

DNA

SUBMERSIBLE PUMPS



Elettropompe sommergibili con girante Vortex

Submersible electropumps with Vortex impeller

| | |
|---------------------|-----------------------|
| Potenze / Power: | 0.9÷2.2 kW |
| Mandate / Delivery: | DN50 - 65 - 80 |



Impieghi

La serie DNA trova impiego nel pompaggio di liquidi biologici e fognari. L'ampio passaggio di corpi solidi, la rendono particolarmente idonea ad essere utilizzata su depuratori, impianti fognari pubblici e privati, industrie zootecnia. Le versioni a 4 poli si prestano ad essere impiegate nella condizione di servizio continuo S1, e si distinguono per l'elevata silenziosità di funzionamento.

Caratteristiche

Tutti i componenti principali sono realizzati su Ghisa GG20. Due tenute meccaniche contrapposte in bagno d'olio, garantiscono il perfetto funzionamento.

Motori

- Motori asincroni 2-4 poli con rotore a gabbia di scoiattolo
- Protezione termica incorporata (DNA ...-2/220 e DNA ...-4/090 termico T1 e T2 incorporato nel motore da collegare al quadro elettrico)
- Isolamento statore classe F (155°C)
- Grado protezione IP 68

Raffreddamento

Raffreddamento effettuato dal liquido nel quale la pompa è immersa.

Limiti di impiego

- Temperatura massima del liquido: 40°C con unità completamente sommersa
- Massima profondità di immersione: 20m
- Valori pH ammessi: 6-10
- Caratteristiche idrauliche valide per liquidi di densità <1,1 kg/dm³
- Tensioni ammesse: 230V/400V ±5%
- Frequenza ammessa: 50Hz ±2%

Application

The DNA Series is used for sewage and waste water. Its wide channel permits the free passage of solids rendering it particularly useful in water treatment plants, domestic, municipal and farming applications. The 4 pole version can be used in applications where continuous S1 service is needed and are characterised by their quiet operation.

Characteristic

The main components are fabricated in cast iron GG20. The Double mechanical seal in a back to back configuration located in the oil chamber guarantee long durability to the product.

Motor range

- Squirrel cage motor in 2 and 4 pole version
- Thermal protection embedded in the winding (In the DNA ...-2/220 and DNA ...-4/090 model the thermal protection T1 and T2 conductor to be wired to the control panel)
- Insulation class F 155°C
- Motor protection IP 68

Motor cooling

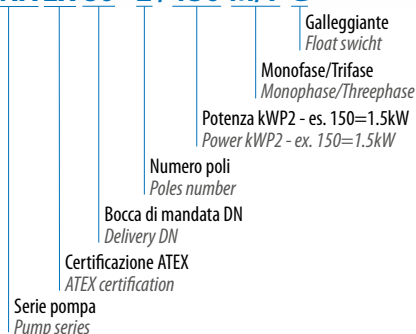
The cooling of the motor is ensured by the liquid where the pump is submerged.

Limits of use

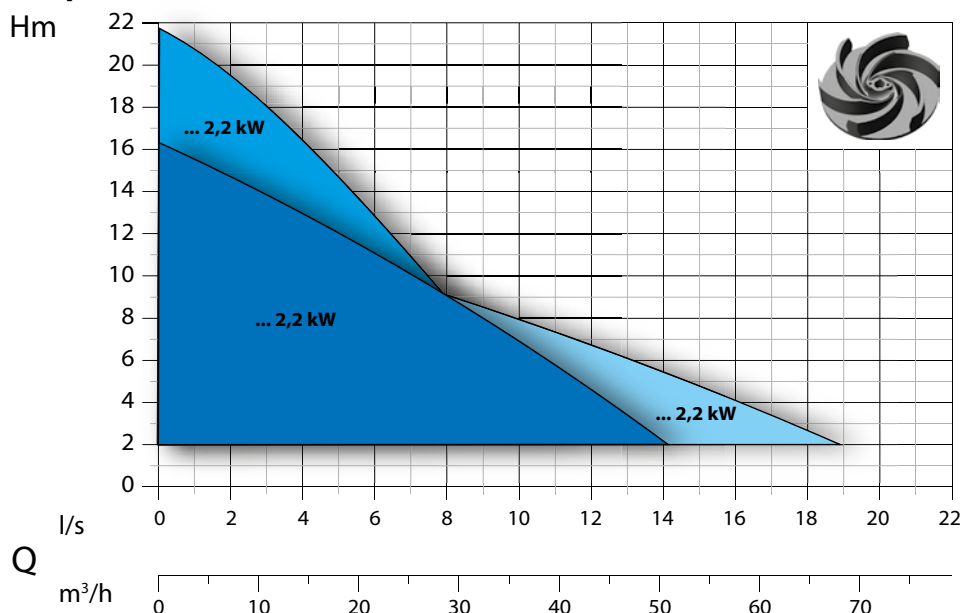
- Max. permissible liquid temperature: 40°C with pump fully submerged
- Maximum depth of immersion: 20 mt.
- Permissible pH value: 6-10
- Hydraulic features suitable for liquids with density <1,1 kg/dm³
- Allowed voltage: 230V/400V ±5%
- Allowed frequency: 50Hz ±2%

Designazione / Designation

DNA EX 80 - 2 / 150 M/T G



Campo di Prestazione / Performance Overview



Identificazione Curve

Curves Identification

- DN50
- DN65
- DN80

Normative

Norms

Curve secondo ISO 9906:2012 3B2
According to ISO 9906:2012 3B2

Distinta dei componenti e materiali

List of components and materials

DNA

Manico - Handle

Acciaio Inox - Stainless steel

Coperchio Motore - Motor Cover

Ghisa GG20 - Cast Iron GG20

Cassa Motore - Motor Casing

Ghisa GG20 - Cast Iron GG20

Albero Motore - Motor Shaft

Acciaio Inox AISI 420 - Stainless steel AISI 420

Motore elettrico - Electric Motor

Flangia Porta cuscinetto - Flange Bearing Support

Ghisa GG20 - Cast Iron GG20

Doppia Tenuta Meccanica - Double Mechanical Seal

Lato motore carbone/ceramica - Motor side: Carbon/Ceramic (CA/CE/Viton)

Lato girante carburo di silicio - Impeller side: Silicon carbide (SIC/SIC/Viton)

Configurazione ATEX - ATEX Configuration

Lato motore : tenuta a labbro - Motor side: Lip seal

Lato girante carburo di silicio - Impeller side: Silicon carbide (SIC/SIC/Viton)

