

# Hydraulic & Offshore SUPPLIES

## Brazed Plate Heat Exchangers

Contact our team *and*  
**Order today on:**  
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## APPLICAZIONI:

### APPLICATIONS :

- Recuperi Termici da Processi Industriali / Industrial Process Heat Recovery
- Refrigeratori Olio / Oil Coolers
- Impianti Fotovoltaici / Photovoltaic Installations



**EMMEGI**

HEAT-EXCHANGERS  
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# Scambiatori a Piastre Saldobrasate

## Brazed Plate Heat Exchangers

### Vantaggi degli scambiatori a piastre saldobrasate

- Alto coefficiente di scambio termico ;
- Dimensioni contenute con alte performance ;
- Alta resistenza alla pressione e temperatura ;
- Connessioni in AISI 321 ;
- Facile installazione ;

Gli scambiatori a piastre sono costituiti da piastre corrugate.

Le piastre sono ruotate di 180° l'una dall'altra al fine di creare un reticolo di canali intersecati. I fluidi possono fluire sia in controcorrente che equicorrente.

Le piastre sono unite insieme tra loro con materiale brasante in speciali forni sottovuoto.

La speciale corrugazione permette al fluido di turbolare aumentando lo scambio termico e riducendo i depositi di sporco nelle piastre.

### Advantages of Brazed Plate Heat Exchangers

- high heat transfer coefficient ;
- small unit size with high heat transfer capacity ;
- high resistance to pressure and temperature fluctuations ;
- stainless steel connections ;
- easy installation ;

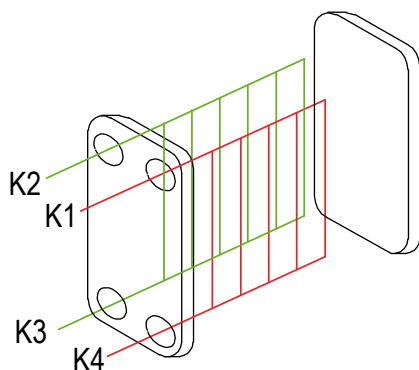
Brazed plate heat exchangers consist of stainless steel plate packs, which have embossed chevron patterns.

The plates are turned 180° to each other, causing the plate ridges to intersect, and creating a lattice of intersecting channels. The fluids can flow in counter-current or co-current way.

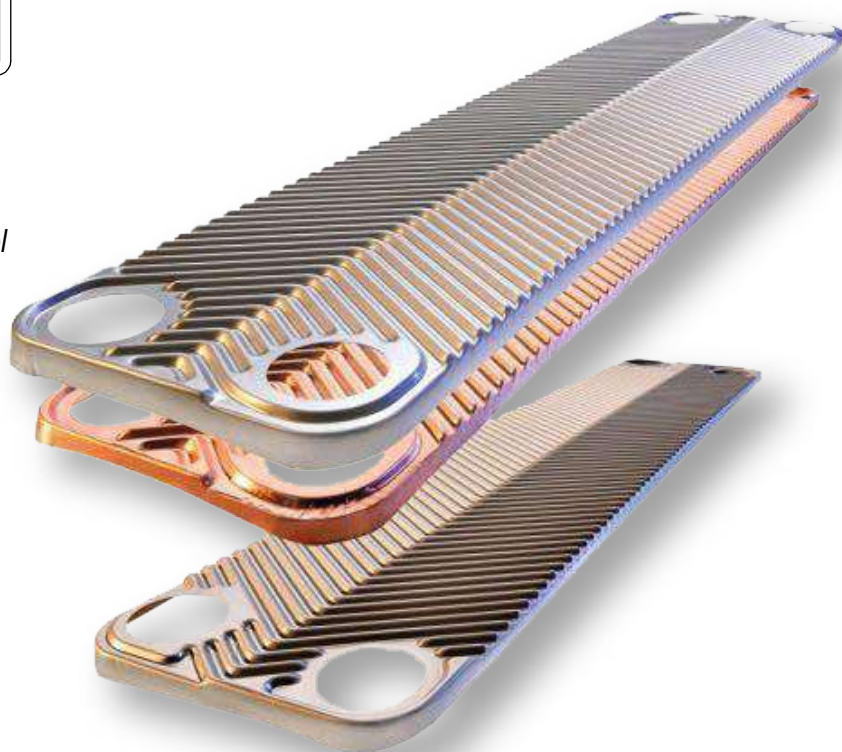
The entire construction is sealed together by the means of brazing in a special vacuum furnace.

