

Elettropompe sommergibili con girante Vortex

Submersible electropumps with Vortex impeller

| | |
|--------------------|-------------------|
| Potenze / Power: | 12÷40 kW |
| Mandate / Delivery | DN80 - 100 |



Impieghi

La serie VTH 2 poli trova impiego nel pompaggio di liquidi fognari con pezzi solidi in sospensione. Le alte prestazioni le rendono efficaci in varie applicazioni: depuratori, canalizzazioni industriali, zootecnia, fognature.

Caratteristiche

Tutti i componenti principali sono realizzati in Ghisa GG25. Due tenute meccaniche separate (lato motore a bagno olio, lato girante a contatto con il liquido) e componentistica di prima qualità, ne garantiscono il perfetto funzionamento.

Motori

- Motori asincroni 2 poli con rotore a gabbia di scoiattolo
- Protezione termica T1 e T2 incorporato nel motore da collegare ad un apposito quadro di comando
- 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
- Disponibili versioni speciali (escluso ATEX) fino alla temperatura liquido di 60°C con unità completamente sommersa, non a servizio continuo (S1)
- Massima profondità di immersione: 20m
- Valori pH ammessi: 6-10
- Caratteristiche idrauliche valide per liquidi di densità <math><1,1 \text{ kg/dm}^3</math>
- Tensioni ammesse: 230/400V o 400/690V $\pm 5\%$ a seconda del modello
- Frequenza ammessa: 50Hz $\pm 2\%$

Application

The VTH 2 poles Series is used for pumping sewage with suspended solids. High performance renders it useful in a variety of applications including water treatment plants, industrial plants, farming and sewage.

Characteristic

All main components are made of grey cast iron GG25. Two individual mechanical seals (motor side in the oil chamber, impeller side in contact with the liquid) and high quality parts, ensure the perfect functioning and reliability of the product.

Motor range

- Squirrel cage motor 2 poles
- Thermal protection T1 and T2 embedded in the motor winding (to be wired to the three pole contactor in the control panel)
- Class F insulation (155°C)
- IP 68 protection

Motor cooling

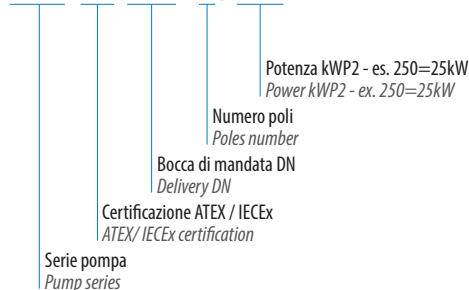
The cooling of the motor is ensured by the liquid where the pump is submerged.

Limits of use

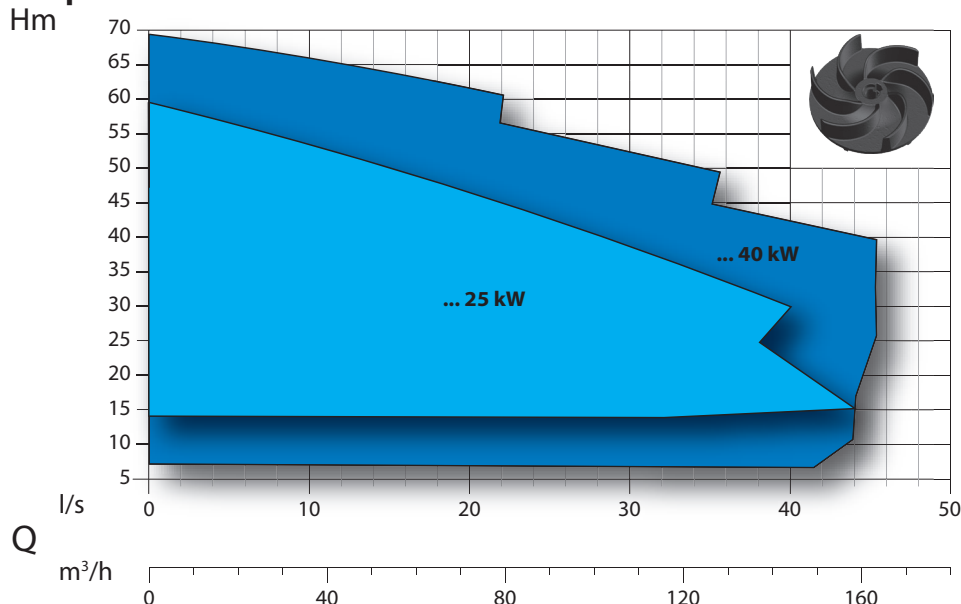
- Max. permissible liquid temperature: 40°C with pump fully submerged
- On request, special version (excluded ATEX) to withstand liquid temperature up to 60°C with pump fully submerged, no S1 service
- Maximum depth of immersion: 20 m
- Permissible pH value: 6-10
- Hydraulic features suitable for liquids with density <math><1,1 \text{ kg/dm}^3</math>
- Allowed voltage: 230/400V or 400/690V $\pm 5\%$ depending on the pump
- Allowed frequency: 50Hz $\pm 2\%$

