

**DNA**

**SUBMERSIBLE PUMPS**



## Elettropompe sommergibili con girante Vortex

### Submersible electropumps with Vortex impeller

Potenze / Power:	<b>0.56÷2.2 kW</b>
Mandate / Delivery:	<b>DN50 - 65 - 80</b>



#### 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/dm<sup>3</sup>
- 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

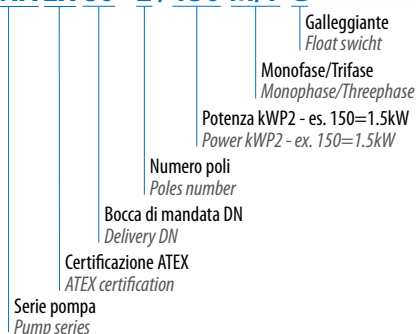
The cooling of the motor is ensured by the liquid where the pump is submerged.

#### Limits of use

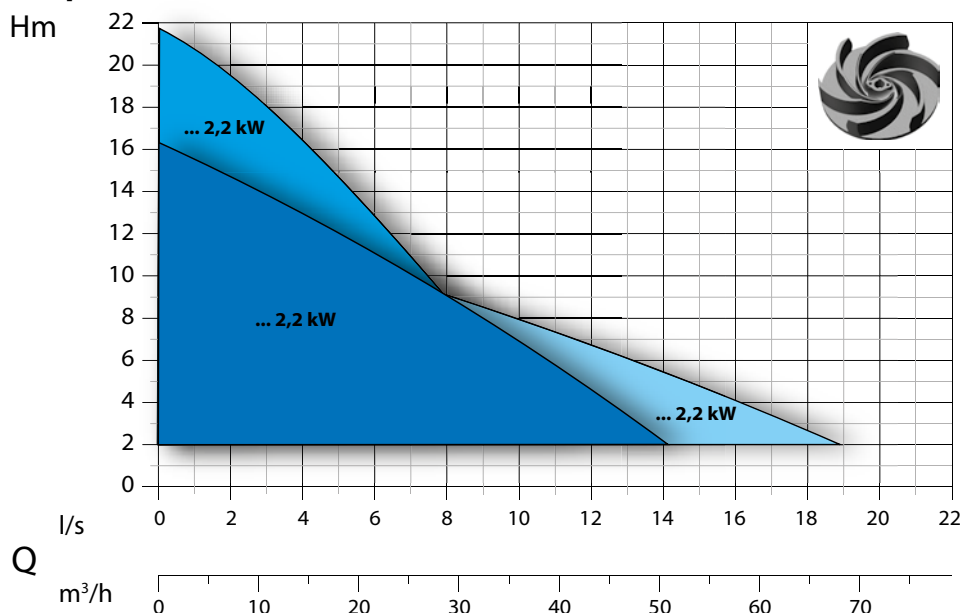
- Max. permissible liquid temperature: 40°C with pump fully submerged
- Maximum depth of immersion: 20 mt.
- Permissible pH value: 6-10
- Hydraulic features suitable for liquids with density <1,1 kg/dm<sup>3</sup>
- Allowed voltage: 230V/400V ±5%
- Allowed frequency: 50Hz ±2%

### 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

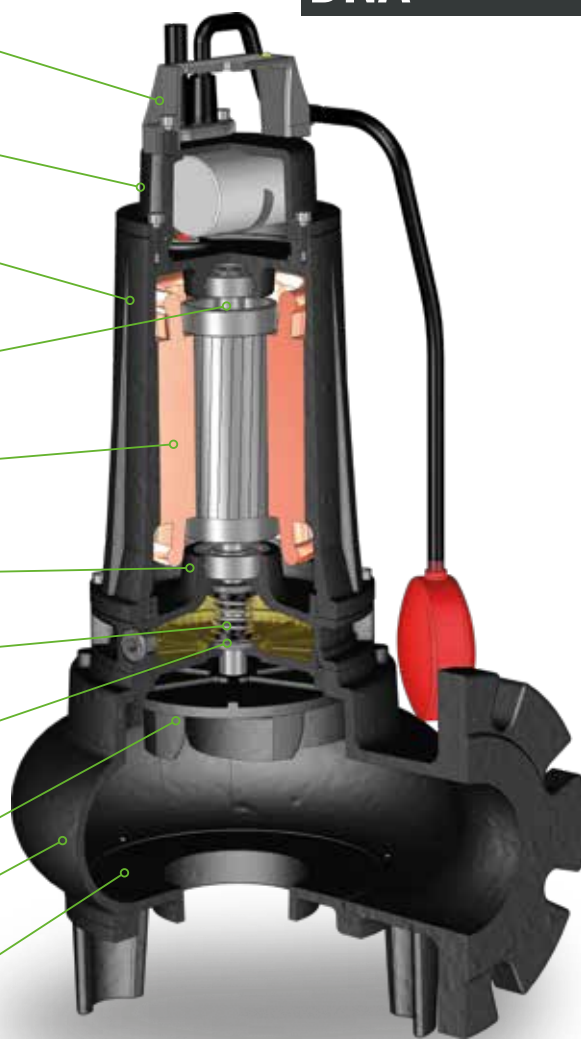
Ghisa GG20 - Cast Iron GG20

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

La serie è disponibile con certificato ATEX su richiesta dove indicato

#### Explosion proof pumps

Pumps with explosion proof available on request.



EPT 17 ATEX 2701 X



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.