Girante - Impeller

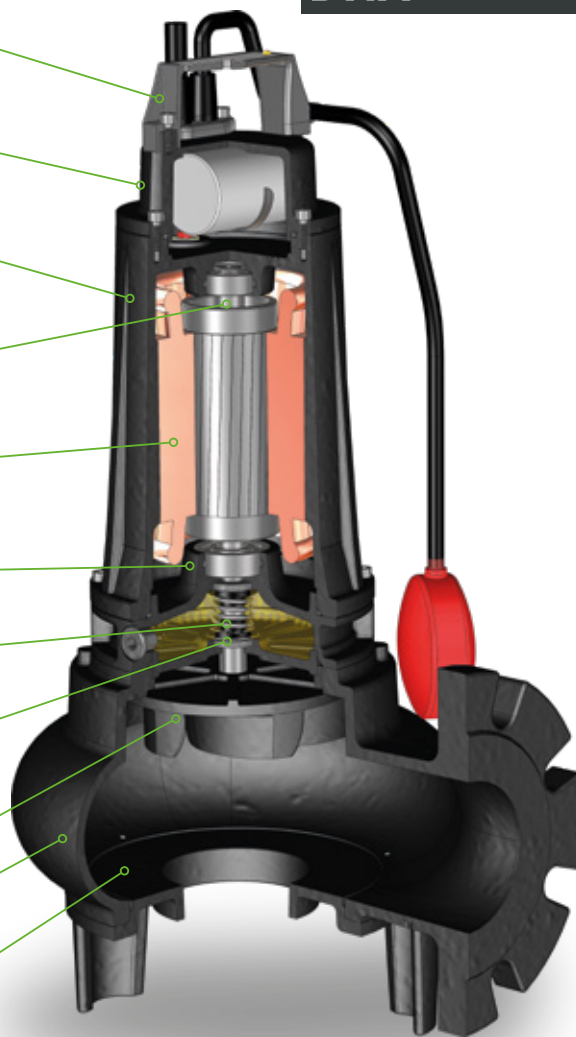
Ghisa GG20 - Cast Iron GG20

Corpo Pompa - Body Pump

Ghisa GG20 - Cast Iron GG20

Coperchio Chiusura - Wearing Plate

Ghisa GG20 - Cast Iron GG20



Tecnologie e Soluzioni

Technology and Features



Pompe antideflagranti

Tutta la serie è disponibile con certificato ATEX su richiesta

Explosion proof pumps

Pumps with explosion proof available on request.



EPT 17 ATEX 2701 X



II 2G Ex db IIB T4 Gb
Ex h IIB T4 Gb
0° ≤ Ta ≤ 40°



Relé di Comando

Per il funzionamento del galleggiante su motori trifase fino a 1,5 kW 2 poli. ATEX escluso.

Relay

For the correct operating of the float switch on the three-phase version, up to 1,5 kW 2 poles. ATEX excluded.

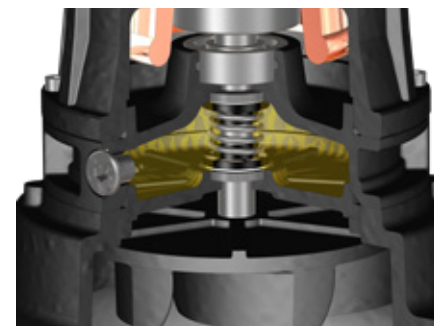


Passaggio Solidi

Passaggio integrale di corpi solidi.

Solids Handling

Full free passage of solids.



Camera Olio

Totale Lubrificazione tenute garantita anche nelle condizioni più estreme. La camera olio è ispezionabile.

Oil Chamber

Excellent lubrication of the mechanical seals even in the harshest pumping conditions. Inspectional oil chamber.

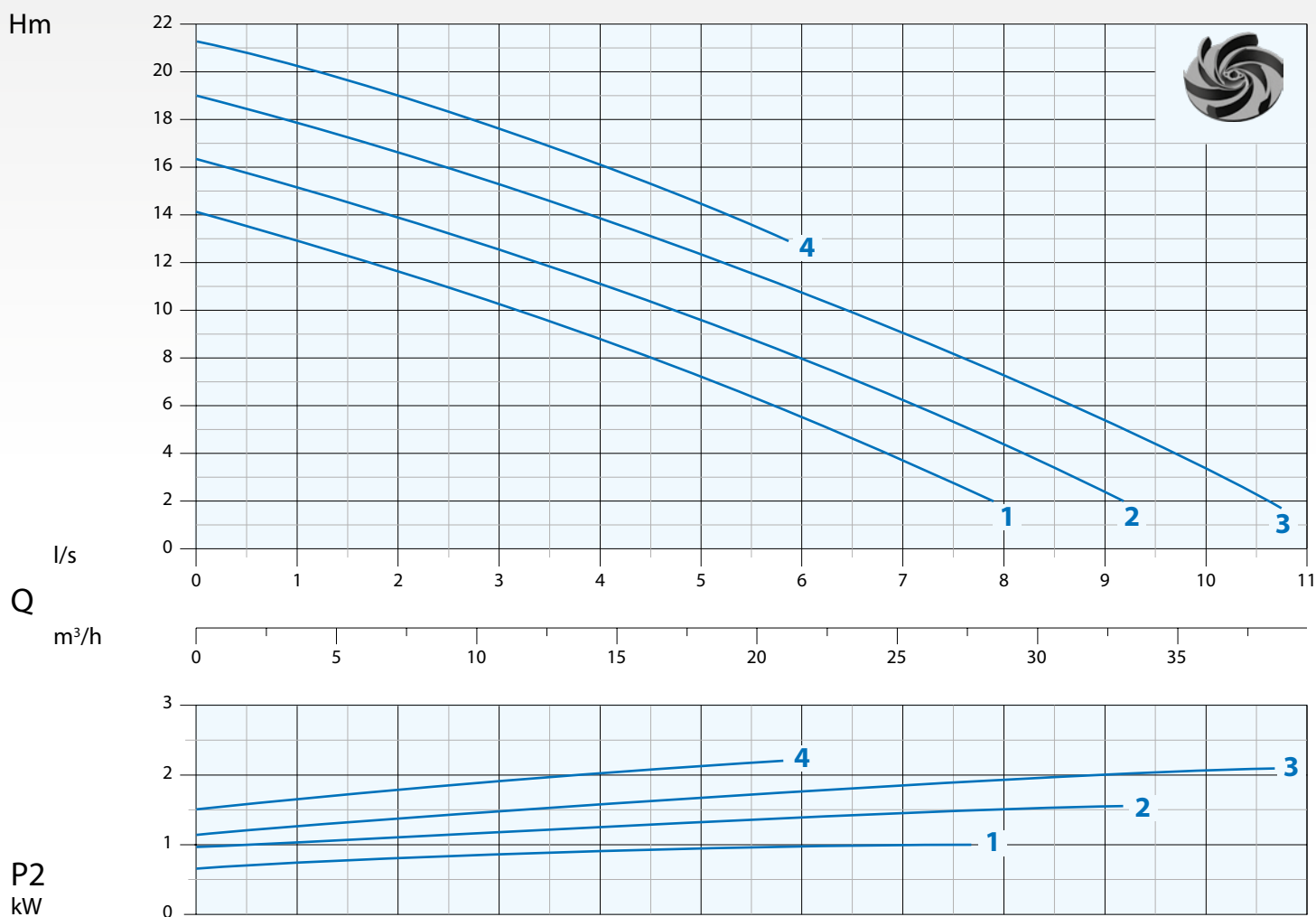
Mandata Orizzontale DN50 PN10 - G 2" - RPM 2850 1/min 2 poli