Designazione / Designation

VTH EX 100 - 2 / 250



Campo di Prestazione / Performance Overview



Identificazione Curve / Curves Identification

- DN80
- DN100

Normative

Norms

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

Distinta dei componenti e materiali List of components and materials

VTH

Golfare - Hook

Acciaio inox AISI 416 - Stainless steel AISI 416

Porta cuscinetto superiore - Upper bearing support

Ghisa GG25 - Cast iron GG25

Cassa motore - Motor casing

Ghisa GG25 - Cast iron GG25

Cuscinetto superiore - Upper bearing

Albero motore - Motor shaft

Acciaio inox AISI 420 - Stainless steel AISI 420

Motore elettrico - Electric motor

Rotore - Rotor

Cuscinetto inferiore - Lower bearing

Porta motore - Motor holder

Ghisa GG25 - Cast iron GG25

Tenuta meccanica - Mechanical seal

Carburo di silicio - Silicon/Carbide (SiC/SiC/Viton)

Disco di chiusura - Closing plate

Ghisa GG25 - Cast iron GG25

Tenuta meccanica - Mechanical seal

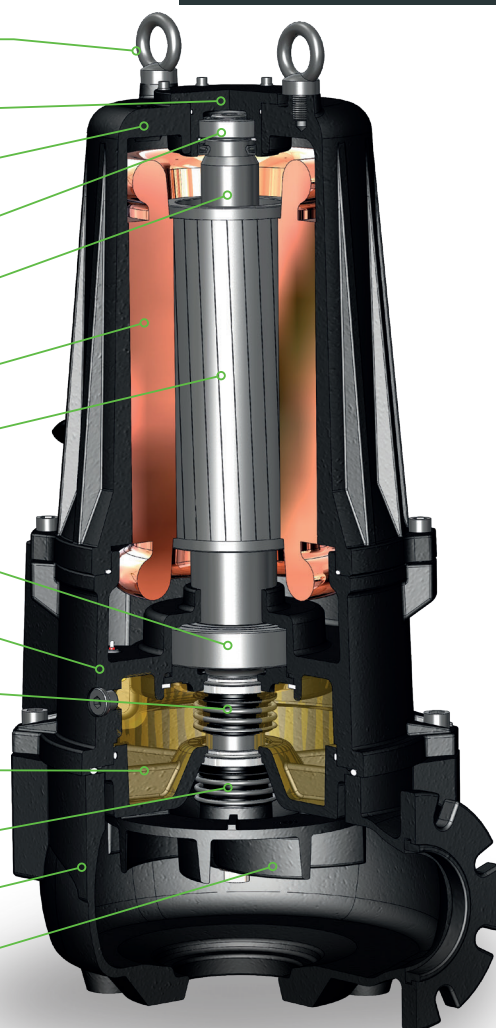
Carburo di silicio - Silicon/Carbide (SiC/SiC/Viton)

Corpo pompa - Body pump

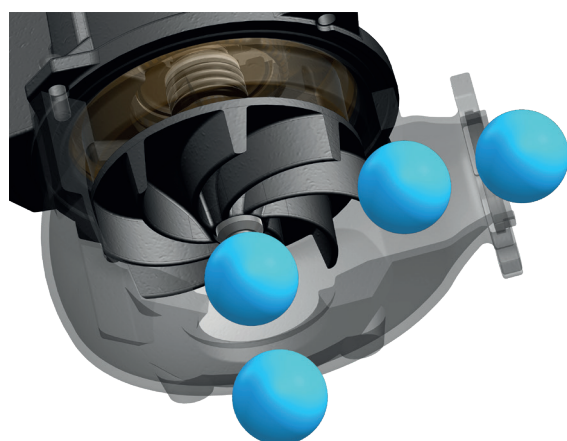
Ghisa GG25 - Cast iron GG25

Girante - Impeller

Ghisa GG25 - Cast iron GG25



Tecnologie e Soluzioni Technology and Features



Giranti

I giranti sono stati sviluppati per offrire sempre ottime prestazioni, senza rinunciare ad ampi passaggi di corpi solidi.

Impellers

Impellers have been studied to grant excellent performances and ample solid handling.



