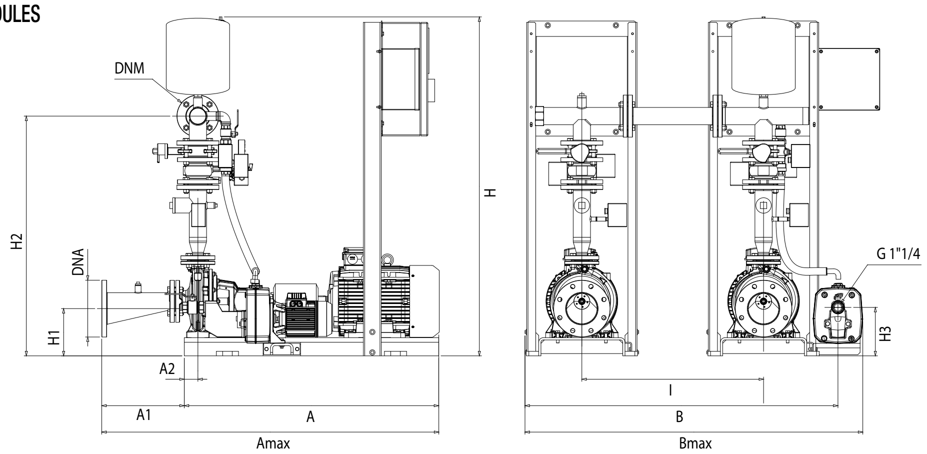
ELECTRIC PUMP MODULE



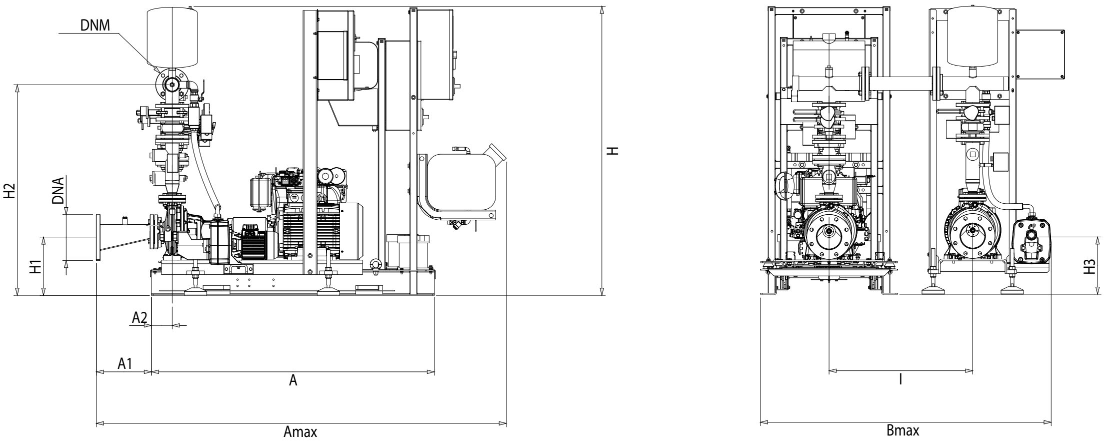
The dashed components are not included in the standard supply.

1 KDN 65-200/200 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

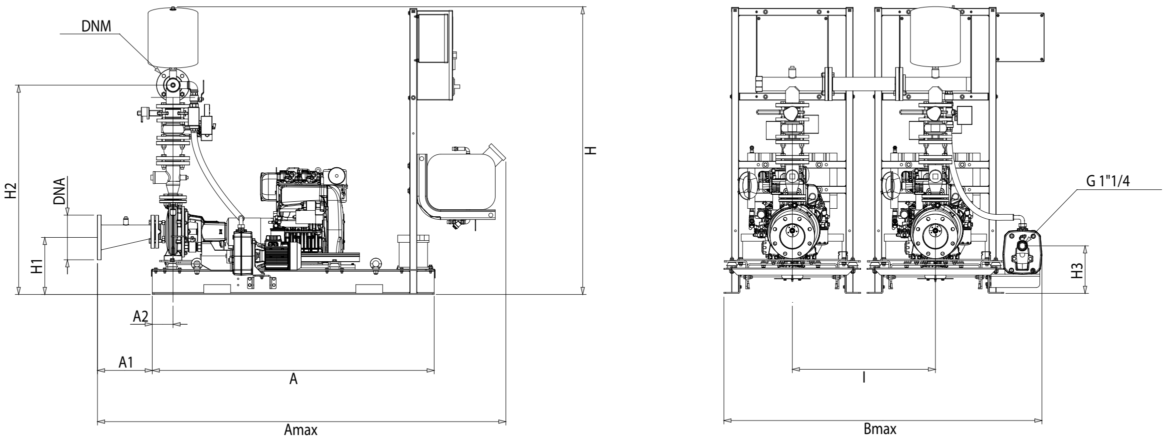
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

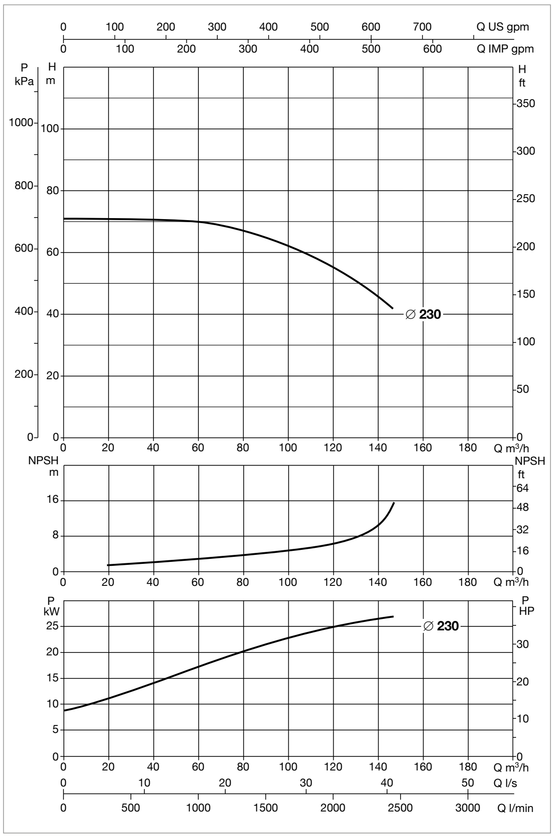


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 65-200/200 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	365	117	2342	765	-	991	1912	330	1456	266	844	-	150	100	646	664
1 KDN 65-200/200 - ELECTRIC PUMP MODULE	1260	406	75	1665	540	430	812	1802	220	1343	213	-	-	150	100	637	657
1 KDN 65-200/200 - 2 ELECTRIC PUMP MODULES	1260	406	75	1665	1580	-	1852	1802	220	1343	213	-	800	150	100	1274	1294
1 KDN 65-200/200 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	365	117	2342	-	-	2256	1912	330	1456	266	844	800	150	100	1283	1303
1 KDN 65-200/200 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	365	117	2342	-	-	2256	1912	330	1456	266	844	800	150	100	1292	1310

1 KDN 65-250/230 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 65-250/230 30	3x400 V ~	JET 251 T	30	1,85	52	KDN 65 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

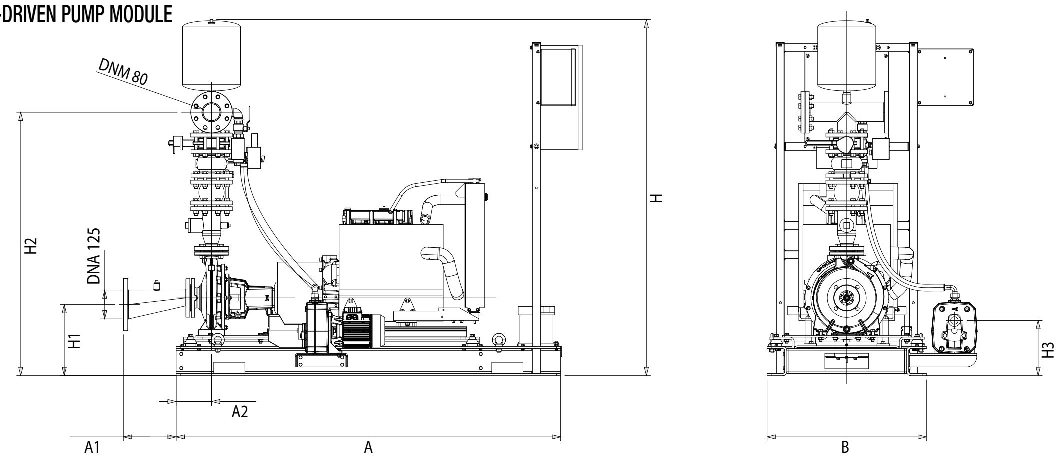
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 65-250/230 MD	3x230-400 V ~	JET 251 T	26	1,85	KDN 65 EN 12845	0,22 m²

* Jockey pump on request.

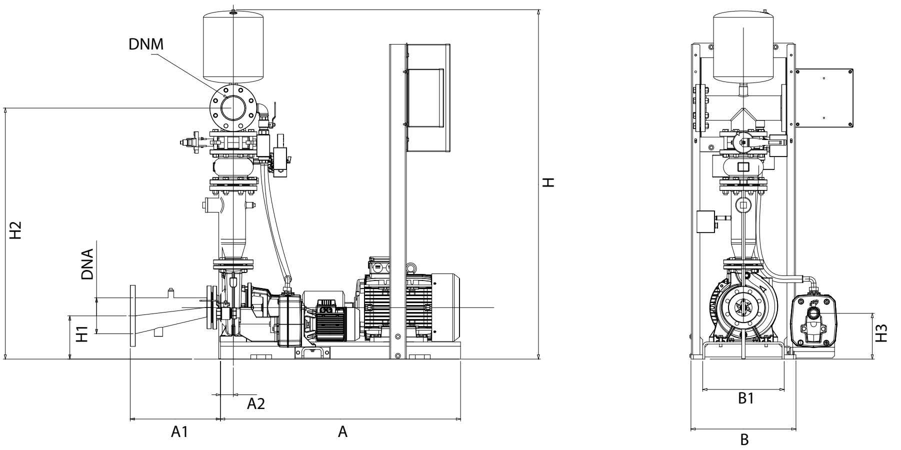
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



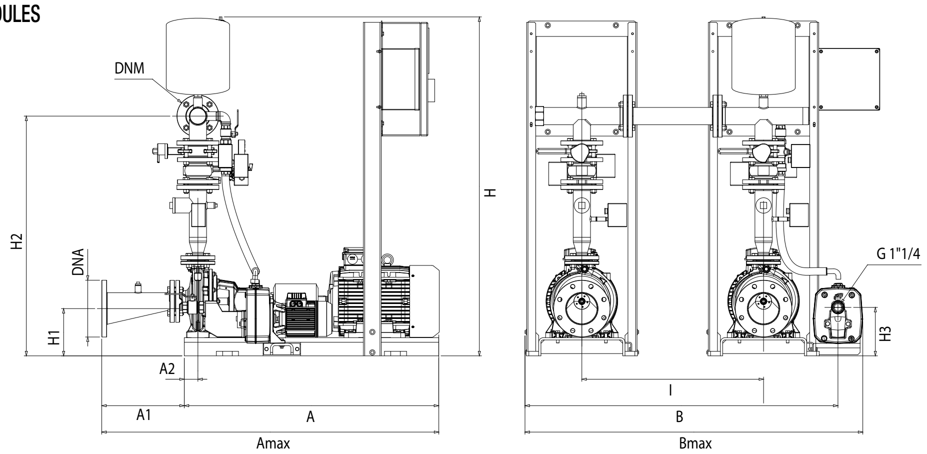
ELECTRIC PUMP MODULE



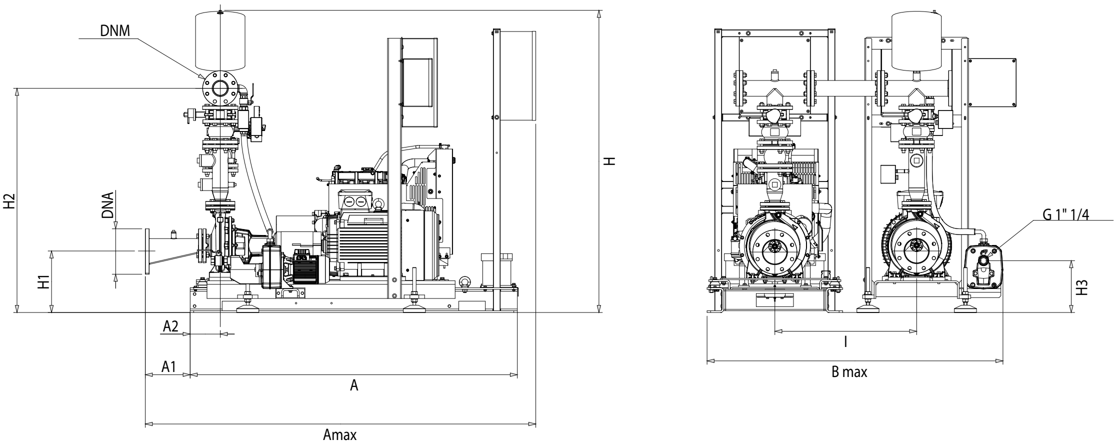
The dashed components are not included in the standard supply.

1 KDN 65-250/230 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

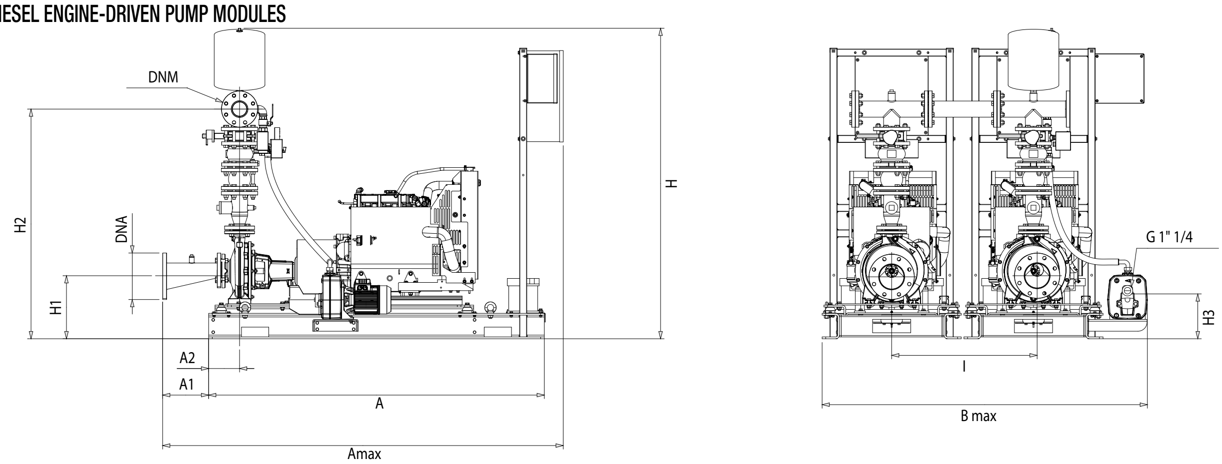
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

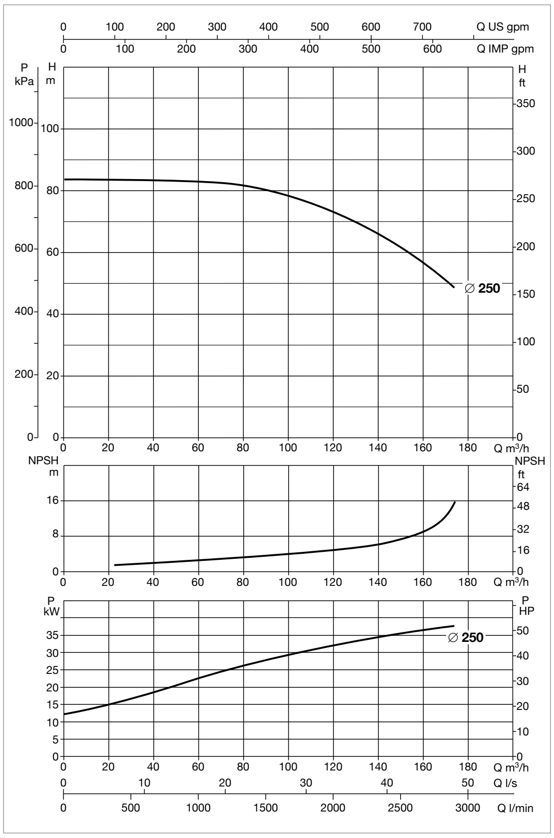


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 65-250/230 - DIESEL ENGINE DRIVEN PUMP MODULE	1846	311	170	2558	765	-	1033	1954	353	1502	266	844	-	150	100	734	754
1 KDN 65-250/230 - ELECTRIC PUMP MODULE	1400	391	90	1860	590	480	862	1867	260	1408	213	-	-	150	100	720	720
1 KDN 65-250/230 - 2 ELECTRIC PUMP MODULES	1400	391	90	1860	1680	-	1952	1867	260	1408	213	-	900	150	100	1440	1440
1 KDN 65-250/230 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1846	311	170	2558	-	-	2298	1954	353	1502	266	844	900	150	100	1454	1454
1 KDN 65-250/230 -2 DIESEL ENGINE DRIVEN PUMP MODULES	1846	311	170	2558	-	-	2298	1954	353	1502	266	844	900	150	100	1468	1488

1 KDN 65-250/250 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In	METER KIT
			kW	kW	A	
1 KDN 65-250/250 37	3x400 V ~	KVCX 65/80 T	37	2,2	63	KDN 65 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

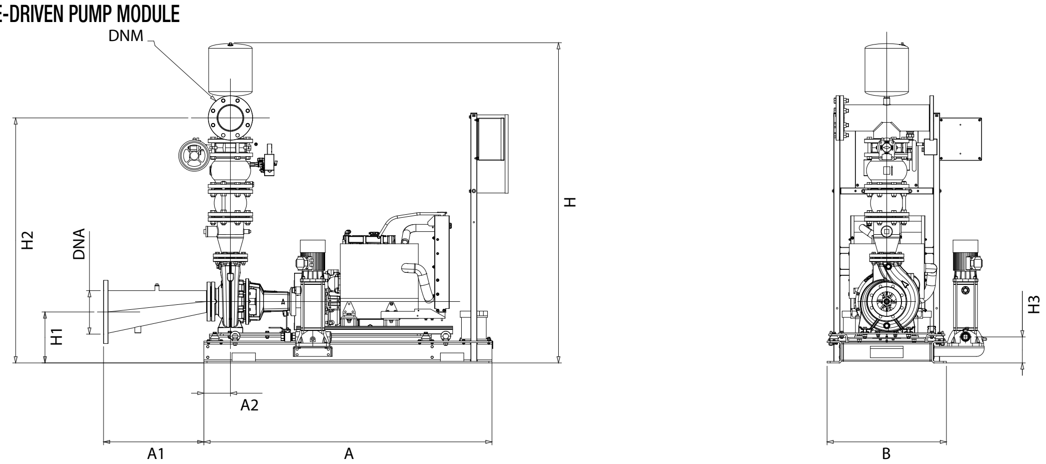
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 65-250/250 MD	3x230-400 V ~	KVCX 65/80 T	37	2,2	KDN 65 EN 12845	0,40 m²

* Jockey pump on request.

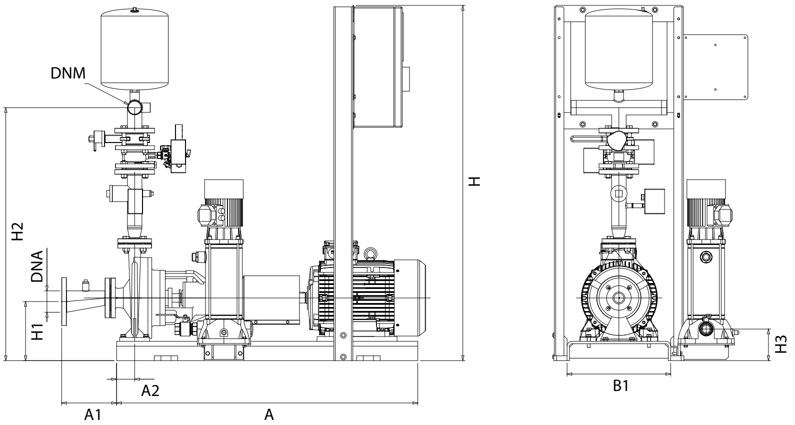
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



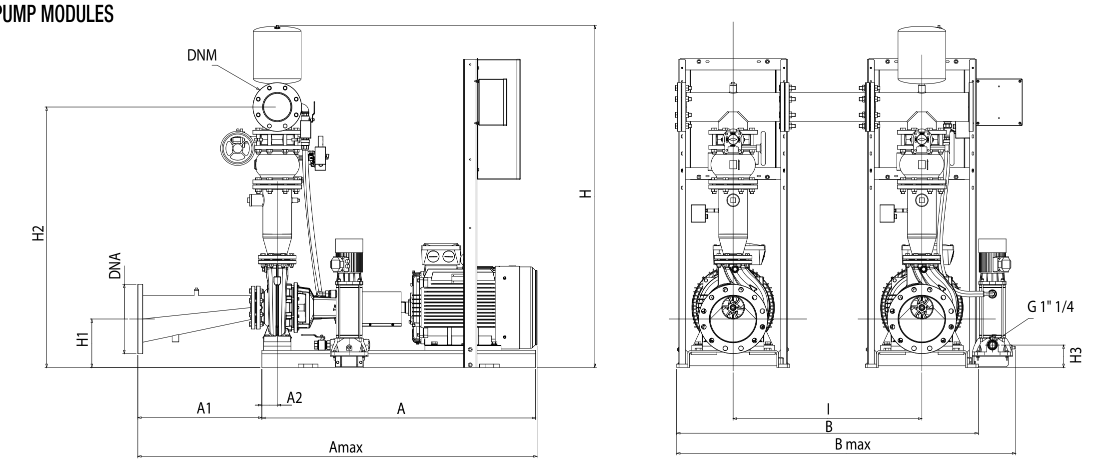
ELECTRIC PUMP MODULE



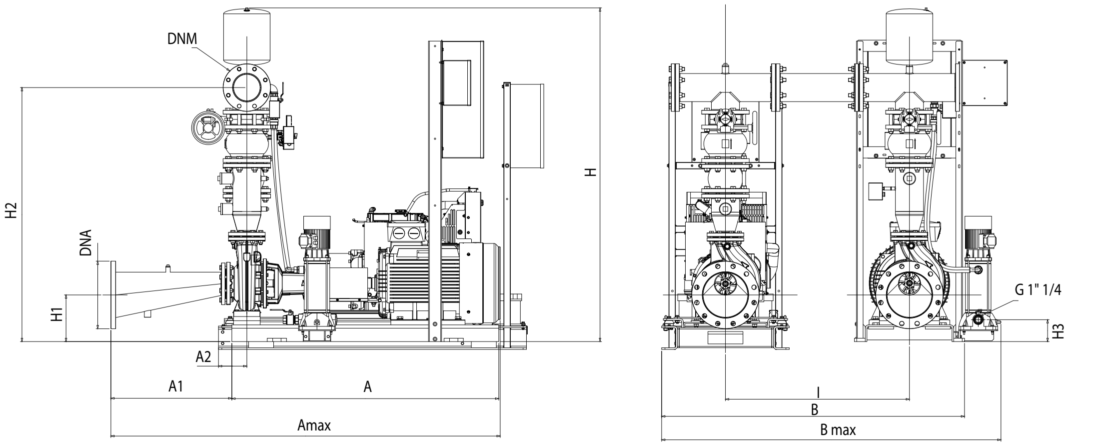
The dashed components are not included in the standard supply.

1 KDN 65-250/250 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

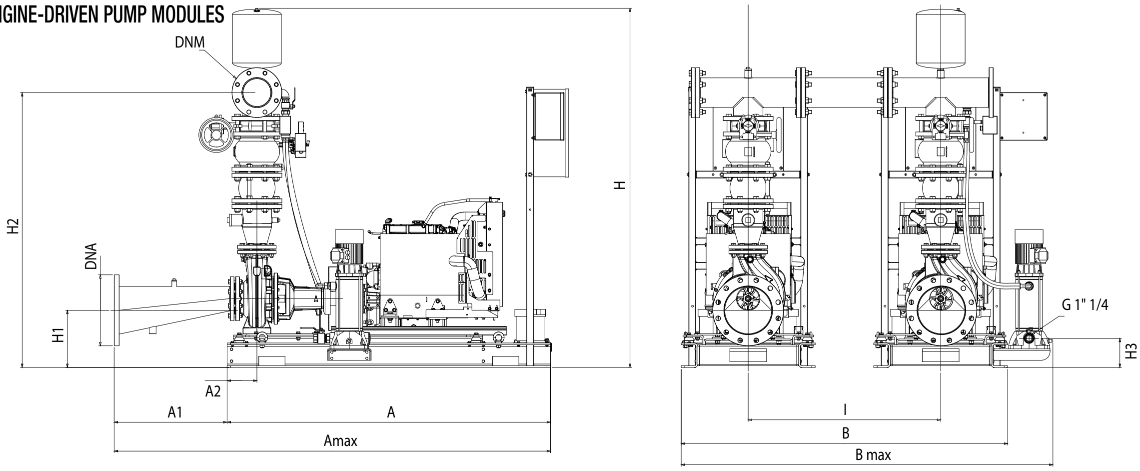
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

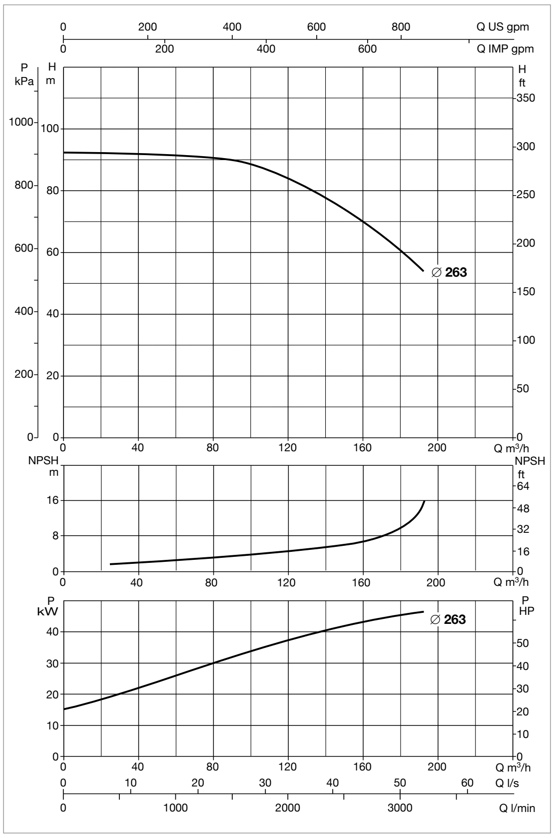


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 65-250/250 - DIESEL ENGINE DRIVEN PUMP MODULE	1846	311	170	2260	765	-	991	1954	353	1502	167	-	-	150	100	938	962
1 KDN 65-250/250 - ELECTRIC PUMP MODULE	1325	348	75	1748	590	480	862	1867	266	1408	131	-	-	150	100	921	945
1 KDN 65-250/250 - 2 ELECTRIC PUMP MODULES	1325	348	75	1748	1680	-	1952	1867	266	1408	131	-	900	150	100	1842	1866
1 KDN 65-250/250 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1846	311	170	2260	-	-	2256	1954	353	1502	167	-	900	150	100	1859	1883
1 KDN 65-250/250 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1846	311	170	2260	-	-	2256	1954	353	1502	167	-	900	150	100	1876	1900

1 KDN 65-250/263 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 65-250/263 45	3x400 V ~	KVCX 65/80 T	45	2,2	76	KDN 65 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

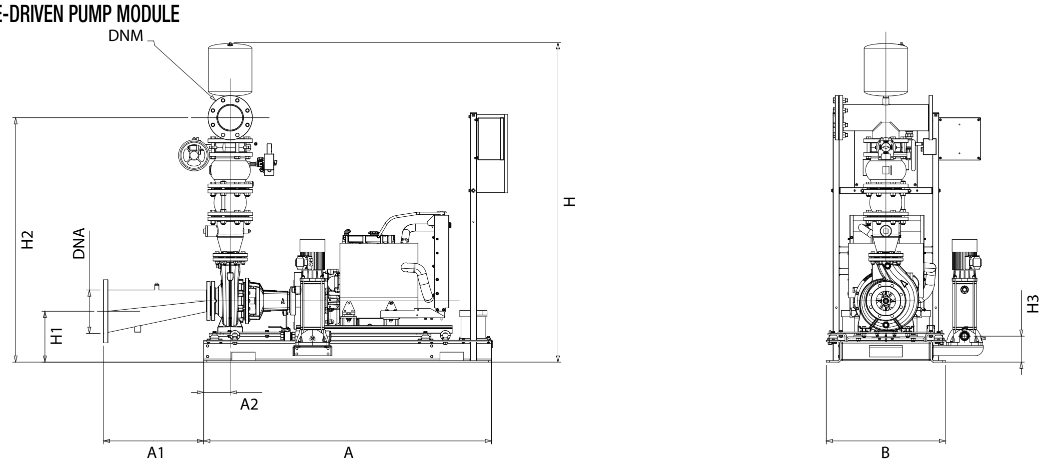
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 65-250/263 MD	3x230-400 V ~	KVCX 65/80 T	53	2,2	KDN 65 EN 12845	0,40 m²

* Jockey pump on request.

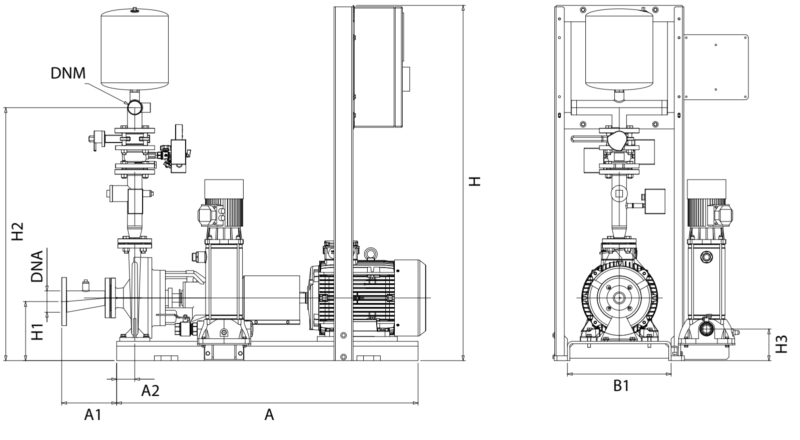
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



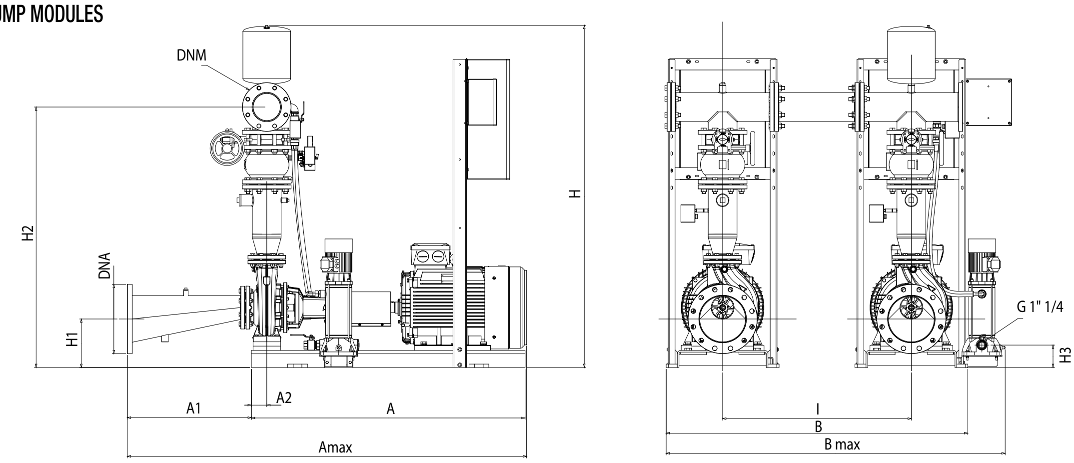
ELECTRIC PUMP MODULE



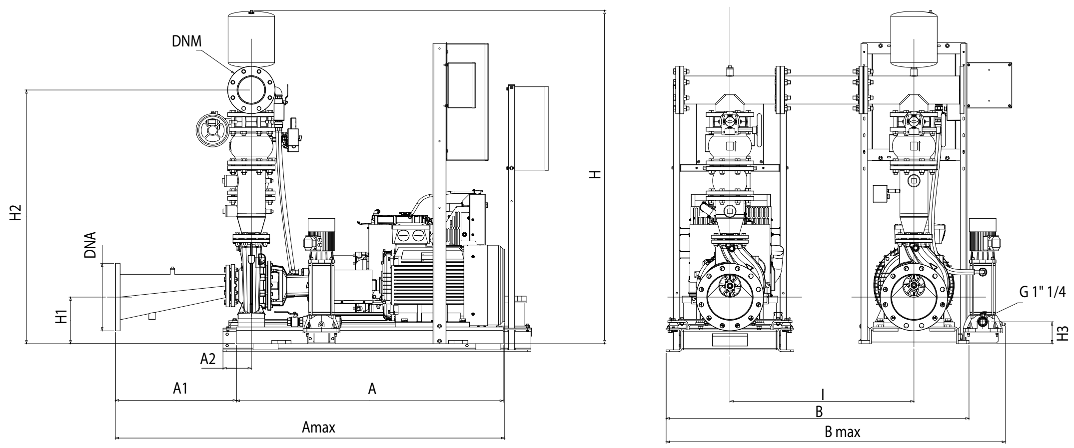
The dashed components are not included in the standard supply.

1 KDN 65-250/263 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

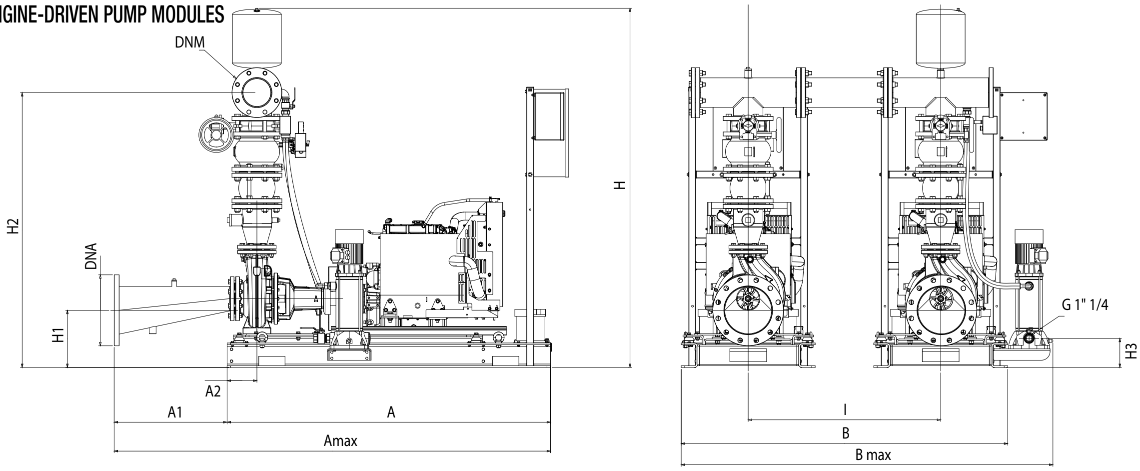
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

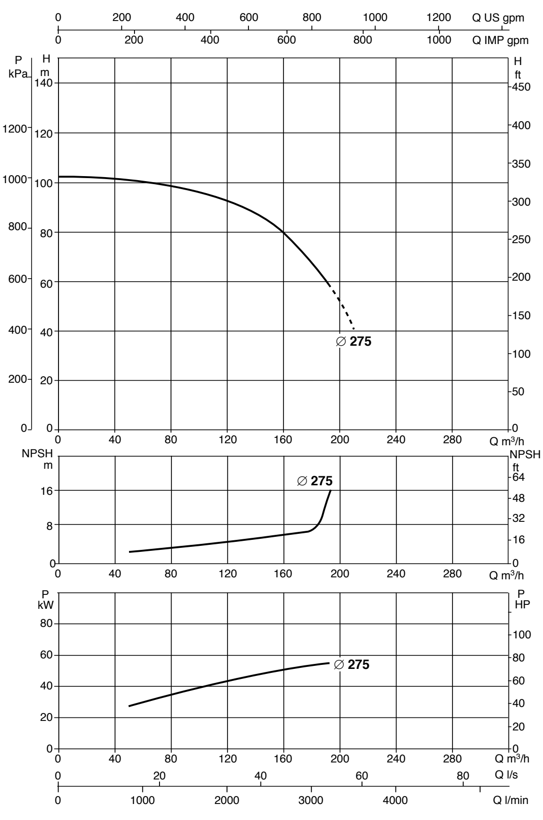


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 65-250/263 - DIESEL ENGINE DRIVEN PUMP MODULE	1846	311	170	2260	765	-	991	1954	353	1503	167	-	-	150	100	962	992
1 KDN 65-250/263 - ELECTRIC PUMP MODULE	1517	391	90	1907	590	480	862	1936	285	1433	131	-	-	150	100	945	975
1 KDN 65-250/263 - 2 ELECTRIC PUMP MODULES	1517	391	90	1907	1680	-	1952	1936	285	1433	131	-	900	150	100	1890	1920
1 KDN 65-250/263 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1846	311	170	2260	-	-	2256	1954	353	1503	167	-	900	150	100	1907	1937
1 KDN 65-250/263 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1846	311	170	2260	-	-	2256	1954	353	1503	167	-	900	150	100	1924	1954

1 KDN 65-315/275 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 65-315/275 55	3x400 V ~	KV 3/15 T	55	1,85	95	KDN 65 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

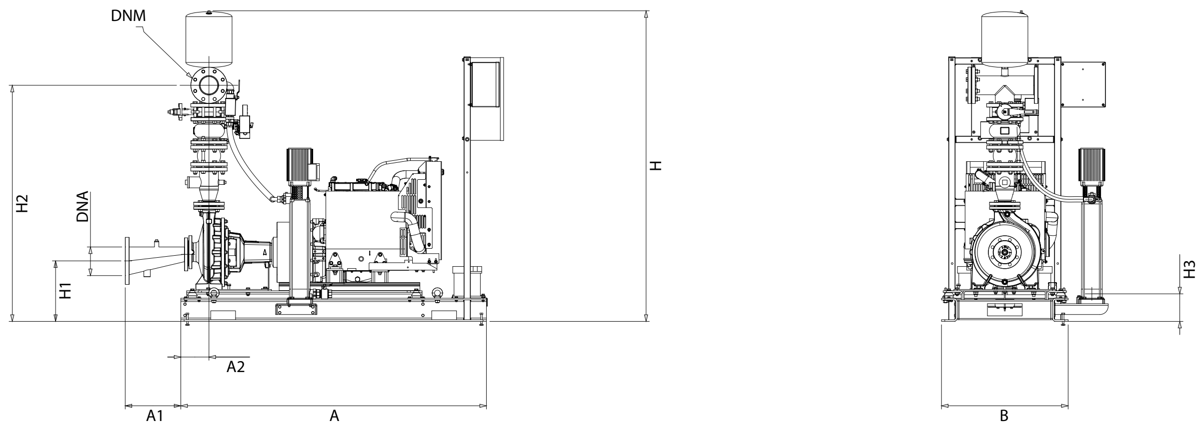
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 65-315/275 MD	3x230-400 V ~	KV 3/15 T	53	1,85	KDN 65 EN 12845	0,40 m²

* Jockey pump on request.

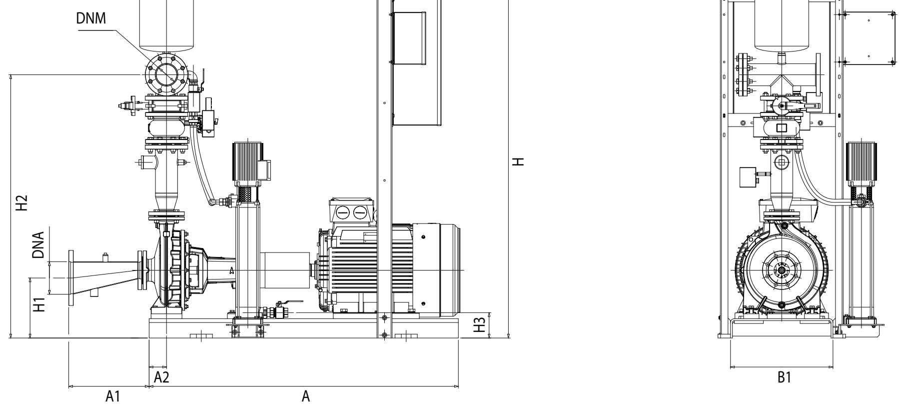
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE

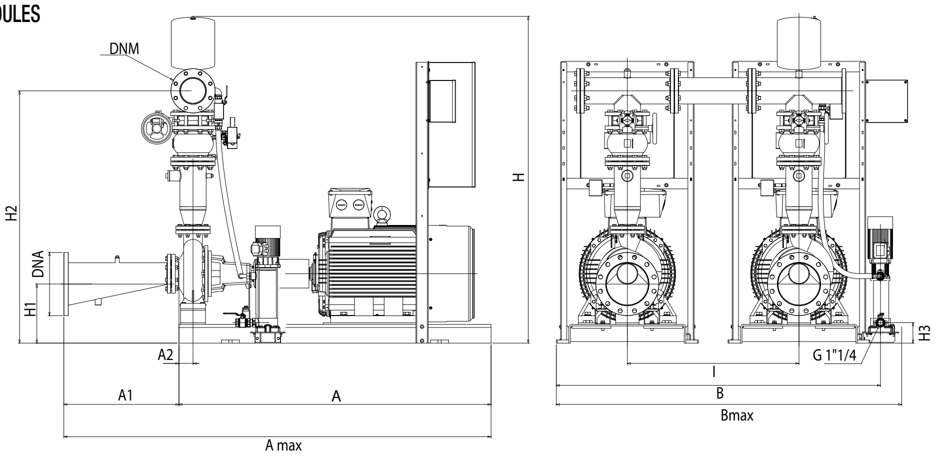


ELECTRIC PUMP MODULE

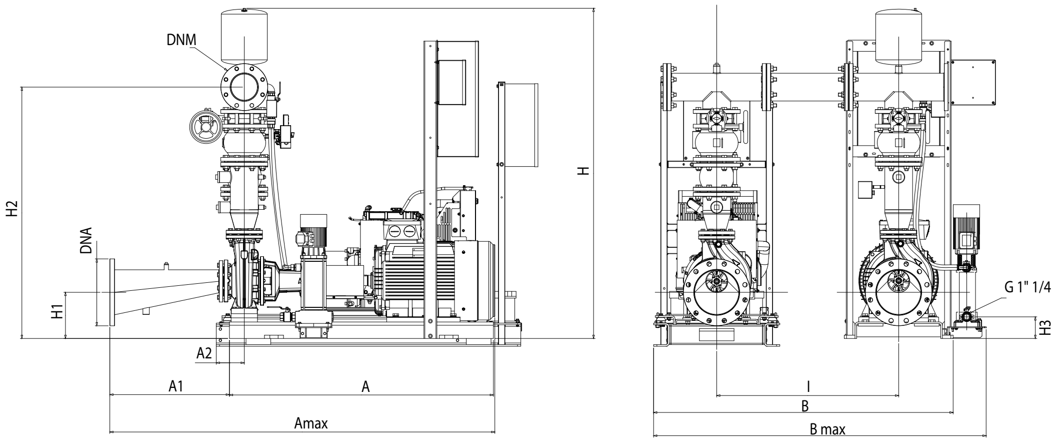


1 KDN 65-315/275 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

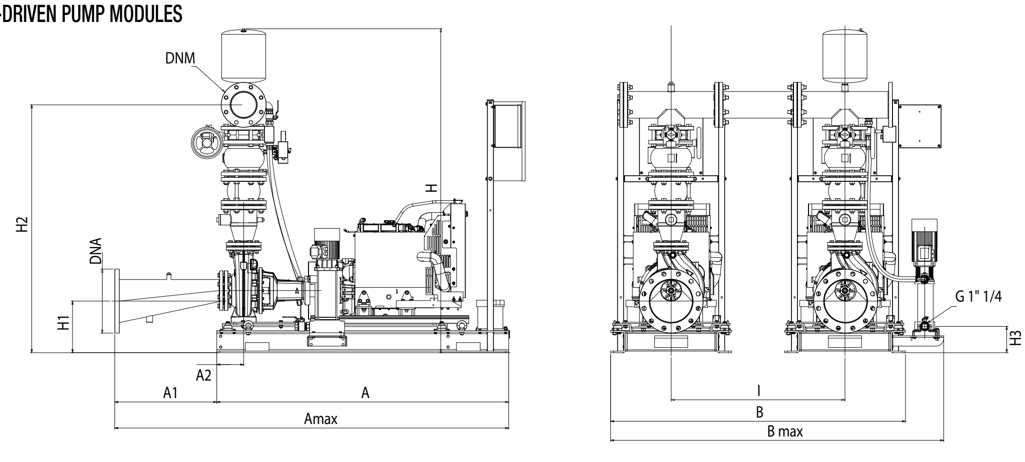
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

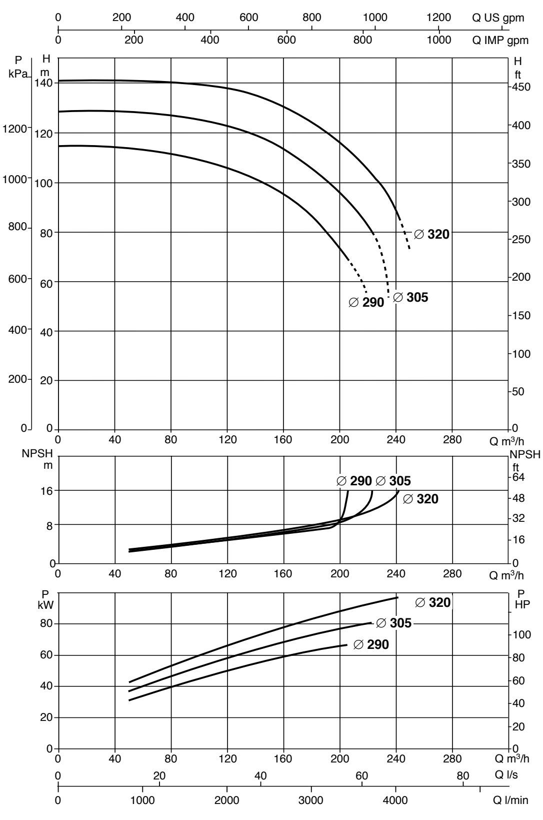


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H4	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 65-315/275 - DIESEL ENGINE DRIVEN PUMP MODULE	1846	311	170	2260	765	-	991	2009	366	1558	167	-	-	-	150	100	1038	1077
1 KDN 65-315/275 - ELECTRIC PUMP MODULE	1600	416	90	2021	640	530	917	1931	310	1491	131	-	-	-	150	100	1021	1060
1 KDN 65-315/275 - 2 ELECTRIC PUMP MODULES	1600	416	90	2021	1780	-	2057	1931	310	1491	131	-	-	900	150	100	2042	2081
1 KDN 65-315/275 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1846	311	170	2260	-	-	2256	2009	366	1558	167	-	-	900	150	100	2059	2098
1 KDN 65-315/275 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1846	311	170	2260	-	-	2256	2009	366	1558	167	-	-	900	150	100	2076	2115

1 KDN 65-315/290-305-320 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 65-315/290 75	3x400 V ~	KV 3/15 T	75	1,85	124	KDN 65 EN 12845
1 KDN 65-315/305 90	3x400 V ~	KV 3/18 T	90	2,2	148	KDN 65 EN 12845
1 KDN 65-315/320 110	3x400 V ~	KV 3/18 T	110	2,2	184	KDN 65 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

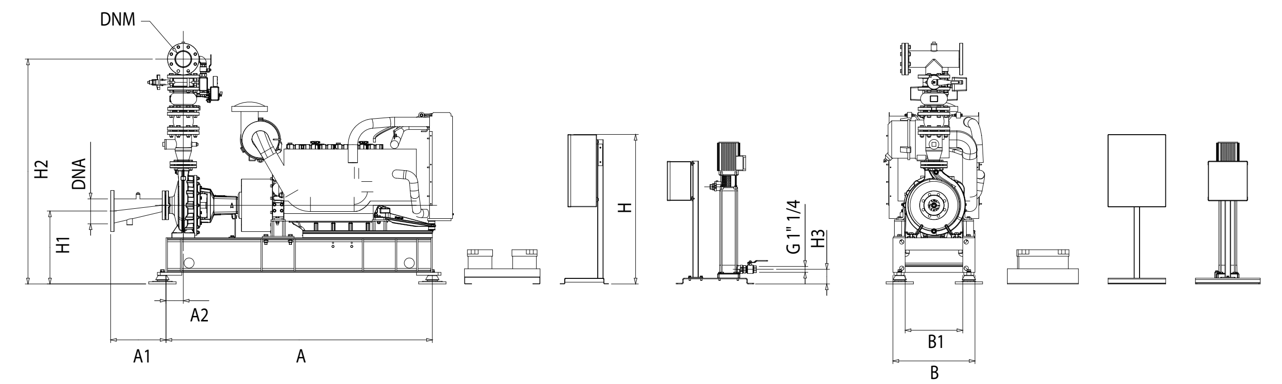
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 65-315/290 MD	3x230-400 V ~	KV 3/15 T	110	1,85	KDN 65 EN 12845	0,40 m²
1 KDN 65-315/305 MD	3x230-400 V ~	KV 3/18 T	110	2,2	KDN 65 EN 12845	0,40 m²
1 KDN 65-315/320 MD	3x230-400 V ~	KV 3/18 T	110	2,2	KDN 65 EN 12845	0,40 m²

* Jockey pump on request.

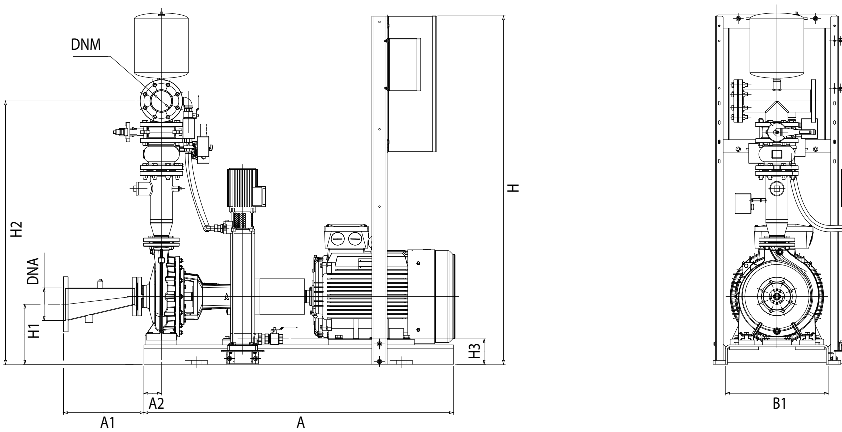
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE

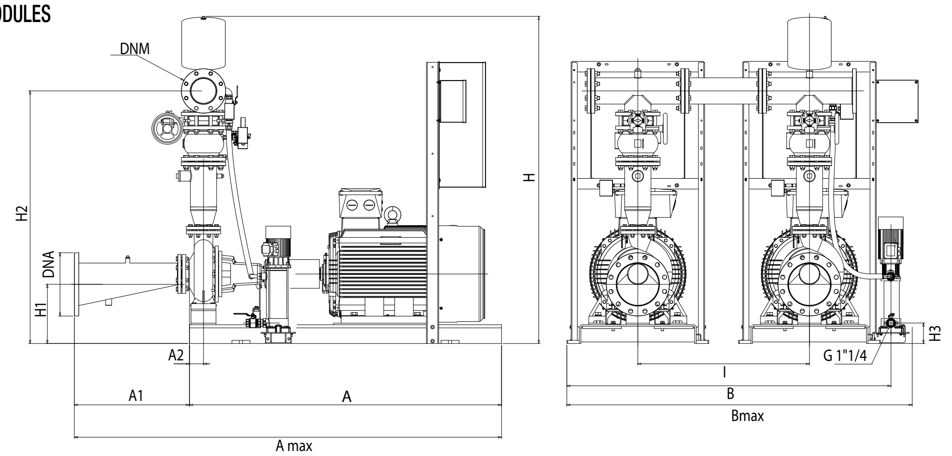


ELECTRIC PUMP MODULE

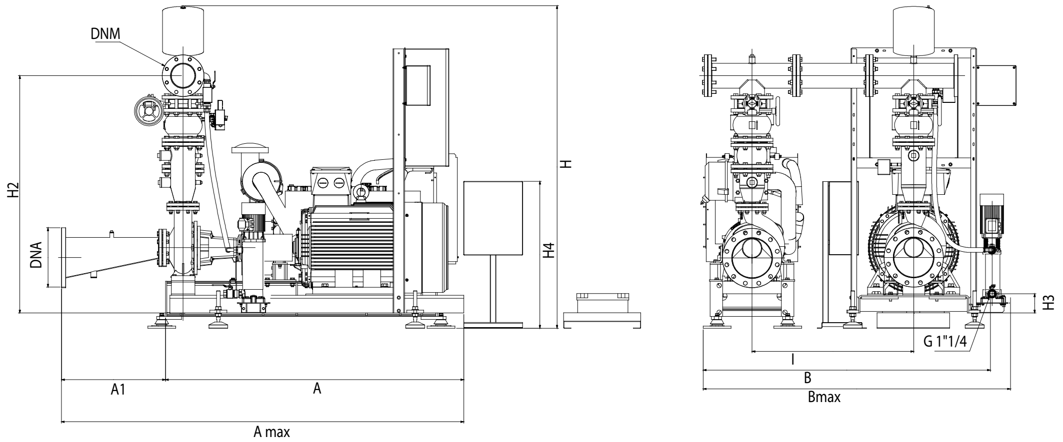


1 KDN 65-315/290-305-320 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

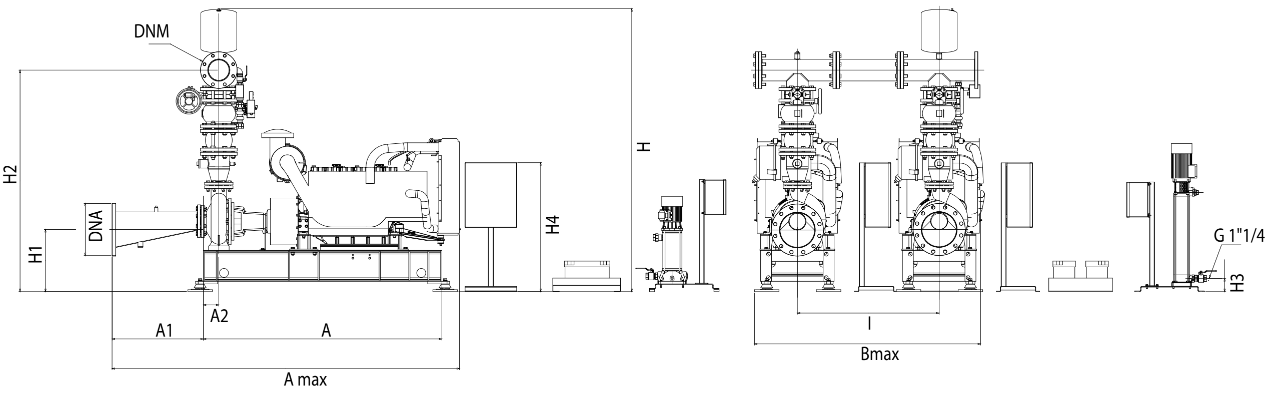
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

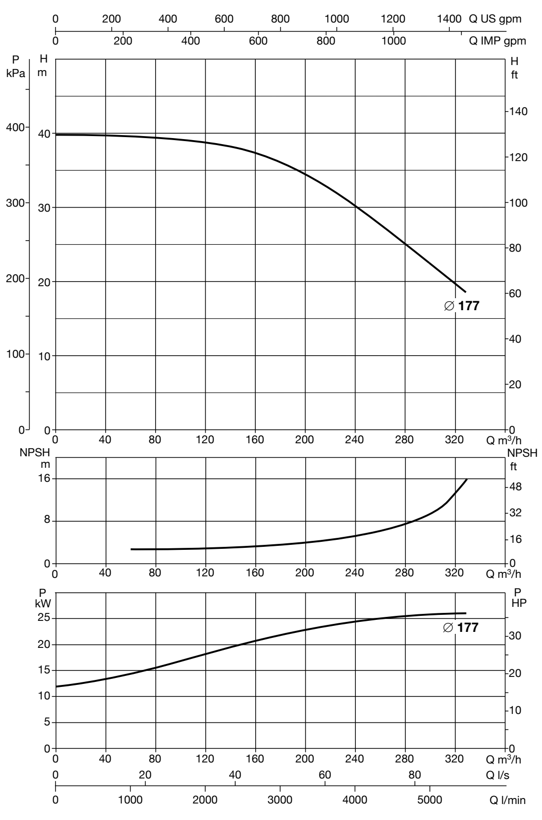


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H4	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 65-315/290-305-320 - DIESEL ENGINE DRIVEN PUMP MODULE	1850	385	120	2377	570	-	685	1167	506	1689	101	734	-	-	150	100	1957	1977
1 KDN 65-315/290-305-320 - ELECTRIC PUMP MODULE	2000	416	90	2417	860	750	1152	1931	395	1576	131	734	-	-	150	100	1979	1999
1 KDN 65-315/290-305-320 - 2 ELECTRIC PUMP MODULES	2000	416	90	2417	2220	-	2512	1931	395	1576	131	734	-	900	150	100	3958	3978
1 KDN 65-315/290-305-320 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1850	385	120	2377	-	-	1755	1931	506	1576	101	734	-	900	150	100	3936	3956
1 KDN 65-315/290-305-320 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1850	385	120	2377	-	-	1755	1167	506	1689	101	734	-	900	150	100	3914	3934

1 KDN 80-160/177 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 80-160/177 30	3x400 V ~	KVCX 65/80 T	30	2,2	52	KDN 80 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

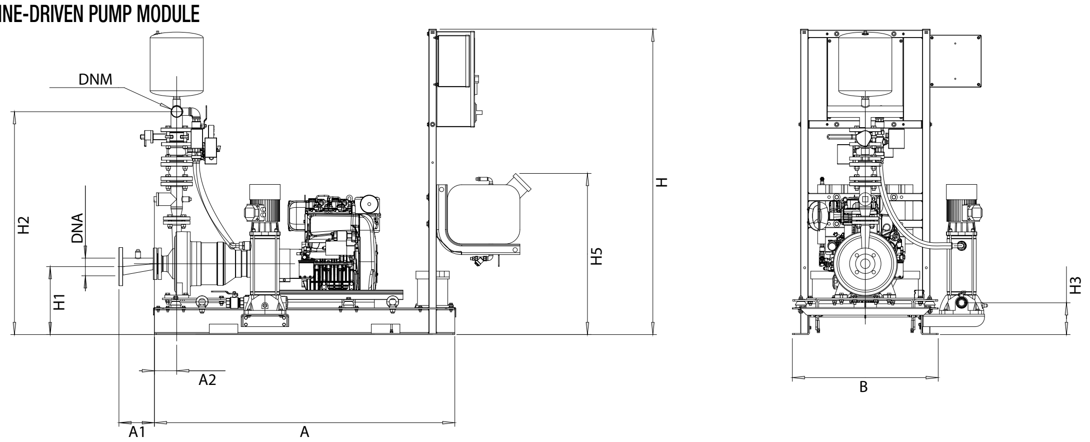
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 80-160/177 MD	3x230-400 V ~	KVCX 65/80 T	26	2,2	KDN 80 EN 12845	0,22 m²

* Jockey pump on request.

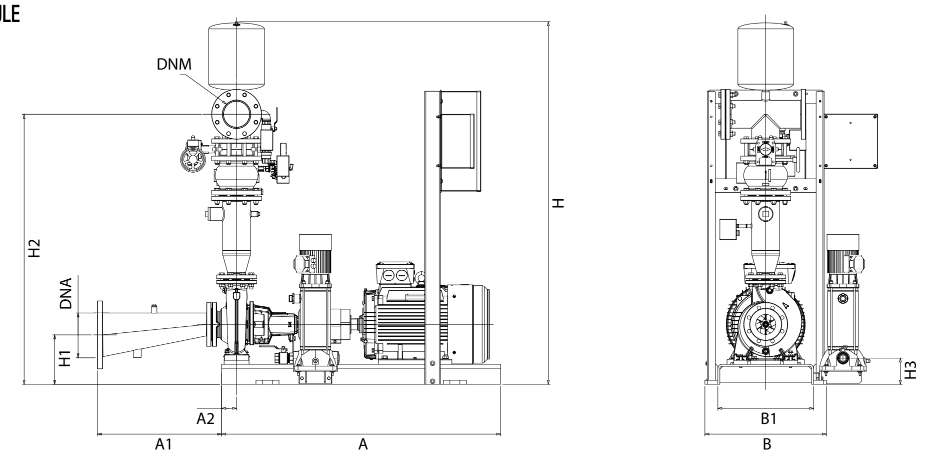
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



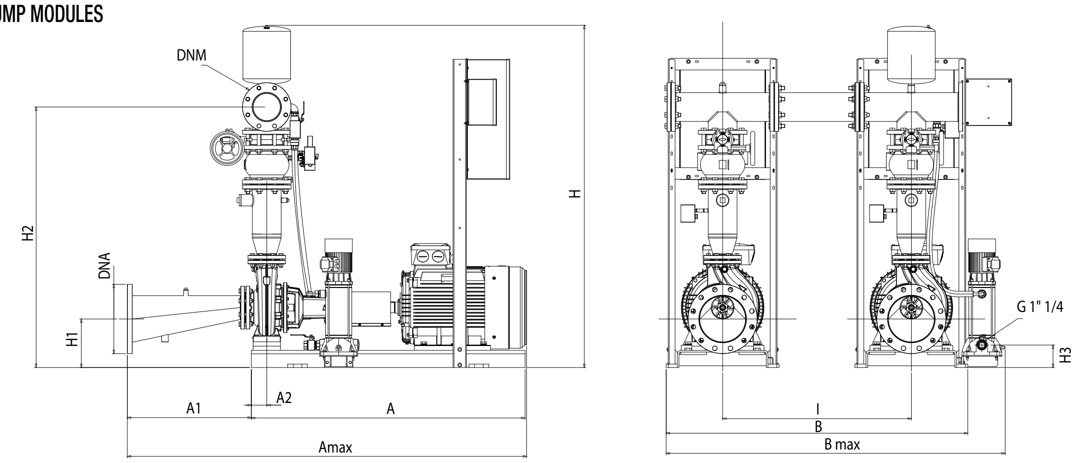
ELECTRIC PUMP MODULE



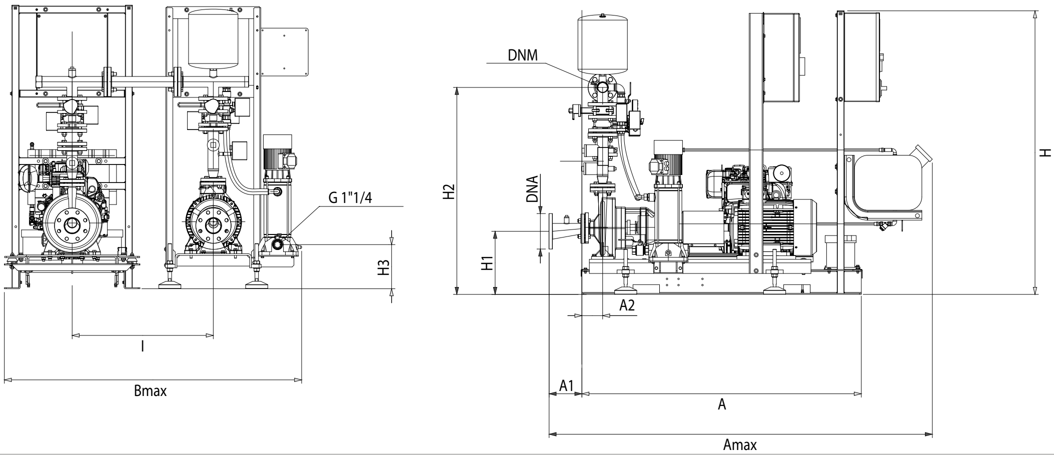
The dashed components are not included in the standard supply.

1 KDN 80-160/177 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

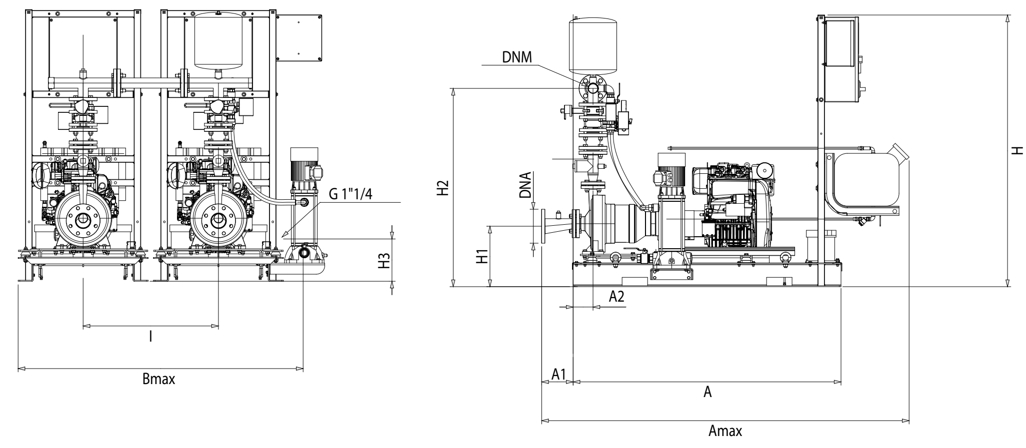
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

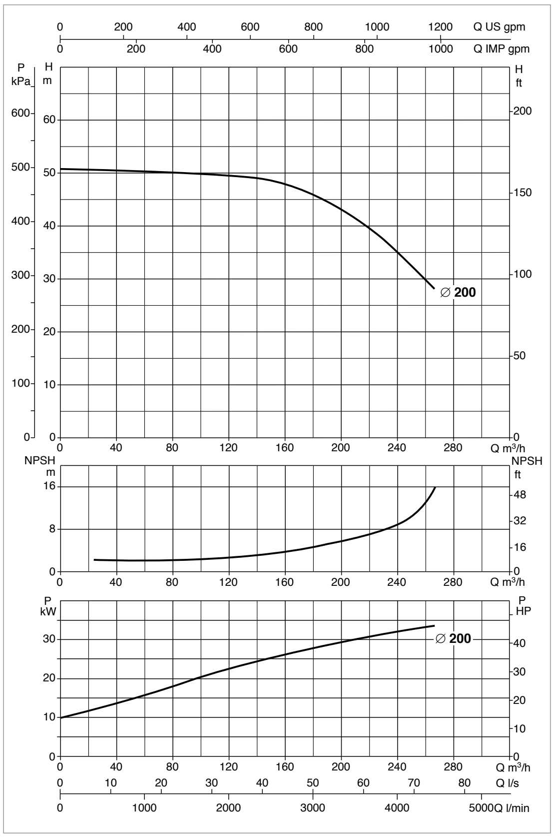


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 80-160/177 - DIESEL ENGINE DRIVEN PUMP MODULE	1576	582	117	2559	765	-	1066	1750	319	1572	167	844	-	200	125	734	752
1 KDN 80-160/177 - ELECTRIC PUMP MODULE	1400	623	75	2023	610	480	867	1966	248	1503	131	-	-	200	125	700	748
1 KDN 80-160/177 - 2 ELECTRIC PUMP MODULES	1400	623	75	2023	1720	-	1977	1966	248	1503	131	-	900	200	125	1400	1448
1 KDN 80-160/177 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1576	582	117	2559	-	-	2331	1966	319	1572	167	844	900	200	125	1434	1482
1 KDN 80-160/177 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1576	582	117	2559	-	-	2331	1750	319	1572	167	844	900	200	125	1468	1486

1 KDN 80-200/200 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 80-200/200 37	3x400 V ~	KVCX 65/80 T	37	2,2	63	KDN 80 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

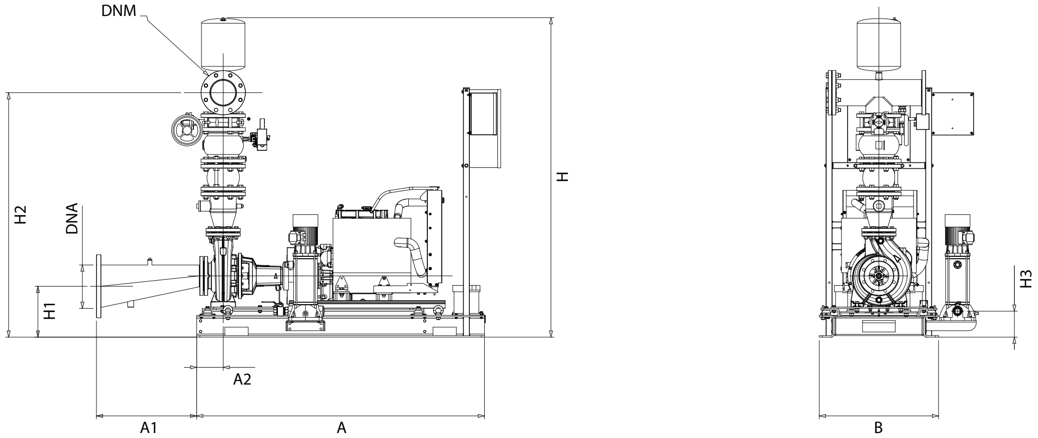
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 80-200/200 MD	3x230-400 V ~	KVCX 65/80 T	37	2,2	KDN 80 EN 12845	0,40 m^2

* Jockey pump on request.

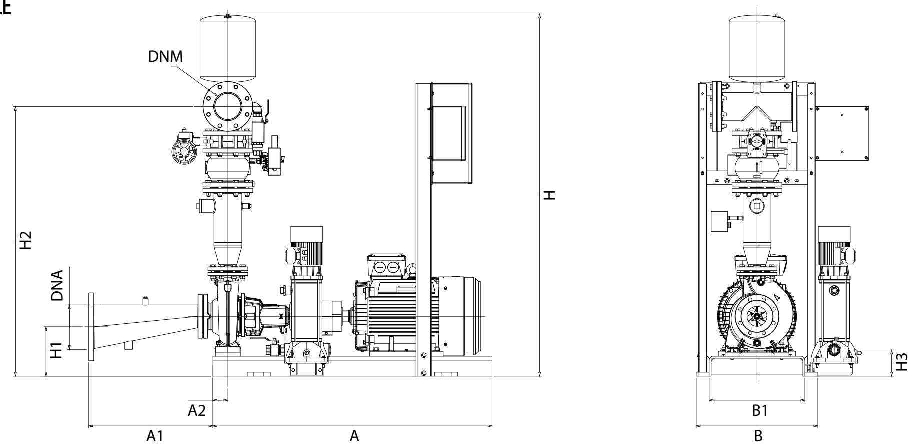
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



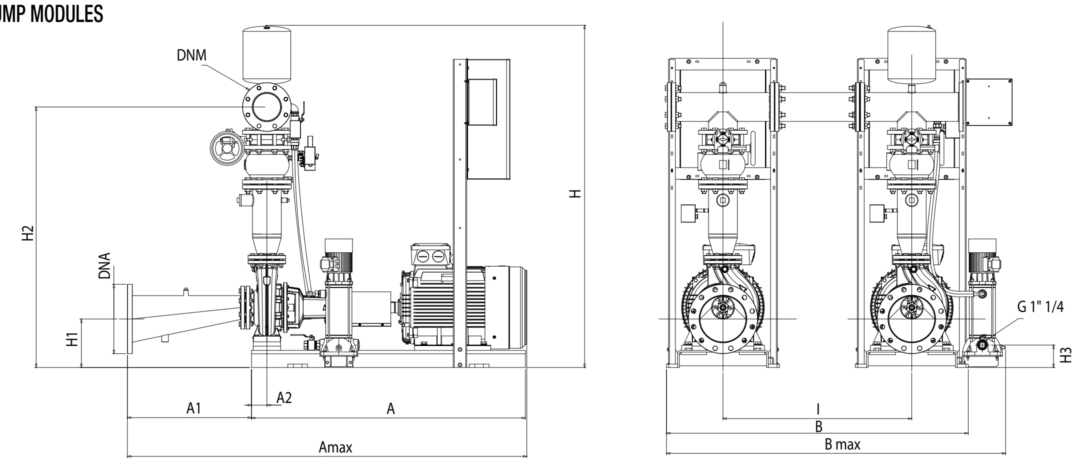
ELECTRIC PUMP MODULE



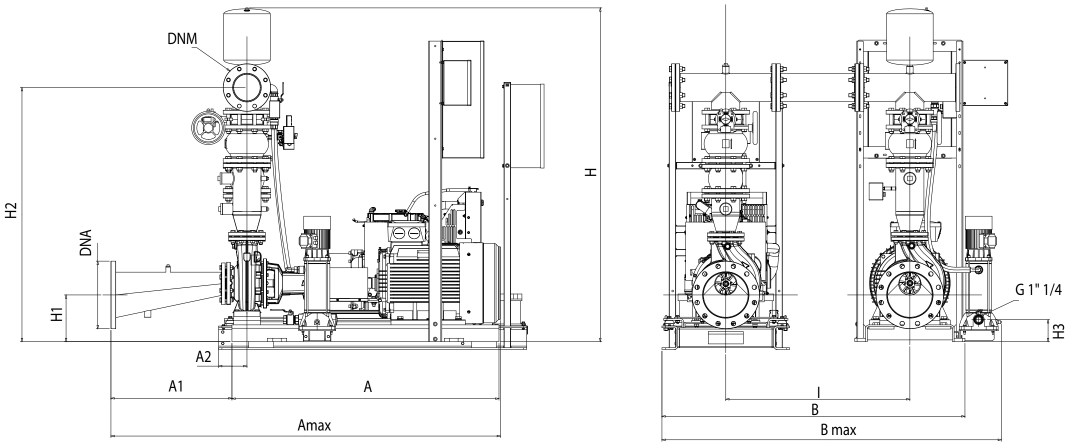
The dashed components are not included in the standard supply.

