

# FIRE-FIGHTING PUMP UNITS TO UNI EN 12845

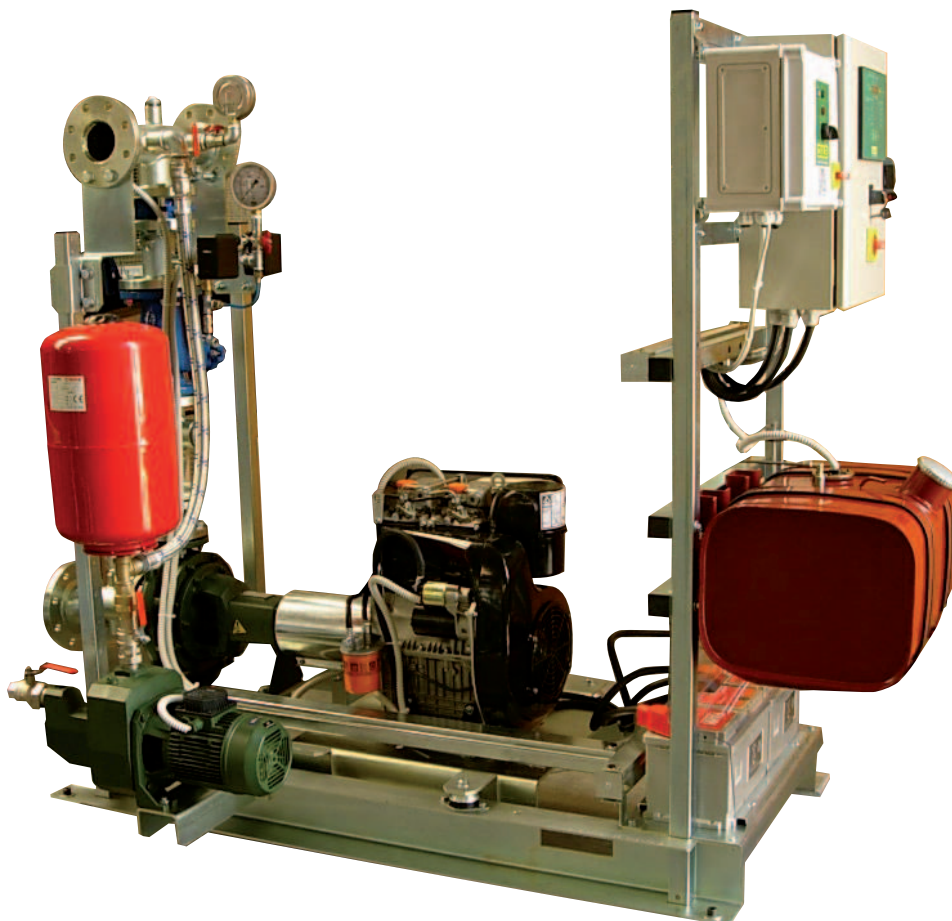


**NEW**

**DAB**  
PUMP PERFORMANCE

# GENERAL INFORMATION

Fire-fighting pump units manufactured in compliance with the prescriptions of European standard UNI EN 12845  
Fixed fire-fighting installations - Automatic sprinkler systems



CE

## NOTES ON UNI EN 12845

UNI EN 12845, the Italian version of European standard EN 12845, establishes design, installation and maintenance criteria for sprinkler systems. This standard replaces the previous Italian standards UNI 9489 and UNI 9490.

With regard to specifications of UNI EN 12845 pump units, reference is made to European standard EN 12259-12, which is currently (July 2007) in the development stage.

An automatic sprinkler system is designed to detect the presence of fire and extinguish it in the initial stages, or to keep flames under control until they can be extinguished fully using ancillary means.

The classic sprinkler system is composed of: a water supply, a fire-fighting pumps unit, control valves, a network of pipes equipped with sprinkler nozzles.

# GENERAL INFORMATION

## COMPOSITION OF MULTIPLE PUMP UNITS

The pumps of EN 12845 units will have identical characteristics and, in addition:

- if TWO pumps are installed each will be designed to deliver the entire flow rate of the system (100%)
- if THREE pumps are installed, each will be designed to deliver 50% of the total flow rate

“In applications in which more than one pump is installed with higher or duplicated feed, only one of the pumps will be electrically driven (10.2)”. It therefore follows that in the case of higher or duplicated feeds, the units will be composed of:

- 1 pump driven by an electric motor or Diesel engine (100 %)
- 1 electric motor pump + 1 Diesel engine motor pump (100% + 100%)
- 1 electric motor pump + 2 Diesel engine motor pumps (50% + 50% + 50%)
- 3 Diesel engine motor pumps (50% + 50% + 50%)

**In the case of a single supply, there are no limits restricting the number of electric motor pumps to be installed. DAB PUMPS supplies modular units thus making it possible to configure all the versions envisaged by EN 12845.**

## OPERATION OF EN 12845 FIRE-FIGHTING PUMPS UNIT

In normal conditions (zero water demand) the system is maintained under static pressure.

The first demand for water results in start-up of the compensation pump, which restores system pressure.

If a significant flow rate of water is demanded (opening of sprinklers), the pressure will drop until two pressure switches connected in series trip to start up the main pump (electric or Diesel). The two start-up pressure switches must be calibrated in such a way as to start the pumps at the following pressure values:

Units with one pump	Max. pump pressure x 0.8	
Units with two pumps	Pump 1 Max. pressure x 0.8	Pump 2 Max. pressure x 0.6

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

The main pump continues to run until it is stopped manually by pressing a STOP pushbutton on the electrical panel.

## EN 12845 PUMPS

EN 12845 (10.1) prescribes “Horizontal pumps (preferable) or vertical pumps, at least PN 10 with max. rotation speed of 3,600 rpm (EN 12259-12), with identical maximum pressure head and pressure head at zero flow rate. The pumps can be driven by an **electric motor or Diesel engine**. For pre-calculated HHP and HHS systems, the pumps will be capable of delivering 140 % of the flow rate at 70 % of the pressure head of the working point (100%). The coupling between prime mover and pump must be such as to ensure that both prime mover and pump can be removed independently in such a way that the internal parts of the pump can be renewed without affecting the pipelines. Pumps with axial suction will be of the “back pull-out” type. In order to meet the foregoing requirements in full, DAB PUMPS uses normalised pumps with **spacer coupling**, both in the version with electric motor and in the version with Diesel engine.

## prEN12259-12 PUMPS

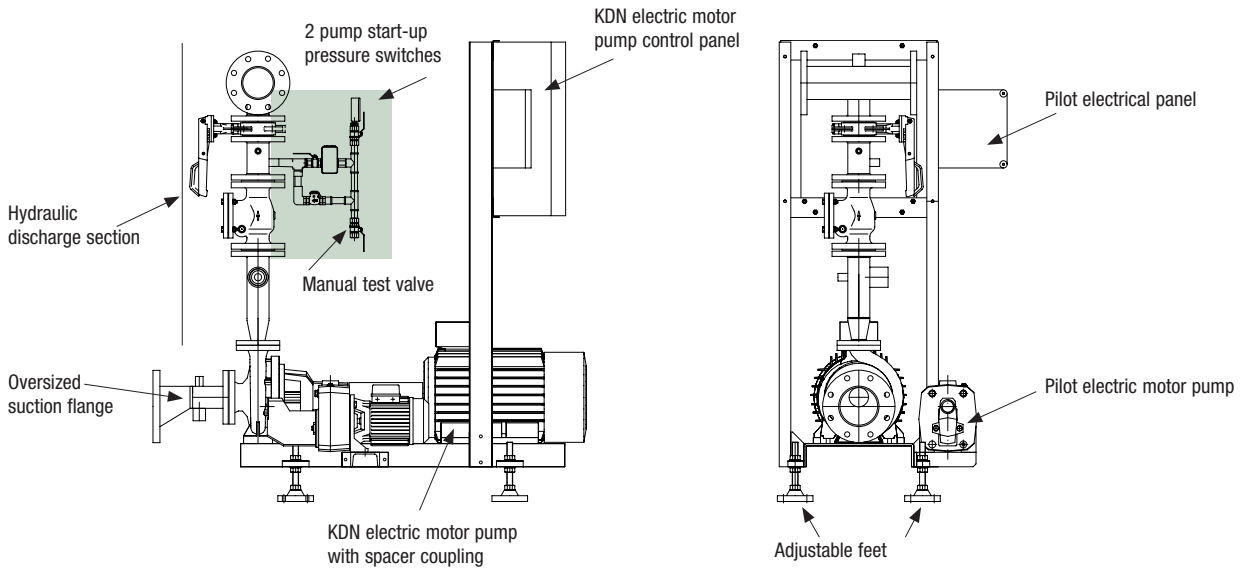
Draft standard pr EN 12259-12, which is currently under development (July 2007) and has not yet been implemented in Italy, calls for impellers made of bronze, stainless steel, or an equivalent material. The NPSH value permitted at the working point is **5 metres** (4.5.2) .