Pompe antideflagranti / Explosion proof pumps

CE 0477



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

EPT 17 ATEX 2703 X

I presenti certificati garantiscono la sicurezza contro le esplosioni, in assoluta conformità con le stringenti direttive europee ed internazionali ATEX/IECEx.

These certificates grant for the safe use of the product in hazardous area in line with the stringent European and International standards ATEX/IECEx.



Sensore d'umidità

Sensore conforme alle norme sulla sicurezza integrata contro le esplosioni EN 60079-0, EN 60079-1 tramite barriera di protezione. Di serie su tutta la gamma (non applicabile con IECEx).

Seal leak detector

The seal leak detector is certified according to the norm EN 60079-0, EN 60079-1 (through safety barrier) and fitted standard on all series (not applicable with IECEx).

Cuscinetti

La serie monta il cuscinetto superiore a rulli cilindrici, atto ad assorbire e resistere ad eventuali sollecitazioni trasmesse dall'albero motore.



Bearings

The series is fitted with a cylindrical roller bearing (upper bearing) to absorb the thrust and vibration generated by the pump shaft.

Mandata Orizzontale DN80 PN16 - RPM 2850 1/min 2 poli

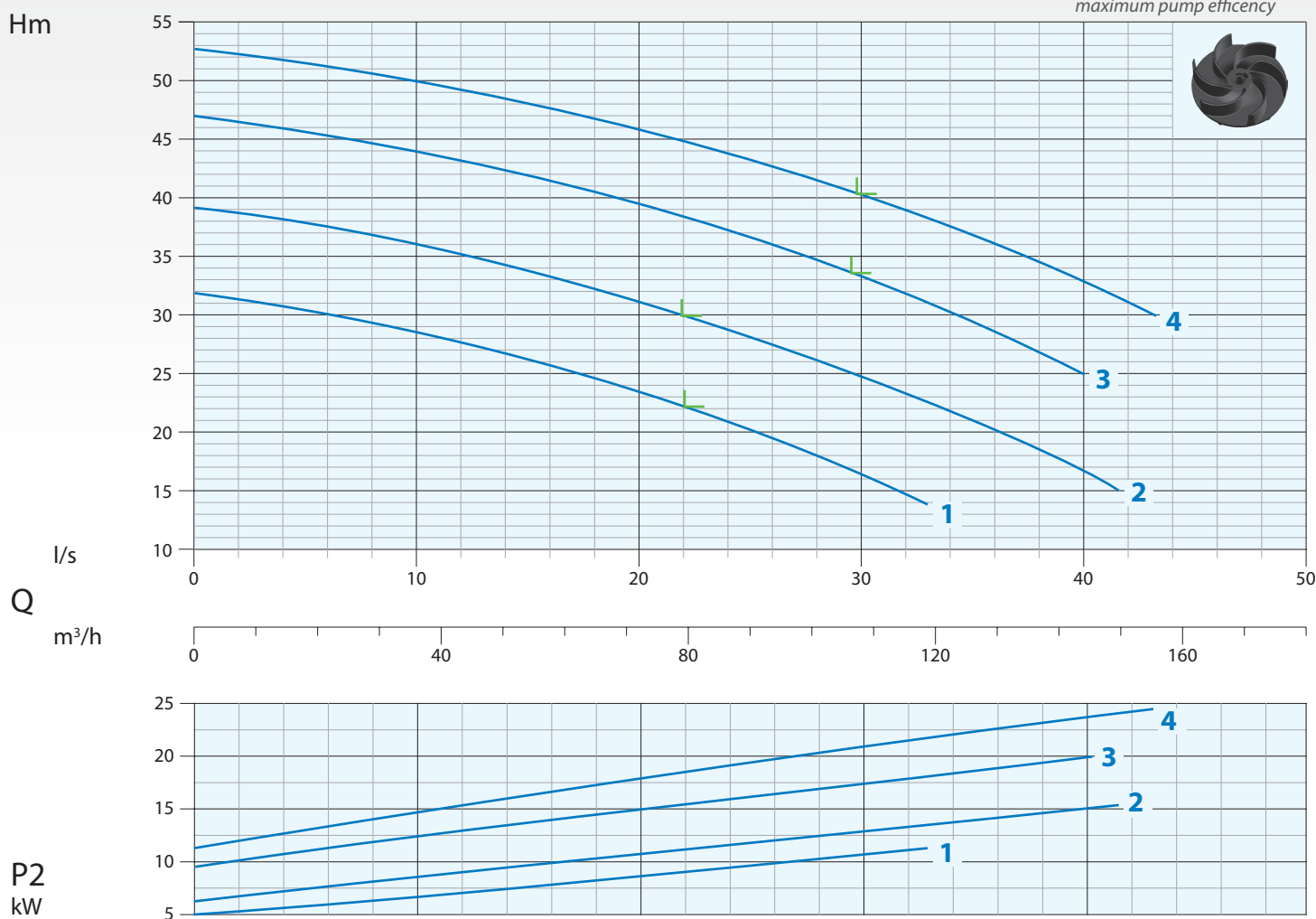
Horizontal Outlet DN80 PN16 - RPM 2850 1/min 2 poles