1 KDN 80-200/200 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

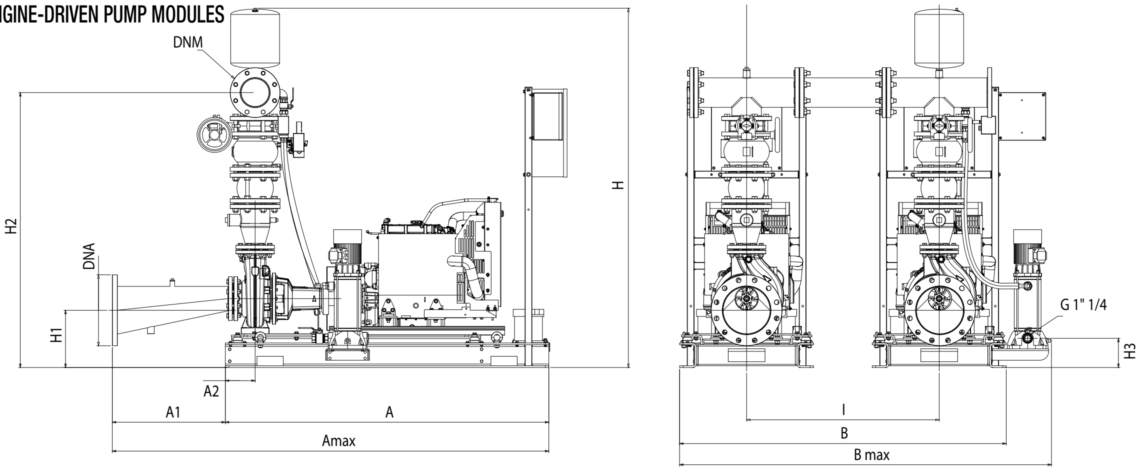
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

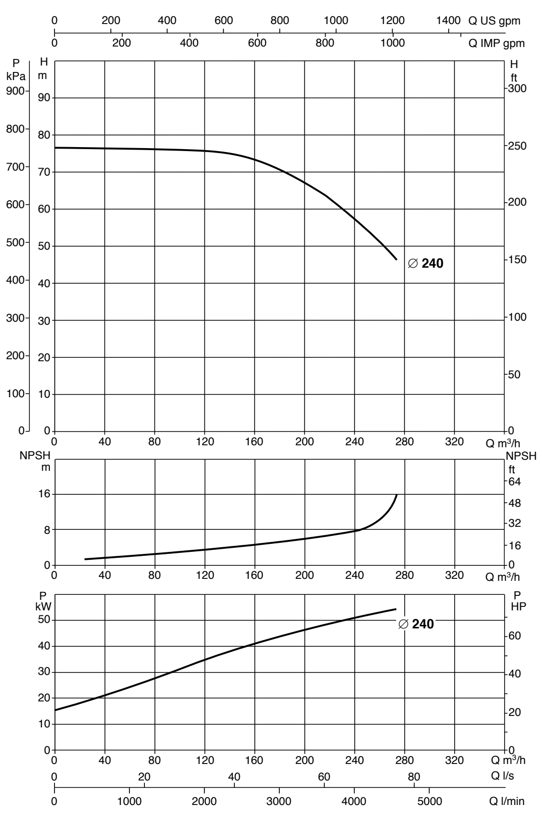


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 80-200/200 - DIESEL ENGINE DRIVEN PUMP MODULE	1846	525	170	2479	765	-	1023	1974	320	1604	167	-	-	200	125	877	897
1 KDN 80-200/200 - ELECTRIC PUMP MODULE	1400	623	75	2077	610	480	867	1991	248	1528	131	-	-	200	125	990	1015
1 KDN 80-200/200 - 2 ELECTRIC PUMP MODULES	1400	623	75	2077	1720	-	1977	1991	248	1528	131	-	900	200	125	1980	2005
1 KDN 80-200/200 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1846	525	170	2479	-	-	2288	1991	320	1604	167	-	900	200	125	1867	1892
1 KDN 80-200/200 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1846	525	170	2479	-	-	2288	1974	320	1604	167	-	900	200	125	1754	1774

1 KDN 80-250/240 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 80-250/240 55	3x400 V ~	KVCX 65/80 T	55	2,2	95	KDN 80 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

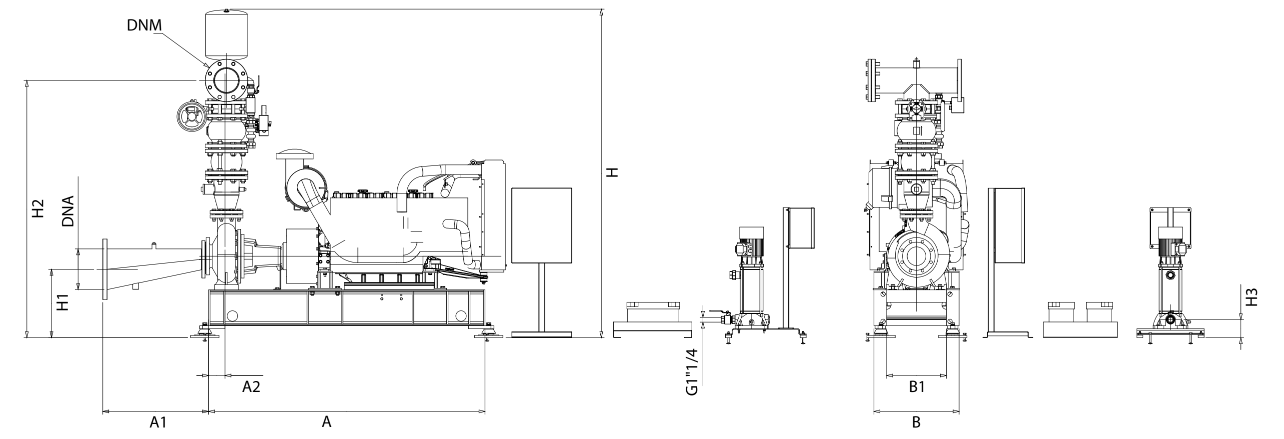
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 80-250/240 MD	3x230-400 V ~	KVCX 65/80 T	73,5	2,2	KDN 80 EN 12845	0,40 m²

* Jockey pump on request.

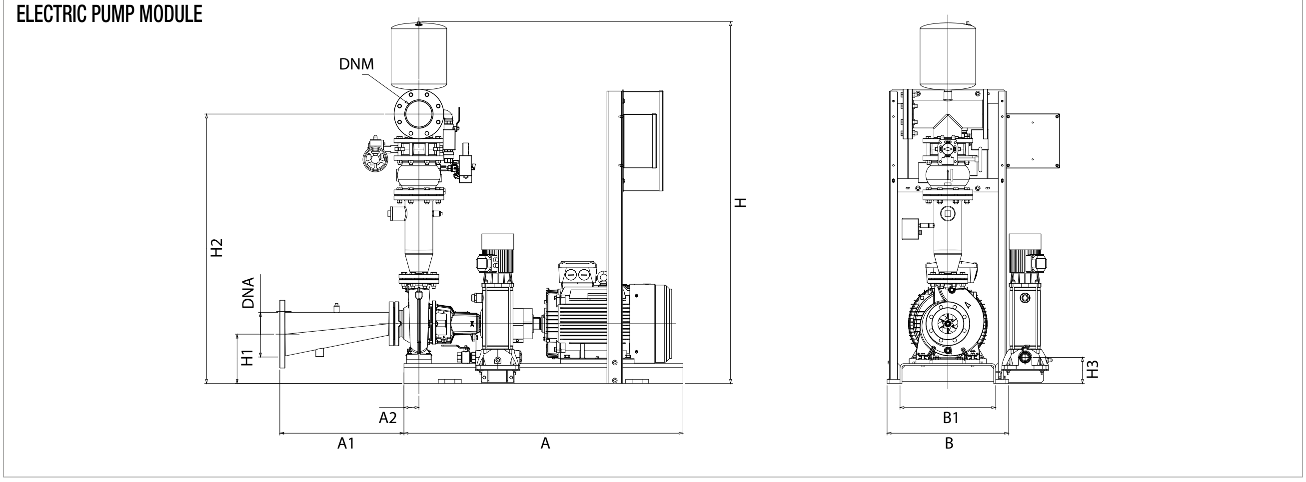
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



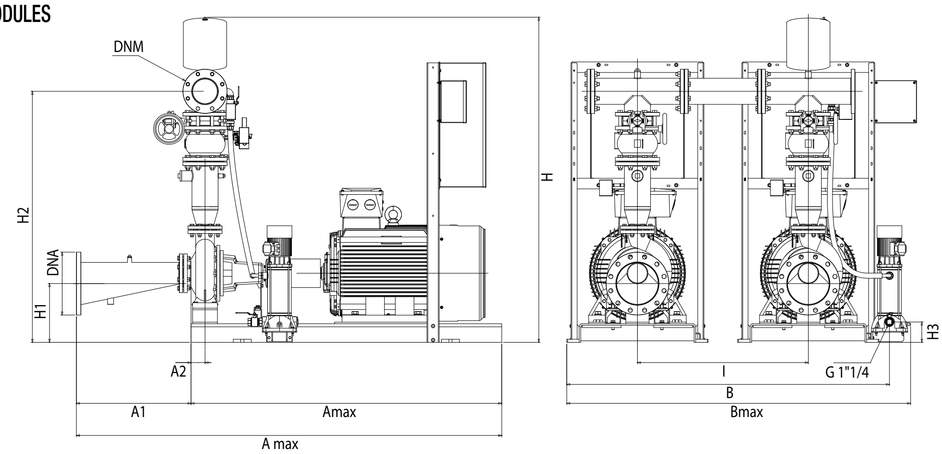
ELECTRIC PUMP MODULE



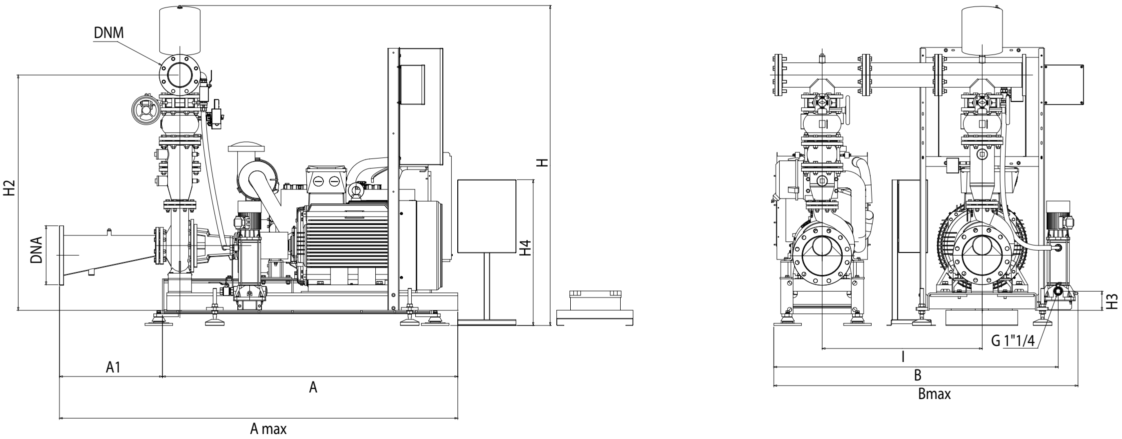
The dashed components are not included in the standard supply.

1 KDN 80-250/240 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

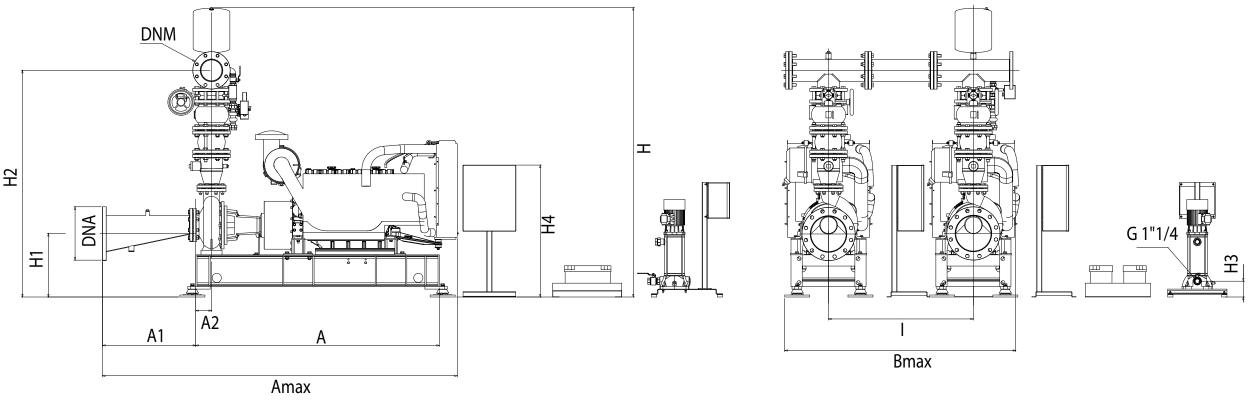
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

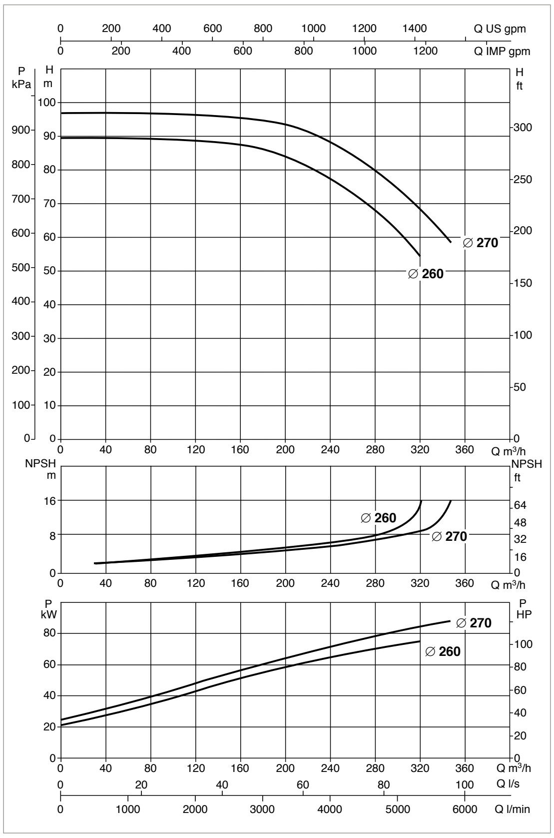


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H4	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 80-250/240 - DIESEL ENGINE DRIVEN PUMP MODULE	1626	578	120	2326	570	-	675	1187	468	1781	120	734	-	-	200	125	1042	1096
1 KDN 80-250/240 - ELECTRIC PUMP MODULE	1600	608	90	2217	660	530	917	2071	298	1608	131	734	-	-	200	125	1025	1079
1 KDN 80-250/240 - 2 ELECTRIC PUMP MODULES	1600	608	90	2217	1820	-	2077	2071	298	1608	131	734	-	900	200	125	2050	2104
1 KDN 80-250/240 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1626	578	120	2326	-	-	1745	2071	468	1608	120	734	-	900	200	125	2067	2121
1 KDN 80-250/240 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1626	578	120	2326	-	-	1745	1187	468	1781	120	734	-	900	200	125	2084	2138

1 KDN 80-250/260-270 -UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 80-250/260 75	3x400 V ~	KVCX 65/80 T	75	2,2	124	KDN 80 EN 12845
1 KDN 80-250/270 90	3x400 V ~	KVCX 65/80 T	90	2,2	148	KDN 80 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

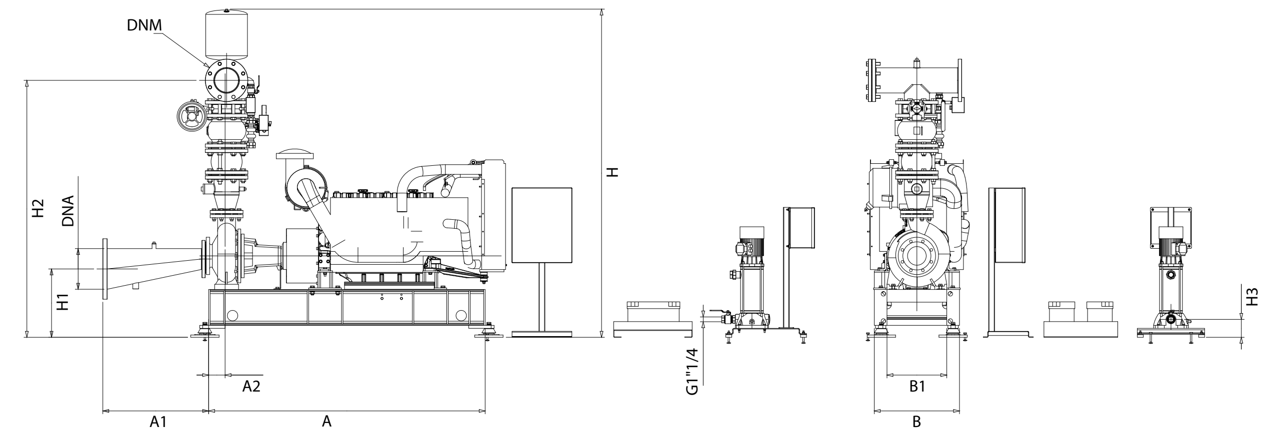
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 80-250/260 MD	3x230-400 V ~	KVCX 65/80 T	110	2,2	KDN 80 EN 12845	0,40 m²
1 KDN 80-250/270 MD	3x230-400 V ~	KVCX 65/80 T	110	2,2	KDN 80 EN 12845	0,40 m²

* Jockey pump on request.

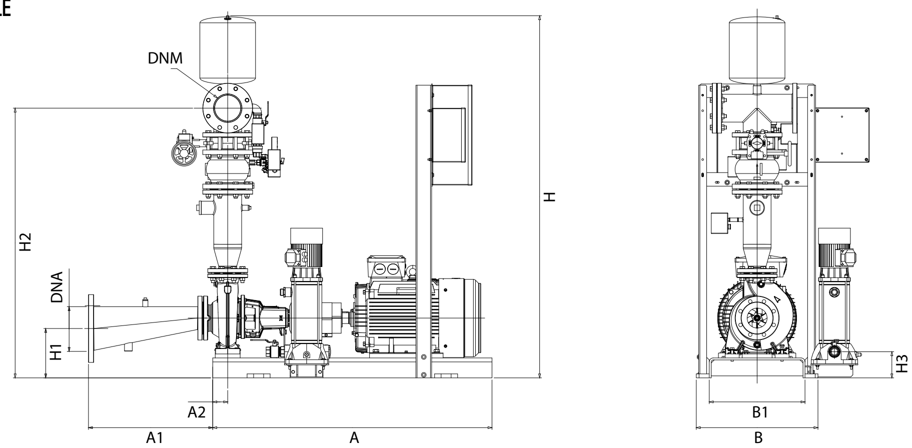
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



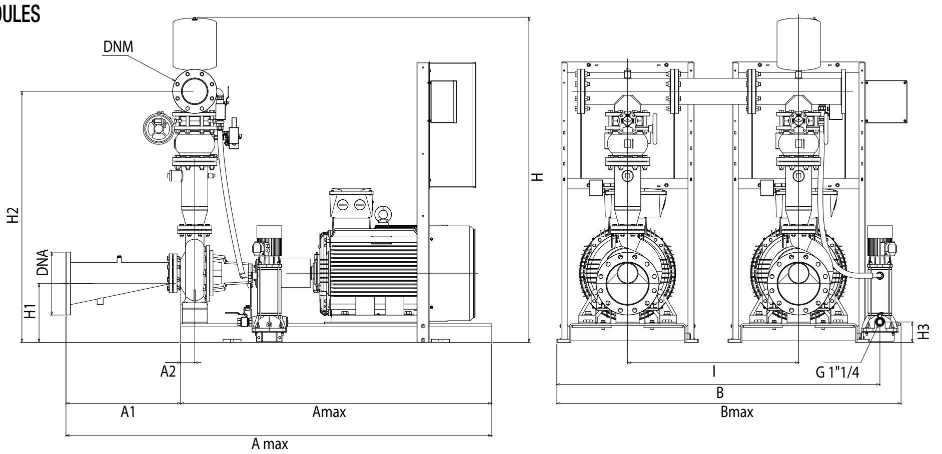
ELECTRIC PUMP MODULE



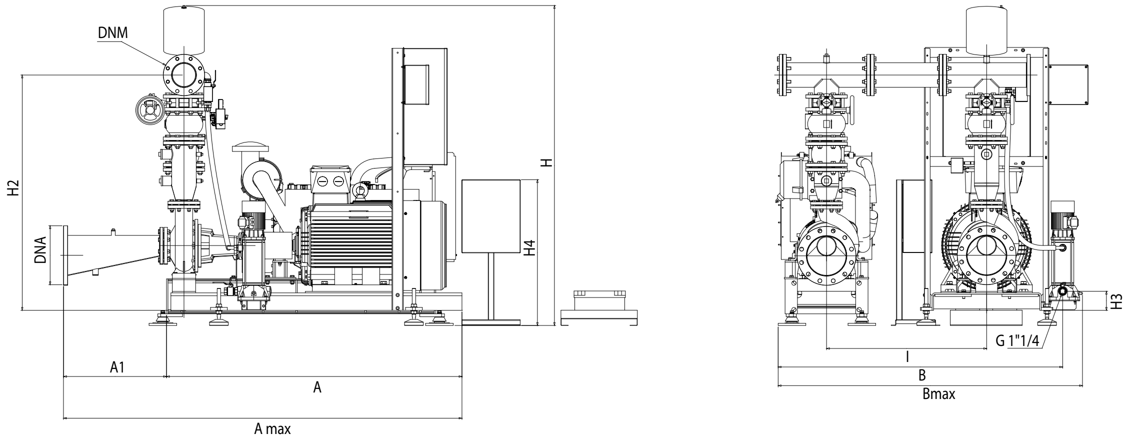
The dashed components are not included in the standard supply.

1 KDN 80-250/260-270 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

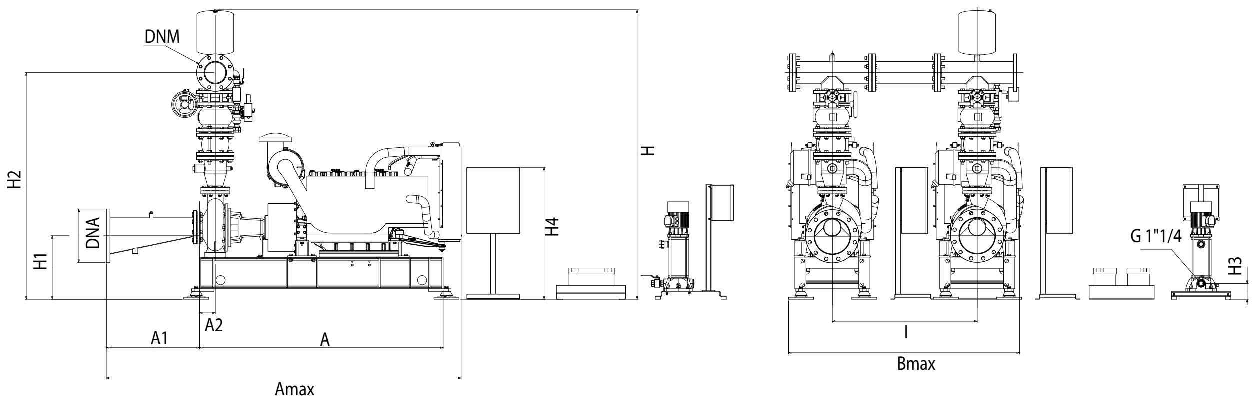
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

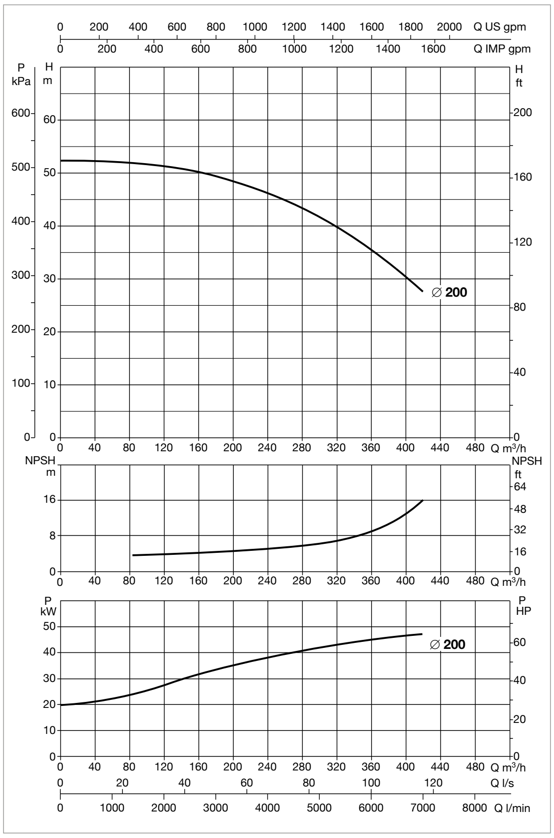


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H4	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 80-250/260-270 - DIESEL ENGINE DRIVEN PUMP MODULE	1850	578	120	2576	570	-	693	1187	468	1781	120	734	-	-	200	125	1484	1512
1 KDN 80-250/260-270 - ELECTRIC PUMP MODULE	1800	608	90	2408	730	600	987	2101	328	1638	131	734	-	-	200	125	1467	1495
1 KDN 80-250/260-270 - 2 ELECTRIC PUMP MODULES	1800	608	90	2408	1960	-	2217	2101	328	1638	131	734	-	900	200	125	2934	2962
1 KDN 80-250/260-270 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1850	578	120	2576	-	-	1763	2101	468	1638	120	734	-	900	200	125	2951	2979
1 KDN 80-250/260-270 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1850	578	120	2576	-	-	1763	1187	468	1781	120	734	-	900	200	125	2968	2996

1 KDN 100-200/200 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	METER KIT
1 KDN 100-200/200 55	3x400 V ~	KVCX 65/80 T	55	2,2	95	KDN 100 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

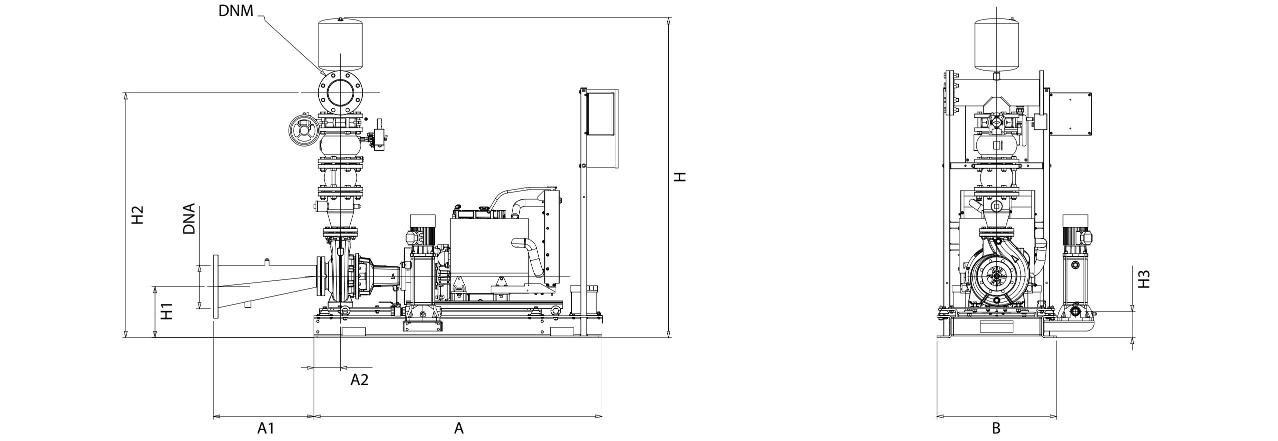
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP kW	P2 JOCKEY PUMP kW	METER KIT	FAN SURFACE
1 KDN 100-200/200 MD	3x230-400 V ~	KVCX 65/80 T	53	2,2	KDN 100 EN 12845	0,40 m²

* Jockey pump on request.

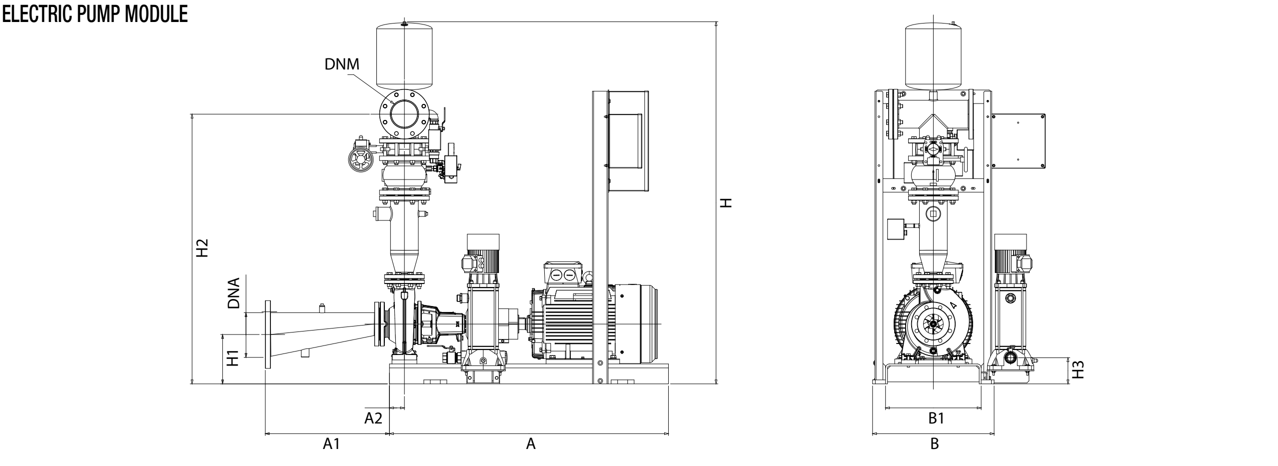
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



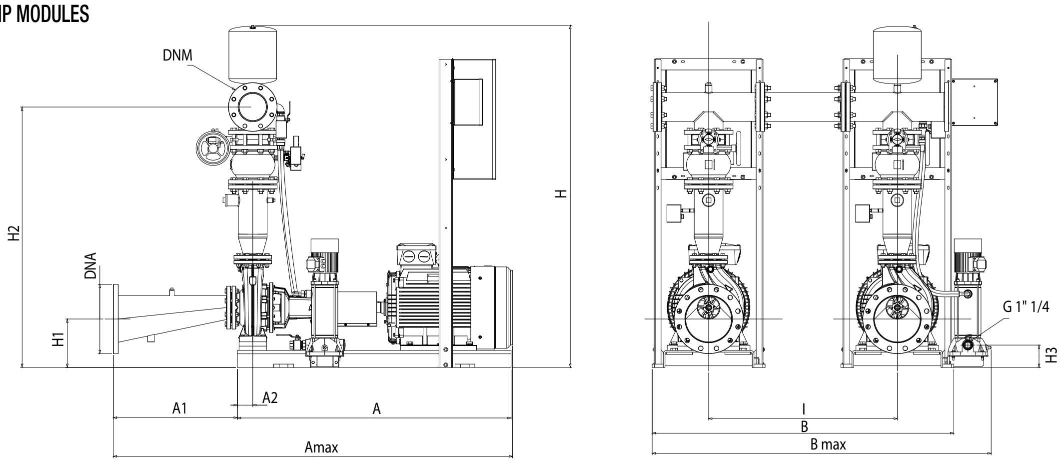
ELECTRIC PUMP MODULE



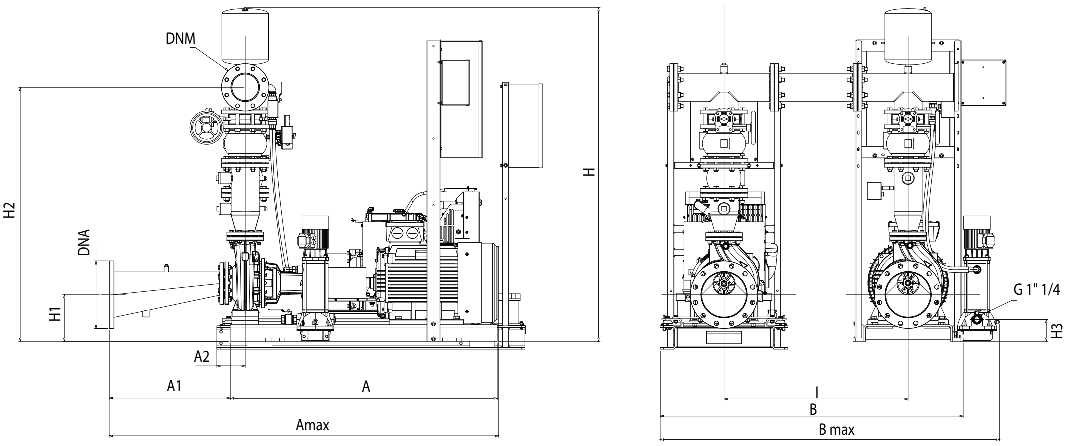
The dashed components are not included in the standard supply.

1 KDN 100-200/200 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

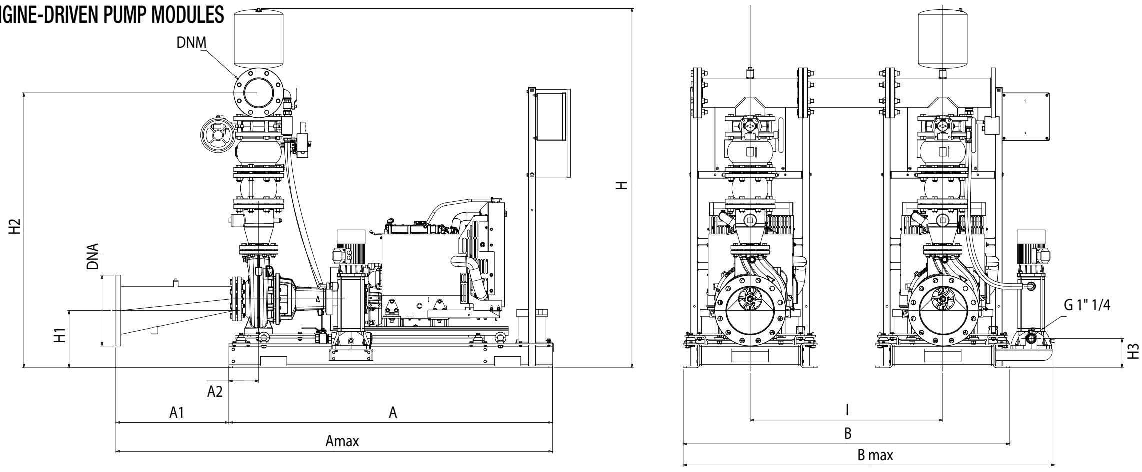
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

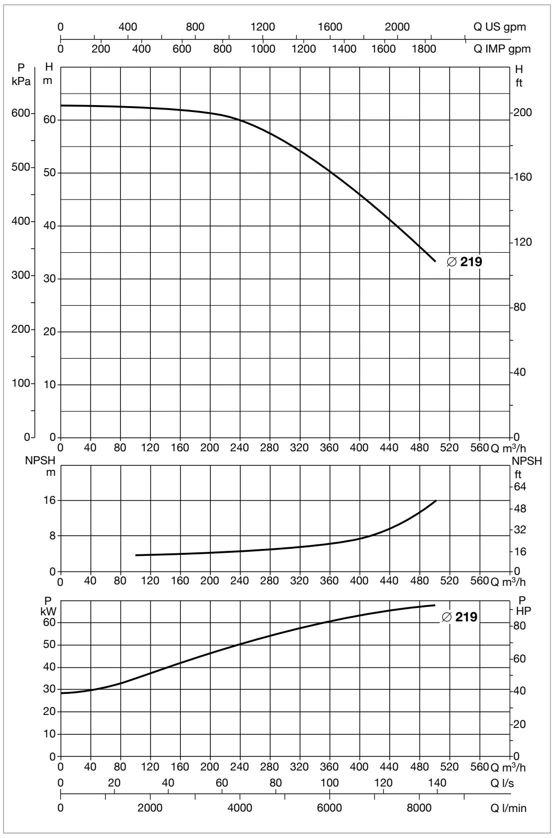


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 100-200/200 - DIESEL ENGINE DRIVEN PUMP MODULE	1846	643	170	2593	765	-	991	2029	328	1719	167	-	-	250	150	1076	1102
1 KDN 100-200/200 - ELECTRIC PUMP MODULE	1600	723	90	2332	720	600	917	2149	283	1672	131	-	-	250	150	1059	1085
1 KDN 100-200/200 - 2 ELECTRIC PUMP MODULES	1600	723	90	2332	1940	-	2137	2149	283	1672	131	-	1100	250	150	2118	2144
1 KDN 100-200/200 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1846	643	170	2593	-	-	2256	2149	328	1719	167	-	1100	250	150	2135	2161
1 KDN 100-200/200 -2 DIESEL ENGINE DRIVEN PUMP MODULES	1846	643	170	2593	-	-	2256	2029	328	1719	167	-	1100	250	150	2152	2178

1 KDN 100-200/219 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 100-200/219 75	3x400 V ~	KVCX 65/80 T	75	2,2	124	KDN 100 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

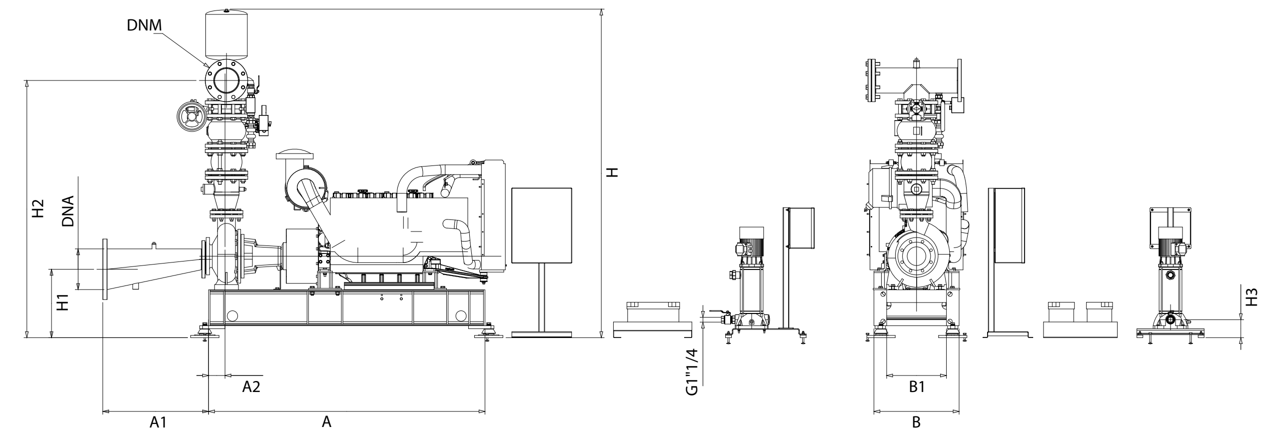
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 100-200/219 MD	3x230-400 V ~	KVCX 65/80 T	73,5	2,2	KDN 100 EN 12845	0,40 m²

* Jockey pump on request.

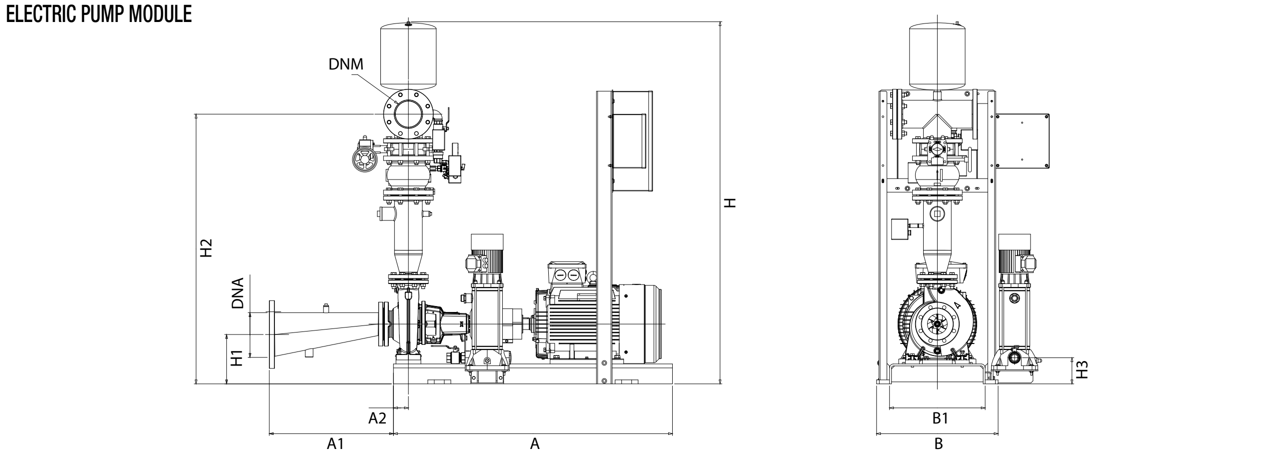
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



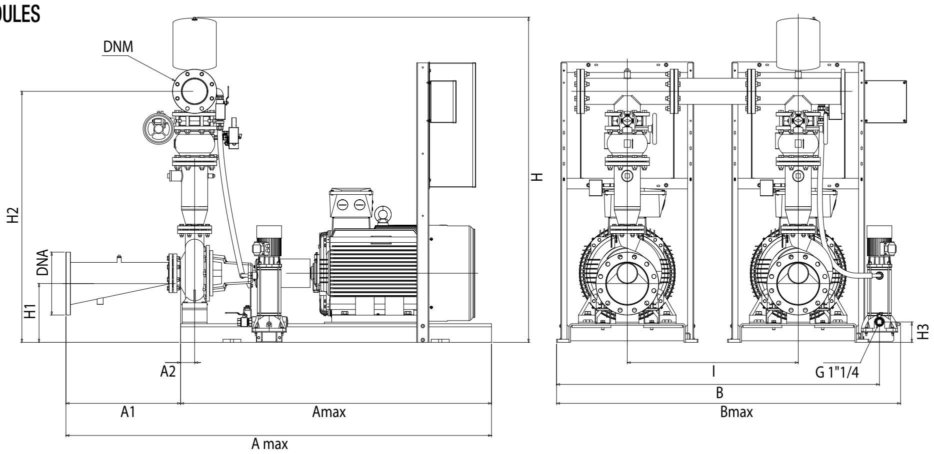
ELECTRIC PUMP MODULE



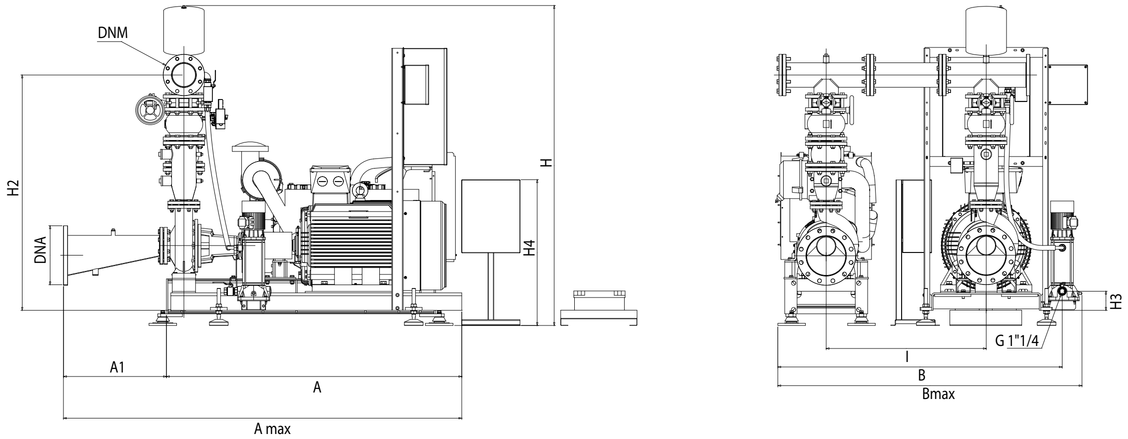
The dashed components are not included in the standard supply.

1 KDN 100-200/219 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

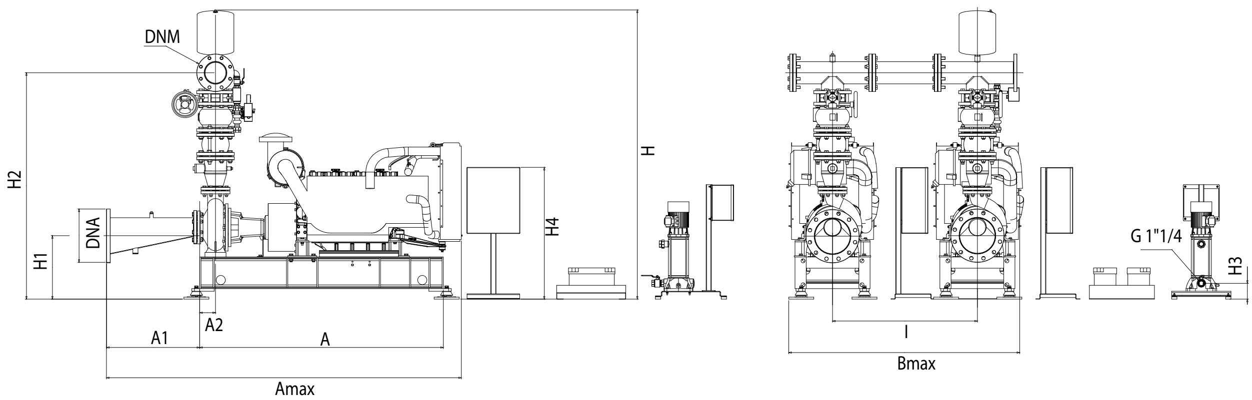
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

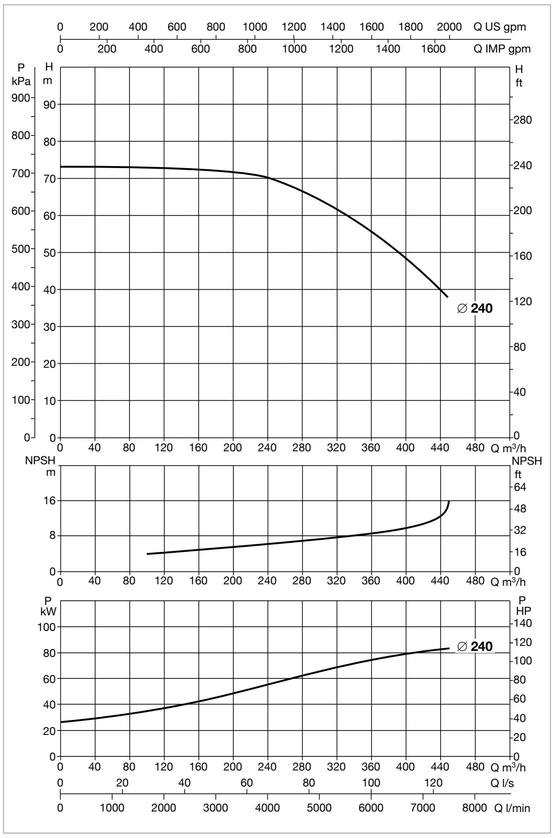


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H4	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 100-200/219 - DIESEL ENGINE DRIVEN PUMP MODULE	1626	703	110	2432	570	-	675	2323	620	1846	120	734	-	-	250	150	1372	1396
1 KDN 100-200/219 - ELECTRIC PUMP MODULE	1800	723	90	2523	730	600	987	2179	313	1702	131	734	-	-	250	150	1355	1379
1 KDN 100-200/219 - 2 ELECTRIC PUMP MODULES	1800	723	90	2523	1960	-	2217	2179	313	1702	131	734	-	1100	250	150	2710	2734
1 KDN 100-200/219 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1626	703	110	2432	-	-	1745	2323	620	1846	120	734	-	1100	250	150	2727	2751
1 KDN 100-200/219 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1626	703	110	2432	-	-	1745	2323	620	1846	120	734	-	1100	250	150	2744	2768

1 KDN 100-250/240 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 100-250/240 90	3x400 V ~	KVCX 65/80 T	90	2,2	148	KDN 100 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

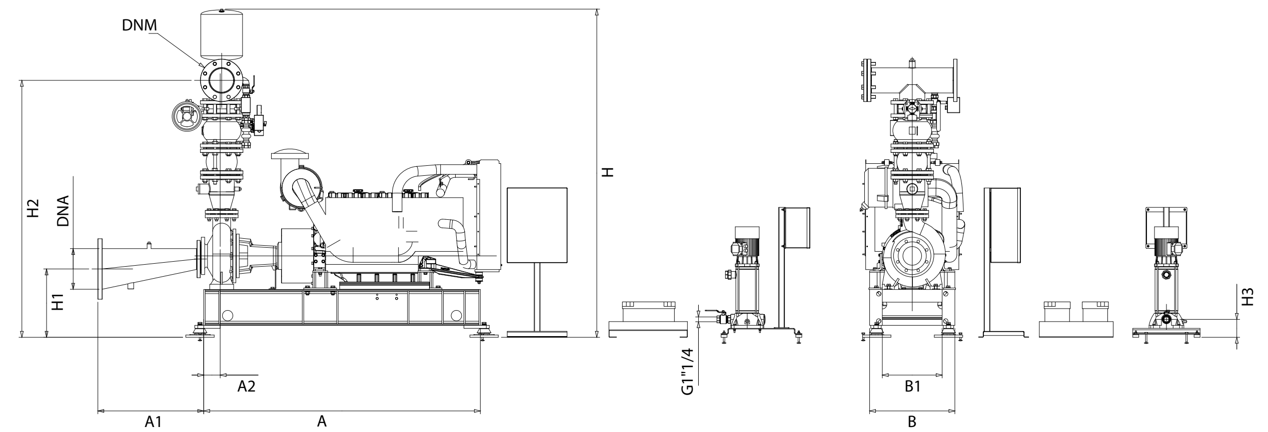
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 100-250/240 MD	3x230-400 V ~	KVCX 65/80 T	110	2,2	KDN 100 EN 12845	0,40 m²

* Jockey pump on request.

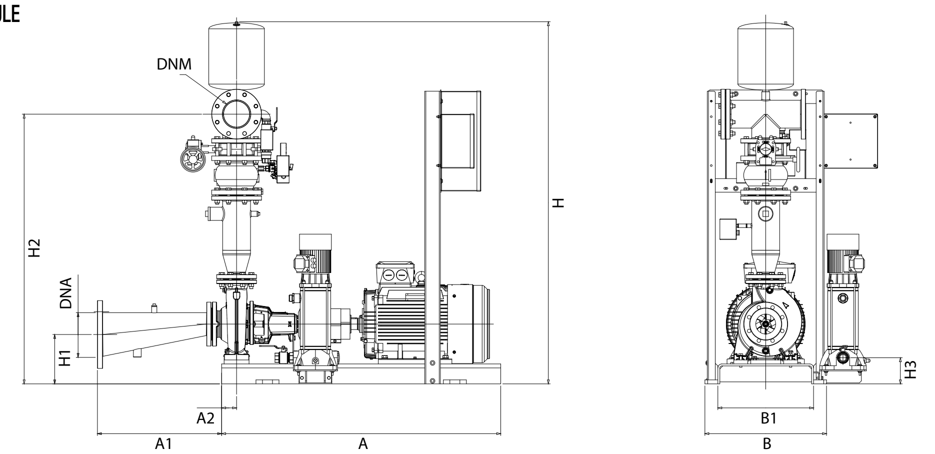
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



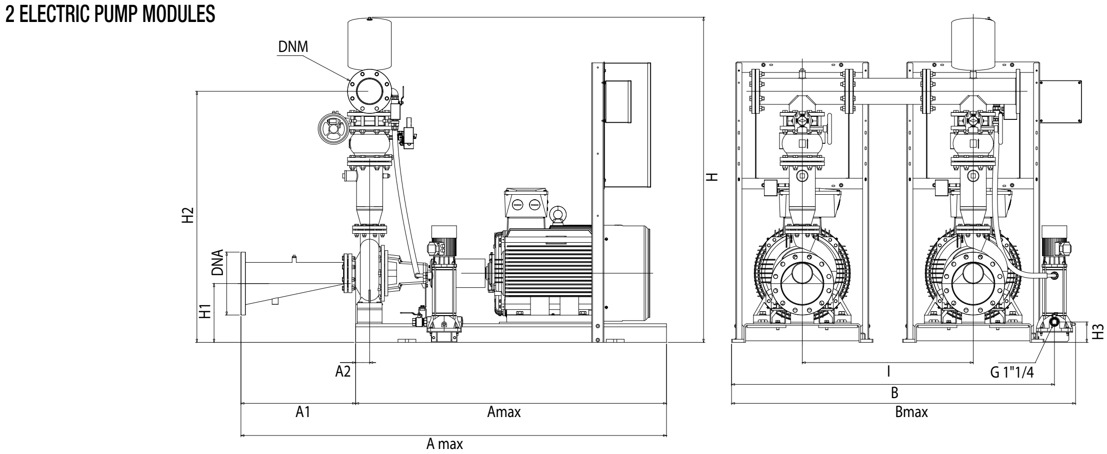
ELECTRIC PUMP MODULE



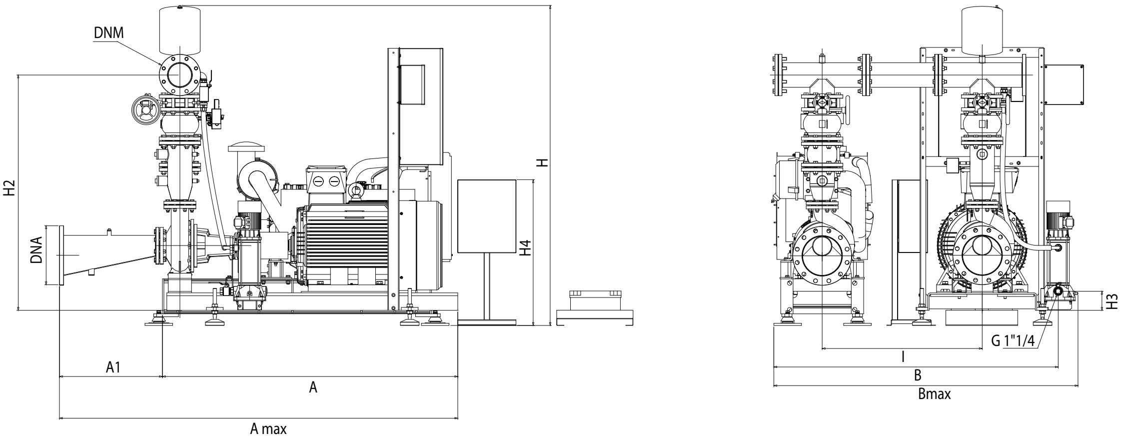
The dashed components are not included in the standard supply.

1 KDN 100-250/240 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

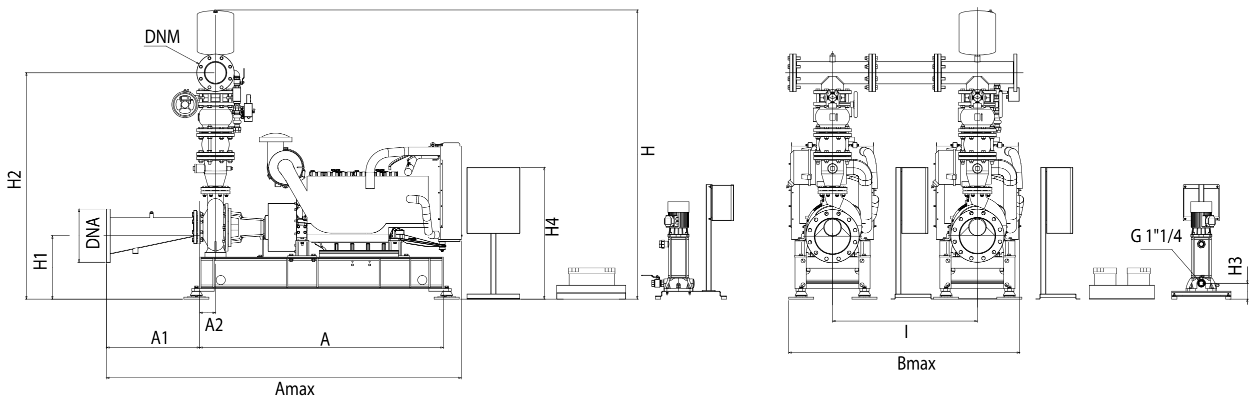
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

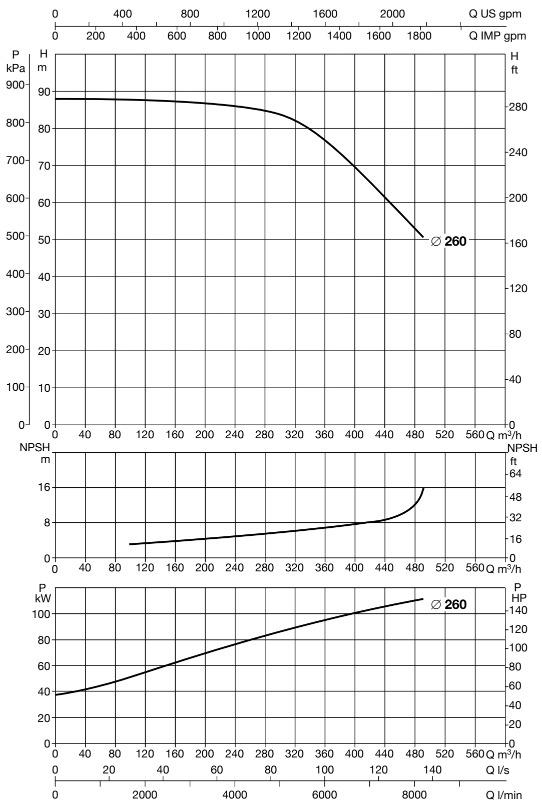


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H4	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 100-250/240 - DIESEL ENGINE DRIVEN PUMP MODULE	1850	708	110	2694	570	-	701	2348	460	1871	120	734	-	-	250	150	1377	1397
1 KDN 100-250/240 - ELECTRIC PUMP MODULE	1800	723	90	2538	730	600	987	2404	328	1707	131	734	-	-	250	150	1360	1380
1 KDN 100-250/240 - 2 ELECTRIC PUMP MODULES	1800	723	90	2538	1960	-	2217	2404	328	1707	131	734	-	1100	250	150	2720	2740
1 KDN 100-250/240 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1850	708	110	2694	-	-	1771	2404	460	1707	120	734	-	1100	250	150	2737	2757
1 KDN 100-250/240 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1850	708	110	2694	-	-	1771	2348	460	1871	120	734	-	1100	250	150	2754	2774

1 KDN 100-250/260 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C



KDN EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	METER KIT
			kW	kW		
1 KDN 100-250/260 110	3x400 V ~	KVCX 65/80 T	110	2,2	184	KDN 100 EN 12845

KDN EN 12845 DIESEL ENGINE-DRIVEN PUMP

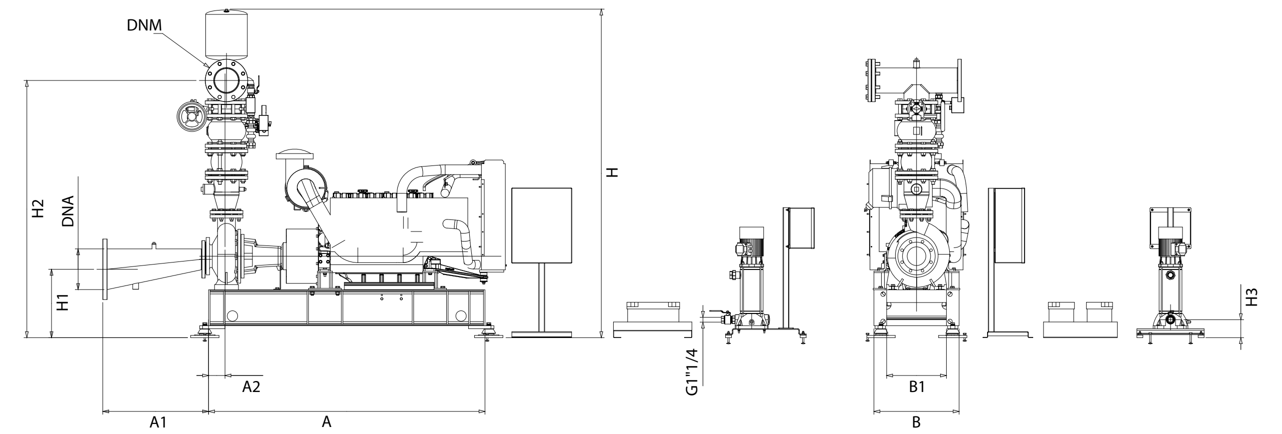
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE - DRIVEN PUMP	P2 JOCKEY PUMP	METER KIT	FAN SURFACE
			kW	kW		
1 KDN 100-250/260 MD	3x230-400 V ~	KVCX 65/80 T	110	2,2	KDN 100 EN 12845	0,40 m²

* Jockey pump on request.

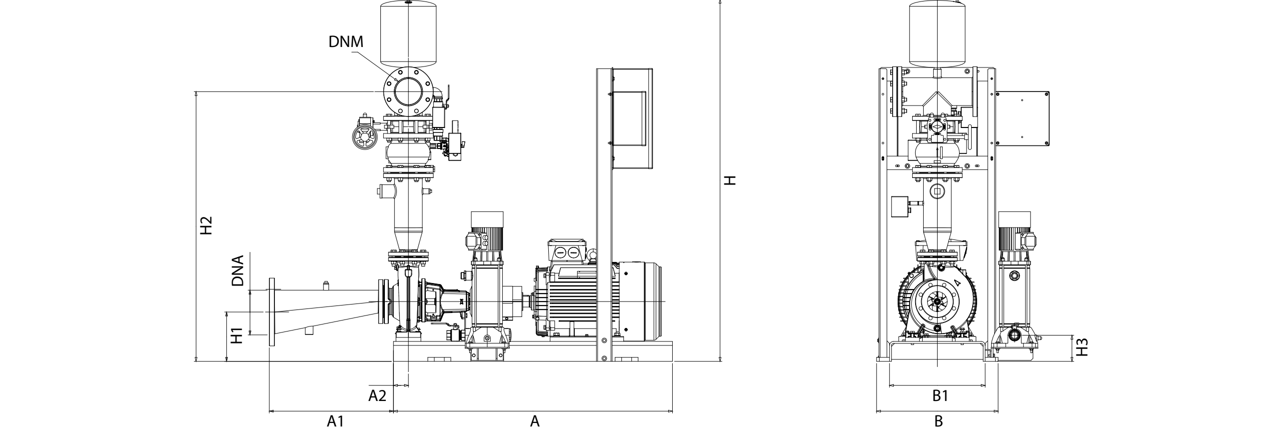
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIESEL ENGINE-DRIVEN PUMP MODULE



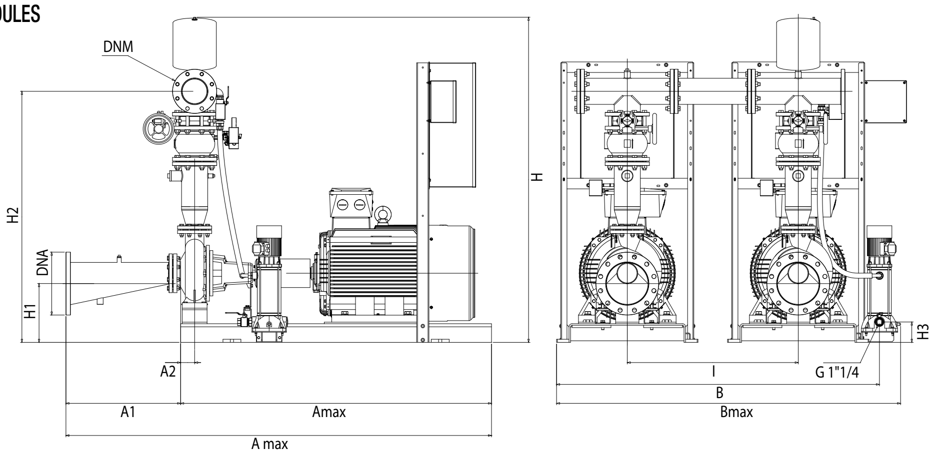
ELECTRIC PUMP MODULE



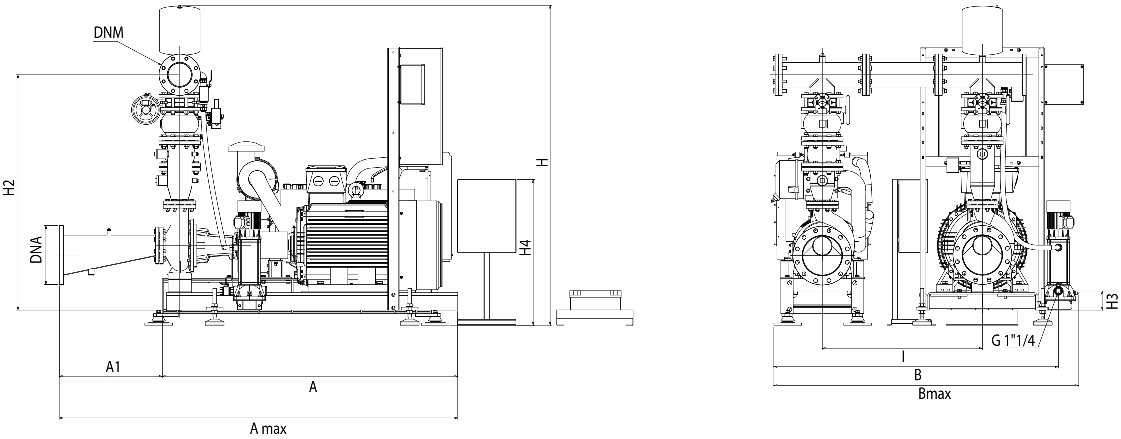
The dashed components are not included in the standard supply.

1 KDN 100-250/260 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

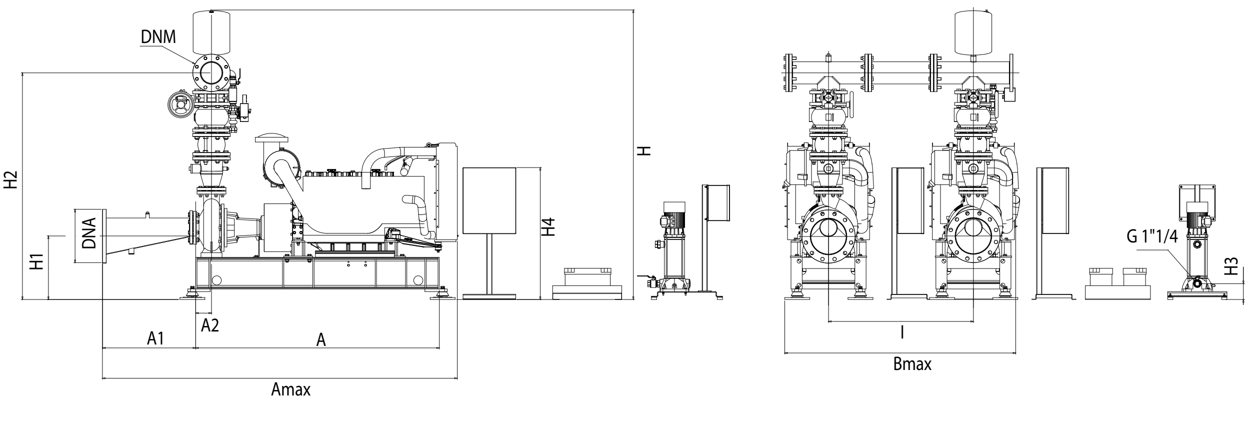
2 ELECTRIC PUMP MODULES



ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP MODULE



2 DIESEL ENGINE-DRIVEN PUMP MODULES

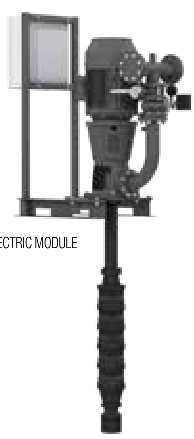


The dashed components are not included in the standard supply.

MODEL	A	A1	A2	A max	B	B1	B max	H	H1	H2	H3	H4	H5	I	DNA	DNM	WEIGHT without jockey pump kg	WEIGHT with jockey pump kg
1 KDN 100-250/260 - DIESEL ENGINE DRIVEN PUMP MODULE	1850	708	110	2694	570	-	701	2348	460	1871	120	734	-	-	250	150	1402	1414
1 KDN 100-250/260 - ELECTRIC PUMP MODULE	2000	738	90	2738	910	750	1146	2404	378	1767	131	734	-	-	250	150	1385	1397
1 KDN 100-250/260 - 2 ELECTRIC PUMP MODULES	2000	738	90	2738	2320	-	2556	2404	378	1767	131	734	-	1100	250	150	2770	2782
1 KDN 100-250/260 - ELECTRIC PUMP + DIESEL ENGINE DRIVEN PUMP MODULE	1850	708	110	2738	-	-	1771	2404	460	1767	120	734	-	1100	250	150	2787	2799
1 KDN 100-250/260 - 2 DIESEL ENGINE DRIVEN PUMP MODULES	1850	708	110	2694	-	-	1771	2348	460	1871	120	734	-	1100	250	150	2804	2816

1 KVT

DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS



ELECTRIC MODULE

DIESEL MODULE

TECHNICAL DATA

Operating range: 4 to 300 m^2/h
Pumped liquid: clean, free of solids and abrasives, non-viscous, non-aggressive, non-crystallised and chemically neutral, with properties similar to water.

Pumped liquid temperature range: from 0 to 40 °C.
Maximum ambient temperature: + 40°C
Maximum operating pressure: 16 bar (1600kPa) PN16
Special executions on request:
diesel version with water/water heat exchanger, 230 three-phase 50 or 60 Hz electric versions, non standard performance.

APPLICATIONS

The new 1KVT fire-fighting pump sets with diesel engine or electric motor assembly, ideal for automatic sprinkler systems and/or hydrants of commercial buildings, are manufactured using vertical turbine pumps, in accordance with article 10.6.1 of UNI EN 12845 standards.
• **Simple Maintenance:** Thanks to the submersible pump body and the motor assembly control above the surface, they eliminate any self-priming issues, in addition to making the job of the maintenance technician much easier.
• **Modular design:** DAB pressurisation sets are designed to be coupled with each other, in order to obtain all the versions and meet all the requirements of the UNI EN 12845 standard.
Available set models:
- 1 KVT ...... EN, consisting of an axial flow submersible pump (vertical turbine pump) with electric motor, including submersible pump, cork plug, control head installed on appropriate base, electric control panel.
- 1 KVT ...... MD EN consisting of an axial flow submersible pump (vertical turbine pump) with air or radiator cooled diesel engine (exchanger on request), including submersible pump, cork plug, control head installed on appropriate base, electric control panel, diesel tank ensuring 6 hours of operation, with fuel collection tank for powers up to 26 kW
Jockey pump and axis lines supplied as separate accessories.

CONSTRUCTION FEATURES OF THE UNI EN 12845 FIRE-FIGHTING PUMP SET

The 1KVT range includes sets with axial flow vertical submersible pumps (for powers up to 75 kW), treated with black cataphoresis paint coating, which ensures extremely high resistance to corrosion. The control heads, base, frame, hydraulic column and manifolds are painted RAL3000 red. The set is pre-assembled on a RAL3000 red painted steel base supporting the control head, the motor or engine, and the electric control panel. The control head is coupled by means of a spacer elastic coupling to an electric motor or diesel engine capable of providing the power absorbed by the pump at any pump load condition, from no-load, to a load equal to NPSH16m (as requested by section 10.1 of the UNI EN 12845 standard).
The UNI EN 12845 DAB fire-fighting sets are supplied in modular version. This setup facilitates transport, and the installation of DAB fire-fighting pump sets in pump rooms, even with narrow access doors. Thanks to a coupling kit (supplied as accessory), it is possible to obtain all the compositions contemplated by the standard (one, two, or three electric or Diesel pumps, with or without jockey pump).
Each module has a serial number with its own declaration of conformity, and its own installation and maintenance manual.

Specific characteristics of the Diesel engine-driven pump

Diesel engine-driven pump sets have a vibration dampening system that reduces the amount of the vibrations produced by the Diesel engine reaching the system. This consists of rubber anti-vibration feet and couplings. Each Diesel engine-driven pump includes two start-up batteries and a Diesel tank providing 6 hours of continuous operation. A diesel collection tank is included for powers up to 26 kW, to contain any fuel spillages. The Diesel engine has an air/air cooling system for low powers (up to 26 kW), and air/water cooling system for higher powers (37 kW and over). The Diesel engine can operate continuously at full load in accordance with ISO 3046 standards, curve NA (section 10.9.1 of UNI EN 12845).
Engine-driven pumps with water/water heat exchanger cooling system are also available on request, for powers starting from 37 kW.

Main characteristics

- Axial flow vertical submersible pump (vertical turbine), with cork plug, to be coupled with an electric motor or diesel engine through a control head installed on appropriate base.
- Electric motor or diesel engine capable of providing the power used by the pump at a 16 metre NPSH value.
Each diesel engine driven pump has a diesel tank that guarantees 6 hours of operation. For engine powers up to 26 kW, a collection tank is also included (in compliance with UNI 11292), for the containment of any fuel spillages.
- Axis line. This is a separate accessory, which must be installed between the vertical submersible pump and the control head above the surface. The price list includes 6 standard lengths for each axis line (0.5 - 0.75 - 1.0 - 1.5 - 2.0 - 2.5 - 3.05 m), with other lengths available on request.
The DIVER or JET series jockey pump is a separate accessory supplied complete with 20 l expansion vessel, and its own electric control panel.
- Delivery column, sized to limit the maximum speed in accordance with UNI EN 12845 13.2.3
- Inspectable non-return valve and shut-off valve before the delivery manifold.
- The diesel engine driven pump version includes engine speed detection by a pick-up sensor

ELECTRIC PUMP CONTROL PANEL

UNI EN 12845 FIRE-FIGHTING PUMP SETS

TECHNICAL DATA

Nominal power input voltage: 400V +/- 5%
Phases: 3
Frequency: 50-60Hz
Number of pumps that can be connected: 1
Maximum nominal power of use:
from 3 to 110 kW (depending on model).
Maximum nominal current of use: from 10 Amp to 250 Amp.
Ambient temperature operation limits: from +4 °C to +40 °C.
Relative humidity (without condensation):
50 % at 40 °C MAX (90 % at 20 °C)
Max. altitude: 3000 m (asl)
Protection class: IP55
Control panel construction:
According to EN60204, EN 60439-1, and UNI EN 12845/10779.