## PRESSURE COMPENSATION PUMP - JOCKEY

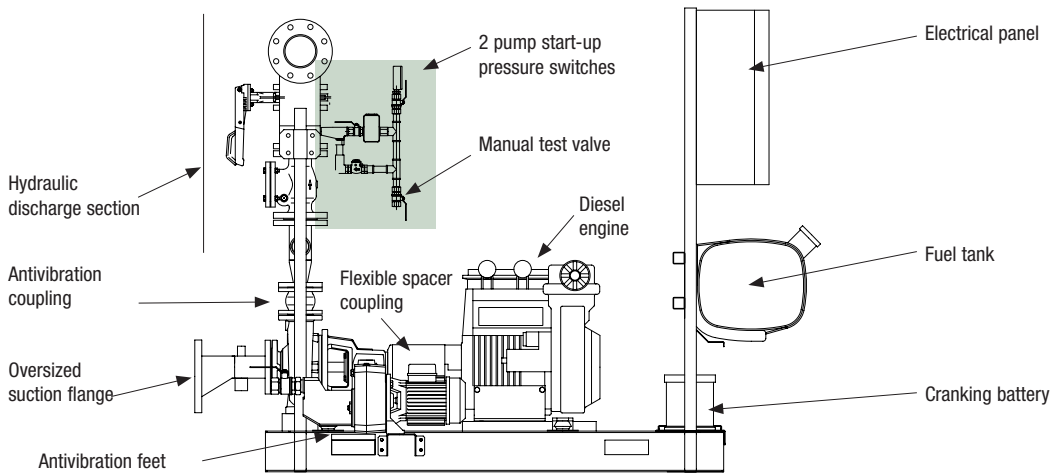
The compensation or pilot pump starts to compensate system pressure in the event of drawing of small amounts of water This therefore avoids unnecessary starting of the main pumps to compensate for minor leaks in the water circuit DAB fire-fighting units are available with or without a pilot pump.

# COMPONENTS

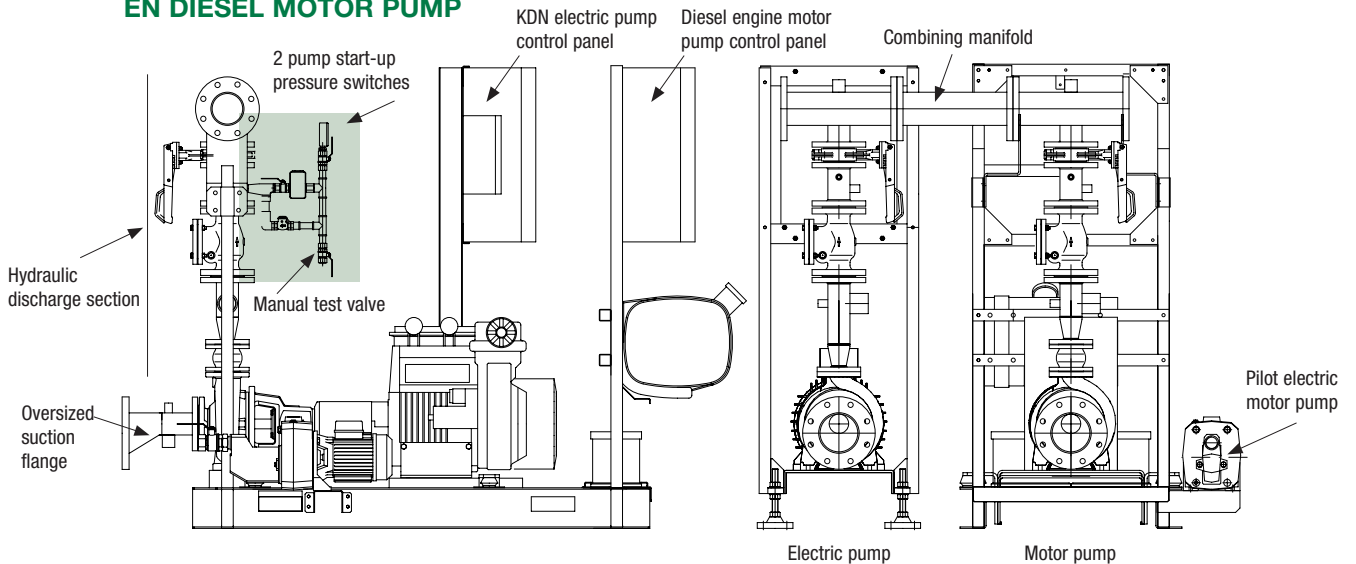
## EN ELECTRIC PUMP UNIT



## DIESEL ENGINE MOTOR PUMP UNIT



## UNIT EN ELECTRIC MOTOR PUMP EN DIESEL MOTOR PUMP



# EN 12845 ELECTRIC PUMP

## MECHANICAL STRUCTURE

KDN normalised electric pump on bedplate, pump body and impeller in cast iron (bronze impeller on request). Coupled by means of flexible spacer coupling to asynchronous three-phase electric motor designed to deliver the max. power absorbed by the KDN pump.  
Electric pump control panel mounted on KDN pump bedplate

## HYDRAULIC STRUCTURE

Axial suction port with eccentric diverter adapter.  
Max. flow rate of water at pump suction side 1.5 m/s (10.6.2.3)  
Radial discharge port, with concentric diverter adapter, 2" connection for priming tank (only installations with suction lift), check valve, circuit with 2 start-up pressure switches, isolator valve (with manual DN125 reduction), galvanized discharge manifold.

## ELECTRIC PUMP CONTROL PANEL FUNCTIONS

The electric pump control panel, housed in an IP 55 metal enclosure, is equipped with the following components:

Interior of cabinet: main door lock disconnect switch,  
fuses (max. current relays – motor protection cutouts are not permitted),  
direct starters for pumps up to 7.5 kWatt,  
star-delta starters for pumps above 7.5 kWatt,  
24V control circuits transformer,  
control circuits relay,  
terminal board.

On front panel: electric pump control unit,  
multifunction instrument with display (voltmeter, ammeter, alarms),  
start and stop pushbuttons,  
indicator lights,  
indicator light with test pushbutton,  
AUT - 0 - MAN selector with key removable in AUT position,  
lamp test pushbutton.

Includes the following N.O. contacts on the terminal board, to be connected to our remote signals panel:  
power/phase presence, pump start request, pump running, failed starting.  
The panel is prearranged for installation of a GSM Modem (optional) so that pump unit alarm and/or functional status information can be sent by SMS mobile text messages.

## COMPENSATION PUMP

If present, a compensation pump connected to the electric motor pump or Diesel engine motor pump discharge manifold, complete with:  
ball valve on suction side,  
check valve and ball valve on discharge side,  
pressure switch,  
20 litre expansion vessel,  
protection panel.

# EN 12845 DIESEL ENGINE MOTOR PUMP

## MECHANICAL STRUCTURE

Normalised KDN electric pump, pump body and impeller in cast iron (bronze impeller on request).  
Coupled by means of flexible spacer coupling to air or liquid-cooled Diesel engine designed to deliver the max. power absorbed by the KDN pump in compliance with ISO 3046.  
Galvanized steel bedplate supporting KDN pump, Diesel engine, electrical panel and fuel tank.  
System for damping vibration transmitted by the Diesel engine by means of rubber antivibration feet.  
Fuel tank sized for 6 hours of continuous running; two cranking batteries.

## HYDRAULIC STRUCTURE

Axial suction port with eccentric diverter adapter. Max. water flow rate at pump suction side 1.5 m/s (10.6.2.3)  
Flanged antivibration coupling on radial discharge port, with concentric diverter adapter, 2" connection for priming tank (only installations with suction lift), check valve, circuit with 2 start-up pressure switches, isolator valve (with manual DN125 reduction), galvanized discharge manifold.



## CONTROL PANEL FUNCTIONS

The Diesel engine motor pump control panel, housed in an IP 55 metal enclosure, is equipped with the following components:

Interior of cabinet: main door lock disconnect switch, fuses, two switching battery chargers, control circuits relay, terminal board.

On front panel: motor pump control unit, multifunction instrument with display (voltmeter, ammeter, rev counter, duty hours counter, fuel level gauge, oil pressure gauge) start and stop pushbuttons, indicator lights, TEST button for first start-up (\*), AUT - 0 - MAN selector with key removable in AUT position.

Includes the following N.O. contacts on the terminal board, to be connected to our remote signals panel:  
pump running, selector not on AUT, failed starting, control panel and/or batteries fault.  
The panel is prearranged for installation of a GSM Modem (optional) so that pump unit alarm and/or functional status information can be sent by SMS mobile text messages.

The panel receives the signal from the pressure switches and starts the motor pump, even during mains power loss conditions. Pump running status is detected by means of a speed sensor signal (10.9.7.5)

The panel is equipped with a starting system with two 12V batteries (10.9.8.)

If one of the batteries is faulty, the panel automatically cranks the engine with the other battery (6 alternated starts)

**(\*) When the Diesel engine motor pump is commissioned on site, the failed starting alarm must be checked (EN 12845 10.9.13.2).** For this purpose there is a TEST pushbutton on the front panel to simulate 6 alternated start attempts using the two batteries without supplying fuel to the engine. At the end of the test the failed starting alarm is activated (indicator light + N.O. contact)

# LAYOUT OF PUMPS ROOM

## TECHNICAL NOTES ON THE LAYOUT OF THE PUMPS ROOM

The pumps room must be designated exclusively for fire-protection purposes (EN 12845 10.3.1).

The room must be kept at the following minimum temperatures:

- 4° C for pumps driven by an electric motor
- 10° C for pumps driven by a Diesel engine

The size of the room must take account of the need to perform maintenance and repair work.

To allow these activities in the area surrounding the pumps sufficient clearance must be provided; take account of the possible need to dismantle a complete pump or prime mover. In any event, the minimum recommended clearance between the pumps unit and the walls of the pumps room is 1 metre.