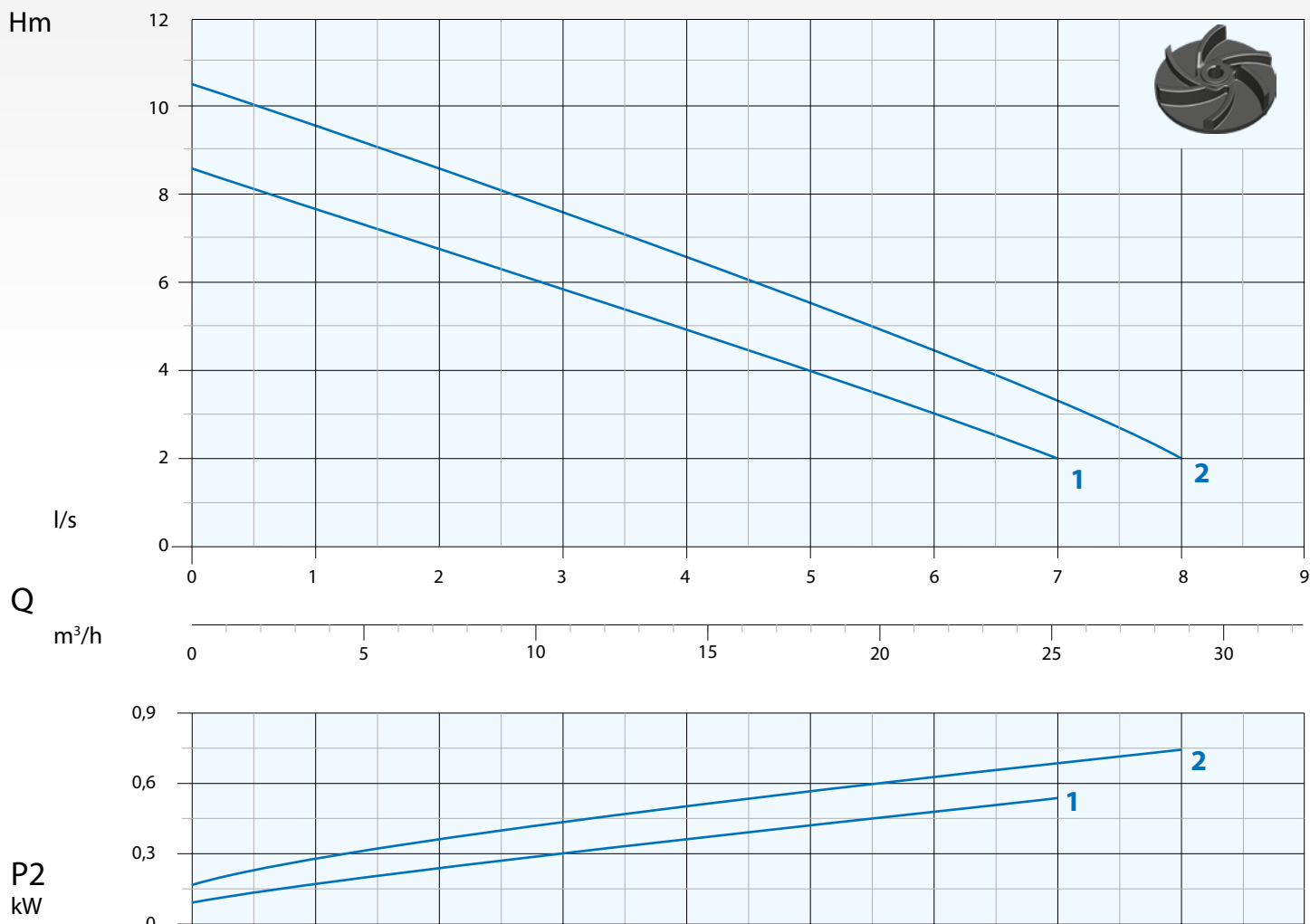
### Mandata Orizzontale DN50 PN10 - G 2" - RPM 2850 1/min 2 poli

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

Immagine a solo scopo illustrativo  
Picture for illustration purposes only

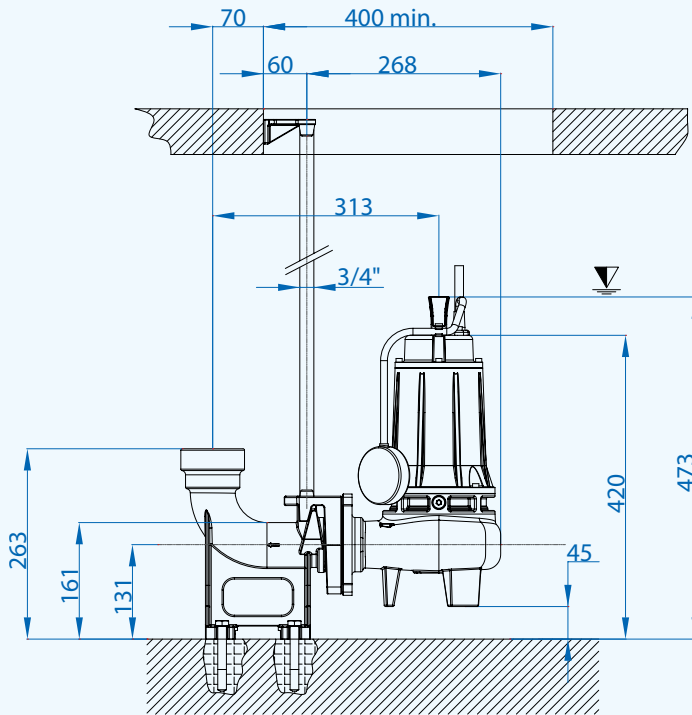


### Curva di Prestazione Performance Curve

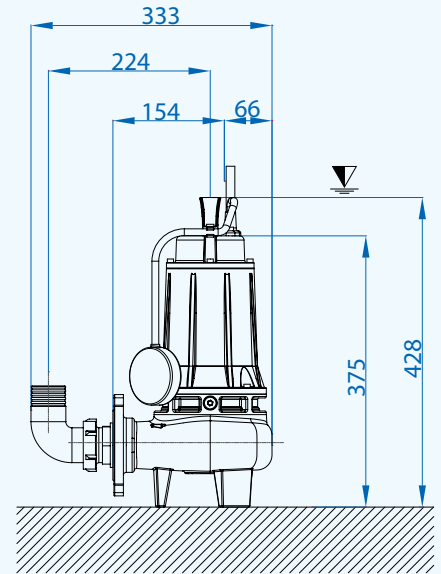


N°	Tipo Type	l/s	1	2	3	4	5	6	7	8	9
			l/m	60	120	180	240	300	360	420	480
		m³/h	3,6	7,2	10,8	14,4	18	21,6	25,2	28,8	32,4
1	DNA 50-2/056 M/T	mt	7,5	6,8	5,8	5	4	2,5	2		
2	DNA 50-2/075 M/T		9,5	8,5	7,5	6,5	5,5	4,5	3,3	2	

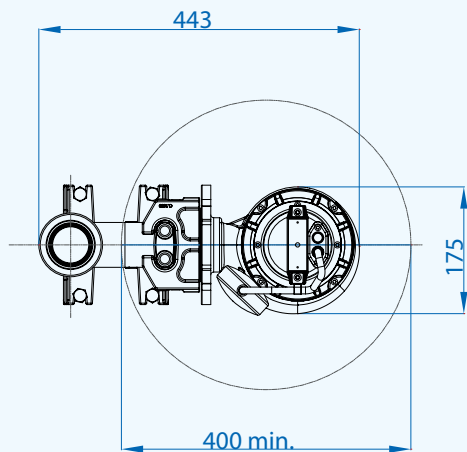
N°	Tipo Type	Mandata Delivery	Passaggio Free Passage	kW		HP	R.P.M. 1/min	A		Hz	
				P1	P2			1 Phase - 230V µf	3 Phase - 400V		
1	DNA 50-2/056 M/T	DN 50 - G 2"	45 mm	0,79	0,56	0,75	2850	3,6	16	1,8	50
2	DNA 50-2/075 M/T			1,0	0,75	1		5,2	20	2,0	