COMPONENTS

The control and protection panel includes the following components

INTERIOR OF CABINET
Connector for the powering of a GSM Modem (230 V, protected by fuse).
Motor protection fuses (aM type); current surge relay-motor protectors are not permitted by the standard.
Auxiliary circuit protection fuses (Gg type).
Direct pump starters (up to 7,5 kW).
Star/triangle starters (11 kW and over).
24 V auxiliary circuit transformers.
Alarm relay with terminal box for remote status control (as required by the UNI EN 12845 standard).
System start-up input connection terminal box.

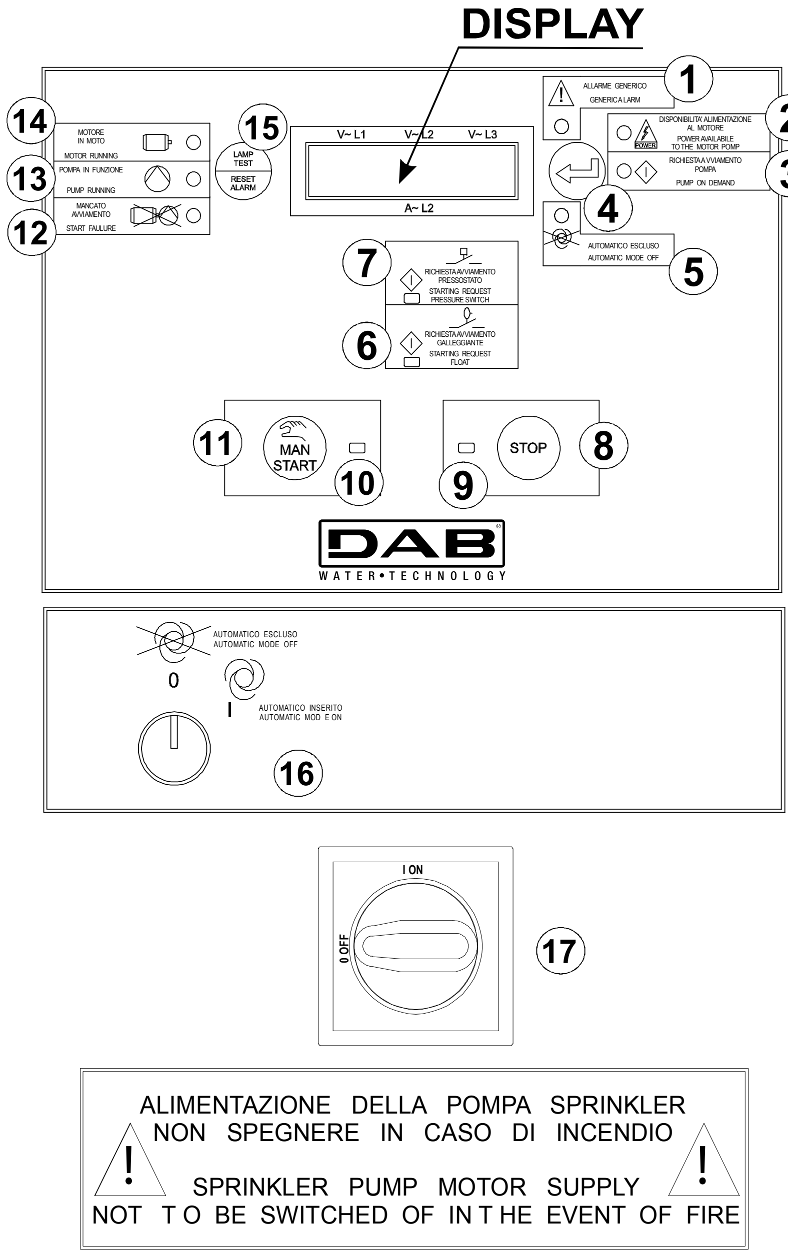
ON FRONT PANEL
Electric pump control unit with:
Multifunction instrument with display (voltmeter, ammeter, cosfi metre, wattmeter, alarms and status).
Start and stop pushbuttons.
Status and alarm notification lamps.
Alarm/notification lamp test pushbutton.
0 - 1 selector (0 = automatic disabled; 1 = automatic on), key removable only for position one (AUTOMATIC ON).

REMOTELY CONTROLLED ALARMS:
Voltage present.
Phase sequence.
Pump start request from the pressure switches.
Pump start request from priming tank.
Pump in operation.
Start failed.

The above alarms can be remotely controlled in the following ways:
With relay wiring to the CSR-1 control panel.
With RS-485 wiring to the CSR-1 control panel.
With GSM Modem in the CSR-1 control panel, for forwarding status and/or alarm signals SMS (optional).

ELECTRIC PUMP CONTROL UNIT

The A1 electronic control unit supplied with the control panel offers the following features: automatic start from the pressure switches or the priming float switch, manual start, automatic monitoring of pump set faults and incorrect or unavailable power input voltage.



REF.	FUNCTION
1	LAMP - Generic alarm
2	LAMP - Power input to the motor detected
3	LAMP - Pump START request
4	Press to display the instruments
5	LAMP - Automatic start disabled
6	LAMP - START request from the priming tank float switch
7	LAMP - START request (call) from the pressure switches
8	MANUAL STOP pushbutton
9	LAMP - MANUAL STOP with STOP pushbutton notification

REF.	FUNCTION
10	LAMP - MANUAL START with MAN START pushbutton notification
11	MANUAL START pushbutton
12	LAMP - Start failed
13	LAMP - ELECTRIC PUMP RUNNING with motor running; detected by the electric pump running pressure switch
14	LAMP - MOTOR RUNNING; controlled by the ammeter detection
15	Reset lamp test pushbutton
16	Automatic mode disabling selector
17	Power input disconnection switch

DIESEL PUMP CONTROL PANEL

UNI EN 12845 FIRE-FIGHTING PUMP SETS

TECHNICAL DATA

Nominal power input voltage: 230 V +/- 5%
Phases: 1+N
Frequency: 50-60 Hz
Number of pumps that can be connected: 1
Maximum nominal power of use:
from 7,5 to 197 kW (Diesel motor power)
Nominal power absorbed by the users:
approximately 790 W (3 Amp) at full load, 16 Amp power input line
Ambient temperature operation limits: from +4 °C to +40 °C
Relative humidity (without condensation):
50 % at 40 °C MAX (90 % at 20 °C)
Max. altitude: 3000 m (asl)
Protection class: IP55
Control panel construction:
According to EN60204, EN 60439-1, and UNI EN 12845/10779.

DIESEL PUMP CONTROL PANEL

COMPONENTS

The control and protection panel includes the following components

INTERIOR OF CABINET
Connector for the powering of a GSM Modem (12 V, protected by fuse).
Auxiliary circuit protection fuses (Gg type).
2 x 12 V Diesel engine start relays (for 12 V starter motors with powers up to 145 kW).
2 x 24 V Diesel engine start relays (for 24 V starter motors with powers over 145 kW).
2 automatic battery chargers.
Alarm relay with terminal box for remote status control (as required by the UNI EN 12845 standard).
System start-up input connection terminal box.

ON FRONT PANEL
Diesel pump control unit with:
Multifunction instrument with display (voltmeter, ammeter, revolution counter, hours of operation counter, Diesel percentage level, oil pressure).
Start and Stop pushbuttons (one for each battery).
Status and alarm notification lamps.
Lamp test pushbutton.
First start-up TEST pushbutton (*).
Breakable glass protected rocker switch for pump start, bypassing the control unit in case of fault.
0 - 1 selector (0 = automatic disabled; 1 = automatic on), key removable only for position one (AUTOMATIC ON).

REMOTELY CONTROLLED ALARMS
Voltage present.
Phase sequence.
Pump start request from the pressure switches.
Pump start request from priming tank.
Pump in operation.
Start failed.

The above alarms can be remotely controlled in the following ways:
With relay wiring to the CSR-1 control panel.
With RS-485 wiring to the CSR-1 control panel.
With GSM Modem in the CSR-1 control panel, for forwarding status and/or alarm signals SMS (optional).

The control panel receives the signal from the pressure switches and starts the engine-driven pump also when no power network voltage is detected. The pump running status is detected through the speed/revolution sensor signal (as required by section 10.9.8 of UNI EN 12845). The panel is equipped with a start-up system with two 12V batteries (as required by section 10.9.8. of UNI EN 12845). If one of the batteries is faulty, the panel automatically starts the pump up using the other battery (6 alternated starts).

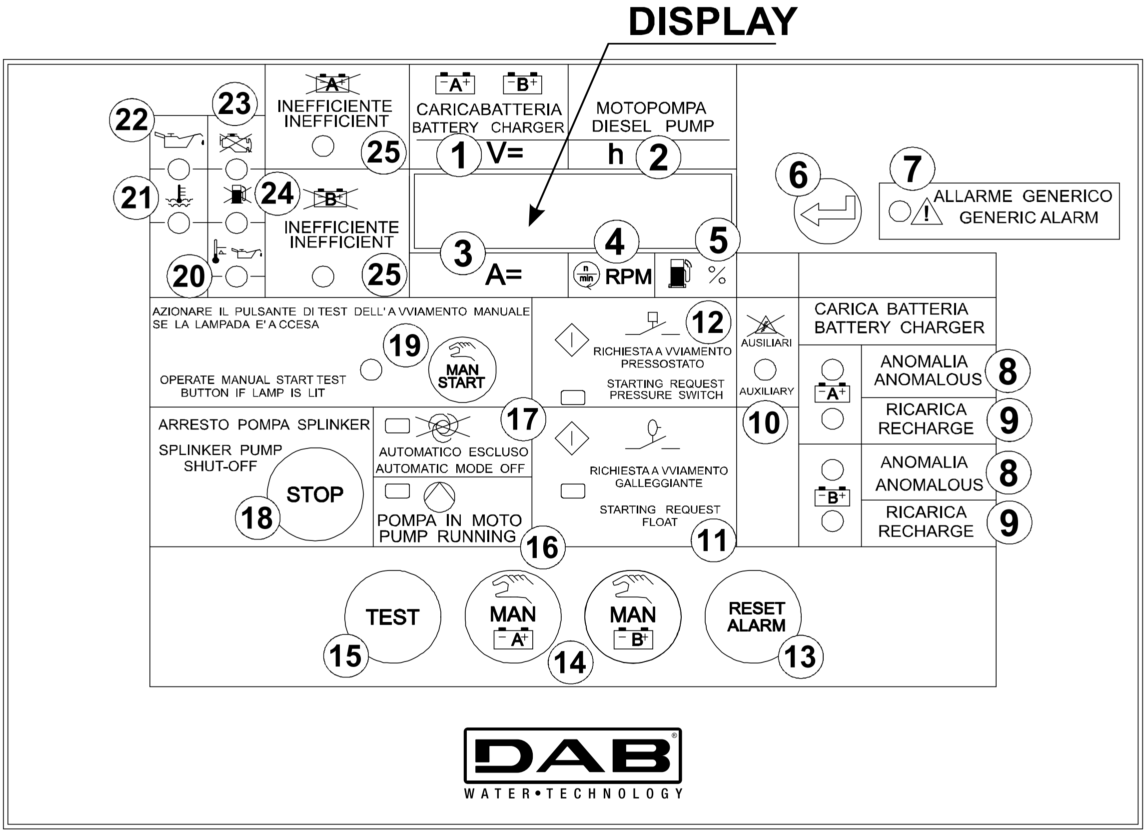
(*) When the engine-driven pump is put into operation on site for the first time, it will be necessary to check the start failure alarm (in accordance with section 10.9.12.2 of UNI EN 12845). For this purpose, on the front of the control panel is a TEST pushbutton that simulates no. 6 alternate start attempts on the two batteries, if there is no fuel. At the end of the TEST, the start failure alarm activates (lamp + N.O. contact)

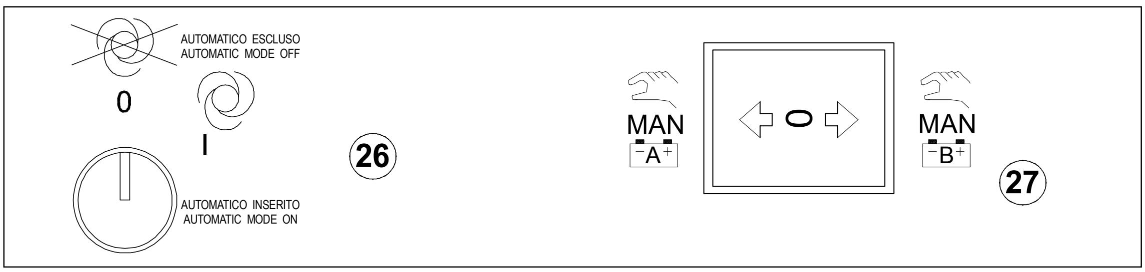
DIESEL PUMP CONTROL PANEL

UNI EN 12845 FIRE-FIGHTING PUMP SETS

DIESEL ENGINE-DRIVEN PUMP CONTROL UNIT

The A1 electronic pump control unit supplied with the control panel offers the following features: automatic start with 6 alternate pulses on the 2 batteries, with starter gear engaged check, manual start, battery efficiency check, particularly during start-up, automatic monitoring of pump set faults and display of battery charge signals.

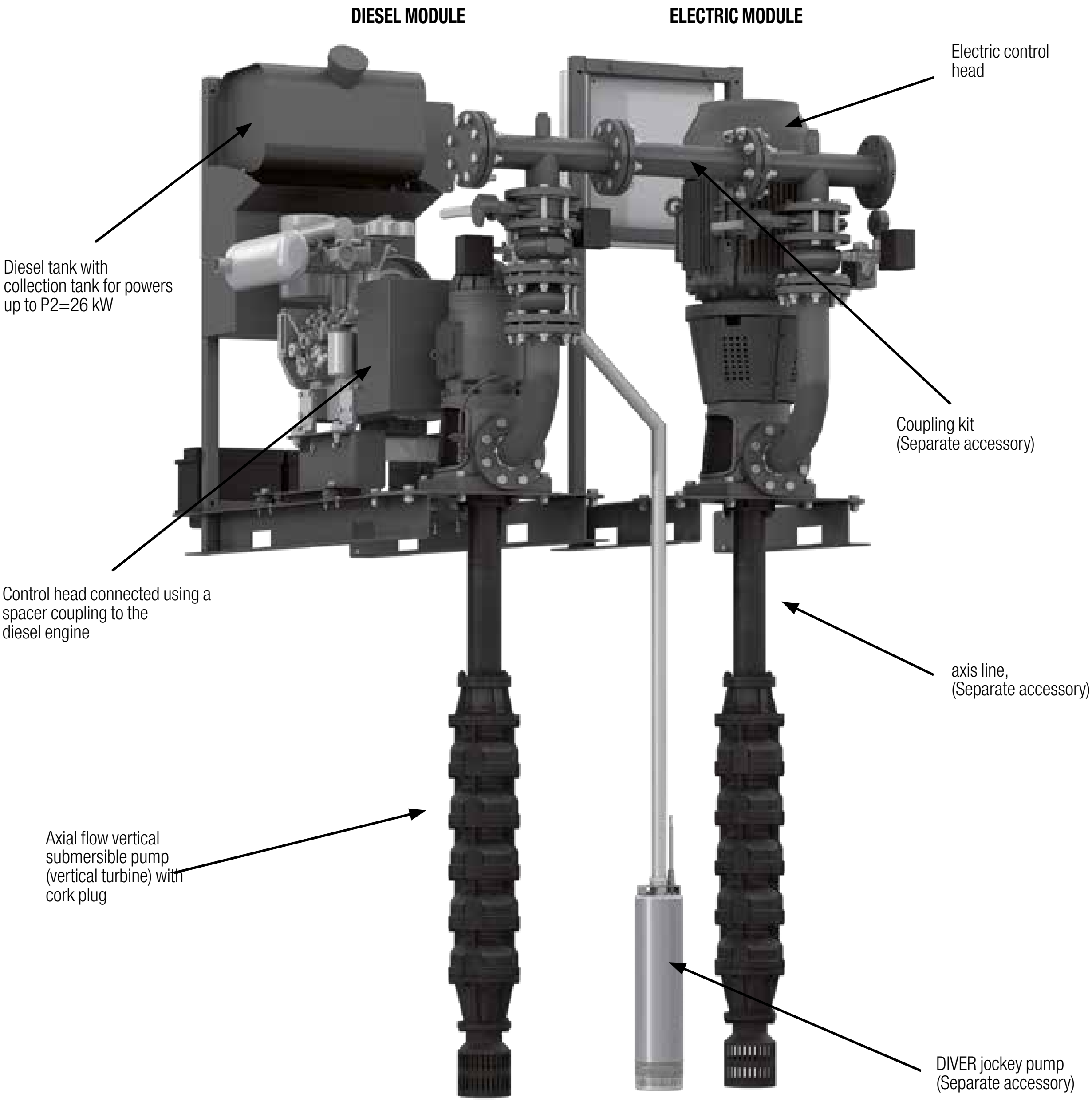




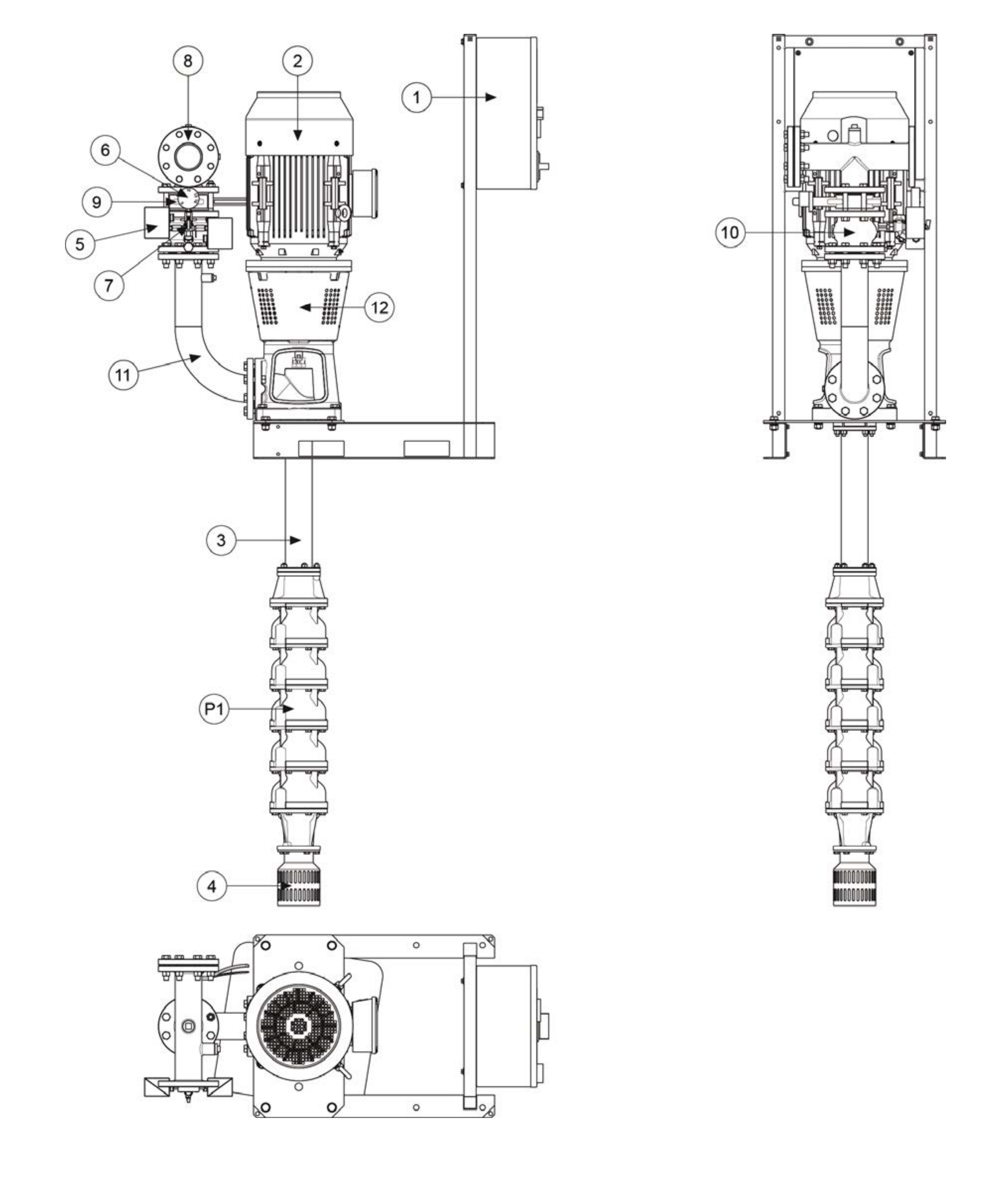
REF.	FUNCTION
1	A and B battery charger voltmeters
2	Hour meter
3	A and B battery charger ammeters
4	Hour meter
5	Fuel level gauge
6	- Press briefly to show instruments - Press and hold down for LED test
7	Generic alarm
8	Fault detected by the battery charger during battery charging
9	Battery charger ON
10	No power input to the battery charger detected alarm
11	Start request from the pump priming tank flow switch
12	START request (call) from the pressure switches
13	Fault reset

REF.	FUNCTION
14	Manual engine-driven pump start using batteries A and B (always active)
15	Start-up test
16	Engine-driven pump running
17	Automatic mode disabled
18	Engine-driven pump set stop pushbutton
19	Manual start test pushbutton and lamp
20	Oil or water heater not heating
21	Overtemperature alarm
22	Insufficient oil pressure alarm
23	Start failed alarm
24	Low fuel alarm
25	Faulty A and B battery alarm
26	Automatic mode disabling selector
27	Breakable glass protected pushbutton for emergency start of battery A or B

EN 12845 SET COMPONENTS - ELECTRIC PUMP SET + ENGINE-DRIVEN PUMP SET

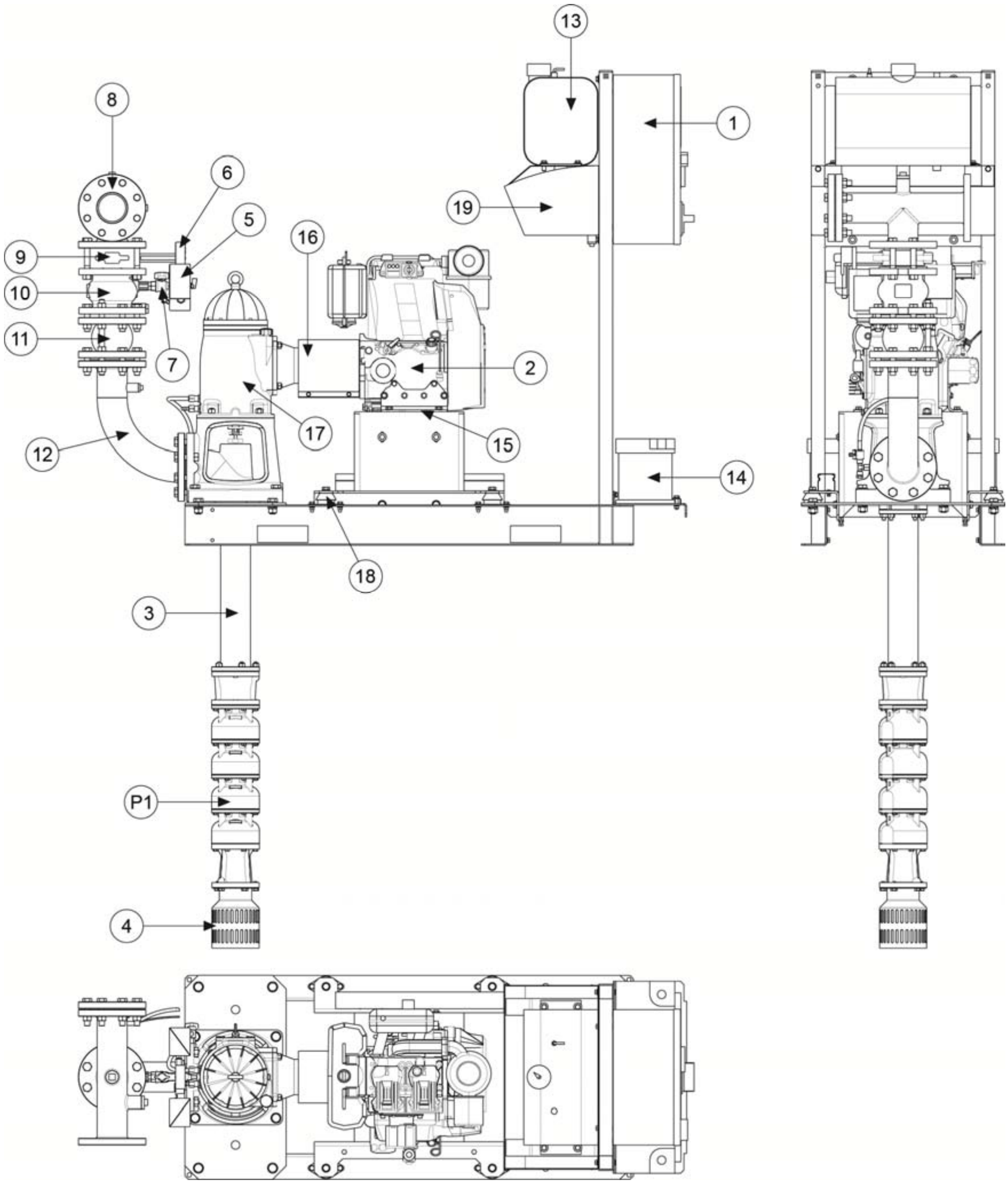


EN 12845 SET COMPONENTS - ELECTRIC PUMP SET



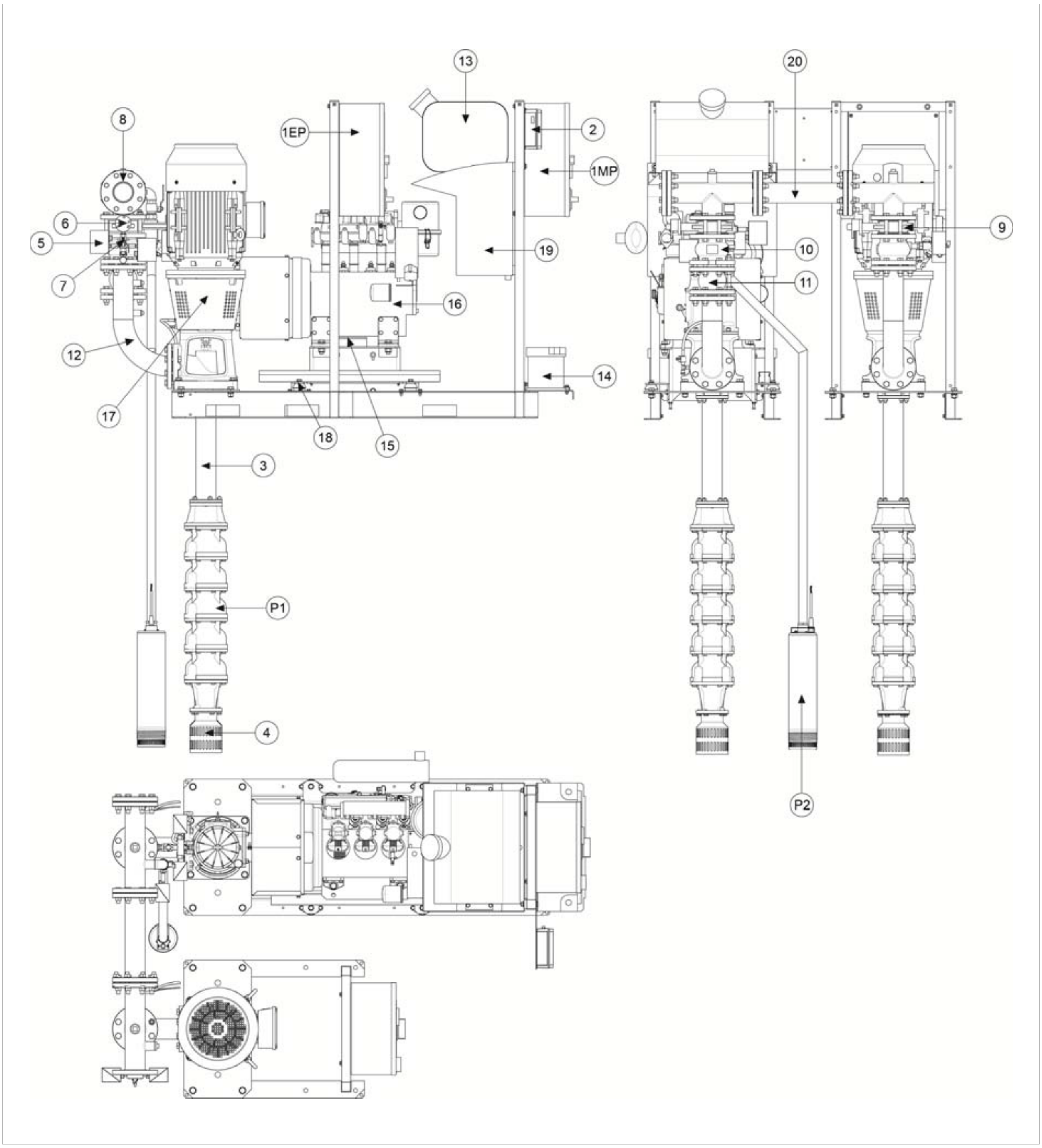
P1	Submersible pump	**5**	Pressure switch	**10**	Inspectable non-return valve
1	Electric control panel	**6**	Manometer	**11**	Bent delivery adaptor
2	Electric motor	**7**	ByPass	**12**	Control head
3	Axis line	**8**	Delivery manifold		
4	Cork plug	**9**	Butterfly valve		

UNI EN 12845 SET COMPONENTS - ENGINE-DRIVEN PUMP SET



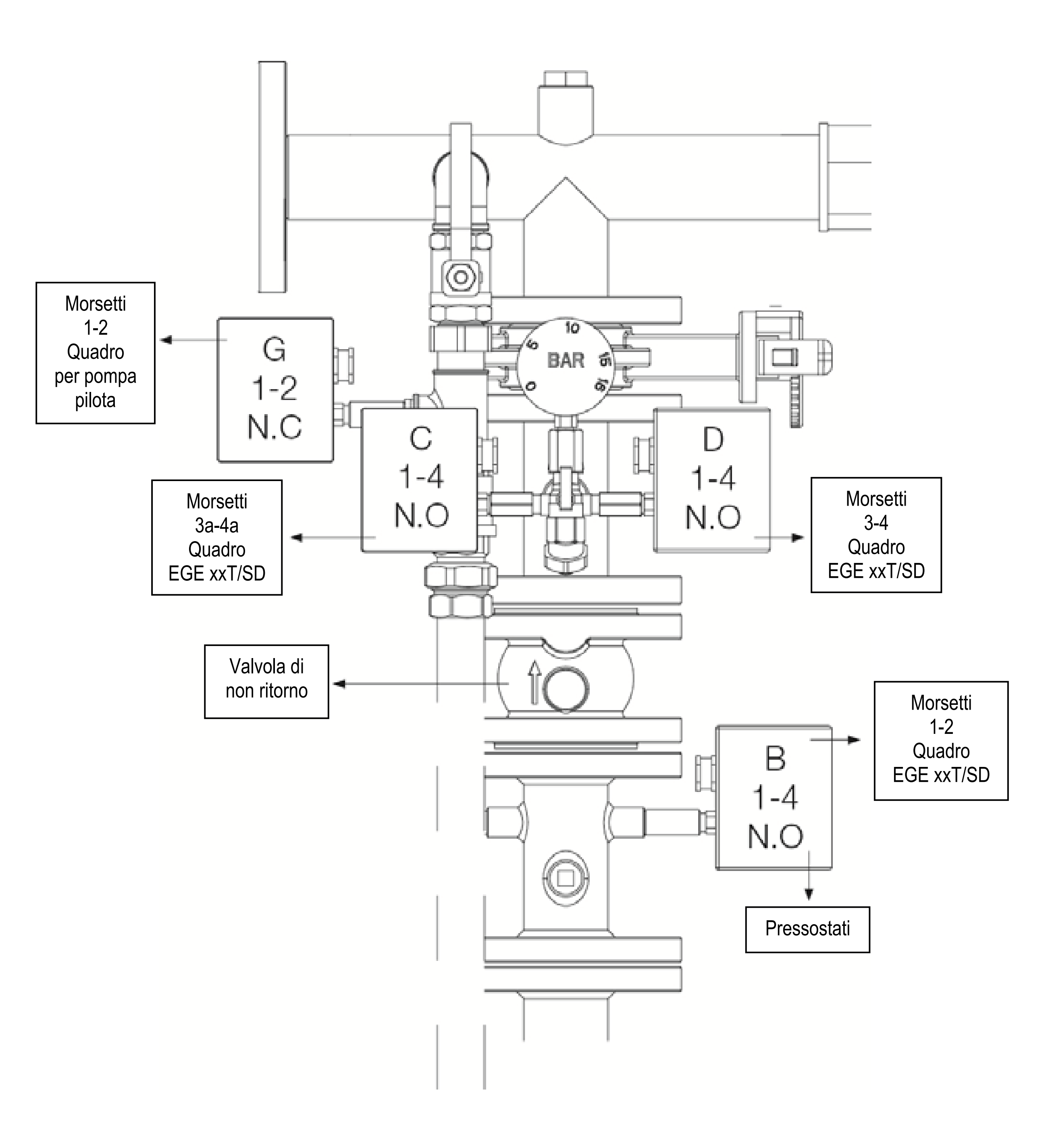
P1	Submersible pump	**7**	ByPass	**14**	Diesel engine-driven pump starter batteries
1	Electric control panel	**8**	Delivery manifold	**15**	Oil heater
2	Diesel engine	**9**	Butterfly valve	**16**	Elastic coupling
3	Axis line	**10**	Inspectable non-return valve	**17**	Control head
4	Cork plug	**11**	Anti-vibration coupling	**18**	Anti-vibration foot
5	Pressure switch	**12**	Bent delivery adaptor	**19**	Diesel collection tank
6	Manometer	**13**	20 litre diesel engine-driven pump tank		

EN 12845 SET COMPONENTS - ENGINE-DRIVEN PUMP + ELECTRIC PUMP + JOCKEY PUMP



P1	Submersible pump
P2	Jockey pump
1EP	Electric pump electric control panel
1DP	Engine-driven pump electric control panel
2	Jockey pump control panel
3	Axis line
4	Cork plug
5	Pressure switch
6	Manometer
7	ByPass
8	Delivery manifold
9	Butterfly valve
10	Inspectable non-return valve
11	Anti-vibration coupling
12	Bent delivery adaptor
13	Diesel engine-driven pump tank
14	Diesel engine-driven pump starter batteries
15	Oil heater
16	Diesel engine
17	Control head
18	Anti-vibration foot
19	Diesel collection tank
20	Coupling kit

CONNECTION OF PRESSURE SWITCHES AND PUMP MOTOR/ENGINE TO THE CONTROL PANEL

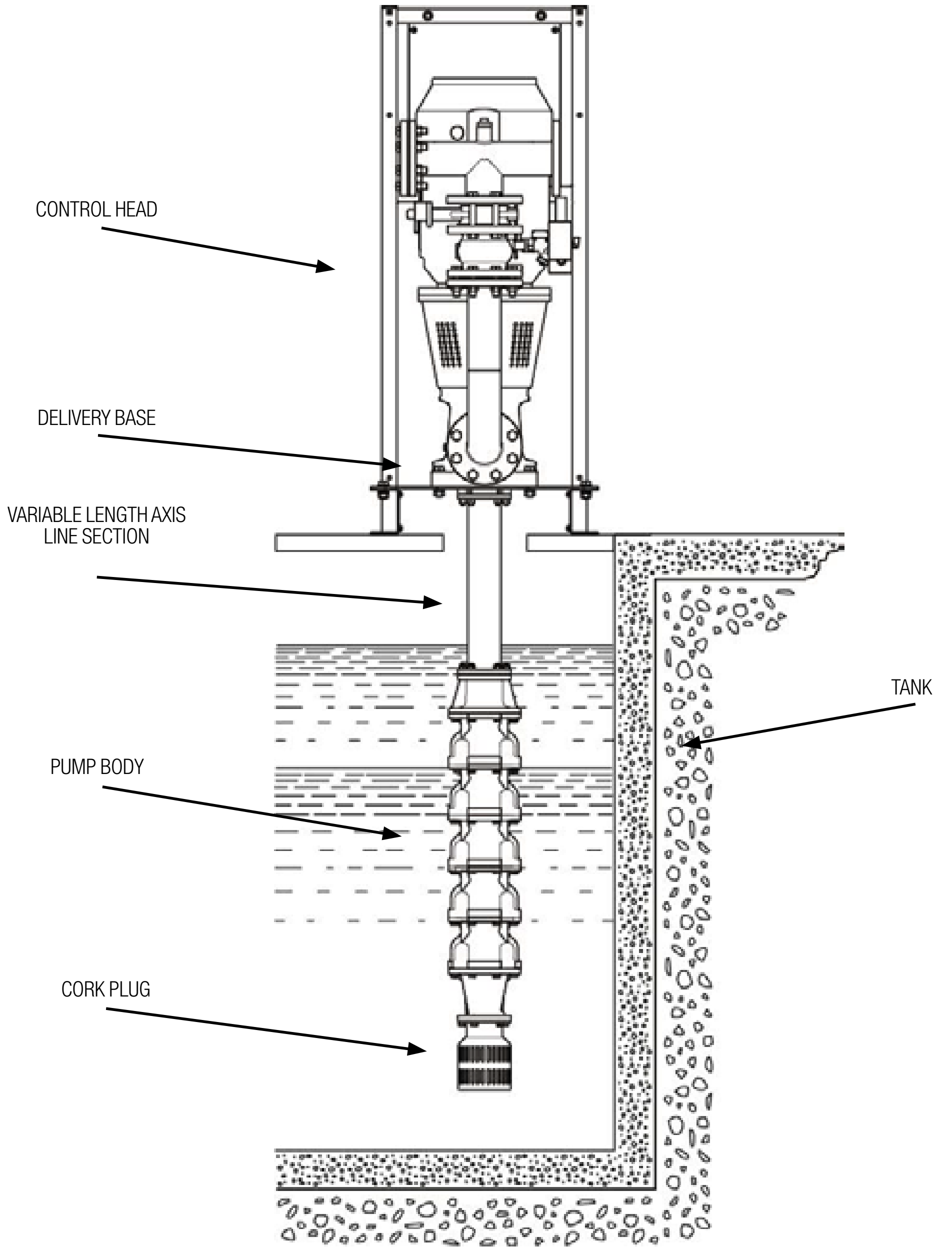


Cable connection sequence for submerged pumps with start:

DOL DIRECT START-UP		
POWER MOTOR UP TO 7.5 kW	**TERMINAL BOX CONTROL PANEL EGEXX T**	**CABLE COLOUR ELECTRIC PUMP SUBMERSIBLE**
	U1	BLACK
	V1	BLUE OR GREY
	W1	BROWN

STAR/TRIANGLE		
POWER MOTOR OVER 7.5 kW	**TERMINAL BOX CONTROL PANEL EGEXX T SD**	**CABLE COLOUR ELECTRIC PUMP SUBMERSIBLE**
	U1	BLACK
	V1	BLUE OR GREY
	W1	BROWN
	U2	BROWN
	V2	BLACK
	W2	BLUE OR GREY

EXAMPLE OF EN 12845 SET ASSEMBLY



Assembly consists in the assembly and installation of the vertical set as shown in the figure

E.FIRE MONITOR

DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

TECHNICAL DATA

Nominal power input voltage: 230/400 Vac +/-10% (power input voltage 230 Vac)
Phases: 1+N (230 V) 1+1 (400 V)
Frequency: 50-60 Hz
Sound power level: 75 dB at 30 cm 12 Vdc
Absorption: 0,1 Amp
Battery type: 12 V 1.2 Ah lead battery, sealed, Faston contact
Acoustic alarm autonomy in case of power cut: 5 hours
Characteristic features of the serial communication cable:
2 twisted wire shielded cable plus shield, 600 V, class 1, 15-18 AWG.
Maximum impedance 120 ohm, maximum capacity 50 pF/m.
Ambient temperature operation limits: -10 °C + 50 °C
Relative humidity: 50 % at 40 °C MAX (90 % at 20 °C) without condensation
Max. altitude: 2000m (asl)
Protection class: IP54
Construction: Max RS485 line length 500 m

ACCESSORY - E.FIRE MONITOR CONTROL PANEL

The UNI EN 12845 standard requires that a range of alarms are forwarded to a permanently manned location, inside or outside the building, or to a plant manager.

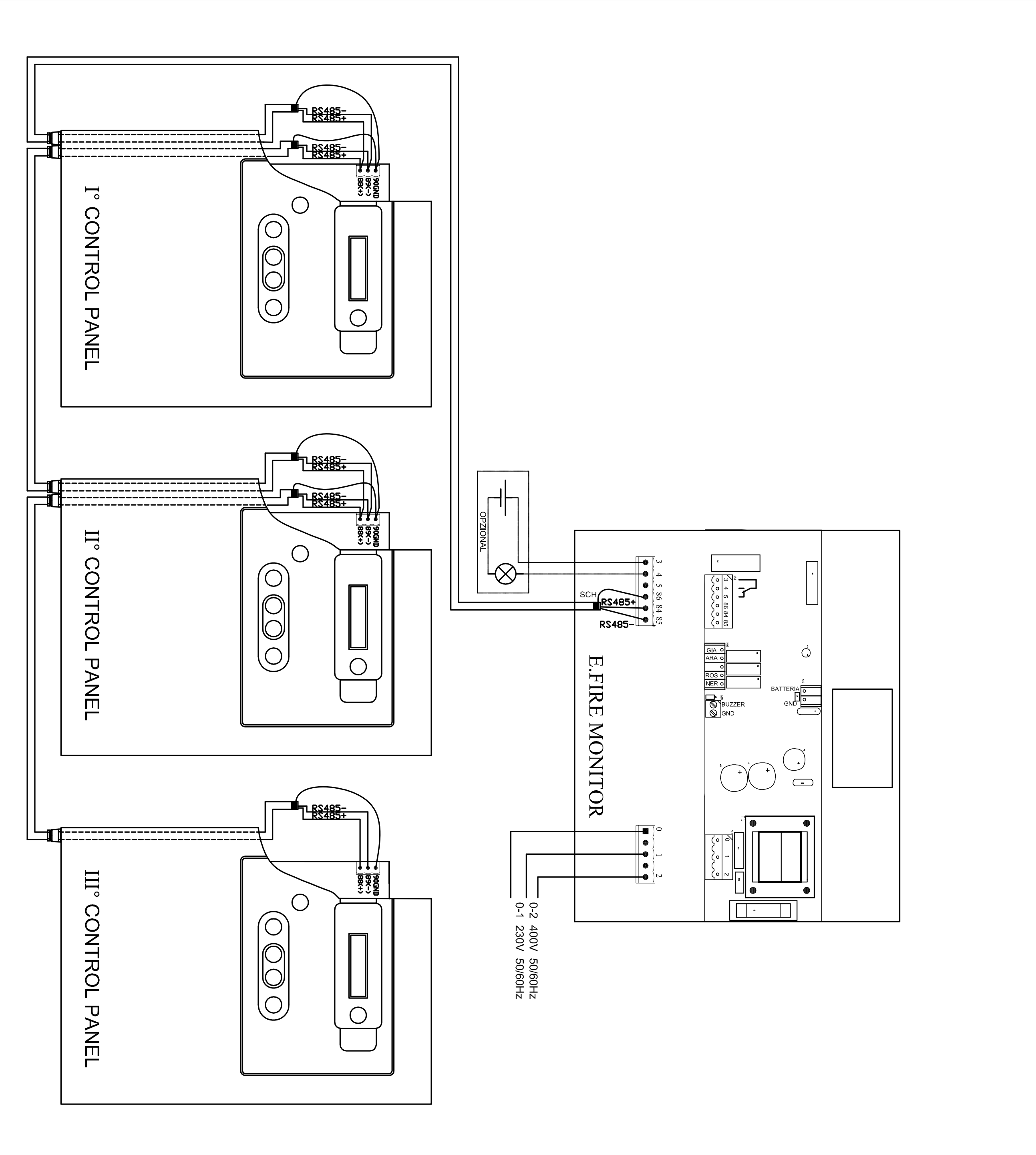
In order to fulfil this requirement of the UNI EN 12845 standard, it is possible to use the E.FIRE MONITOR alarm control unit, which notifies the operating conditions of the fire-fighting pump station by means of an acoustic signal.
The E.FIRE MONITOR alarm control unit can be connected to the fire-fighting pump station using a telephone pair (485 serial type connection), to the electric or diesel engine-driven pump control panels.
One single E.Fire Monitor can control up to three pump sets, electric or Diesel, in the various required configurations.

FUNCTIONS
The control unit visually and acoustically notifies, by LED and buzzer respectively, the operating conditions of the pump sets in the different installation solutions:

- all the possible combinations with up to three pumping units maximum

E.Fire Monitor is a necessary accessory for the supervision of remote alarms, and guarantees autonomy of at least 5 hours, as far as the operation of the alarms, in case of electric power cuts. It is also possible to connect a GSM Modem (optional), in order to display alarms on a mobile phone, receiving system status SMS messages.
Alarms may be replicated at two different positions by connecting two E.Fire Monitors.

DIAGRAM FOR THE CONNECTION OF E.FIRE MONITOR TO THE CONTROL PANELS ELECTRIC OR ENGINE-DRIVEN PUMP WITH SERIAL CONNECTION



CSR-1 ALARM CONTROL PANEL

DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

TECHNICAL DATA

Nominal power input voltage: 230 a.c. +/- 10%
Phases: 1
Frequency: 50-60 Hz
Sound power level: 75 dB A
Absorption: 0,1 Amp
Battery type: 12 V; 2,3 Ah lead battery (Faston output)
Acoustic alarm autonomy in case of power cut: 20 hours
Characteristic features of the serial communication cable:
2 twisted wire shielded cable plus shield, 600 V, class 1, 15-18 AWG. Maximum impedance 120 ohm, maximum capacity 50 pF/m.
Ambient temperature operation limits: -10 °C + 40 °C
Relative humidity: 50 % at 40 °C MAX (90 % at 20 °C) without condensation
Max. altitude: 2500 m (asl)
Protection class: IP55
Construction: According to UNI EN 12845

ACCESSORY - CSR-1 ALARM CONTROL PANEL

The UNI EN 12845 standard requires that a range of alarms are forwarded to a permanently manned location, inside or outside the building, or to a plant manager.

In order to fulfil this requirement of the UNI EN 12845 standard, it is possible to use the CSR-1 alarm control panel, which notifies the operating conditions of the fire-fighting pump stations by means of an acoustic signal.
The CSR-1 alarm control unit can be connected to the fire-fighting pump station using multi-conductor cables (contact connection), or using a telephone pair (485 serial type connection), to the electric or Diesel engine-driven pump control panels.
One single CSR-1 can control one or both pumps, electric or Diesel, in the various required configurations.

FUNCTIONS
The control unit controls and notifies, using a 2x16 character display - visually by means of LEDs, and acoustically by means of a buzzer -, the operating conditions of the pump sets in the different installation solutions:

- system for one electric pump,
- system for two electric pumps,
- system for electric pump and Diesel pump,
- system for Diesel pump,
- system for two Diesel pumps.

The CSR-1 is a necessary accessory for the supervision of remote alarms, and guarantees autonomy of at least 20 hours as far as the operation of the alarms in case of power cuts from the electricity network. It is also possible to connect a GSM Modem (optional) in order to display alarms on a mobile phone, receiving system status SMS messages.
It is possible to remotely forward a cumulative signal of all the alarms using one output (XC9) with clean contact (without voltage) with remote silencing.

CSR-1 ALARM CONTROL PANEL

DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

DIAGRAM FOR THE CONNECTION OF CSR-1 TO THE CONTROL PANELS
ELECTRIC OR ENGINE-DRIVEN PUMP WITH SERIAL CONNECTION

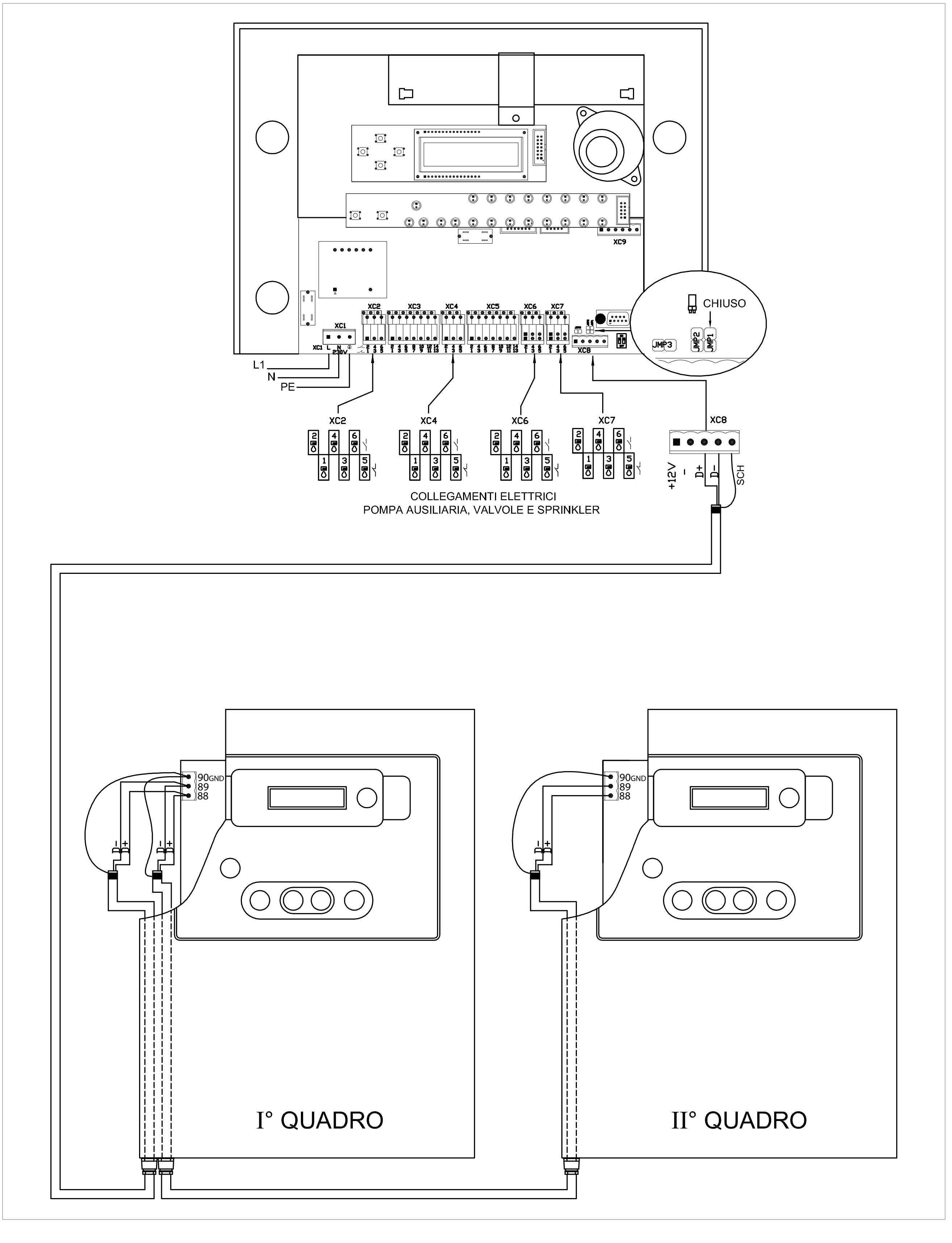
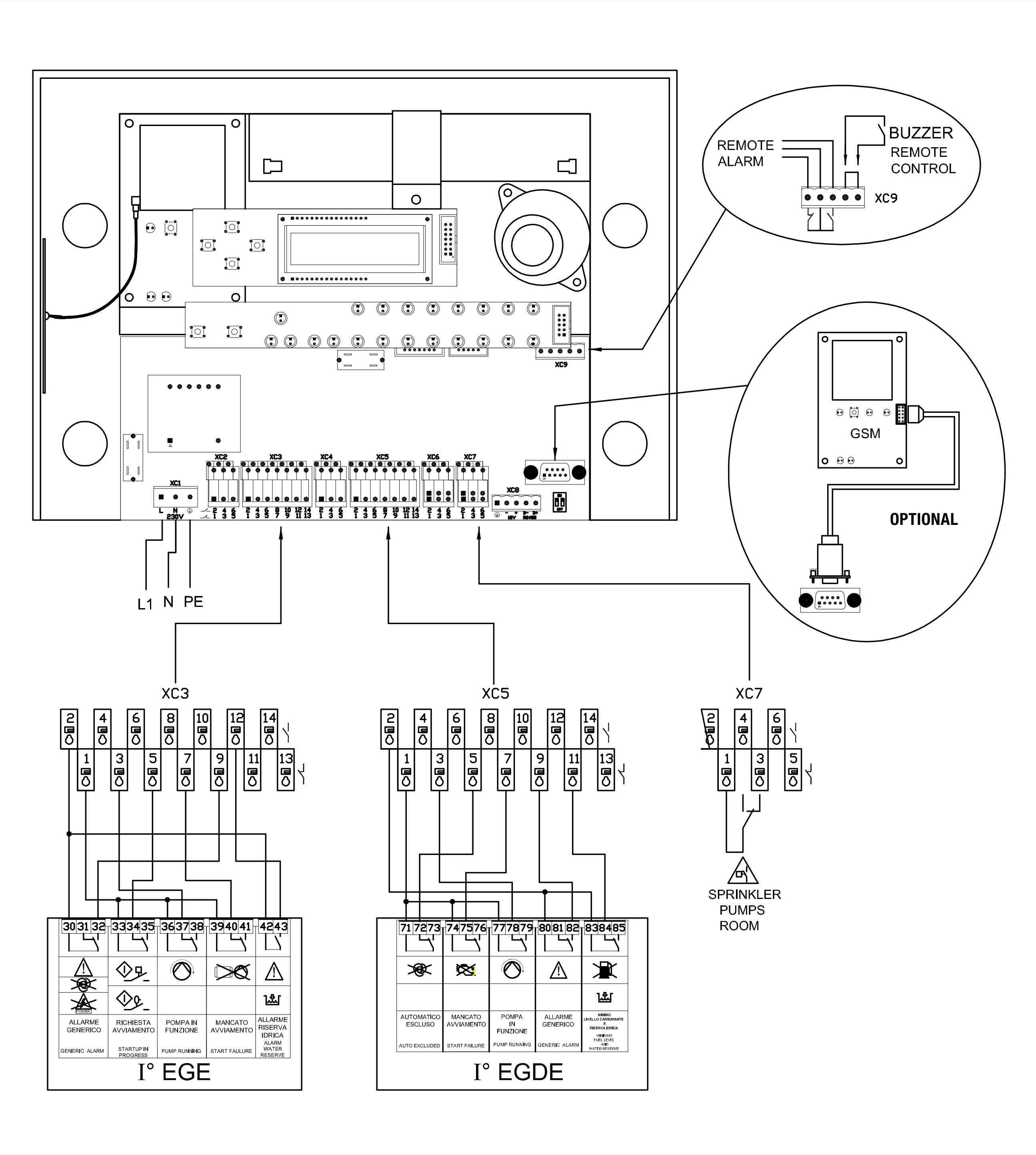


DIAGRAM FOR THE CONNECTION OF CSR-1 TO THE CONTROL PANELS
ELECTRIC AND ENGINE-DRIVEN PUMP WITH CONTACT CONNECTION



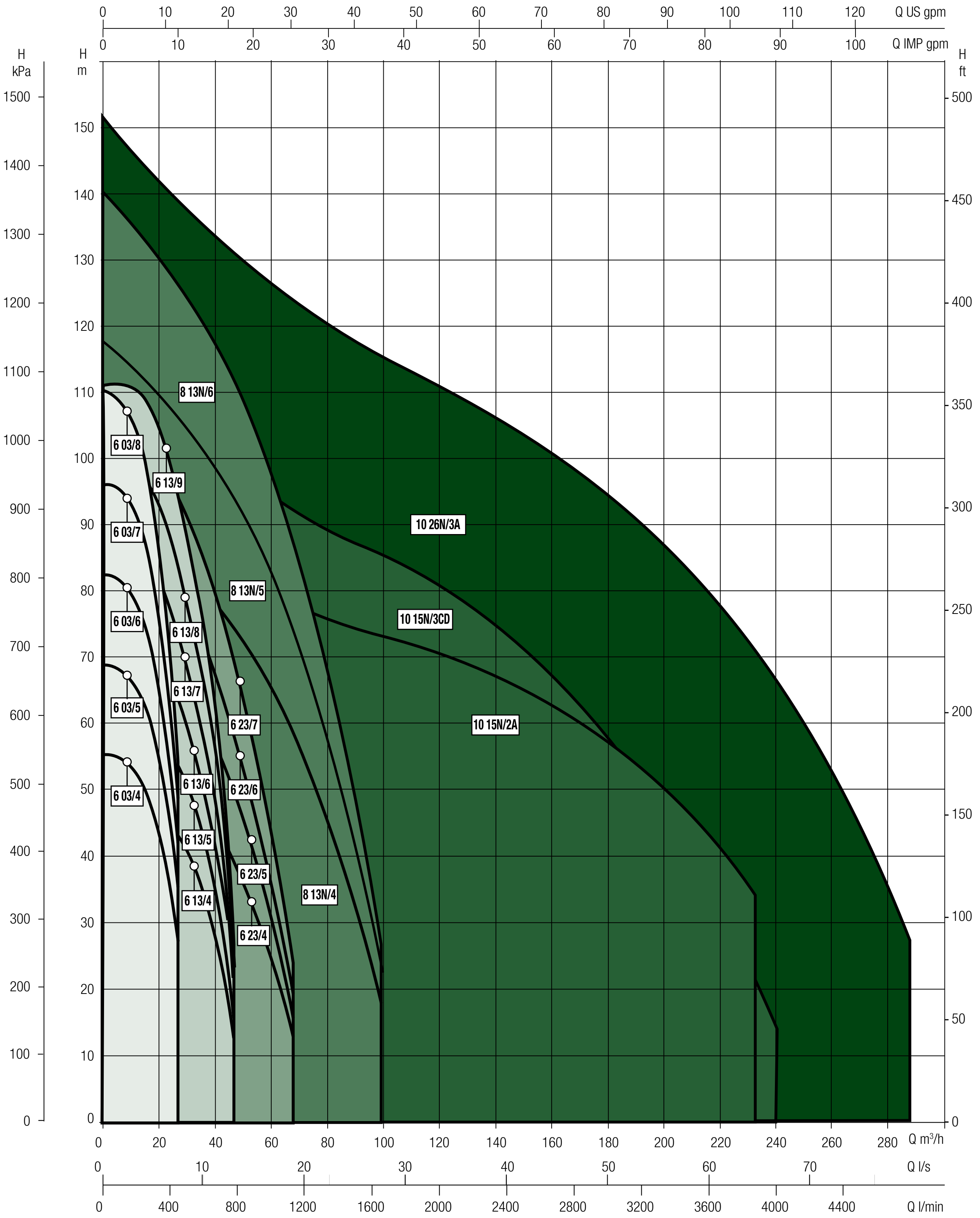
1 KVT

DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

PERFORMANCE RANGE

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

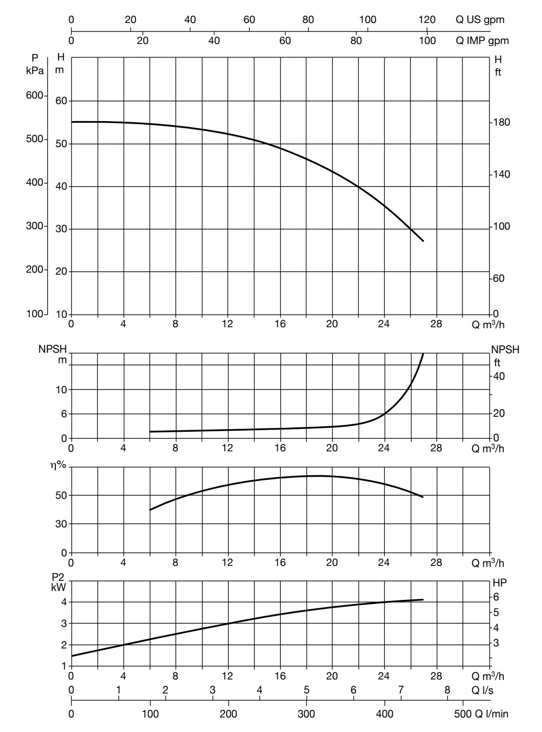
GRAPHIC SELECTION TABLE



For higher performances contact our sales team

1KVT6 03/4 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	MEASURING KIT
1KVT6 03/4 5,5 400/50	3 x 400 V	DIVER 150 T	5.5	1.0	10.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

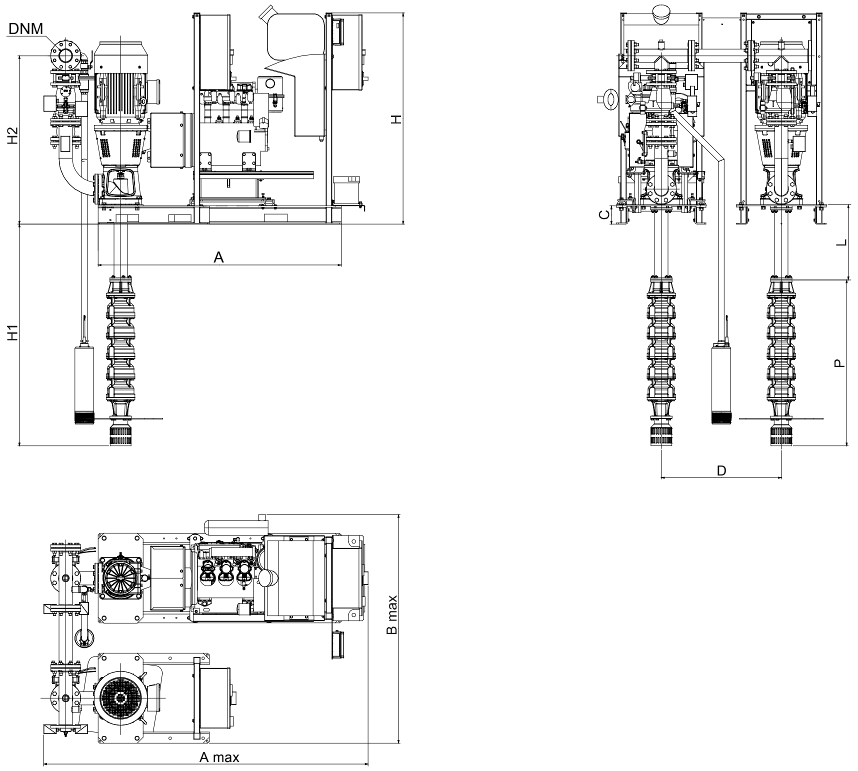
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP kW	P2 JOCKEY PUMP kW	AREA FAN	DIESEL COLLECTION TANK
1KVT6 03/4 7.1 MD	1 x 220-240 V	DIVER 150 T	7.1	1.0	0.22 m²	20 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

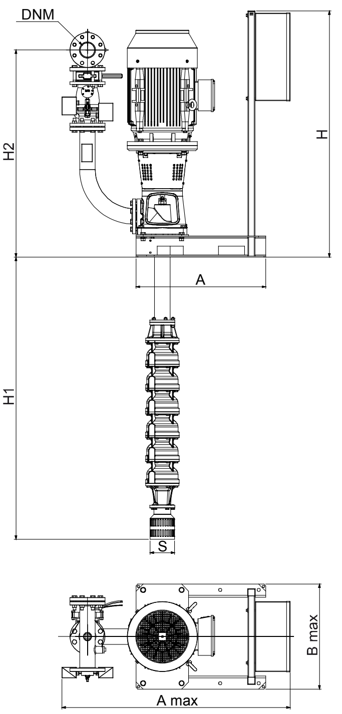
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

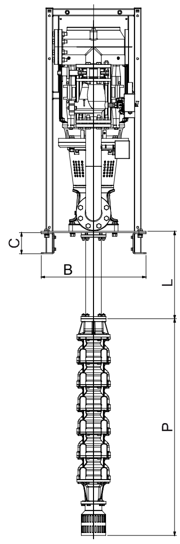
ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE



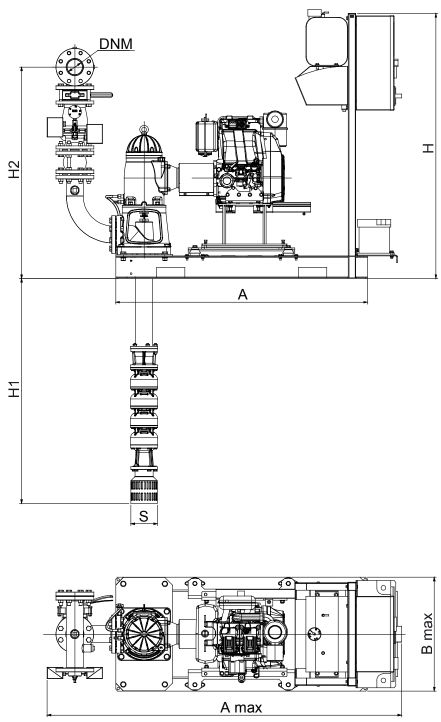
1KVT6 03/4 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

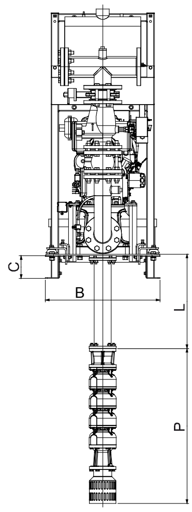
ELECTRIC PUMP MODULE





DIESEL ENGINE-DRIVEN PUMP MODULE



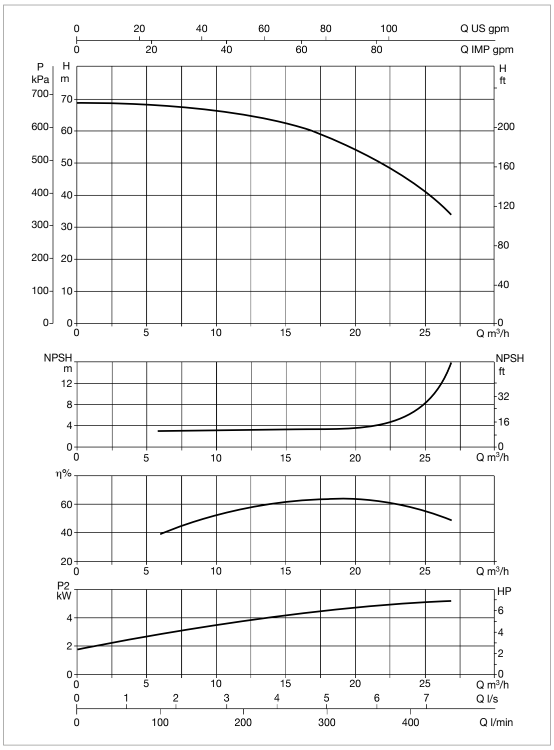


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 03/4 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1934		1602	120	1406	1183	820		2000	2700				80
1KVT6 03/4 5.5 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	820	Ø 140	2000	2700				80
1KVT6 03/4 7.1 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1934	603	603	120	1406	1183	820	Ø 140	2000	2700	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 03/5 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT6 03/5 7,5 400/50	3 x 400 V	DIVER 150 T	7.5	1.0	13.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

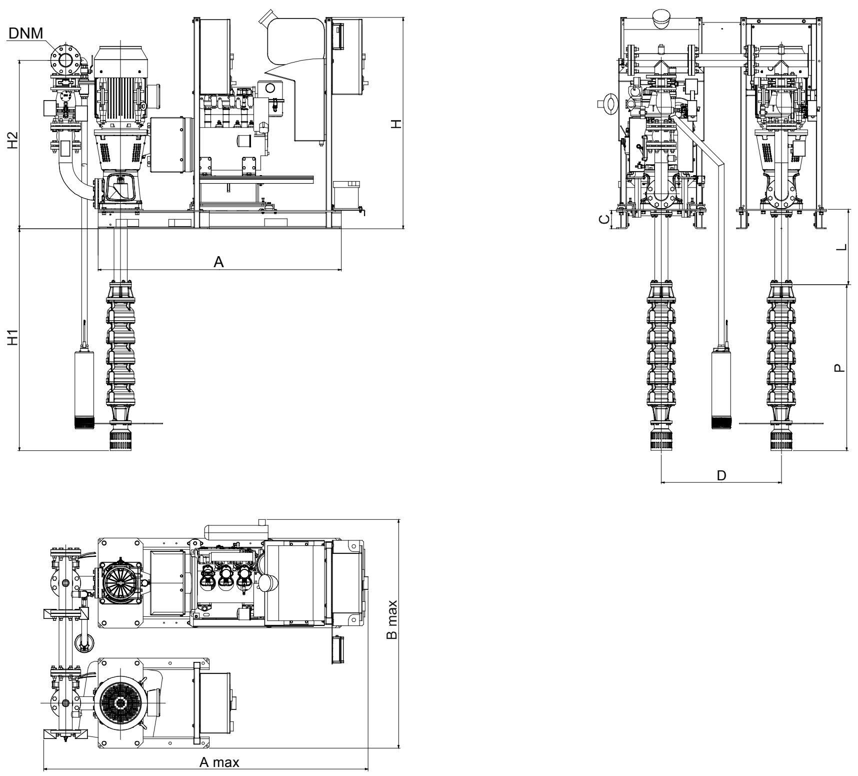
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT6 03/5 7.1 MD	1 x 220-240 V	DIVER 150 T	7.1	1.0	0.22 m²	20 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

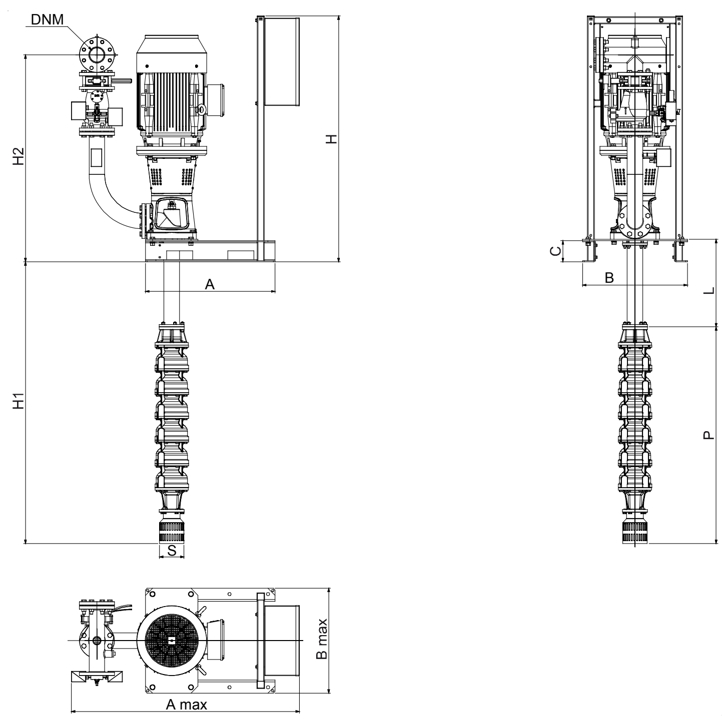
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

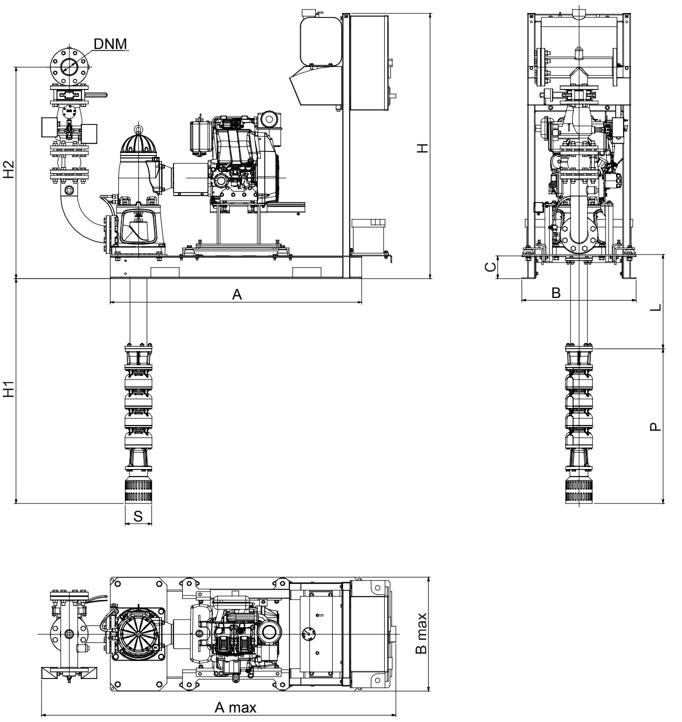


1KVT6 03/5 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

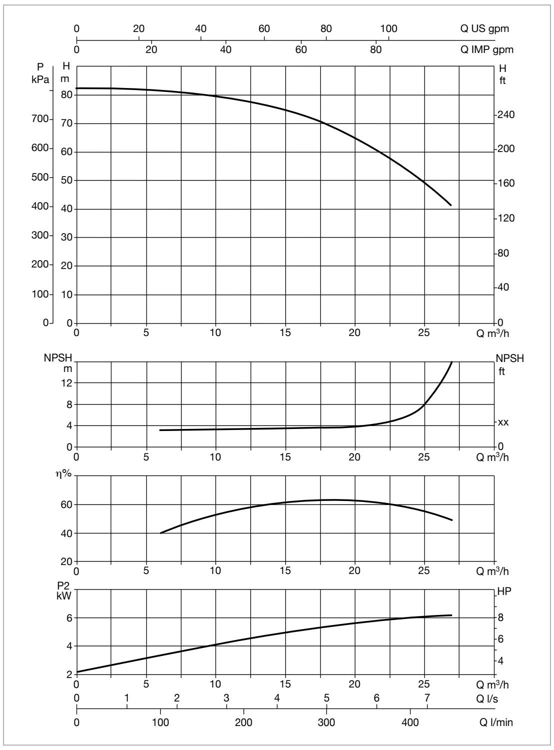


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 03/5 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1934		1602	120	1406	1183	922		2000	2802				80
1KVT6 03/5 7.5 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	922	Ø 140	2000	2802				80
1KVT6 03/5 7.1 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1934	603	603	120	1406	1183	922	Ø 140	2000	2802	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 03/6 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	MEASURING KIT
1KVT6 03/6 7,5 400/50	3 x 400 V	DIVER 200 T	7.5	1.5	13.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

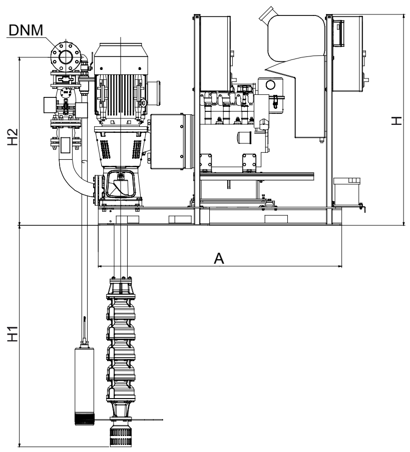
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP kW	P2 JOCKEY PUMP kW	AREA FAN	DIESEL COLLECTION TANK
1KVT6 03/6 11 MD	1 x 220-240 V	DIVER 200 T	11	1.5	0.22 m²	20 l included

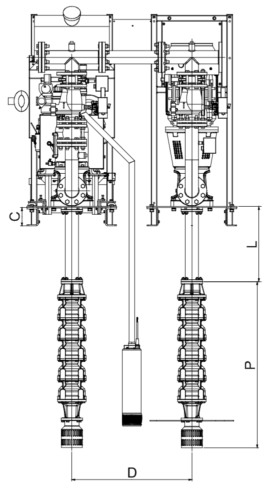
* Jockey pump on request.