Horizontal Outlet DN50 PN10 - G 2" - RPM 2850 1/min 2 poles

Immagine a solo scopo illustrativo
Picture for illustration purposes only



Curva di Prestazione Performance Curve



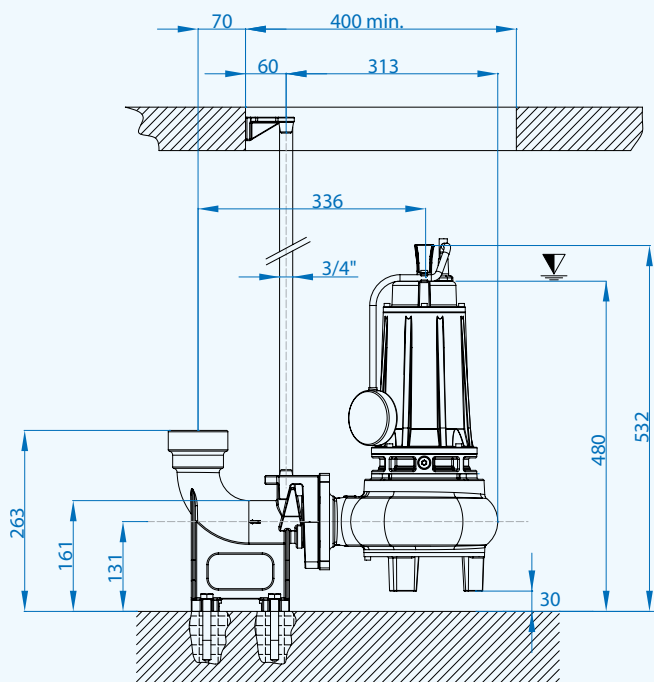
| N° | Tipo Type | EX | Mandata Delivery | Passaggio Free Passage | kW | | HP | R.P.M. 1/min | A | | Hz | |
|----|------------------|----|---------------------|---------------------------|-----|-----|-----|-----------------|----------------|----------------|-----|----|
| | | | | | P1 | P2 | | | 1 Phase - 230V | 3 Phase - 400V | | |
| 1 | DNA 50-2/110 M/T | • | DN50 PN10 - G 2" | 50 mm | 1,6 | 1,1 | 1,5 | 2850 | 7,8 | 30 | 2,9 | 50 |
| 2 | DNA 50-2/150 M/T | • | | | 2,1 | 1,5 | 2 | | 9,9 | 32 | 3,6 | |
| 3 | DNA 50-2/220 T | • | | | 3,0 | 2,2 | 3 | | | | 5,3 | |
| 4 | DNA 50-2/220-1 T | • | | | 3,0 | 2,2 | 3 | | | | 5,3 | |

• Pompa antideflagrante disponibile con certificazione
Available explosion proof pump

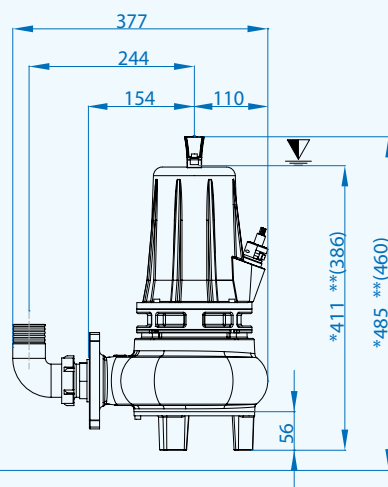


Ex db IIB T4 Gb
Ex h IIB T4 Gb
0° ≤ Ta ≤ 40°

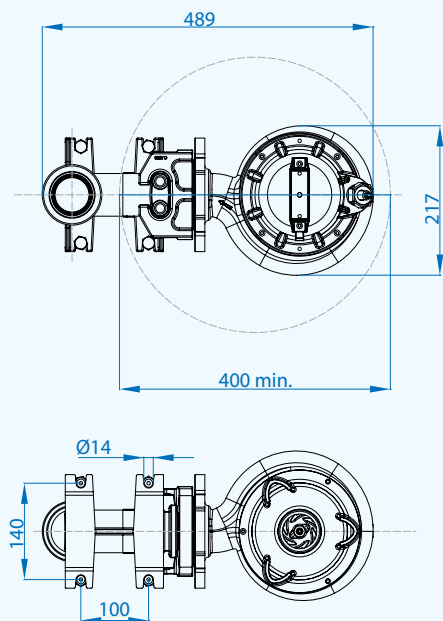
EPT 17 ATEX 2701 X



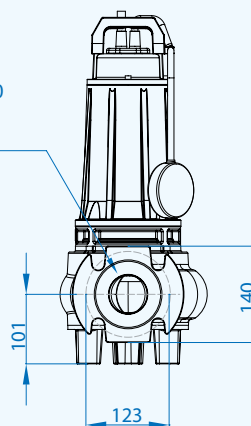
*DNA(EX) 50-2/220 - *DNA(EX) 50-2/220-1
 **VERSIONI ATEX fino a 1,5kW - **ATEX VERSION up to 1,5kW



∇ Sommergenza minima
 Minimum submersion



*(DN50 PN10
 ex UNI 2278
 G 2")



Cavi / Cables

| Pompe Pumps | Fasi Phases | Cavo Cable | Sezione cavo mm ² Cable cross section mm ² | mt |
|----------------------------|----------------|---------------|---------------------------------------------------------------------|----|
| DNA 50-2/110-150 | 1 ~ 230V | H07RN8F | 3x1 Ø9* | 10 |
| | 3 ~ 400V | | 4x1 Ø10** | 10 |
| DNA 50-2/220-220-1 | 3 ~ 400V | H07RN8F | 4x1,5+2x0,50 Ø12** | 10 |
| Versioni /Versions ATEX | 1 ~ 230V | NSSHÖU-J | 4x1,5+2x0,50 Ø12*** | 10 |
| | 3 ~ 400V | | 4x1,5+2x0,50 Ø12** | 10 |

* Spina Schuko - Schuko plug

** Terminali liberi - Free terminals *** Di serie con control-box - Standard with control-box

Dimensioni imballo / Packaging dimension

| Tipo - Type | X mm | Y mm | Z mm | Kg |
|------------------|---------|---------|---------|----|
| DNA 50-2/110 M/T | 260 | 585 | 315 | 28 |
| DNA 50-2/150 M/T | | | | 29 |
| DNA 50-2/220 T | | | | 30 |
| DNA 50-2/220-1 T | | | | 30 |



Accessori - Optional



Quadri ATEX disponibili su richiesta
 Explosion proof control box available
 on request



Pompe monofasi:
 Control-box per
 funzionamento con
 condensatore esterno
 For single phase pumps:
 Control-box with external
 main capacitor



Piede di accoppiamento rapido
 Tipo: DUTY 50, Easy 3.2 o E3.1
 Automatic coupling foot
 Type: DUTY 50 Easy 3.2 or E3.1



Curva filettata
 portagomma 2"
 Thread hose
 connection 2"