## OPERATIONS FOR DIESEL ENGINE MOTOR PUMPS

The Diesel engine motor pump, although more reliable than an electrically powered motor pump (because a Diesel engine is operational also during mains power losses), calls for special precautions to prevent excessive noise levels, vibration, exhaust gas contamination, and overheating.

The following section lists several precautions to be taken to ensure the unit functions with the maximum possible efficiency.

### DIESEL ENGINE MOTOR PUMP EXHAUST GAS.

Always route exhaust gas to the exterior of the pumps room by means of dedicated ducting connected to the exhaust silencer supplied with the Diesel engine motor pump.

The exhaust gas ducts can be attached to the ceiling or laid on the floor; the ducts must also be protected from the weather and equipped with a drainage system to discharge any condensate.

In order to remain below the maximum exhaust back pressure value (600 mm H<sub>2</sub>O for air-cooled engines and 1000 mm H<sub>2</sub>O for turbocharged – liquid cooled engines), comply with the following prescriptions:

- exhaust ducts must be no longer than 10 metres
- the cross section of the duct must be at least equal to the cross section of the engine exhaust pipe

For the calculation of the duct cross-section for lengths in excess of 10 metres, take the cross-section of the engine exhaust pipe, multiply this value by the total length of the ducting, and divide the result by 8. Reduce the number of bends as far as possible (no more than 6). Whenever bends in the ducting are necessary, ensure the largest possible radius is adopted.

### DIESEL ENGINE VENTILATION.

For optimal operation the heat irradiated from the engine and the exhaust pipes must be dispersed to the exterior of the pumps room. The engine also requires a suitable supply of clean air for the combustion process.

In the majority of cases natural circulation caused by the temperature difference between the interior and exterior is insufficient.

The following measures are therefore necessary:

- intake of fresh air by means of a dedicated intake opening protected by a fixed grille
- an extractor fan to expel air from the pumps room.

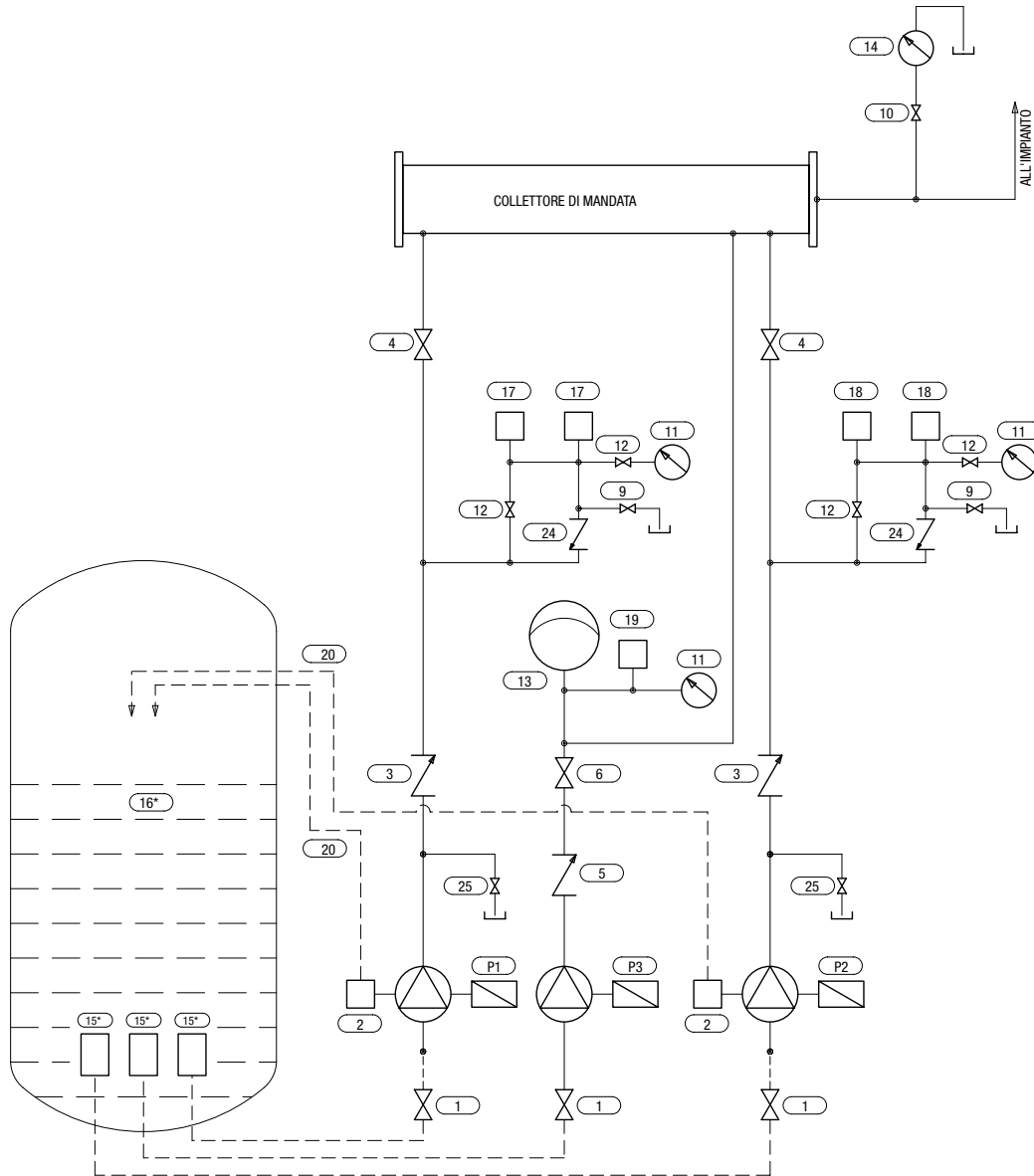
In the case of liquid-cooled engines, the section of the air intake and expulsion openings must be at least the same as the surface area of the engine radiator.

In the case of air-cooled engines, the section of the intake and expulsion openings must be such as to be able to disperse at least 50,000 litres/min. of air (data referred to the largest air-cooled Diesel engine utilised by DAB PUMPS).

# HYDRAULIC DIAGRAM

## FLOODED SUCTION HYDRAULIC DIAGRAM

According to EN 12845, '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 pipe of at least 65 mm.



REF	DENOMINATION	REF	DENOMINATION
25	Check valve test line	10*	Flow meter isolator valve
24	Check valve manual test circuit	9	Pump manual test valve
20*	Water recirculation and air bleed pipeline	6	Discharge isolator valve
19	Electric pilot pump pressure switch	5	Check valve
18	Electric pump 2 start-up pressure switch	4	Discharge isolator valve
17	Electric pump 1 start-up pressure switch	3	Check valve
16*	Water reserve	2	Water recirculation and air bleed diaphragm
15*	Suction filter	1*	Suction isolator valve
14*	Flow meter	P3	Pilot pump - jockey
13	Diaphragm expansion vessel	P2	Feed pump 2
12	Pressure switch isolator valve	P1	Feed pump 1
11	Pressure gauge		

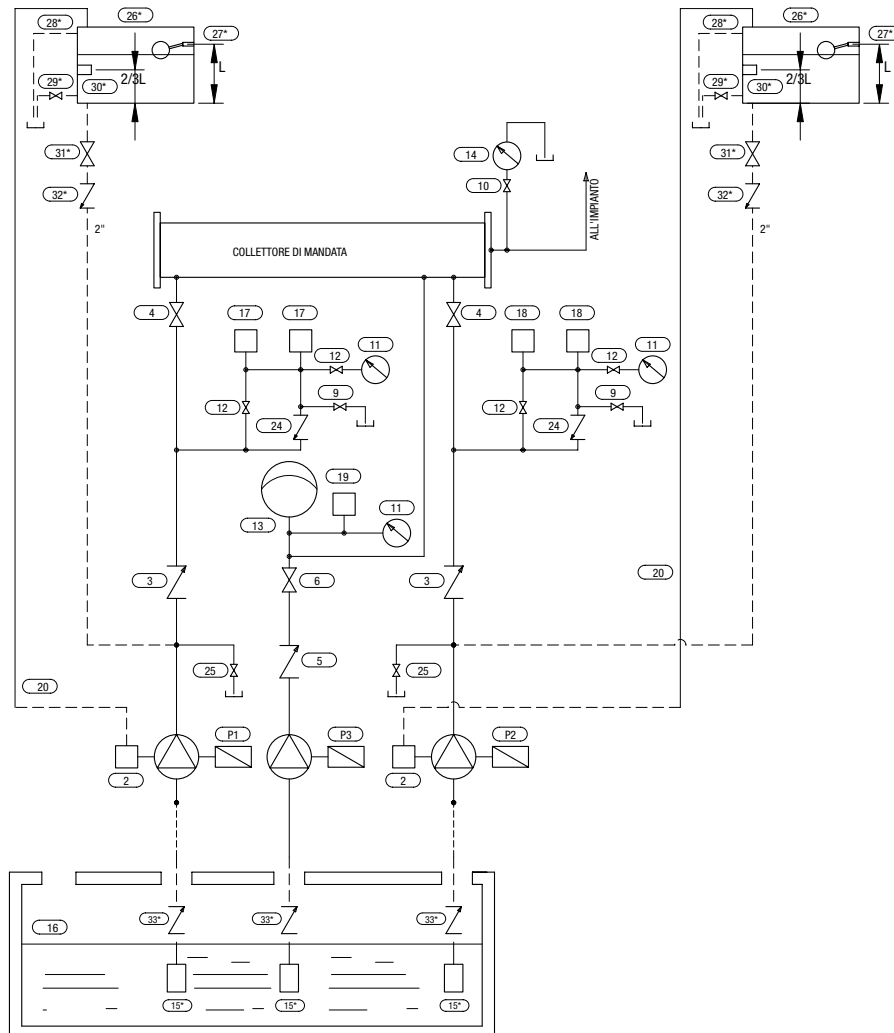
\* Components not included in the standard supply



# HYDRAULIC DIAGRAM

## SUCTION LIFT HYDRAULIC DIAGRAM

In suction lift type installation, the distance between the pump suction and tank minimum level must be less than 3.2 m. A foot valve must be installed for each pump suction line. A priming tank is required for each main pump.