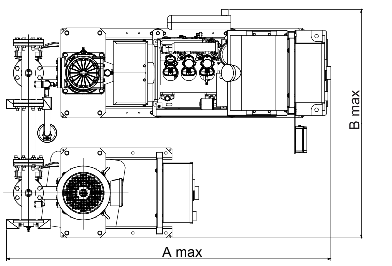
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

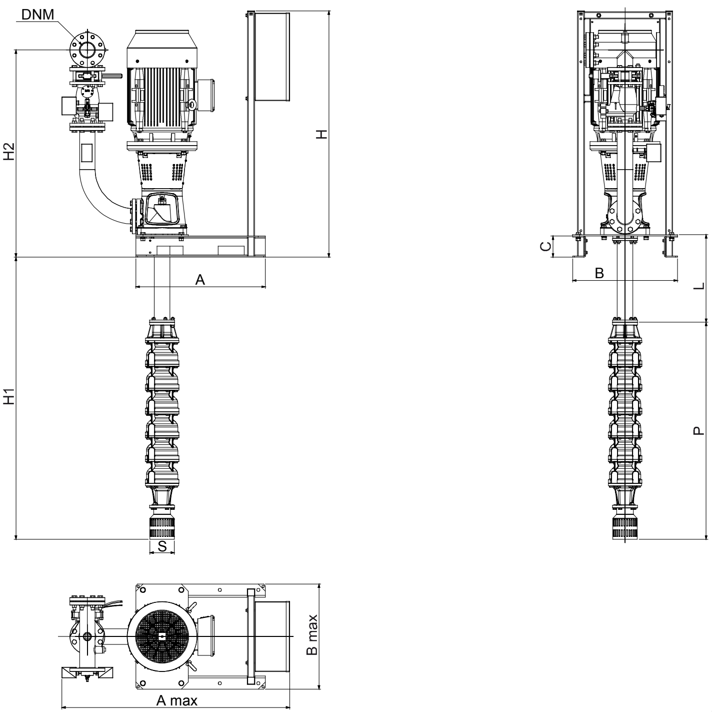




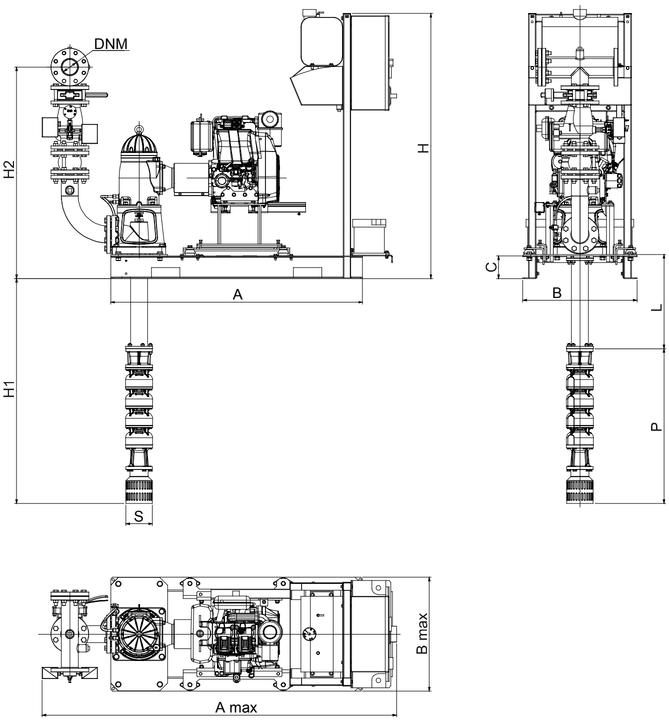


1KVT6 03/6 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

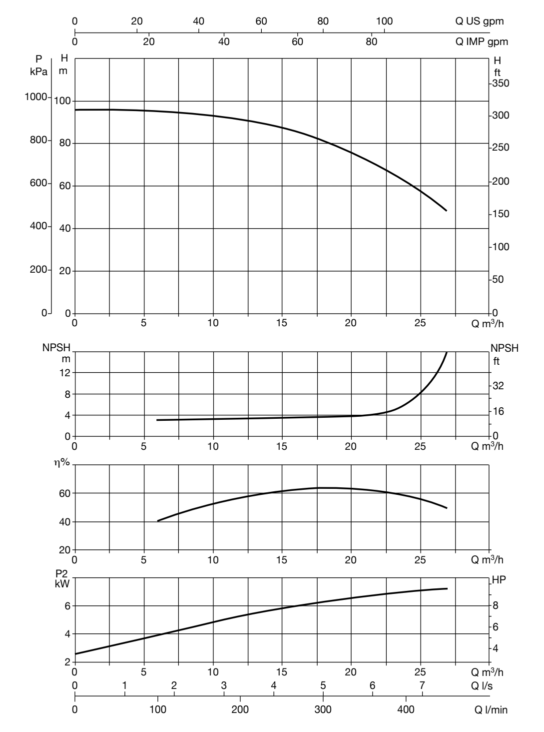


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 03/6 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1934		1602	120	1406	1183	1025		2000	2905				80
1KVT6 03/6 7.5 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	1025	Ø 140	2000	2905				80
1KVT6 03/6 11 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1934	603	603	120	1406	1183	1025	Ø 140	2000	2905	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 03/7 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT6 03/7 11 400/50	3 x 400 V	DIVER 200 T	11	1.5	19.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

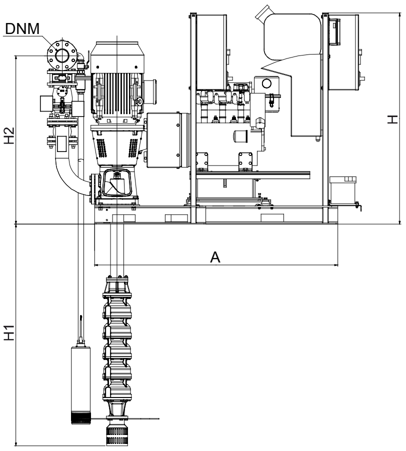
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT6 03/7 11 MD	1 x 220-240 V	DIVER 200 T	11	1.5	0.22 m^2	20 l included

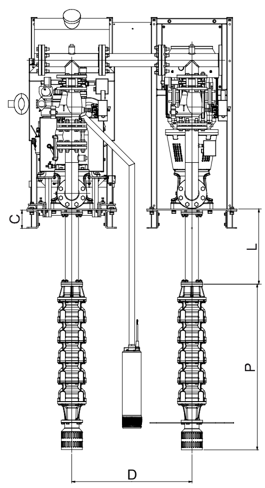
* Jockey pump on request.

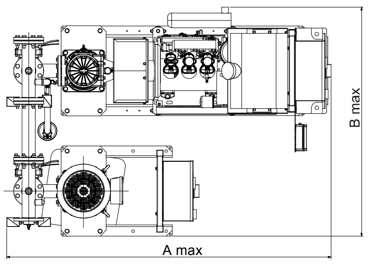
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE



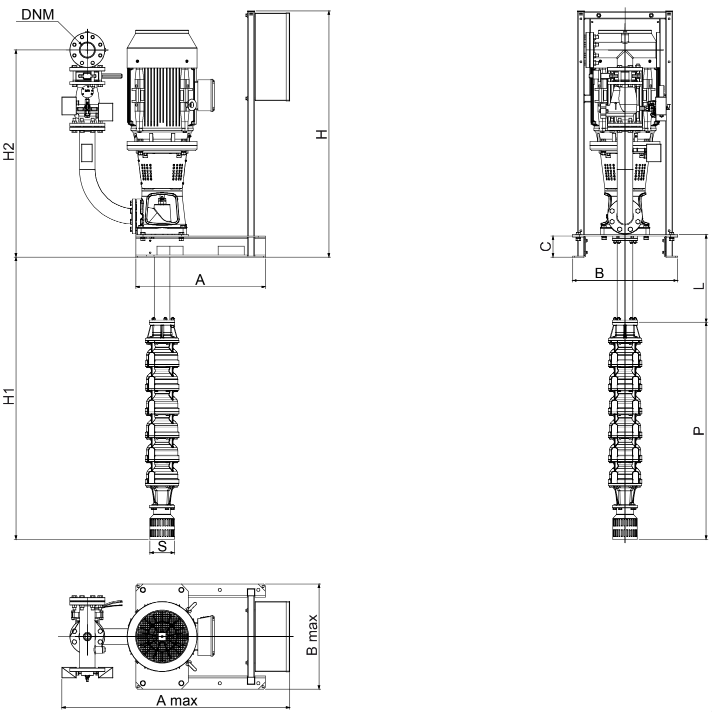




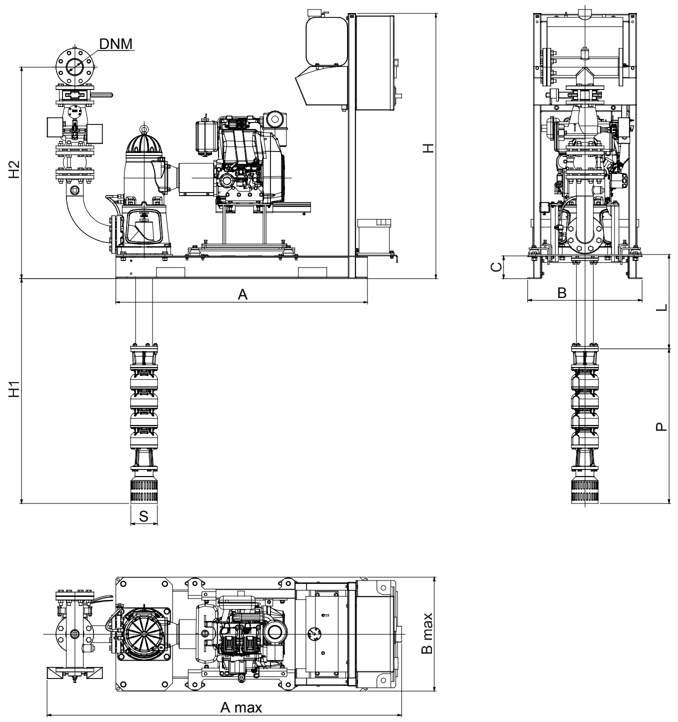
FIRE-FIGHTING PUMP SETS

1KVT6 03/7 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

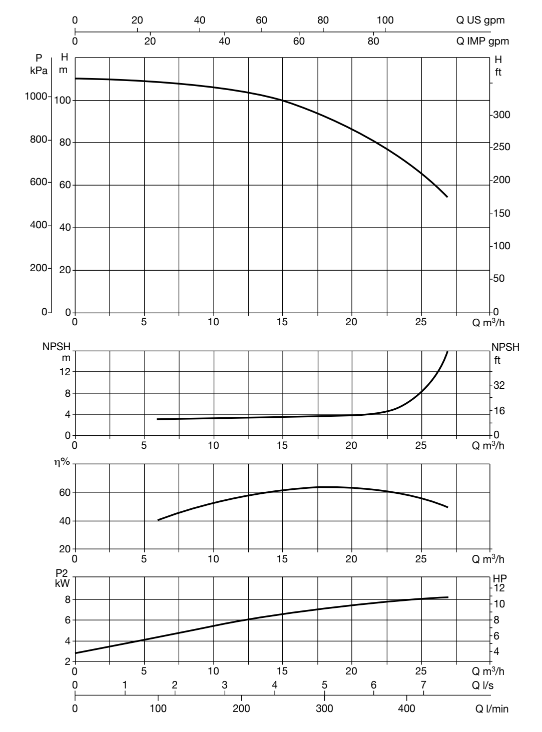


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 03/7 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1934		1602	120	1406	1183	1127		2000	3007				80
1KVT6 03/7 11 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	1127	Ø 140	2000	3007				80
1KVT6 03/7 11 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1934	603	603	120	1406	1183	1127	Ø 140	2000	3007	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 03/8 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT6 03/8 11 400/50	3 x 400 V	DIVER 200 T	11	1.5	19.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

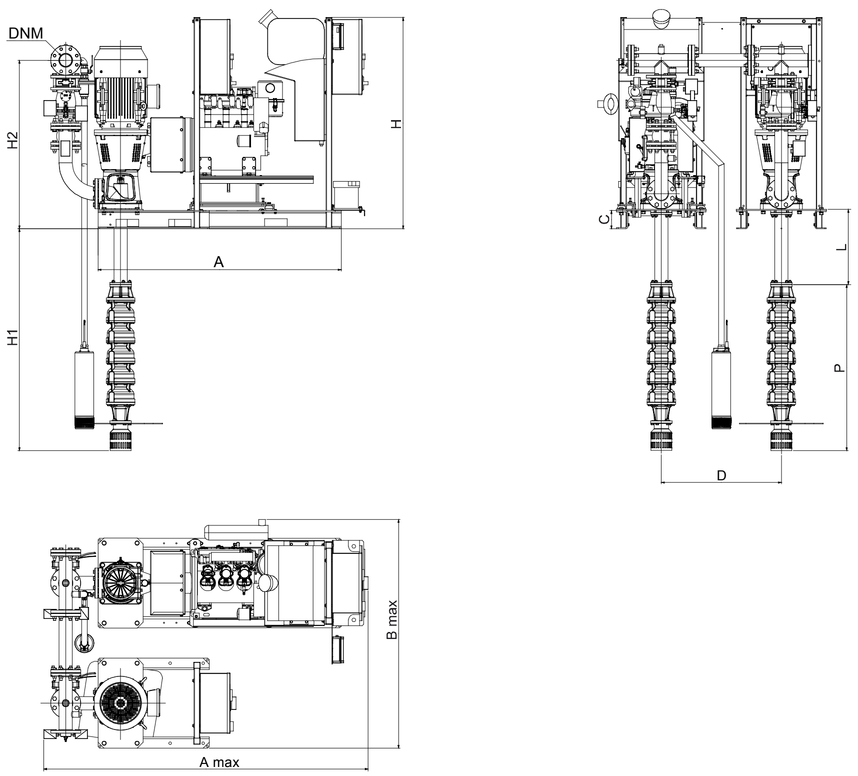
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT6 03/8 11 MD	1 x 220-240 V	DIVER 200 T	11	1.5	0.22 m²	20 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

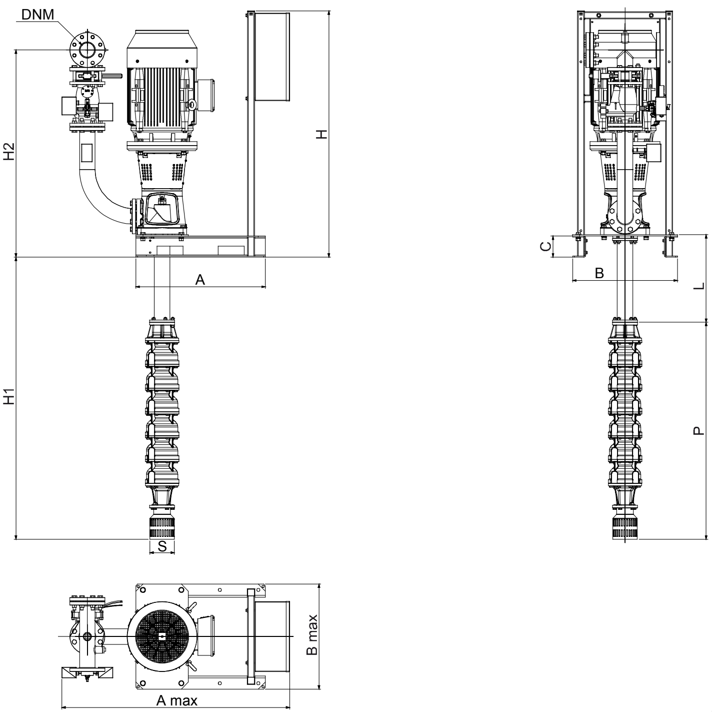
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

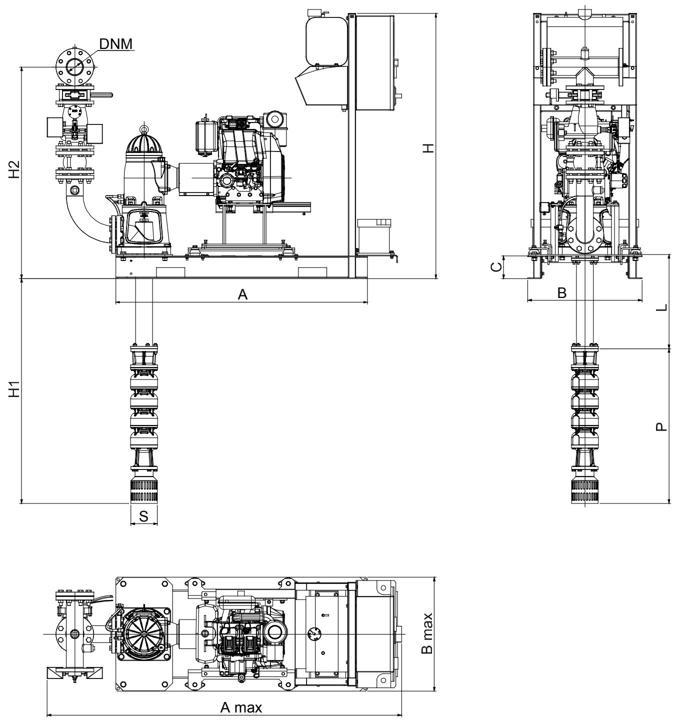


1KVT6 03/8 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

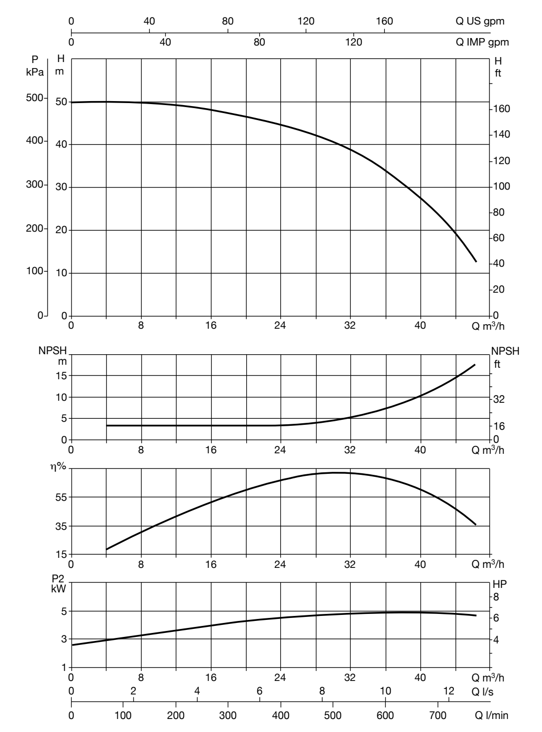


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 03/8 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1934		1602	120	1406	1183	1230		2000	3110				80
1KVT6 03/8 11 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	1230	Ø 140	2000	3110				80
1KVT6 03/8 11 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1934	603	603	120	1406	1183	1230	Ø 140	2000	3110	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 13/4 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - Ambient temperature range: from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT6 13/4 7,5 400/50	3 x 400 V	DIVER 150 T	7.5	1.0	13.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

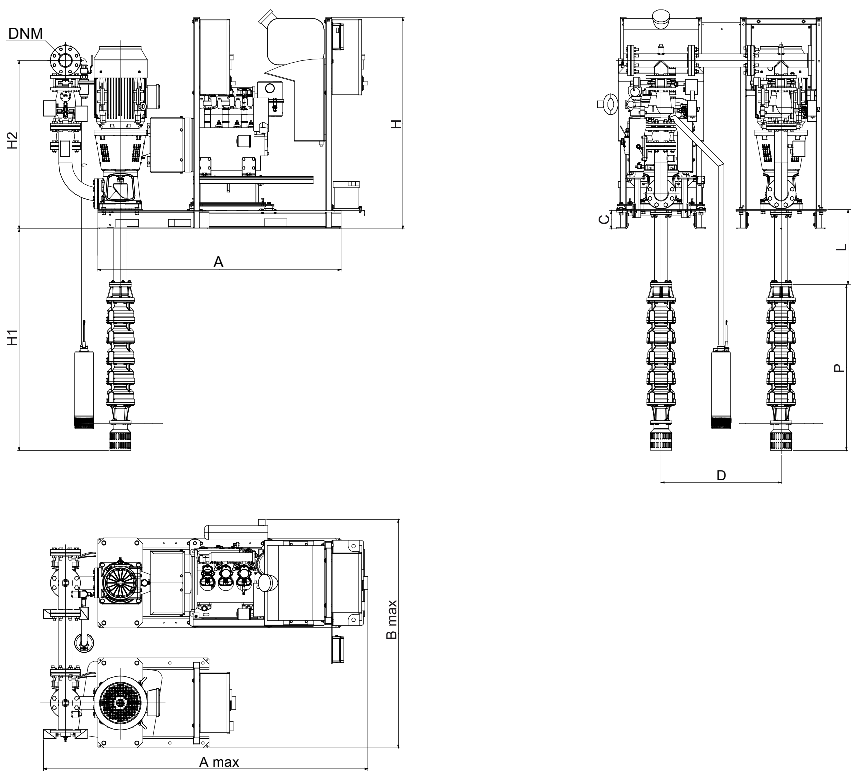
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT6 13/4 7.1 MD	1 x 220-240 V	DIVER 150 T	7.1	1.0	0.22 m²	20 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

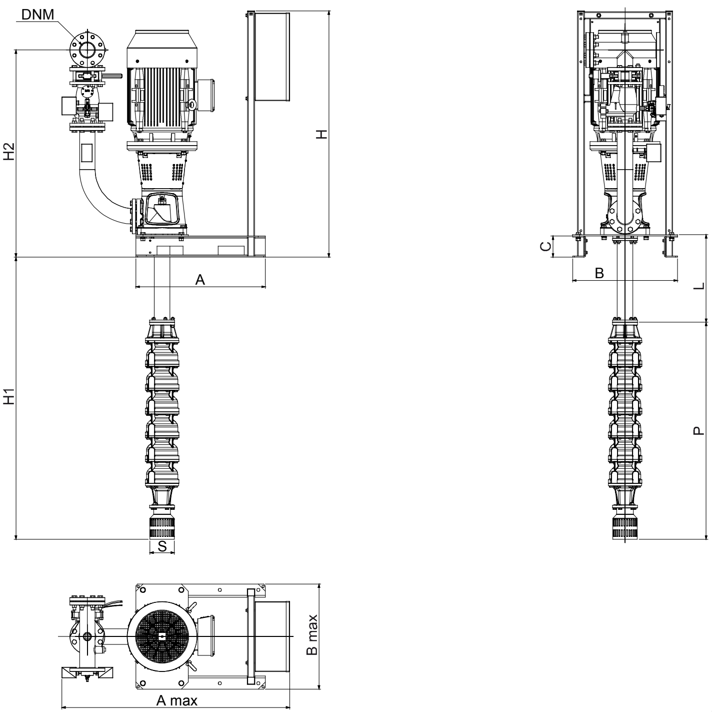
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

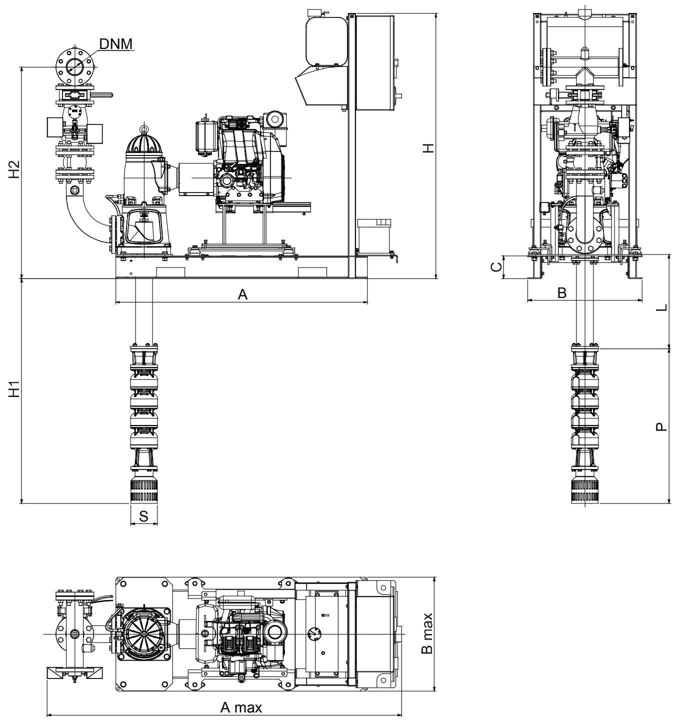


1KVT6 13/4 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

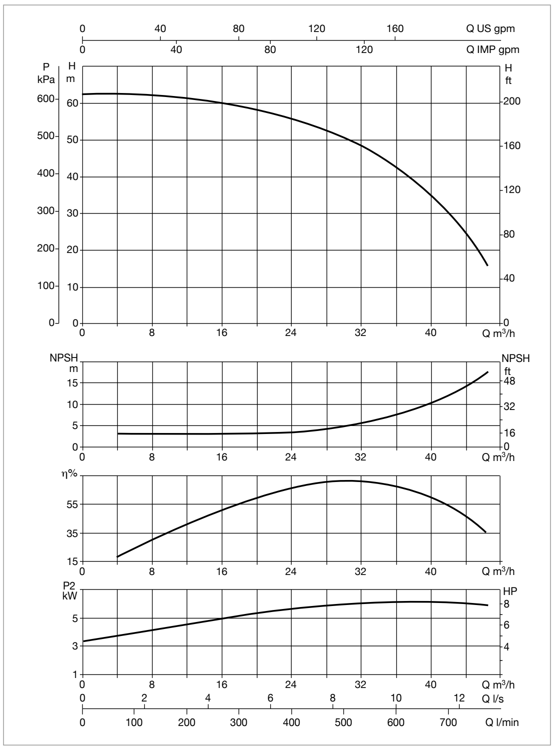


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 13/4 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1934		1602	120	1406	1183	820		2000	2700				80
1KVT6 13/4 7.5 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	820	Ø 140	2000	2700				80
1KVT6 13/4 7.1 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1934	603	603	120	1406	1183	820	Ø 140	2000	2700	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 13/5 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT6 13/5 7,5 400/50	3 x 400 V	DIVER 150 T	7.5	1.0	13.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

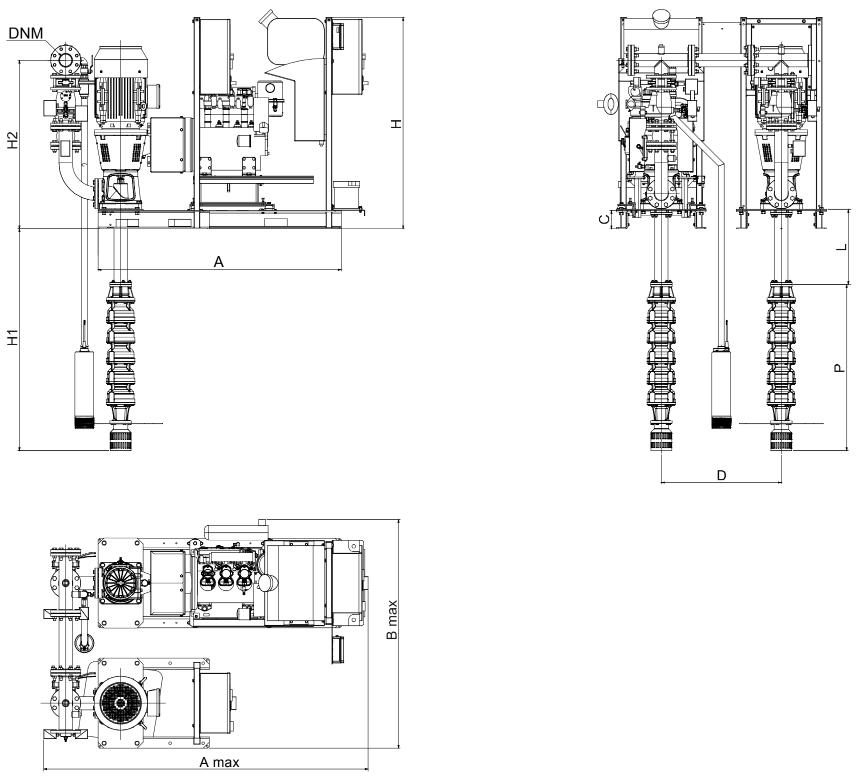
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT6 13/5 11 MD	1 x 220-240 V	DIVER 150 T	11	1.0	0.22 m^2	20 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

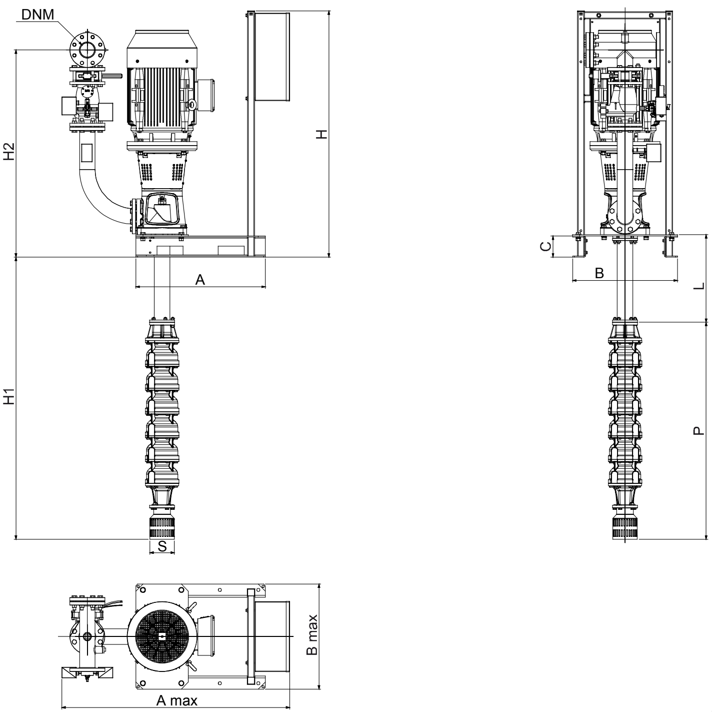
ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE



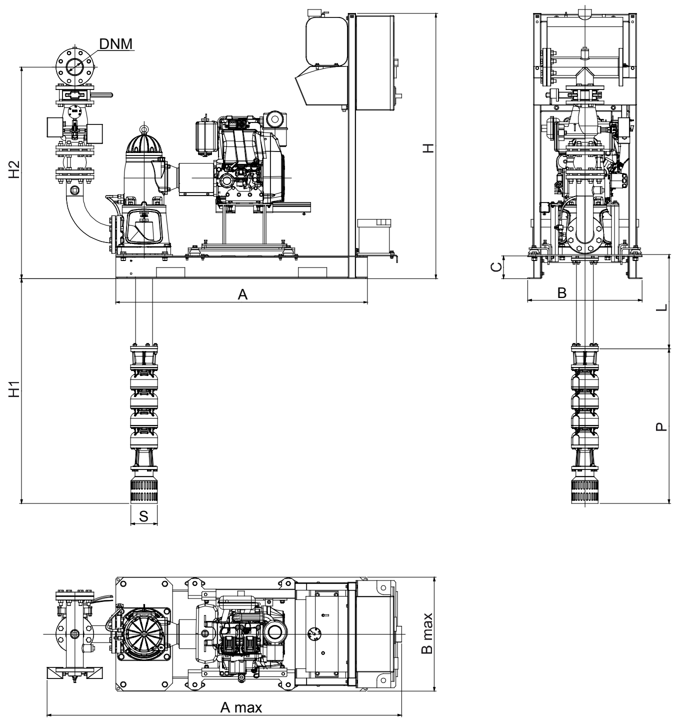
FIRE-FIGHTING PUMP SETS

1KVT6 13/5 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

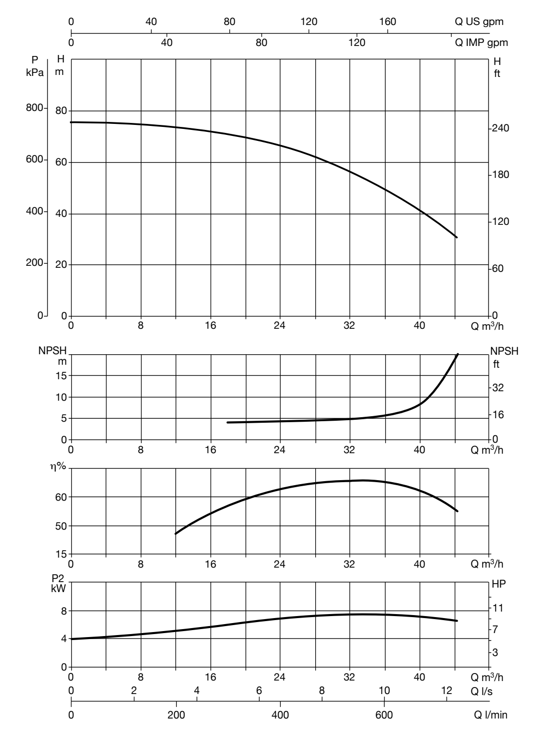


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 13/5 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1934		1602	120	1406	1183	922		2000	2802				80
1KVT6 13/5 7.5 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	922	Ø 140	2000	2802				80
1KVT6 13/5 11 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1934	603	603	120	1406	1183	922	Ø 140	2000	2802	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 13/6 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT6 13/6 11 400/50	3 x 400 V	DIVER 150 T	11	1.0	19.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

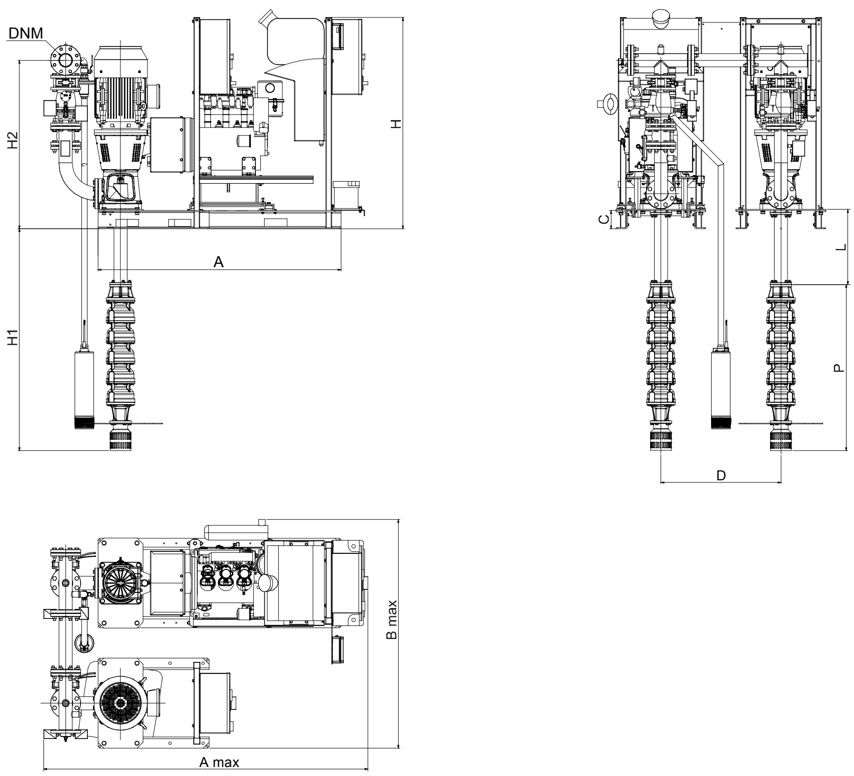
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT6 13/6 11 MD	1 x 220-240 V	DIVER 150 T	11	1.0	0.22 m²	20 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

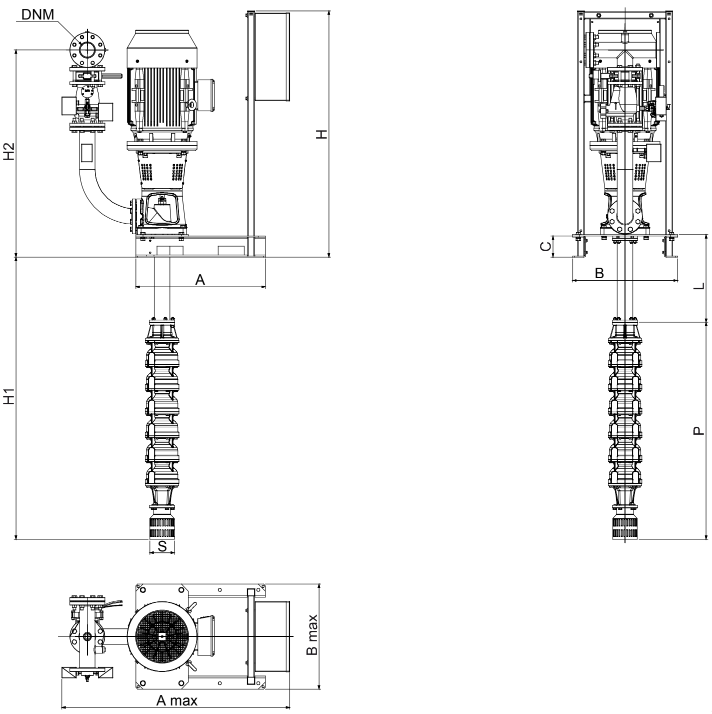
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

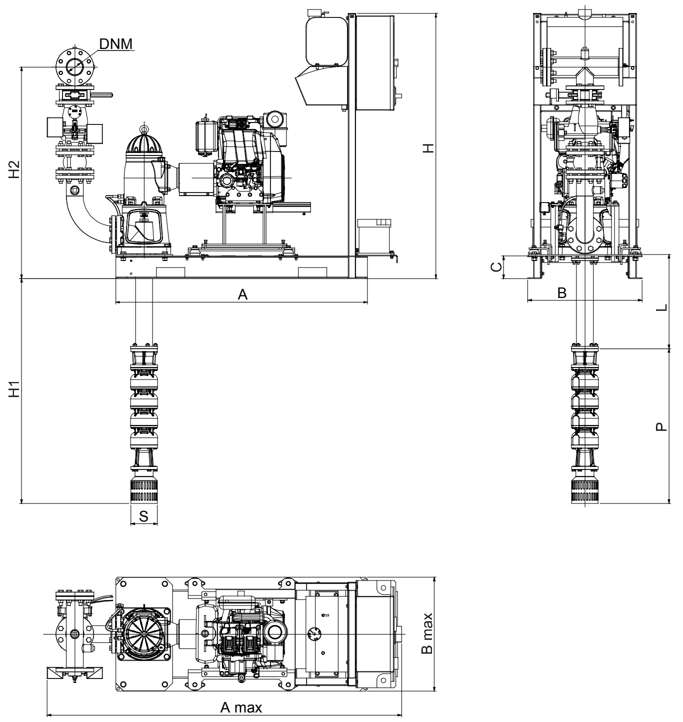


1KVT6 13/6 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

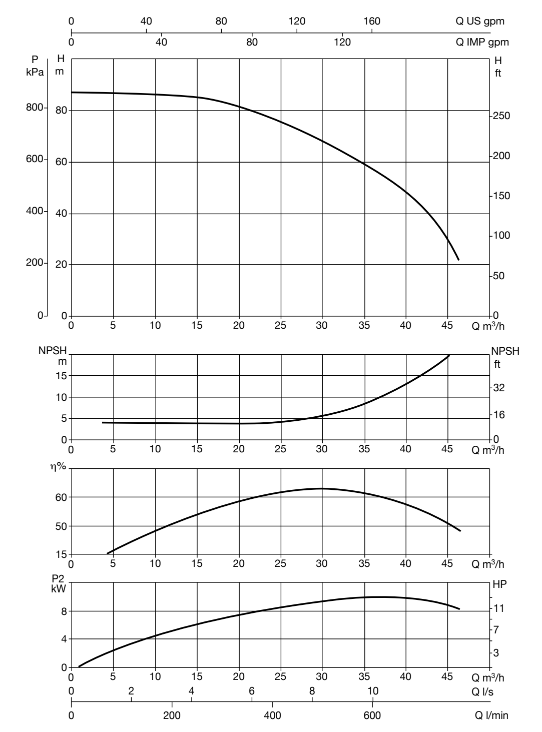


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 13/6 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1934		1602	120	1406	1183	1025		2000	2905				80
1KVT6 13/6 11 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	1025	Ø 140	2000	2905				80
1KVT6 13/6 11 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1934	603	603	120	1406	1183	1025	Ø 140	2000	2905	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 13/7 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	MEASURING KIT
1KVT6 13/7 11 400/50	3 x 400 V	DIVER 200 T	11	1.5	19.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

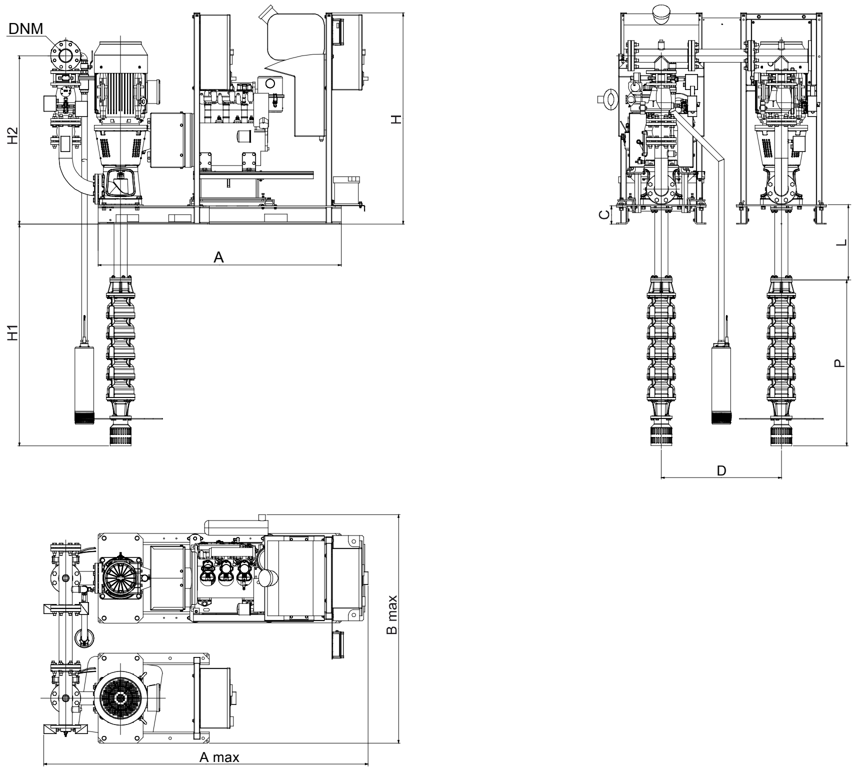
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP kW	P2 JOCKEY PUMP kW	AREA FAN	DIESEL COLLECTION TANK
1KVT6 13/7 11 MD	1 x 220-240 V	DIVER 200 T	11	1.5	0.22 m²	20 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

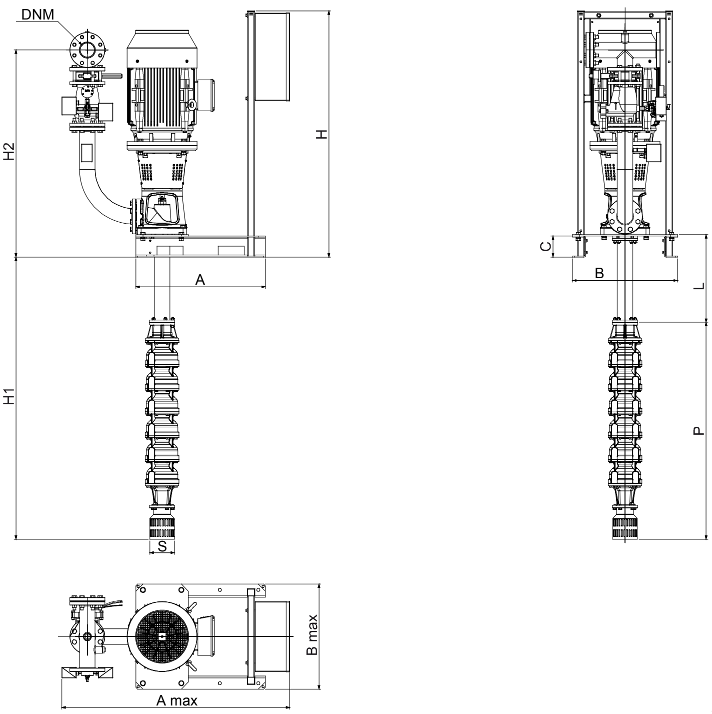
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

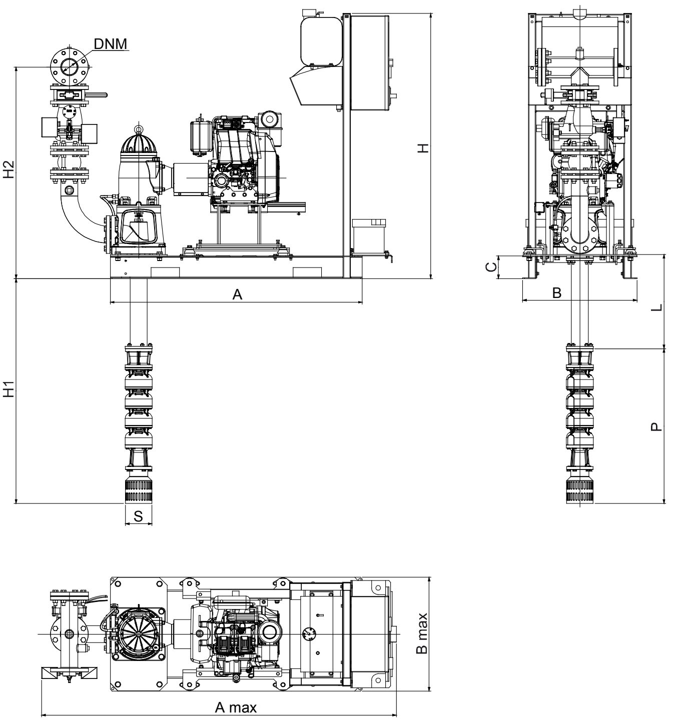


1KVT6 13/7 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

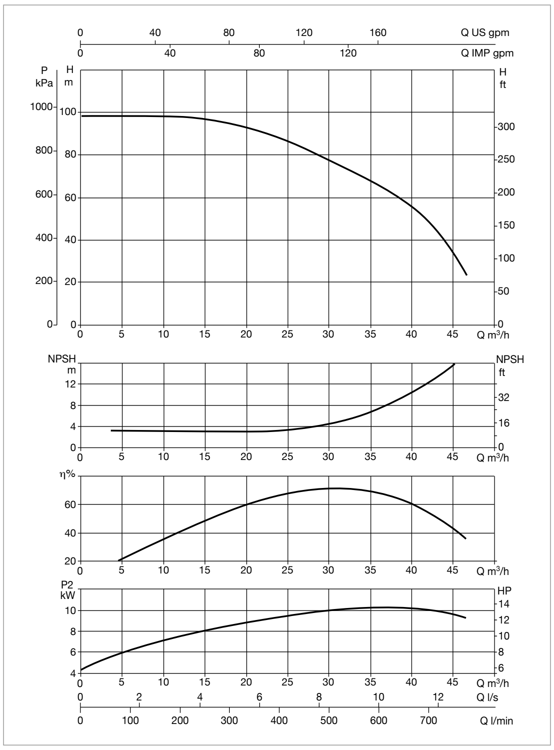


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 13/7 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1934		1602	120	1406	1183	1127		2000	3007				80
1KVT6 13/7 11 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	1127	Ø 140	2000	3007				80
1KVT6 13/7 11 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1934	603	603	120	1406	1183	1127	Ø 140	2000	3007	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 13/8 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT6 13/8 15 400/50	3 x 400 V	DIVER 200 T	15	1.5	26.5	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

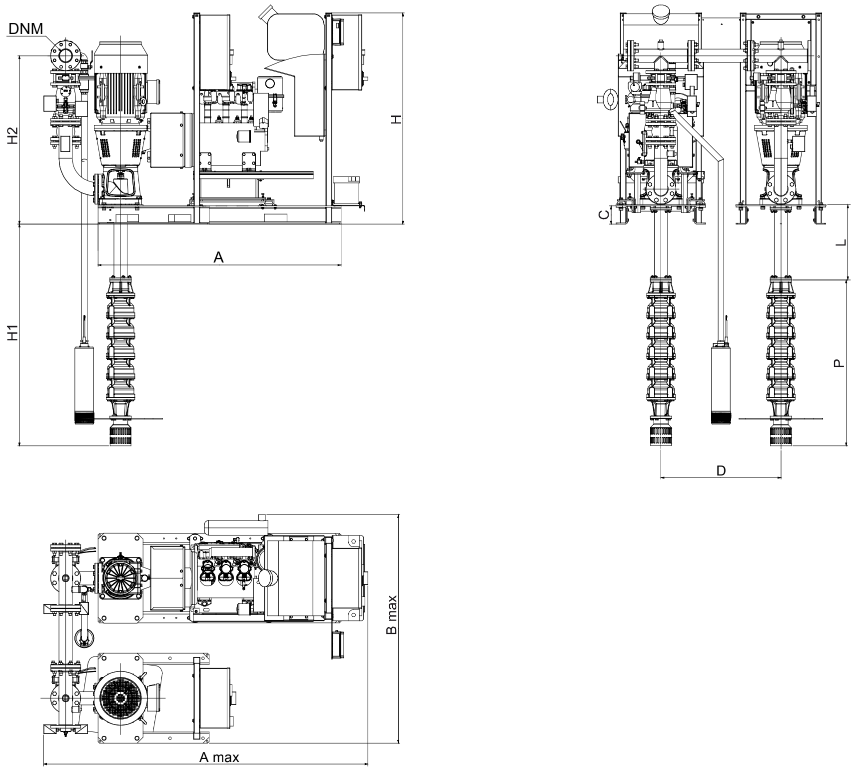
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT6 13/8 15 MD	1 x 220-240 V	DIVER 200 T	15	1.5	0.22 m²	50 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

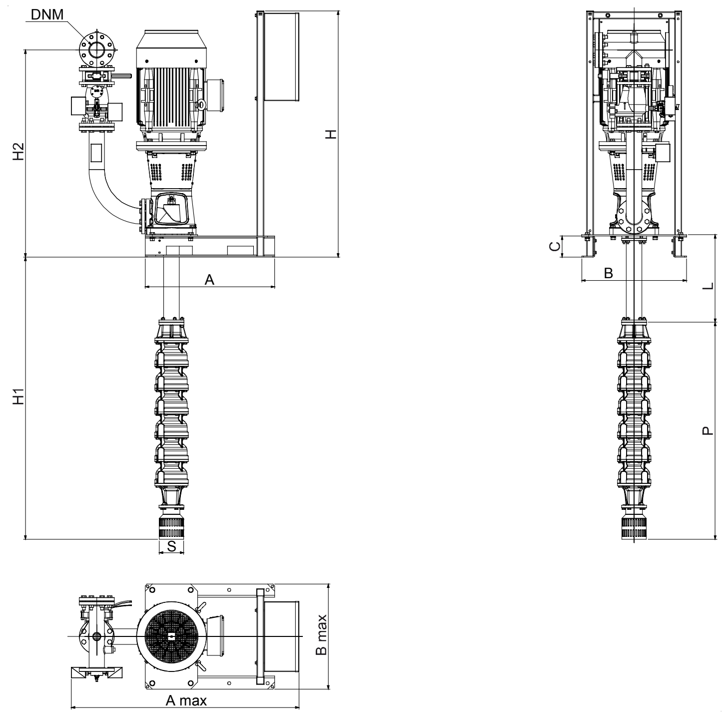
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

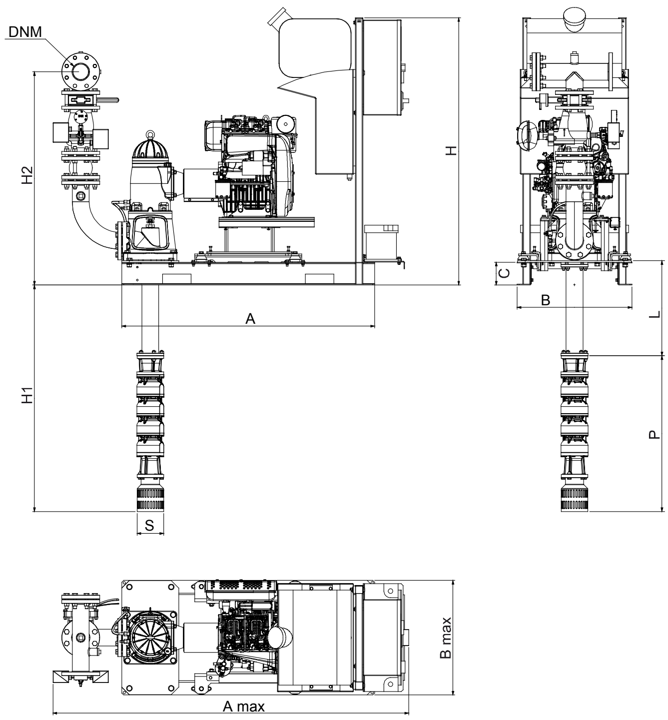


1KVT6 13/8 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

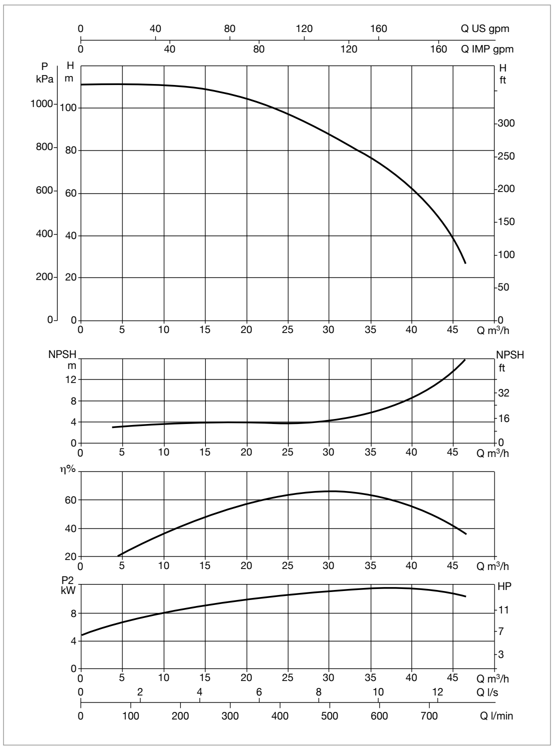


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 13/8 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1872		1602	120	1406	1183	1230		2000	3110				80
1KVT6 13/8 15 400/50 - ELECTRIC PUMP MODULE	740	1334	599	599	120	1406	1183	1230	Ø 140	2000	3110				80
1KVT6 13/8 15 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1872	603	603	120	1406	1121	1230	Ø 140	2000	3110	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 13/9 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT6 13/9 15 400/50	3 x 400 V	DIVER 200 T	15	1.5	26.5	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

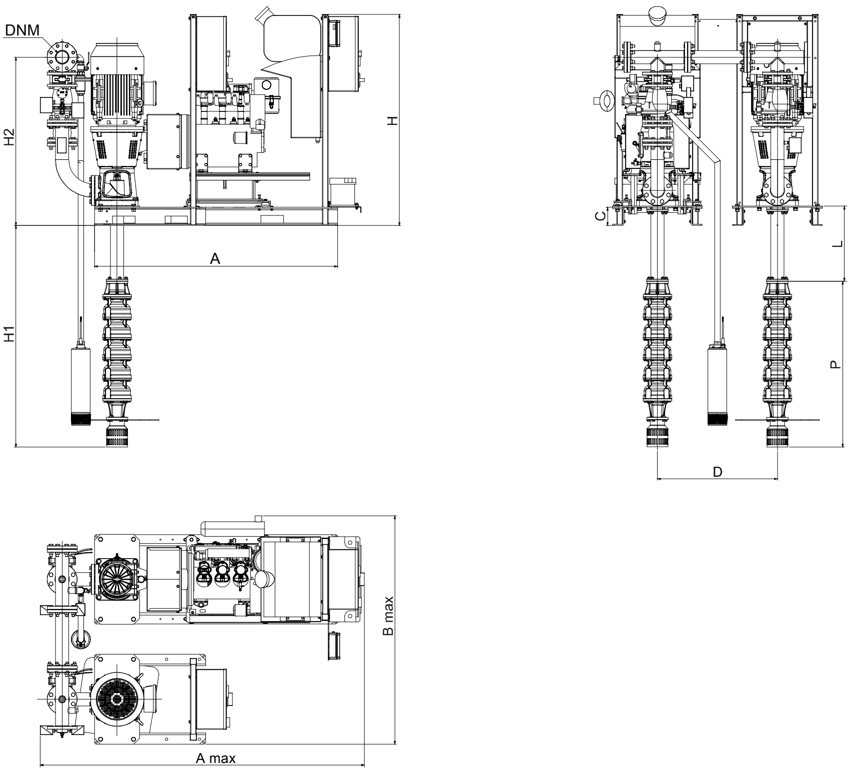
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT6 13/9 15 MD	1 x 220-240 V	DIVER 200 T	15	1.5	0.22 m²	50 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

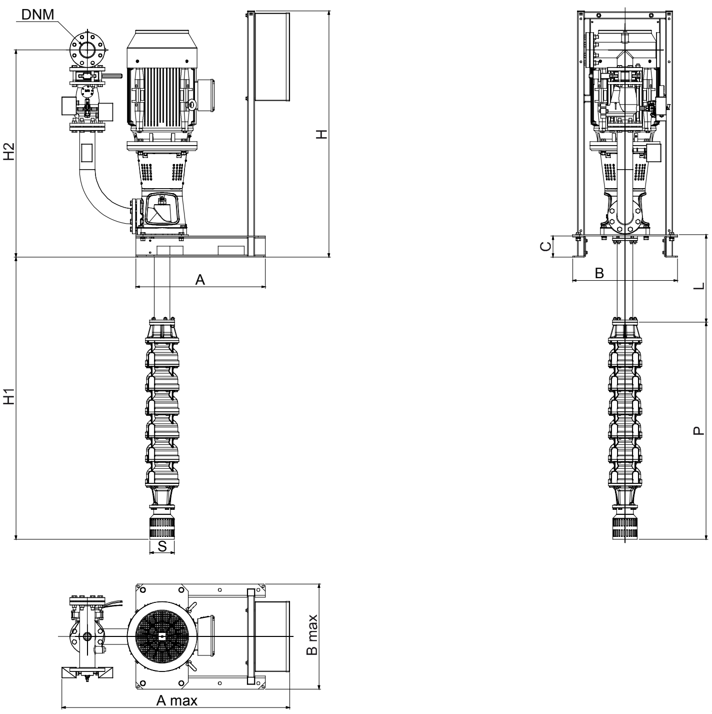
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

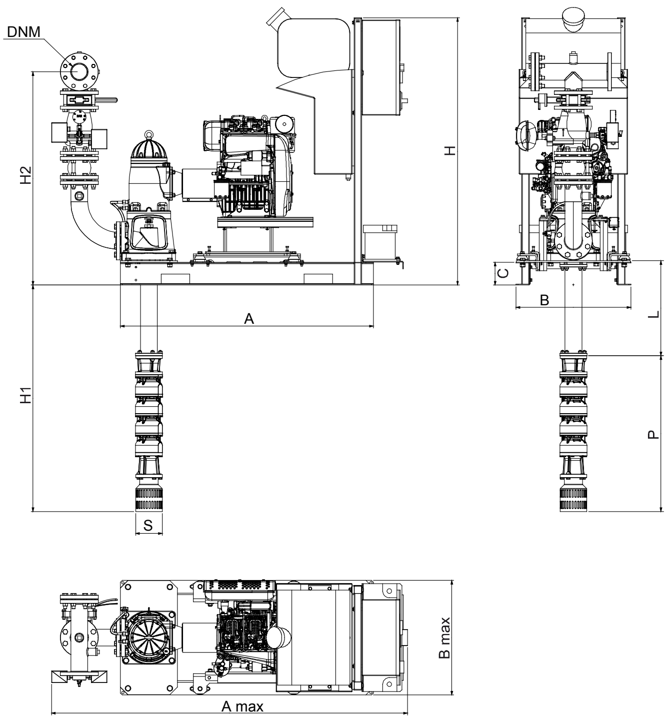


1KVT6 13/9 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

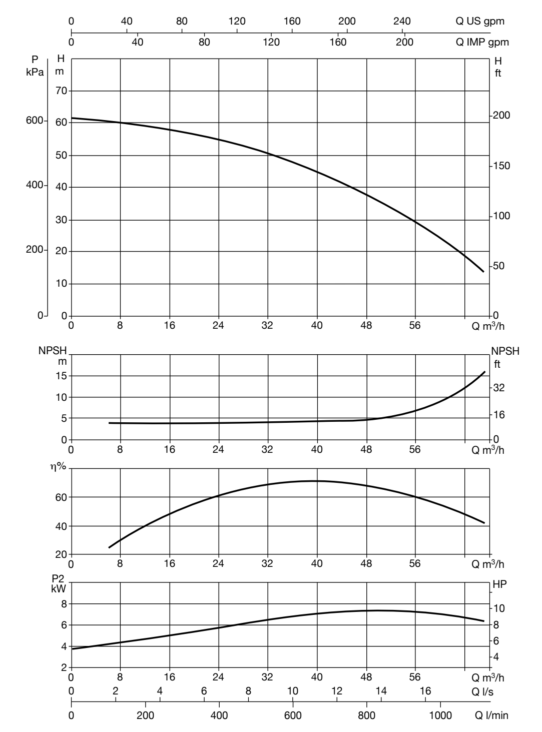


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 13/9 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1872		1602	120	1406	1183	1332		2000	3212				80
1KVT6 13/9 15 400/50 - ELECTRIC PUMP MODULE	740	1334	599	599	120	1406	1183	1332	Ø 140	2000	3212				80
1KVT6 13/9 15 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1872	603	603	120	1406	1121	1332	Ø 140	2000	3212	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 23/4 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	MEASURING KIT
1KVT6 23/4 11 400/50	3 x 400 V	DIVER 150 T	11	1.0	19.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

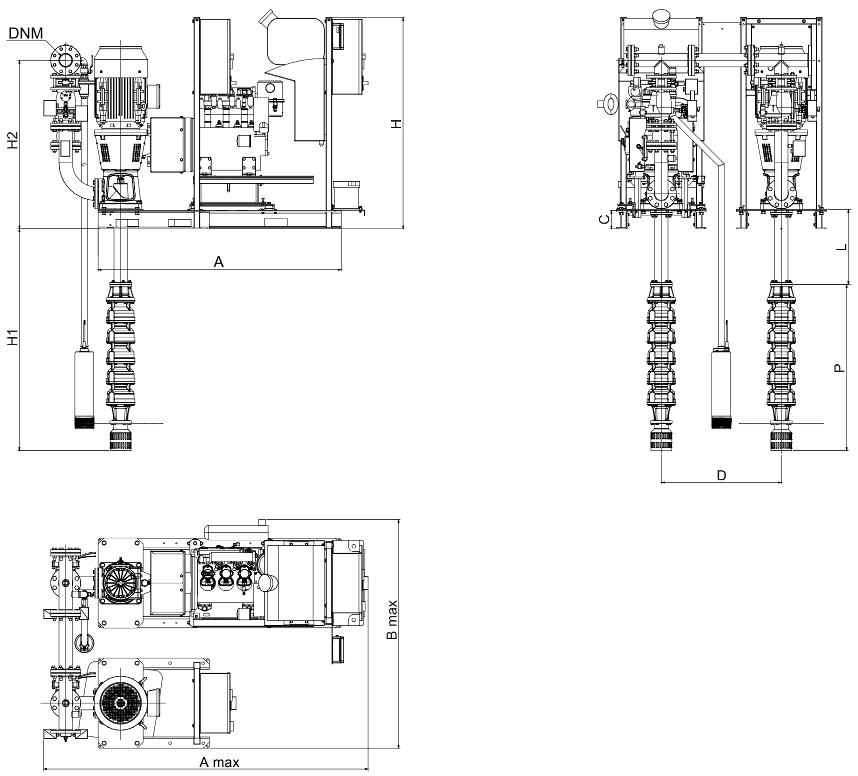
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP kW	P2 JOCKEY PUMP kW	AREA FAN	DIESEL COLLECTION TANK
1KVT6 23/4 11 MD	1 x 220-240 V	DIVER 150 T	11	1.0	0.22 m²	20 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

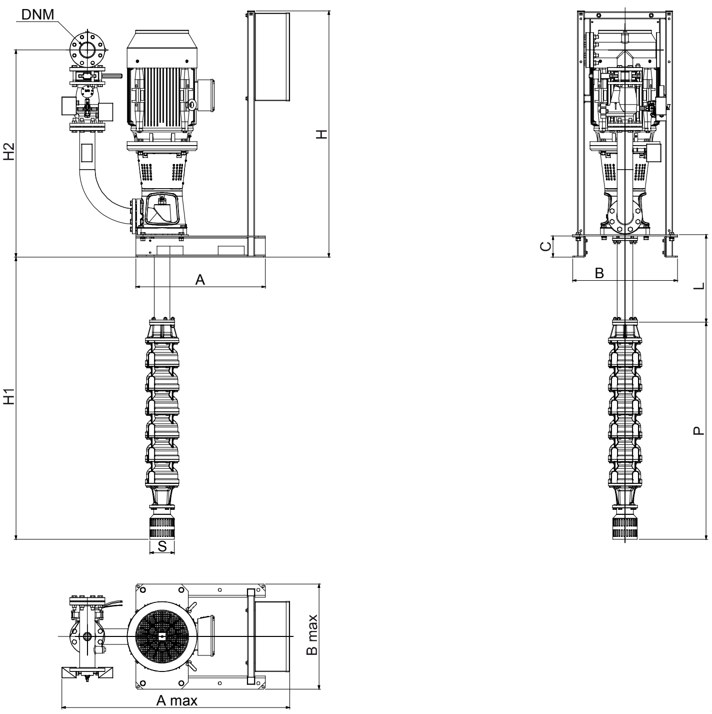
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

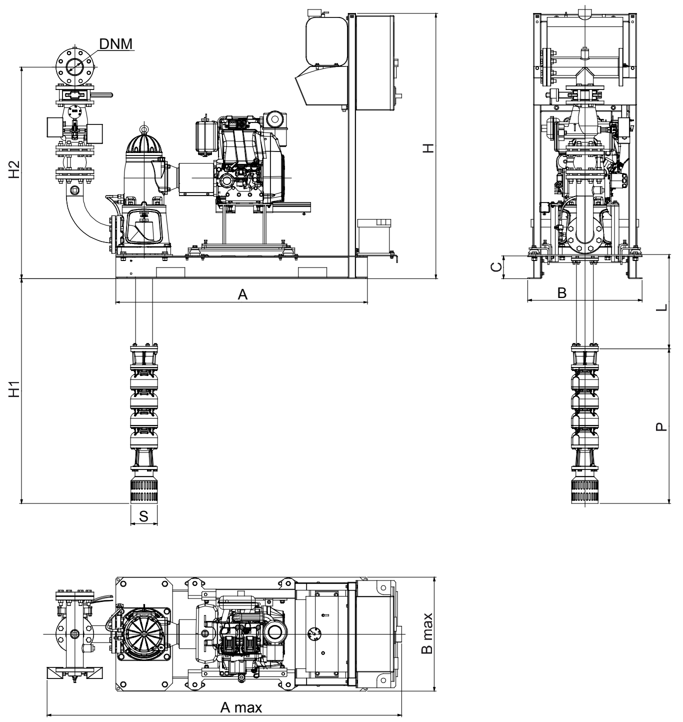


1KVT6 23/4 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

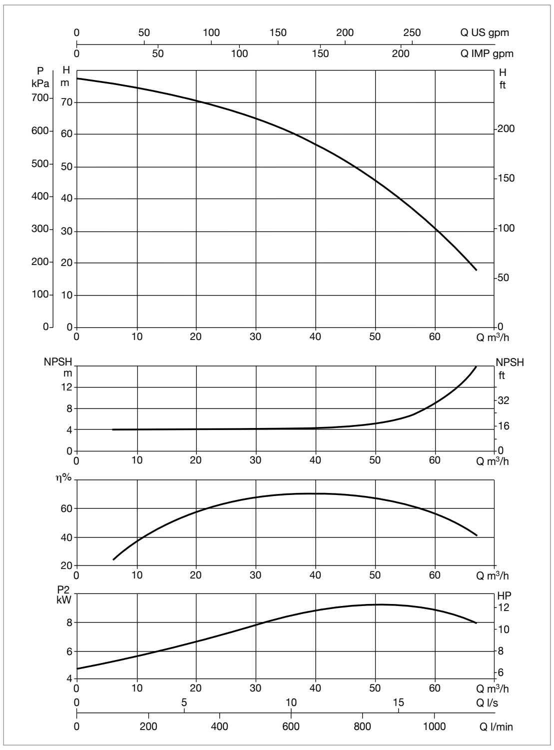


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 23/4 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1934		1602	120	1406	1183	820		2000	2700				80
1KVT6 23/4 11 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	820	Ø 140	2000	2700				80
1KVT6 23/4 11 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1934	603	603	120	1406	1183	820	Ø 140	2000	2700	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 23/5 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT6 23/5 11 400/50	3 x 400 V	DIVER 150 T	11	1.0	19.4	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

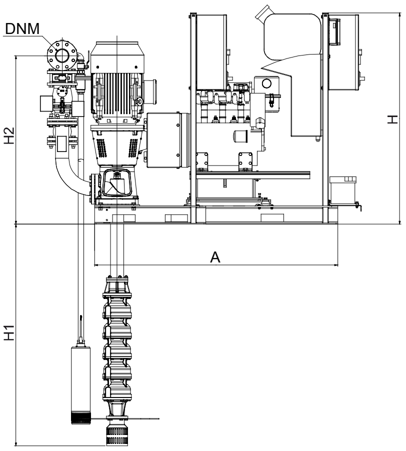
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT6 23/5 15 MD	1 x 220-240 V	DIVER 150 T	15	1.0	0.22 m²	50 l included

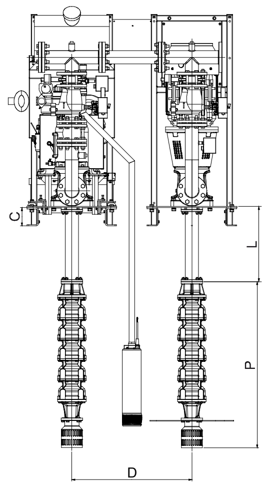
* Jockey pump on request.