Special corrugation patterns promote high turbulence flow. Turbulence dramatically improves heat transfer rates and reduces the amount of deposits inside the unit.

### Flow Channel Diagram in Heat Exchanger



one-pass - channels are parallel



# Denominazione codice prodotto

## Ordering code



**PB 014 030 F012 6**

**MODELLO** Model

**SERIE** Series

- 014
- 022
- 031
- 034
- 047
- 060
- 110
- 170

**NUMERO DI PIASTRE** Number of plates

- 006
- 010
- 020
- 030
- 040
- 050
- 060
- 070
- 080
- 090
- 100
- 110
- 120
- 130
- 140
- 150
- 160
- 170
- 180

**CONNESSIONI** Connection Type

1/2" BSP Femmina (PB014 - PB022 - PB034)  
Internal Thread 1/2" BSP

1" BSP Femmina (PB31 - PB047 - PB060)  
Internal Thread 1" BSP

2" BSP Maschio (PB110 - PB170)  
External Thread 2" BSP

F012

F100

M200

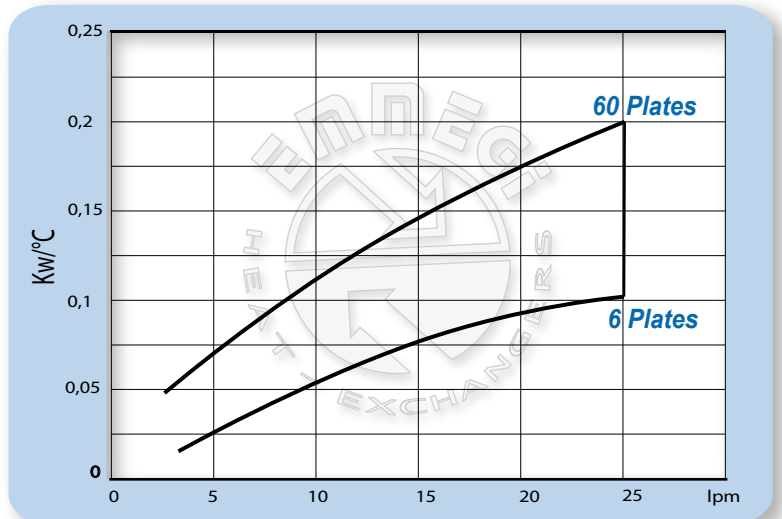


# PB014

## Dimensioni *Dimensions*

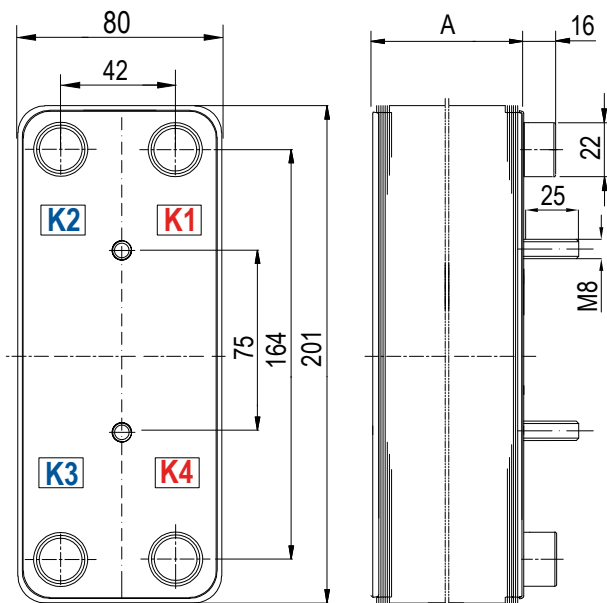


### Diagramma rendimento *Performance diagram - ISO VG46 @50°C*



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare l' UTEC EMMEGI.  
For pressure drop information please contact EMMEGI's technical department.