REF	DENOMINATION	REF	DENOMINATION
33*	Foot valve	15*	Suction filter
32*	Lift line check valve	14*	Flow meter
31*	Lift line isolator valve	13	Diaphragm expansion vessel
30*	Tank float	12	Manual test circuit check valve
29*	Tank drain valve	11	Pressure gauge
28*	Overflow outlet	10*	Flow meter isolator valve
27*	Tank replenishment	9	Pump manual test valve
26*	Priming tank	6	Discharge isolator valve
25	Check valve test line	5	Check valve
24	Manual test circuit check valve	4	Discharge isolator valve
20*	Water recirculation and air bleed pipeline	3	Check valve
19	Electric pilot pump pressure switch	2	Water recirculation and air bleed diaphragm
18	Electric pump 2 start-up pressure switch	P3	Pilot pump - jockey
17	Electric pump 1 start-up pressure switch	P2	Feed pump 2
16*	Water reserve	P1	Feed pump 1

\* Components not included in the standard supply

# PERIODIC MAINTENANCE AND CHECKS

## MAINTENANCE, INSPECTION AND CHECKS

Standard EN 12845 awards prominence to maintenance of the fire-fighting system, including the pumps unit. The system must be maintained constantly in perfect working order.

According to EN 12845 20.1.1, the user is required to perform a programme of inspections and checks, and must have a schedule of testing, assistance and maintenance, documenting and recording all activities and retaining the documents in a specific register kept on site in the installation building.

The user is required to take steps to ensure that the programme of testing, assistance and maintenance is performed under contract by the system installer or by a similarly qualified company.

The installer must provide the user with a procedure for checking and inspecting the plant with special reference to system operation and the pumps emergency manual start-up procedures,

## WEEKLY CHECK (to be performed at intervals of no more than once every 7 days)

The following values must be checked and recorded:

- pressure gauge readings
- water levels in the tanks – water reserves
- correct position of the isolator valves

Perform tests for automatic starting of the pumps (electric motor or Diesel engine-driven) in accordance with the following procedure

- Open the manual test valve
- Check that the pumps start and make a note of the starting pressure
- Close the manual test valve

If the pump is driven by a Diesel engine, the engine must run for at least 5 minutes

- Stop the pump by pressing the STOP pushbutton
- PROCEDURE EXCLUSIVELY FOR DIESEL ENGINE MOTOR PUMPS.

Immediately after being stopped, the Diesel engine motor pump must be restarted by pressing the “OPERATE MANUAL START” manual test pushbutton

- Stop the pump by pressing the STOP pushbutton

The oil pressure and the water flow rate in engines with a heat exchanger will be monitored during the test.

## MONTHLY CHECK

Check the level and specific gravity of the acid in the cranking batteries by means of a densitometer. 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 up 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 isolator valves

## SIX-MONTHLY CHECK (at intervals of no more than 13 weeks - 20.3.3)

Check the dry alarm valves (in the system)

Check functionality of alarms in the local control room and/or Fire Department control room

## ANNUAL CHECK (at intervals of no more than 12 months)

Check operation of the feed pumps at full load and failure to start

## THREE-YEARLY CHECK

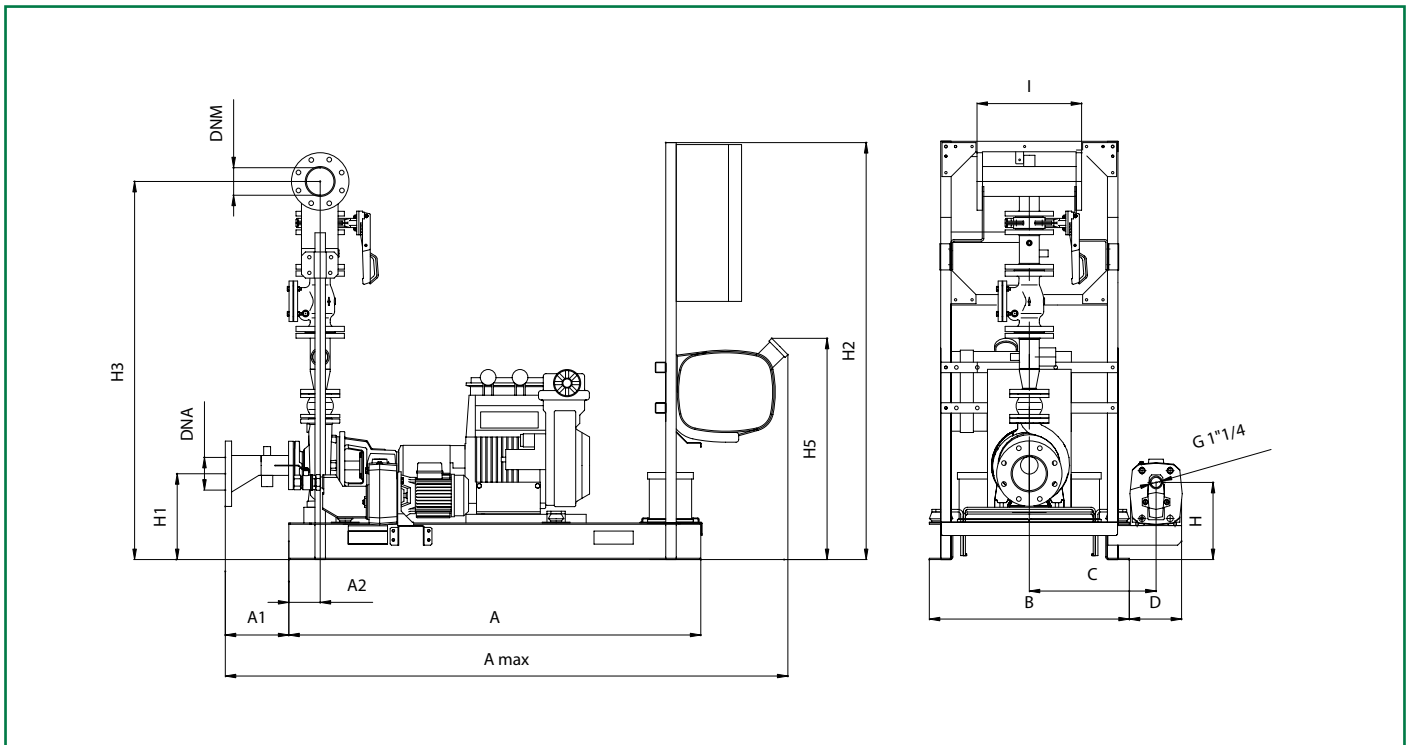
Check external and INTERNAL corrosion of the tanks and refurbish protective coatings if necessary.