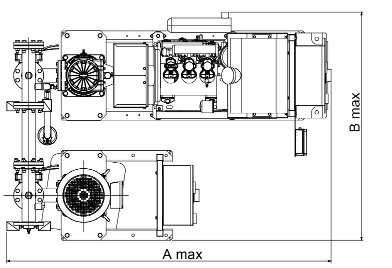
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

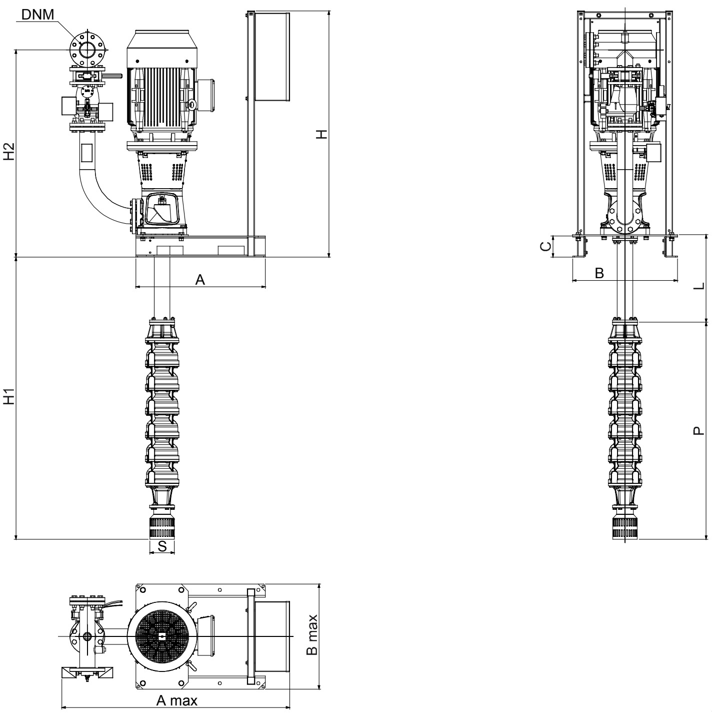




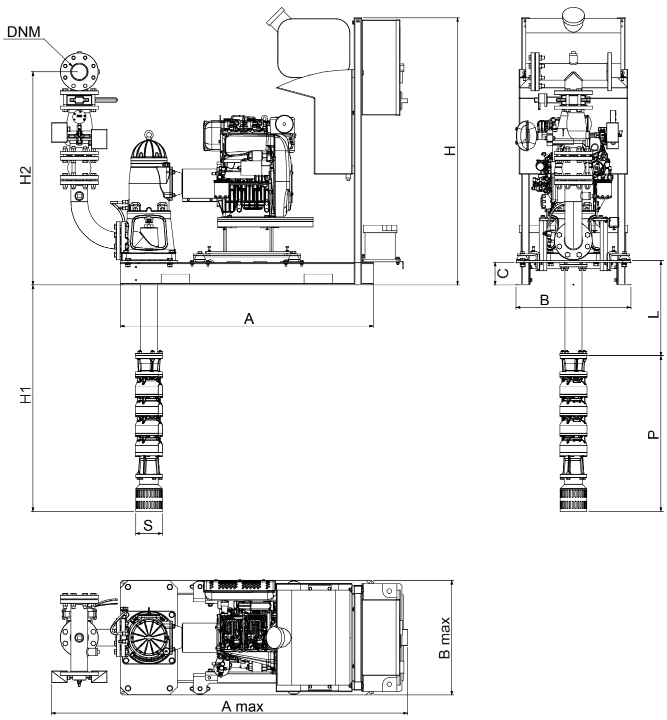


1KVT6 23/5 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

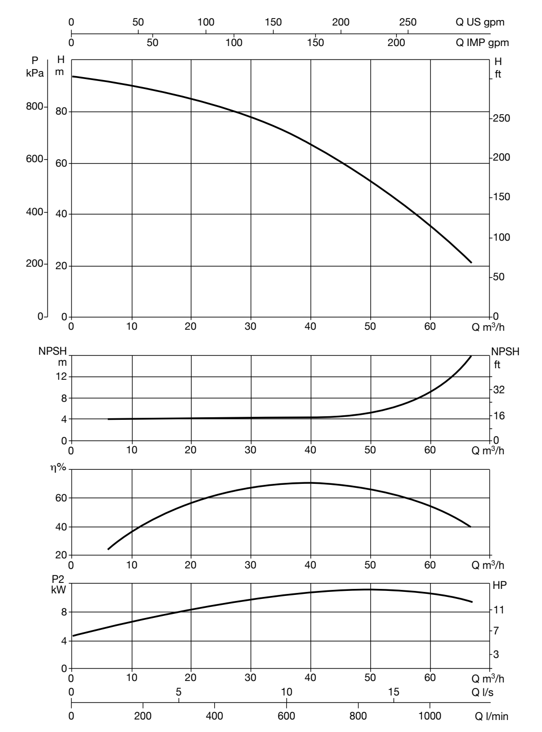


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 23/5 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1872		1602	120	1406	1183	922		2000	2802				80
1KVT6 23/5 11 400/50 - ELECTRIC PUMP MODULE	740	1305	599	599	120	1406	1183	922	Ø 140	2000	2802				80
1KVT6 23/5 15 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1872	603	603	120	1406	1121	922	Ø 140	2000	2802	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 23/6 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	MEASURING KIT
1KVT6 23/6 15 400/50	3 x 400 V	DIVER 150 T	15	1.0	26.5	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

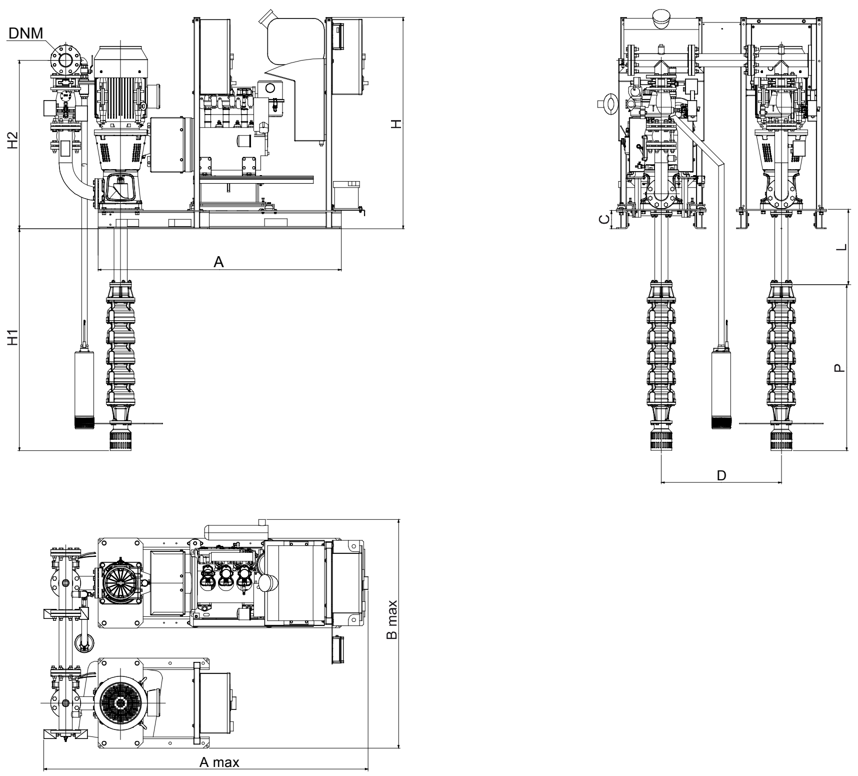
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP kW	P2 JOCKEY PUMP kW	AREA FAN	DIESEL COLLECTION TANK
1KVT6 23/6 15 MD	1 x 220-240 V	DIVER 150 T	15	1.0	0.22 m^2	50 l included

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

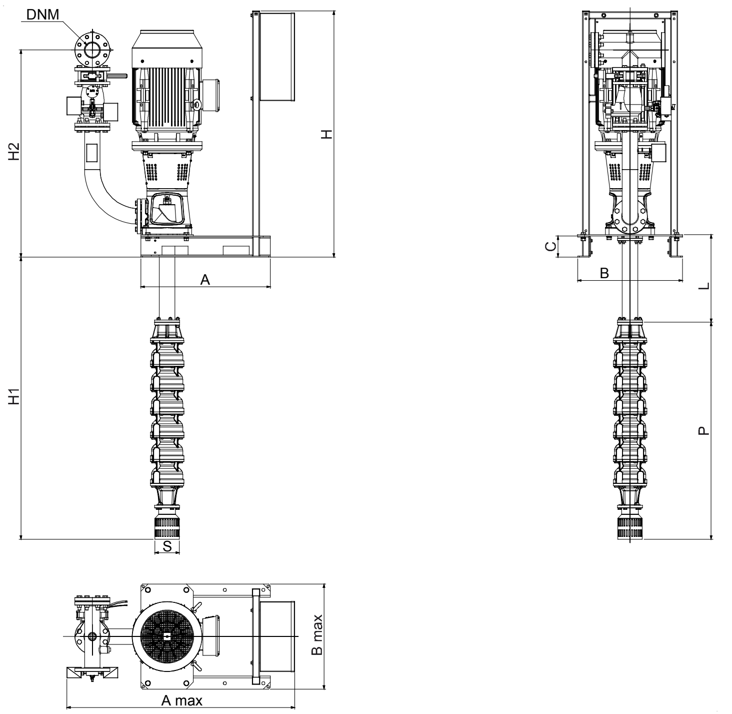
ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE



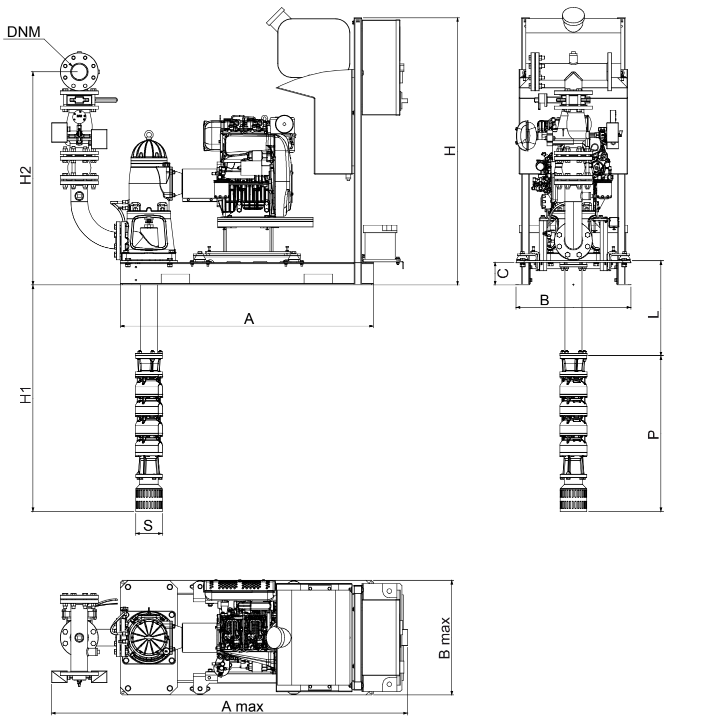
FIRE-FIGHTING PUMP SETS

1KVT6 23/6 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

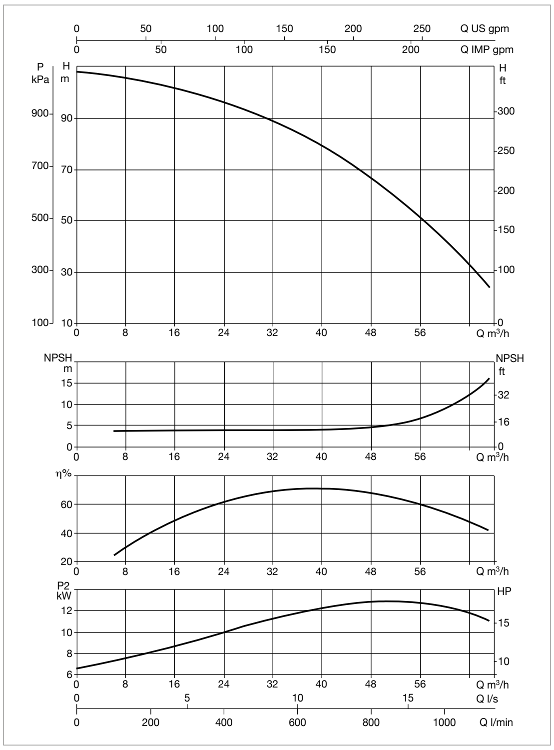


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 23/6 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1330	1872		1602	120	1406	1183	820		2000	2700				80
1KVT6 23/6 15 400/50 - ELECTRIC PUMP MODULE	740	1334	599	599	120	1406	1183	1025	Ø 140	2000	2905				80
1KVT6 23/6 15 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1330	1872	603	603	120	1406	1121	820	Ø 140	2000	2700	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT6 23/7 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT6 23/7 18,5 400/50	3 x 400 V	DIVER 200 T	18.5	1.5	32.0	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

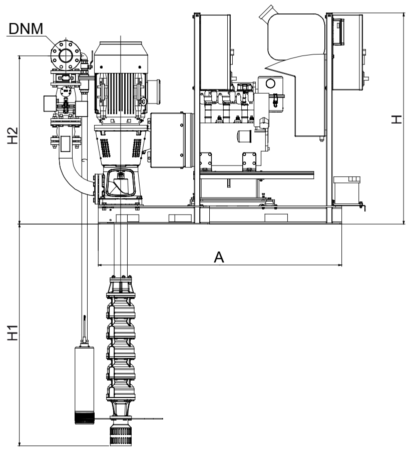
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT6 23/7 19 MD	1 x 220-240 V	DIVER 200 T	19	1.5	0.22 m²	50 l included

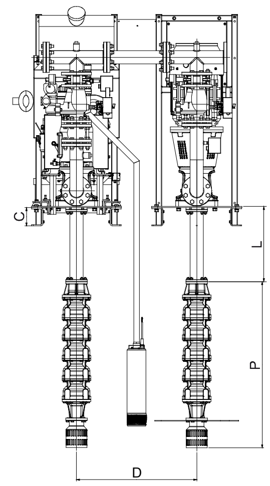
* Jockey pump on request.

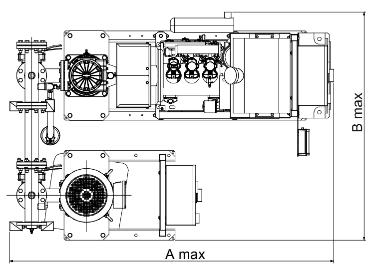
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

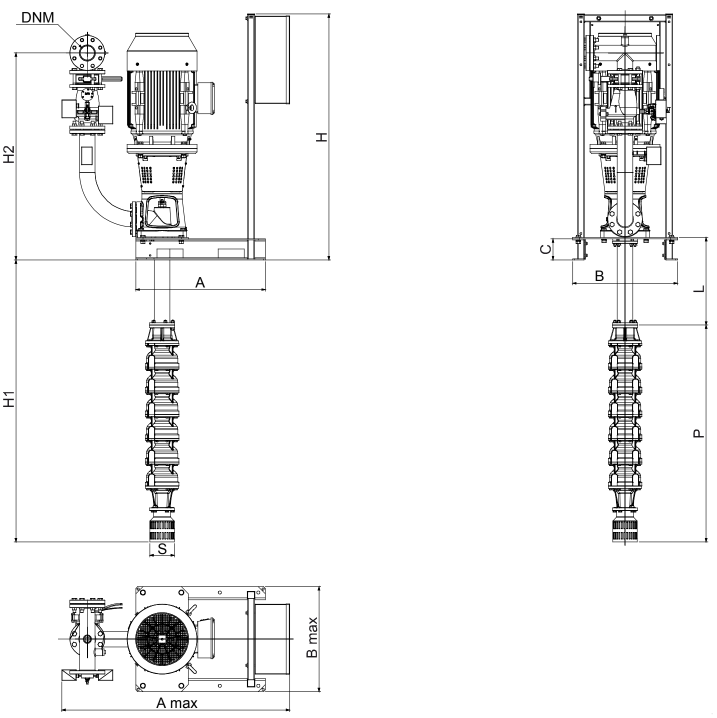




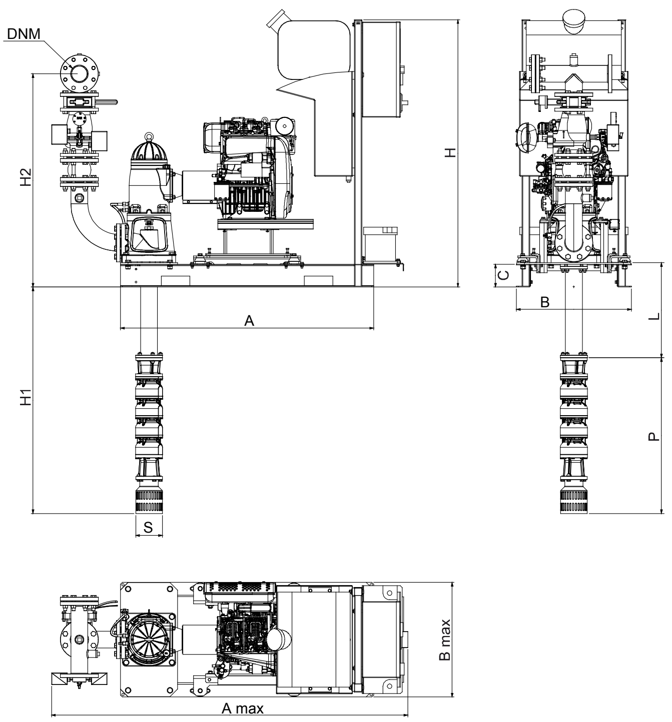


1KVT6 23/7 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

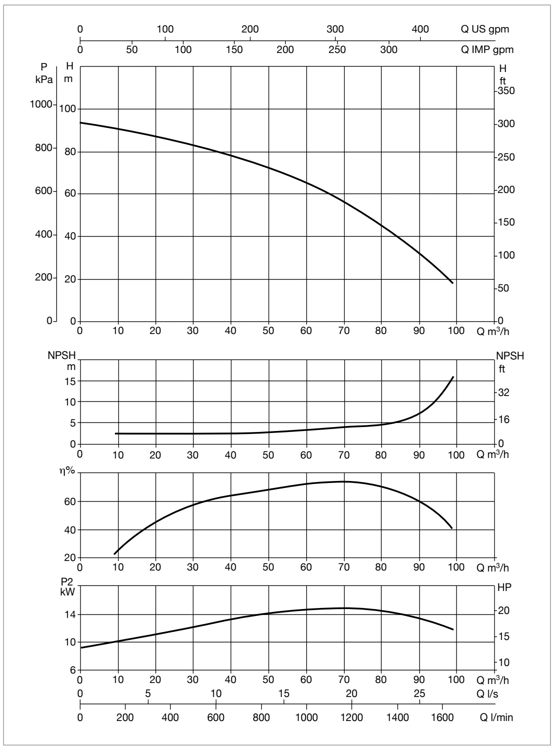


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT6 23/7 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1620	2162		1637	120	1406	1183	1127		2000	3007				80
1KVT6 23/7 30 18.5 400/50 - ELECTRIC PUMP MODULE	740	1337	599	599	120	1406	1183	1127	Ø 140	2000	3007				80
1KVT6 23/7 19 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1620	2162	595	638	120	1406	1121	1127	Ø 140	2000	3007	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT8 13N/4 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT8 13N/4 18.5 400/50	3 x 400 V	DIVER 200 T	18.5	1.5	32.0	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

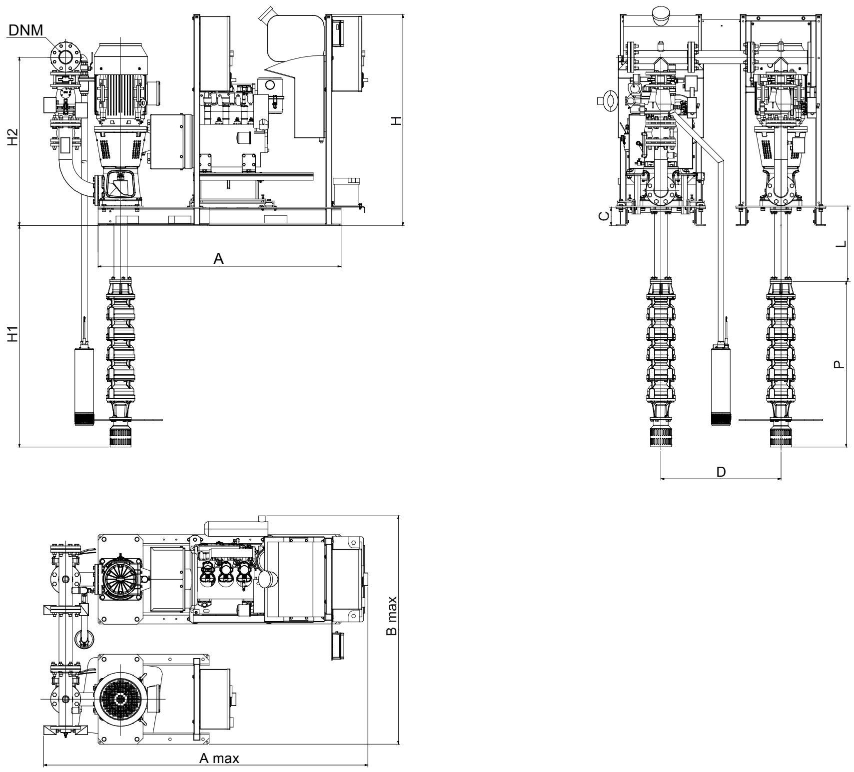
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT8 13N/4 19 MD	1 x 220-240 V	DIVER 200 T	19	1.5	0.22 m^2	50 l included

*Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

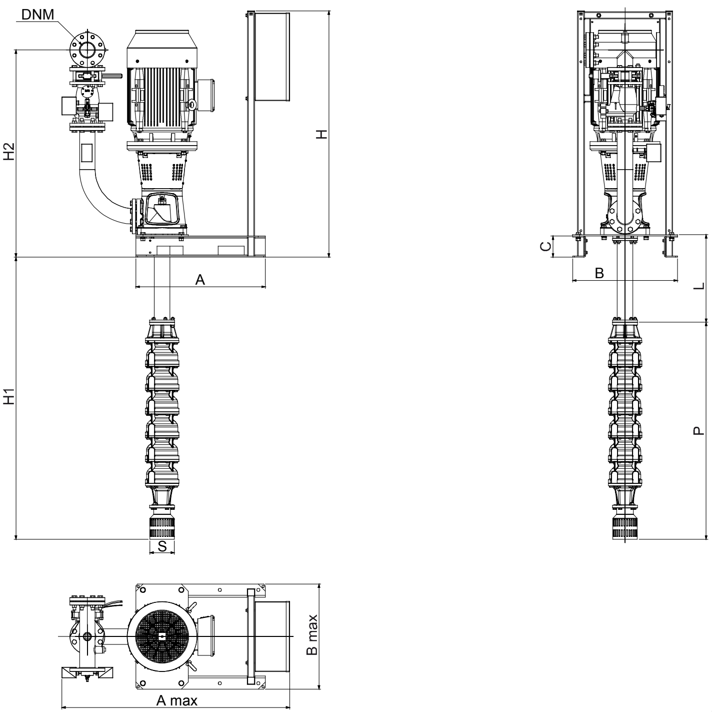
The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

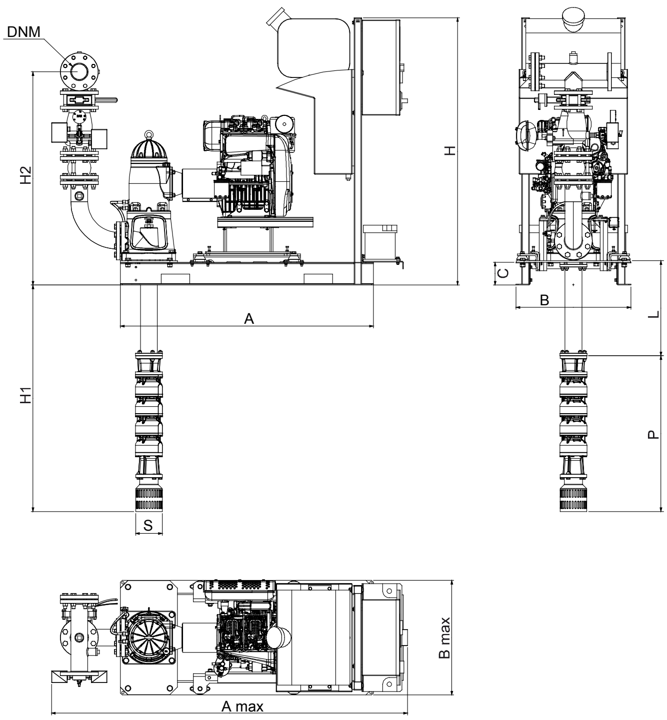


1KVT8 13N/4 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

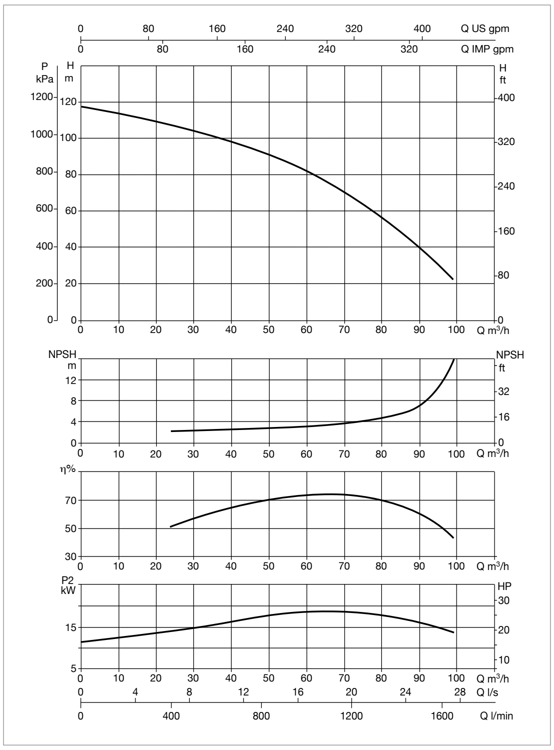


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT8 13N/4 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1620	2162		1637	120	1406	1183	968		2000	2848				80
1KVT8 13N/4 30 18.5 400/50 - ELECTRIC PUMP MODULE	740	1337	599	599	120	1406	1183	968	Ø 140	2000	2848				80
1KVT8 13N/4 19 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1620	2162	595	638	120	1406	1121	968	Ø 140	2000	2848	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT8 13N/5 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT8 13N/5 22 400/50	3 x 400 V	DIVER 200 T	22	1.5	38.0	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

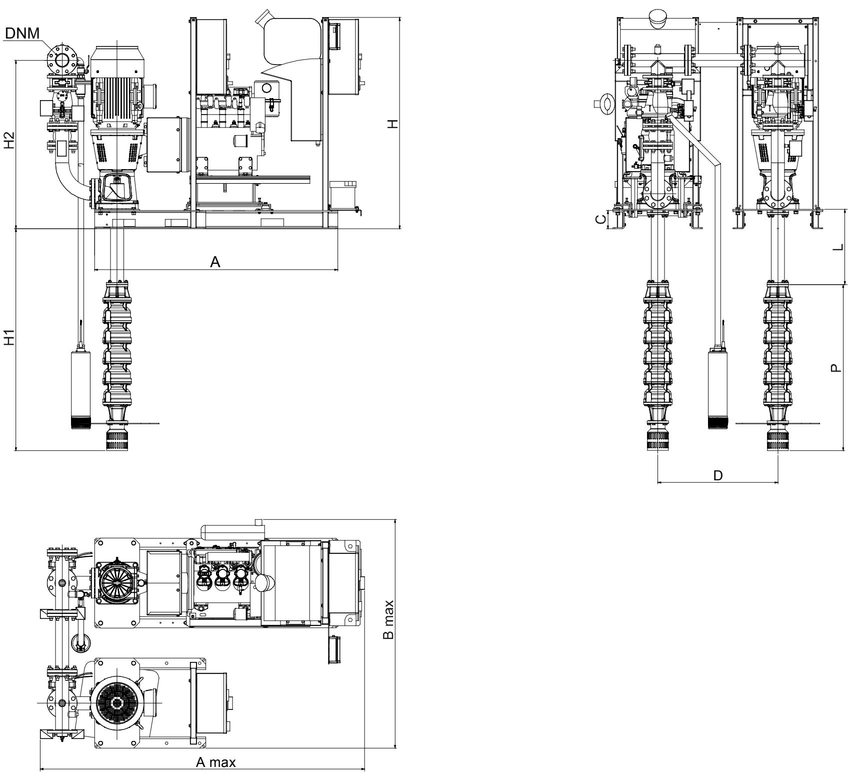
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT8 13N/5 26 MD	1 x 220-240 V	DIVER 200 T	26	1.5	0.22 m²	50 l included

*Jockey pump on request.

**ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

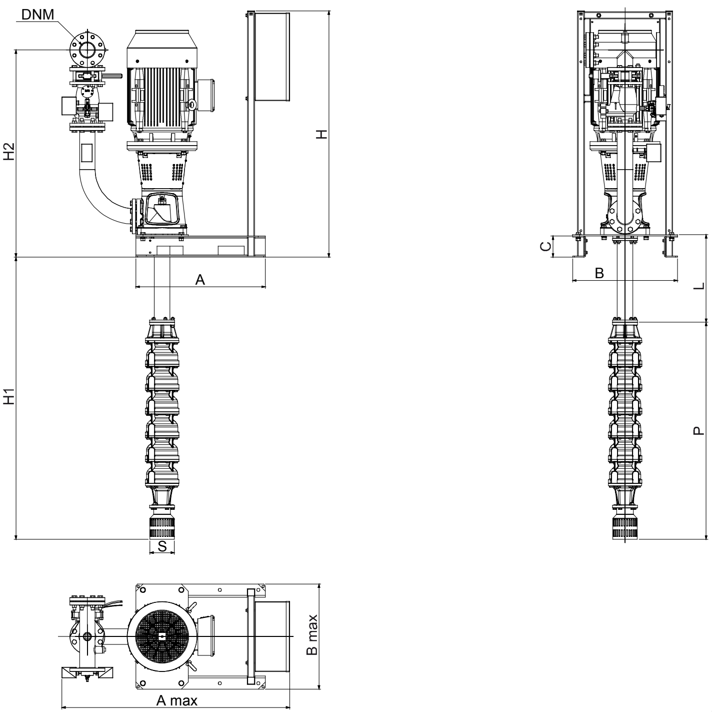
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

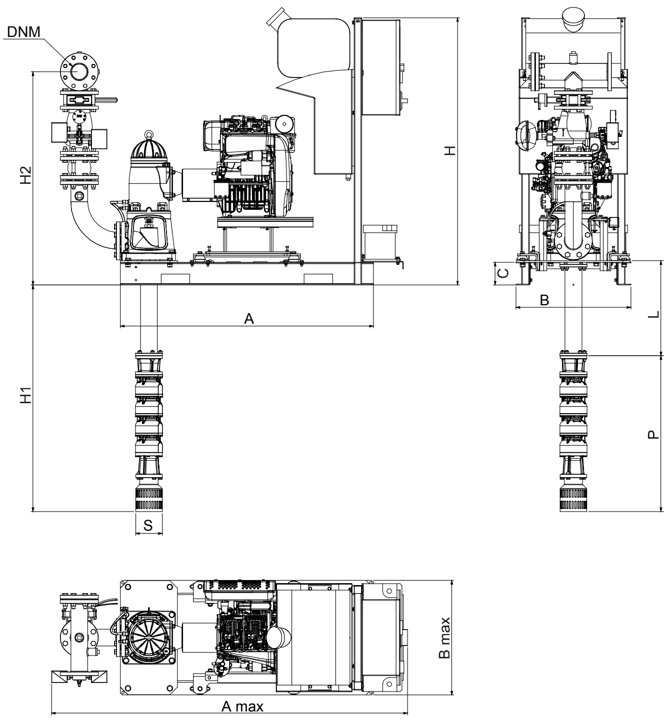


1KVT8 13N/5 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

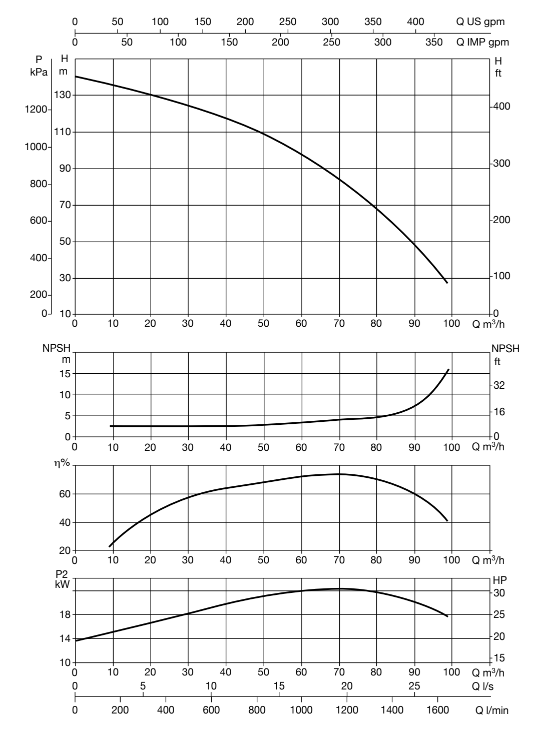


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT8 13N/5 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1620	2162		1721	120	1406	1183	1104		2000	2984				80
1KVT8 13N/5 22 400/50 - ELECTRIC PUMP MODULE	740	1337	599	599	120	1406	1183	1104	Ø 140	2000	2984				80
1KVT8 13N/5 26 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1620	2162	595	722	120	1406	1121	1104	Ø 140	2000	2984	-	-	-	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT8 13N/6 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT8 13N/6 30 400/50	3 x 400 V	DIVER 200 T	30	1.5	52.0	FLOW METER DN80

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

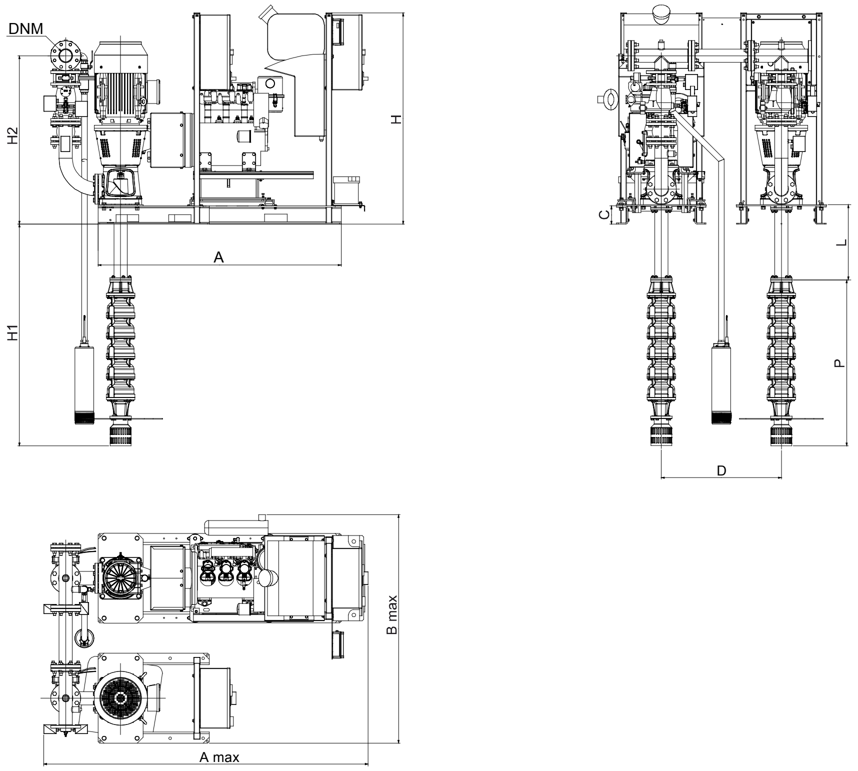
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT8 13N/6 37 MD	1 x 220-240 V	DIVER 200 T	37	1.5	0.40 m²	125 l accessories

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

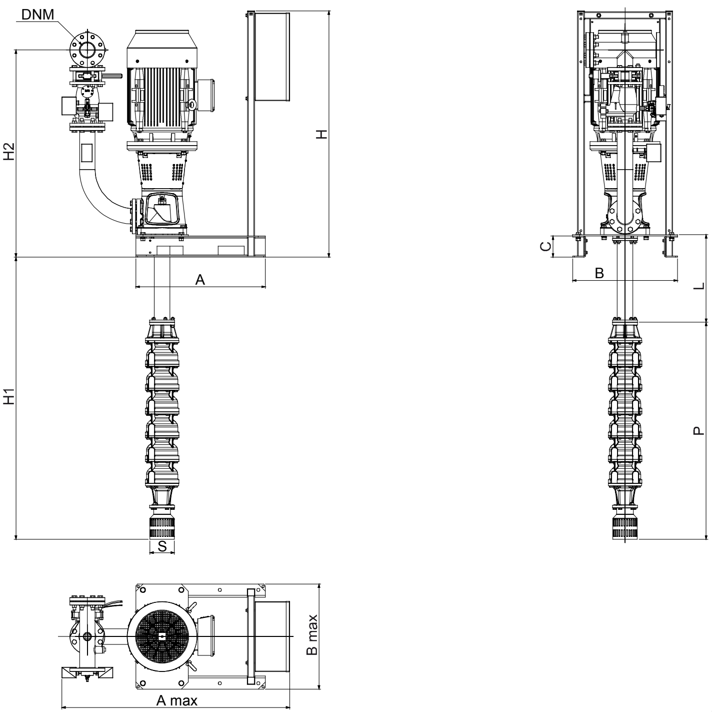
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

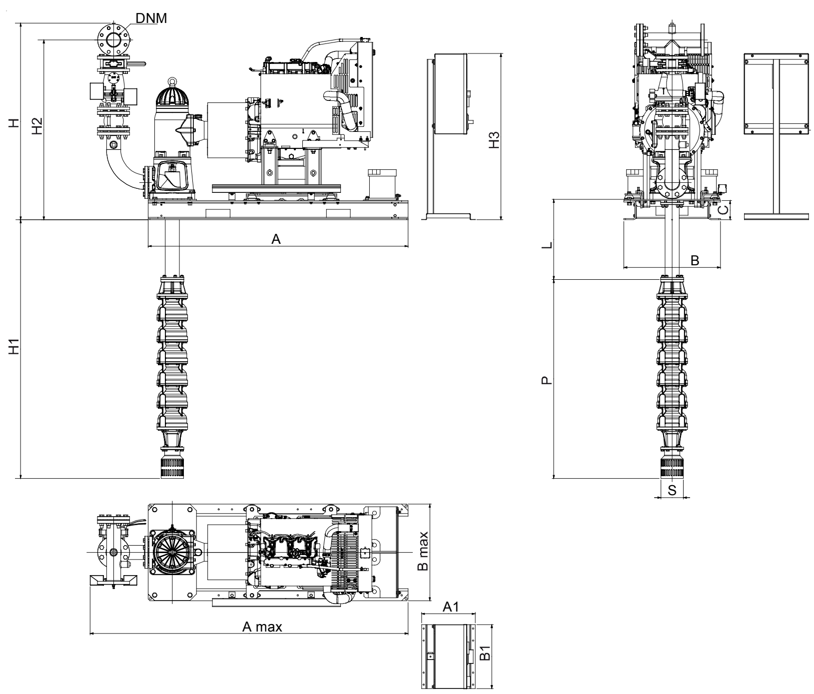


1KVT8 13N/6 - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

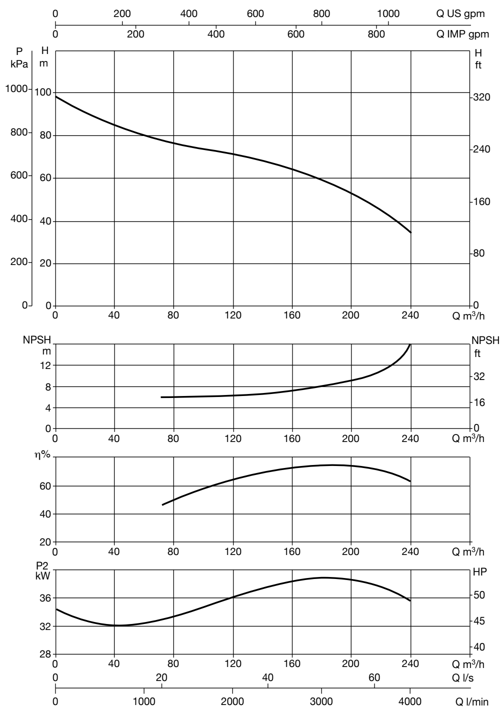


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT8 13N/6 - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1620	1982		1601	140	1406	1183	1240		2000	3100				80
1KVT8 13N/6 30 400/50 - ELECTRIC PUMP MODULE	740	1304	599	599	120	1406	1183	1240	Ø 140	2000	3120				80
1KVT8 13N/6 37 MD - DIESEL ENGINE-DRIVEN PUMP MODULE	1620	1982	602	602	140	1241	1135	1240	Ø 140	2000	3100	335	400	1037	80

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT10 15N/2A - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP kW	P2 JOCKEY PUMP kW	In A	MEASURING KIT
1KVT10 15N/2A 45 400/50	3 x 400 V	DIVER 200 T	45	1.5	76.0	FLOW METER DN125

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

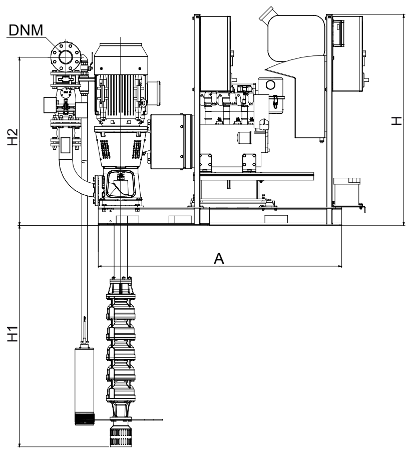
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP kW	P2 JOCKEY PUMP kW	AREA FAN	DIESEL COLLECTION TANK
1KVT10 15N/2A 53 MD EN	1 x 220-240 V	DIVER 200 T	53	1.5	0.40 m²	125 l accessories

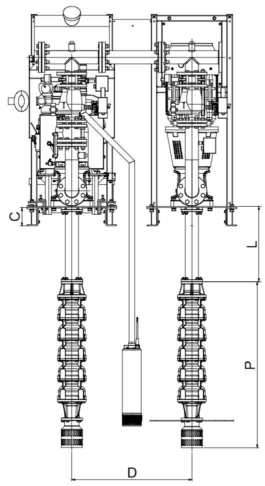
* Jockey pump on request.

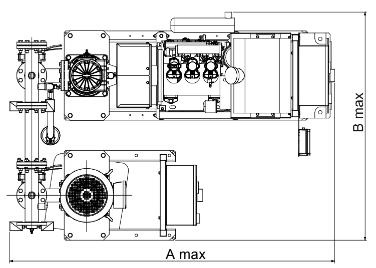
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

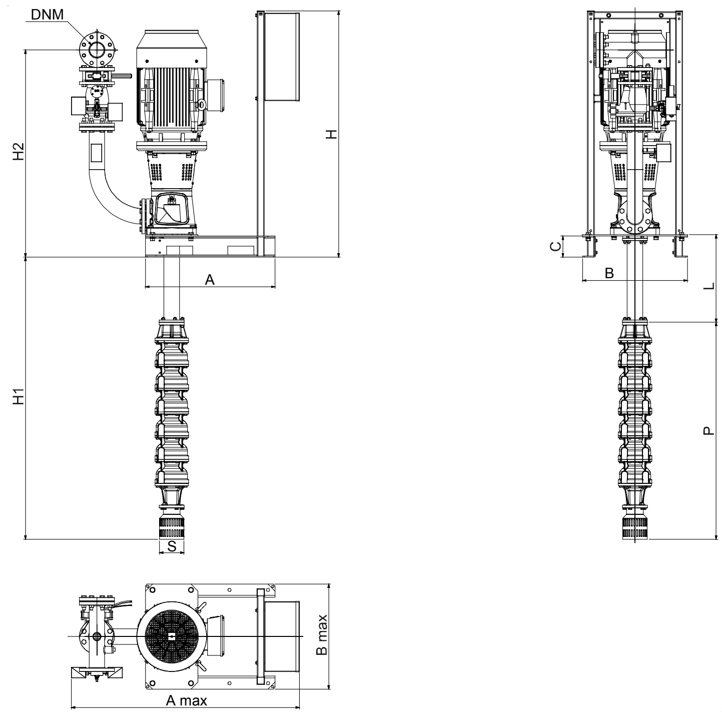




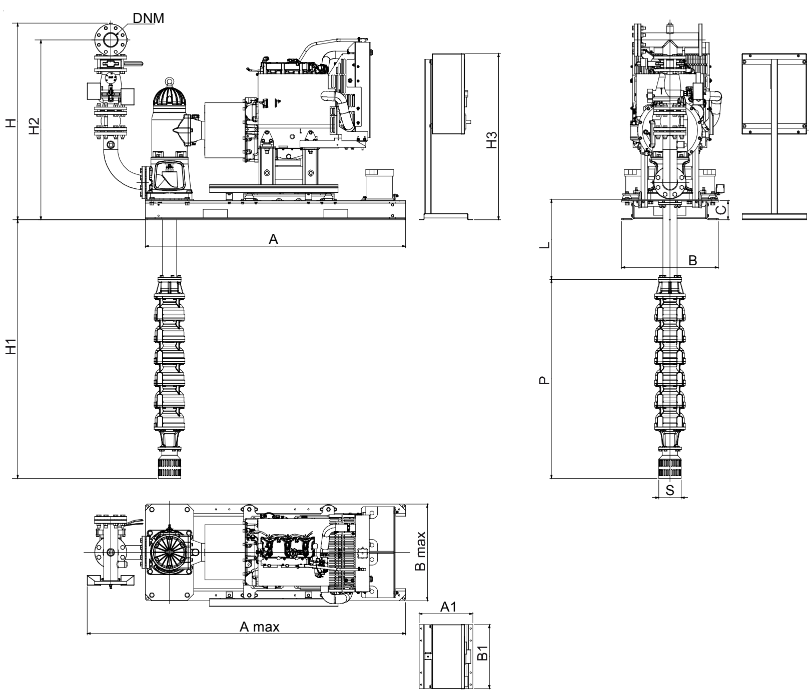


1KVT10 15N/2A - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

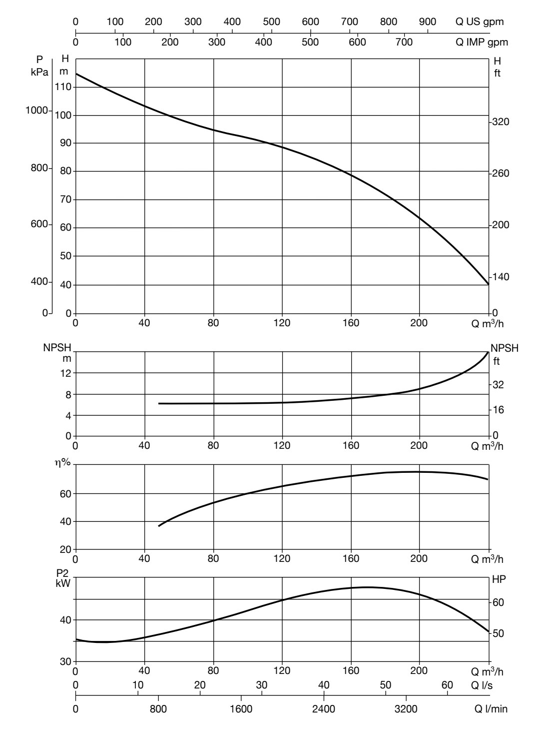


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT10 15N/2A - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1620	2122		1864	140	1600	1534	1038		2000	2898				125
1KVT10 15N/2A 45 400/50 - ELECTRIC PUMP MODULE	1184	1914	730	730	140	1600	1534	1038	Ø 214	2000	2898				125
1KVT10 15N/2A 53 400/50 - DIESEL ENGINE-DRIVEN PUMP MODULE	1620	2122	602	634	140	1596	1465	1038	Ø 214	2000	2898	335	400	1037	125

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT10 15N/3CD - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT10 15N/3CD 55 400/50	3 x 400 V	DIVER 200 T	55	1.5	95.0	FLOW METER DN125

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

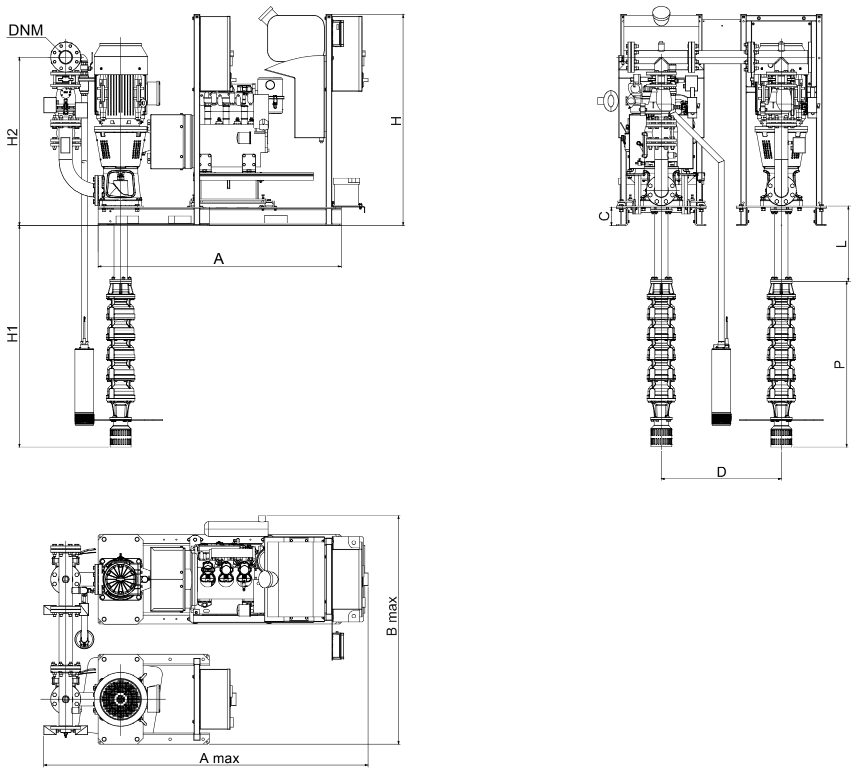
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT10 15N/3CD 73,5 MD EN	1 x 220-240 V	DIVER 200 T	73.5	1.5	0.40 m²	125 l accessories

* Jockey pump on request.

** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

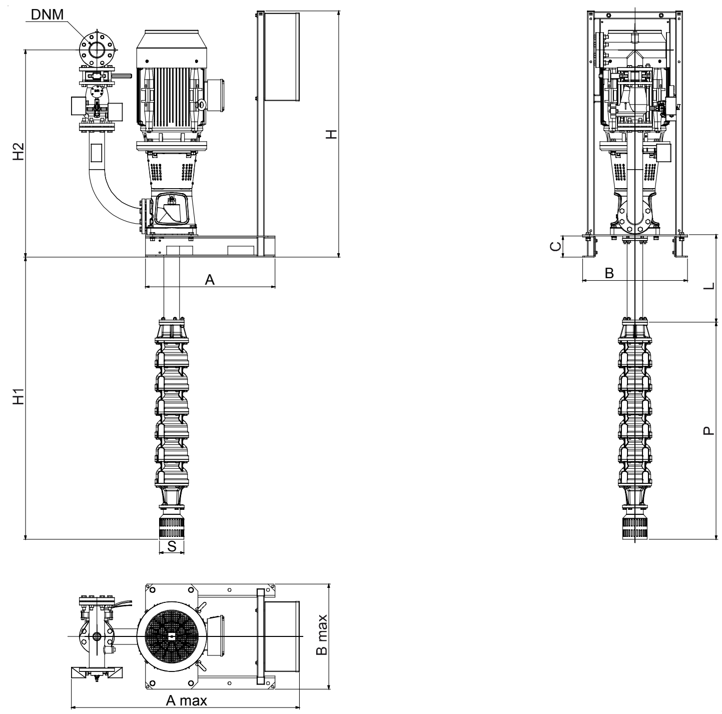
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

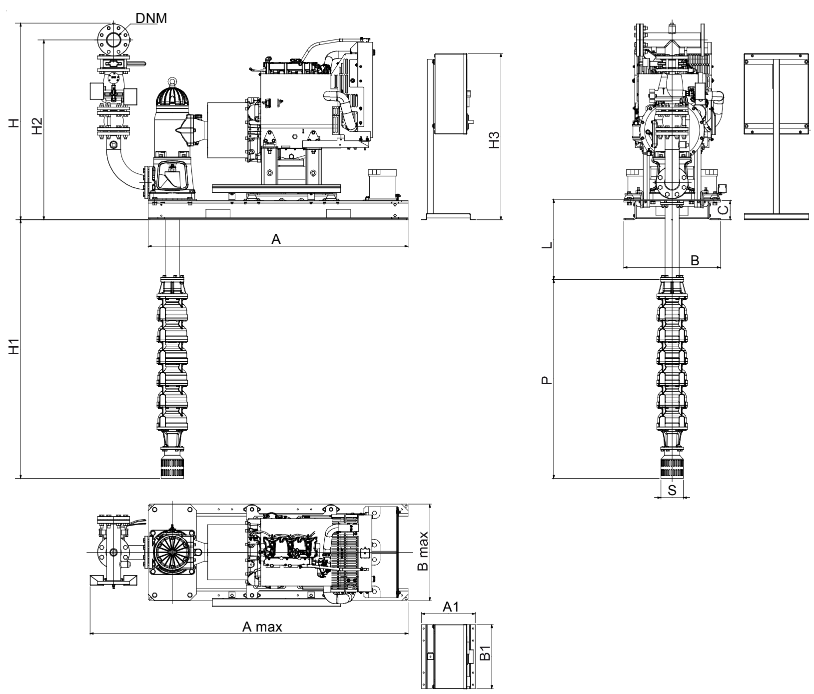


1KVT10 15N/3CD - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE

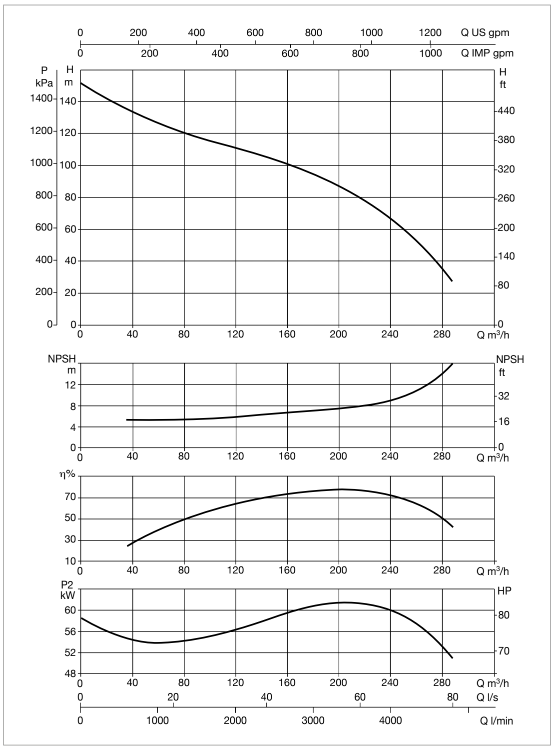


MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT10 15N/3CD - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1620	2153		1987	140	1600	1534	1218		2000	3078				125
1KVT10 15N/3CD 55 400/50 - ELECTRIC PUMP MODULE	1140	1871	730	730	140	1600	1534	1218	Ø 214	2000	3078				125
1KVT10 15N/3CD 73,5 400/50 - DIESEL ENGINE-DRIVEN PUMP MODULE	1620	2153	725	757	140	1596	1465	1218	Ø 214	2000	3078	335	400	1037	125

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

1KVT10 26N/3A - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

Pumped liquid temperature range: from 0 °C to +40 °C - **Ambient temperature range:** from +4 °C to +40 °C



KVT EN 12845 ELECTRIC PUMP

MODEL	POWER INPUT	JOCKEY PUMP*	P2 MAIN PUMP	P2 JOCKEY PUMP	In A	MEASURING KIT
			kW	kW		
1KVT10 26N/3A 75 400/50	3 x 400 V	DIVER 200 T	75	1.5	124.0	FLOW METER DN125

KVT EN 12845 DIESEL ENGINE-DRIVEN PUMP

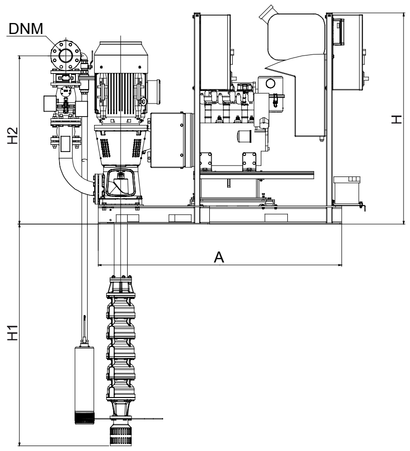
MODEL	BATTERY CHARGER POWER INPUT	JOCKEY PUMP*	** P2 DIESEL ENGINE-DRIVEN PUMP	P2 JOCKEY PUMP	AREA FAN	DIESEL COLLECTION TANK
			kW	kW		
1KVT10 26N/3A 73,5 MD EN	1 x 220-240 V	DIVER 200 T	73.5	1.5	0.40 m^2	125 l accessories

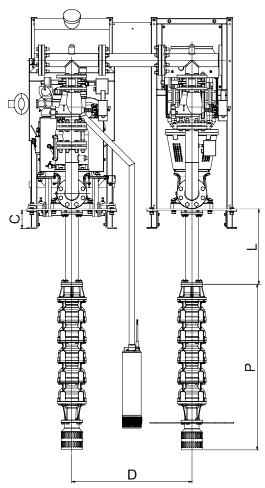
* Jockey pump on request.

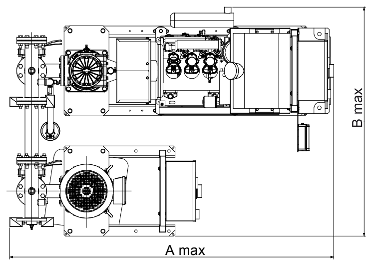
** ISO 3046 continuous power The motor is capable of delivering 10 % more of the power requested by the pump.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE

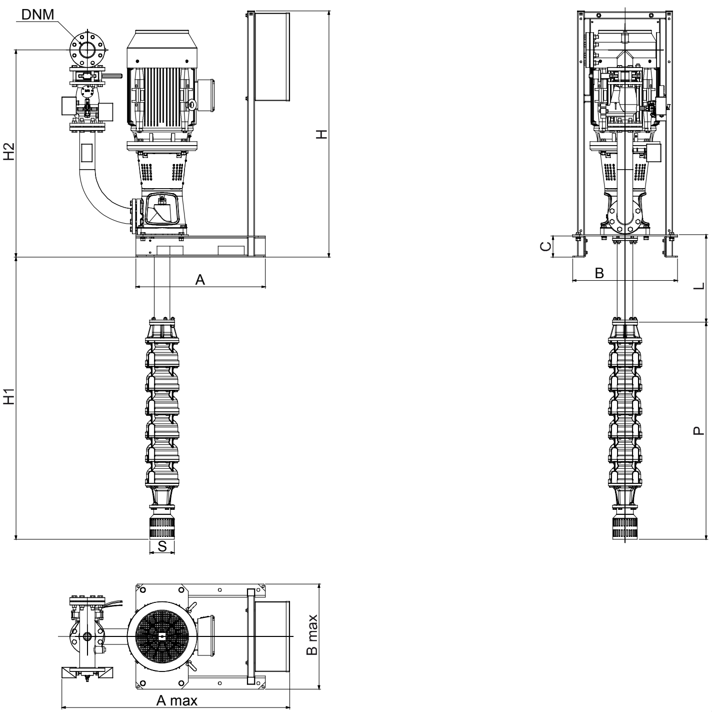




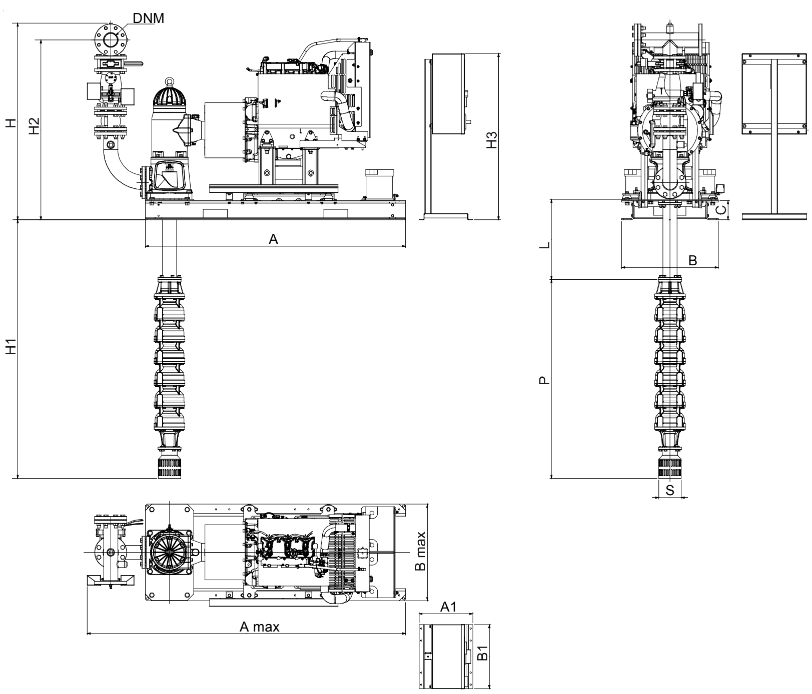


1KVT10 26N/3A - DIESEL AND ELECTRIC EN 12845 FIRE-FIGHTING PUMP SETS WITH VERTICAL TURBINE PUMPS

ELECTRIC PUMP MODULE



DIESEL ENGINE-DRIVEN PUMP MODULE



MODEL	A	A max	B	B max	C	H	H2	P	S	L	H1	A1	B1	H3	DNM
1KVT10 26N/3A - ELECTRIC PUMP + DIESEL ENGINE-DRIVEN PUMP + JOCKEY PUMP MODULE	1620	2243		1957	140	1762	1702	1197		2000	3057				150
1KVT10 26N/3A 75 400/50 - ELECTRIC PUMP MODULE	1140	2036	730	730	140	1600	1702	1197	Ø 214	2000	3057				150
1KVT10 26N/3A 73,5 400/50 - DIESEL ENGINE-DRIVEN PUMP MODULE	1620	2243	725	727	140	1762	1617	1197	Ø 214	2000	3057	335	400	1037	150

The L and H1 values depend on the selected axis line (L).
7 different axis line lengths available on request.

S4 - SS6 - SS7 - SS8

UNI EN 12845 FIRE-FIGHTING SETS WITH SUBMERGED PUMPS

TECHNICAL DATA

Operating range: from 4 to 160 m^3/h
Pumped liquid: clean, free of solids and abrasives, non-viscous, non-aggressive, non-crystallised and chemically neutral, with properties similar to water.
Pumped liquid temperature range: from -15 to 70 °C.
Maximum ambient temperature: + 25 °C
Maximum operating pressure: 16 bar (1600kPa) PN16
Special executions on request:
execution with joined cable available on request.

The control panels of the sets with submerged pumps are already fitted on base for quicker installation.
The main and pilot pumps are provided as standard with a 15-metre power cable.
All the 6” and 8” electric pumps (SS6 – SS7 and SS8) are entirely in AISI 304 stainless steel.

GENERAL DATA
NOTES ON UNI EN 12845

UNI EN 12845, the Italian version of European Standard EN 12845, sets the design, installation and maintenance criteria for sprinkler systems. It replaces the earlier Italian standards UNI 9489 and UNI 9490. An automatic sprinkler system is designed to detect the presence of fire and extinguish it during the initial stages, or to keep flames under control until they can be extinguished fully using other means. The classic sprinkler system is composed of: a water source, a fire-fighting pump unit, a series of control valves, and a sprinkler circuit. In its basic execution, it consists of: one or more 4", 6", or 8" submerged electric pumps, plus the 4" compensation pump (jockey), if required. All 4” - 6” - 7”- 8” electric pumps, including main and jockey pumps, are equipped with 15 meter power input cable.

COMPOSITION OF THE PUMP SETS

The pumps of UNI EN 12845 sets will have the same characteristics; in addition:
- if TWO pumps are installed, each pump must deliver the total system load (100 %),
- if THREE pumps are installed, each pump must deliver 50 % of the load required by the design.

NOTE:
In case of single water supply, there are no limitations on the number of electric pumps that can be installed. DAB provides "modular" type sets, so that all the versions contemplated by the UNI EN 12845 standard - OPERATION OF UNI EN 12845 FIRE-FIGHTING PUMP SETS - can be completed.

In normal conditions, (zero water request), the system is under static pressure. The first time there is a water request, the compensation pump activates (if present), reinstating the system pressure. In case of significant water request (or if no compensation pump is installed, or the sprinklers activate), the pressure drops until the two pressure switches connected in series activate the main pump. If the pressure continues to drop, further pumps activate in the same way.

Pressure switch calibration and operation example.

	Maximum pump pressure x 0,8	
Two-pump sets	Pump 1 Max pressure x 0,8	Pump 2 Max pressure x 0,6

E.g. Max pump pressure 10 bar - pump 1 starts at 8 bar, pump 2 starts at 6 bar

Once activated, the main pump continues to operate until it is manually stopped using the STOP pushbutton on the electric control panel.
No protections for stops due to lack of water are permitted. In case of hydrant systems, refer to UNI 10779 - July 07. In addition to prescribing feed pumps in compliance with UNI EN 12845, UNI 10779 allows automatic stopping of the pumps 20 minutes after the closing of the hydrants, in case of non-permanently supervised operation. DAB pump sets are suitable for sprinkler systems with manual stop, and for hydrant systems with automatic stop.

PRESSURE COMPENSATION PUMP - "JOCKEY"

The compensation pump (jockey) is a pump that intervenes when the collection of a small amount of water is required. This avoids pointless starts of the main pumps in case of small system leaks. DAB fire-fighting sets are available with and without jockey pump.
The compensation pump must be installed at the delivery manifold, and includes:
- ball valve on the suction,
- check ball valve on the delivery,
- control pressure switch,
- 20 litre expansion vessel.
- control and protection panels

CONSTRUCTION FEATURES

In the standard versions, the configurations are with multistage centrifugal submerged electric pumps for 4", 6", or 8" wells.

CONSTRUCTION FEATURES OF THE 4" PUMPS

Multistage centrifugal type with radial or semi-axial impellers. Pump and motor directly coupled with rigid coupling. Technopolymer impellers with stainless steel wearing parts, fitted on floating clearance rings made of synthetic low abrasion material, and technopolymer diffusers that impart significant wear resistance to the pump. Pump liner, shaft and coupling, strainer and cable sheath in stainless steel. Base support and upper head in microcast AISI 304 stainless steel; steel check valve incorporated in the head (to be removed for horizontal installation).

CONSTRUCTION FEATURES OF THE 6" - 7” - 8” PUMPS

Mixed flow pumps with diffusers, impellers, brackets, suction case and discharge case completely made of stainless steel AISI 304 in order to provide maximum strength, durability, wear and tear resistance.

The impellers are balanced and locked to the shaft with a specially shaped collet and nut coupling, in order to guarantee ease-to-assembly feature and avoid vibration sensitive malfunctions and noise increase during rotation.

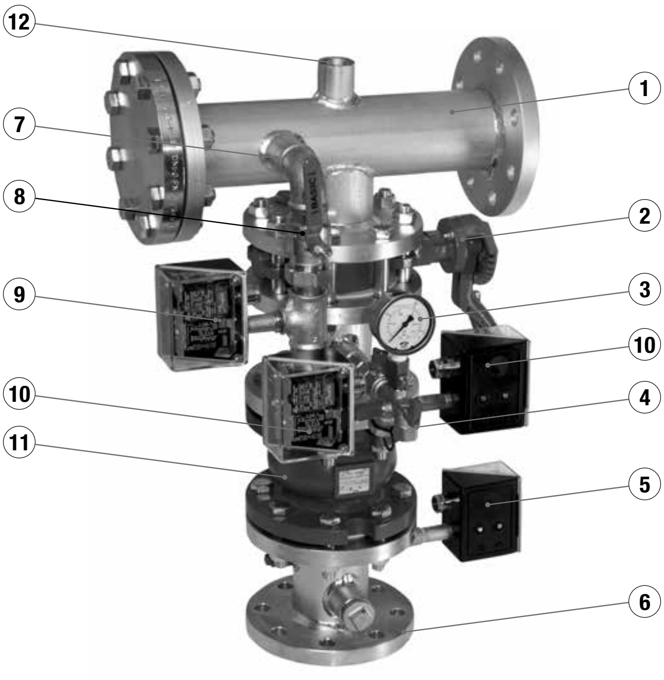
Rubber bearings that drive the shaft are water lubricated and have sand channels to make enable the sand particles leave the pump with the pumped liquid (maximum permissible sand content 50 gr/m3).

Built-in non returned valve provided in order to minimize local friction losses.

Stainless steel strainer provided in order to prevent particles over a certain size from entering the pump.

HYDRAULIC SECTION

Pre-assembled manifold with:
flanged connection for each pump, pressure gauge, pump running notification pressure switch, check valve, butterfly shut-off valve, galvanised steel delivery manifold with pressure gauges and two pump start pressure switches, pressure switch test circuit, expansion vessel (in case of jockey pump).
NOTE:. electric and hydraulic connections not supplied by DAB Pumps



REF.	DESCRIPTION	S4”	SS6”	SS7” SS8”
1	Delivery manifold	DN 50	DN 80	DN 100
2	Butterfly shut-off valve	DN50 PN16	DN80 PN16	DN100 PN16
3	Radial pressure gauge	0-16 bar D=63		
4	Pressure switch manual test valve	-		
5	Running pump pressure switch	KPI36 2-12bar ¼”M		
6	DNA adaptor	DN 50	DN 80	DN 100
7	Jockey pump connection manifold	1”		
8	Jockey pump shut-off valve (version with jockey pump only)	1”		
9	Jockey pump pressure switch (version with jockey pump only)	KPI36 2-12bar ¼”M		
10	Main pump start pressure switches	KPI36 2-12bar ¼”M (x2)		
11	Non-return valve	DN50 PN16	DN80 PN16	DN100 PN16
12	Expansion vessel manifold (version with jockey pump only)	1”		

COOLING LINERS FOR 4" SUBMERSIBLE PUMP

For horizontal installation and/or inside tanks, a cooling liner must be used to safeguard the motor.

Kit of cooling liners of different lengths, used to ensure perfect cooling of the 4" motor in case of installation inside tanks or containers, or in any location where a minimum cooling flow on the motor cannot be guaranteed.
The length of the pipe must be selected based on the type of motor and its power, as indicated in the following table.

<table>
<tr><th rowspan="2">POWER INPUT 50 Hz</th><th colspan="2">MOTOR POWER</th><th colspan="3">MOTOR TYPE</th></tr>
<tr><th>HP</th><th>kW</th><th>4GG - 4GX</th><th>4OL</th><th>4TW</th></tr>
<tr><td rowspan="7">SINGLE-PHASE</td><td>0,5</td><td>0,37</td><td rowspan="3">L400 PIPE KIT</td><td rowspan="3">L400 PIPE KIT</td><td rowspan="2">L525 PIPE KIT</td></tr>
<tr><td>0,75</td><td>0,55</td></tr>
<tr><td>1</td><td>0,75</td><td rowspan="2">L885 PIPE KIT</td></tr>
<tr><td>1,5</td><td>1,1</td><td rowspan="3">L525 PIPE KIT</td><td rowspan="2">L525 PIPE KIT</td></tr>
<tr><td>2</td><td>1,5</td><td></td></tr>
<tr><td>3</td><td>2,2</td><td rowspan="2">L885 PIPE KIT</td><td></td></tr>
<tr><td>5</td><td>3,7</td><td>L885 PIPE KIT</td><td></td></tr>
<tr><td rowspan="10">THREE-PHASE</td><td>0,5</td><td>0,37</td><td rowspan="4">L400 PIPE KIT</td><td rowspan="4">L400 PIPE KIT</td><td></td></tr>
<tr><td>0,75</td><td>0,55</td><td></td></tr>
<tr><td>1</td><td>0,75</td><td></td></tr>
<tr><td>1,5</td><td>1,1</td><td></td></tr>
<tr><td>2</td><td>1,5</td><td rowspan="2">L525 PIPE KIT</td><td>L525 PIPE KIT</td><td></td></tr>
<tr><td>3</td><td>2,2</td><td rowspan="5">L885 PIPE KIT</td><td></td></tr>
<tr><td>4</td><td>3</td><td rowspan="4">L885 PIPE KIT</td><td></td></tr>
<tr><td>5,5</td><td>4</td><td></td></tr>
<tr><td>7,5</td><td>5,5</td><td></td></tr>
<tr><td>10</td><td>7,5</td><td></td></tr>
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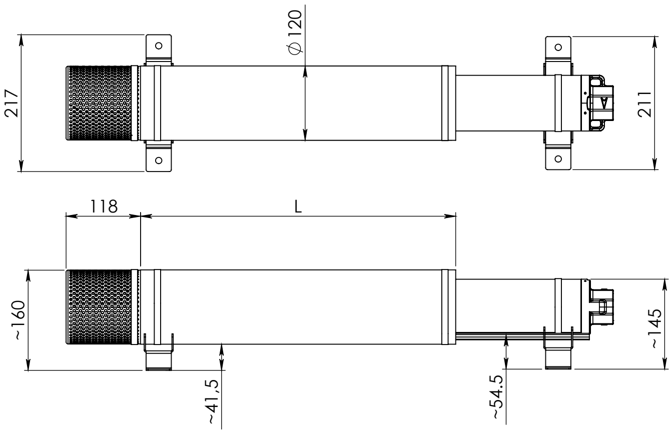
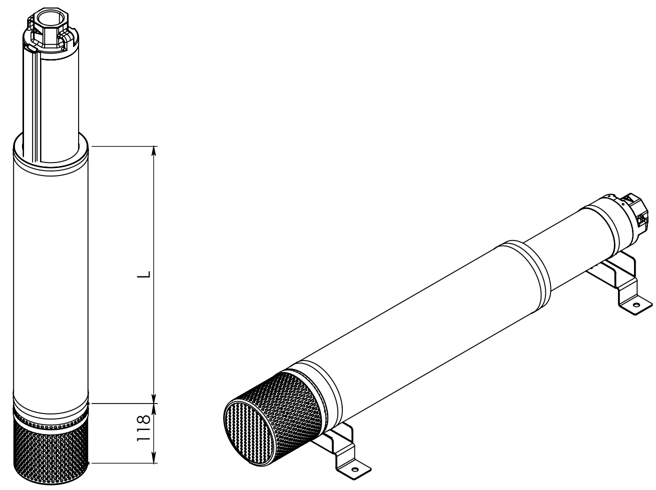




S4 - SS6 - SS7 - SS8

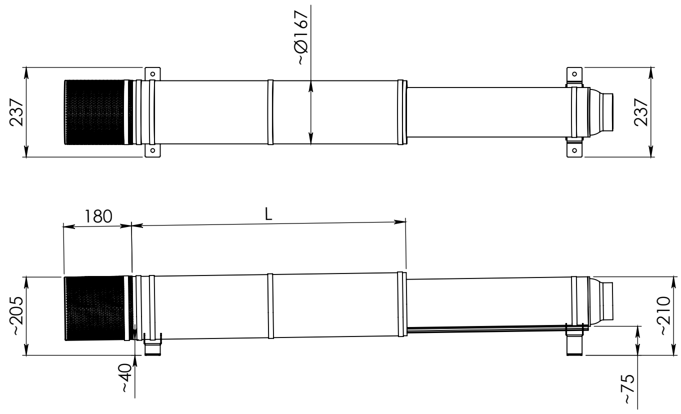
UNI EN 12845 FIRE-FIGHTING SETS WITH SUBMERGED PUMPS

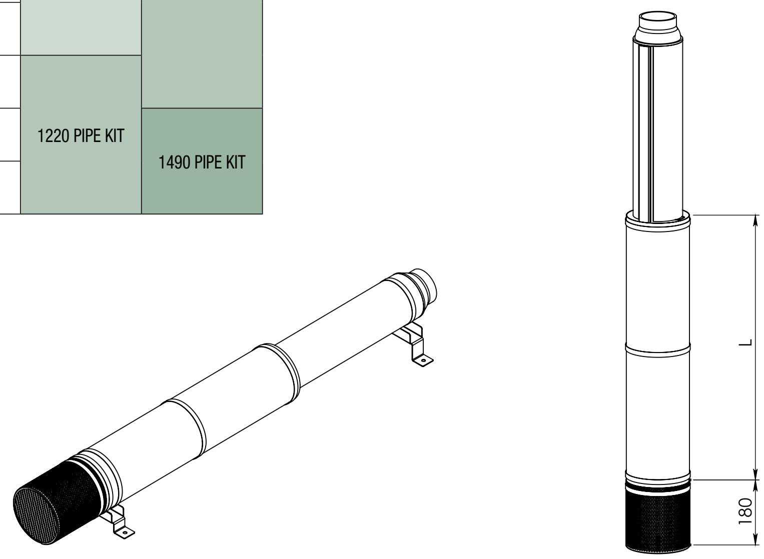
COOLING LINERS FOR 6" SUBMERGED PUMP

For horizontal installation and/or inside tanks, a cooling liner must be used to safeguard the motor.