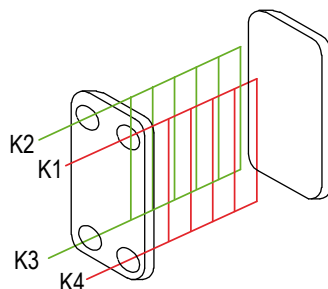


| Condizioni di esercizio<br>Working Conditions  |        |
|--|--------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C  |
| Minima Temperatura<br>Min. Working Temperature | -10°C  |
| Massima Pressione<br>Max. Working Pressure     | 30 bar |

| Materiali Utilizzati<br>Materials |           |
|-----------------------------------|-----------|
| Piastre<br>Plate                  | Aisi 316  |
| Attacchi<br>Connection            | Aisi 316  |
| Brasatura<br>Brazing Material     | Cu 99,95% |

| Collegamenti Standard<br>Standard of Connection Location             | Connessioni<br>Connection Types          |
|--|--|
| K1 / K4 - Ingresso/uscita caldo<br>K1 / K4 - Inlet/Outlet Hot Side   | G 1/2" Femmina<br>Internal Thread G 1/2" |
| K3 / K2 - Ingresso/uscita freddo<br>K3 / K2 - Inlet/Outlet Cold Side | G 1/2" Femmina<br>Internal Thread G 1/2" |
| A richiesta connessioni speciali<br>Special connections on request   |  |

| N° Piastre<br>Plate No. | A (mm) | Peso ( Kg )<br>Weight ( Kg ) | Capacità per circuito lt<br>Channel Volume |
|-------------------------|--------|------------------------------|--|
| 6                       | 25     | 0.97                         | 0.066                                      |
| 10                      | 34     | 1.15                         | 0.11                                       |
| 20                      | 57     | 1.6                          | 0.22                                       |
| 30                      | 80     | 2.05                         | 0.33                                       |
| 40                      | 103    | 2.5                          | 0.44                                       |
| 50                      | 126    | 2.95                         | 0.55                                       |
| 60                      | 149    | 3.4                          | 0.66                                       |