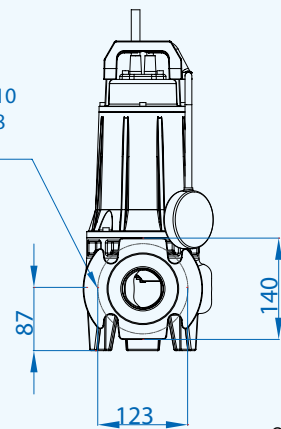
▼ Sommergenza minima  
Minimum submersion



▼ Sommergenza minima  
Minimum submersion



\*(DN50 PN10  
ex UNI 2278  
G 2")



Quote in mm  
Dimensions in mm

**Cavi / Cables**

Monofase - Single phase 230V  
H07RN8F 3x1 Ø9 con Spina Schuko - Schuko plug  
Lunghezza - Length 10 mt

Trifase - Threephase 400V  
H07RN8F 4x1 Ø10 con terminali liberi - Free terminals  
Lunghezza - Length 10 mt

**Accessori - Optional**



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 con portagomma 2"  
Thread hose connection 2"

**Dimensioni imballo / Packaging dimension**

Tipo - Type	X mm	Y mm	Z mm	Kg
DNA 50-2/056 M/T	230	450	270	19
DNA 50-2/075 M/T				19,5

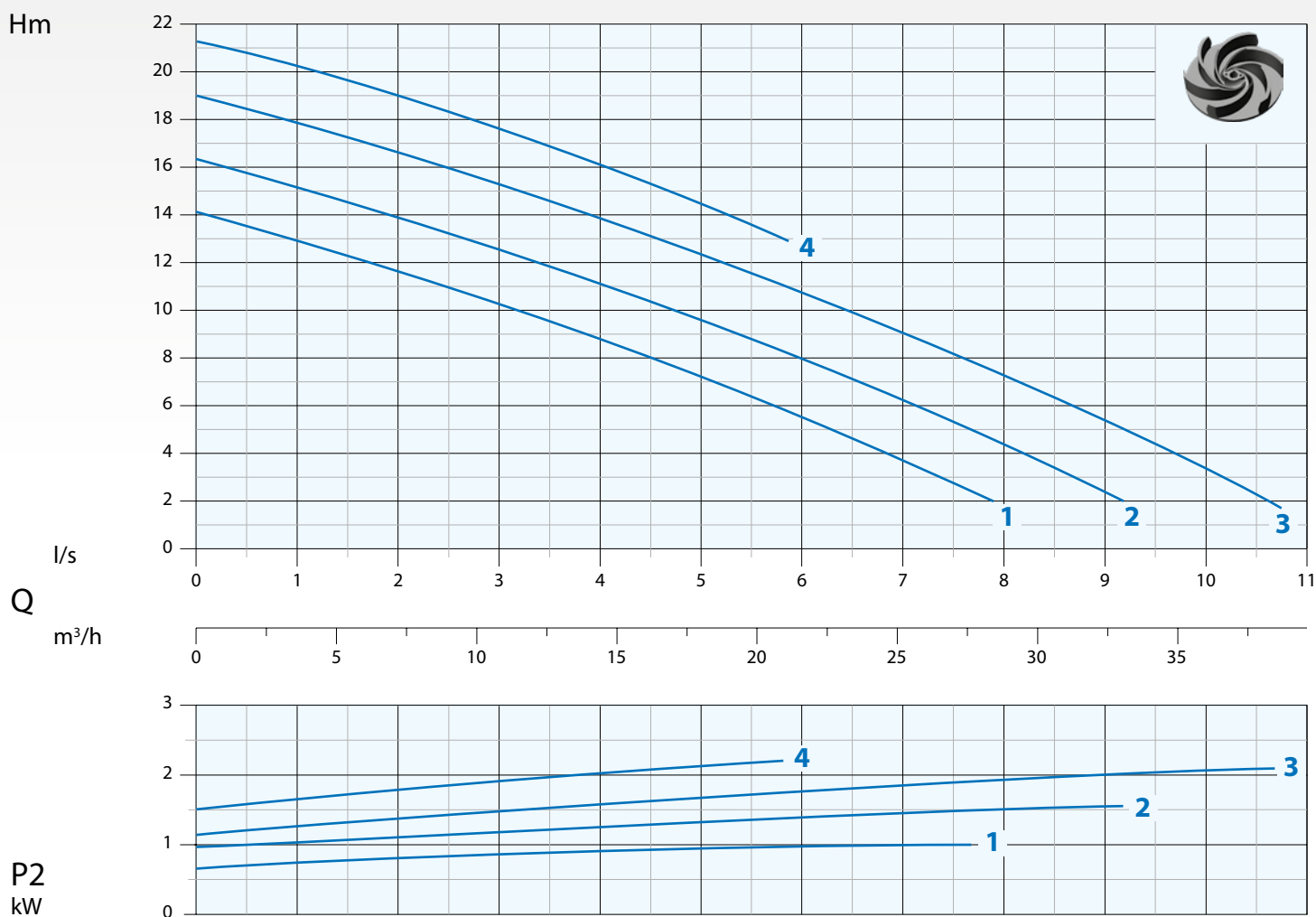
### Mandata Orizzontale DN50 PN10 - G 2" - RPM 2850 1/min 2 poli

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	l/s	0,5	1	2	3	4	5	6	7	8	9	10
			l/m	30	60	120	180	240	300	360	420	480	540
		m³/h	1,8	3,6	7,2	10,8	14,4	18	21,6	25,2	28,8	32,4	36
1	DNA 50-2/110 M/T	mt	13,5	13	11,5	10,5	8,8	7	5,5	3,5	2		
2	DNA 50-2/150 M/T		15,8	15	14	12,5	11	9,5	8	6,5	4,5	2,5	
3	DNA 50-2/220 T		18,5	18	16,5	15,2	14	12,5	10,8	9	7,2	5,5	3,5
4	DNA 50-2/220-1 T		20,8	20	19	17,5	16	14,5					