Kit of cooling liners of different lengths, used to ensure perfect cooling of the 6" motor in case of installation inside tanks or containers, or in any location where a minimum cooling flow on the motor cannot be guaranteed.
The length of the pipe must be selected based on the type of motor and its power, as indicated in the following table.
SUITABLE FOR USE ON S6, SR6 E SM6 ELECTRIC PUMPS COUPLED WITH 6" MOTOR.

POWER INPUT 50 Hz	MOTOR POWER		MOTOR TYPE	
	HP	kW	6GF-6GX	TR6
THREE-PHASE	5,5	4	725 PIPE KIT	
	7,5	5,5		960 PIPE KIT
	10	7,5		
	12,5	9,3		
	15	11	960 PIPE KIT	
	17,5	13		1220 PIPE KIT
	20	15		
	25	18,5		
	30	22		
	35	26	1220 PIPE KIT	
	40	30		1490 PIPE KIT
	50	37		





in order to determine the cooling flow speed v [m/s] along the motor liner, the following formula can be used:

$$v = \frac{\frac{Q}{2}}{p\left(\frac{D^2}{4} - \frac{d^2}{4}\right)}$$

On the other hand, in order to determine the correct diameter of the cooling liner, to ensure that the minimum required cooling flow condition is met at a certain pump flow level, the following formula can be used:

$$D = \sqrt{4\left(\frac{Q}{v\ p} + \frac{d^2}{4}\right)}$$

Q [m^3/s] = flow at the point of operation of the electric pump.
D [m] = well diameter.
d [m] = motor diameter.
v [m/s] = cooling flow speed.

ELECTRIC PUMP CONTROL PANEL

UNI EN 12845 FIRE-FIGHTING PUMP SETS

TECHNICAL DATA

Nominal power input voltage: 400 V +/- 5%
Phases: 3
Frequency: 50-60 Hz
Number of pumps that can be connected: 1
Maximum nominal power of use:
from 3 to 110 kW (depending on model).
Maximum nominal current of use: from 10 Amp to 250 Amp.
Ambient temperature operation limits: from +4 °C to +40 °C.
Relative humidity (without condensation):
50% at 40 °C MAX (90% a 20 °C)
Max. altitude: 3000 m (a.s.l.).
Protection class: IP55
Control panel construction:
According to EN60204, EN 60439-1, and UNI EN 12845/10779.

COMPONENTS

The control and protection panel includes the following components

INTERIOR OF CABINET

Connector for the powering of a GSM Modem (230 V, protected by fuse).
Motor protection fuses (aM type); current surge relay-motor protectors are not permitted by the standard.
Auxiliary circuit protection fuses (Gg type).
Direct pump starters (up to 7,5 kW).
Star/triangle starters (11 kW and over).
24 V auxiliary circuit transformers.
Alarm relay with terminal box for remote status control (as required by the UNI EN 12845 standard).
System start-up input connection terminal box.

ON FRONT PANEL

Electric pump control unit with:
Multifunction instrument with display (voltmeter, ammeter, cosfi metre, wattmeter, alarms and status).
Start and stop pushbuttons.
Status and alarm notification lamps.
Alarm/notification lamp test pushbutton.
0 - 1 selector (0 = automatic disabled; 1 = automatic on), key removable only for position one (AUTOMATIC ON).

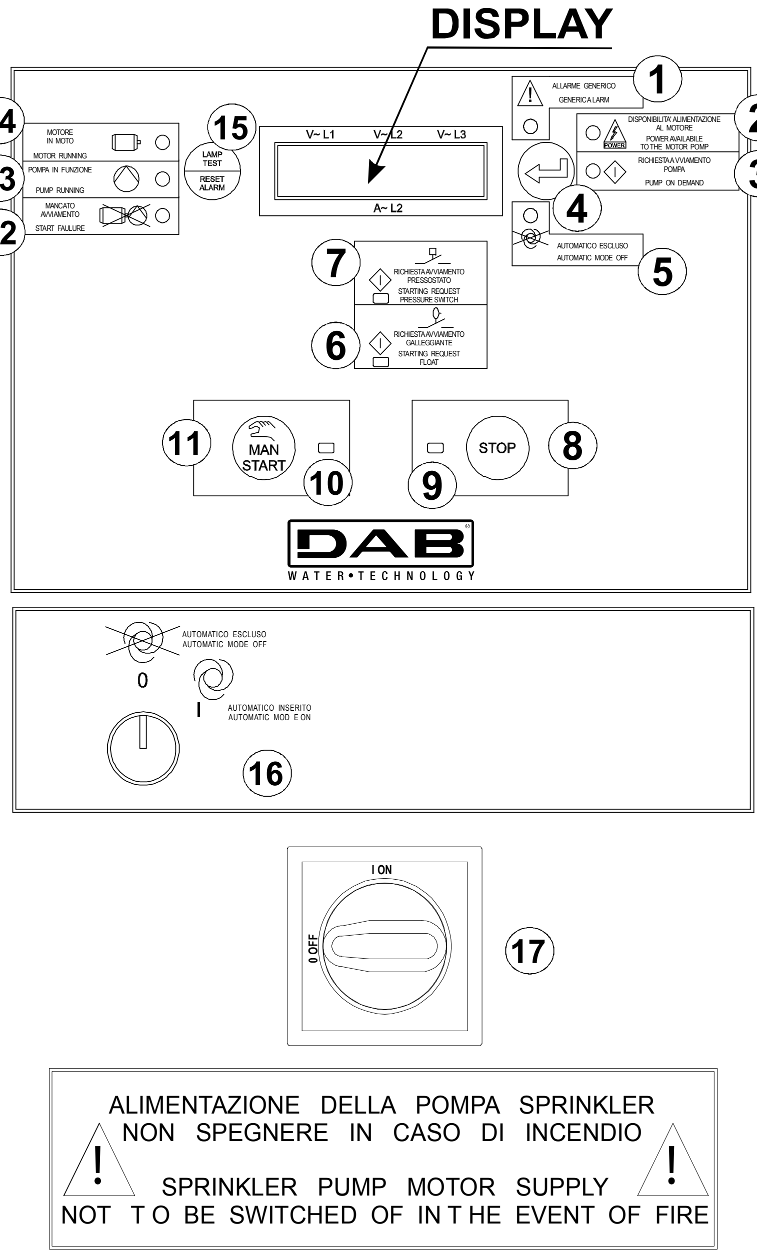
REMOTELY CONTROLLED ALARMS:

Voltage present.
Phase sequence.
Pump start request from the pressure switches.
Pump start request from priming tank.
Pump in operation.
Start failed.

The above alarms can be remotely controlled in the following ways:
With relay wiring to the alarm monitoring control panel.
With RS-485 wiring to the alarm monitoring control panel.
With GSM Modem inside the cabinet alarm monitoring, for forwarding status and/or alarm signals (optional).

ELECTRIC PUMP CONTROL UNIT

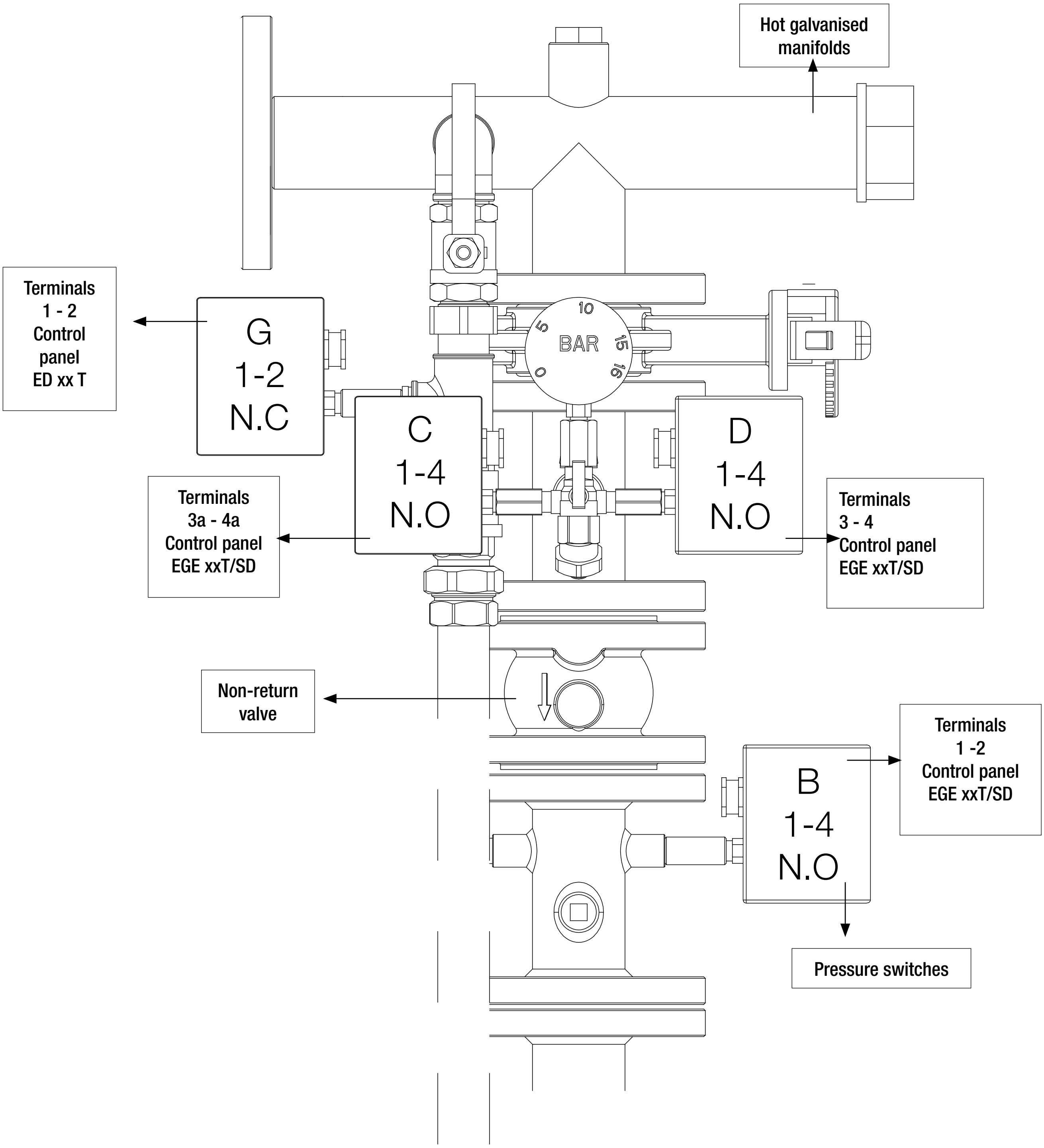
The A1 electronic control unit supplied with the control panel offers the following features: automatic start from the pressure switches or the priming float switch, manual start, automatic monitoring of pump set faults and incorrect or unavailable power input voltage.



REF.	FUNCTION
1	LAMP - Generic alarm
2	LAMP - Power input to the motor detected
3	LAMP - Pump START request
4	Press to display the instruments
5	LAMP - Automatic start disabled
6	LAMP - START request from the priming tank float switch
7	LAMP - START request (call) from the pressure switches
8	MANUAL STOP pushbutton
9	LAMP - MANUAL STOP with STOP pushbutton notification

REF.	FUNCTION
10	LAMP - MANUAL START with MAN START pushbutton notification
11	MANUAL START pushbutton
12	LAMP - Start failed
13	LAMP - ELECTRIC PUMP RUNNING with motor running; detected by the electric pump running pressure switch
14	LAMP - MOTOR RUNNING; controlled by the ammeter detection
15	Reset lamp test pushbutton
16	Automatic mode disabling selector
17	Power input disconnection switch

CONNECTION OF PRESSURE SWITCHES AND PUMP MOTOR TO THE CONTROL PANEL



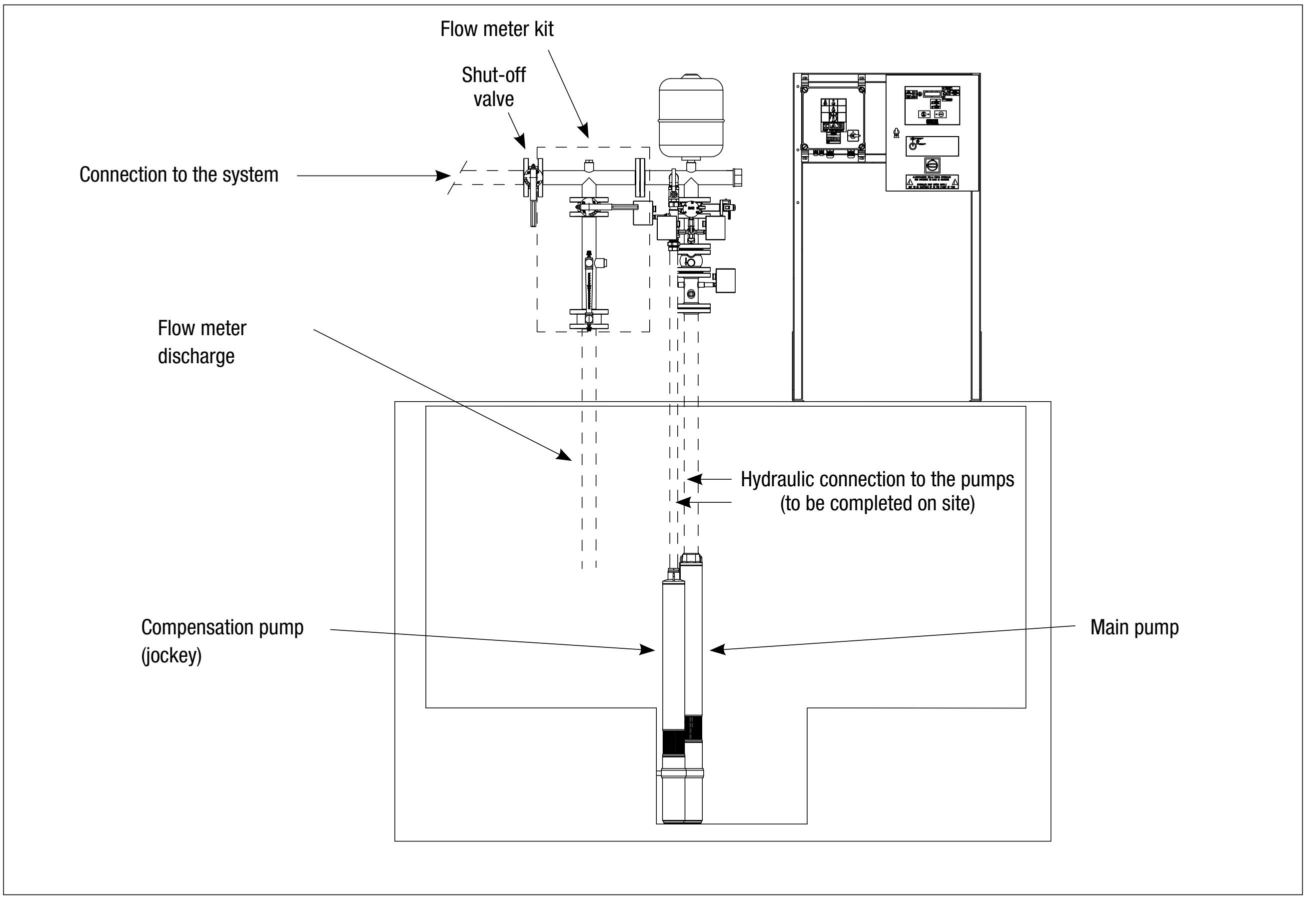
CABLE CONNECTION SEQUENCE FOR SUBMERGED PUMPS WITH START:

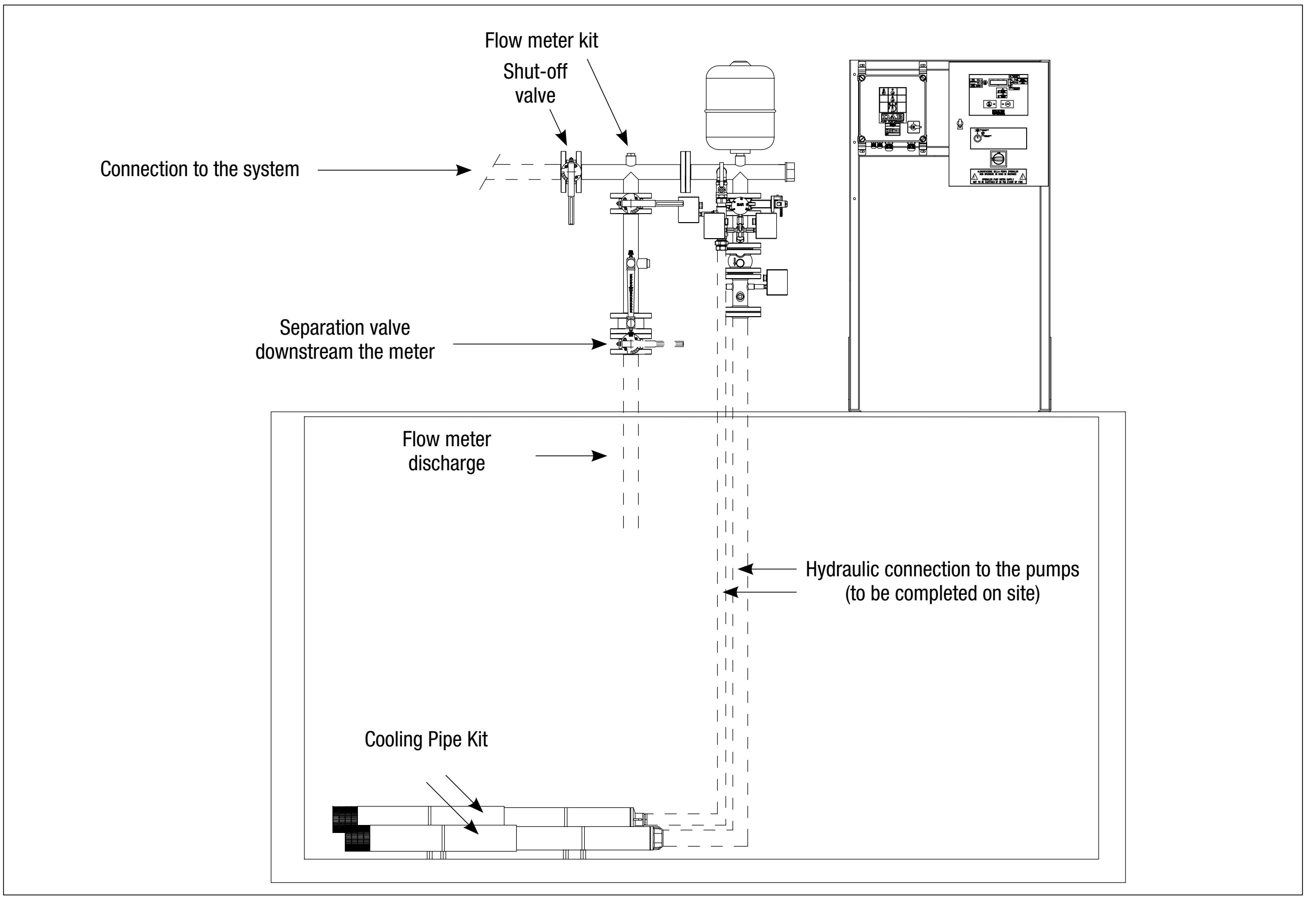
DIRECT (DOL)		
	EGEXX T CONTROL PANEL TERMINAL BOX	SUBMERGED ELECTRIC PUMP CABLE COLOUR
MOTOR POWER UP TO 7,5 KW	U1	BLACK
	V1	BLUE or GREY
	W1	BROWN

STAR/TRIANGLE		
	EGEXX T SD CONTROL PANEL TERMINAL BOX	SUBMERGED ELECTRIC PUMP CABLE COLOUR
MOTOR POWER OVER TO 7,5 KW	U1	BLACK
	V1	BLUE or GREY
	W1	BROWN
	U2	BROWN
	V2	BLACK
	W2	BLUE or GREY

EXAMPLES OF CONFIGURATION OF A TWO-PUMP SET WITH JOCKEY PUMP AND FLOW RATE METER

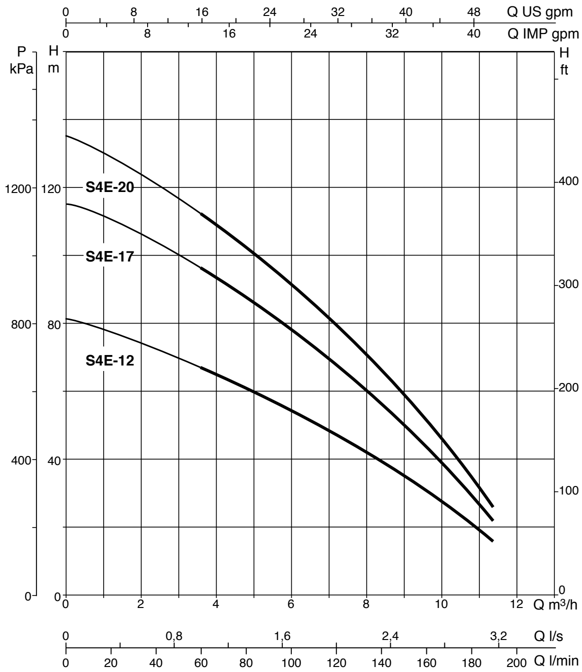
Although not strictly necessary, for installation inside tanks or similar, we still recommend the use of cooling liners.





S4 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 11 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 S4E SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1 S4E 12 T 400/50 EN 12845	3 x 400 50 Hz	1.5	2	4.4	EGE 3T 400/50-60	11	8	6.5
1 S4E 17 T 400/50 EN 12845	3 x 400 50 Hz	2.2	3	5.9	EGE 3T 400/50-60	11	11.4	9
1 S4E 20 T 400/50 EN 12845	3 x 400 50 Hz	3	4	8.3	EGE 3T 400/50-60	11	13.5	11

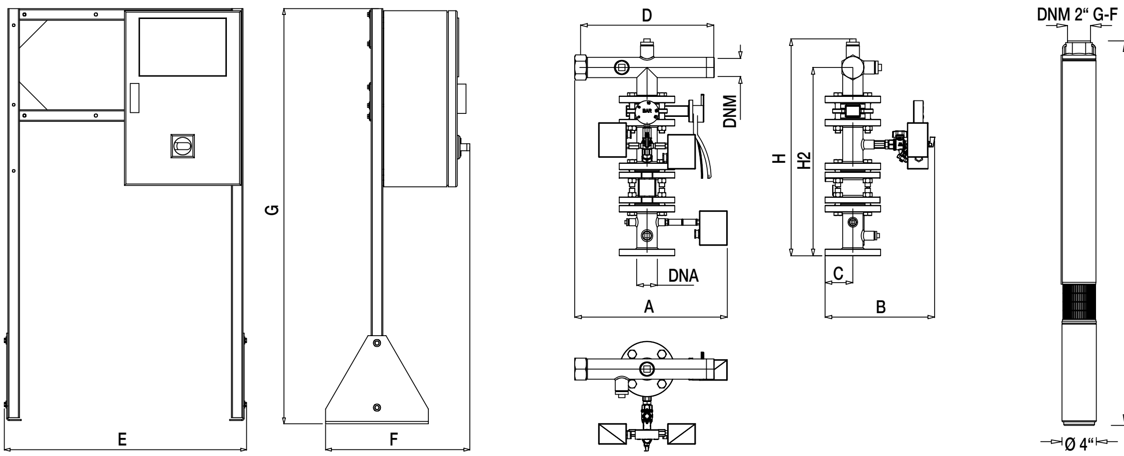
SETS WITH 1 S4E SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1 S4E 12 T 400/50 EN 12845 - S4C 19T	3 x 400 50 Hz	1.5	2	4.4	EGE 3T 400/50-60	11	8	6.5
	3 x 400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1 S4E 17 T 400/50 EN 12845 - S4C 25T	3 x 400 50 Hz	2.2	3	5.9	EGE 3T 400/50-60	11	11.4	9
	3 x 400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *
1 S4E 20 T 400/50 EN 12845 - S4C 25T	3 x 400 50 Hz	3	4	8.3	EGE 3T 400/50-60	11	13.5	11
	3 x 400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *

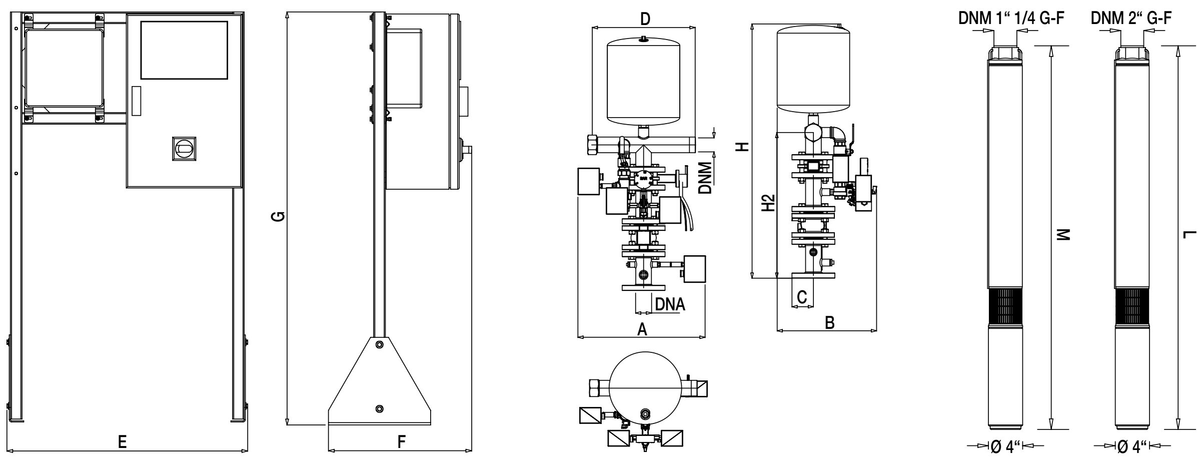
* Jockey pump

S4 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



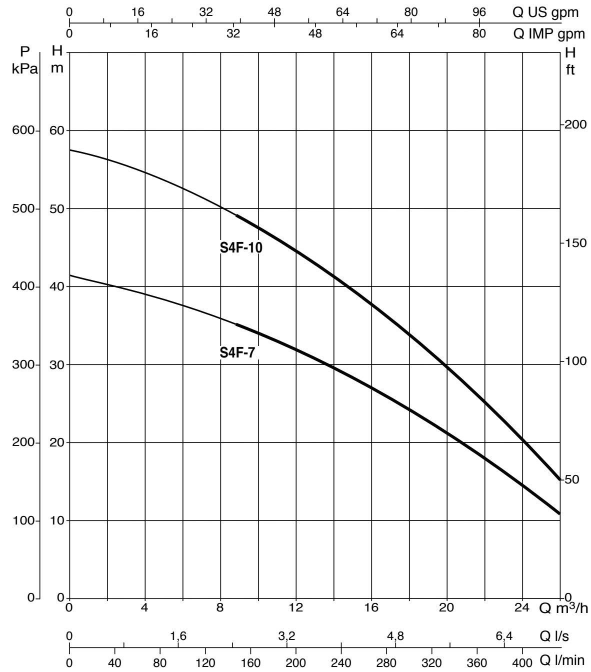
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	PACKING (bxpxh)	WEIGHT kg
1 S4E 12 T 400/50 EN 12845	455	325	83	395	830	490	1415	645	560	1163	-	50	50	1000x1400x2200	137
1 S4E 17 T 400/50 EN 12845	455	325	83	395	830	490	1415	645	560	1502	-	50	50	1000x1400x2200	142
1 S4E 20 T 400/50 EN 12845	455	325	83	395	830	490	1415	645	560	1894	-	50	50	1000x1400x2200	145
1 S4E 12 T 400/50 EN 12845 - S4C 19T	490	385	83	395	830	490	1415	980	560	1163	1086	50	50	1000x1400x2200	172
1 S4E 17 T 400/50 EN 12845 - S4C 25T	490	385	83	395	830	490	1415	980	560	1502	1343	50	50	1000x1400x2200	180
1 S4E 20 T 400/50 EN 12845 - S4C 25T	490	385	83	395	830	490	1415	980	560	1894	1343	50	50	1000x1400x2200	185

S4 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 27 m³/h



The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

SETS WITH 1 S4F SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m³/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1 S4F 7 T 400/50 EN 12845	3 x 400 50 Hz	2.2	3	5.9	EGE 3T 400/50-60	27	4	3
1 S4F 10 T 400/50 EN 12845	3 x 400 50 Hz	3	4	8.3	EGE 3T 400/50-60	27	5.8	4.5

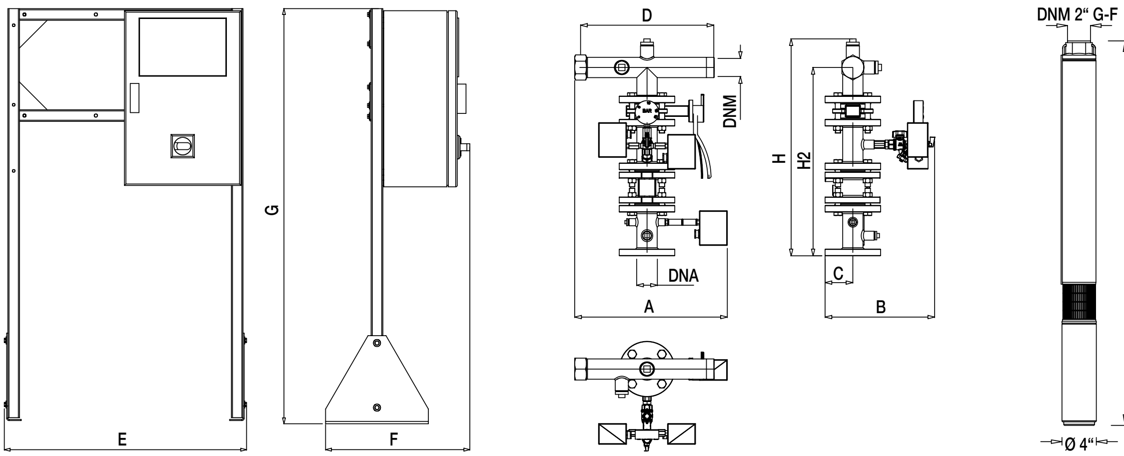
SETS WITH 1 S4F SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m³/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1 S4F 7 T 400/50 EN 12845 - S4C 13T	3 x 400 50 Hz	2.2	3	5.9	EGE 3T 400/50-60	27	4	3
	3 x 400 50-60 Hz *	0.75 *	1 *	2.4 *	ED 2.5T (108320350) *	4.2 *	7.1 *	6 *
1 S4F 10 T 400/50 EN 12845 - S4C 13T	3 x 400 50 Hz	3	4	8.3	EGE 3T 400/50-60	27	5.8	4.5
	3 x 400 50-60 Hz *	0.75 *	1 *	2.4 *	ED 2.5T (108320350) *	4.2 *	7.1 *	6 *

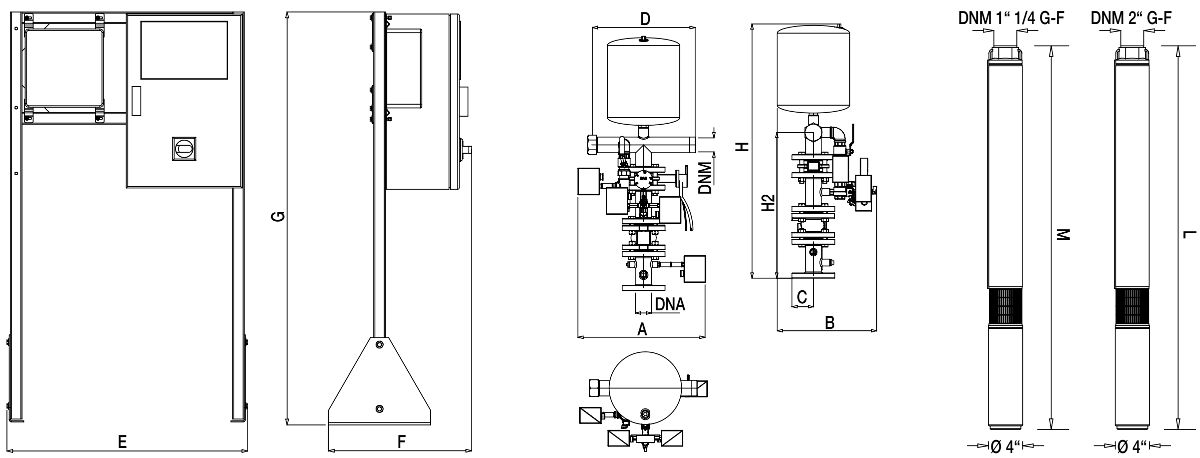
* Jockey pump

S4 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



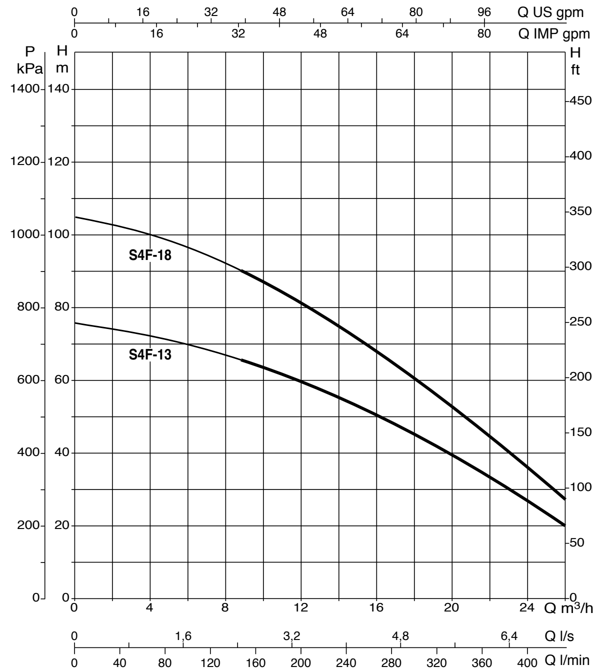
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	PACKING (bxpxh)	WEIGHT kg
1 S4F 7 T 400/50 EN 12845	455	325	83	395	830	490	1415	645	560	1079	-	50	50	1000x1400x2200	125
1 S4F 10 T 400/50 EN 12845	455	325	83	395	830	490	1415	645	560	1491	-	50	50	1000x1400x2200	129
1 S4F 7 T 400/50 EN 12845 - S4C 13T	490	385	83	395	830	490	1415	980	560	1079	871	50	50	1000x1400x2200	185
1 S4F 10 T 400/50 EN 12845 - S4C 13T	490	385	83	395	830	490	1415	980	560	1491	871	50	50	1000x1400x2200	190

S4 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 27 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 S4F SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1 S4F 13 T 400/50 EN 12845	3 x 400 50 Hz	4	5.5	10	EGE 5.5T 400/50-60	27	7.6	6
1 S4F 18 T 400/50 EN 12845	3 x 400 50 Hz	5.5	7.5	14	EGE 5.5T 400/50-60	27	10.4	8

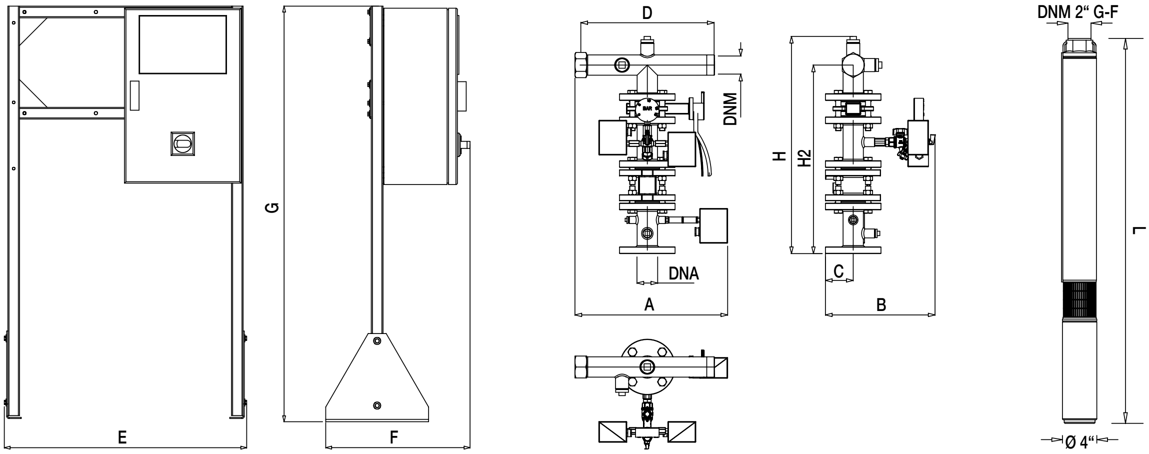
SETS WITH 1 S4F SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1 S4F 13 T 400/50 EN 12845 - S4C 19T	3 x 400 50 Hz	4	5.5	10	EGE 5.5T 400/50-60	27	7.6	6
	3 x 400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1 S4F 18 T 400/50 EN 12845 - S4C 25T	3 x 400 50 Hz	5.5	7.5	14	EGE 5.5T 400/50-60	27	10.4	8
	3 x 400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *

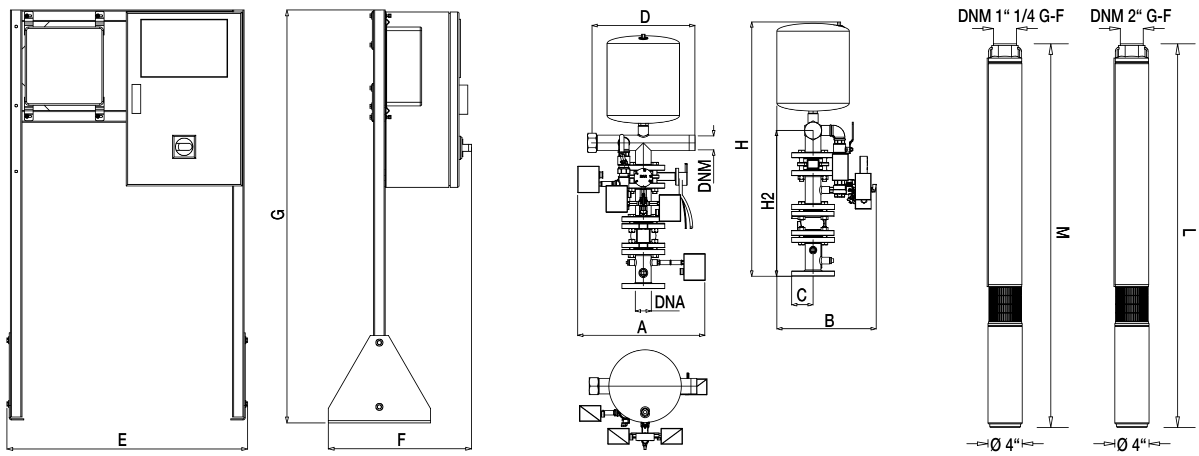
* Jockey pump

S4 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



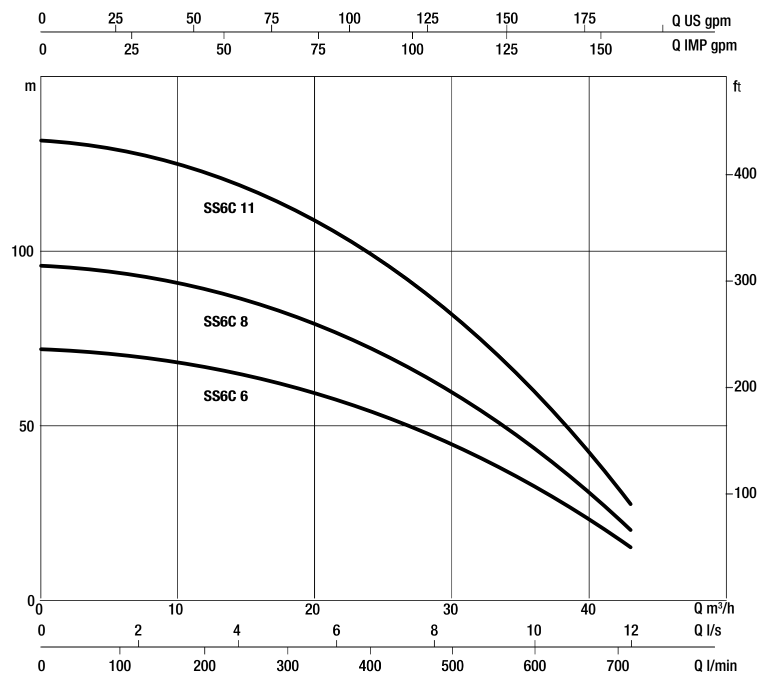
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	PACKING (bxpxh)	WEIGHT kg
1 S4F 13 T 400/50 EN 12845	455	325	83	395	830	490	1415	645	560	1715	-	50	50	1000x1400x2200	153
1 S4F 18 T 400/50 EN 12845	455	325	83	395	830	490	1415	645	560	2156	-	50	50	1000x1400x2200	175
1 S4F 13 T 400/50 EN 12845 - S4C 19T	490	385	83	395	830	490	1415	980	560	1715	1086	50	50	1000x1400x2200	182
1 S4F 18 T 400/50 EN 12845 - S4C 25T	490	385	83	395	830	490	1415	980	560	2156	1343	50	50	1000x1400x2200	213

SS6 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 36 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 SS6C SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS6C 6 T 400/50 EN 12845	3 x 400 50 Hz	5,5	7,5	14	EGE 5.5T 400/50-60	36	6.1	4.5
1SS6C 8 T 400/50 EN 12845	3 x 400 50 Hz	7,5	10	18	EGE 5.5T 400/50-60	36	9.1	7
1SS6C 11 T 400/50 EN 12845	3 x 400 50 Hz	9,2	12,5	22	EGE 7.5T 400/50-60	36	12.2	9.5

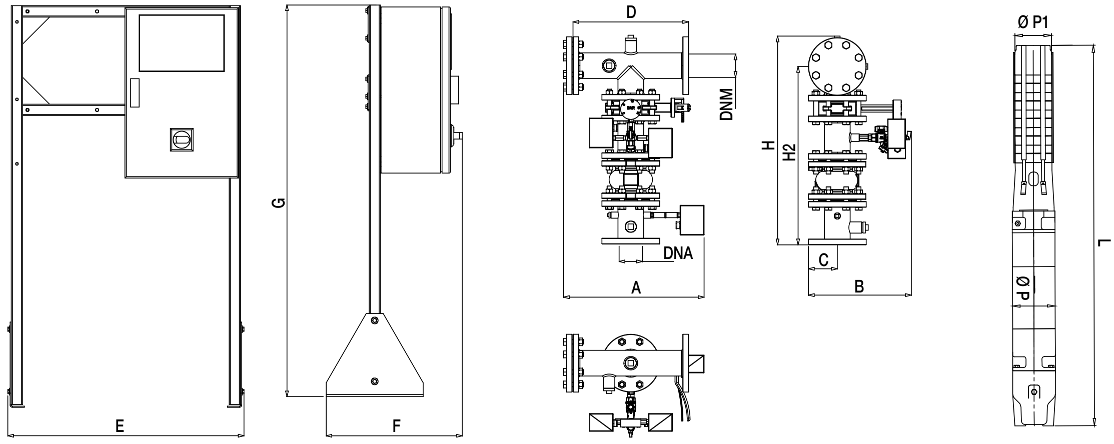
SETS WITH 1 SS6C SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS6C 6 T 400/50 EN 12845 - S4C 19T	3 x 400 50 Hz	5,5	7,5	14	EGE 5.5T 400/50-60	36	6.1	4.5
	3 x 400 50-60 Hz *	0.75 *	1 *	2.4 *	ED 2.5T (108320350) *	4.2 *	7.1 *	6 *
1SS6C 8 T 400/50 EN 12845 - S4C 19T	3 x 400 50 Hz	7,5	10	18	EGE 5.5T 400/50-60	36	9.1	7
	3 x 400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1SS6C 11 T 400/50 EN 12845 - S4C 25T	3 x 400 50 Hz	9,2	12,5	22	EGE 7.5T 400/50-60	36	12.2	9.5
	3 x 400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *

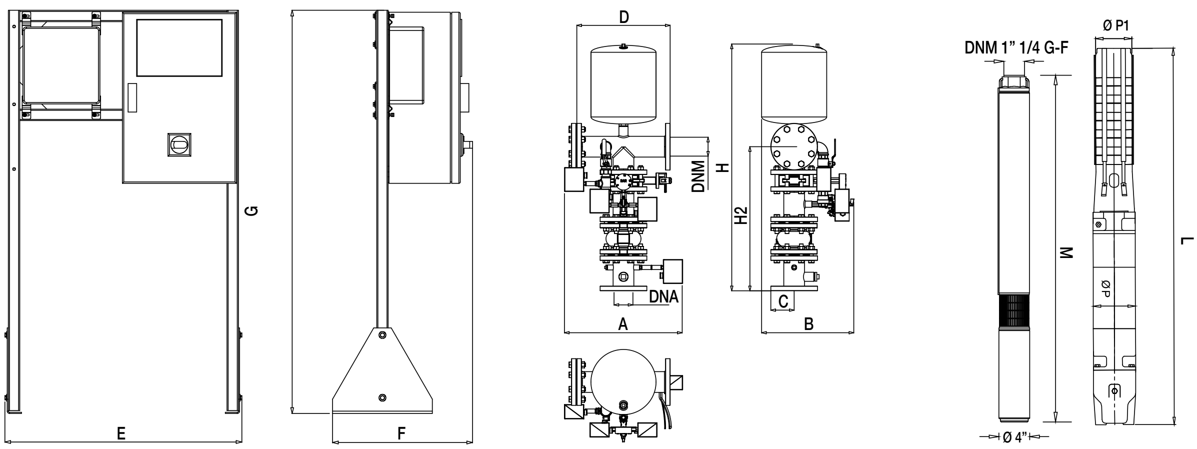
* Jockey pump

SS6 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



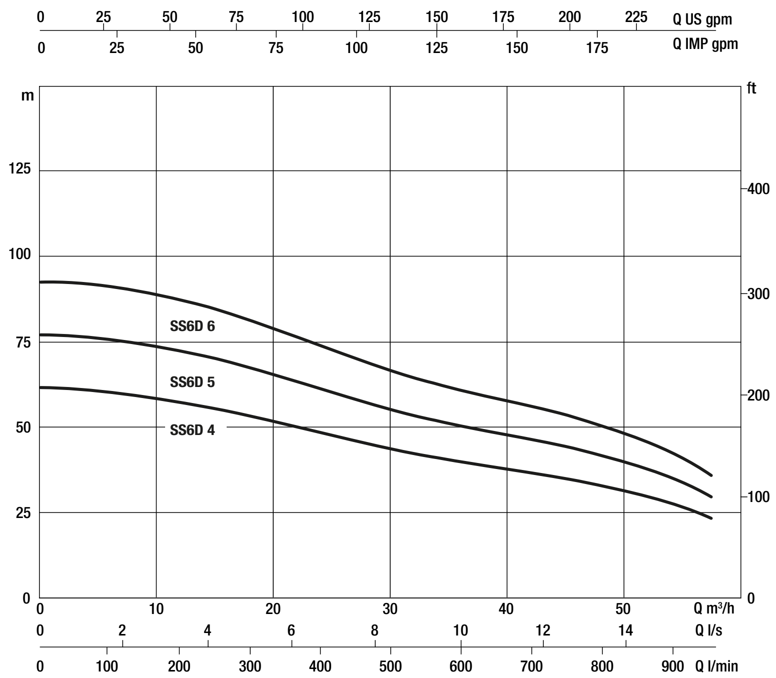
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	Ø P	Ø P1	PACKING (bxpxh)	WEIGHT kg
1SS6C 6 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1470	-	80	80	141	132	1000x1400x2200	193
1SS6C 8 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1689	-	80	80	141	132	1000x1400x2200	202
1SS6C 11 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1999	-	80	80	141	132	1000x1400x2200	190
1SS6C 6 T 400/50 EN 12845 - S4C 19T	505	395	100	400	830	490	1415	1055	615	1470	871	80	80	141	132	1000x1400x2200	256
1SS6C 8 T 400/50 EN 12845 - S4C 19T	505	395	100	400	830	490	1415	1055	615	1689	1086	80	80	141	132	1000x1400x2200	235
1SS6C 11 T 400/50 EN 12845 - S4C 25T	505	395	100	400	830	490	1415	1055	615	1999	1343	80	80	141	132	1000x1400x2200	248

SS6 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 48 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 SS6D SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS6D 4 T 400/50 EN 12845	3 x 400 50 Hz	7,5	10	18	EGE 5.5T 400/50-60	48	4.8	3.5
1SS6D 5 T 400/50 EN 12845	3 x 400 50 Hz	7,5	10	18	EGE 5.5T 400/50-60	48	6.3	5
1SS6D 6 T 400/50 EN 12845	3 x 400 50 Hz	9,2	12,5	22	EGE 7.5T 400/50-60	48	7.8	6

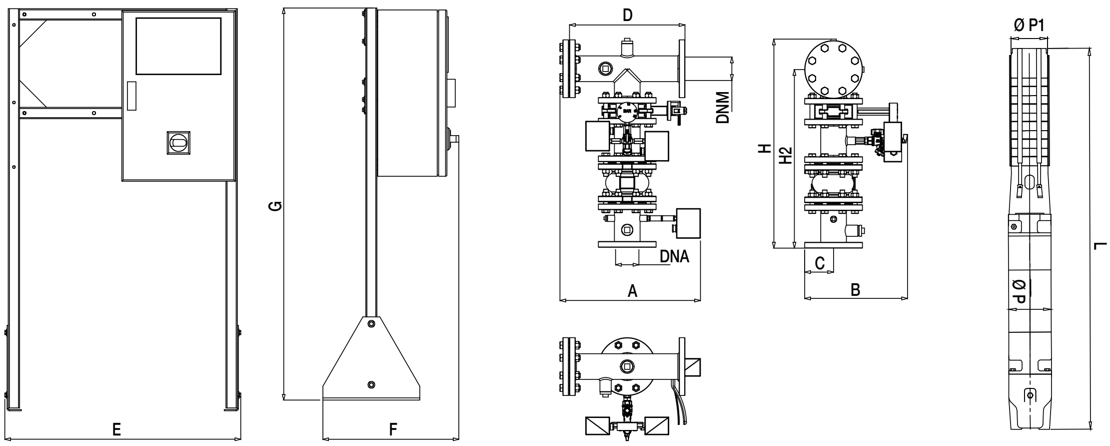
SETS WITH 1 SS6D SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS6D 4 T 400/50 EN 12845 - S4C 13T	3 x 400 50 Hz	7,5	10	18	EGE 5.5T 400/50-60	48	4.8	3.5
	3 x 400 50-60 Hz *	0.75 *	1 *	2.4 *	ED 2.5T (108320350) *	4.2 *	7.1 *	6 *
1SS6D 5 T 400/50 EN 12845 - S4C 19T	3 x 400 50 Hz	7,5	10	18	EGE 5.5T 400/50-60	48	6.3	5
	3 x 400 50-60 Hz *	0.75 *	1 *	2.4 *	ED 2.5T (108320350) *	4.2 *	7.1 *	6 *
1SS6D 6 T 400/50 EN 12845 - S4C 19T	3 x 400 50 Hz	9,2	12,5	22	EGE 7.5T 400/50-60	48	7.8	6
	3 x 400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *

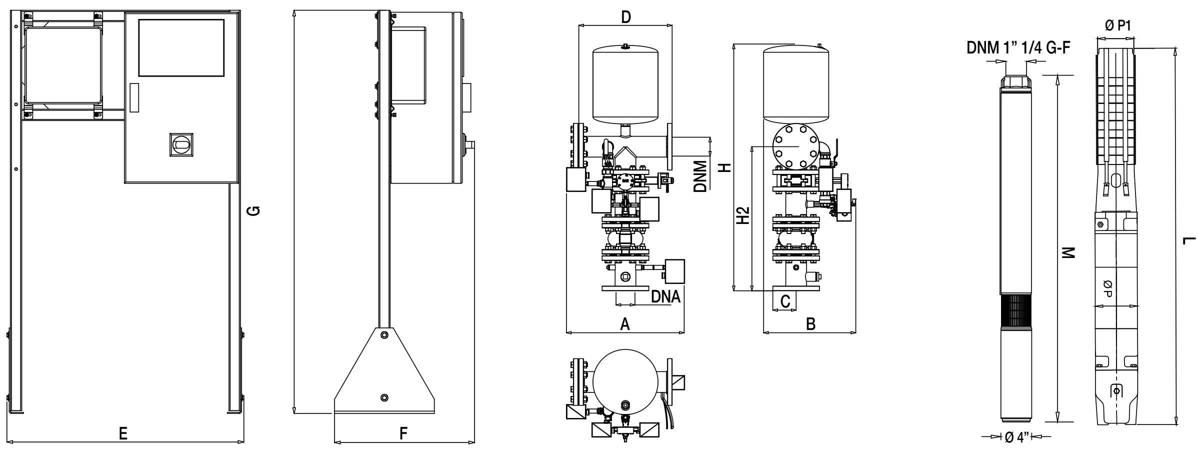
* Jockey pump

SS6 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



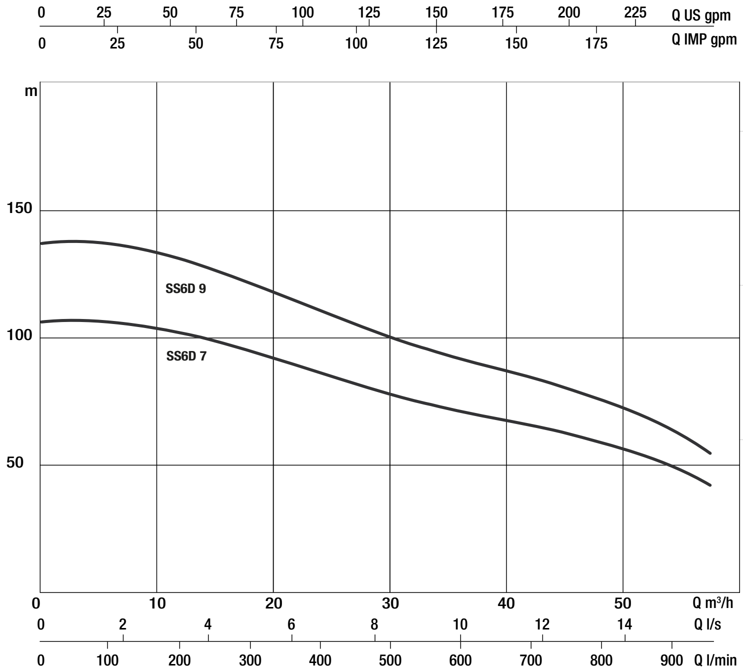
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	Ø P	Ø P1	PACKING (bxpxh)	WEIGHT kg
1SS6D 4 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1378	-	80	80	141	144	1000x1400x2200	196
1SS6D 5 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1490	-	80	80	141	144	1000x1400x2200	200
1SS6D 6 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1627	-	80	80	141	144	1000x1400x2200	192
1SS6D 4 T 400/50 EN 12845 - S4C 13T	505	395	100	400	830	490	1415	1055	615	1378	871	80	80	141	144	1000x1400x2200	228
1SS6D 5 T 400/50 EN 12845 - S4C 19T	505	395	100	400	830	490	1415	1055	615	1490	871	80	80	141	144	1000x1400x2200	232
1SS6D 6 T 400/50 EN 12845 - S4C 19T	505	395	100	400	830	490	1415	1055	615	1627	1086	80	80	141	144	1000x1400x2200	237

SS6 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 48 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 SS6D SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL kW	P2 NOMINAL Hp	In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
1SS6D 7 T 400/50 EN 12845	3 x 400 50 Hz	11	15	25,5	EGE 11T SD 400/50-60	48	9.4	7.5
1SS6D 9 T 400/50 EN 12845	3 x 400 50 Hz	15	20	33,4	EGE 11T SD 400/50-60	48	12.6	10

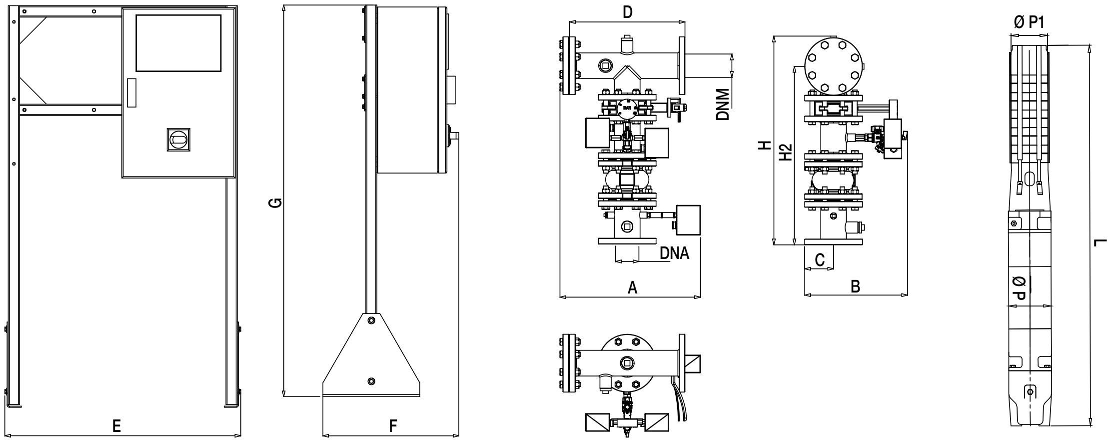
SETS WITH 1 SS6D SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL kW	P2 NOMINAL Hp	In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
1SS6D 7 T 400/50 EN 12845 - S4C 19T	3 x 400 50 Hz	11	15	25,5	EGE 11T SD 400/50-60	48	9.4	7.5
	3 x 400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1SS6D 9 T 400/50 EN 12845 - S4C 25T	3 x 400 50 Hz	15	20	33,4	EGE 11T SD 400/50-60	48	12.6	10
	3 x 400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *

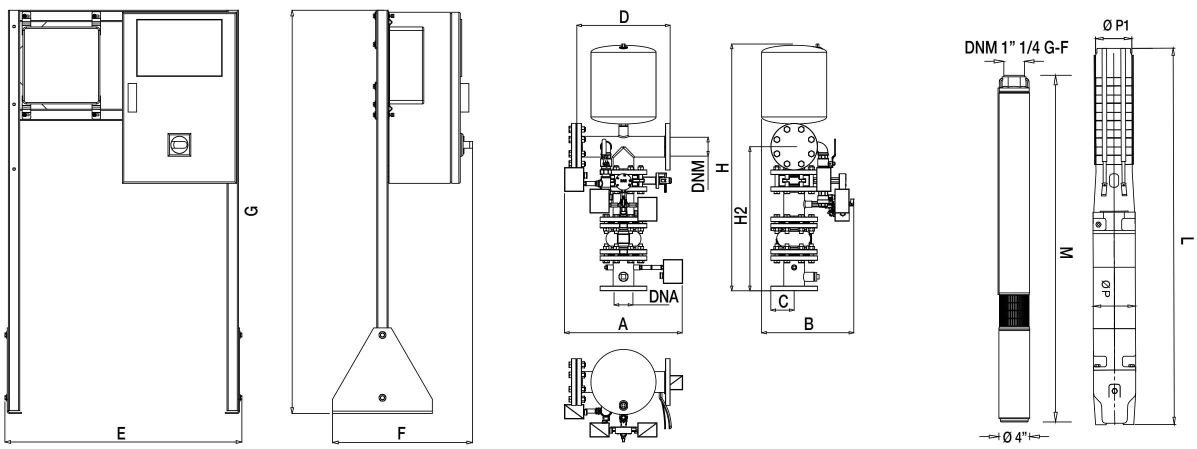
* Jockey pump

SS6 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



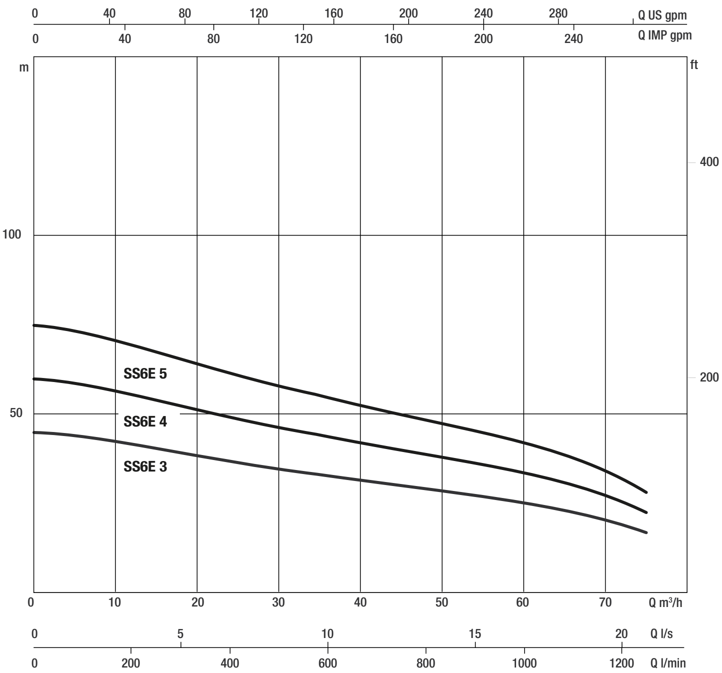
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	Ø P	Ø P1	PACKING (bxpxh)	WEIGHT kg
1SS6D 7 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1784	-	80	80	141	144	1000x1400x2200	197
1SS6D 9 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	2063	-	80	80	141	144	1000x1400x2200	202
1SS6D 7 T 400/50 EN 12845 - S4C 19T	505	395	100	400	830	490	1415	1055	615	1784	1086	80	80	141	144	1000x1400x2200	242
1SS6D 9 T 400/50 EN 12845 - S4C 25T	505	395	100	400	830	490	1415	1055	615	2063	1343	80	80	141	144	1000x1400x2200	265

SS6 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 66 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 SS6E SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS6E 3 T 400/50 EN 12845	3 x 400 50 Hz	5,5	7,5	14	EGE 5.5T 400/50-60	66	4	3
1SS6E 4 T 400/50 EN 12845	3 x 400 50 Hz	7,5	10	18	EGE 7.5T 400/50-60	66	5.2	4
1SS6E 5 T 400/50 EN 12845	3 x 400 50 Hz	9,2	12,5	22	EGE 11T SD 400/50-60	66	6.5	5

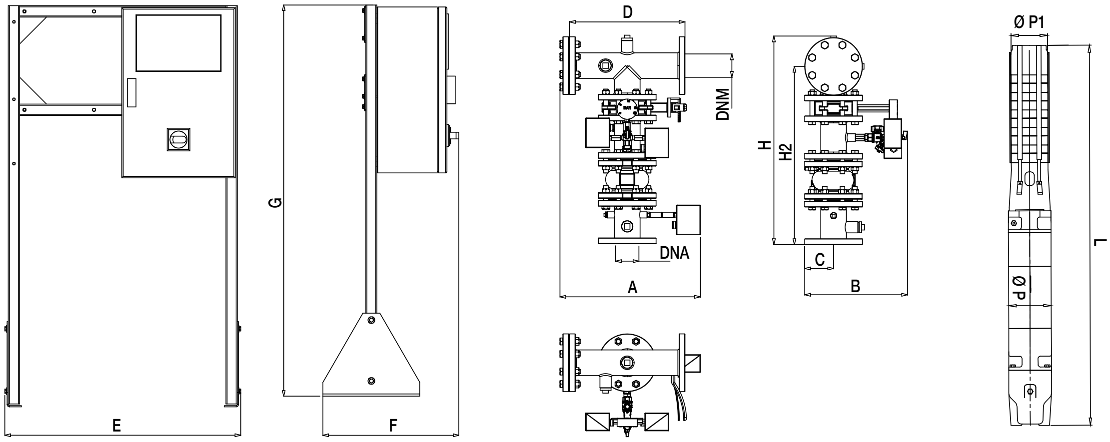
SETS WITH 1 SS6E SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS6E 3 T 400/50 EN 12845 - S4C 13T	3 x 400 50 Hz	5.5	7.5	14	EGE 5.5T 400/50-60	66	4	3
	3 x 400 50-60 Hz *	0.75 *	1 *	2.4 *	ED 2.5T (108320350) *	4.2 *	7.1 *	6 *
1SS6E 4 T 400/50 EN 12845 - S4C 13T	3 x 400 50 Hz	7.5	10	18	EGE 7.5T 400/50-60	66	5.2	4
	3 x 400 50-60 Hz *	0.75 *	1 *	2.4 *	ED 2.5T (108320350) *	4.2 *	7.1 *	6 *
1SS6E 5 T 400/50 EN 12845 - S4C 19T	3 x 400 50 Hz	9.2	12.5	22	EGE 11T SD 400/50-60	66	6.5	5
	3 x 400 50-60 Hz *	0.75 *	1 *	2.4 *	ED 2.5T (108320350) *	4.2 *	7.1 *	6 *

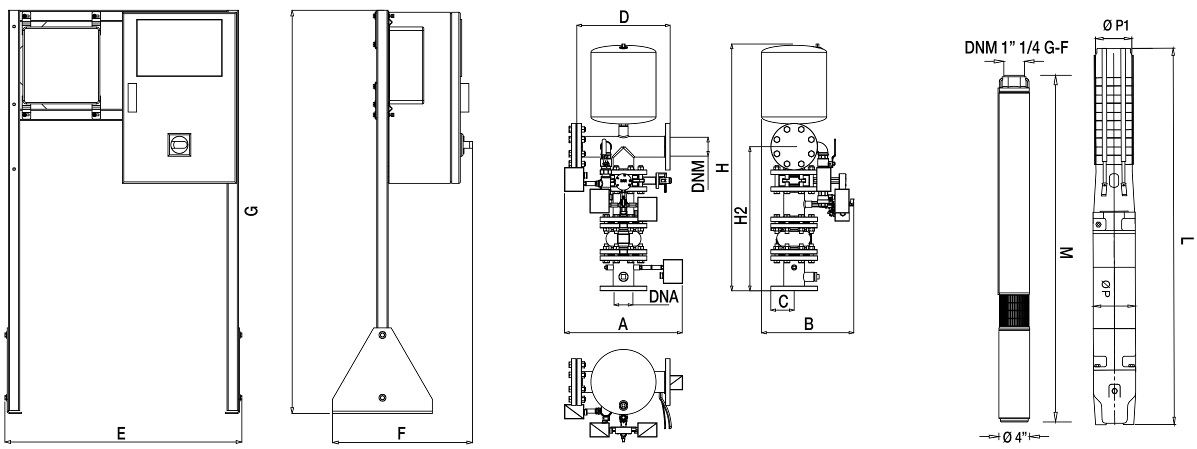
* Jockey pump

SS6 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



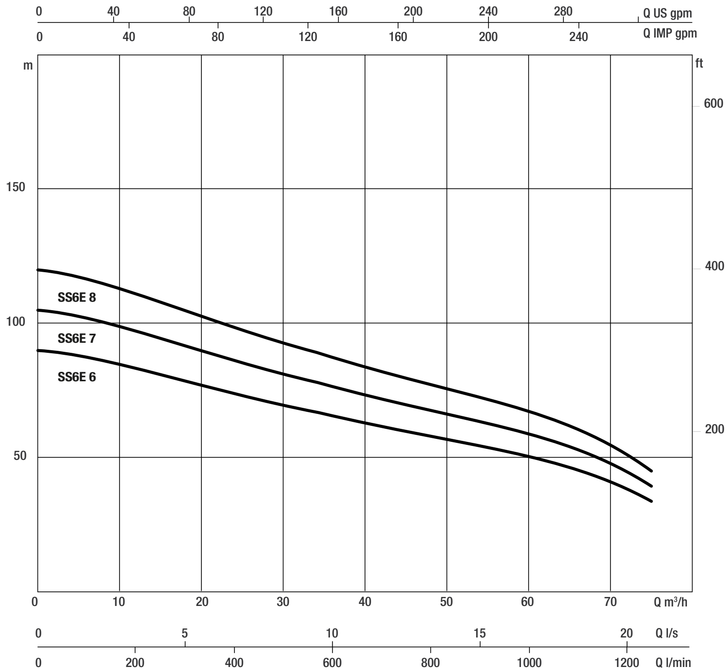
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	Ø P	Ø P1	PACKING (bxpxh)	WEIGHT kg
1SS6E 3 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1237	-	80	80	141	144	1000x1400x2200	114
1SS6E 4 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1378	-	80	80	141	144	1000x1400x2200	117
1SS6E 5 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1515	-	80	80	141	144	1000x1400x2200	121
1SS6E 3 T 400/50 EN 12845 - S4C 13T	505	395	100	400	830	490	1415	1055	615	1237	871	80	80	141	144	1000x1400x2200	236
1SS6E 4 T 400/50 EN 12845 - S4C 13T	505	395	100	400	830	490	1415	1055	615	1378	871	80	80	141	144	1000x1400x2200	239
1SS6E 5 T 400/50 EN 12845 - S4C 19T	505	395	100	400	830	490	1415	1055	615	1515	871	80	80	141	144	1000x1400x2200	243

SS6 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 66 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 SS6E SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS6E 6 T 400/50 EN 12845	3 x 400 50 Hz	11	15	25,5	EGE 11T SD 400/50-60	66	7.8	6
1SS6E 7 T 400/50 EN 12845	3 x 400 50 Hz	15	20	33.4	EGE 15T SD 400/50-60	66	10.4	8
1SS6E 8 T 400/50 EN 12845	3 x 400 50 Hz	15	20	33.4	EGE 15T SD 400/50-60	66	11.8	9.5

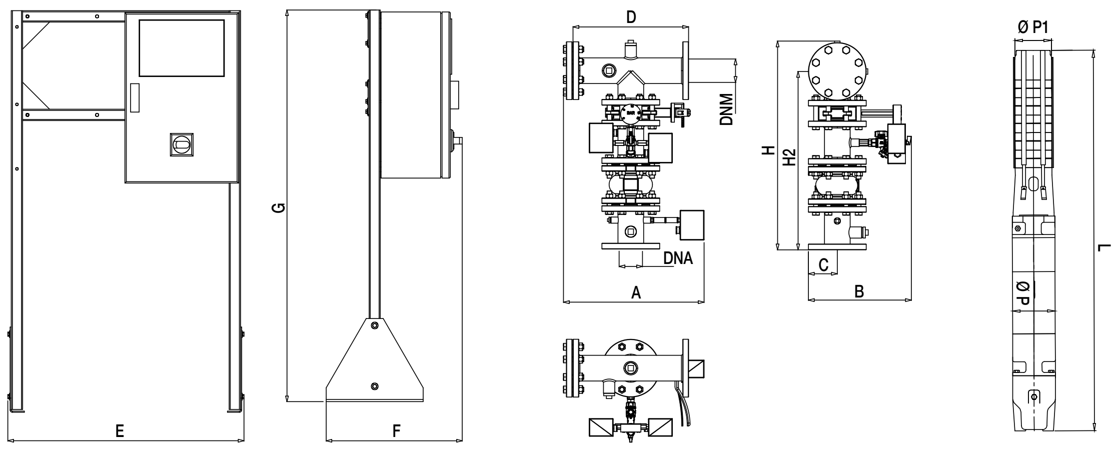
SETS WITH 1 SS6E SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS6E 6 T 400/50 EN 12845 - S4C 19T	3 x 400 50 Hz	11	15	25.5	EGE 11T SD 400/50-60	66	7.8	6
	3 x 400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1SS6E 7 T 400/50 EN 12845 - S4C 25T	3 x 400 50 Hz	15	20	33.4	EGE 15T SD 400/50-60	66	10.4	8
	3 x 400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *
1SS6E 8 T 400/50 EN 12845 - S4C 25T	3 x 400 50 Hz	15	20	33.4	EGE 15T SD 400/50-60	66	11.8	9.5
	3 x 400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *

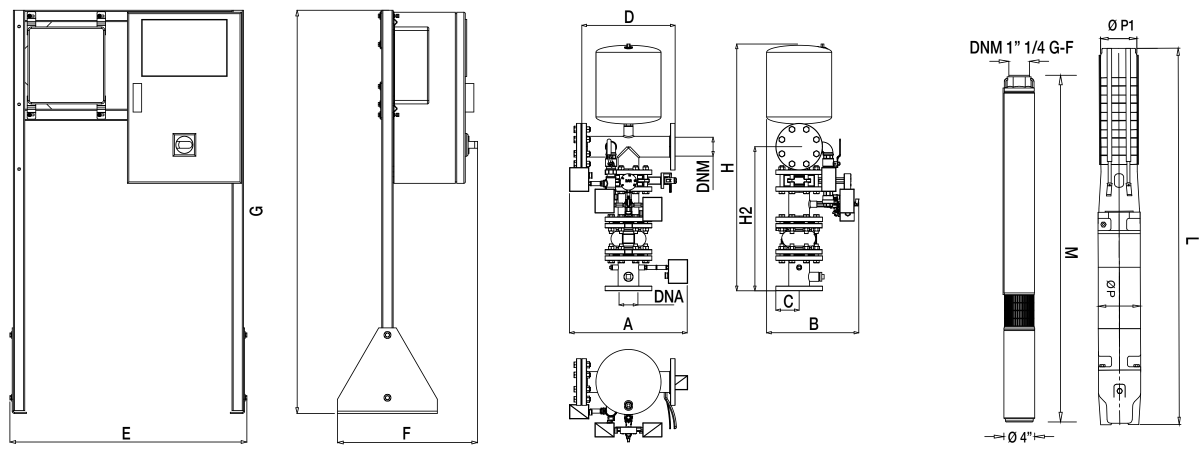
* Jockey pump

SS6 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



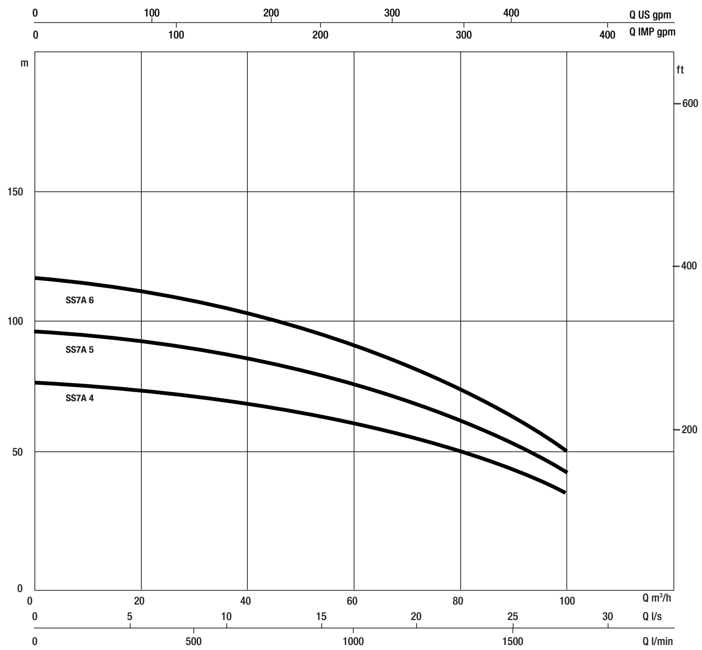
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	Ø P	Ø P1	PACKING (bxpxh)	WEIGHT kg
1SS6E 6 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1672	-	80	80	141	144	1000x1400x2200	126
1SS6E 7 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1839	-	80	80	141	144	1000x1400x2200	150
1SS6E 8 T 400/50 EN 12845	485	355	100	400	830	490	1415	725	615	1951	-	80	80	141	144	1000x1400x2200	225
1SS6E 6 T 400/50 EN 12845 - S4C 19T	505	395	100	400	830	490	1415	1055	615	1672	1086	80	80	141	144	1000x1400x2200	248
1SS6E 7 T 400/50 EN 12845 - S4C 25T	505	395	100	400	830	490	1415	1055	615	1839	1343	80	80	141	144	1000x1400x2200	158
1SS6E 8 T 400/50 EN 12845 - S4C 25T	505	395	100	400	830	490	1415	1055	615	1951	1343	80	80	141	144	1000x1400x2200	245