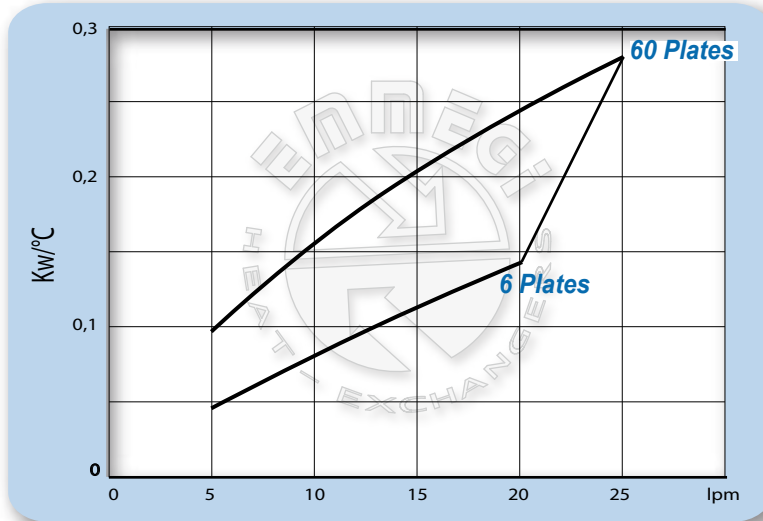
# PB014

# PB022

## Dimensioni *Dimensions*

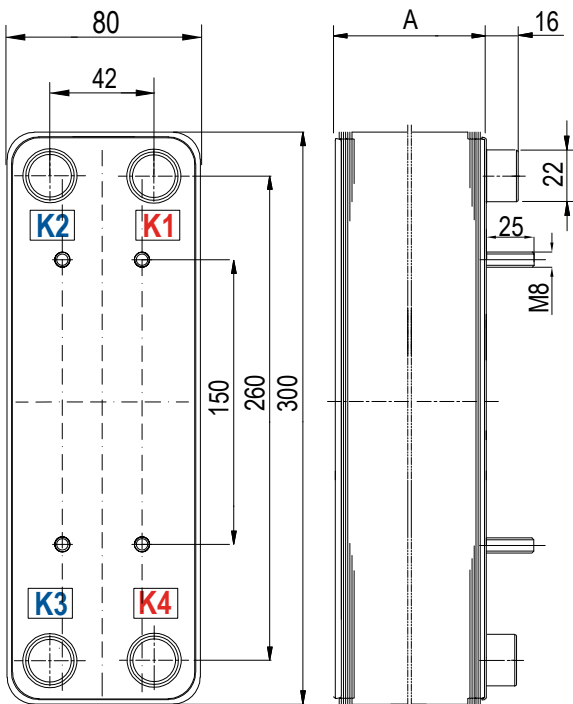


## Diagramma rendimento *Performance diagram - ISO VG46 @50°C*



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare l' UTEC EMMEGI.  
For pressure drop information please contact EMMEGI's technical department.

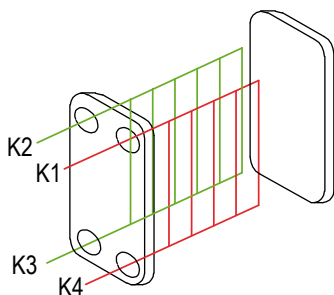


| Condizioni di esercizio<br>Working Conditions  |        | Materiali Utilizzati<br>Materials |           |
|--|--------|-----------------------------------|-----------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C  | Piastre<br>Plate                  | Aisi 316  |
| Minima Temperatura<br>Min. Working Temperature | -10°C  | Attacchi<br>Connection            | Aisi 316  |
| Massima Pressione<br>Max. Working Pressure     | 30 bar | Brasatura<br>Brazing Material     | Cu 99,95% |

| Collegamenti Standard<br>Standard of Connection Location             | Connessioni<br>Connection Types          |
|--|--|
| K1 / K4 - Ingresso/uscita caldo<br>K1 / K4 - Inlet/Outlet Hot Side   | G 1/2" Femmina<br>Internal Thread G 1/2" |
| K3 / K2 - Ingresso/uscita freddo<br>K3 / K2 - Inlet/Outlet Cold Side | G 1/2" Femmina<br>Internal Thread G 1/2" |

A richiesta connessioni speciali  
Special connections on request

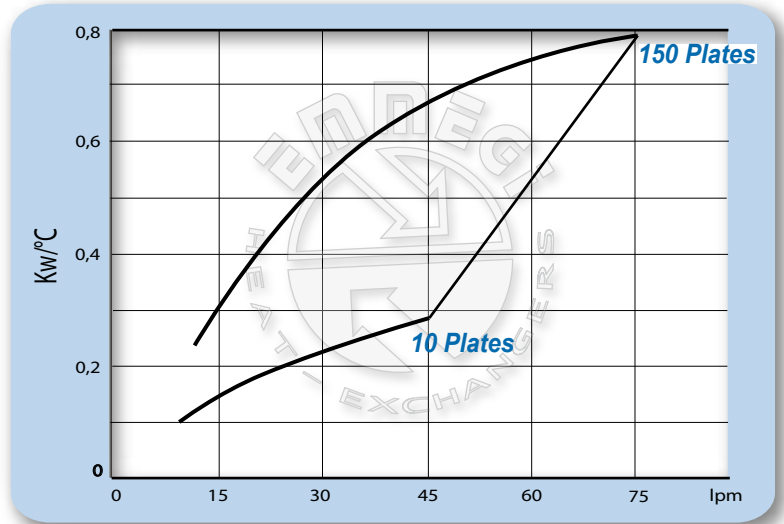
| N° Piastre<br>Plate No. | A (mm) | Peso ( Kg )<br>Weight ( Kg ) | Capacità per circuito lt<br>Channel Volume |
|-------------------------|--------|------------------------------|--|
| 6                       | 25     | 1.5                          | 0.105                                      |
| 10                      | 34     | 1.9                          | 0.175                                      |
| 20                      | 55     | 2.6                          | 0.35                                       |
| 30                      | 78     | 3.3                          | 0.525                                      |
| 40                      | 101    | 4.1                          | 0.7  |
| 50                      | 124    | 4.8                          | 0.875                                      |
| 60                      | 147    | 5.6                          | 1.05                                       |