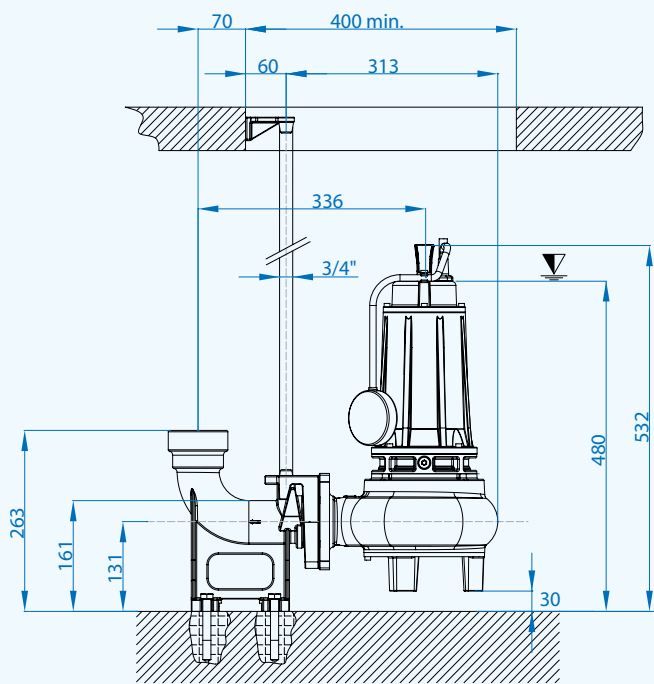
N°	Tipo Type	EX	Mandata Delivery	Passaggio Free Passage	kW		HP	R.P.M. 1/min	A		Hz	
					P1	P2			1 Phase - 230V	µf		3 Phase - 400V
1	DNA 50-2/110 M/T	•	DN50 PN10 - G 2"	50 mm	1,6	1,1	1,5	2850	7,8	30	2,9	50
2	DNA 50-2/150 M/T	•			2,1	1,5	2		9,9	32	3,6	
3	DNA 50-2/220 T	•			3,0	2,2	3				5,3	
4	DNA 50-2/220-1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

• Pompa antideflagrante disponibile con certificazione  
Available explosion proof pump

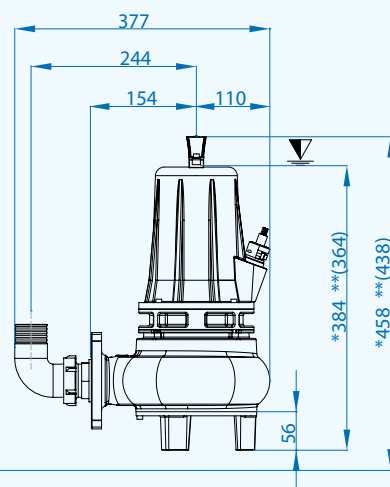


Ex db IIB T4 Gb  
Ex h IIB T4 Gb  
0° ≤ Ta ≤ 40°

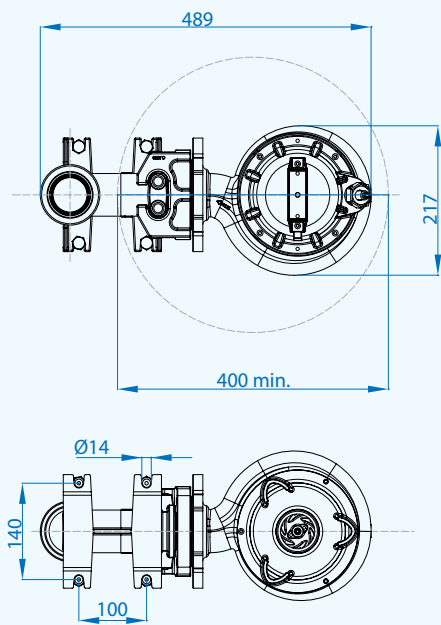
EPT 17 ATEX 2701 X



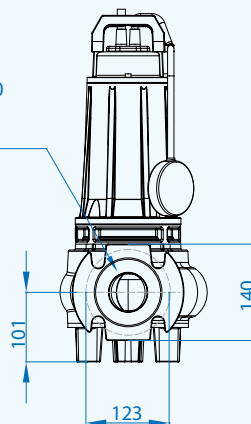
\*DNA(EX) 50-2/220 - \*DNA(EX) 50-2/220-1  
 \*\*VERSIONI ATEX fino a 1,5kW - \*\*ATEX VERSION up to 1,5kW



∇ Sommergenza minima  
 Minimum submersion



\*(DN50 PN10  
 ex UNI 2278  
 G 2")



Quote in mm  
 Dimensions in mm

## Cavi / Cables

Pompe Pumps	Fasi Phases	Cavo Cable	Sezione cavo mm <sup>2</sup> Cable cross section mm <sup>2</sup>	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"

Doc\_Rev.1

Date\_06/02/20

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

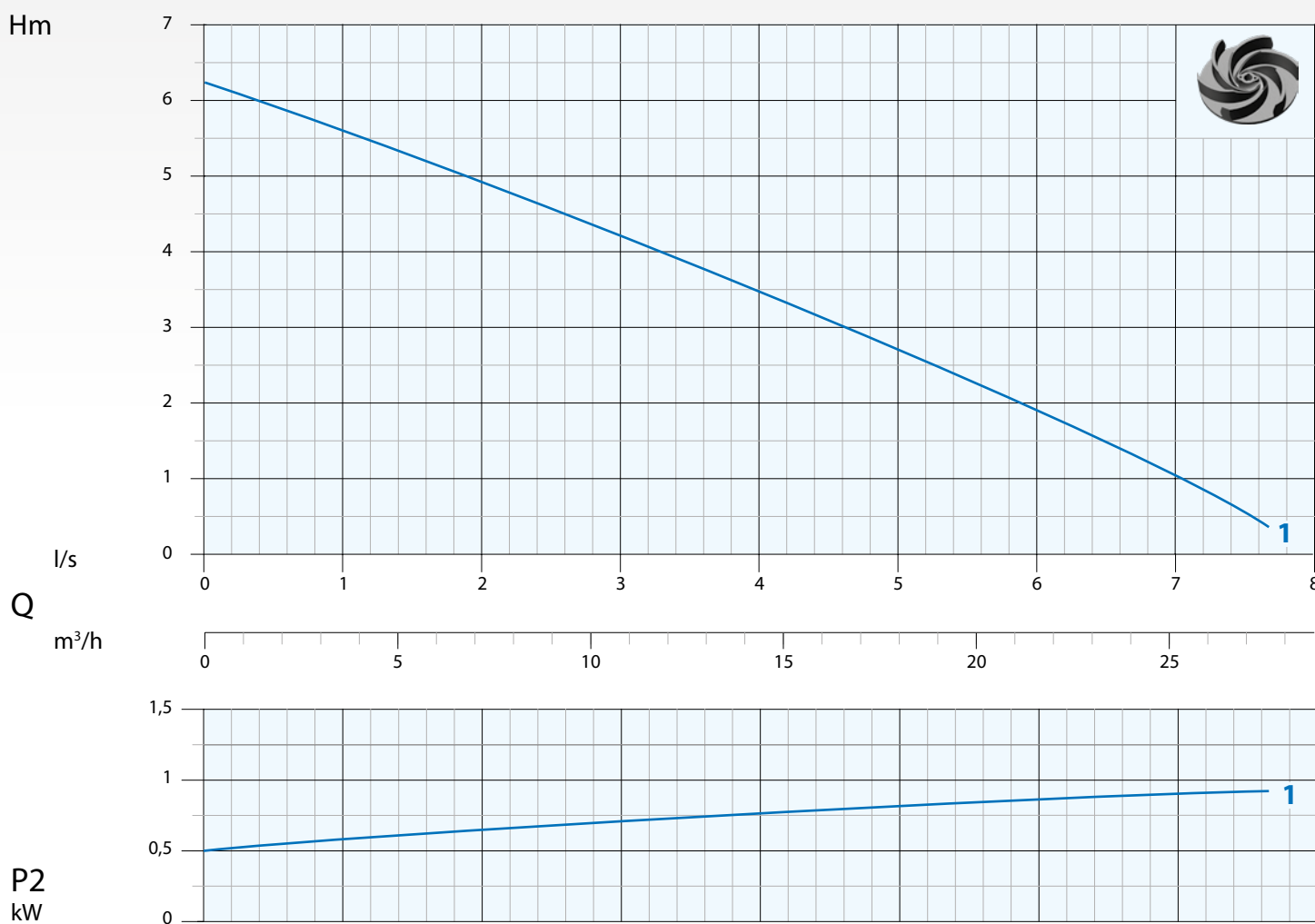
Horizontal Outlet DN50 PN10 - G 2" - RPM 1450 1/min 4 poles