SS7 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 100 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 SS7A SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS7A 4 T 400/50 EN 12845	3 x 400 50 Hz	15	20	33.4	EGE 18.5T SD 400/50-60	100	7.4	6
1SS7A 5 T 400/50 EN 12845	3 x 400 50 Hz	18.5	25	41	EGE 22T SD 400/50-60	100	10	8
1SS7A 6 T 400/50 EN 12845	3 x 400 50 Hz	22	30	47	EGE 22T SD 400/50-60	100	12.6	10

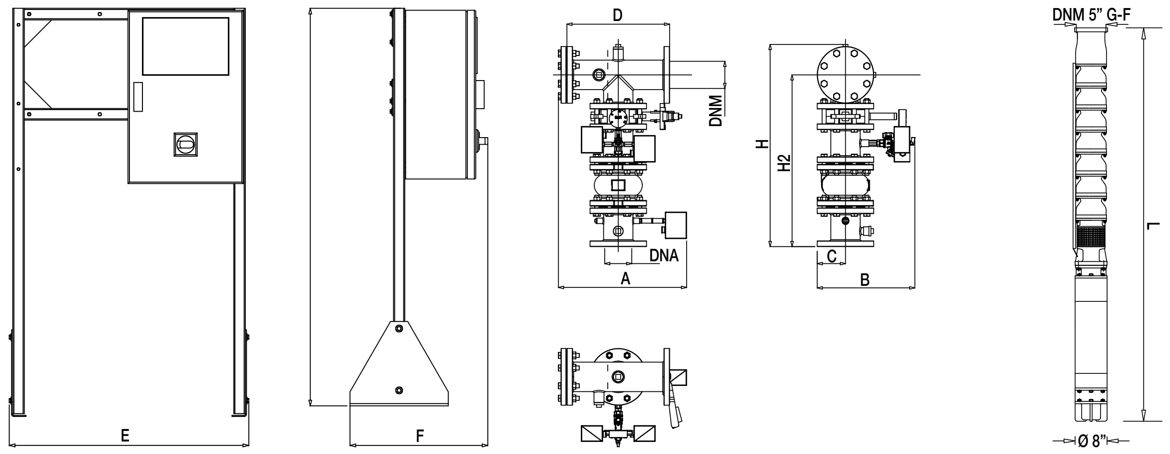
SETS WITH 1 SS7A SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS7A 4 T 400/50 EN 12845 - S4C 19T	3x400 50 Hz	15	20	33.4	EGE 18.5T SD 400/50-60	100	7.4	6
	3x400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1SS7A 5 T 400/50 EN 12845 - S4C 19T	3x400 50 Hz	18.5	25	41	EGE 22T SD 400/50-60	100	10	8
	3x400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1SS7A 6 T 400/50 EN 12845 - S4C 25T	3x400 50 Hz	22	30	47	EGE 22T SD 400/50-60	100	12.6	10
	3x400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *

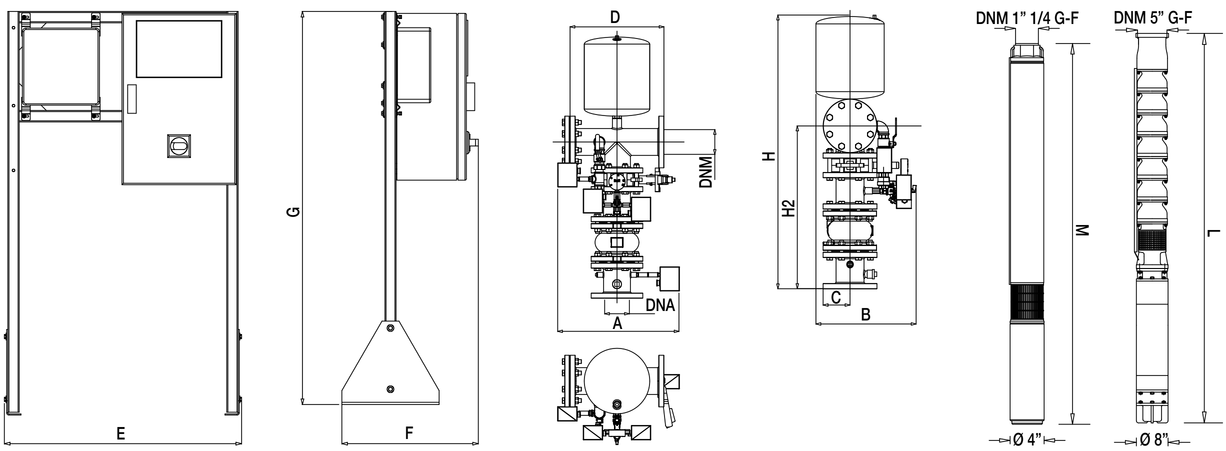
* Jockey pump

SS7 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



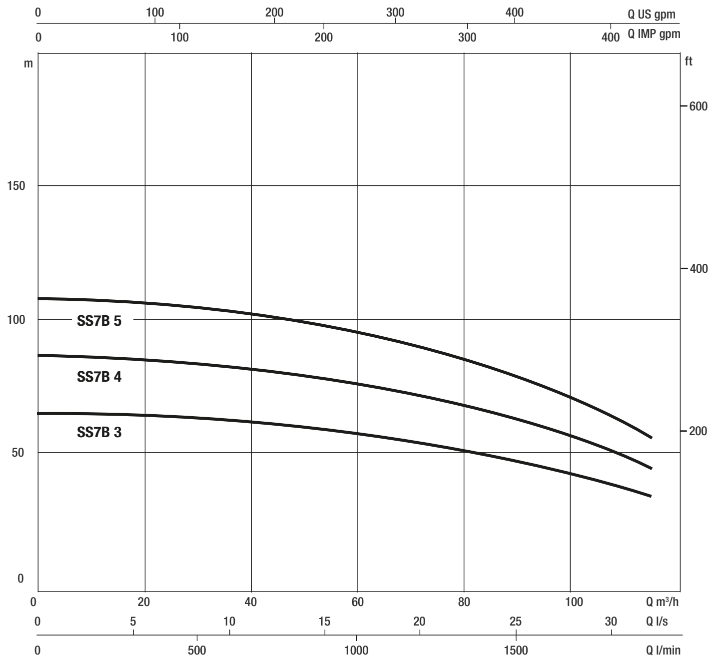
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	Ø P	Ø P1	PACKING (bxpxh)	WEIGHT kg
1SS7A 4 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	1740	-	100	100	141	172	1000x1400x2200	260
1SS7A 5 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	1943	-	100	100	141	172	1000x1400x2200	265
1SS7A 6 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	2131	-	100	100	141	172	1000x1400x2200	278
1SS7A 4 T 400/50 EN 12845 - S4C 19T	520	410	110	400	830	490	1415	1120	665	1740	1086	100	100	141	172	1000x1400x2200	280
1SS7A 5 T 400/50 EN 12845 - S4C 19T	520	410	110	400	830	490	1415	1120	665	1943	1086	100	100	141	172	1000x1400x2200	285
1SS7A 6 T 400/50 EN 12845 - S4C 25T	520	410	110	400	830	490	1415	1120	665	2131	1343	100	100	141	172	1000x1400x2200	298

SS7 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 120 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 SS7B SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m³/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS7B 3 T 400/50 EN 12845	3 x 400 50 Hz	18.5	25	41	EGE 22T SD 400/50-60	120	7.9	6
1SS7B 4 T 400/50 EN 12845	3 x 400 50 Hz	22	30	47	EGE 22T SD 400/50-60	120	10.6	8.5
1SS7B 5 T 400/50 EN 12845	3 x 400 50 Hz	30	40	61.5	EGE 30T SD 400/50-60	120	13.4	10.5

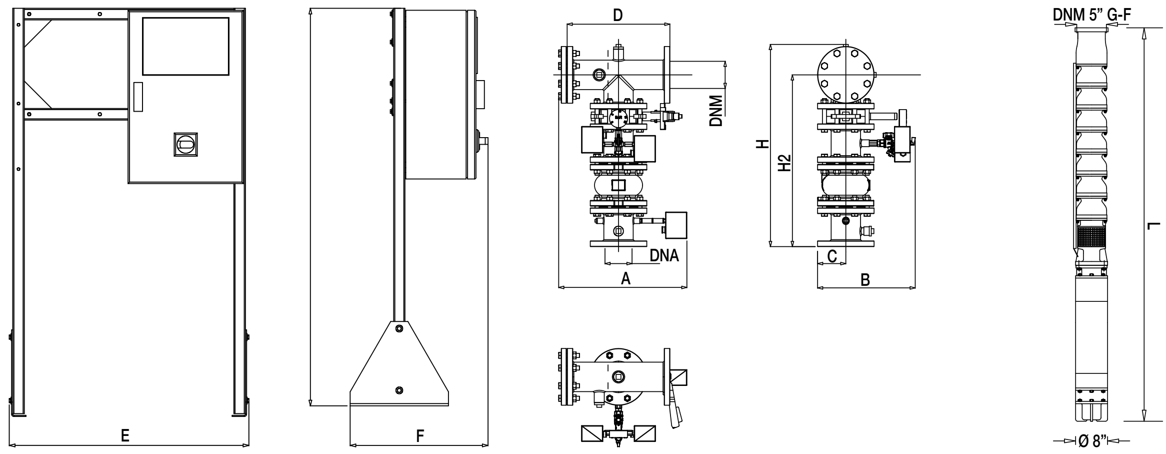
SETS WITH 1 SS7B SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m³/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS7B 3 T 400/50 EN 12845 - S4C 19T	3x400 50 Hz	18.5	25	41	EGE 22T SD 400/50-60	120	7.9	6
	3x400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1SS7B 4 T 400/50 EN 12845 - S4C 25T	3x400 50 Hz	22	30	47	EGE 22T SD 400/50-60	120	10.6	8.5
	3x400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *
1SS7B 5 T 400/50 EN 12845 - S4C 25T	3x400 50 Hz	30	40	61.5	EGE 30T SD 400/50-60	120	13.4	10.5
	3x400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *

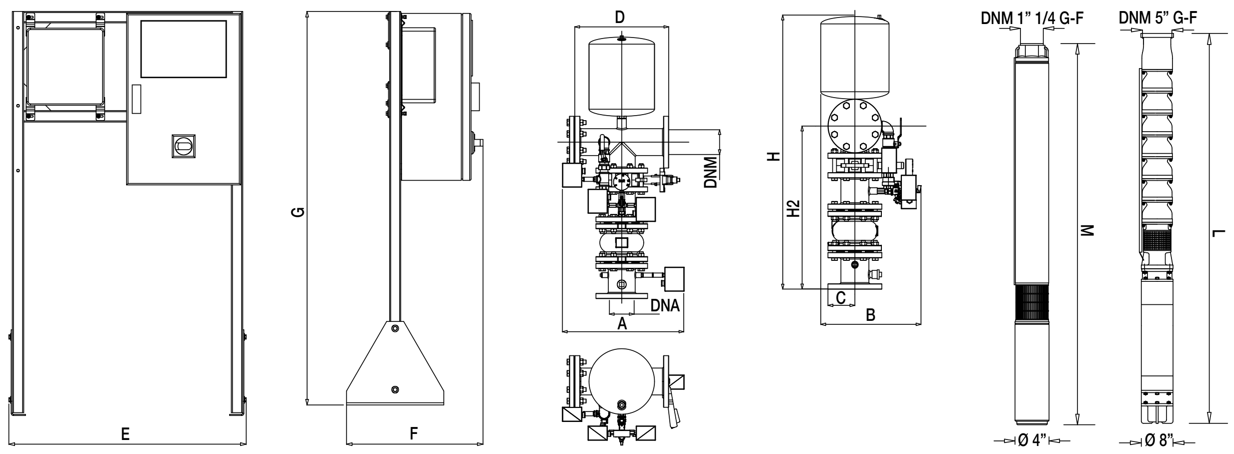
* Jockey pump

SS7 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



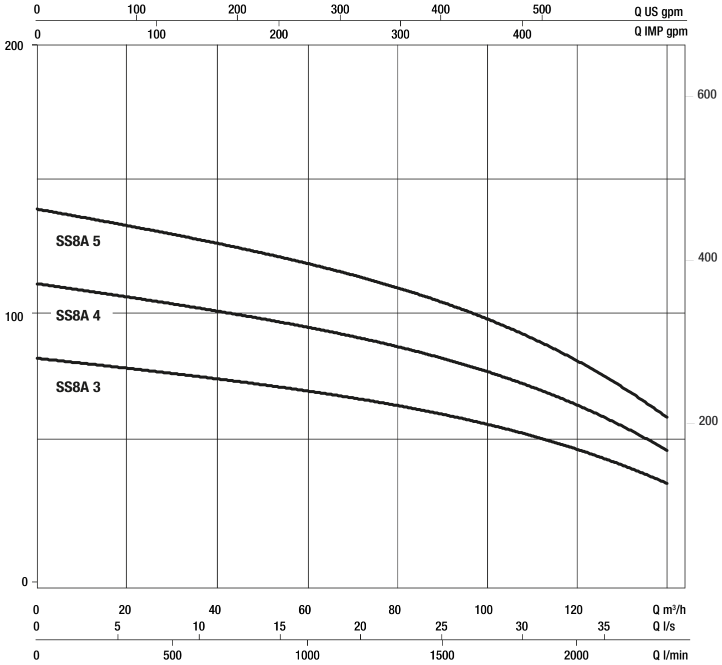
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	Ø P	Ø P1	PACKING (bxpxh)	WEIGHT kg
1SS7B 3 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	1612	-	100	100	141	172	1000x1400x2200	275
1SS7B 4 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	1875	-	100	100	141	172	1000x1400x2200	280
1SS7B 5 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	2133	-	100	100	141	172	1000x1400x2200	285
1SS7B 3 T 400/50 EN 12845 - S4C 19T	520	410	110	400	830	490	1415	1120	665	1612	1086	100	100	141	172	1000x1400x2200	295
1SS7B 4 T 400/50 EN 12845 - S4C 25T	520	410	110	400	830	490	1415	1120	665	1875	1343	100	100	141	172	1000x1400x2200	300
1SS7B 5 T 400/50 EN 12845 - S4C 25T	520	410	110	400	830	490	1415	1120	665	2133	1343	100	100	141	172	1000x1400x2200	305

SS8 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 140 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 SS8A SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS8A 3 T 400/50 EN 12845	3 x 400 50 Hz	22	30	47	EGE 22T SD 400/50-60	140	7.4	6
1SS8A 4 T 400/50 EN 12845	3 x 400 50 Hz	30	40	61.5	EGE 30T SD 400/50-60	140	10	8
1SS8A 5 T 400/50 EN 12845	3 x 400 50 Hz	37	50	79,3	EGE 37T SD 400/50-60	140	12.7	10

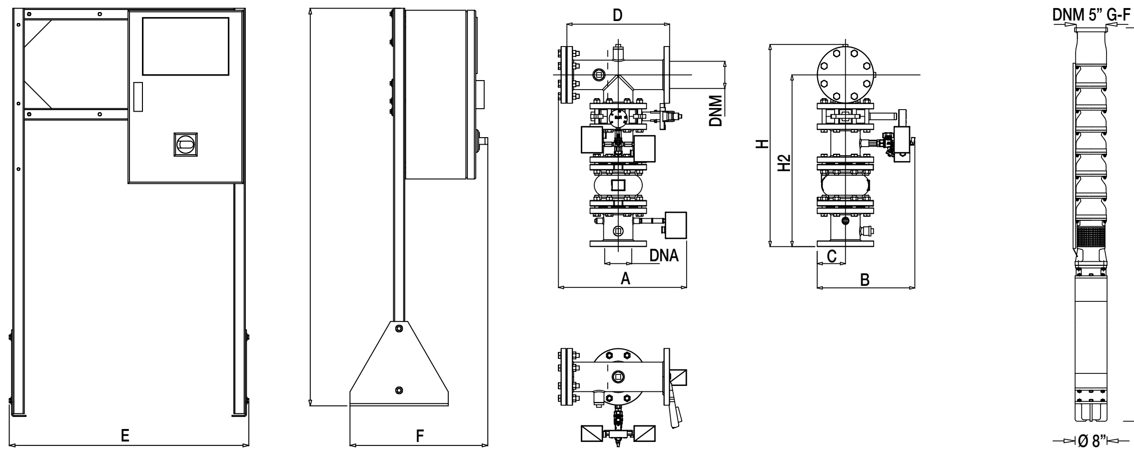
SETS WITH 1 SS8A SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS8A 3 T 400/50 EN 12845 - S4C 19T	3x400 50 Hz	22	30	47	EGE 22T SD 400/50-60	140	7.4	6
	3x400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1SS8A 4 T 400/50 EN 12845 - S4C 19T	3x400 50 Hz	30	40	61.5	EGE 30T SD 400/50-60	140	10	8
	3x400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1SS8A 5 T 400/50 EN 12845 - S4C 25T	3x400 50 Hz	37	50	79,3	EGE 37T SD 400/50-60	140	12.7	10
	3x400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *

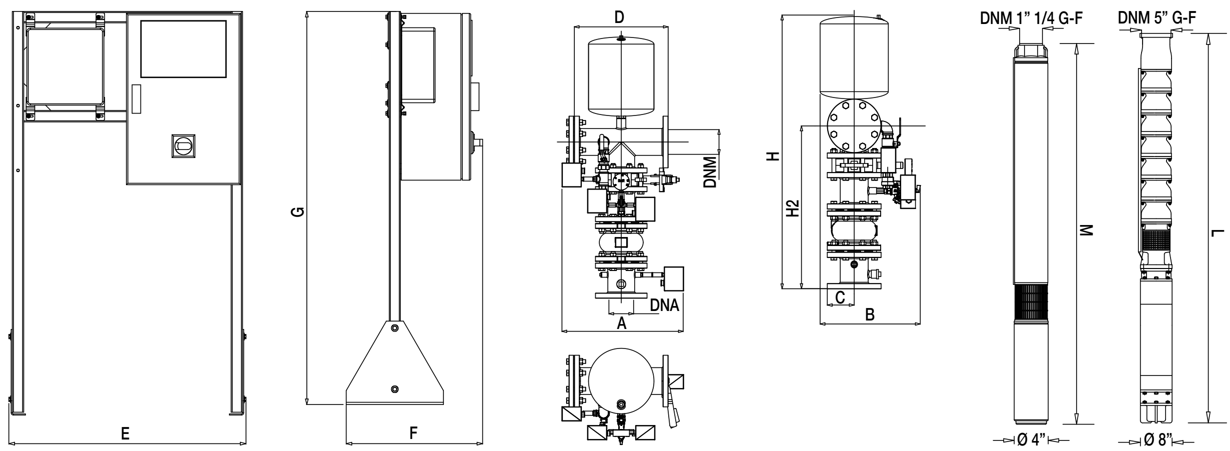
* Jockey pump

SS8 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



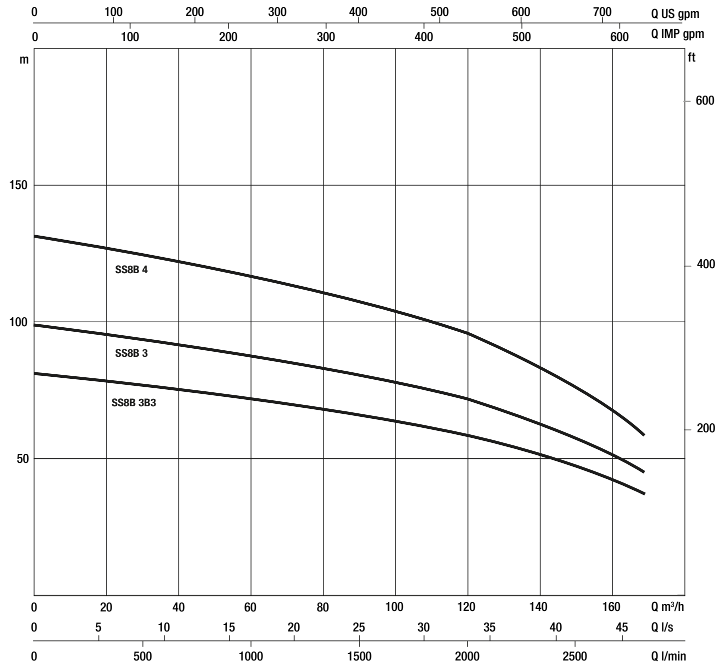
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	Ø P	Ø P1	PACKING (bxpxh)	WEIGHT kg
1SS8A 3 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	1917	-	100	100	141	213	1000x1400x2200	244
1SS8A 4 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	2203	-	100	100	141	213	1000x1400x2200	252
1SS8A 5 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	2489	-	100	100	141	213	1000x1400x2200	260
1SS8A 3 T 400/50 EN 12845 - S4C 19T	520	410	110	400	830	490	1415	1120	665	1917	1086	100	100	141	213	1000x1400x2200	264
1SS8A 4 T 400/50 EN 12845 - S4C 19T	520	410	110	400	830	490	1415	1120	665	2203	1086	100	100	141	213	1000x1400x2200	272
1SS8A 5 T 400/50 EN 12845 - S4C 25T	520	410	110	400	830	490	1415	1120	665	2489	1343	100	100	141	213	1000x1400x2200	290

SS8 SETS - UNI EN 12845 FIRE-FIGHTING SETS

Pumped liquid temperature range: from 0°C to +40°C - **Maximum ambient temperature:** from 4°C to +40 °C - **Maximum flow rate:** 160 m^3/h



The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SETS WITH 1 SS8B SUBMERGED PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	MODEL CONTROL PANEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS8B 3B3 T 400/50 EN 12845	3 x 400 50 Hz	30	40	61.5	EGE 30T SD 400/50-60	160	7.7	6
1SS8B 3 T 400/50 EN 12845	3 x 400 50 Hz	37	50	79,3	EGE 37T SD 400/50-60	160	10.3	8
1SS8B 4 T 400/50 EN 12845	3 x 400 50 Hz	45	60	92	EGE 45T SD 400/50-60	160	13.1	10.5

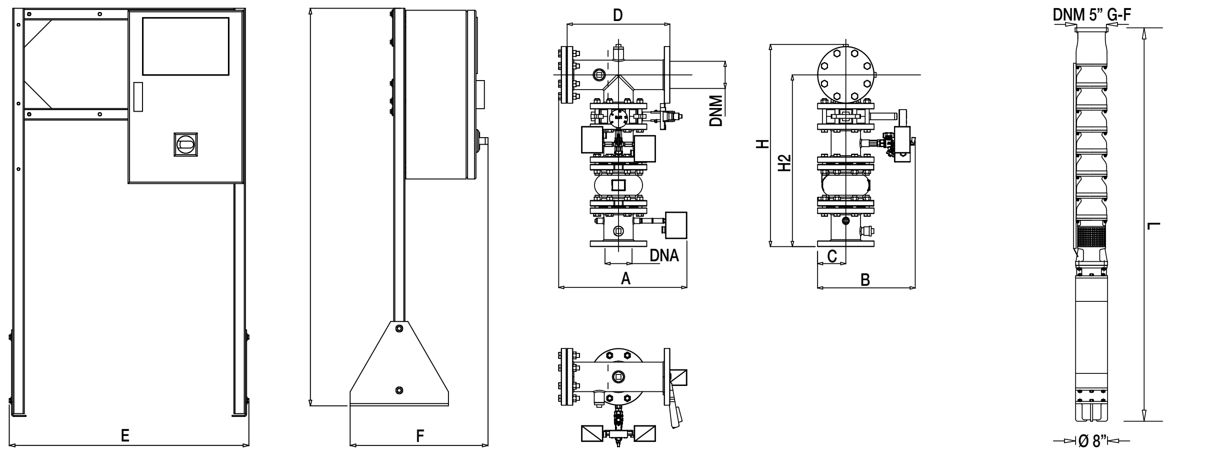
SETS WITH 1 SS8B SUBMERGED PUMP + JOCKEY PUMP

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In (A)	CONTROL PANEL MODEL	MAX FLOW RATE m^3/h	MAX OBTAINABLE PRESSURE	STANDARD PRESSURE (bar)
		kW	Hp					
1SS8B 3B3 T 400/50 EN 12845 - S4C 19T	3 x 400 50 Hz	30	40	61.5	EGE 30T SD 400/50-60	160	7.7	6
	3x400 50-60 Hz *	1.1 *	1.5 *	3.4 *	ED 1.5T (108320340) *	4.2 *	10.4 *	8 *
1SS8B 3 T 400/50 EN 12845 - S4C 25T	3x400 50 Hz	37	50	79,3	EGE 37T SD 400/50-60	160	10.3	8
	3x400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *
1SS8B 4 T 400/50 EN 12845 - S4C 25T	3x400 50 Hz	45	60	92	EGE 45T SD 400/50-60	160	13.1	10,5
	3x400 50-60 Hz *	1.5 *	2 *	4.4 *	ED 2.5T (108320350) *	4.2 *	13.7 *	11 *

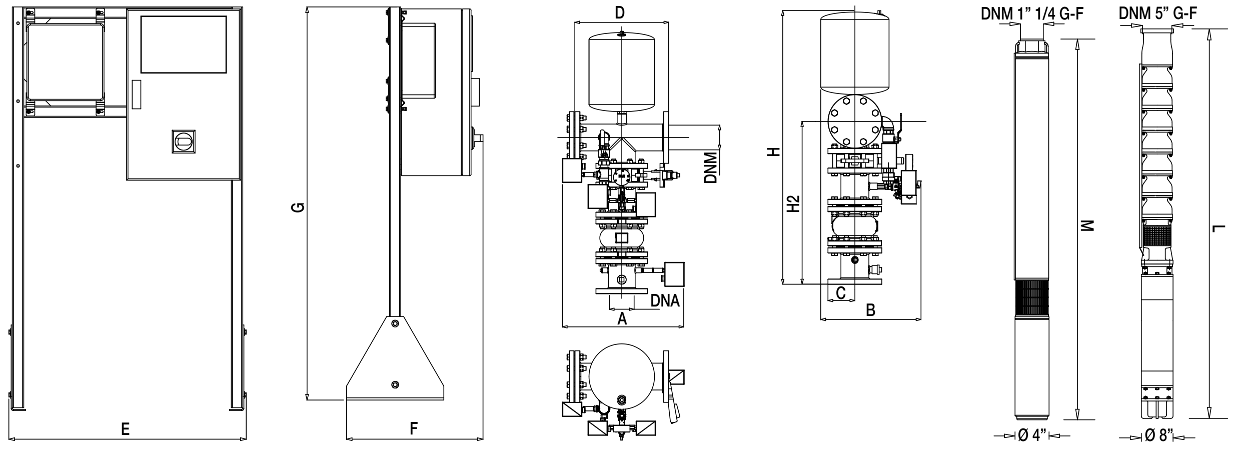
* Jockey pump

SS8 SETS - UNI EN 12845 FIRE-FIGHTING SETS

SETS WITH 1 SUBMERGED PUMP



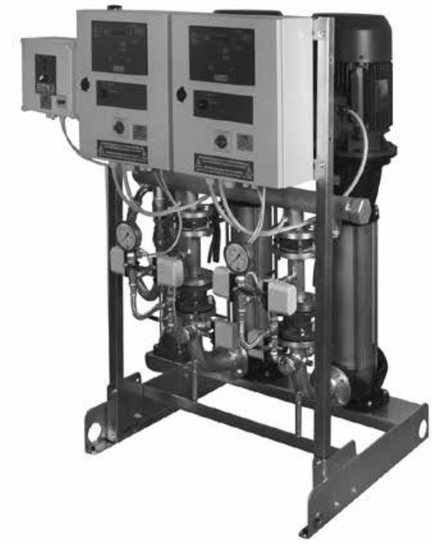
SETS WITH 1 SUBMERGED PUMP + JOCKEY PUMP



MODEL	A	B	C	D	E	F	G	H	H2	L	M	DNA	DNM	Ø P	Ø P1	PACKING (bxpxh)	WEIGHT kg
1SS8B 3B3 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	2047	-	100	100	141	213	1000x1400x2200	380
1SS8B 3 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	2177	-	100	100	141	213	1000x1400x2200	390
1SS8B 4 T 400/50 EN 12845	500	380	110	400	830	490	1415	785	665	2423	-	100	100	141	213	1000x1400x2200	400
1SS8B 3B3 T 400/50 EN 12845 - S4C 19T	520	410	110	400	830	490	1415	1120	665	2047	1086	100	100	141	213	1000x1400x2200	400
1SS8B 3 T 400/50 EN 12845 - S4C 25T	520	410	110	400	830	490	1415	1120	665	2177	1343	100	100	141	213	1000x1400x2200	410
1SS8B 4 T 400/50 EN 12845 - S4C 25T	520	410	110	400	830	490	1415	1120	665	2423	1343	100	100	141	213	1000x1400x2200	420

1/2 NKV

UNI EN 12845 FIRE-FIGHTING SETS WITH VERTICAL PUMPS



TECHNICAL DATA

Operating range: from 4 to 29 m^3/h

Pumped liquid: clean, free of solids and abrasives, non-viscous, non-aggressive, non-crystallised and chemically neutral, with properties similar to water.

Pumped liquid temperature range: from -15 to 70 °C.

Maximum ambient temperature: + 40°C

Maximum operating pressure: 14 bar (1400 kPa) PN16

TECHNICAL DATA

.Fire-fighting pump sets in accordance with UNI EN 12845 European Standard
Fixed fire-fighting installations - Automatic sprinkler systems

NOTES ON UNI EN 12845

UNI EN 12845, the Italian version of European Standard EN 12845, sets the design, installation and maintenance criteria for sprinkler systems.It replaces the earlier Italian standards UNI 9489 and UNI 9490.
An automatic sprinkler system is designed to detect the presence of fire and extinguish it during the initial stages, or to keep flames under control until they can be extinguished fully using other means.
The classic sprinkler system is composed of: a water source, a fire-fighting pump unit, a series of control valves, and a sprinkler circuit.

MULTI-PUMP SET COMPOSITION

The pumps of UNI EN 12845 sets will have the same characteristics; in addition:
- if TWO pumps are installed, each pump must deliver the total system load (100 %),
- if THREE pumps are installed, each pump must deliver 50 % of the load required by the design.

“In applications in which more than one pump is installed with higher or duplicated feed, only one of the pumps will be electrically driven (section 10.2 of the standard)”.
In case of single water supply, there are no limitations on the number of electric pumps that can be installed.

UNI EN 12845 FIRE-FIGHTING PUMP SET OPERATION

In normal conditions, (zero water request), the system is under static pressure.
The first time there is a water request, the compensation pump activates (if present), reinstating the system pressure.
In case of significant water request (activation of the fire-fighting sprinklers), the pressure drops until
the two pressure switches connected in series activate the main pump.
The two pressure switches must be calibrated to start the pumps at the following pressure values:

ONE-PUMP SETS	P = 0,8 X MAX PUMP PRESSURE	
TWO-PUMP SETS	PUMP 1: P1 = 0,8 X MAX PRESSURE	PUMP 2: P2 = 0,6 X MAX PRESSURE

E.g.: Max pump pressure 10 bar - pump 1 starts at 8 bar, pump 2 starts at 6 bar

The main pump continues to operate until it is manually stopped using the STOP pushbutton on the electric control panel.
In case of hydrant systems refer to UNI 10779 - July 07. In addition to prescribing feed pumps in compliance with UNI EN 12845, UNI 10779 allows automatic stopping of the pumps 20 minutes after the closing of the hydrants, in case of non permanently supervised operation. DAB pump sets are suitable for sprinkler systems with manual stop, and for hydrant systems with automatic stop.

PUMPS - UNI EN 12845

UNI EN 12845 (10.1) standard prescribes "Horizontal or vertical pumps with coinciding maximum and zero flow rate head. They can be driven by electric motor or Diesel engine. For HHP and HHS pre-calculated systems, they shall be able to supply 140 % of the flow rate at 70 % of the head of the operating point (100 %).

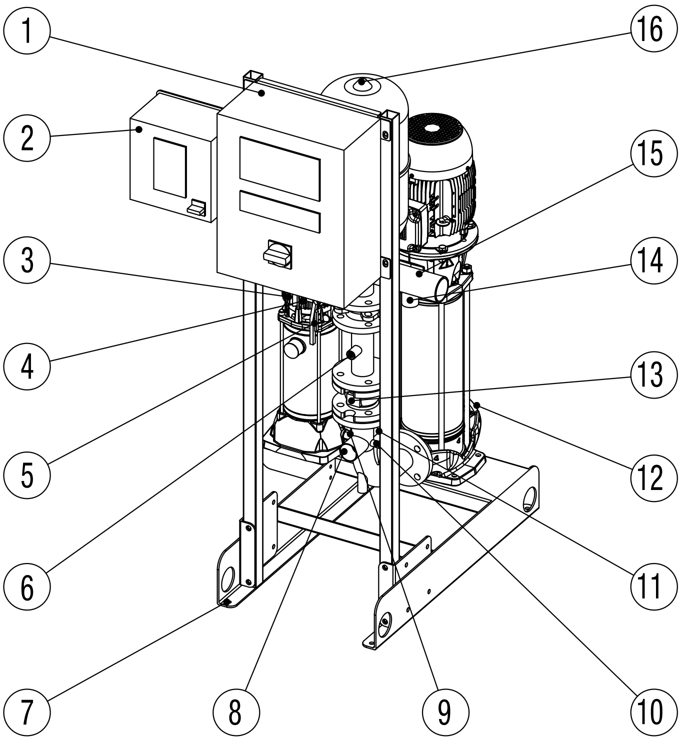
PRESSURE COMPENSATION PUMP - "JOCKEY"

The compensation pump (jockey) is a pump that intervenes when the collection of a small amount of water is required. This avoids pointless starts of the main pumps in case of small system leaks. DAB fire-fighting sets are available with and without jockey pump.

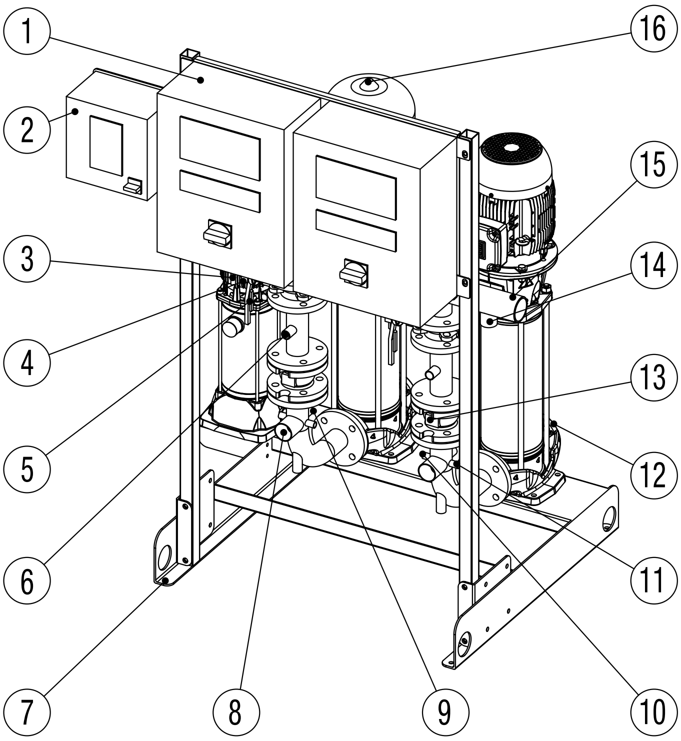
WARNING - NOTE

In case of higher or duplicated feed, only one electric pump can be used. According to the UNI EN 12825 (10.2) standard, “In applications in which more than one pump is installed with higher or duplicated feed, only one of the pumps will be electrically driven”.

N.	COMPONENTS
1	Independent control panel for each main pump
2	Jockey pump control panel
3	Jockey pump
4	Jockey pump pressure switch
5	Lockable shut-off valve
6	Start pressure switch circuit
7	Ground anchoring holes
8	2" connection for priming tank
9	¼" connection for water recirculation
10	Running pump pressure switch
11	Check valve test system
12	Independent suctions
13	Check valve on service pump
14	1" connection for pump room sprinkler flow switch
15	Unique delivery manifold
16	Jockey pump expansion vessel



N.	COMPONENTS
1	Independent control panel for each main pump
2	Jockey pump control panel
3	Jockey pump
4	Jockey pump pressure switch
5	Lockable shut-off valve
6	Start pressure switch circuit
7	Ground anchoring holes
8	2" connection for priming tank
9	¼" connection for water recirculation
10	Running pump pressure switch
11	Check valve test system
12	Independent suctions
13	Check valve on service pump
14	1" connection for pump room sprinkler flow switch
15	Unique delivery manifold
16	Jockey pump expansion vessel



ELECTRIC PUMP CONTROL PANEL

UNI EN 12845 FIRE-FIGHTING PUMP SETS

TECHNICAL DATA

Nominal power input voltage: 400 V +/- 5%
Phases: 3
Frequency: 50-60 Hz
Number of pumps that can be connected: 1
Maximum nominal power of use:
from 3 to 110 kW (depending on model).
Maximum nominal current of use: from 10 Amp to 250 Amp.
Ambient temperature operation limits: from +4 °C to +40 °C.
Relative humidity (without condensation):
50% at 40 °C MAX (90% a 20 °C)
Max. altitude: 3000 m (a.s.l.).
Protection class: IP55
Control panel construction:
According to EN60204, EN 60439-1, and UNI EN 12845/10779.

COMPONENTS

The control and protection panel includes the following components

INTERIOR OF CABINET
Connector for the powering of a GSM Modem (230 V, protected by fuse).
Motor protection fuses (aM type); current surge relay-motor protectors are not permitted by the standard.
Auxiliary circuit protection fuses (Gg type).
Direct pump starters (up to 15 kW).
Star/triangle starters (18,5 kW and over).
24 V auxiliary circuit transformers.
Alarm relay with terminal box for remote status control (as required by the UNI EN 12845 standard).
System start-up input connection terminal box.

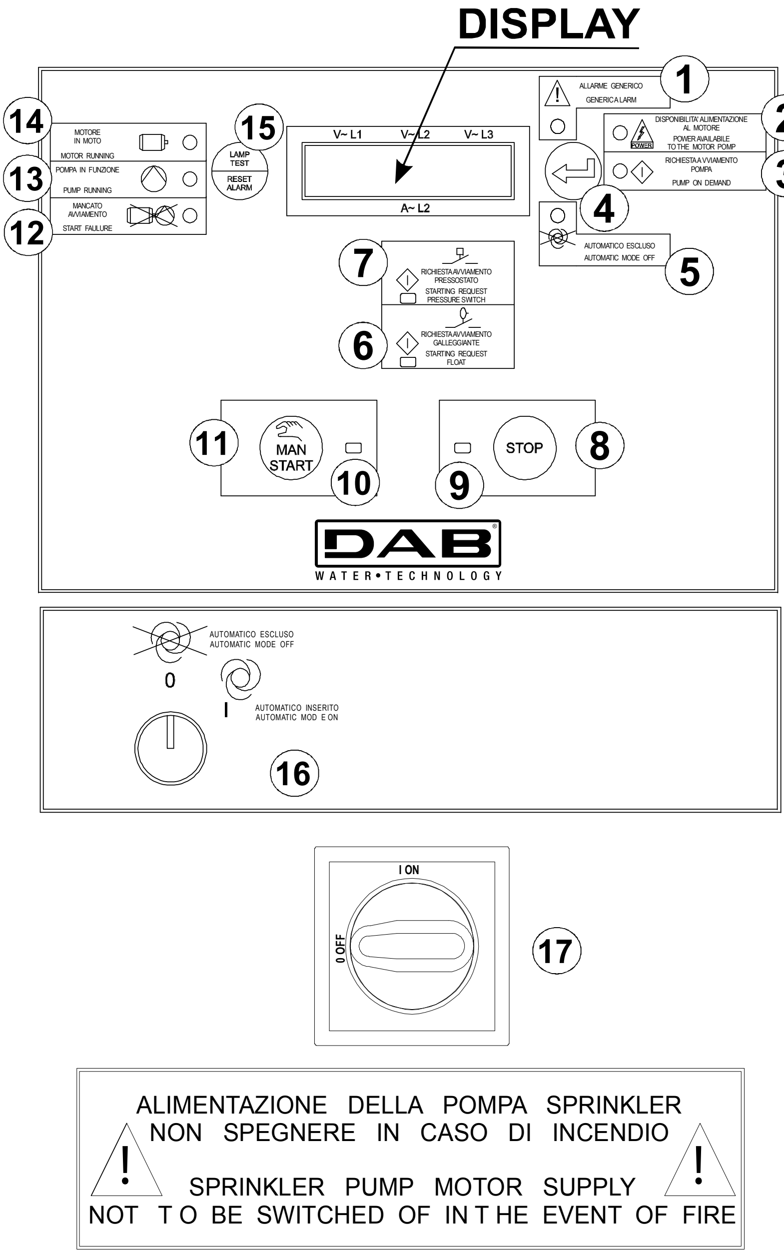
ON FRONT PANEL
Electric pump control unit with:
Multifunction instrument with display (voltmeter, ammeter, cosfi metre, wattmeter, alarms and status).
Start and stop pushbuttons.
Status and alarm notification lamps.
Alarm/notification lamp test pushbutton.
0 - 1 selector (0 = automatic disabled; 1 = automatic on), key removable only for position one (AUTOMATIC ON).

REMOTELY CONTROLLED ALARMS:
Voltage present.
Phase sequence.
Pump start request from the pressure switches.
Pump start request from priming tank.
Pump in operation.
Start failed.

The above alarms can be remotely controlled in the following ways:
With relay wiring to the alarm monitoring control panel (optional).
With RS-485 wiring to the alarm monitoring control panel (optional).
With GSM Modem inside the cabinet, for forwarding status and/or alarm signals (optional).

ELECTRIC PUMP CONTROL UNIT

The A1 electronic control unit supplied with the control panel offers the following features: automatic start from the pressure switches or the priming float switch, manual start, automatic monitoring of pump set faults and incorrect or unavailable power input voltage.

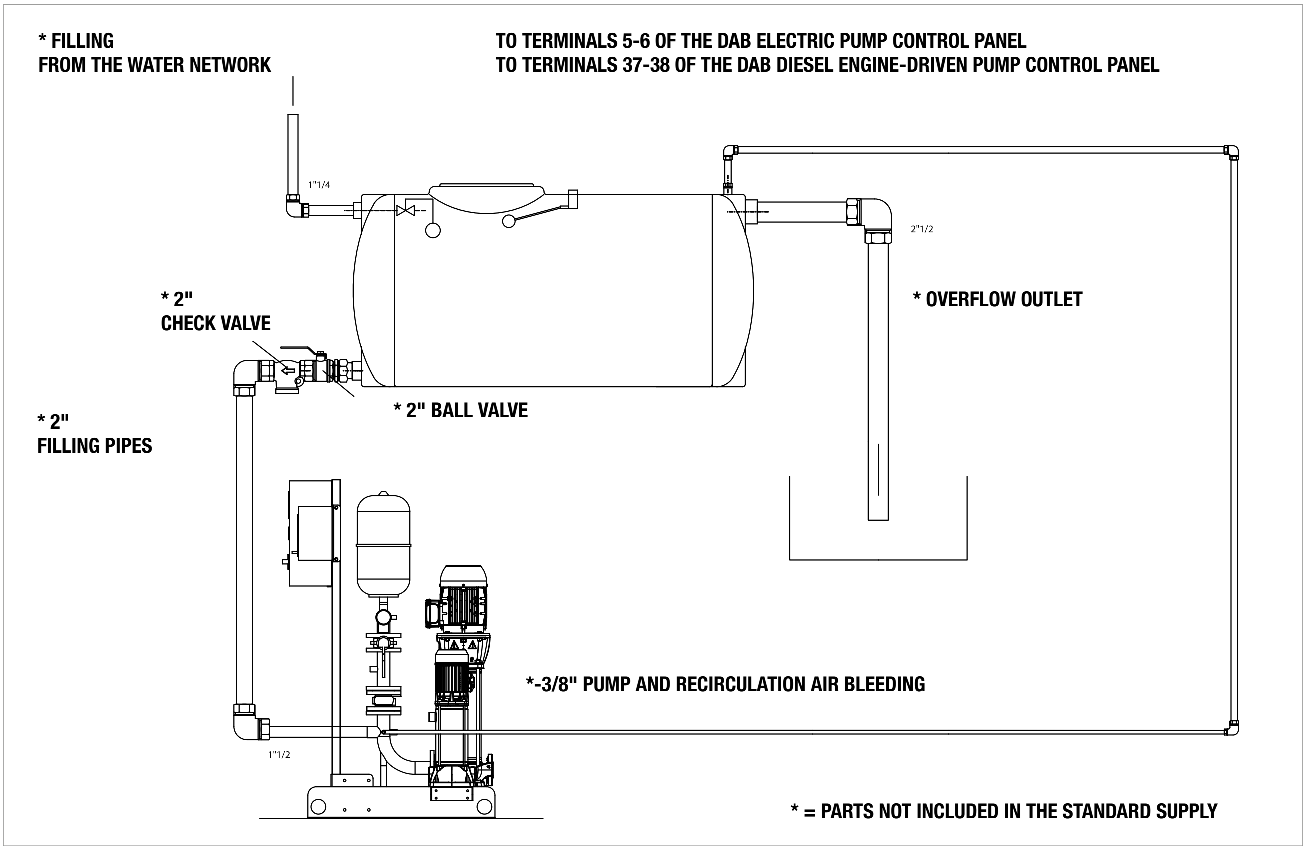


REF.	FUNCTION
1	LAMP - Generic alarm
2	LAMP - Power input to the motor detected
3	LAMP - Pump START request
4	Press to display the instruments
5	LAMP - Automatic start disabled
6	LAMP - START request from the priming tank float switch
7	LAMP - START request (call) from the pressure switches
8	MANUAL STOP pushbutton
9	LAMP - MANUAL STOP with STOP pushbutton notification

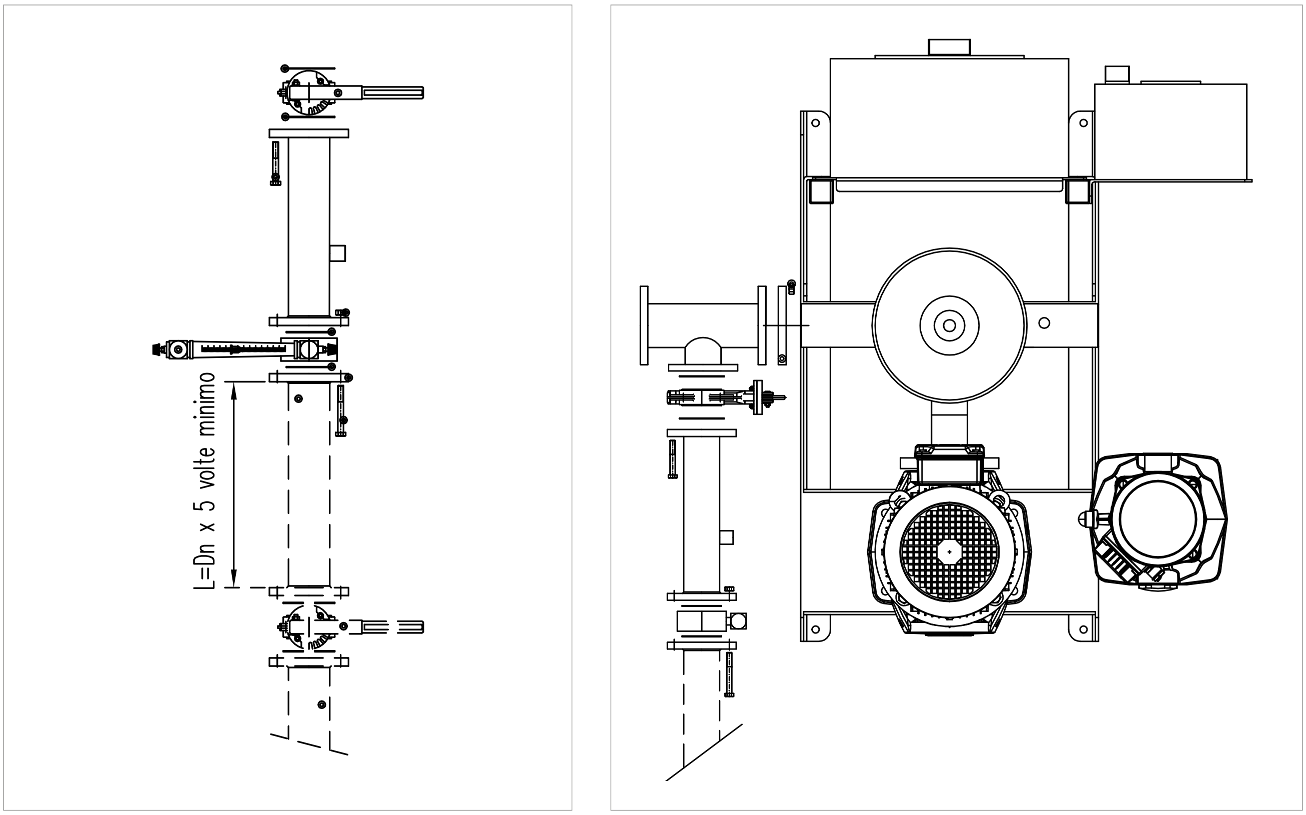
REF.	FUNCTION
10	LAMP - MANUAL START with MAN START pushbutton notification
11	MANUAL START pushbutton
12	LAMP - Start failed
13	LAMP - ELECTRIC PUMP RUNNING with motor running; detected by the electric pump running pressure switch
14	LAMP - MOTOR RUNNING; controlled by the ammeter detection
15	Reset lamp test pushbutton
16	Automatic mode disabling selector
17	Power input disconnection switch

UNI EN 12845 PRIMING TANK

One 500 l priming tank must be installed for each main pump, only in case of **positive suction feed.**



FLOW METER KIT

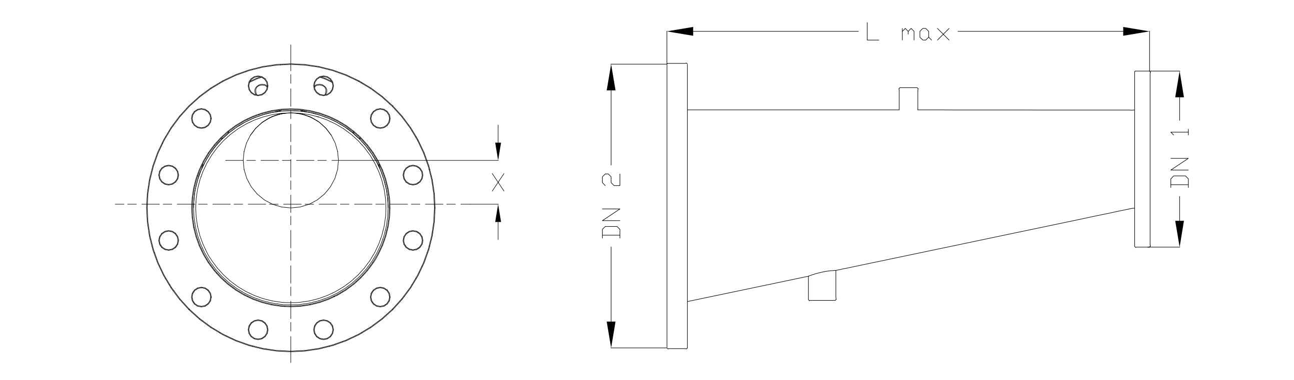


1/2 NKV

UNI EN 12845 FIRE-FIGHTING SETS WITH VERTICAL PUMPS

SUCTION KIT

The kit consists of a conical eccentric adaptor, screws and washers.
It is required in order to avoid air pockets at the suction, and to keep the water speed below 1,5 m/s, as required by section 10.6.2.3 of UNI EN 12845.
No. 1 kit must be installed at the suction of each main pump.



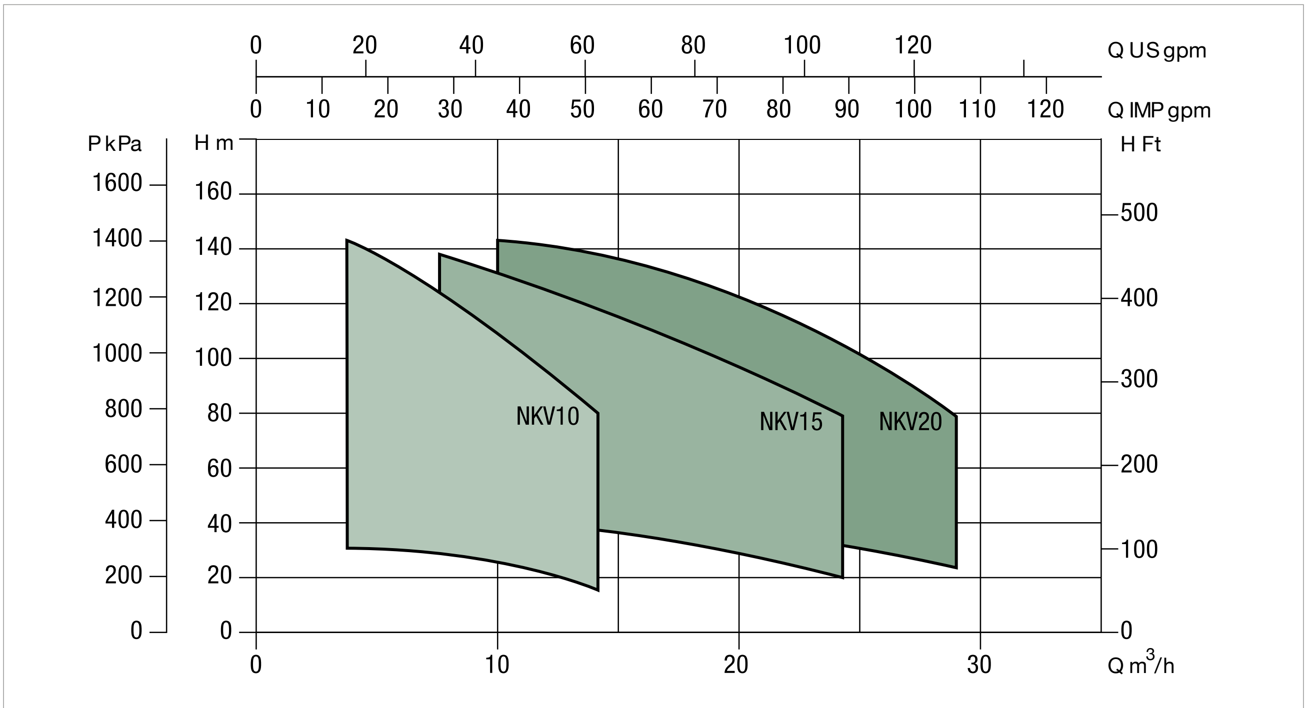
UNI EN 12845 ECCENTRIC SUCTION ADAPTORS					
PUMP MODEL	ADAPTOR MODEL	DN1 –PN 16 PUMP SIDE	DN2 – PN16 SYSTEM SIDE	L (mm)	X (mm)
NKV 10	KIT ASP.NKV10 EN12845 (DN65 - 19°)	DN 40	DN 65*	145	14
NKV 15 – NKV 20 KDN 32	KIT ASP.KDN32/NKV15-20 EN12845(DN80-19°)	DN 50	DN 80	200	14
KDN 40	KIT ASP.KDN40 EN12845 (DN100 - 19°)	DN 65	DN 100	235	19
KDN 50	KIT ASP.KDN50 EN12845 (DN125 - 19°)	DN 65	DN 125	320	32
KDN 65	KIT ASP.KDN65 EN12845 (DN150 - 19°)	DN 80	DN 150	380	40
KDN 80	KIT ASP.KDN80 EN12845 (DN200 - 19°)	DN 100	DN 200	570	52
KDN 100	KIT ASP.KDN100 EN12845 (DN250 - 19°)	DN 125	DN 250	685	67

*The standard requires DN 80 minimum for positive suction installations. In this case contact our sales network.

PERFORMANCE RANGE

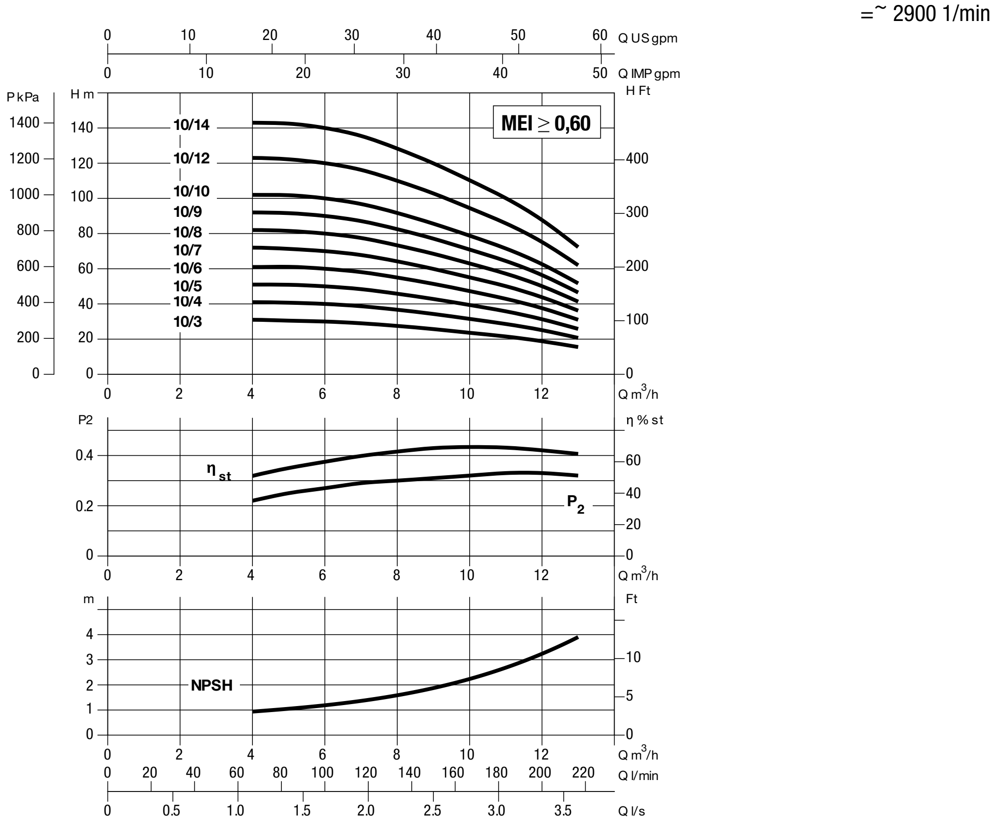
The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

GRAPHIC SELECTION TABLE



NKV 10 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C - **Maximum flow rate:** 13 m3/h



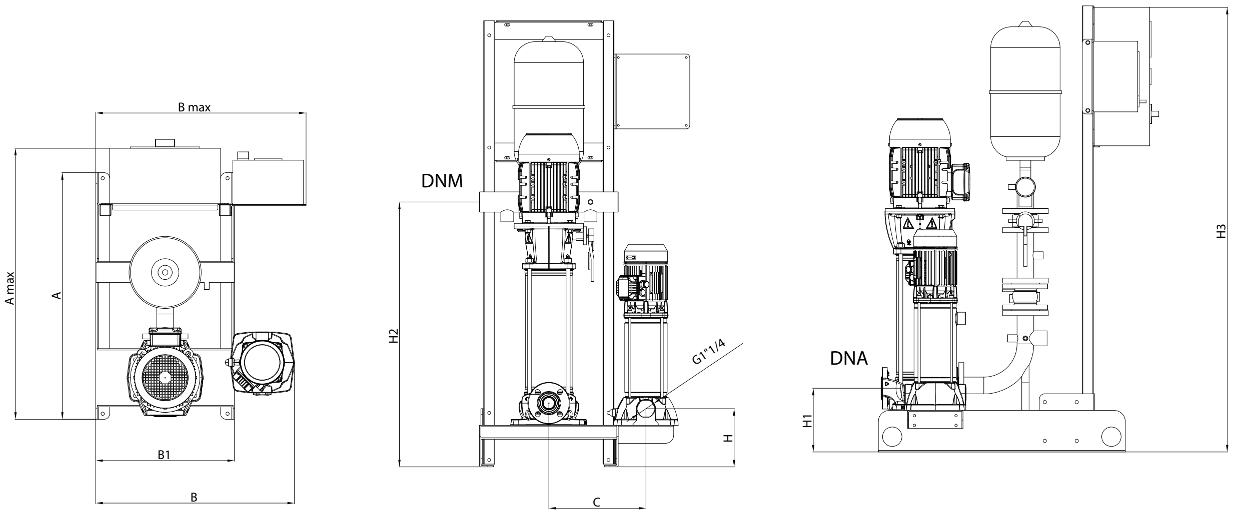
Performance curves and electric data referred to only one pump in operation.

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

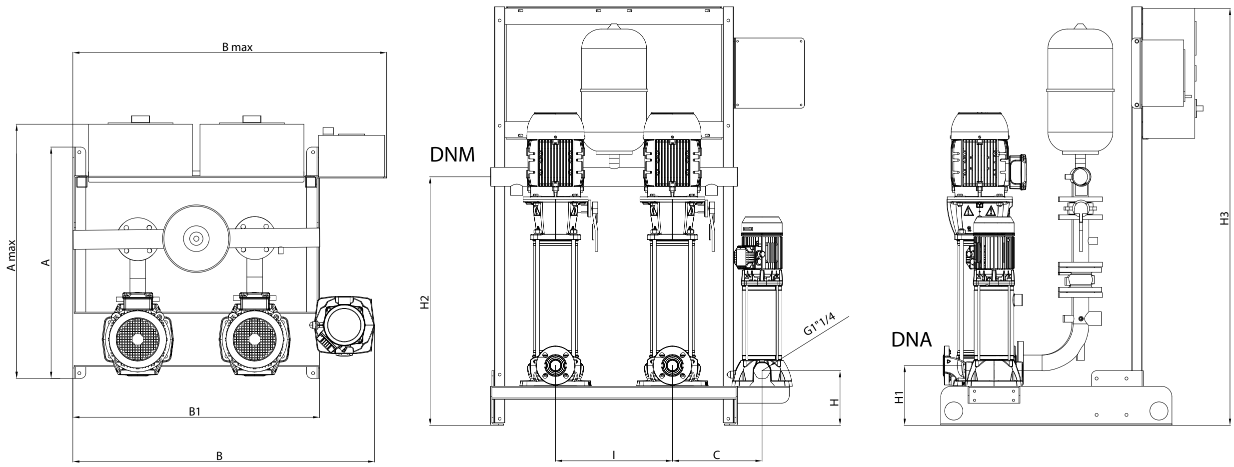
MODEL	ELECTRICAL DATA			
	POWER INPUT 50 Hz	P2 NOMINAL		In A
		kW	HP	
NKV 10/3	3x400 V	1,10	1,5	2,36
NKV 10/4	3x400 V	1,50	2	3,35
NKV 10/5	3x400 V	2,2	3	4,75
NKV 10/6	3x400 V	2,2	3	4,75
NKV 10/7	3x400 V	3,0	4	5,85
NKV 10/8	3x400 V	3,0	4	5,85
NKV 10/9	3x400 V	3,0	4	5,85
NKV 10/10	3x400 V	4,0	5,5	8,05
NKV 10/12	3x400 V	4,0	5,5	8,05
NKV 10/14	3x400 V	5,5	7,5	10,4

NKV 10 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

ELECTRIC PUMP SET 1



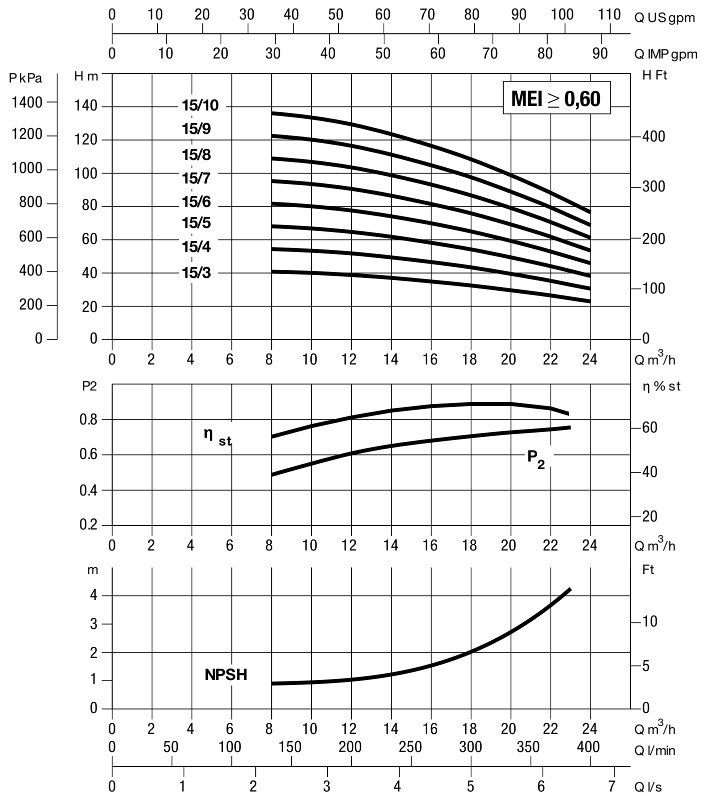
ELECTRIC PUMP SET 2



MODEL	A	A max	B	B1	B max	C	I	H	H1	H2	H3	DNA	DNM
1 NKV10	1000	1100	700	500	745	350	-	210	230	960	1600	40	2"
2 NKV10	1000	1100	1100	950	1200	350	450	210	230	960	1600	40	2"

NKV 15 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C - **Maximum flow rate:** 24 m^3/h



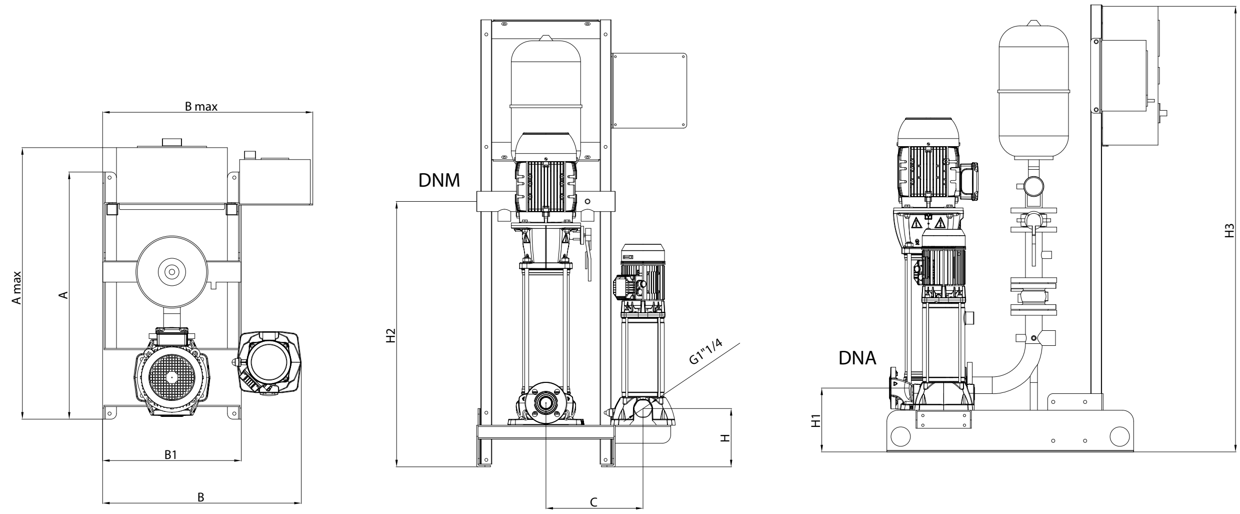
Performance curves and electric data referred to only one pump in operation.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

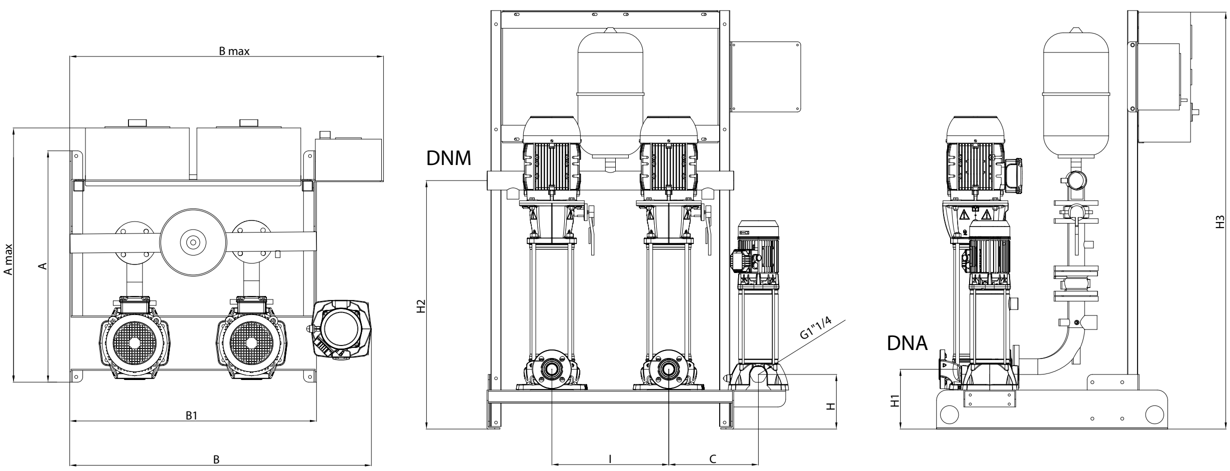
MODEL	ELECTRICAL DATA			
	POWER INPUT 50 Hz	P2 NOMINAL		In A
		kW	HP	
NKV 15/3	3x400 V	3,00	4	5,85
NKV 15/4	3x400 V	4,00	5,5	8,05
NKV 15/5	3x400 V	4,00	5,5	8,05
NKV 15/6	3x400 V	5,5	7,5	10,4
NKV 15/7	3x400 V	5,5	7,5	10,4
NKV 15/8	3x400 V	7,5	10	13,4
NKV 15/9	3x400 V	7,5	10	13,4
NKV 15/10	3x400 V	11,0	15	13,4

NKV 15 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

ELECTRIC PUMP SET 1



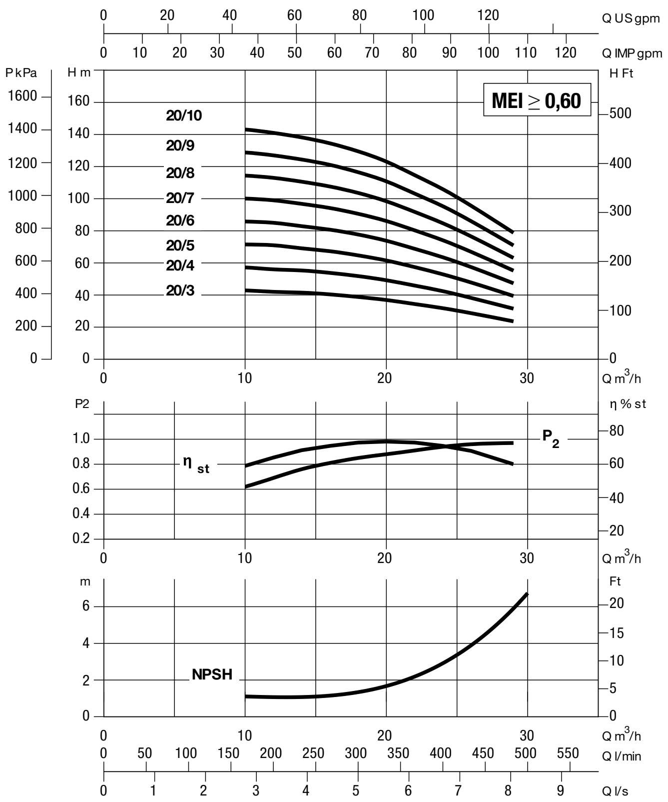
ELECTRIC PUMP SET 2



MODEL	A	A max	B	B1	B max	C	I	H	H1	H2	H3	DNA	DNM
1 NKV15	1000	1100	700	500	745	350	-	210	240	970	1600	50	2" 1/2
2 NKV15	1000	1100	1100	950	1200	350	450	210	240	970	1600	50	2" 1/2

NKV 20 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

Pumped liquid temperature range: from -15 °C to +70 °C - **Maximum ambient temperature:** from +4 °C to +40 °C - **Maximum flow rate:** 29 m^3/h



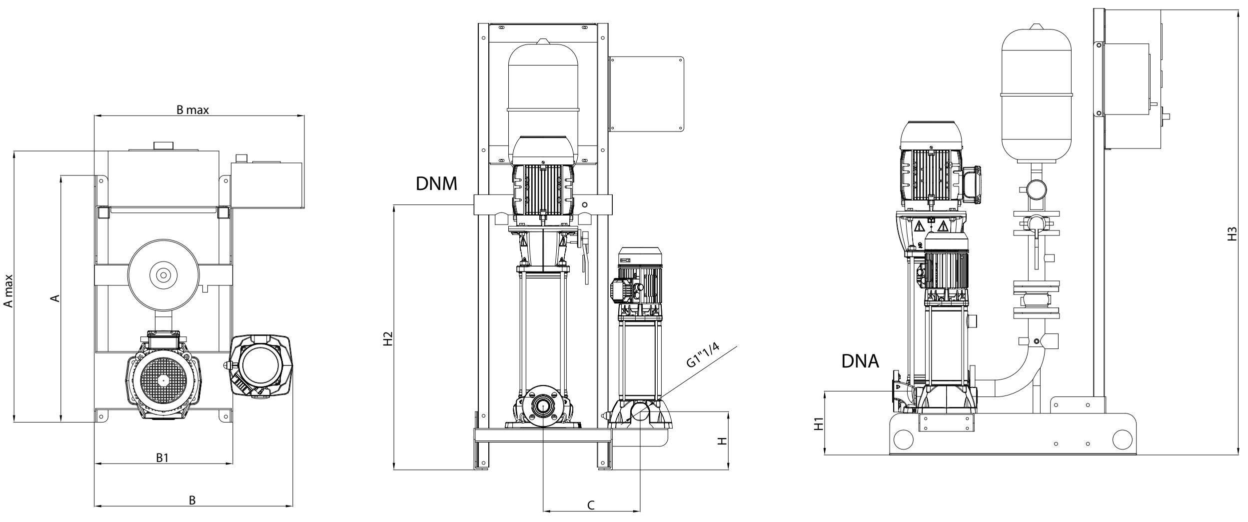
Performance curves and electric data referred to only one pump in operation.