Check isolator and check valves and renew if necessary

## TEN-YEARLY CHECK

After no more than 10 years clean all tanks and check the internal structure

# DIESEL ENGINE MOTOR PUMP DIMENSIONS



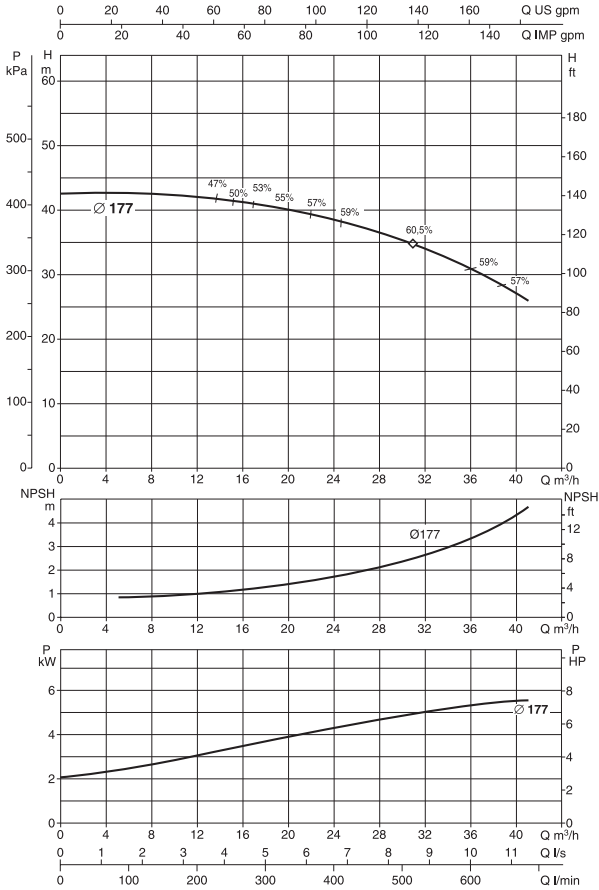
DESCRIPTION		A	A max	A1	A2	B	C	D	H	H1	H2	H3	H5	I	DNA	DNM
<b>1KDN 32-160</b>	<b>MD EN 12845</b>	1576	2110	200	120	795	485	200	295	305	1600	1320	846	400	100	80
<b>1KDN 32-200</b>	<b>MD EN 12845</b>	1576	2110	200	120	795	485	200	295	313	1600	1350	846	400	100	80
<b>1KDN 40-160</b>	<b>MD EN 12845</b>	1576	2135	225	120	795	485	200	295	300	1600	1400	846	400	125	100
<b>1KDN 40-200/200-219</b>	<b>MD EN 12845</b>	1576	2155	245	120	795	485	200	295	328	1600	1445	846	400	125	100
<b>1KDN 40-250/230-240</b>	<b>MD EN 12845</b>	1576	2155	245	120	795	485	200	295	328	1600	1490	846	400	125	100
<b>1KDN 40-250/260</b>	<b>MD EN 12845</b>	1576	2155	245	120	795	485	200	295	348	1600	1510	846	400	125	100
<b>1KDN 50-160/161</b>	<b>MD EN 12845</b>	1576	2170	260	120	795	485	200	295	294	1600	1475	846	400	150	125
<b>1KDN 50-160/177</b>	<b>MD EN 12845</b>	1576	2170	260	120	795	485	200	295	314	1600	1495	846	400	150	125
<b>1KDN 50-200/190</b>	<b>MD EN 12845</b>	1576	2170	260	120	795	485	200	295	314	1600	1515	846	400	150	125
<b>1KDN 50-200/210</b>	<b>MD EN 12845</b>	1576	2170	260	120	795	485	200	295	314	1600	1515	846	400	150	125
<b>1KDN 50-200/219</b>	<b>MD EN 12845</b>	1576	2170	260	120	795	485	200	295	334	1600	1535	846	400	150	125
<b>1KDN 50-250/230-250</b>	<b>MD EN 12845</b>	1576	2170	260	120	795	485	200	295	334	1600	1560	846	400	150	125
<b>1KDN 65-160/153</b>	<b>MD EN 12845</b>	1576	2185	275	120	795	485	200	295	275	1600	1565	846	400	200	125
<b>1KDN 65-160/177</b>	<b>MD EN 12845</b>	1576	2185	275	120	795	485	200	295	295	1600	1585	846	400	200	125
<b>1KDN 65-200/190</b>	<b>MD EN 12845</b>	1576	2185	275	120	795	485	200	295	295	1600	1610	846	400	200	125
<b>1KDN 65-200/200-219</b>	<b>MD EN 12845</b>	1576	2185	275	120	795	485	200	295	315	1600	1630	846	400	200	125

# HYDRAULIC DATA

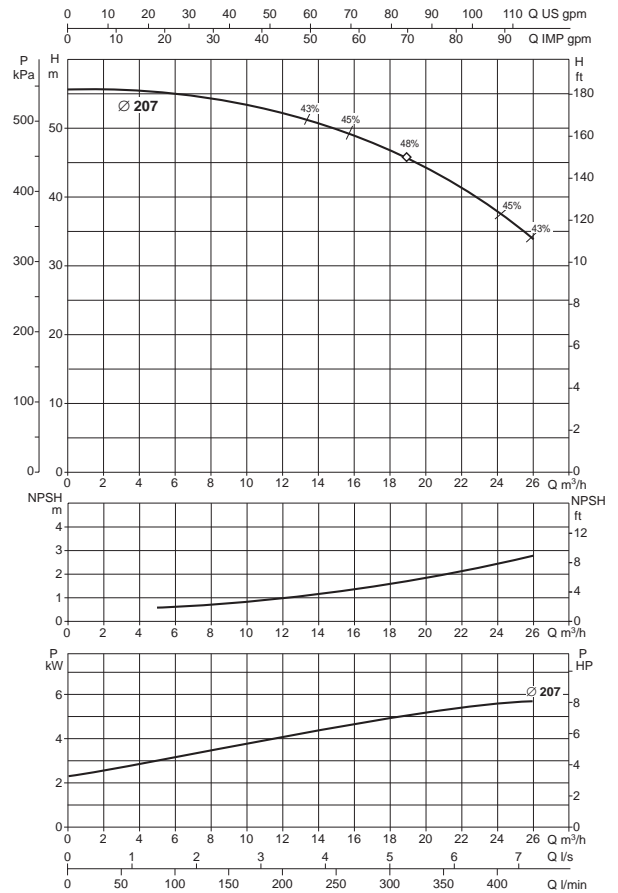
MODEL	Q m³/h	0	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	102	114	120	150	
	Q l/min	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1700	1900	2000	2500	
1KDN 32-160/177		41.8		41.5	40.5	38.4	35.3	31.4														
1KDN 32-200.1/207		55.3	55	51.8	46.4	37																
1KDN 32-200/180		39		38.5	36.5	32.5	28															
1KDN 32-200/200		51		49	48	45	40.5	35														
1KDN 32-200/219		63		62	61	59	56.5	52.5	46.5	39.5												
1KDN 40-160/161		34.5			34.5	34.4	33.7	32.3	30.5	28.5	25.8	22.5										
1KDN 40-160/177		42.6			42.5	42.4	42	41.5	40	38.5	35	33	30									
1KDN 40-200/200		48.7			48.4	48.2	47.5	46.5	44	41.5	38.5	34.5										
1KDN 40-200/219		60			59.8	59.7	59.4	59	57	55	52.5	49.5	46	40								
1KDN 40-250/230		69.5			69.3	68.5	67.8	66	63.5	61	58	55	51									
1KDN 40-250/240		76.3			76	75.8	75	73	70.5	68	65	62	58.5									
1KDN 40-250/260		91			90.5	90	89.5	88.5	86.5	84	81	78	74									
1KDN 50-160/161		33.8					33.7	33.7	33.6	33.6	33.3	32.5	31.8	31	29.8	28.5	27.5					
1KDN 50-160/177	H (M)	41.6					41.5	41.5	41.3	41.2	41	40.6	40.5	39.5	38.8	38	36.7	33.5				
1KDN 50-200/190		47.2					46.8	46.6	46	45.7	44.5	43.5	42	40	38	35.5	33					
1KDN 50-200/210		58.4					58.4	58.2	58	57.5	56.5	55.5	54	52.5	51	49	46.5	41.5				
1KDN 50-200/219		64					64	64	64	63.5	62.5	61.5	60	58.5	57	55	53	48.5				
1KDN 50-250/230		69.6					69.3	69	68.8	68.5	68	66	64	62	60	57	54	45				
1KDN 50-250/250		83.2					83	82.9	82.8	83.5	82	80.5	78.5	77	75	72.5	70	64				
1KDN 65-160/153		29.1								28.8	28.5	28.6	28.5	28	27.5	26.6	26	24	22	21		
1KDN 65-160/177		40.1								39.9	39.8	39.7	40	39.8	39.5	39	38.5	37.2	35.5	34.7	28.5	
1KDN 65-200/190		48.3								48.2	48.1	48	47.9	47.5	47	41	45	43	40.5	39		
1KDN 65-200/200		53.2								53.1	52.9	52.8	52.7	52.5	52.3	52	51.8	50	48	46.5		
1KDN 65-200/219		64.9								64.9	64.8	64.5	64.3	64.1	64	63.8	62.5	62.4	61	60	52.5	
1KDN 65-250/230		69.5								69.5	69	68.5	68	67	66	65	64	63	58.5	56.5		
1KDN 65-250/250		83								82.3	82.3	82.2	82	81.5	81	80	79	76.5	73.5	72	60	
1KDN 65-250/263		92.6								91.8	91.8	91.7	91.5	91.5	91	90	89.5	87.5	85	83	72.5	