# PB031

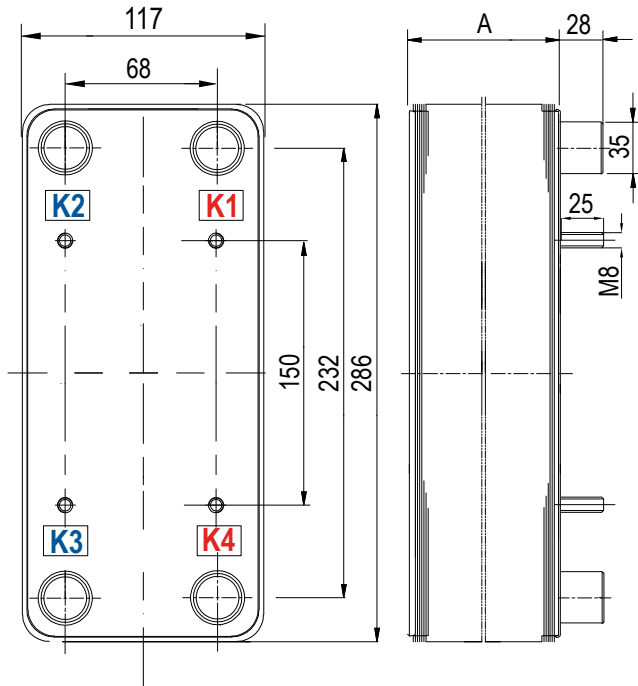
## Dimensioni Dimensions

## Diagramma rendimento Performance diagram - ISO VG46 @50°C



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare l' UTEC EMMEGI.  
For pressure drop information please contact EMMEGI's technical department.

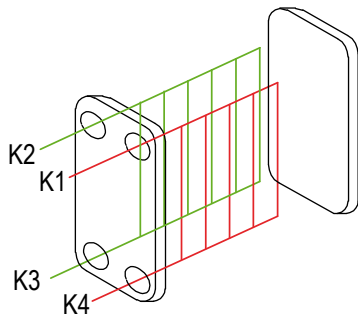


| Condizioni di esercizio<br>Working Conditions  |        | Materiali Utilizzati<br>Materials |           |
|--|--------|-----------------------------------|-----------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C  | Piastre<br>Plate                  | Aisi 316  |
| Minima Temperatura<br>Min. Working Temperature | -10°C  | Attacchi<br>Connection            | Aisi 316  |
| Massima Pressione<br>Max. Working Pressure     | 30 bar | Brasatura<br>Brazing Material     | Cu 99,95% |

| Collegamenti Standard<br>Standard of Connection Location             | Connessioni<br>Connection Types      |
|--|--------------------------------------|
| K1 / K4 - Ingresso/uscita caldo<br>K1 / K4 - Inlet/Outlet Hot Side   | G 1" Femmina<br>Internal Thread G 1" |
| K3 / K2 - Ingresso/uscita freddo<br>K3 / K2 - Inlet/Outlet Cold Side | G 1" Femmina<br>Internal Thread G 1" |

A richiesta connessioni speciali  
Special connections on request

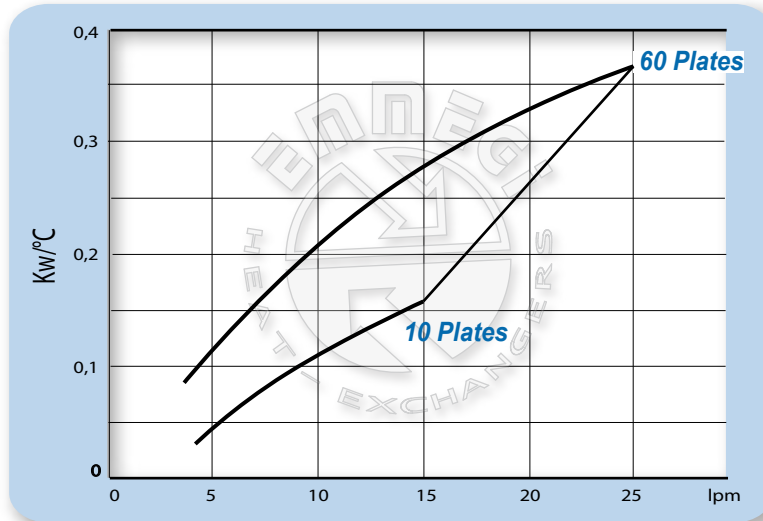
| N° Piastre<br>Plate No. | A (mm) | Peso ( Kg )<br>Weight ( Kg ) | Capacità per circuito It<br>Channel Volume |
|-------------------------|--------|------------------------------|--|
| 10                      | 33     | 3.09                         | 0.24                                       |
| 20                      | 57     | 4.33                         | 0.47                                       |
| 30                      | 88     | 5.57                         | 0.76                                       |
| 40                      | 105    | 6.81                         | 0.94                                       |
| 50                      | 129    | 8.05                         | 1.18                                       |
| 60                      | 153    | 9.29                         | 1.41                                       |
| 70                      | 177    | 10.53                        | 1.65                                       |
| 80                      | 201    | 11.77                        | 1.88                                       |
| 90                      | 225    | 13.01                        | 2.16                                       |
| 100                     | 251    | 14.25                        | 2.35                                       |
| 110                     | 273    | 15.49                        | 2.59                                       |
| 120                     | 297    | 16.73                        | 2.82                                       |
| 130                     | 321    | 17.97                        | 3.06                                       |
| 140                     | 345    | 19.21                        | 3.29                                       |
| 150                     | 369    | 20.45                        | 3.53                                       |