Immagine a solo scopo illustrativo  
Picture for illustration purposes only



### Curva di Prestazione

Performance Curve



N°	Tipo Type	Flow Rate (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

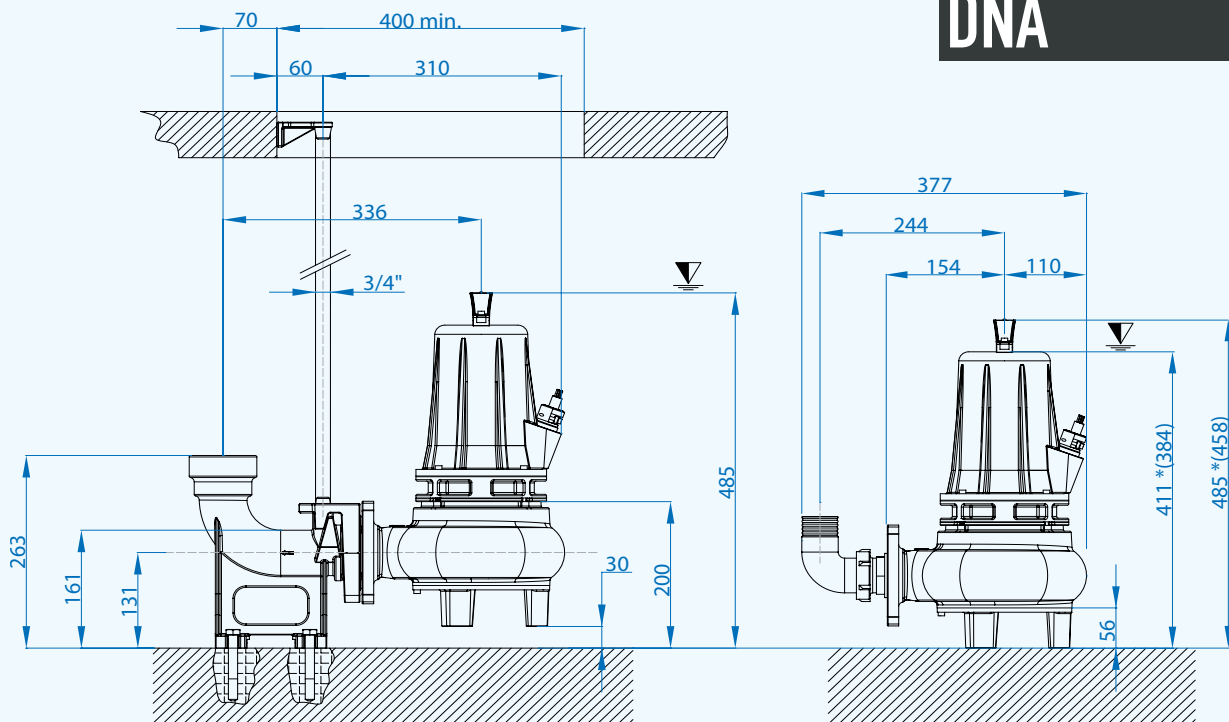
• Pompa antideflagrante disponibile con certificazione  
Available explosion proof pump



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

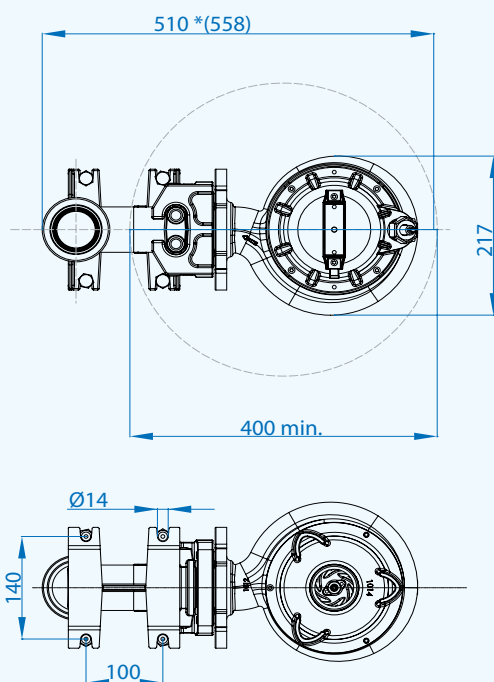
EPT 17 ATEX 2701 X



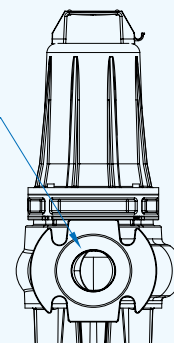


\* VERSIONI ATEX - ATEX VERSION

∇ Sommergenza minima  
Minimum submersion



(DN50 PN10  
ex UNI 2278  
G 2")



Quote in mm  
Dimensions in mm

## Cavi / Cables

	Fasi Phases	Cavo Cable	Sezione cavo mm <sup>2</sup> Cable cross section mm <sup>2</sup>	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"