# HYDRAULIC DATA

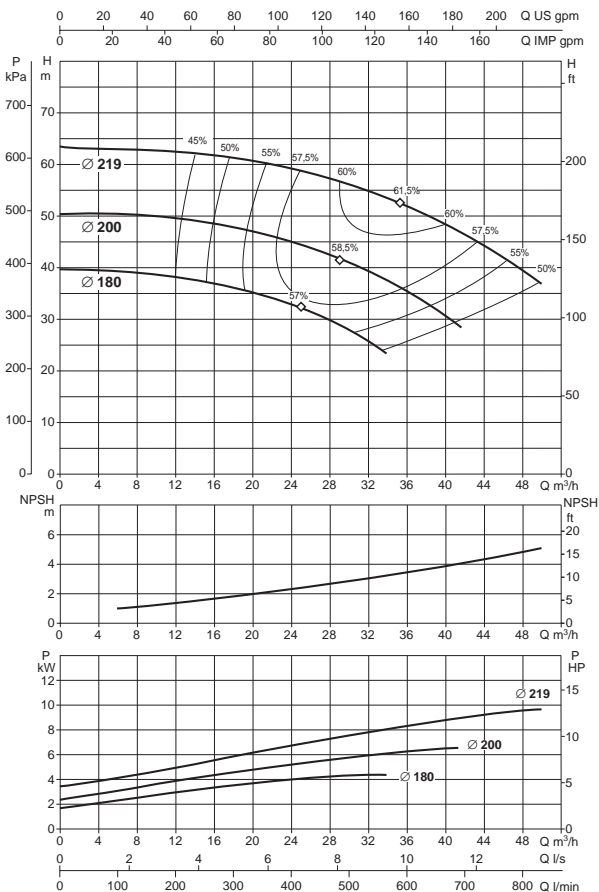
## 1KDN 32-160 = 2900 1/min



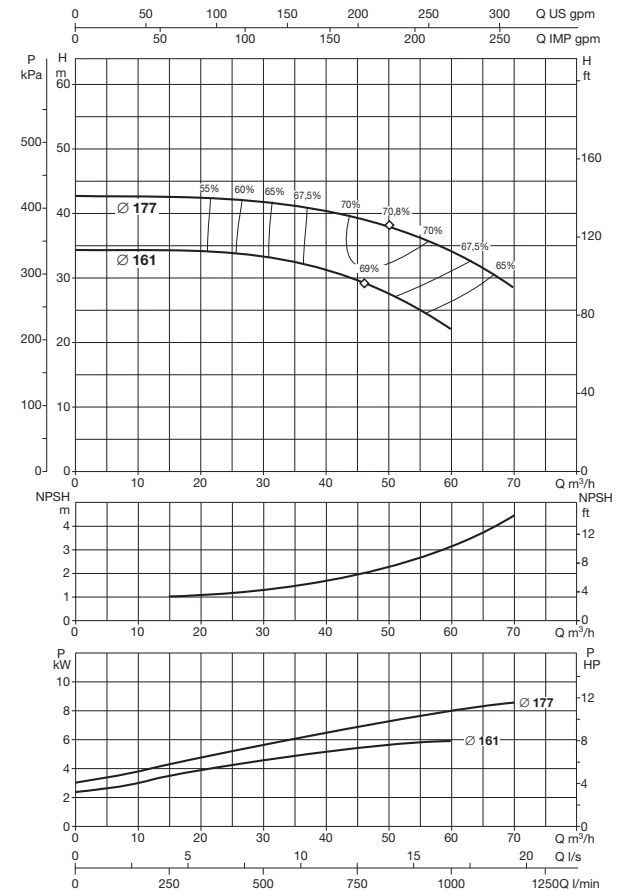
## 1KDN 32-200.1 = 2900 1/min



## 1KDN 32-200 = 2900 1/min

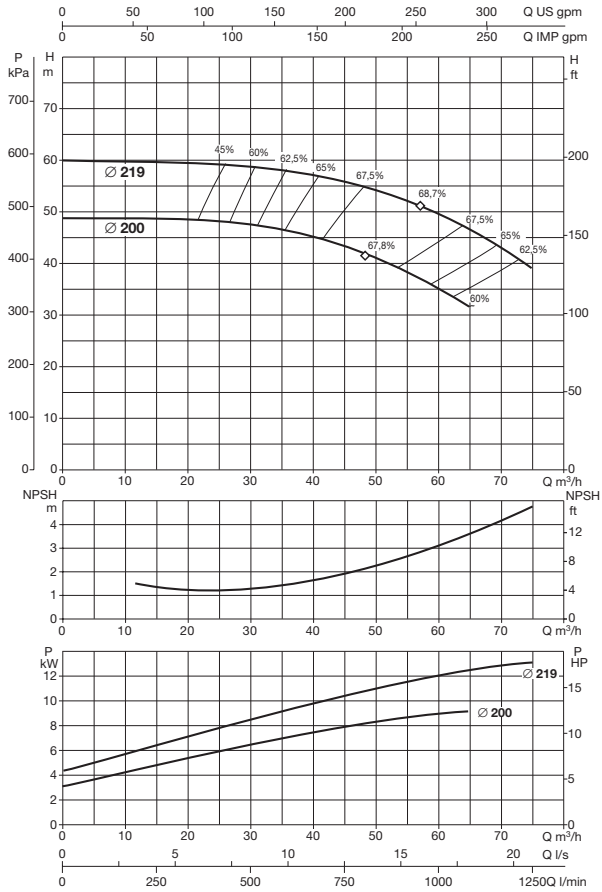


## 1KDN 40-160 = 2900 1/min

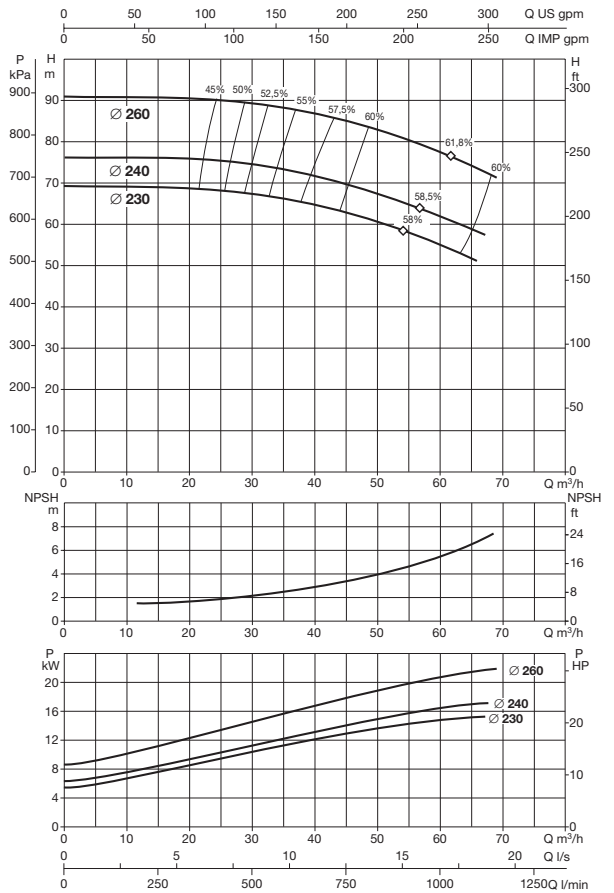


# HYDRAULIC DATA

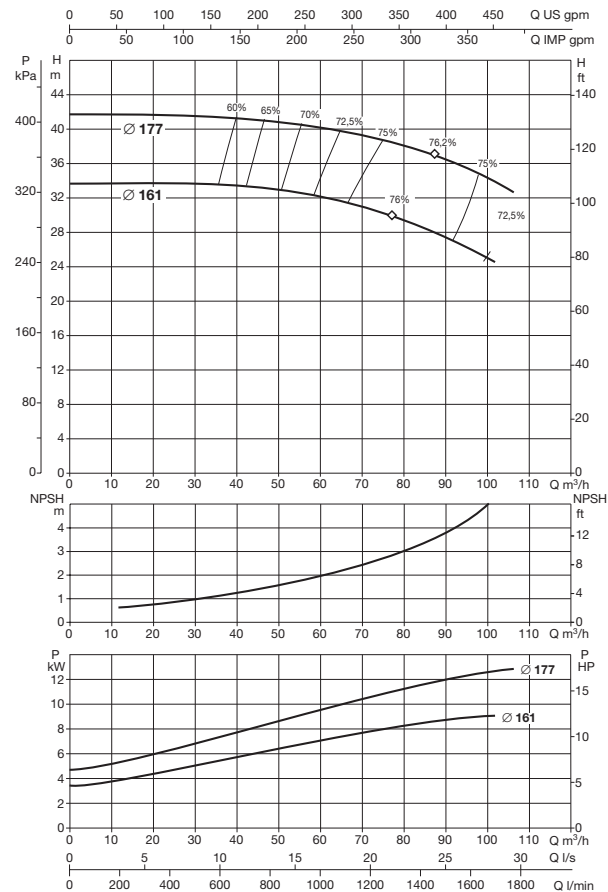
**1KDN 40-200 = 2900 1/min**



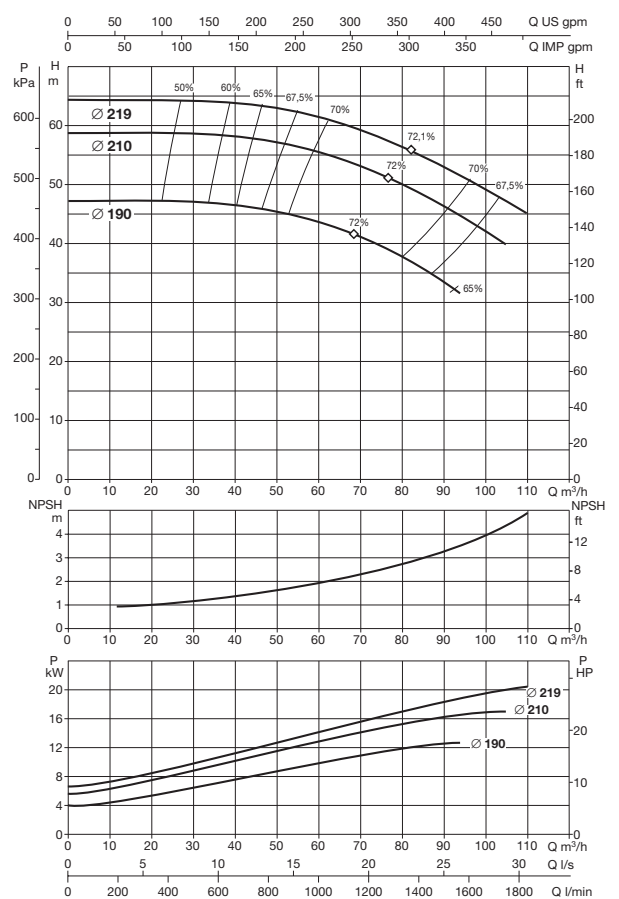
**1KDN 40-250 = 2900 1/min**



**1KDN 50-160 = 2900 1/min**



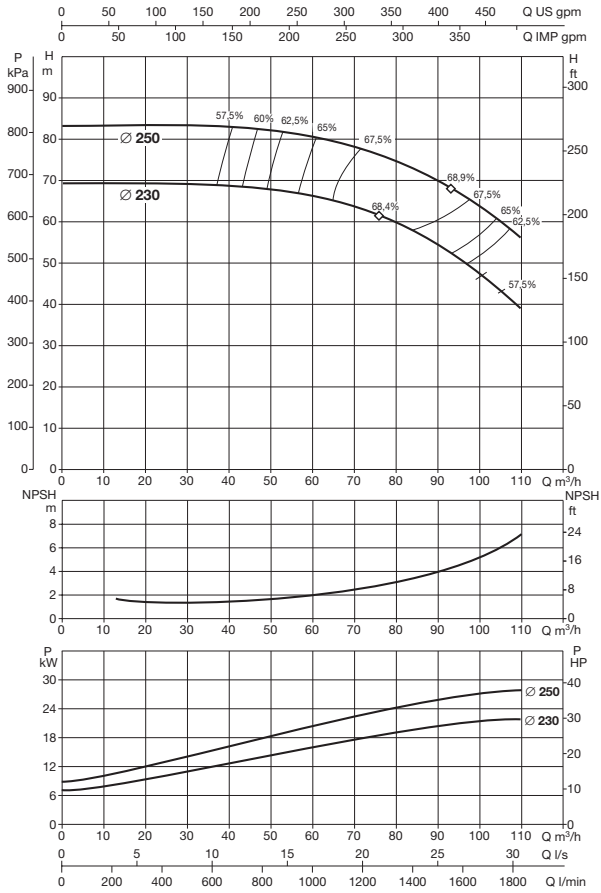
**1KDN 50-200 = 2900 1/min**



# HYDRAULIC DATA

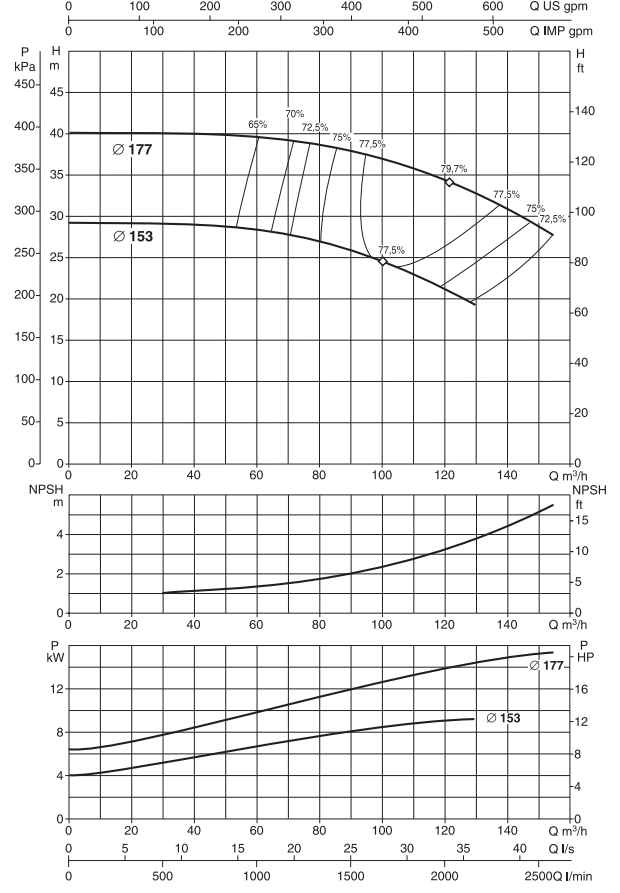
## 1KDN 50-250

= 2900 1/min



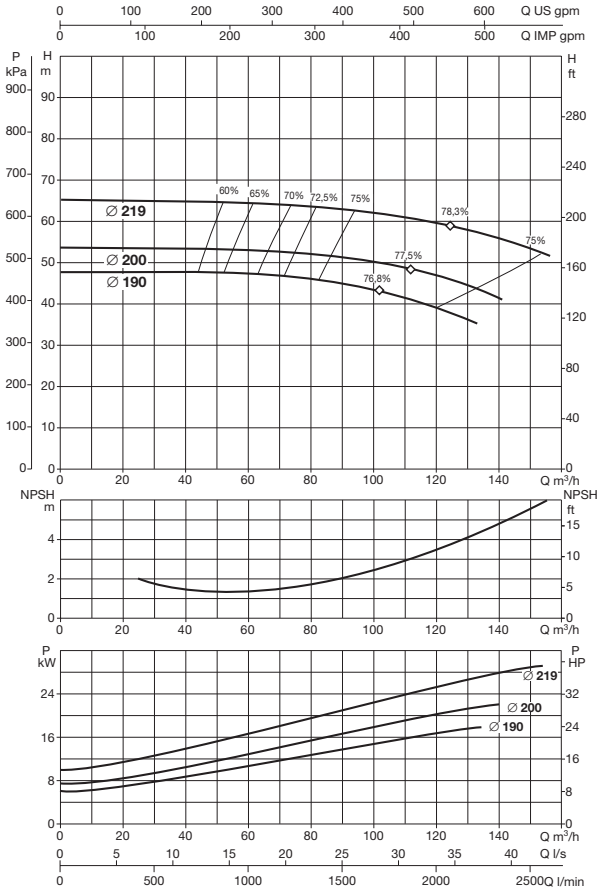
## 1KDN 65-160

= 2900 1/min



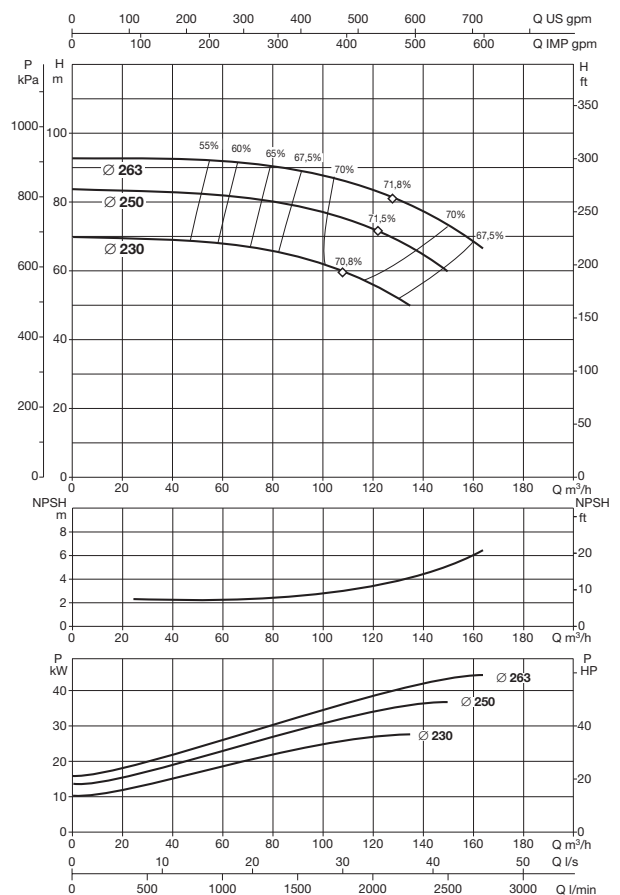
## 1KDN 65-200

= 2900 1/min



## 1KDN 65-250

= 2900 1/min



# ELECTRIC MOTOR PUMP DATA

## 1KDN ELECTRIC MOTOR PUMP EN 12845

MODEL	SUPPLY	PILOT PUMP *	P2 MAIN PUMP		P2 PILOT PUMP		FLOW METER KIT
			kW	HP	kW	HP	
1KDN 32-160/177 5,5	3 x 400 V	JET 251 T	5,5	7,5	1,85	2,5	KDN 32 EN 12845
1KDN 32-200.1/207 7,5	3 x 400 V	JET 251 T	7,5	10	1,85	2,5	KDN 32 EN 12845
1KDN 32-200/180 5,5	3 x 400 V	JET 251 T	5,5	7,5	1,85	2,5	KDN 32 EN 12845
1KDN 32-200/200 7,5	3 x 400 V	JET 251 T	7,5	10	1,85	2,5	KDN 32 EN 12845
1KDN 32-200/219 11	3 x 400 V	JET 251 T	11	15	1,85	2,5	KDN 32 EN 12845
1KDN 40-160/161 7,5	3 x 400 V	JET 251 T	7,5	10	1,85	2,5	KDN 40 EN 12845
1KDN 40-160/177 11	3 x 400 V	JET 251 T	11	15	1,85	2,5	KDN 40 EN 12845
1KDN 40-200/200 11	3 x 400 V	JET 251 T	11	15	1,85	2,5	KDN 40 EN 12845
1KDN 40-200/219 15	3 x 400 V	JET 251 T	15	20	1,85	2,5	KDN 40 EN 12845
1KDN 40-250/230 15	3 x 400 V	JET 251 T	15	20	1,85	2,5	KDN 40 EN 12845
1KDN 40-250/240 18,5	3 x 400 V	JET 251 T	18,5	25	1,85	2,5	KDN 40 EN 12845
1KDN 40-250/260 22	3 x 400 V	JET 251 T	22	30	1,85	2,5	KDN 40 EN 12845
1KDN 50-160/161 11	3 x 400 V	JET 251 T	11	15	1,85	2,5	KDN 50 EN 12845
1KDN 50-160/177 15	3 x 400 V	JET 251 T	15	20	1,85	2,5	KDN 50 EN 12845
1KDN 50-200/190 15	3 x 400 V	JET 251 T	15	20	1,85	2,5	KDN 50 EN 12845
1KDN 50-200/210 18,5	3 x 400 V	JET 251 T	18,5	25	1,85	2,5	KDN 50 EN 12845
1KDN 50-200/219 22	3 x 400 V	JET 251 T	22	30	1,85	2,5	KDN 50 EN 12845
1KDN 50-250/230 22	3 x 400 V	JET 251 T	22	30	1,85	2,5	KDN 50 EN 12845
1KDN 50-250/250 30	3 x 400 V	JET 251 T	30	40	1,85	2,5	KDN 50 EN 12845
1KDN 65-160/153 11	3 x 400 V	JET 251 T	11	15	1,85	2,5	KDN 65 EN 12845
1KDN 65-160/177 15	3 x 400 V	JET 251 T	15	20	1,85	2,5	KDN 65 EN 12845
1KDN 65-200/190 18,5	3 x 400 V	JET 251 T	18,5	25	1,85	2,5	KDN 65 EN 12845
1KDN 65-200/200 22	3 x 400 V	JET 251 T	22	30	1,85	2,5	KDN 65 EN 12845