Immagine a solo scopo illustrativo
Picture for illustration purposes only



Curva di Prestazione Performance Curve

L = rendimento massimo pompa
maximum pump efficiency



| N° | Tipo Type | Flow Rate (Q) | | | | | | | | | | |
|----|--------------|---------------|------|------|------|------|------|------|------|-------|------|-------|
| | | l/s | 4 | 8 | 10 | 14 | 20 | 24 | 30 | 34 | 40 | 42 |
| | | l/m | 240 | 480 | 600 | 840 | 1200 | 1440 | 1800 | 2040 | 2400 | 2520 |
| | | m³/h | 14,4 | 28,8 | 36 | 50,4 | 72 | 86,4 | 108 | 122,4 | 144 | 151,2 |
| 1 | VTH 80-2/120 | mt | 31 | 29 | 28,5 | 27 | 23,5 | 21 | 16,5 | | | |
| 2 | VTH 80-2/150 | | 38 | 37 | 36 | 34 | 31 | 29 | 25 | 22 | 17 | |
| 3 | VTH 80-2/200 | | 46 | 45 | 44 | 42 | 39,5 | 37 | 33 | 30 | 25 | |
| 4 | VTH 80-2/250 | | 52 | 51 | 50 | 48,5 | 46 | 44 | 40 | 37,5 | 33 | 31 |

| N° | Tipo Type | EX | Mandata Delivery | Passaggio Free Passage | kW | | | HP | R.P.M. 1/min | A 3 Phase - 400V | Hz |
|----|--------------|----|---------------------|---------------------------|------|----|----|------|-----------------|---------------------|----|
| | | | | | P1 | P2 | | | | | |
| 1 | VTH 80-2/120 | • | DN80 PN16 | 70 mm | 13,4 | 12 | 16 | 2850 | | 22 | 50 |
| 2 | VTH 80-2/150 | • | | | 17,2 | 15 | 20 | | | | |
| 3 | VTH 80-2/200 | • | | | 23,7 | 20 | 27 | | | | |
| 4 | VTH 80-2/250 | • | | | 28,2 | 25 | 33 | | | | |

• Pompa antideflagrante disponibile con certificazioni:
Available explosion proof pump with certifications:

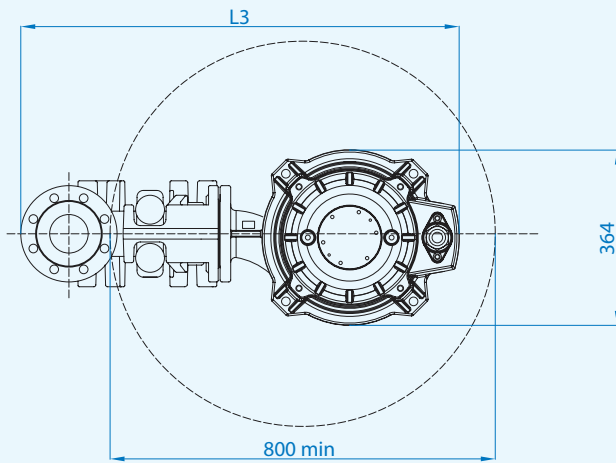
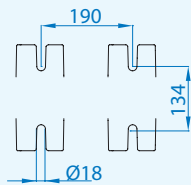
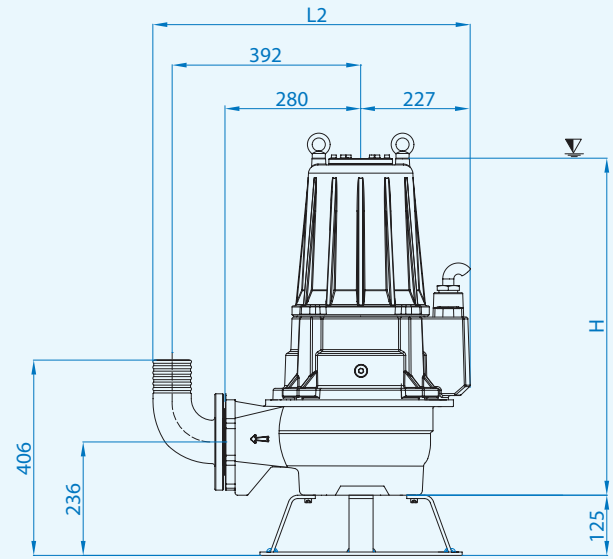
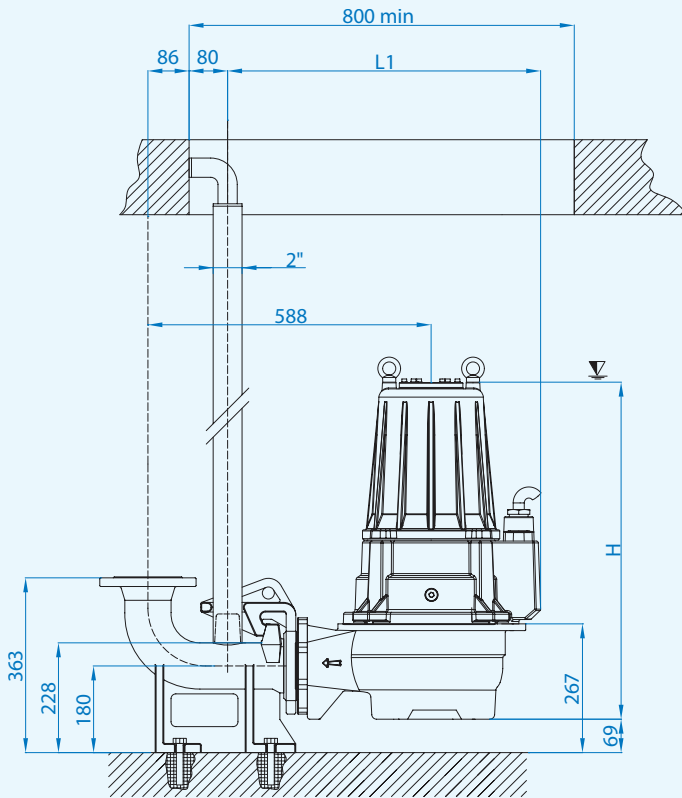