# PB031

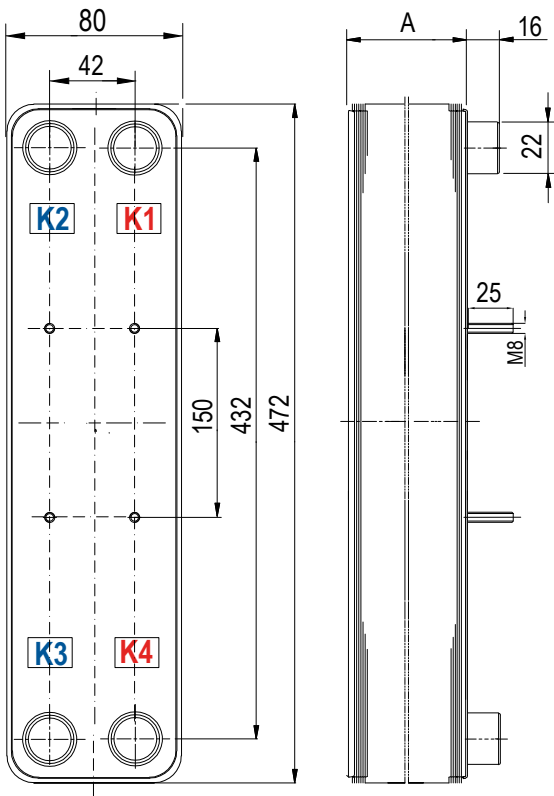


### Diagramma rendimento *Performance diagram - ISO VG46 @50°C*



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare l' UTEC EMMEGI.  
For pressure drop information please contact EMMEGI's technical department.

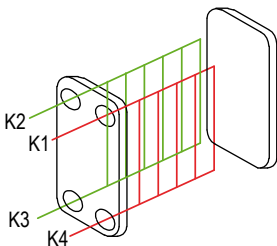


| Condizioni di esercizio<br>Working Conditions  |        | Materiali Utilizzati<br>Materials |           |
|--|--------|-----------------------------------|-----------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C  | Piastre<br>Plate                  | Aisi 316  |
| Minima Temperatura<br>Min. Working Temperature | -10°C  | Attacchi<br>Connection            | Aisi 316  |
| Massima Pressione<br>Max. Working Pressure     | 30 bar | Brasatura<br>Brazing Material     | Cu 99,95% |

| Collegamenti Standard<br>Standard of Connection Location             | Connessioni<br>Connection Types          |
|--|--|
| K1 / K4 - Ingresso/uscita caldo<br>K1 / K4 - Inlet/Outlet Hot Side   | G 1/2" Femmina<br>Internal Thread G 1/2" |
| K3 / K2 - Ingresso/uscita freddo<br>K3 / K2 - Inlet/Outlet Cold Side | G 1/2" Femmina<br>Internal Thread G 1/2" |