1KDN 65-200/219 30	3 x 400 V	JET 251 T	30	40	1,85	2,5	KDN 65 EN 12845
1KDN 65-250/230 30	3 x 400 V	JET 251 T	30	40	1,85	2,5	KDN 65 EN 12845
1KDN 65-250/250 37	3 x 400 V	JET 251 T	37	50	1,85	2,5	KDN 65 EN 12845
1KDN 65-250/263 45	3 x 400 V	JET 251 T	45	60	1,85	2,5	KDN 65 EN 12845

\* Pilot pump on request.



# DIESEL ENGINE MOTOR PUMP DATA

## 1KDN DIESEL ENGINE MOTOR PUMP EN 12845

MODEL	BATTERY CHARGER SUPPLY	PILOT PUMP *	** P2 DIESEL ENGINE MOTOR PUMP		P2 PILOT PUMP		FLOW METER KIT
			kW	HP	kW	HP	
1KDN 32-160/177 MD	1 x 220-240 V	JET 251 T	8,6	12	1,85	2,5	KDN 32 EN 12845
1KDN 32-200.1/207 MD	1 x 220-240 V	JET 251 T	8,6	12	1,85	2,5	KDN 32 EN 12845
1KDN 32-200/180 MD	1 x 220-240 V	JET 251 T	8,6	12	1,85	2,5	KDN 32 EN 12845
1KDN 32-200/200 MD	1 x 220-240 V	JET 251 T	8,6	12	1,85	2,5	KDN 32 EN 12845
1KDN 32-200/219 MD	1 x 220-240 V	JET 251 T	8,6	12	1,85	2,5	KDN 32 EN 12845
1KDN 40-160/161 MD	1 x 220-240 V	JET 251 T	8,6	12	1,85	2,5	KDN 40 EN 12845
1KDN 40-160/177 MD	1 x 220-240 V	JET 251 T	8,6	12	1,85	2,5	KDN 40 EN 12845
1KDN 40-200/200 MD	1 x 220-240 V	JET 251 T	13	17	1,85	2,5	KDN 40 EN 12845
1KDN 40-200/219 MD	1 x 220-240 V	JET 251 T	13	17	1,85	2,5	KDN 40 EN 12845
1KDN 40-250/230 MD	1 x 220-240 V	JET 251 T	17,7	24	1,85	2,5	KDN 40 EN 12845
1KDN 40-250/240 MD	1 x 220-240 V	JET 251 T	17,7	24	1,85	2,5	KDN 40 EN 12845
1KDN 40-250/260 MD	1 x 220-240 V	JET 251 T	26	35	1,85	2,5	KDN 40 EN 12845
1KDN 50-160/161 MD	1 x 220-240 V	JET 251 T	8,6	12	1,85	2,5	KDN 50 EN 12845
1KDN 50-160/177 MD	1 x 220-240 V	JET 251 T	13	17	1,85	2,5	KDN 50 EN 12845
1KDN 50-200/190 MD	1 x 220-240 V	JET 251 T	13	17	1,85	2,5	KDN 50 EN 12845
1KDN 50-200/210 MD	1 x 220-240 V	JET 251 T	17,7	24	1,85	2,5	KDN 50 EN 12845
1KDN 50-200/219 MD	1 x 220-240 V	JET 251 T	26	35	1,85	2,5	KDN 50 EN 12845
1KDN 50-250/230 MD	1 x 220-240 V	JET 251 T	26	35	1,85	2,5	KDN 50 EN 12845
1KDN 50-250/250 MD	1 x 220-240 V	JET 251 T	26	35	1,85	2,5	KDN 50 EN 12845
1KDN 65-160/153 MD	1 x 220-240 V	JET 251 T	8,6	12	1,85	2,5	KDN 65 EN 12845
1KDN 65-160/177 MD	1 x 220-240 V	JET 251 T	13	17	1,85	2,5	KDN 65 EN 12845
1KDN 65-200/190 MD	1 x 220-240 V	JET 251 T	17,7	24	1,85	2,5	KDN 65 EN 12845
1KDN 65-200/200 MD	1 x 220-240 V	JET 251 T	26	35	1,85	2,5	KDN 65 EN 12845
1KDN 65-200/219 MD	1 x 220-240 V	JET 251 T	26	35	1,85	2,5	KDN 65 EN 12845
1KDN 65-250/230 MD	1 x 220-240 V	JET 251 T	26	35	1,85	2,5	KDN 65 EN 12845
1KDN 65-250/250 MD	1 x 220-240 V	JET 251 T	33	45	1,85	2,5	KDN 65 EN 12845
1KDN 65-250/263 MD	1 x 220-240 V	JET 251 T	48	64	1,85	2,5	KDN 65 EN 12845

\* Pilot pump on request.

\*\* Continuous power ISO 3046. The engine is able to deliver +10% of the power required by the pump.