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Date_01/02/18

Mandata Orizzontale DN50 PN10 - G 2" - RPM 1450 1/min 4 poli

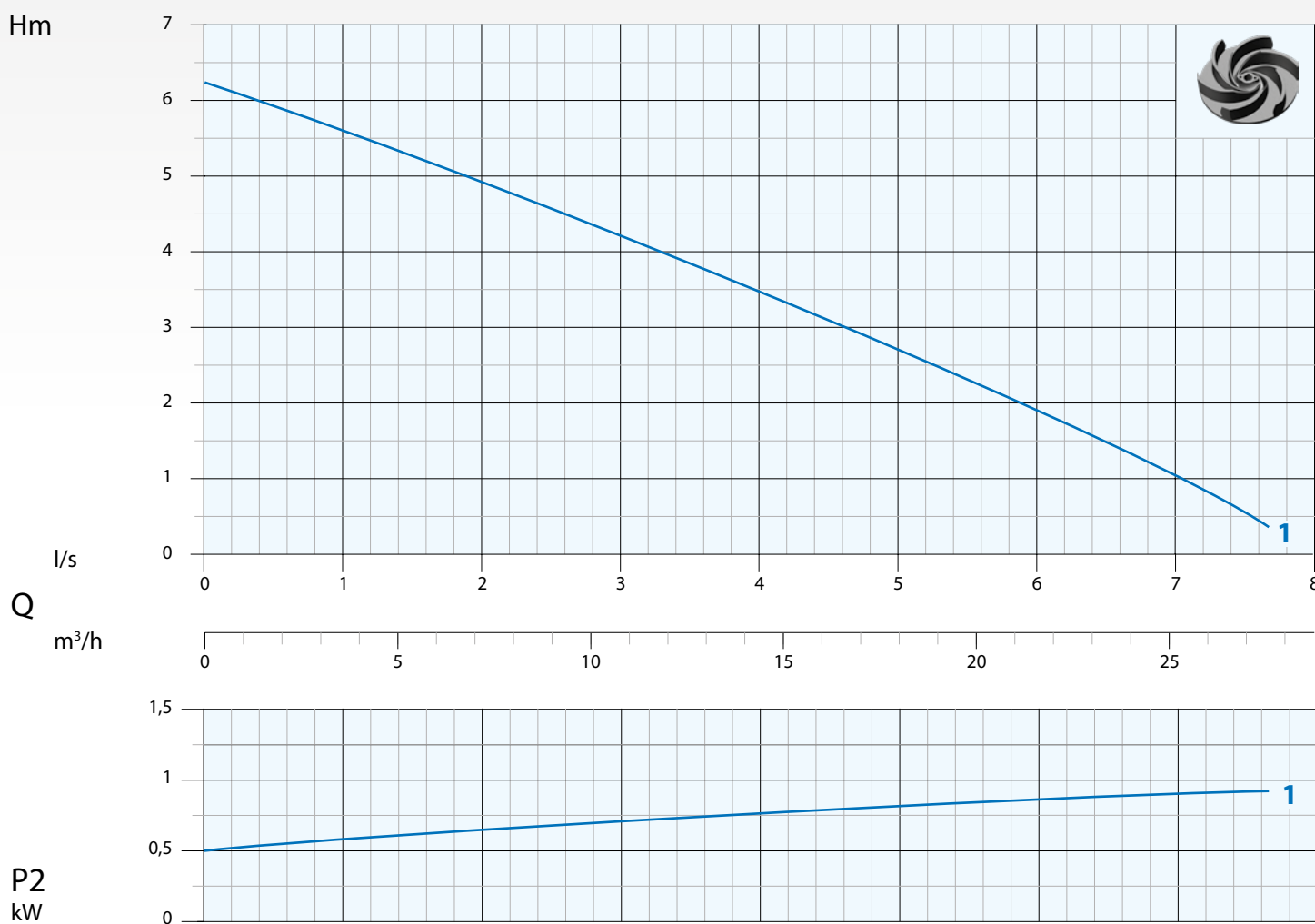
Horizontal Outlet DN50 PN10 - G 2" - RPM 1450 1/min 4 poles

Immagine a solo scopo illustrativo
Picture for illustration purposes only



Curva di Prestazione

Performance Curve



| N° | Tipo Type | Flow (Q) | | | | | | | | | |
|----|------------------|----------|-----|-----|-----|------|------|-----|------|------|-----|
| | | l/s | 0,5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 7,5 |
| | | l/m | 30 | 60 | 120 | 180 | 240 | 300 | 360 | 420 | 450 |
| 1 | DNA 50-4/090 M/T | m³/h | 1,8 | 3,6 | 7,2 | 10,8 | 14,4 | 18 | 21,6 | 25,2 | 27 |
| | | mt | 5,8 | 5,2 | 4,8 | 4,5 | 3,5 | 2,7 | 1,8 | 1 | 0,5 |

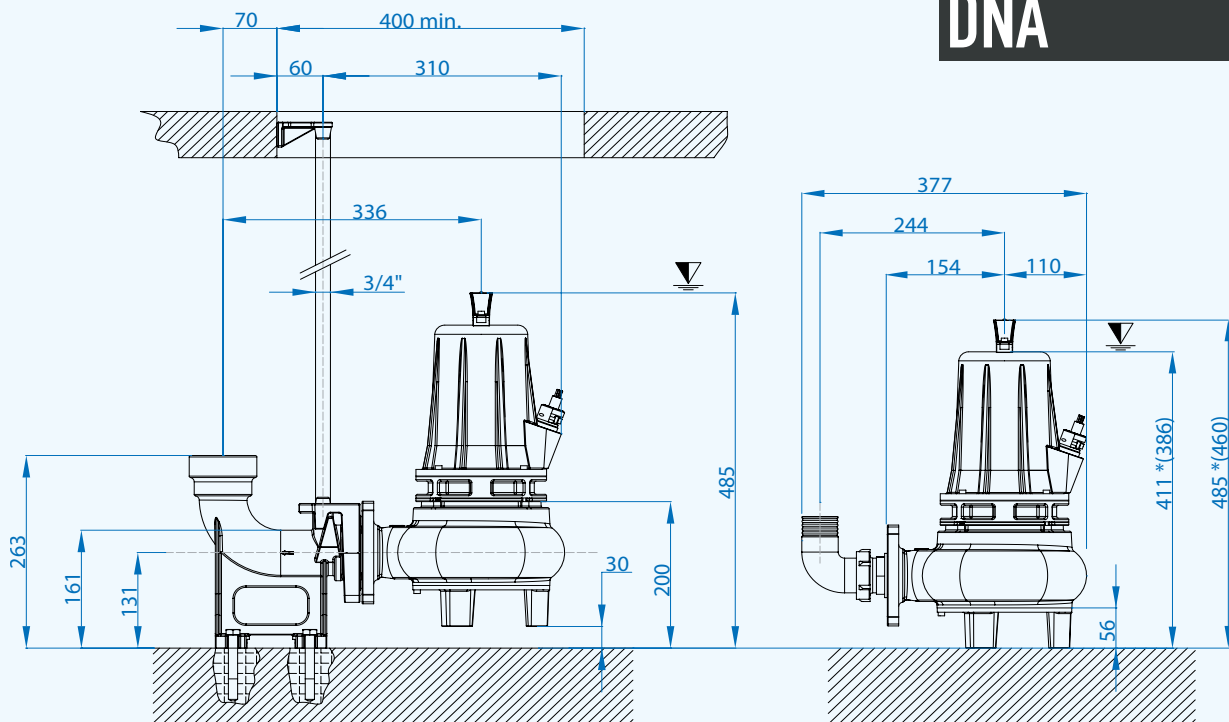
| N° | Tipo Type | EX | Mandata Delivery | Passaggio Free Passage | kW | | HP | R.P.M. 1/min | A | | | Hz |
|----|------------------|----|---------------------|---------------------------|-----|-----|-----|-----------------|----------------|----|----------------|----|
| | | | | | P1 | P2 | | | 1 Phase - 230V | | 3 Phase - 400V | |
| 1 | DNA 50-4/090 M/T | • | DN50 PN10 - G 2" | 50 mm | 1,1 | 0,9 | 1,2 | 1450 | 4,7 | 20 | 2,5 | 50 |