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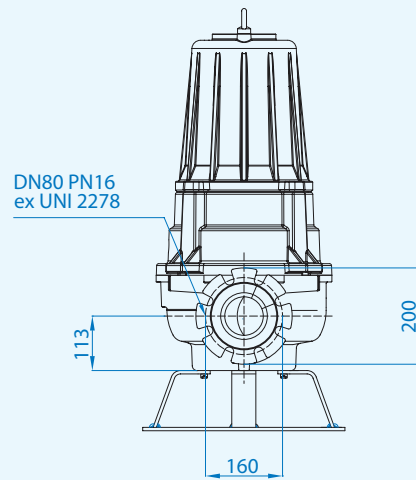


Ex db IIB T4 Gb
Ex h IIB T4 Gb
0° ≤ Ta ≤ 40°

∇ Sommergenza minima
Minimum submersion



| | H | L1 | L2 | L3 |
|------------------|-----|-----|-----|-----|
| VTH 80-2/120-150 | 700 | 650 | 655 | 911 |
| VTH 80-2/200-250 | 741 | 678 | 683 | 934 |



Quote in mm
Dimensions in mm

Cavi / Cables

| Pompe Pumps | Versione Version | Fasi Phases | Cavo Cable | Sezione cavo mm ² Cable cross section mm ² | mt |
|----------------|---------------------|----------------|---------------|---|----|
| 80-2/120-150 | Standard | 3 ~ 400V | H07RN8F | 10x2,5 Ø23* | 10 |
| | ATEX | Y-Δ | NSSHÖU-J | 7x2,5+3x0,50 Ø20* | 10 |
| 80-2/200-250 | Standard | 3 ~ 400V | H07RN8F | 7x4+3x1 Ø20,5* | 10 |
| | ATEX | Y-Δ | NSSHÖU-J | 7x6+3x1 Ø24* | 10 |

* Terminali liberi - Free terminals

Dimensioni imballo / Packaging dimension

| Tipo - Type | X mm | Y mm | Z mm | Kg |
|--------------|---------|---------|---------|-----|
| VTH 80-2/120 | | | | 186 |
| VTH 80-2/150 | | | | 195 |
| VTH 80-2/200 | 510 | 860 | 420 | 242 |
| VTH 80-2/250 | | | | 244 |



Accessori - Optional



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



Curva flangiata con portagomma N2
Base di sostegno P7
Flanged hose connection N2
Foot support P7