Doc\_Rev.1  
Date\_06/02/20

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

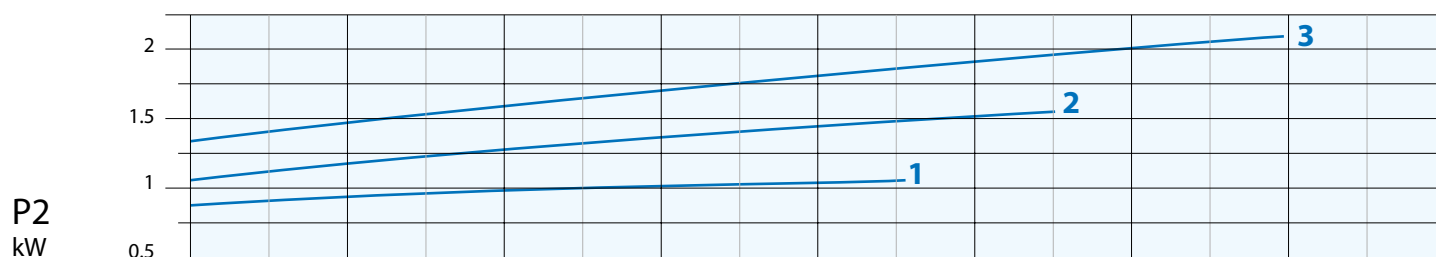
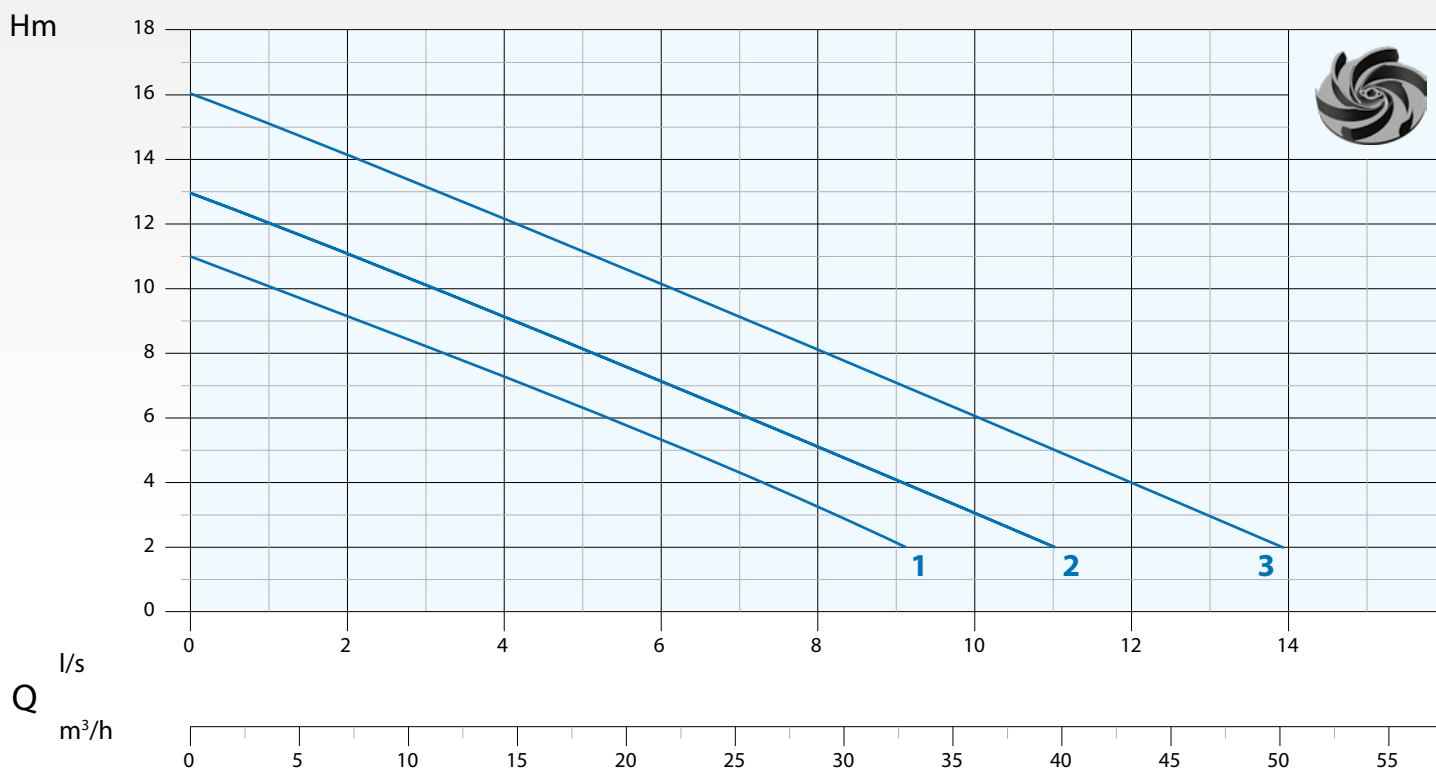
Horizontal Outlet DN65 PN10 - RPM 2850 1/min 2 poles

Immagine a solo scopo illustrativo  
Picture for illustration purposes only



### Curva di Prestazione

Performance Curve



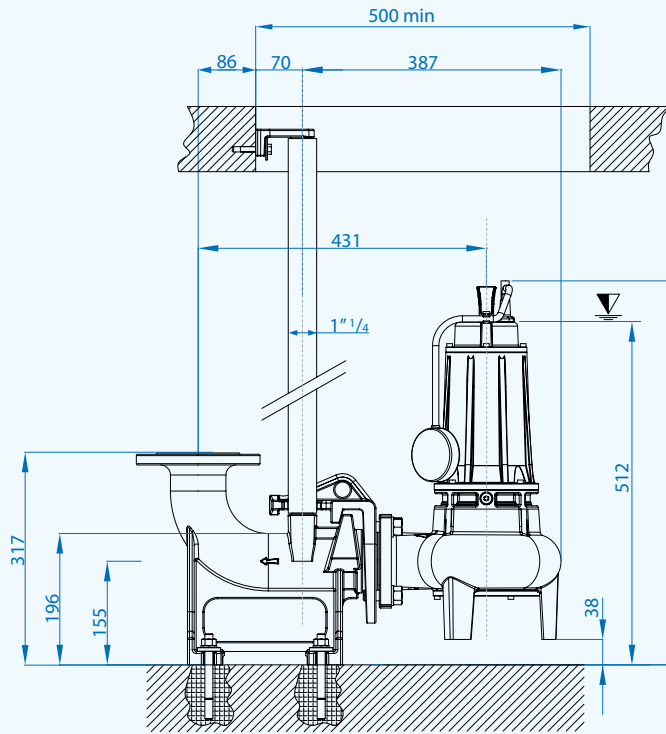
N°	Tipo Type	l/s	1	2	4	6	8	10	11	12	14
			l/m	60	120	240	360	480	600	660	720
		m³/h	3,6	7,2	14,4	21,6	28,8	36,0	39,6	43,2	50,4
1	DNA 65-2/110 M/T	mt	10	9	7,5	5,5	3,2				
2	DNA 65-2/150 M/T		12	11	9	7	5	3	2		
3	DNA 65-2/220 T		15	14	12	10	8	6	5	4	2