• Pompa antideflagrante disponibile con certificazione
Available explosion proof pump



Ex db IIB T4 Gb
Ex h IIB T4 Gb
0° ≤ Ta ≤ 40°

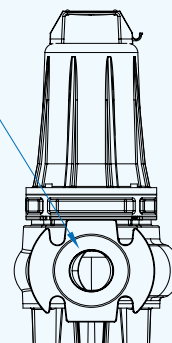
EPT 17 ATEX 2701 X



* VERSIONI ATEX - ATEX VERSION

∇ Sommergenza minima
Minimum submersion

(DN50 PN10
ex UNI 2278
G 2")



Cavi / Cables

| | Fasi Phases | Cavo Cable | Sezione cavo mm ² Cable cross section mm ² | mt |
|-------------------------------------|----------------|---------------|---------------------------------------------------------------------|----|
| Standard | 1 ~ 230V | H07RN8F | 4x1,5+2x0,50 Ø12* | 10 |
| | 3 ~ 400V | | 4x1,5+2x0,50 Ø12** | 10 |
| Versioni - Versions ATEX | 1 ~ 230V | NSSHÖU-J | 4x1,5+2x0,50 Ø12* | 10 |
| | 3 ~ 400V | | 4x1,5+2x0,50 Ø12** | 10 |

* Di serie con Control Box - Standard with Control Box

** Terminali liberi - Free terminals

Dimensioni imballo / Packaging dimension

| Tipo - Type | X mm | Y mm | Z mm | Kg |
|-------------------------|---------|---------|---------|----|
| DNA 50-4/090 M/T | 260 | 585 | 315 | 30 |



Accessori - Optional



Quadri ATEX disponibili su richiesta
Explosion proof control box available
on request



Piede di accoppiamento rapido
Tipo: DUTY 50, Easy 3.2 o Easy 3.1
Automatic coupling foot
Type: DUTY 50 Easy 3.2 or Easy 3.1



Curva filettata portagomma 2"
Thread hose connection 2"

Mandata Orizzontale DN65 PN10 - RPM 2850 1/min 2 poli

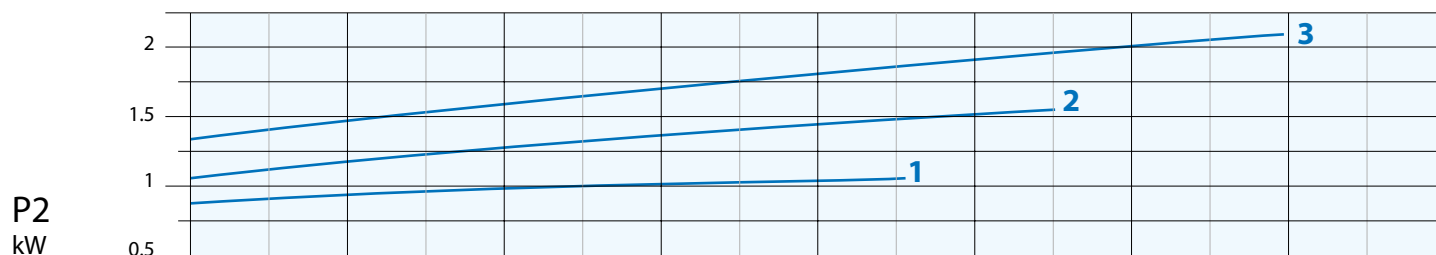
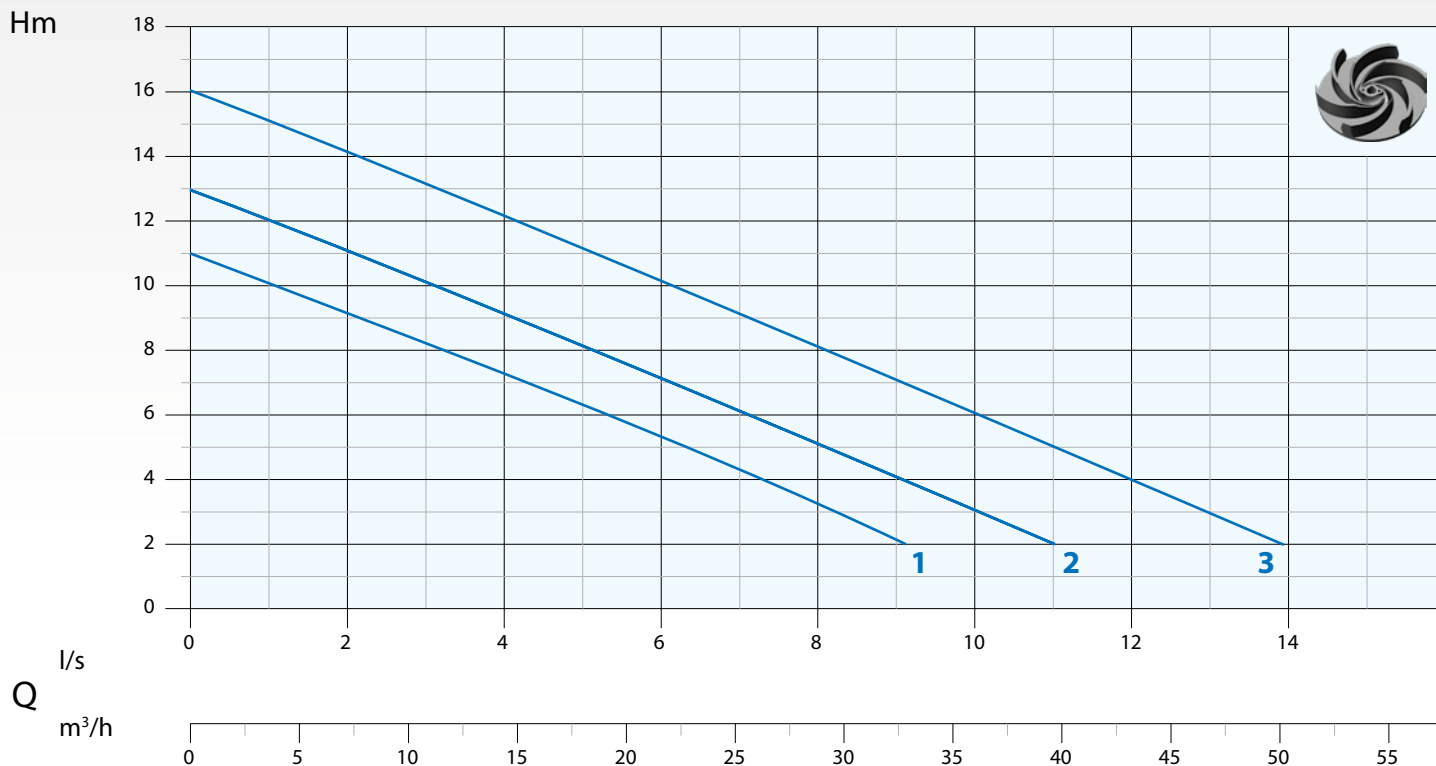
Horizontal Outlet DN65 PN10 - RPM 2850 1/min 2 poles