Mandata Orizzontale DN100 PN16 - RPM 2850 1/min 2 poli

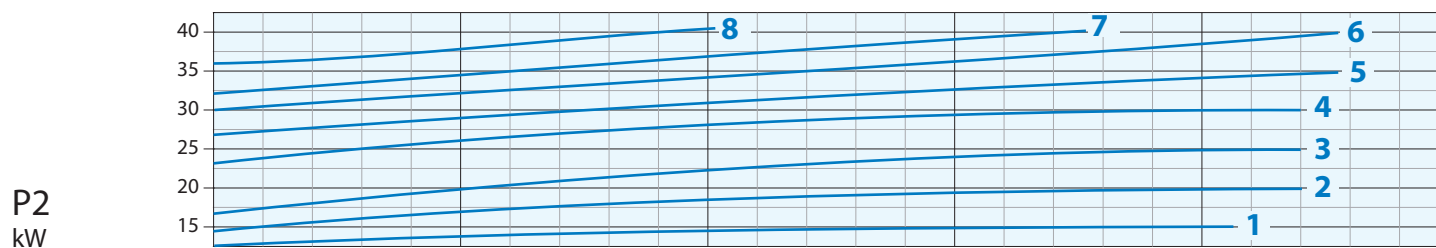
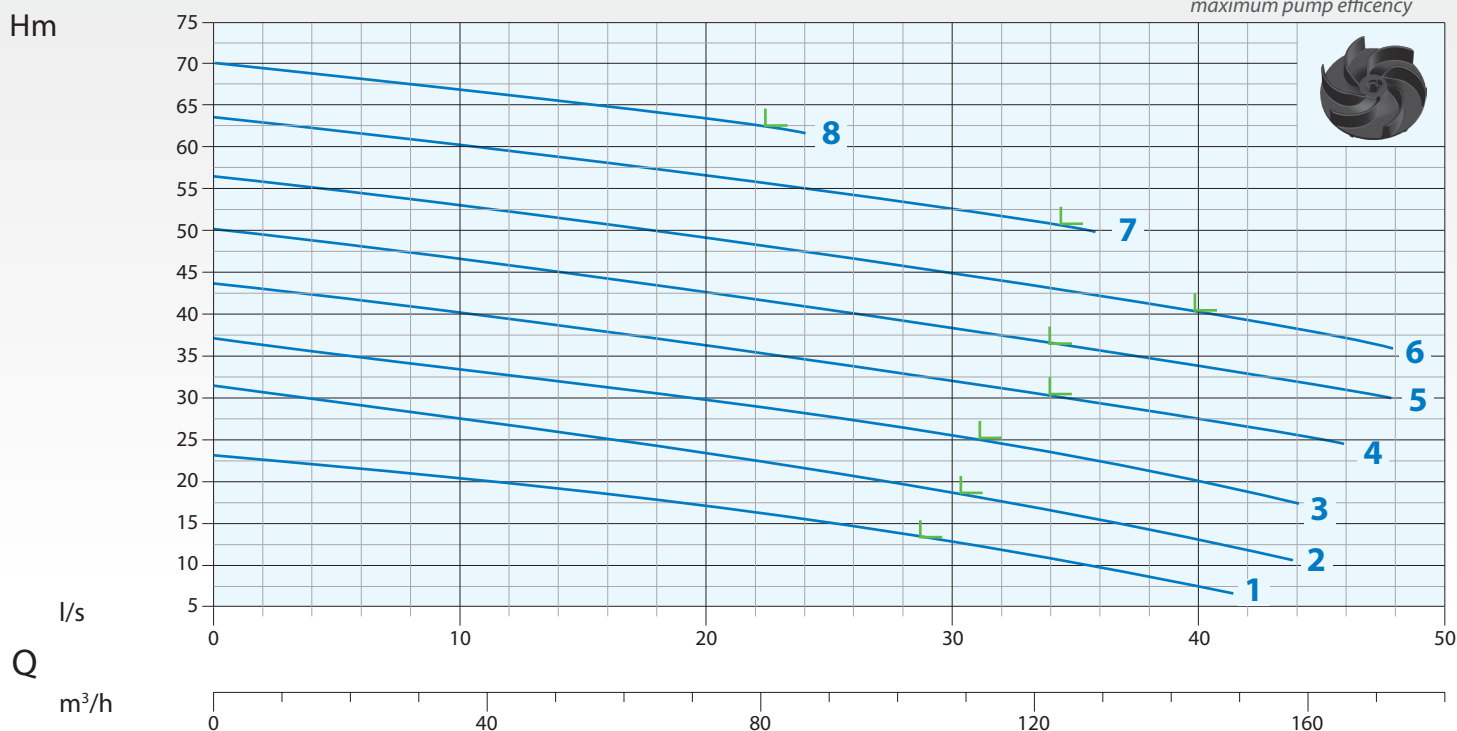
Horizontal Outlet DN100 PN16 - RPM 2850 1/min 2 poles