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	3,6	
3	DNA 65-2/220 T	•			2,6	2,2	3				5,2	

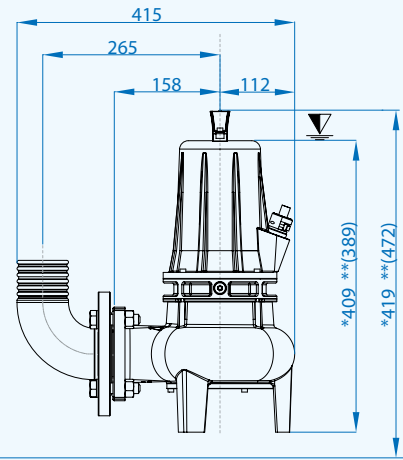
• Pompa antideflagrante disponibile con certificazione  
Available explosion proof pump

CE 0477  
EPT 17 ATEX 2701 X

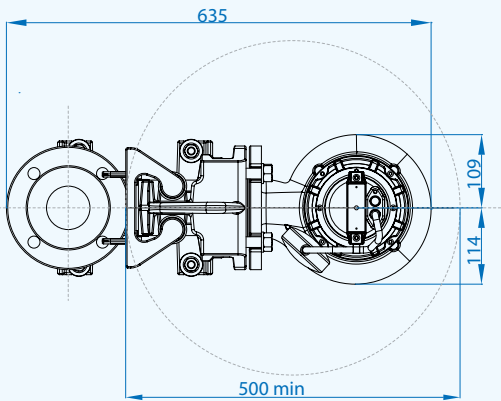
Ex II 2G Ex db IIB T4 Gb Ex h IIB T4 Gb 0° ≤ Ta ≤ 40°



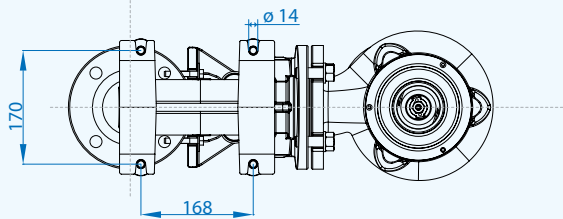
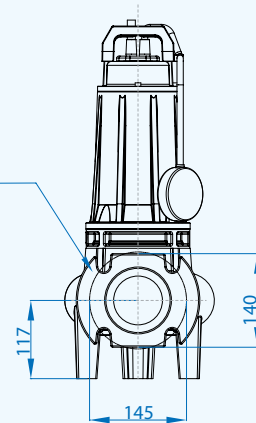
\* DNA(EX) 65-2/220  
 \*\*VERSIONI ATEX fino a 1,5 kW - \*ATEX VERSION up to 1,5kW



∇ Sommergenza minima  
 Minimum submersion



DN65 PN10  
 ex UNI 2277



Quote in mm  
 Dimensions in mm

## Cavi / Cables

Pompe Pumps	Fasi Phases	Cavo Cable	Sezione cavo mm <sup>2</sup> Cable cross section mm <sup>2</sup>	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

Doc\_Rev.1  
 Date\_06/02/20

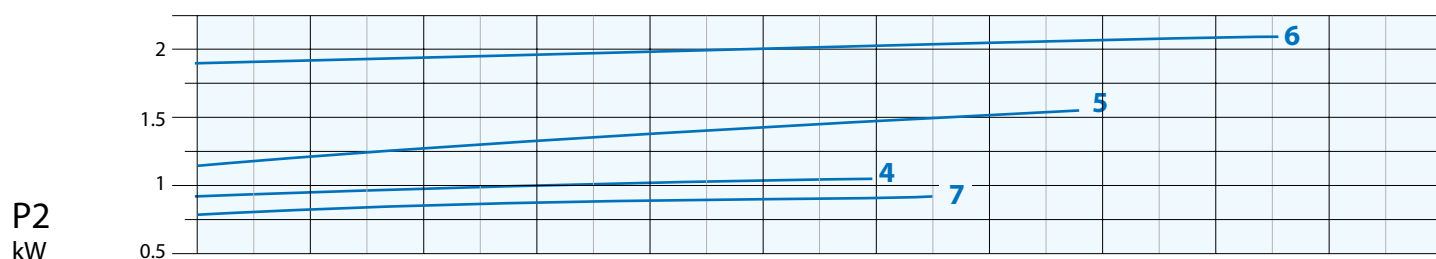
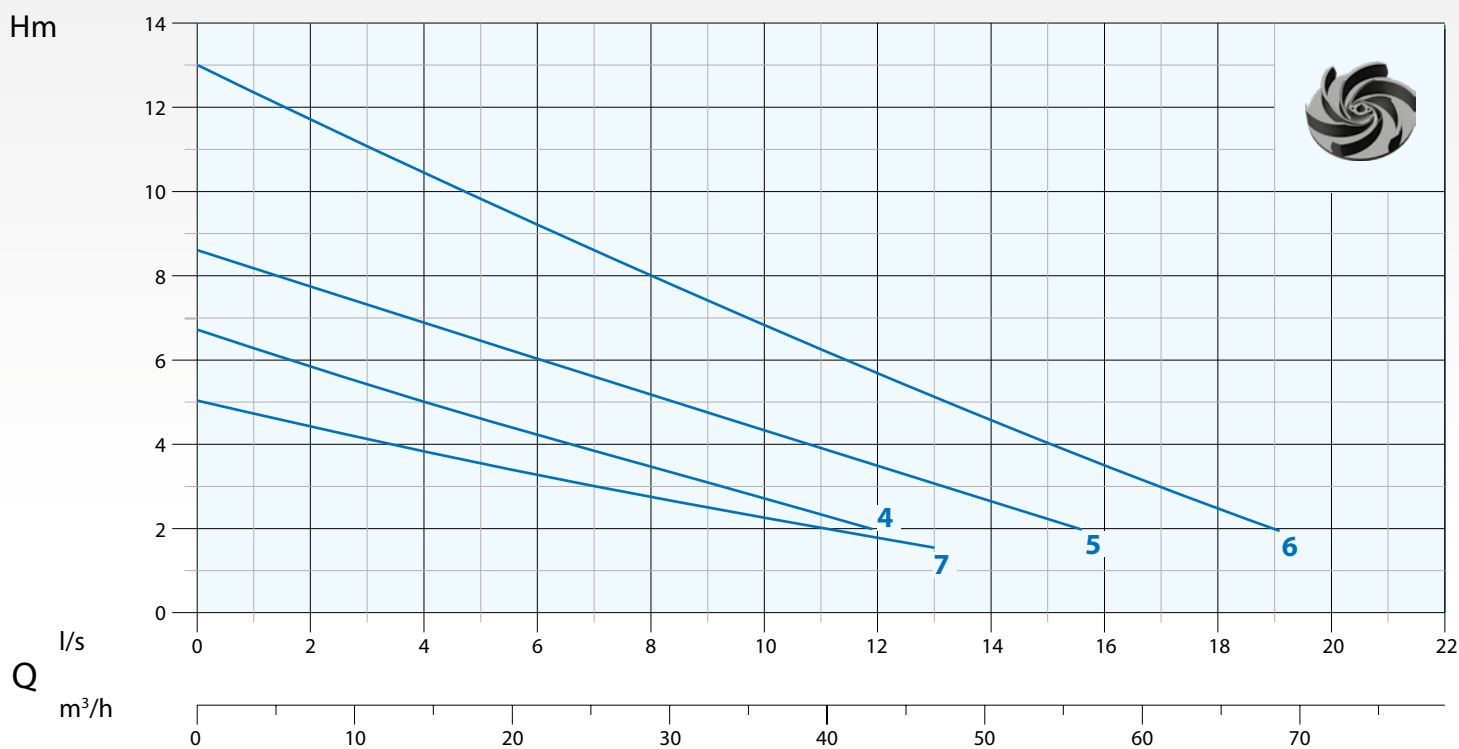
**Mandata Orizzontale DN80 PN16**  
**RPM 2850 1/min 2 poli**  
**RPM 1450 1/min 4 poli**