Immagine a solo scopo illustrativo
Picture for illustration purposes only



Curva di Prestazione

Performance Curve



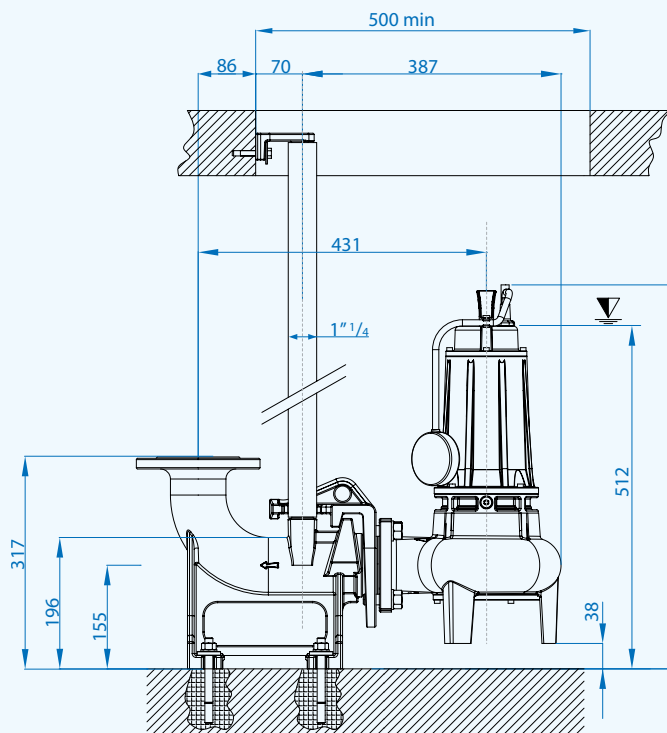
| N° | Tipo Type | l/s | 1 | 2 | 4 | 6 | 8 | 10 | 11 | 12 | 14 |
|----|------------------|------|-----|-----|------|------|------|------|------|------|------|
| | | | l/m | 60 | 120 | 240 | 360 | 480 | 600 | 660 | 720 |
| | | m³/h | 3,6 | 7,2 | 14,4 | 21,6 | 28,8 | 36,0 | 39,6 | 43,2 | 50,4 |
| 1 | DNA 65-2/110 M/T | mt | 10 | 9 | 7,5 | 5,5 | 3,2 | | | | |
| 2 | DNA 65-2/150 M/T | | 12 | 11 | 9 | 7 | 5 | 3 | 2 | | |
| 3 | DNA 65-2/220 T | | 15 | 14 | 12 | 10 | 8 | 6 | 5 | 4 | 2 |

| N° | Tipo Type | EX | Mandata Delivery | Passaggio Free Passage | kW | | | R.P.M. 1/min | A | | | Hz |
|----|------------------|----|------------------|------------------------|-----|-----|-----|--------------|----------------|----|----------------|----|
| | | | | | P1 | P2 | HP | | 1 Phase - 230V | µf | 3 Phase - 400V | |
| 1 | DNA 65-2/110 M/T | • | DN65 PN10 | 65 mm | 1,6 | 1,1 | 1,5 | 2850 | 7,4 | 30 | 2,7 | 50 |
| 2 | DNA 65-2/150 M/T | • | | | 1,9 | 1,5 | 2 | | 9,9 | 32 | 3,4 | |
| 3 | DNA 65-2/220 T | • | | | 2,6 | 2,2 | 3 | | | | 5,2 | |

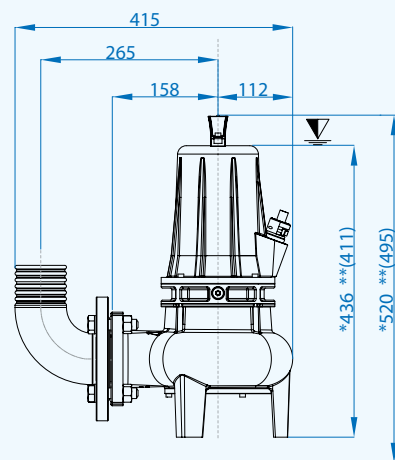
• Pompa antideflagrante disponibile con certificazione
Available explosion proof pump

CE 0477
EPT 17 ATEX 2701 X

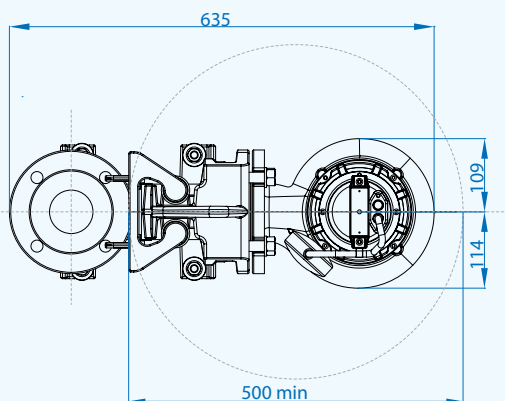
Ex II 2G
Ex db IIB T4 Gb
Ex h IIB T4 Gb
0° ≤ Ta ≤ 40°



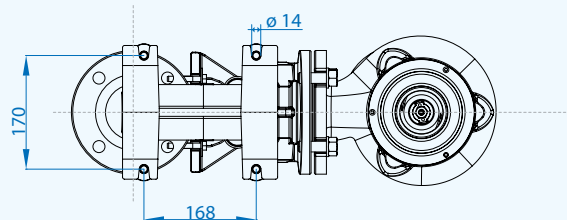
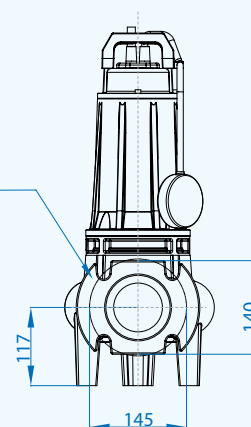
* DNA(EX) 65-2/220
 **VERSIONI ATEX fino a 1,5 kW - *ATEX VERSION up to 1,5kW



∇ Sommergenza minima
 Minimum submersion



DN65 PN10
 ex UNI 2277



Cavi / Cables

| Pompe Pumps | Fasi Phases | Cavo Cable | Sezione cavo mm ² Cable cross section mm ² | mt |
|---------------------------|----------------|---------------|---------------------------------------------------------------------|----|
| DNA 65-2/110-150 | 1 ~ 230V | H07RN8F | 3x1 Ø9* | 10 |
| | 3 ~ 400V | | 4x1 Ø10** | 10 |
| DNA 65-2/220 T | 3 ~ 400V | H07RN8F | 4x1,5+2x0,50 Ø12** | 10 |
| Versioni/Versions ATEX | 1 ~ 230V | NSSHÖU-J | 4x1,5+2x0,50 Ø12*** | 10 |
| | 3 ~ 400V | | 4x1,5+2x0,50 Ø12** | 10 |

* Spina Schuko - Schuko plug

** Terminali liberi - Free terminals *** Di serie con control-box - Standard with control-box

Dimensioni imballo / Packaging dimension

| Tipo - Type | X mm | Y mm | Z mm | Kg |
|------------------|---------|---------|---------|------|
| DNA 65-2/110 M/T | | | | 28 |
| DNA 65-2/150 M/T | 260 | 585 | 315 | 30 |
| DNA 65-2/220 T | | | | 30,5 |