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L = rendimento massimo pompa
maximum pump efficiency

Curva di Prestazione Performance Curve



| N° | Tipo Type | l/s l/m m³/h | 4 | 8 | 10 | 14 | 20 | 24 | 30 | 34 | 40 | 42 |
|----|-----------------|--------------------|------|------|------|------|------|------|------|-------|------|-------|
| | | | 240 | 480 | 600 | 840 | 1200 | 1440 | 1800 | 2040 | 2400 | 2520 |
| | | | 14,4 | 28,8 | 36 | 50,4 | 72 | 86,4 | 108 | 122,4 | 144 | 151,2 |
| 1 | VTH 100-2/150 | mt | 22,5 | 21 | 20,5 | 18 | 17 | 15 | 12,5 | 11 | 7,5 | |
| 2 | VTH 100-2/200 | | 30 | 28 | 27,5 | 26 | 23,5 | 22 | 18,5 | 16,5 | 12,5 | 12 |
| 3 | VTH 100-2/250 | | 35,5 | 34,5 | 33 | 32,5 | 30 | 28 | 26,5 | 23,5 | 20 | 18 |
| 4 | VTH 100-2/300 | | 42,5 | 40,5 | 40 | 38,5 | 36 | 35 | 32 | 31 | 27,5 | 27 |
| 5 | VTH 100-2/350 | | 48,5 | 47 | 46 | 45 | 42,5 | 41 | 38 | 37 | 34 | 32,5 |
| 6 | VTH 100-2/400 | | 55,5 | 54 | 53 | 52 | 49 | 47,5 | 45 | 43 | 40 | 39 |
| 7 | VTH 100-2/400-1 | | 62,5 | 61 | 60 | 58,5 | 57 | 55 | 52,5 | 51 | | |
| 8 | VTH 100-2/400-2 | | 68 | 67,5 | 66,5 | 65 | 63 | 62 | | | | |

| N° | Tipo Type | EX | Mandata Delivery | Passaggio Free Passage | kW | | | HP | R.P.M. 1/min | A | |
|----|-----------------|----|---------------------|---------------------------|------|----|------|------|-----------------|----------------|----|
| | | | | | P1 | P2 | | | | 3 Phase - 400V | Hz |
| 1 | VTH 100-2/150 | • | DN100 PN16 | 100 mm | 17,2 | 15 | 20 | 2850 | 30,2 | | |
| 2 | VTH 100-2/200 | • | | | 23,7 | 20 | 27 | | 40,4 | | |
| 3 | VTH 100-2/250 | • | | | 28,2 | 25 | 34 | | 47,4 | | |
| 4 | VTH 100-2/300 | • | | | 37,4 | 30 | 41 | | 59,7 | | |
| 5 | VTH 100-2/350 | • | | | 40,6 | 35 | 47,5 | | 65,1 | | |
| 6 | VTH 100-2/400 | • | | | 48,2 | 40 | 54 | | 76,2 | | |
| 7 | VTH 100-2/400-1 | • | | | 48,2 | 40 | 54 | | 76,2 | | |
| 8 | VTH 100-2/400-2 | • | | | 48,6 | 40 | 54 | | 76,5 | | |

• Pompa antideflagrante disponibile con certificazioni:
Available explosion proof pump with certifications:

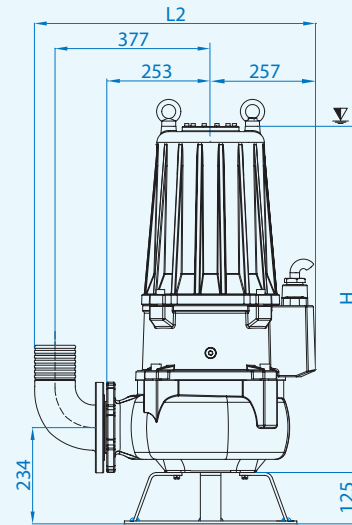
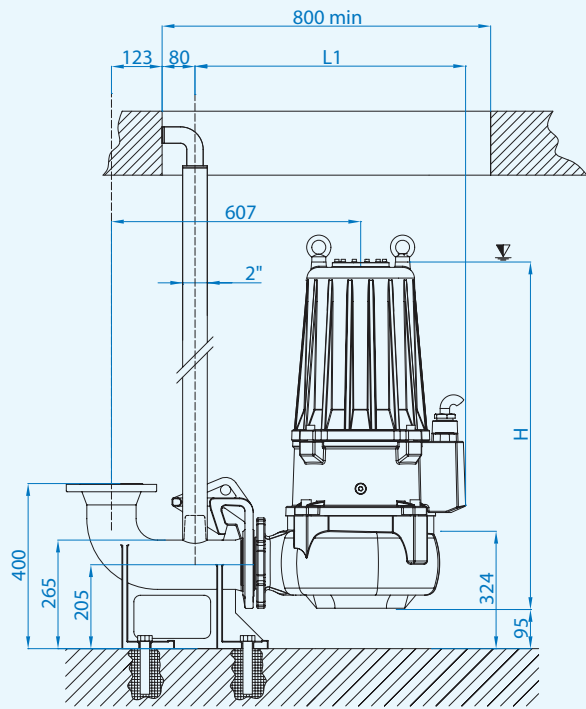