The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

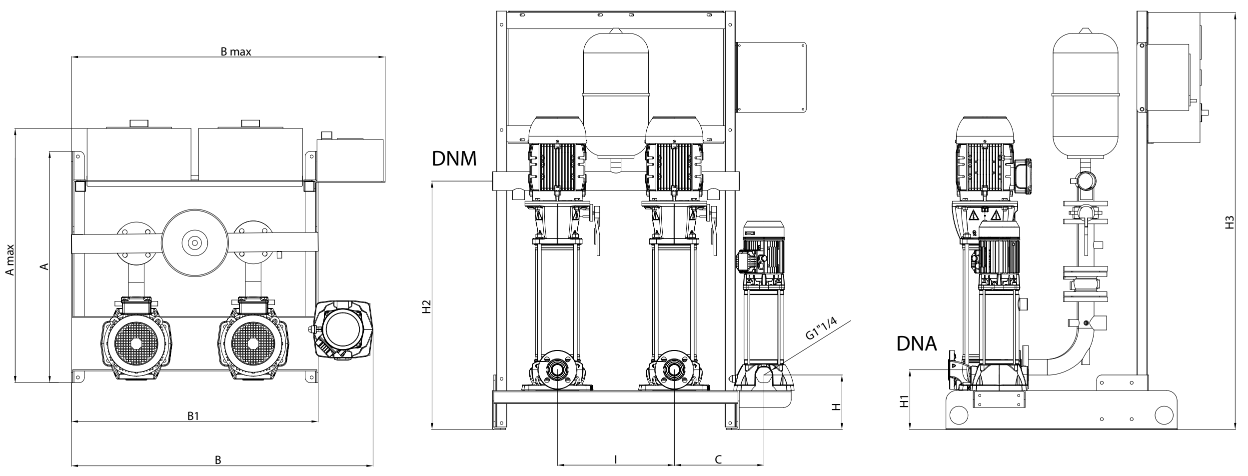
MODEL	ELECTRICAL DATA			
	POWER INPUT 50 Hz	P2 NOMINAL		In A
		kW	HP	
NKV 20/3	3x400 V	4,00	5,5	7,6
NKV 20/4	3x400 V	5,50	7,5	11
NKV 20/5	3x400 V	5,50	7,5	11
NKV 20/6	3x400 V	7,5	10	14,8
NKV 20/7	3x400 V	7,5	10	14,8
NKV 20/8	3x400 V	11,0	15	22,4
NKV 20/9	3x400 V	11,0	15	22,4
NKV 20/10	3x400 V	11,0	15	22,4

NKV 20 - UNI EN 12845 FIRE-FIGHTING PUMP SETS

ELECTRIC PUMP SET 1



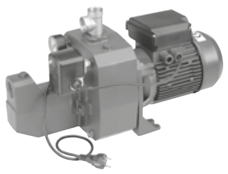
ELECTRIC PUMP SET 2



MODEL	A	A max	B	B1	B max	C	I	H	H1	H2	H3	DNA	DNM
1 NKV20	1000	1100	700	500	745	350	-	210	240	970	1600	50	2" 1/2
2 NKV20	1000	1100	1100	950	1200	350	450	210	240	970	1600	50	2" 1/2

ACCESSORIES

SUCTION KIT		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	The kit is composed of an eccentric cone with screws, nuts and seals. It maintains the water speed in suction below 1.5 m/s and prevents the formation of air pockets. The following is required: - 1 KIT for 1NKV units - 2 KITS for units 2NKV	**SUCTION KIT FOR NKV 10 EN 12845 (DN 65)**		•		
		SUCTION KIT KDN 32 EN (DN 80)	•	•		
		SUCTION KIT KDN 40 EN (DN 100)	•			
		SUCTION KIT KDN 50 EN (DN 125)	•			
		SUCTION KIT KDN 65 EN (DN 150)	•			
		SUCTION KIT KDN 80 EN (DN 200)	•			
		SUCTION KIT KDN 80-250/80-315 EN (DN 250)	•			
		SUCTION KIT KDN 100 EN (DN 250)	•			

KIT PUMP SYSTEM		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	including 18 l expansion vessel, electric control panel, valves for the connection of the jockey pump to the main KDN pump.	**PUMP SYSTEM JET 251 T EN 12845**	•			•
		**PUMP SYSTEM DIVER 150 T EN 12845**				•
		PUMP SYSTEM DIVER 200 T EN 12845				•

JONT MANIFOLD KIT		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	Only in the case of units comprising two modules (electric pump and/or Diesel pump) 1 coupling KIT is required.	**JOINT MANIFOLD KIT 2KDN 32 EN COMPACT**	•			
		JOINT MANIFOLD KIT 2KDN 40 EN COMPACT	•			
		JOINT MANIFOLD KIT 2KDN 50 EN COMPACT	•			•
		JOINT MANIFOLD KIT 2KDN 65 EN COMPACT	•			
		JOINT MANIFOLD KIT 2KDN 80 EN COMPACT	•			•
		JOINT MANIFOLD KIT 2KDN 100 EN COMPACT	•			•

BUTTERFLY VALVE		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	Required for pump maintenance, in case of flooded suction installations. The following is required: • N. 1 BUTTERFLY VALVE for units 1KDN (electric or diesel). • N.1 VALVE for units 1NKV and 2 VALVES for units 2NKV	**BUTTERFLY VALVE DN 65**		•		
		BUTTERFLY VALVE DN 80 - KDN 32 - NKV 15-20	•	•		
		BUTTERFLY VALVE DN 100 - KDN 40	•			
		BUTTERFLY VALVE DN 125 - KDN 50	•			
		BUTTERFLY VALVE DN 150 - KDN 65	•			
		BUTTERFLY VALVE DN 200 - KDN 80	•			
		BUTTERFLY VALVE DN 250 - KDN 100	•			

FOOT VALVE WITH FILTER		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	These are required to maintain priming of the pump suction, in overhead installations. The following is required: • 1 FOOT VALVE for each 1KDN set (electric or Diesel). • 1 VALVE for units 1NKV and 2 VALVES for units 2NKV	**FOOT VALVE WITH FILTER DN 65**		•		
		FOOT VALVE WITH FILTER DN 80	•	•		
		FOOT VALVE WITH FILTER DN 100	•			
		FOOT VALVE WITH FILTER DN 125	•			
		FOOT VALVE WITH FILTER DN 150	•			
		FOOT VALVE WITH FILTER DN 200	•			
		FOOT VALVE WITH FILTER DN 250	•			

ANTI-VIBRATION COUPLING FOR SUCTION LINES		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	The antivibration coupling is utilised to reduce the amount of vibration transmitted to the system, this being especially important when the prime mover is a Diesel engine. • 1 COUPLING is sufficient for 1 KDN sets (electric or Diesel) (Not compulsory according to UNI EN 12845) • 1 COUPLING is necessary for 1NKV units and 2 COUPLINGS for 2NKV unit	**ANTVIBR. FLANG. JOINT DN65 PN16**		•		
		ANTVIBR. FLANG. JOINT DN80 PN16	•	•		
		ANTVIBR. FLANG. JOINT DN100 PN16	•			
		ANTVIBR. FLANG. JOINT DN125 PN16	•			
		ANTVIBR. FLANG. JOINT DN150 PN16	•			
		ANTVIBR. FLANG. JOINT DN200 PN16	•			
		ANTVIBR. FLANG. JOINT DN250 PN16	•			

ANTIVIBRATION COUPLINGS FOR DISCHARGE MANIFOLDS		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	The antivibration coupling is utilised to reduce the amount of vibration transmitted to the system, this being especially important when the prime mover is a Diesel engine. - 1 COUPLING is sufficient for 1 or 2 KDN sets (electric or Diesel) (Not compulsory according to UNI EN 12845) - 1 COUPLING is sufficient for 1 or 2 NKV sets (electric or Diesel) (Not compulsory according to UNI EN 12845)	**ANTI-VIBRATING JOINT 2" - KDN 32**	•	•		
		ANTI-VIBRATING JOINT 2" 1/2 - KDN 40	•	•		
		ANTI-VIBRATING JOINT DN 80 - KDN 50	•	•		•
		ANTI-VIBRATING JOINT DN 100 - KDN 65	•			
		ANTI-VIBRATING JOINT DN 125 - KDN 80	•			•
		ANTI-VIBRATING JOINT DN 150 - KDN 100	•			•

ACCESSORIES

UNI EN 12845 FIRE-FIGHTING SETS

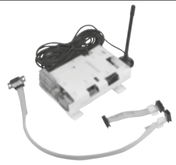
FLOW METER KIT		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	The measuring kit with flow meter must be installed on a branch on the delivery manifold of the set. • 1 MEASURING KIT is sufficient for both 1 and 2 1KDN and 1KVT sets (electric or diesel) • 1 flow meter KIT is sufficient for both 1NKV and 2NKV sets.	1 S4 - EN 12845 - FLOW METER KIT			•	
		1 SS6 - EN 12845 - FLOW METER KIT			•	
		1 SS7 - 1 SS8 - EN 12845 - FLOW METER KIT			•	
		FLOW METER KIT - NKV 10 EN 12845		•		
		FLOW METER KIT KDN 100 EN		•		
		FLOW METER KIT KDN 32 EN COMPACT	•			
		FLOW METER KIT KDN 40 EN COMPACT	•			
		FLOW METER KIT KDN 50 EN COMPACT	•			•
		FLOW METER KIT KDN 65 EN COMPACT	•			
		FLOW METER KIT KDN 80 EN COMPACT	•			•
		FLOW METER KIT KDN 100 EN COMPACT	•			•

FLOW METER		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	Single flow meter (measuring device) to be installed on the delivery	FLOW METER DN 40 (3,5-25 m3/h) 1-2 NKV 10 -1S4		•	•	
		FLOW METER DN 50 (7-50 m3/h) KDN 32 - NKV 15-20	•	•		
		FLOW METER DN 65 (10-80 m3/h) KDN 40 - SS6	•		•	
		FLOW METER DN 80 (17,5-130 m3/h) KDN 50	•			•
		FLOW METER DN 100 (25-200 m3/h) KDN 65 - SS7 - SS8	•		•	
		FLOW METER DN 125 (40-300 m3/h) KDN 80	•			•
		FLOW METER DN 150 (45-350 m3/h) KDN 100	•			•

SPARE PART KIT FOR DIESEL ENGINE		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	Each kit is composed of: a) 2 sets of filter elements and relative seals for fuel; b) 2 sets of filter elements and relative seals for lubricant; c) 2 sets of belts d) 1 complete set of couplings, seals and hoses for the motor; e) 2 injector nozzles.	SPARE PART KIT FOR DIESEL ENGINE 7.1-KW(15LD)	•			•
		SPARE PART KIT FOR DIESEL ENGINE 11-KW (25LD)	•			•
		SPARE PART KIT FOR DIESEL ENGINE 15-KW (12LD)	•			•
		SPARE PART KIT FOR DIESEL ENGINE 19-KW (9LD)	•			•
		SPARE PART KIT FOR DIESEL ENGINE 26-KW (11LD)	•			•
		SPARE PART KIT FOR DIESEL ENGINE 37-53-KW (D703)	•			•
		SPARE PART KIT FOR DIESEL ENGINE 73-KW (D754)	•			•
		SPARE PART KIT FOR DIESEL ENGINE 110-KW (D756)	•			•

REMOTE ALARM SIGNAL PANEL		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	Suitable for sets with 1 to 3 pumps	REMOTE ALARM SIGNAL PANEL E.FIRE MONITOR (EN 12845)	•	•	•	•

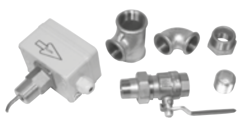
REMOTE ALARM SIGNAL PANEL		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	Suitable for sets with 1 or 2 pumps	**REMOTE ALARM SIGNAL PANEL CSR 1**	•	•	•	•

GSM MODULE		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	Delivery of alarm signal to mobile phone	**GSM MODULE for CSR1**	•	•	•	•

PRIMING TANK		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	N. 1 per pump	**PRIMING TANK (500 LT.) EN 12845**	•	•		

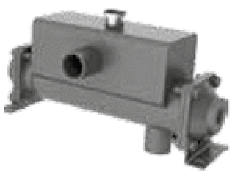
FOOT VALVE WITH STRAINER		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	No. 1 for each pump	**FOOT VALVE WITH STRAINER VR3**				•
		FOOT VALVE WITH STRAINER VR6				•

ANTI-VORTEX DISPOSITIVE		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	Vortex prevention plate, to be installed between the cork plug and the pump body, to maximise the actual capacity of the water reserves No. 1 for each pump	**ANTI-VORTEX DISPOSITIVE FOR SU3 AND VR3**				•
		ANTI-VORTEX DISPOSITIVE FOR SU6 AND VR6				•

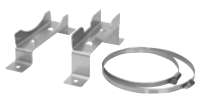
KIT FLOW SWITCH		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	Suitable for sets with 1 or 2 pumps	**KIT FLOW SWITCH 1” EN 12845**	•	•	•	•

RECYCLE FLOW INDICATOR		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
		**RECYCLE FLOW INDICATOR 3/4”**	•			•

GASOLINE HARVESTER TANK		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
	For 1KDN sets with diesel engines between 15 and 26 kW included. 15 to 26 kW engines	**GASOLINE HARVESTER FOR 50 L TANK (eng. up to 26 kW)**	•			
	For 1KDN and 1KVT sets with diesel engines between 37 and 110 kW included. 37 to 110 kW engines	**GASOLINE HARVESTER FOR 125 L TANK (eng. 37-103 kW)**	•			•

DIESEL ENGINE WITH HEAT EXCHANGER		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
 * Surcharge to be added to standard versions	All fire-fighting sets with diesel engine driven pumps and powers starting from 37 kW are equipped as standard with radiator cooling systems. On request, water/water heat exchanger cooled diesel engines are also available, subject to a surcharge to be added to the list prices for diesel engine driven pumps with standard radiator cooling system*	**HEAT EXCHANGER WATER/WATER FOR DIESEL ENGINE OF 37 kW**	•			•
		HEAT EXCHANGER WATER/WATER FOR DIESEL ENGINE OF 53 KW	•			•
		HEAT EXCHANGER WATER/WATER FOR DIESEL ENGINE OF 73.5 KW	•			•
		HEAT EXCHANGER WATER/WATER FOR DIESEL ENGINE OF 110 KW	•			•

COOLING SLEEVE KIT		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
		**KIT COOLING PIPE 4" L.400**			•	
		KIT COOLING PIPE 4" L.525			•	
		KIT COOLING PIPE 4" L.885			•	
		COOLING SLEEVE KIT L. 725			•	
		COOLING SLEEVE KIT L. 960			•	
		COOLING SLEEVE KIT L. 1.220			•	
		COOLING SLEEVE KIT L. 1.490			•	

HORIZONTAL POSITIONING KIT		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
		**HORIZONTAL POSITIONING KIT 4”**			•	
		HORIZONTAL POSITIONING KIT 6”			•	

FILTER KIT		DESCRIPTION	KDN	1/2 NKV	S4 - SS 6/7/8	KVT
		**FILTER KIT 4”**			•	
		FILTER KIT 6”			•	

TECHNICAL APPENDIX

NOTES ON UNI EN 12845

UNI EN 12845, the Italian version of European Standard EN 12845, sets the design, installation and maintenance criteria for sprinkler systems. An automatic sprinkler system is designed to detect the presence of fire and extinguish it during the initial stages, or to keep flames under control until they can be extinguished fully using other means. The classic sprinkler system is composed of: a water source, a fire-fighting pump unit, a series of control valves, and a sprinkler circuit.

COMPOSITION OF THE PUMP SETS

The pumps of UNI EN 12845 sets will have the same characteristics; in addition:
- if TWO pumps are installed, each pump must deliver the total system load (100 %),
- if THREE pumps are installed, each pump must deliver 50 % of the load required by the design.

“In applications in which more than one pump is installed with higher or duplicated feed, only one of the pumps will be electrically driven (section 10.2 of the standard)”.

This means that in applications with higher or duplicated feed, the sets will consist of:
- No. 1 electric or Diesel pump (100 %)
- No. 1 electric pump + No. 1 Diesel pump (100 % + 100 %)
- No. 1 electric pump + No. 2 Diesel pumps (50 % + 50 % + 50 %)
- No. 3 Diesel pumps (+ 50 % + 50 % + 50 %)

In case of single water supply, there are no limitations on the number of electric pumps that can be installed.
DAB provides "modular" type sets, so that all the versions contemplated by the UNI EN 12845 standard

- OPERATION OF UNI EN 12845 FIRE-FIGHTING PUMP SETS - CAN BE COMPLETED.

In normal conditions, (zero water request), the system is under static pressure. The first time there is a water request, the compensation pump activates (if present), reinstating the system pressure. In case of significant water request (activation of the fire-fighting sprinklers) the pressure drops until two pressure switches connected in series (contact N.C. under pressure) activate the main pump (electric or Diesel). The two pressure switches must be calibrated to start the pumps at the following pressure values:
- **One pump sets --> pressure switches calibrated at 80 % of the maximum pressure**
- **Two pump sets --> pressure switches of pump one calibrated at 80 %, and pressure switches of pump two calibrated at 60 % of the maximum pressure.**

<u>(E.g. Max pump pressure 10 bar - pump 1 starts at 8 bar, pump 2 starts at 6 bar).</u>

Note: DAB modules are supplied individually, and therefore the calibration of the pressure switches in case of sets consisting of several pump must be performed on location.

The main pump continues to operate until it is manually stopped using the STOP pushbutton on the electric control panel. In case of hydrant systems refer to UNI 10779 - July 07.

In addition to prescribing feed pumps in compliance with UNI EN 12845, UNI 10779 allows automatic stopping of the pumps 20 minutes after the closing of the hydrants, in case of non permanently supervised operation. DAB sets are ready for both manual stop sprinkler systems and automatic stop hydrant systems (the factory settings are for sprinkler systems).

PUMPS - UNI EN 12845

The UNI EN 12845 (10.1) standard prescribes "Horizontal or (preferably) vertical pumps with coinciding maximum and zero flow rate head. They can be driven by electric motor or Diesel engine. For HHP and HHS pre-calculated systems, they shall be able to supply 140 % of the flow rate at 70 % of the head of the operating point (100 %). The transmission coupling between motor and pump must ensure that both can be removed independently, so that the internal parts of the pump may be removed without affecting the pipeline. Axial suction pumps will be of the "back pull-out" type.

In order to fully meet the above requirements, DAB uses standardised pumps with spacer coupling, both for the electric motor and the Diesel engine version.

PRESSURE COMPENSATION PUMP - "JOCKEY"

The compensation pump (jockey) is a pump that intervenes when the collection of a small amount of water is required. This avoids pointless starts of the main pumps in case of small system leaks. The DAB fire-fighting sets are available with or without JOCKEY.

MAINTENANCE AND REGULAR CHECKS

MAINTENANCE, INSPECTION, AND CHECKS

The UNI EN 12845 standard gives a lot of importance to the maintenance of the system, including the pump set.
The system must always be in perfect efficient condition.

According to section 20.1.1 of the UNI EN 12845 standard, the user must follow a plan of inspections and checks, establish a test, support, and maintenance program, document and record the activities, keeping such documentation in an appropriate folder in the building.
The user must ensure that the test, support, and maintenance program is followed under contract by the system installer, or **by a similarly qualified company.**

The installer shall provide to the user a system control and inspection procedure, paying particular attention to the operation of the system, and the manual pump emergency start procedures.

WEEKLY CHECK (to be performed at intervals not exceeding 7 days)

The following values must be checked and recorded:
- pressure at the pressure gauges
- water levels in the tanks - water reservoirs
- correct position of the shut-off valves

Perform an automatic pump start test (both for electric and Diesel pumps) following the procedure below:

a) Open the manual test valve.
b) Check that the pump starts, and record the start pressure.
c) Close the manual test valve.
   In case of Diesel engine, this must be left running for at least 5 minutes.
d) Stop the pump using the STOP pushbutton.
e) PROCEDURE FOR DIESEL ENGINE-DRIVEN PUMPS.
   Immediately after the stop, the Diesel engine-driven pump must be restarted using the manual start pushbutton "OPERATE MANUAL START".
f) Stop the pump using the STOP pushbutton.

The oil pressure and the water flow in engines with heat exchanger will be monitored during the test.

MONTHLY CHECK

Check the level and the specific gravity of the start-up battery acid using a densimeter. If the specific gravity of the acid is low, check the battery charger and, if necessary, change the batteries.

THREE-MONTHLY CHECK

(at intervals of no more than 13 weeks – 20.3.2)
Check any modifications in the system, change of the risk class, etc.
Check the sprinklers, pipelines, and pipeline supporting systems.
Start the pumps, and check pressure and flow rate.
Check the operation of any generator sets connected to the system.
Check the correct position of the shut-off valves.

SIX-MONTHLY CHECK

(at intervals of no more than 13 weeks – 20.3.3)
Check the dry alarm valves (in the system).
Check that the alarms in the local control room and/or Fire Department control room are working correctly.

YEARLY CHECK

(at intervals of no more than 12 months)
Check the operation of the feed pumps at full load and any start failures

THREE-YEARLY CHECK

Check the tanks for any external and INTERNAL corrosion and reapply any protective coating if necessary.
Check shut-off and check valves and replace as necessary.

TEN-YEARLY CHECK

After no more than 10 years clean all tanks and check the internal structure.

GENERAL SERVICE CONDITIONS

REPAIR AT AUTHORISED TECHNICAL SUPPORT CENTRES

In order to guarantee the technical support for its movable products, DAB takes advantage of a capillary network of authorised Technical Support Centres (TSC), the full list of which can be found below, and to which the product can be sent or taken for repair.
For products that cannot be removed from their installation positions, it is possible to ask the TSC to intervene on site. In any case, the intervention will need to be authorised in advanced by Customer Service.
TSCs are authorised to apply on behalf of DAB the terms of the warranty for defective products. However, the warranty is subjected to the compliance by the customer with the warranty terms, and to the technical analysis carried out by the TSC to confirm the defect. In order to take advantage of the warranty, the product must be accompanied by proof of purchase, and must not have been previously disassembled or tampered with.
If the intervention or repair of the product is outside the terms of the warranty, the cost for the service provided will be decided by the TSC.

ON-SITE FIRST START-UP TECHNICAL ACTIVITIES - REQUEST OF INTERVENTION

DAB guarantees on-site technical interventions for complex pumping systems, such as pressurization sets/variable speed systems, or fire-fighting pressurisation sets that after installation require to be put into service by a specialist technician capable to show how to operate the equipment correctly, and how to set the installation parameters.
On-site technical interventions are carried out by TSCs possessing specific and appropriate technical skills. The first start-up technical interventions may be purchased directly from DAB when purchasing the pressurisation set / variable speed system.
The purchase of the first start-up service gives the right, during the 24 months following the first start-up of the equipment, to free of charge on-site interventions, provided that these are within the terms of the warranty (see section 6 of the General Sales Conditions).

LIMITS OF THE INTERVENTION

Before the intervention takes place, make sure that everything has been set to enable it to be completed: complete installation of the set, hydraulic and electric connections, availability of electricity, availability of pumped liquid, oil for Diesel engines, pump/motor coupling alignment, etc...
The technical intervention is subjected to positive results of all the safety checks that the technician will carry out before the same.
During the intervention, personnel appointed by the customer must be present, capable of carrying out any necessary system sectioning and regulation activities that may be required for the completion of the same. In addition, the personnel in charge of the site shall be at the disposal of the technician for all the time required for the completion of the intervention.
Any waiting or stop times for any reasons that cannot be attributed to our technician, will be debited to the customer as labour costs.
Any equipment required for moving the equipment shall be made available and used by the customer.

FIRE-FIGHTING PUMP ROOMS

The Italian standard of reference for correct realisation of technical rooms intended for housing fire-fighting pump sets is the **UNI 11292** (August 2008). Here are some extracts of the standard.

LOCATION OF PUMP ROOMS

The rooms shall be above ground or underground, and separated, in adjoining positions, within the protected building.
- Access must be easy (also in case of system in operation), and well indicated.
- The doors of the rooms, made of non-combustible material, must be at least **2 m high, and 0,80 m wide.**
- The possibility of easily introducing /removing the main components must be guaranteed.

CHARACTERISTICS OF THE ROOMS

- The rooms must be naturally ventilated by permanent openings (of at least 0,1 m^2)
- The internal walls must be a pale colour, preferably white.
- The minimum sizes must enable to carry out maintenance activities in safe conditions.
- The minimum height of the room must be 2,4 metres.
- The width of the working area around the pumping set must be at least **0,80 m on three side of each set.**

FUNCTIONAL FEATURES:

- The 200 lux lighting system must guarantee at least 25 lux for 60 minutes in case of black out.
- The room must have a draining system for any water discharge.
- Underground rooms must be connected to a sewer system with a flow rate capacity of at least 20 m^3/h.
  If this is not possible, at least TWO draining pumps shall be required (one as a back-up to the other) with minimum flow rate not more than 5 % lower than the
  maximum flow rate of the set (and in any case not less than 10 m^3/h).
  One of them must be connected to an emergency power input line with autonomy of 30 min. in case of black out.
- Any fault of the draining pumps must be notified at a manned location.

OPERATIONS FOR THE DIESEL ENGINE-DRIVEN PUMP.

Although more reliable when compared with the electric pump (it also works in case of black out), the Diesel engine-driven pump needs specific measures to avoid excessive noise, vibration, contamination from discharge gases, overheating.

Below are some measures to implement to ensure maximum efficiency.
Diesel engine-driven pump discharge gases. Always channel any discharge gases to the outside of the pump room, using appropriate dedicate exhaust ducts connected to the silencing muffler supplied with the Diesel engine-driven pump.

The exhaust ducts must run at least 2,4 m above the plane of reference (UNI 11292), at a distance of at least 1,5 metres from doors, windows, etcetera (UNI 11292). In addition, they must be protected by weather conditions and fitted with a draining system for the drainage of any condensation.

In order to avoid exceeding the maximum back pressure value at the discharge (600 mm H2O for air cooled engines, and 1000 mm H2O for turbocharged – liquid cooled engines), compliance with the following is recommended:
• the exhaust ducts must not be longer than 10 metres,
• the cross section of the ducts must be at least equal to the outlet port of the muffler supplied.

For the calculation of the duct cross-section for lengths in excess of 10 metres, increase the section by 10 % for each 10 metres of duct. E.g. 50 mm duct L 20m S= (50 mm + 10 %) + 10 %: at least 55,5 mm.
Reduce as much as possible the number of bends (max. 6), and ensure that they have the widest possible radius.
It is essential to avoid contamination of the water reservoir in the event of fuel spills from the engine-driven pump fuel tank.
For this purpose, DAB can supply a fuel containment reservoir (OPTIONAL), to be installed under the engine-driven pump tank.

VENTILATION FOR DIESEL ENGINE-DRIVEN PUMPS

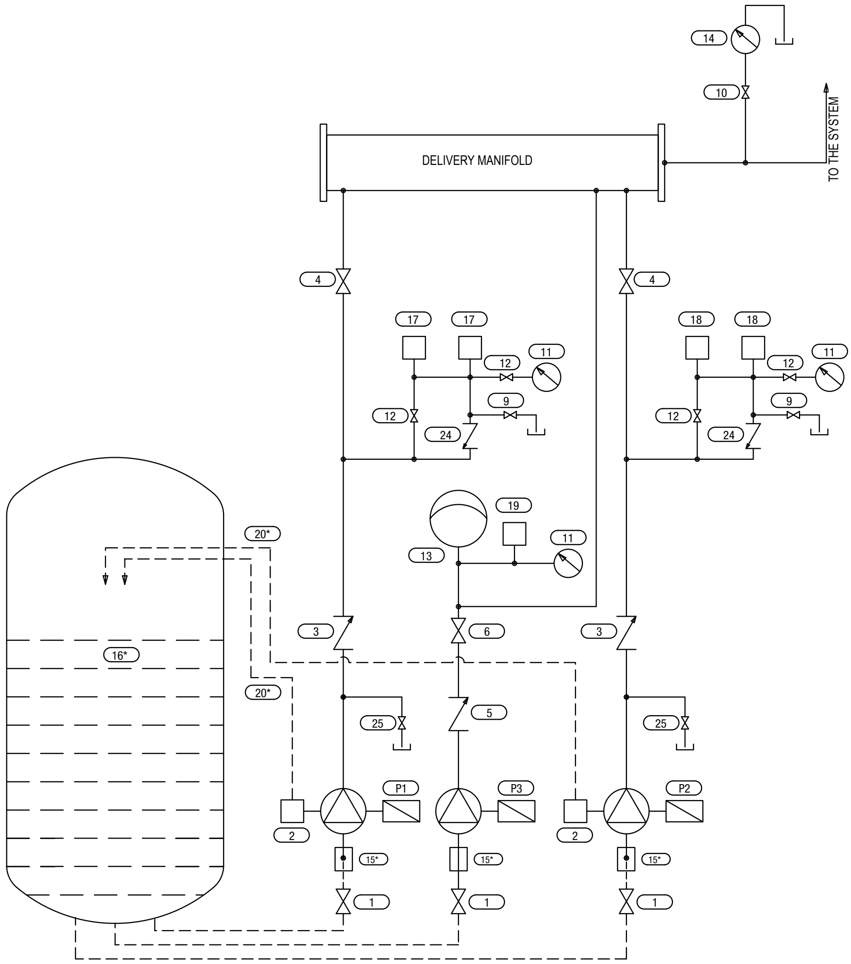
For optimum operation, it is necessary that the heat produced by the engine is dispersed outside the pump room. Sufficient combustion air flow must also be guaranteed. The natural circulation caused by the difference between the internal and the external temperature is normally not sufficient. The following is therefore necessary (UNI 11292 5.4.2):
• an air inlet vent, protected by grid, with a net surface at least twice the S surface of the cooling device (e.g. water radiator),
• an air outlet vent, protected by grid, with a net surface at least 1,5 times the S surface of the cooling device.
In case of engine with water/water heat exchanger, the S surface (m^2) will be 0,002 x Engine Power (kW).
In this case, the S surface of the conduits / openings, must be at least 0,15 m^2.
A fan must also be installed, for the extraction of the air from the room, with operation guaranteed also in case of black out:
• with air cooled engines,
• with water/water heat exchanger engines*
(*if ventilation openings are not possible)

Fan capacity - air cooled engines
Q (m^3/h) = 100x Engine Power (kWatt)
Fan capacity - heat exchanger engines
Q (m^3/h) = 50x Engine Power (kWatt)
The fan starts with the Diesel engine-driven pump
(DAB control panels have a dedicated contact for this purpose)

HYDRAULIC DIAGRAMS

FLOODED SUCTION HYDRAULIC DIAGRAMS

According to UNI EN 12845, a flooded suction type installation is to be preferred, with at least 2/3 of the tank level above the pump suction port. Each pump has a suction pipeline of at least 65 mm.



REF.	NAME
25	Check valve test line
24	Manual test circuit check valve
20*	Water recirculation and air bleed pipeline
19	Electric jockey pump pressure switch
18	Electric pump no. 2 start-up pressure switches
17	Electric pump no. 1 start-up pressure switches
16*	Water reserve
15*	Suction strainer
14*	Flow meter
13	Membrane expansion vessel
12	Pressure switch shut-off valve
11	Manometer

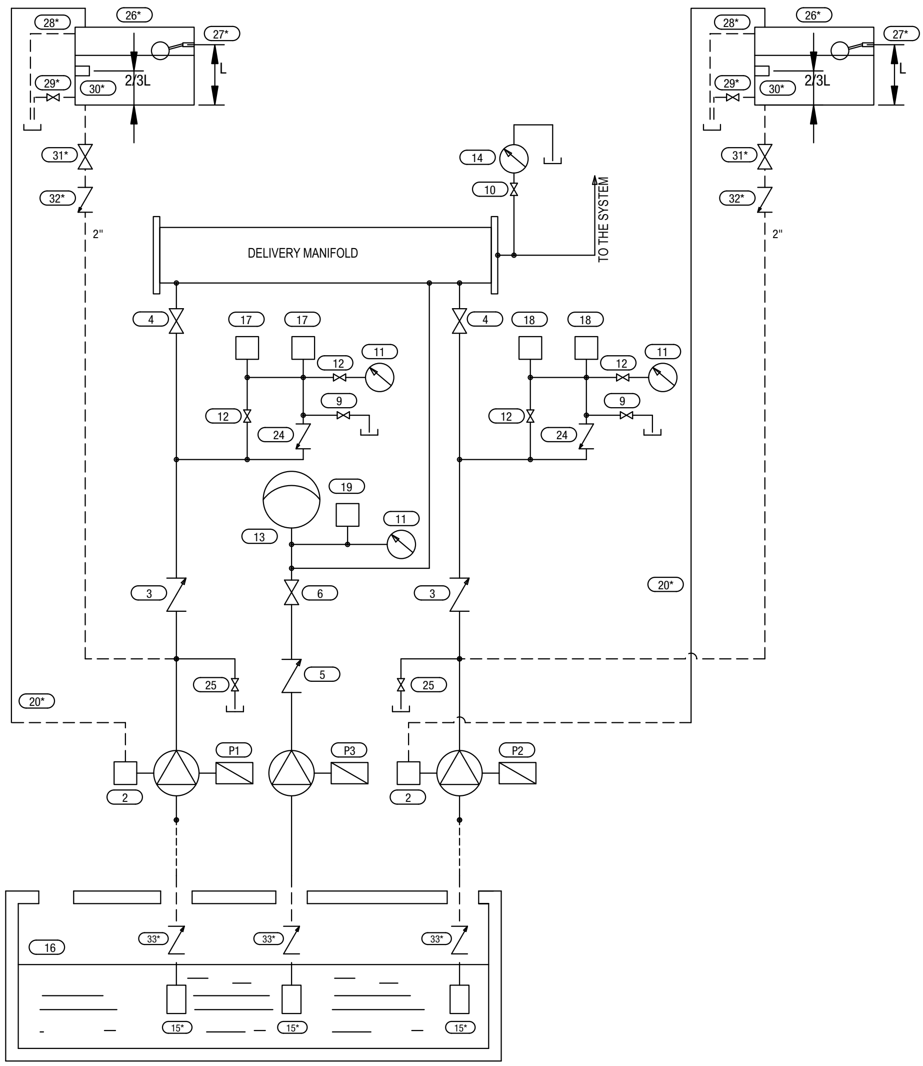
REF.	NAME
10*	Flow meter shut-off valve
9	Pump manual test valve
6	Delivery shut-off valve
5	Non-return valve
4	Delivery shut-off valve
3	Non-return valve
2	Water recirculation and air bleed diaphragm
1*	Suction shut-off valve
P3	Jockey pump
P2	Feed pump no. 2
P1	Feed pump no. 1

* Parts not included in the standard supply

HYDRAULIC DIAGRAMS

SUCTION LIFT HYDRAULIC DIAGRAMS

In suction lift installation, the distance between the pump suction and the minimum tank level must be less than 3,2 metres.
A foot valve must be installed for each pump suction line. A priming tank must be installed for each main pump.



REF.	NAME
33*	Foot valve
32*	Priming line check valve
31*	Priming line shut-off valve
30*	Tank float
29*	Tank drain valve
28*	Overflow outlet
27*	Tank replenishment
26*	Priming tank
25	Check valve test line
24	Manual test circuit check valve
20*	Water recirculation and air bleed pipeline
19	Electric jockey pump pressure switch
18	Electric pump no. 2 start-up pressure switches
17	Electric pump no. 1 start-up pressure switches
16*	Water reserve

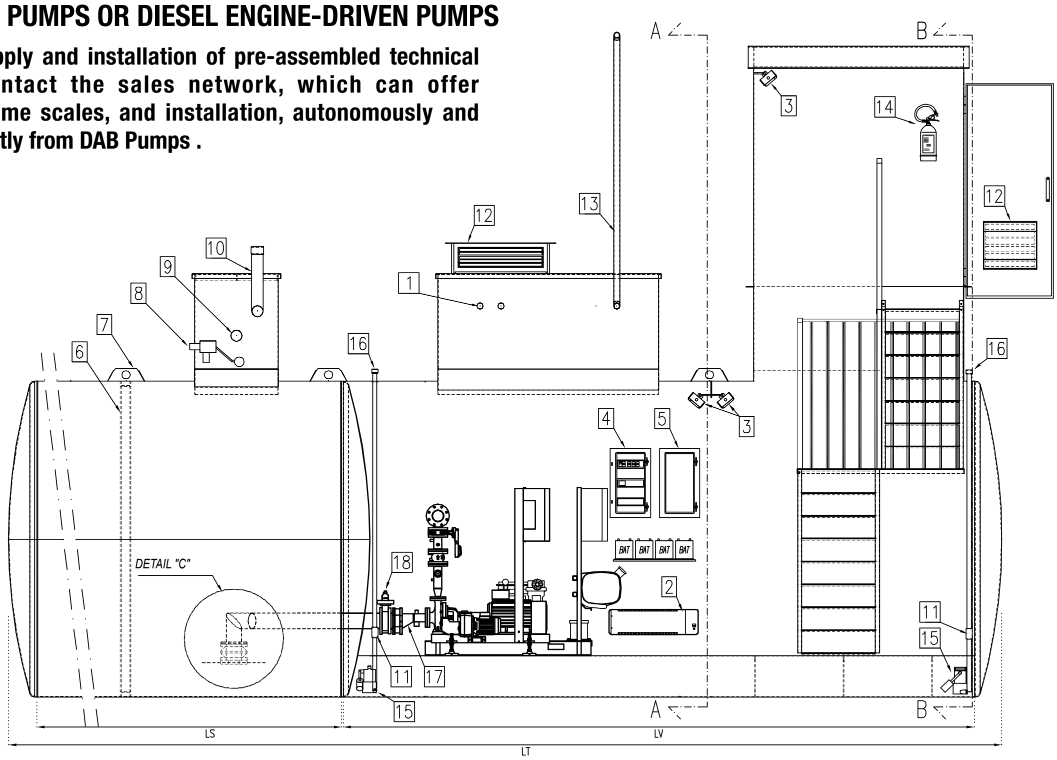
REF.	NAME
15*	Suction strainer
14*	Flow meter
13	Membrane expansion vessel
12	Pressure switch shut-off valve
11	Manometer
10*	Flow meter shut-off valve
9	Pump manual test valve
6	Delivery shut-off valve
5	Non-return valve
4	Delivery shut-off valve
3	Non-return valve
2	Water recirculation and air bleed diaphragm
P3	Jockey pump
P2	Feed pump no. 2
P1	Feed pump no. 1

* Parts not included in the standard supply

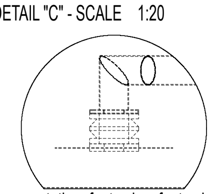
EXAMPLE OF INSTALLATION OF A FIRE-FIGHTING SYSTEM

WITH UNDERGROUND TANK AND PUMP ROOM, ACCORDING TO UNI 11292
ELECTRIC PUMPS OR DIESEL ENGINE-DRIVEN PUMPS

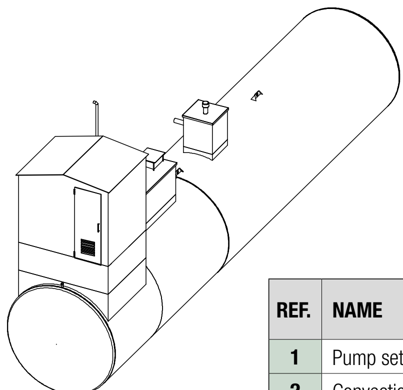
For the supply and installation of pre-assembled technical rooms, contact the sales network, which can offer supplies, time scales, and installation, autonomously and independently from DAB Pumps .

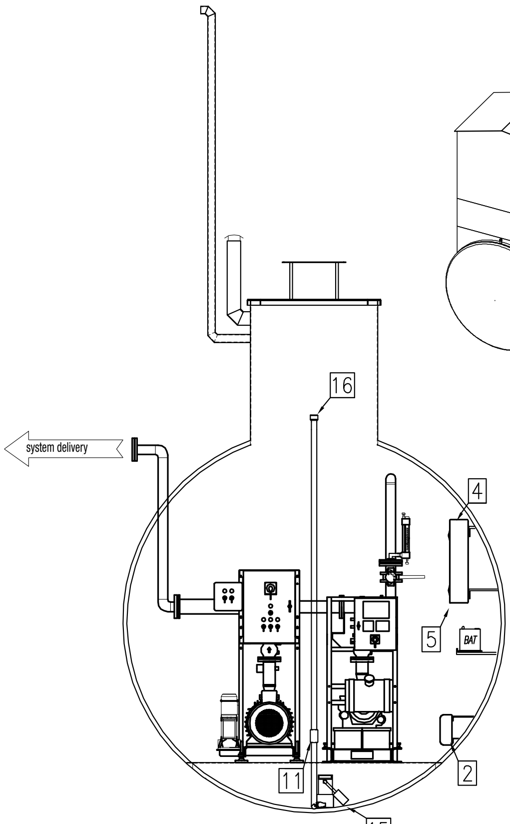


DETAIL "C" - SCALE 1:20



Representation: foot valve, foot valve, anti-vortex plate. To ensure a useful capacity according to prospect 12 of UNI EN 12845 standard.





SECTION A-A

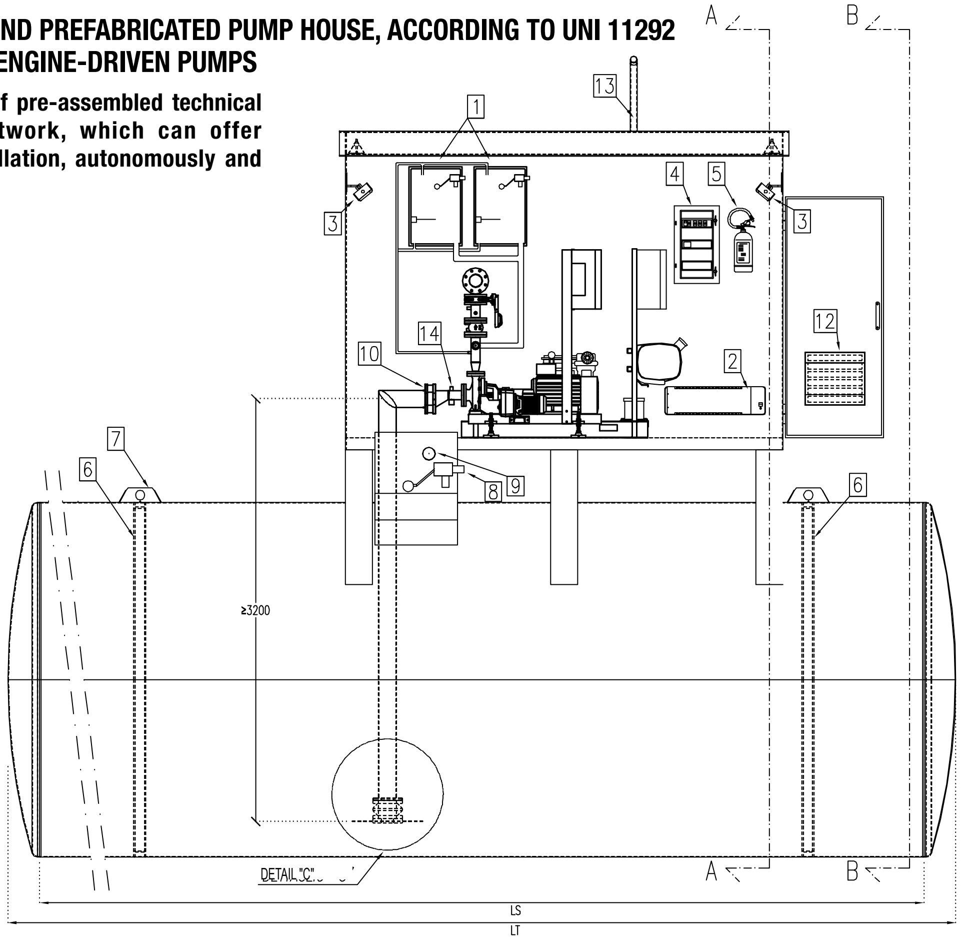
REF.	NAME
1	Pump set electric power input conduits
2	Convection heater
3	Service and emergency lights
4	Electric control panel
5	UPS feeding the lift pumps
6	Reinforcement U beam
7	Lifting and/or handling eye bolt
8	Replenishment stub pipes
9	Overflow
10	Breather
11	Non-return valve
12	Diesel engine ventilation and cooling grid in accordance with section 5.4.2 of UNI 11292
13	Diesel engine fume exhaust duct (not included in the supply)
14	Extinguishing class 34A144 BC extinguisher
15	Fresh water lifting pump
16	Drainage pump attachment to be connected to the drain
17	Eccentric adaptor
18	Tank suction shut-off valve

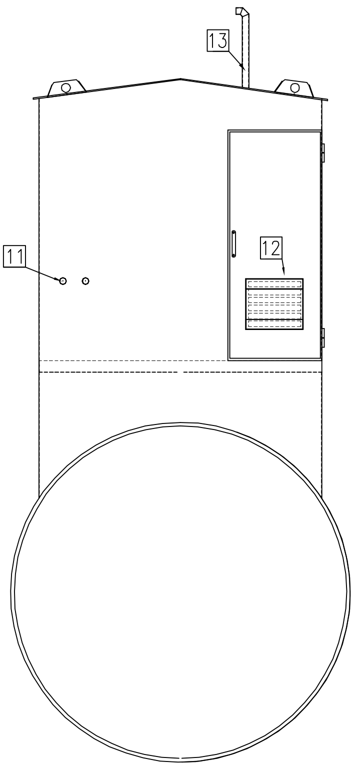
All systems are built in accordance with UNI EN 12845 and UNI 11292 standards.

EXAMPLE OF INSTALLATION OF A FIRE-FIGHTING SYSTEM

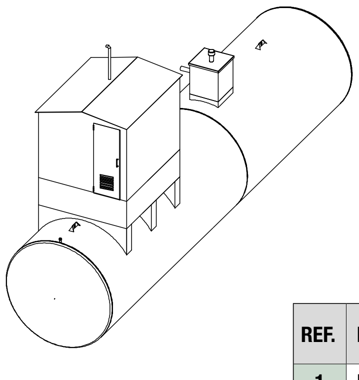
WITH ABOVE GROUND TANK AND PREFABRICATED PUMP HOUSE, ACCORDING TO UNI 11292 ELECTRIC PUMPS OR DIESEL ENGINE-DRIVEN PUMPS

For the supply and installation of pre-assembled technical rooms, contact the sales network, which can offer supplies, time scales, and installation, autonomously and independently from DAB Pumps .

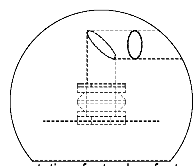




SECTION B-B



DETAIL "C" - SCALE 1:20



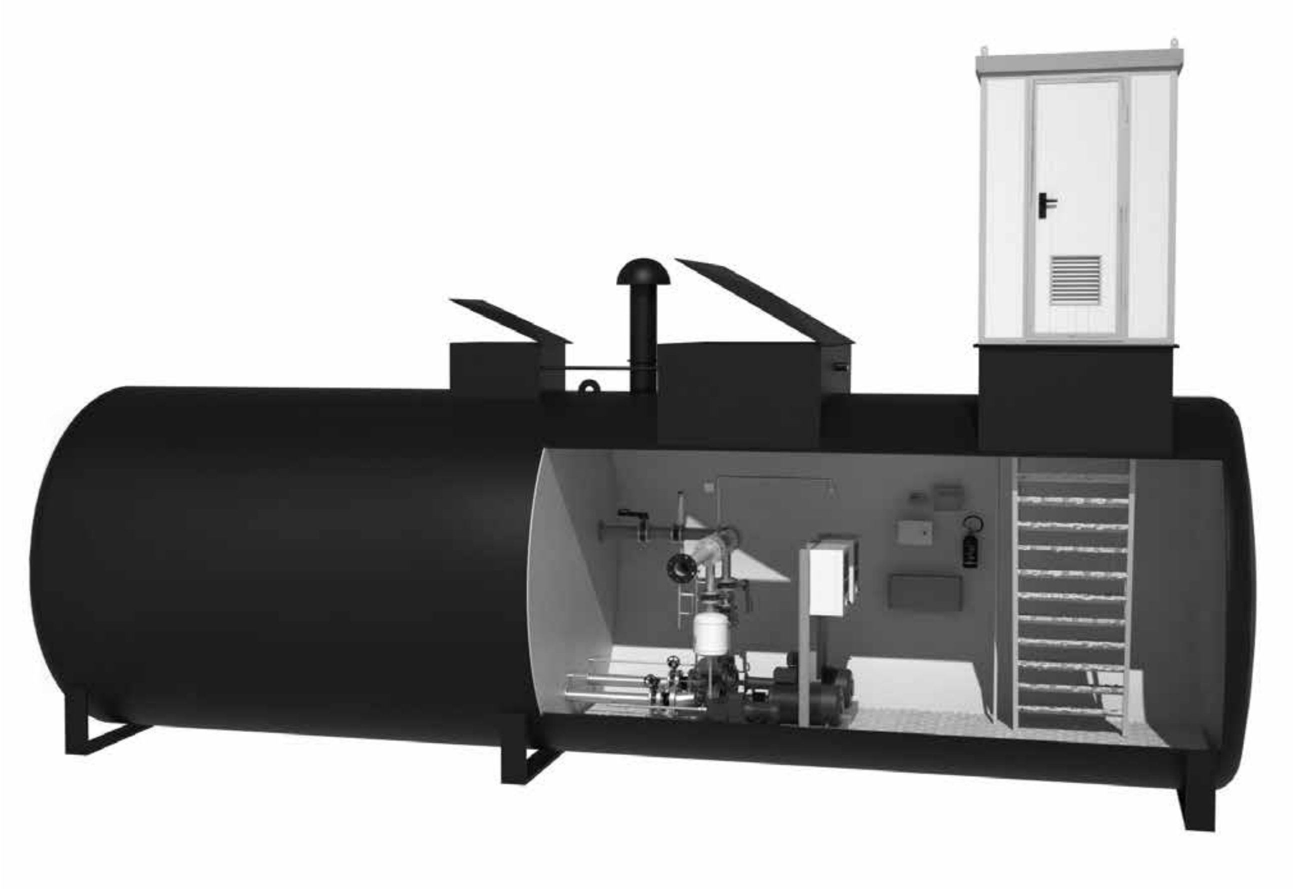
Representation: foot valve, foot valve, anti-vortex plate. To ensure a useful capacity according to prospect 12 of UNI EN 12845 standard.

REF.	NAME
1	Priming tanks
2	Convection heater
3	Service and emergency lights
4	Electric control panel
5	Extinguishing class 34A144 BC extinguisher
6	Reinforcement U beam
7	Lifting and/or handling eye bolt
8	Replenishment stub pipes
9	Overflow
10	Anti-vibration coupling
11	Pump set electric power input conduits
12	Diesel engine ventilation and cooling grid in accordance with section 5.4.2 of UNI 11292
13	Diesel engine fume exhaust duct (not included in the supply)
14	Eccentric adaptor

All systems are built in accordance with UNI EN 12845 and UNI 11292 standards.

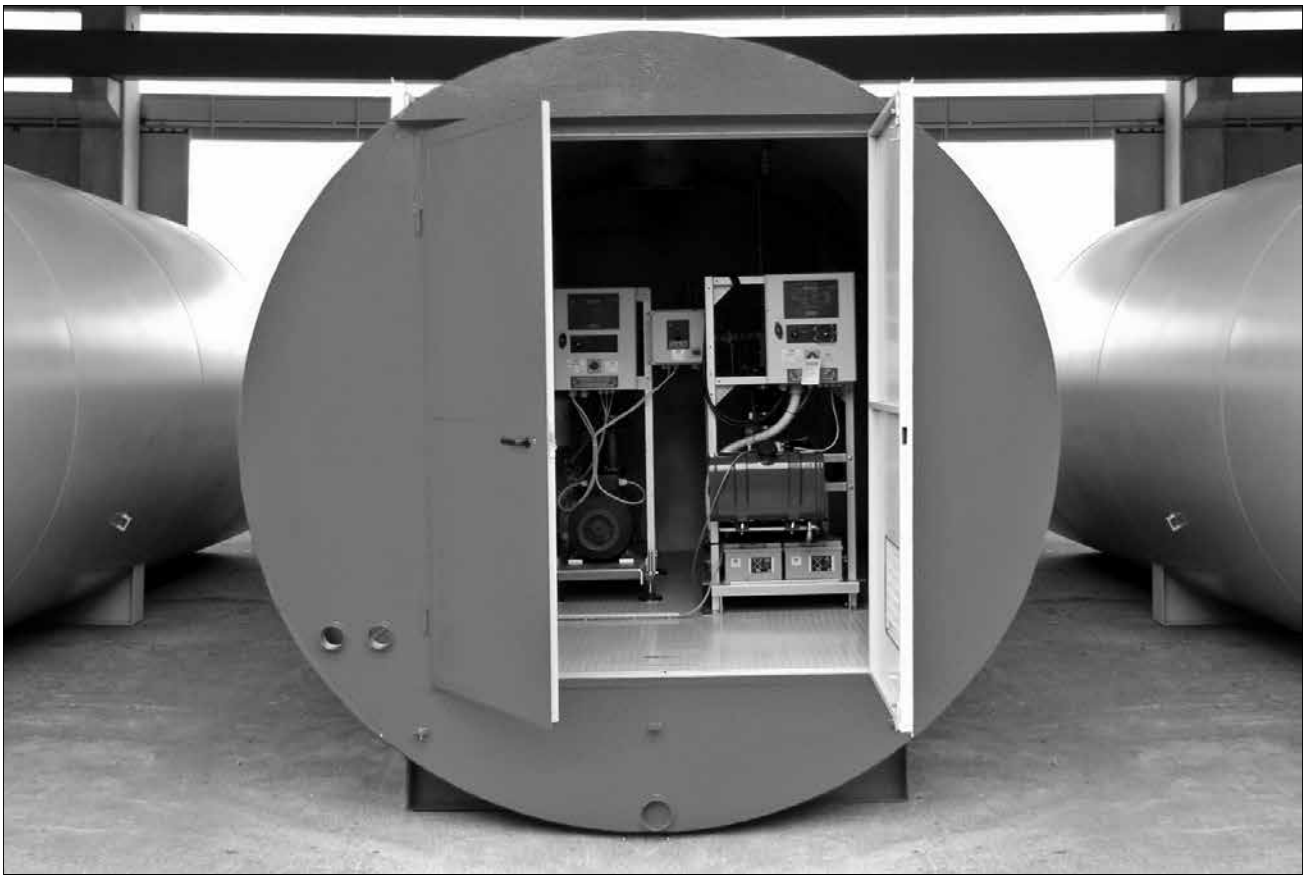
EXAMPLE OF INSTALLATION OF A FIRE-FIGHTING SYSTEM

For the supply and installation of pre-assembled technical rooms, contact the sales network, which can offer supplies, time scales, and installation, autonomously and independently from DAB Pumps .



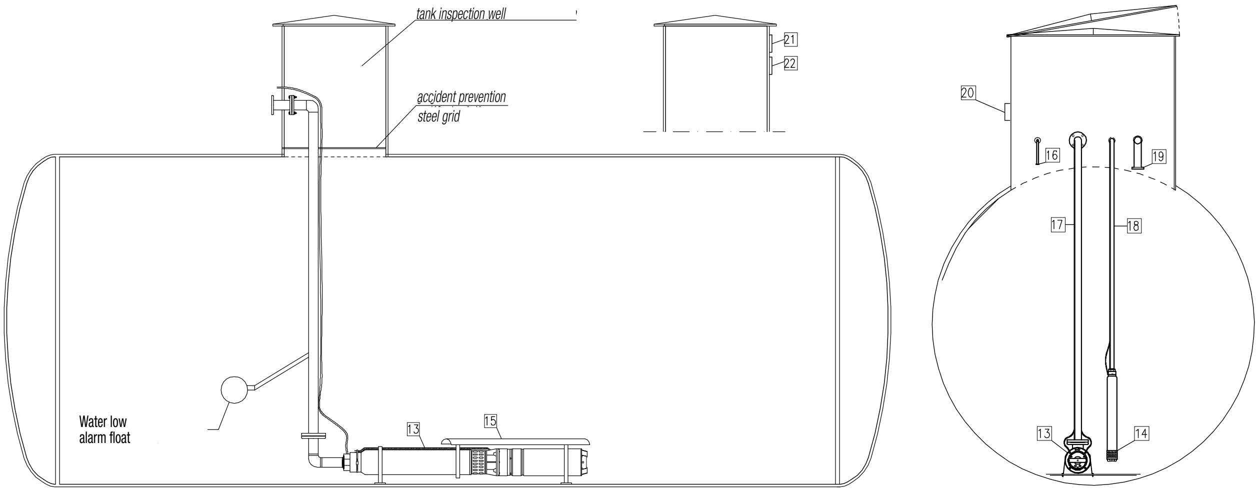
STORAGE TANK

The storage tank can be made of steel having a gauge between 5 and 6 mm, depending on the capacity, with internal U braces.
Externally, the entire module is protected by a thick layer of bitumen paint or, on request, a root-proof polyester liner, while the interior of the tank is protected with a red lead rust-proof primer. There is a manhole on the top of the tank providing access to the inspection well, protected by a grid and prearranged for connection of the replenishment pipe, breather pipe, and a pipe for the insertion of the level float.
If the capacity of a single tank is insufficient two or more tanks can be combined by means of a prearranged flanged interconnecting pipeline.

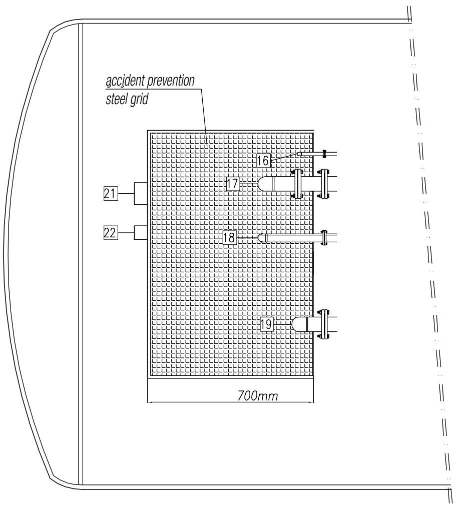


EXAMPLE OF INSTALLATION OF A FIRE-FIGHTING SYSTEM WITH SUBMERGED PUMPS

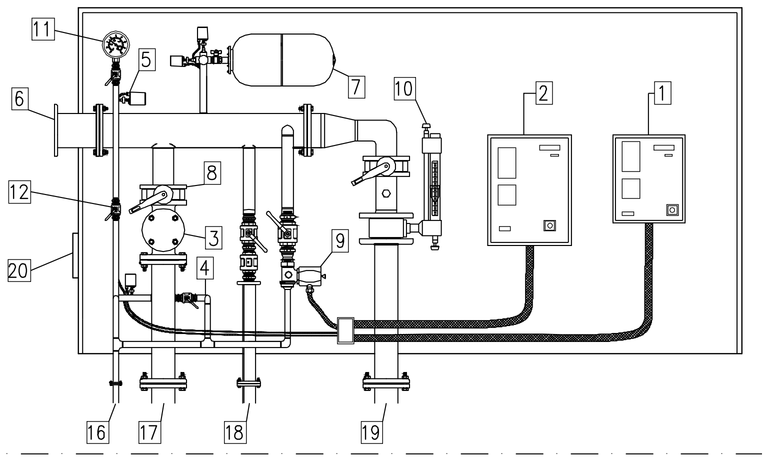
For the supply and installation of pre-assembled technical rooms, contact the sales network, which can offer supplies, time scales, and installation, autonomously and independently from DAB Pumps .



DETAIL OF REGULATION COMPONENTS/ SUBMERGED PUMP FIRE-FIGHTING SET CONTROL ROOM



FIRE-FIGHTING SET ELECTRIC CONTROL PANEL AND MANIFOLD KIT TO UNI EN 12845, TO BE INSTALLED ON THE WALL OR IN A CONTAINMENT COMPARTMENT IN THE IMMEDIATE PROXIMITY OF THE TANK



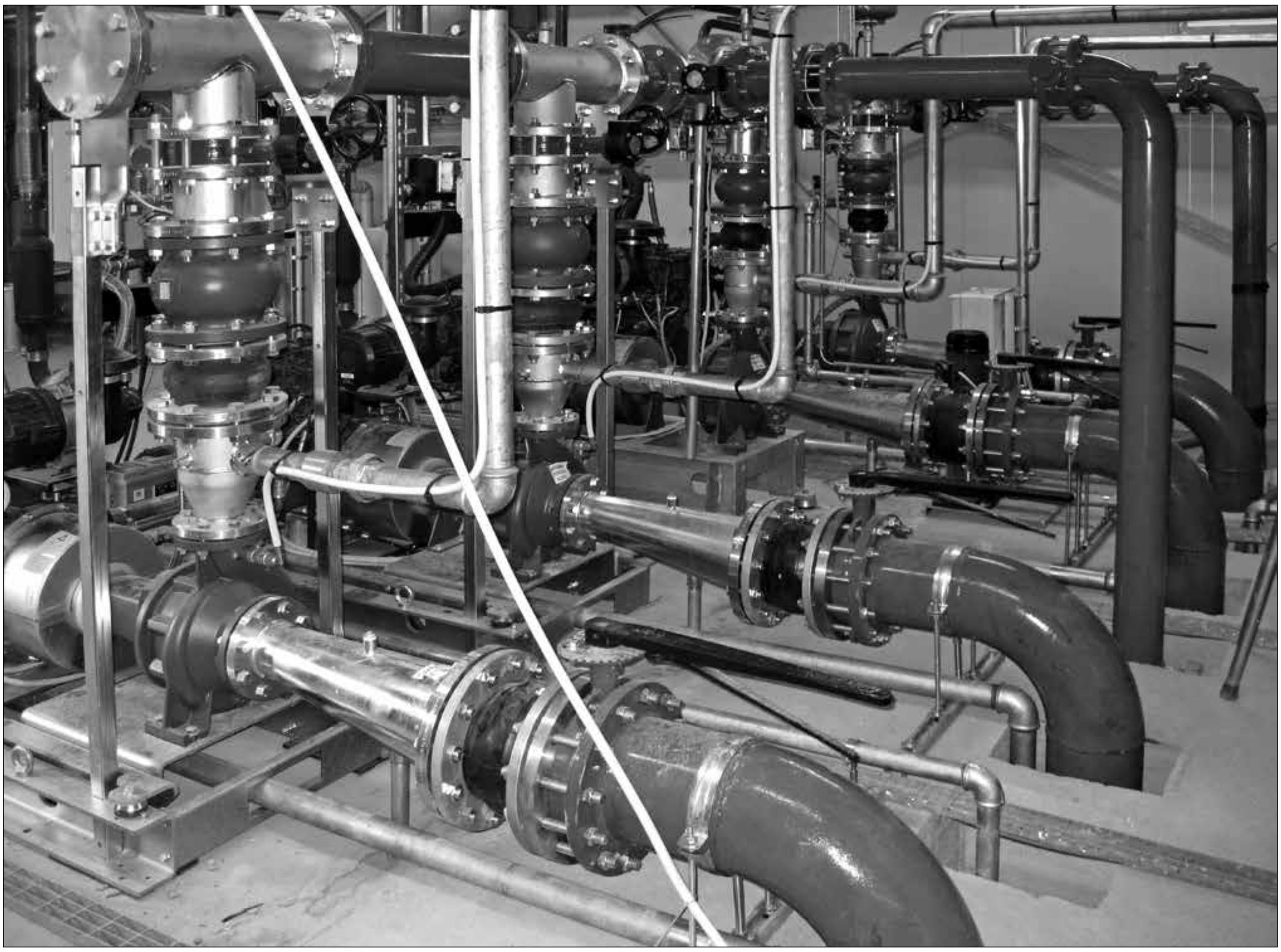
All systems are built in accordance with UNI EN 12845 and UNI 11292 standards.

REF.	NAME
1	Feed pump control panel
2	Jockey pump control panel
3	Inspectionable check valve
4	Water recirculation diaphragm
5	Main pump start pressure switch
6	Delivery manifold
7	Membrane expansion vessel
8	Suction valve
9	Weekly test solenoid valve
10	Flow meter
11	Manometer
12	Manual test cock

REF.	NAME
13	Feed pump/s
14	Jockey pump
15	Anti-vortex plate
16	Test circuit drain pipeline
17	Delivery feed pump pipeline
18	Delivery jockey pump pipeline
19	Flow meter water drain pipeline
20	Cable gland plate
21	Tank air breather
22	Tank water load

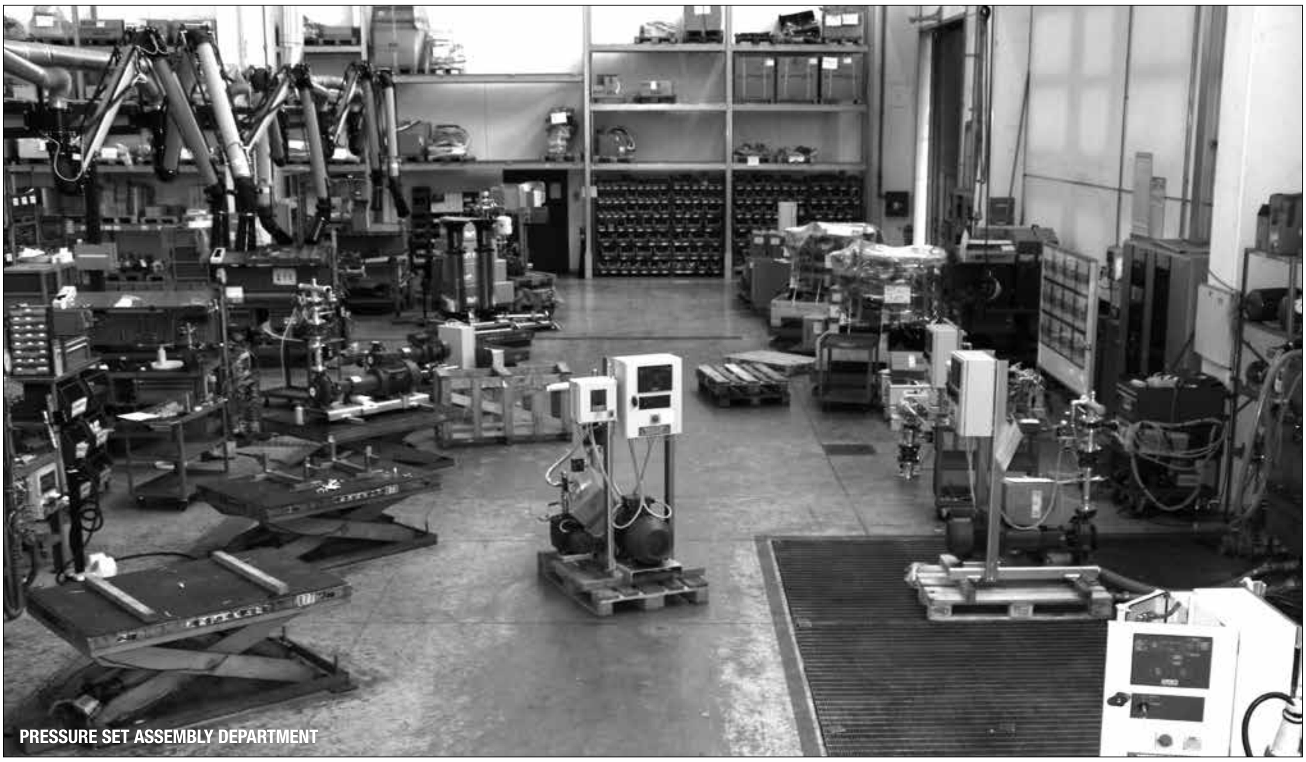
EXAMPLE OF FIRE-FIGHTING SYSTEM INSTALLATION

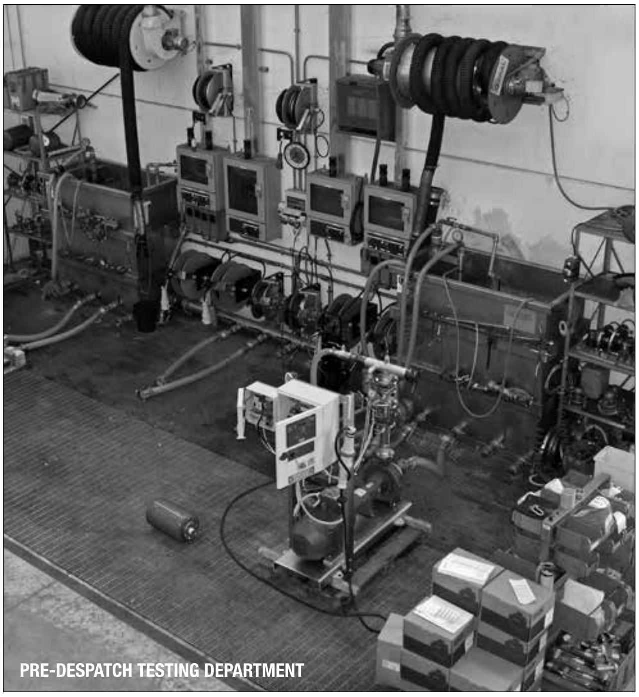
UNI EN 12845 PRIMING TANK
Monobloc system for underground installation, complete with water reserve, technical compartment, and pump set, designed and built in compliance with UNI EN 12845 and UNI 11292. Technical compartment equipped with forced ventilation and two drainage pumps including a generator set. Access to the technical room by means of a ladder protected by a prefabricated structure; possibility to make the fire water tank transportable by means of internal support inserts. The benefits of the SBAI system are ease of installation, and safety in compliance with standards.
All systems are built in accordance with UNI EN 12845 and UNI 11292 standards.



DAB INTERNAL PRODUCTION LINE

DAB Pumps S.p.A internally designs all the products, including pressurisation sets for civil and industrial applications.
During the years, DAP has particularly specialised in fire-fighting applications, offering solutions capable of meeting the requirement of modern system techniques. In 2014 DAB asked a prestigious third party Certifying Body to carry out a "Technical assessment for compliance to the requirements of UNI EN 12845 standards" for some fire-fighting pump models. **DAB has obtained the relevant certification, and the reassurance of being able to offer quality products to its customers.**


PRESSURE SET ASSEMBLY DEPARTMENT


PRE-DESPATCH TESTING DEPARTMENT


PRESSURE SET ASSEMBLY DEPARTMENT

UNI EN 12845 CERTIFICATION

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R.E.A. c/o C.C.I.A.A. (RN) 156766
Registro Imprese di Rimini n. 00 549 540 409

COMPLIANCE EVALUATION REPORT No. 313795

Place and date of issue: Bellaria-Igea Marina - Italy, 28/02/2014

Customer: DAB PUMPS S.p.A. - Via Marco Polo, 14 - 30035 MESTRINO (PD) - Italy

Date test requested: 20/01/2014

Order number and date: 61935, 21/01/2014

Test date: 20/02/2014

Purpose of test: technical evaluation of compliance with the specifications of standard UNI EN 12845:2009 of a pre-assembled pumpset used to supply water to automatic sprinkler systems

Evaluation venue: at the Customer's premises

Specimen origin: sampled and supplied by the Customer

Specimen name

The specimen undergoing compliance evaluation is called "1KDN32-200/219 11 T EN12845-JET - code 500813550 - serial number 5.1408".

Description of specimen*

The specimen undergoing compliance evaluation comprises a pre-assembled pumpset used to supply water to automatic sprinkler systems.

(*) according to that stated by the Customer.

Comp. AV Revis. GC	This compliance evaluation report consists of 8 sheets and 1 annex. This document is the English translation of the compliance evaluation report No. 313795 dated 28/02/2014 issued in Italian. Date of translation: 30/04/2014.	Sheet 1 of 8

UNI EN 12845 DIESEL CERTIFICATION

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COMPLIANCE EVALUATION REPORT No. 313798

Place and date of issue: Bellaria-Igea Marina - Italy, 28/02/2014

Customer: DAB PUMPS S.p.A. - Via Marco Polo, 14 - 30035 MESTRINO (PD) - Italy

Date test requested: 20/01/2014

Order number and date: 61935, 21/01/2014

Test date: 20/02/2014

Purpose of test: technical evaluation of compliance with the specifications of standard UNI EN 12845:2009 of a pre-assembled pumpset used to supply water to automatic sprinkler systems

Evaluation venue: at the Customer's premises

Specimen origin: sampled and supplied by the Customer

Specimen name

The specimen undergoing compliance evaluation is called "1KDN 32-200/219 MD EN 12845 - code 503883100 - serial number 5.1405".

Description of specimen*

The specimen undergoing compliance evaluation comprises a pre-assembled pumpset used to supply water to automatic sprinkler systems.

(*) according to that stated by the Customer.

Comp. AV Revis. GC	This compliance evaluation report consists of 10 sheets and 1 annex. This document is the English translation of the compliance evaluation report No. 313798 dated 28/02/2014 issued in Italian. Date of translation: 30/04/2014.	Sheet 1 of 10

TRANSPORT AND INSTALLATION

Due to the sizes of the system, transport is relatively easy, and can be fully included in the offer.
When installing the whole system, it is sufficient to take the precaution to spread a bed of sand over the floor.

For the supply and installation of pre-assembled technical rooms, contact the sales network, which can offer supplies, time scales, and installation, autonomously and independently from DAB Pumps .

NOTES

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