Accessori - Optional



Quadri ATEX disponibili su richiesta
 Explosion proof control box available
 on request



Pompe monofasi:
 Control-box per
 funzionamento con
 condensatore esterno
 For single phase pumps:
 Control-box with external
 main capacitor



Piede di accoppiamento
 rapido Tipo: DUTY 65
 Automatic coupling foot
 Type: DUTY 65

Curva flangiata
 portagomma N5
 Flanged hose connection N5

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 Date_01/02/18

Mandata Orizzontale DN80 PN16

RPM 2850 1/min 2 poli

RPM 1450 1/min 4 poli

Horizontal Outlet DN80 PN16

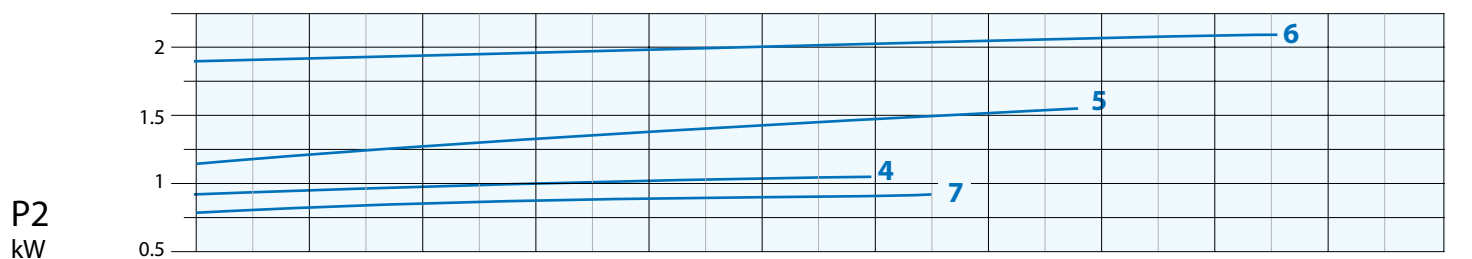
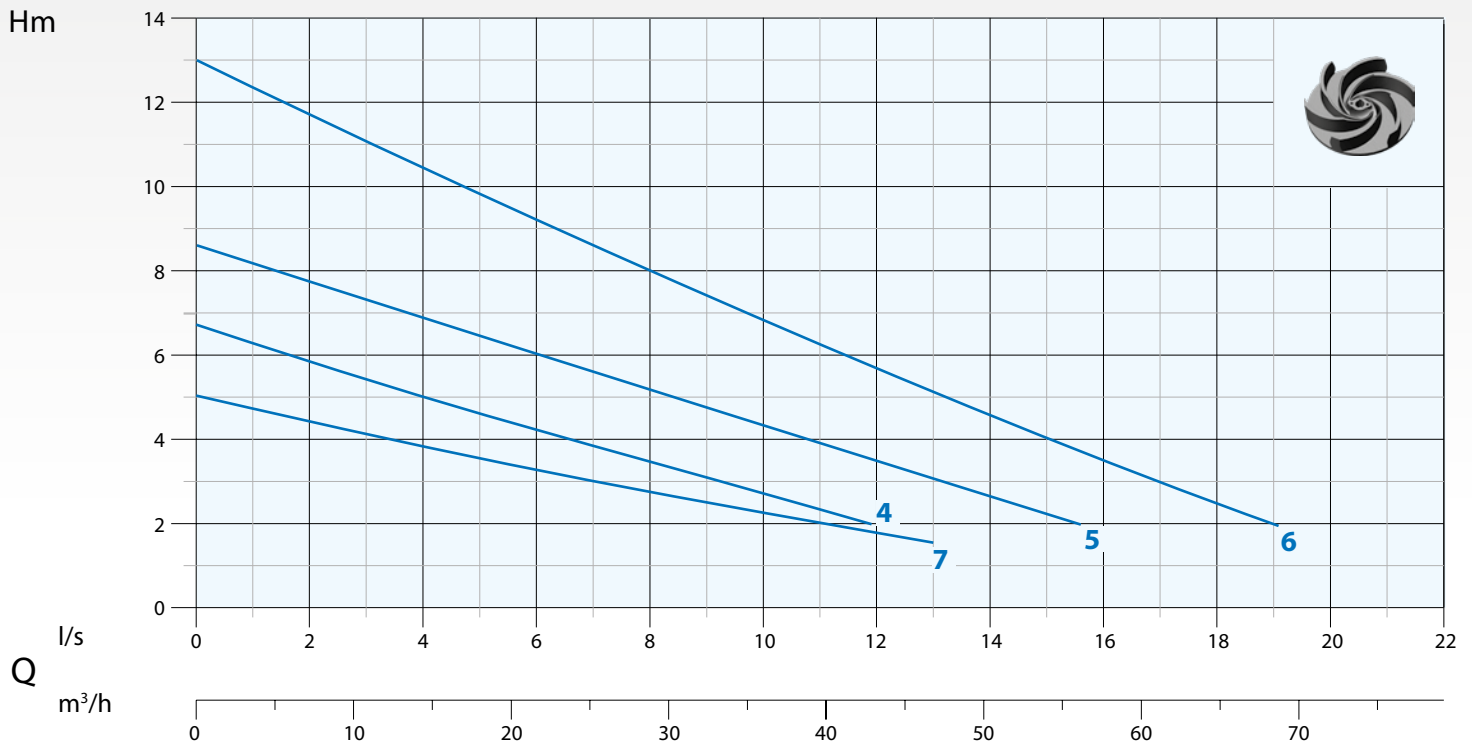
RPM 2850 1/min 2 poles

RPM 1450 1/min 4 poles

Immagine a solo scopo illustrativo
Picture for illustration purposes only



Curva di Prestazione Performance Curve



| N° | Tipo Type | l/s | | | | | | | | | | |
|----|------------------|------|------|------|------|------|------|------|------|------|------|-----|
| | | | 1 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | |
| | | | l/m | 60 | 120 | 140 | 360 | 480 | 600 | 720 | 840 | 960 |
| | | m³/h | 3,6 | 7,2 | 14,4 | 21,6 | 28,8 | 36,0 | 43,2 | 50,4 | 57,6 | |
| 4 | DNA 80-2/110 M/T | mt | 6,5 | 5,8 | 5 | 4,5 | 3,5 | 2,8 | 2 | | | |
| 5 | DNA 80-2/150 M/T | | 8,2 | 7,5 | 7 | 6 | 5,3 | 4,5 | 3,5 | 2,5 | | |
| 6 | DNA 80-2/220 T | | 12,5 | 11,5 | 10,5 | 9,2 | 8 | 6,8 | 5,8 | 4,5 | 3,5 | |
| 7 | DNA 80-4/090 M/T | | 4,8 | 4,5 | 3,9 | 3,2 | 2,8 | 2,5 | 1,8 | | | |