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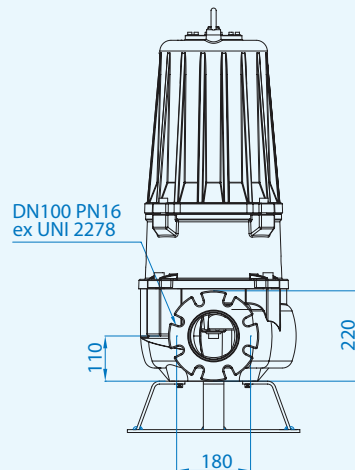
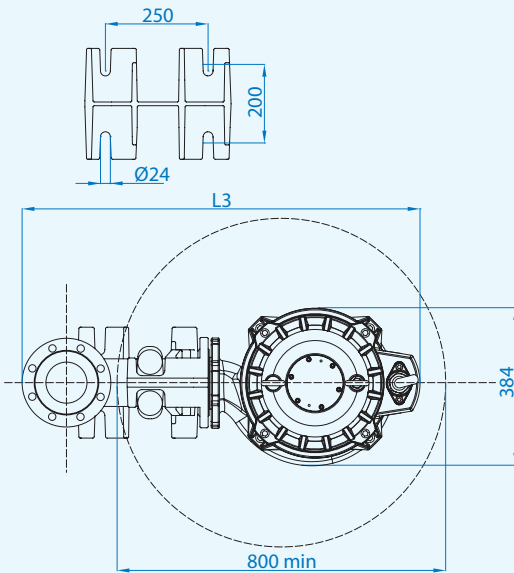


Ex db IIB T4 Gb
Ex h IIB T4 Gb
0° ≤ Ta ≤ 40°

▽ Sommergenza minima
Minimum submersion



| | H | L1 | L2 | L3 |
|-----------------------|-----|-----|-----|-----|
| VTH 100-2/150 | 728 | 650 | 659 | 911 |
| VTH 100-2/200-250 | 769 | 659 | 684 | 969 |
| VTH 100-2/300-350-400 | 843 | 659 | 684 | 969 |



Quote in mm
Dimensions in mm

Cavi / Cables

| Pompe Pumps | Versione Version | Fasi Phases | Cavo Cable | Sezione cavo mm ² Cable cross section mm ² | mt |
|-------------------|---------------------|----------------|---------------|---|----|
| 100-2/150 | Standard | 3 ~ 400V | H07RN8F | 10x2,5 Ø23* | 10 |
| | ATEX | Y-Δ | NSSHÖU-J | 7x2,5+3x0,50 Ø20* | 10 |
| 100-2/200-250 | Standard | 3 ~ 400V | H07RN8F | 7x4+3x1 Ø20,5* | 10 |
| | ATEX | Y-Δ | NSSHÖU-J | 7x6+3x1 Ø24* | 10 |
| 100-2/300-350-400 | Standard | 3 ~ 400V | NSSHÖU-J | 7x6+3x1 Ø24* | 10 |
| | ATEX | Y-Δ | NSSHÖU-J | 7x6+3x1 Ø24* | 10 |

* Terminali liberi - Free terminals

Dimensioni imballo / Packaging dimension

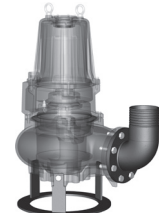
| Tipo - Type | X mm | Y mm | Z mm | Kg |
|-----------------|---------|---------|---------|-----|
| VTH 100-2/150 | 510 | 860 | 420 | 210 |
| VTH 100-2/200 | | | | 252 |
| VTH 100-2/250 | | | | 254 |
| VTH 100-2/300 | | | | 310 |
| VTH 100-2/350 | | | | 340 |
| VTH 100-2/400 | | | | 380 |
| VTH 100-2/400-1 | | | | 382 |
| VTH 100-2/400-2 | | | | 385 |



Accessori - Optional



Piede di accoppiamento
Tipo: DUTY 100 e B6
Automatic coupling foot
Type: DUTY 100 and B6



Curva flangiata con portagomma N3
Base di sostegno P7
Flanged hose connection N3
Foot support P7