*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			

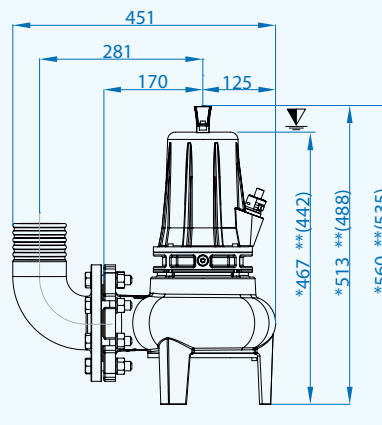
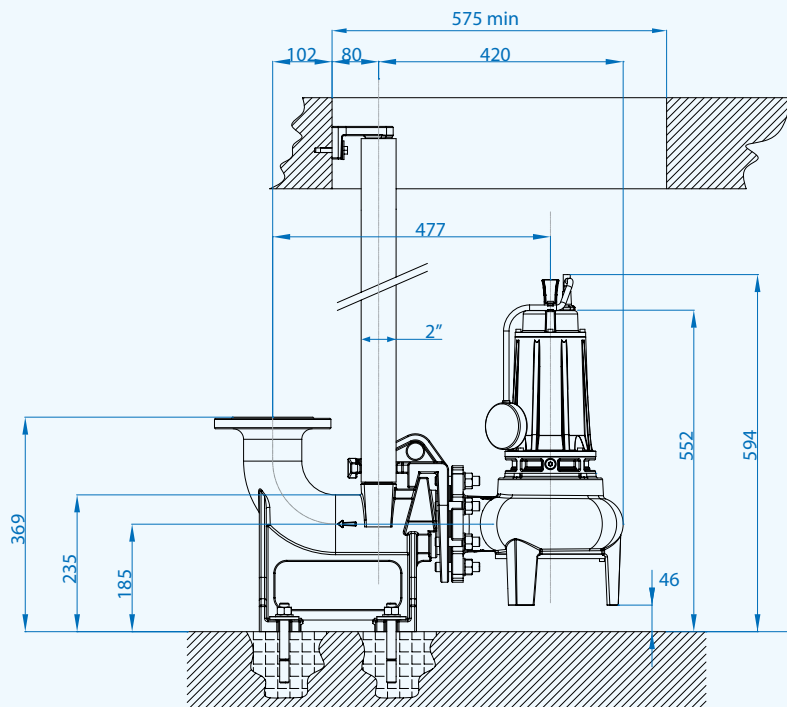
N°	Tipo Type	EX	Mandata Delivery	Passaggio Free Passage	kW			R.P.M. 1/min	A			Hz
					P1	P2	HP		1 Phase - 230V	µf	3 Phase - 400V	
4	DNA 80-2/110 M/T	•	DN80 PN16	80 mm	1,6	1,1	1,5	2850	7,4	30	2,8	50
5	DNA 80-2/150 M/T	•			1,9	1,5	2		9,9	32	3,6	
6	DNA 80-2/220 T	•			2,7	2,2	3				5,3	
7	DNA 80-4/090 M/T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

• Pompa antideflagrante disponibile con certificazione  
 Available explosion proof pump

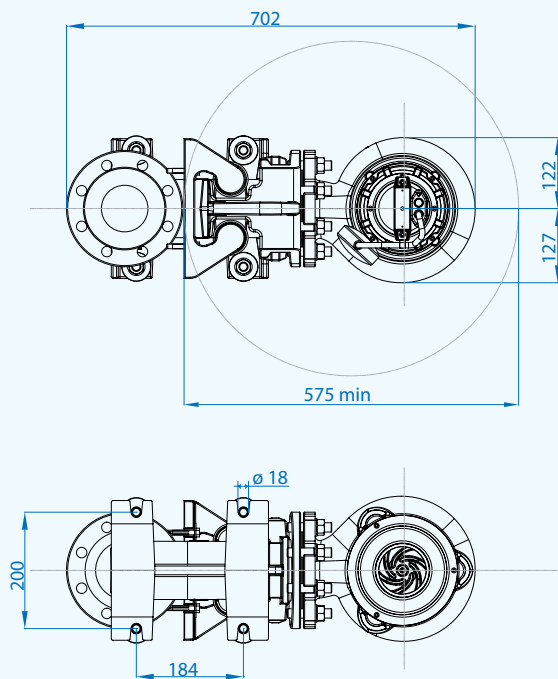


Ex db IIB T4 Gb  
 Ex h IIB T4 Gb  
 0° ≤ Ta ≤ 40°

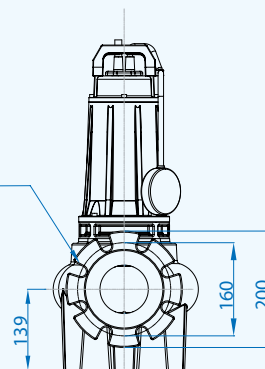
\*DNA(EX) 80-2/220  
 \*\*VERSIONI ATEX fino a 1,5kW - \*ATEX VERSION up to 1,5kW



∇ Sommergenza minima  
 Minimum submersion



DN80 PN16  
 ex UNI 2278



Quote in mm  
 Dimensions in mm

## Cavi / Cables

Pompe Pumps	Fasi Phases	Cavo Cable	Sezione cavo mm <sup>2</sup> Cable cross section mm <sup>2</sup>	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

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