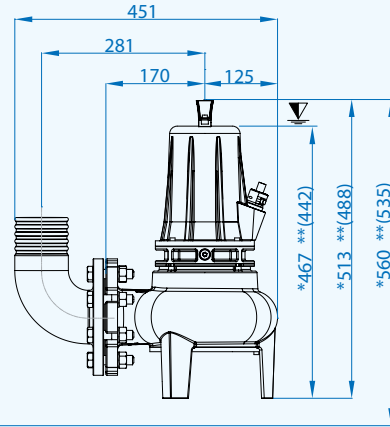
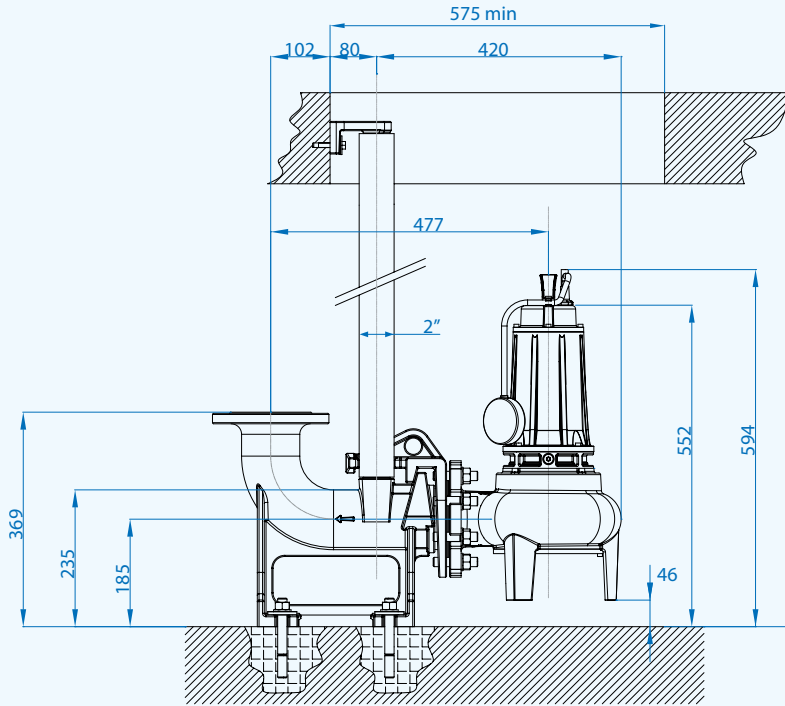
| N° | Tipo Type | EX | Mandata Delivery | Passaggio Free Passage | kW | | | R.P.M. 1/min | A | | | Hz |
|----|------------------|----|---------------------|---------------------------|-------|-----|-----|-----------------|----------------|-----|----------------|----|
| | | | | | P1 | P2 | HP | | 1 Phase - 230V | µf | 3 Phase - 400V | |
| 4 | DNA 80-2/110 M/T | • | DN80 PN16 | 80 mm | 1,6 | 1,1 | 1,5 | 2850 | 7,4 | 30 | 2,8 | 50 |
| 5 | DNA 80-2/150 M/T | • | | | 1,9 | 1,5 | 2 | | 9,9 | 32 | 3,6 | |
| 6 | DNA 80-2/220 T | • | | | 2,7 | 2,2 | 3 | | | | 5,3 | |
| 7 | DNA 80-4/090 M/T | • | | | 75 mm | 1,1 | 0,9 | 1,2 | 1450 | 4,7 | 20 | |

• Pompa antideflagrante disponibile con certificazione
Available explosion proof pump

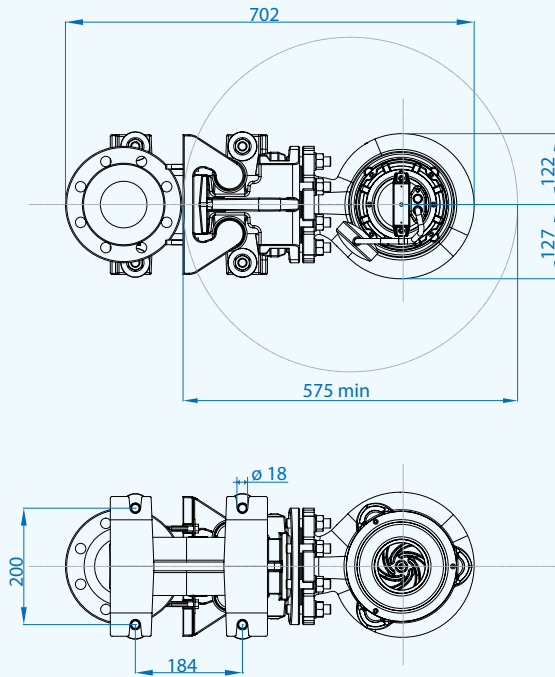
CE 0477
EPT 17 ATEX 2701 X

Ex II 2G Ex db IIB T4 Gb
Ex h IIB T4 Gb
0° ≤ Ta ≤ 40°

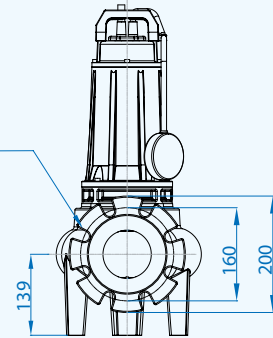
*DNA(EX) 80-2/220
 **VERSIONI ATEX fino a 1,5kW - *ATEX VERSION up to 1,5kW



∇ Sommergenza minima
 Minimum submersion



DN80 PN16
 ex UNI 2278



Cavi / Cables

| Pompe Pumps | Fasi Phases | Cavo Cable | Sezione cavo mm ² Cable cross section mm ² | mt |
|--------------------------|----------------|---------------|---------------------------------------------------------------------|----|
| DNA 80-2/110/150 | 1 ~ 230V | H07RN8F | 3x1 Ø9* | 10 |
| | 3 ~ 400V | | 4x1 Ø10** | 10 |
| DNA 80-2/220 | 3 ~ 400V | H07RN8F | 4x1,5+2x0,50 Ø12** | 10 |
| DNA 80-4/090 | 1 ~ 230V | H07RN8F | 4x1,5+2x0,50 Ø12*** | 10 |
| | 3 ~ 400V | | 4x1,5+2x0,50 Ø12** | 10 |
| Versioni/Version ATEX | 1 ~ 230V | NSSHÖU-J | 4x1,5+2x0,50 Ø12*** | 10 |
| | 3 ~ 400V | | 4x1,5+2x0,50 Ø12** | 10 |

* Spina Schuko - Schuko plug

** Terminali liberi - Free terminals *** Di serie con control-box - Standard with control-box

Dimensioni imballo / Packaging dimension

| Tipo - Type | X mm | Y mm | Z mm | Kg |
|------------------|---------|---------|---------|------|
| DNA 80-2/110 M/T | 260 | 585 | 315 | 32 |
| DNA 80-2/150 M/T | | | | 34,5 |
| DNA 80-2/220 T | | | | 35 |
| DNA 80-4/090 M/T | | | | 38 |

Accessori - Optional



Quadri ATEX disponibili su richiesta
 Explosion proof control box available on request



Pompe monofasi:
 Control-box per
 funzionamento con
 condensatore esterno
 For single phase pumps:
 Control-box with external
 main capacitor



Piede di accoppiamento
 rapido Tipo: DUTY 80 e B5
 Automatic coupling foot
 Type: DUTY 80 and B5



Curva flangiata
 portagomma N2
 Flanged hose connection N2