# ACCESSORIES

## COUPLING KIT

The coupling kit is composed of a combing manifold with screws and gaskets to join the two manifolds of the units to one pump in such a way as to obtain a two-pump unit.

UNIT MODEL	COUPLING KIT
1KDN 32	COUPLING KIT 2KDN 32 EN 12845
1KDN 40	COUPLING KIT 2KDN 40 EN 12845
1KDN 50	COUPLING KIT 2KDN 50 EN 12845
1KDN 65	COUPLING KIT 2KDN 65 EN 12845

## FLOW METER

The flow meter must be installed on a branch line on the discharge manifold. For this purpose DAB PUMPS can supply KITS that are suitable for both 1 and 2-pump units.

UNIT MODEL	FLOW METER KIT
1KDN 32	FLOW METER KIT KDN 32 EN 12845
1KDN 40	FLOW METER KIT KDN 40 EN 12845
1KDN 50	FLOW METER KIT KDN 50 EN 12845
1KDN 65	FLOW METER KIT KDN 65 EN 12845

## ISOLATOR VALVES FOR THE SUCTION LINE

1 butterfly valve must be installed for each pump exclusively in the case of flooded suction installation.

UNIT MODEL	BUTTERFLY VALVE
1-2 KDN 32	BUTTERFLY VALVE DN100
1-2 KDN 40	BUTTERFLY VALVE DN125
1-2 KDN 50	BUTTERFLY VALVE DN150
1-2 KDN 65	BUTTERFLY VALVE DN200

## ANTIVIBRATION COUPLINGS FOR SUCTION LINE

The antivibration coupling helps reduce the level of vibration transmitted to the system although it is not a prescription of standard EN 12845

UNIT MODEL	ANTIVIBRATION COUPLING
1-2 KDN 32	ANTIVIBRATION COUPLING DN100
1-2 KDN 40	ANTIVIBRATION COUPLING DN125
1-2 KDN 50	ANTIVIBRATION COUPLING DN150
1-2 KDN 65	ANTIVIBRATION COUPLING DN200

## ANTIVIBRATION COUPLINGS FOR DISCHARGE MANIFOLDS

The antivibration coupling helps reduce the level of vibration transmitted to the system although it is not a prescription of standard EN 12845

UNIT MODEL	ANTIVIBRATION COUPLING
1-2 KDN 32	ANTIVIBRATION COUPLING 2" ½
1-2 KDN 40	ANTIVIBRATION COUPLING DN 80
1-2 KDN 50	ANTIVIBRATION COUPLING DN100
1-2 KDN 65	ANTIVIBRATION COUPLING DN125

## PRIMING TANK

A 500 l priming tank must be installed for each of the main pumps exclusively in the case of SUCTION LIFT configuration. The priming tank is complete with valves and float.

500 l PRIMING TANK

## REMOTE SIGNALLING PANEL

Panel to be installed in a permanently manned location for audible and illuminated indications in compliance with EN 12845, to be connected to the contacts on the terminal board of the electric motor pump and/or Diesel engine motor pump

- Diesel engine motor pump: power/phase presence, pump start request, pump running, failed starting
- electric motor pump: pump running, selector not on AUT, failed starting, control panel fault





PUMP PERFORMANCE

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