A richiesta connessioni speciali  
Special connections on request

| N° Piastre<br>Plate No. | A (mm) | Peso ( Kg )<br>Weight ( Kg ) | Capacità per circuito It<br>Channel Volume |
|-------------------------|--------|------------------------------|--|
| 10                      | 32     | 2.77                         | 0.27                                       |
| 20                      | 55     | 3.97                         | 0.54                                       |
| 30                      | 78     | 5.17                         | 0.81                                       |
| 40                      | 101    | 6.37                         | 1.08                                       |
| 50                      | 124    | 7.57                         | 1.35                                       |
| 60                      | 147    | 8.77                         | 1.62                                       |



# PB034

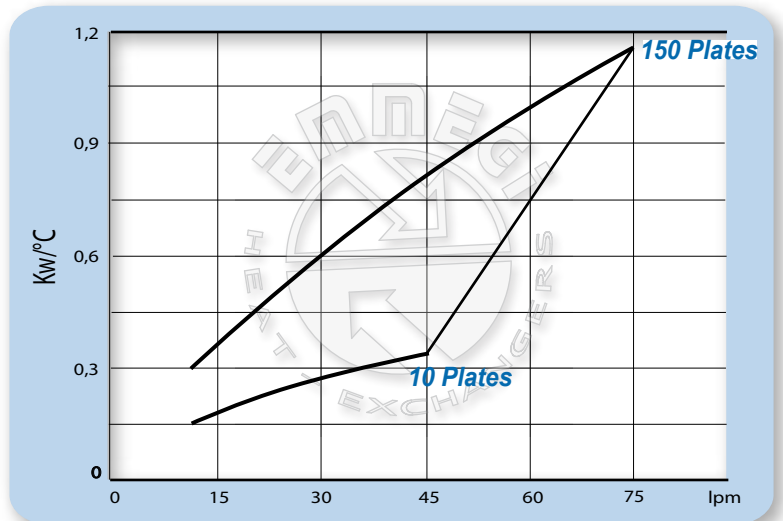


# PB047

## Dimensioni *Dimensions*

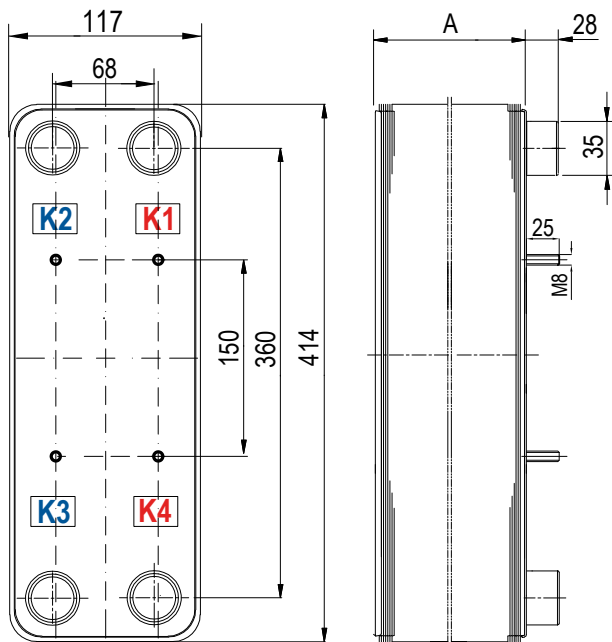


**Diagramma rendimento** *Performance diagram - ISO VG46 @50°C*



**Rapporto portata olio/acqua 2:1 - flow ratio 2:1**

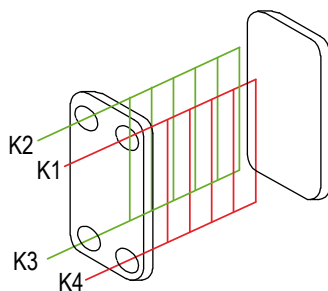
**Per informazioni inerenti la perdita di carico contattare l' UTEC EMMEGI.**  
*For pressure drop information please contact EMMEGI's technical department.*



| Condizioni di esercizio<br>Working Conditions  |        | Materiali Utilizzati<br>Materials |           |
|--|--------|-----------------------------------|-----------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C  | Piastre<br>Plate                  | Aisi 316  |
| Minima Temperatura<br>Min. Working Temperature | -10°C  | Attacchi<br>Connection            | Aisi 316  |
| Massima Pressione<br>Max. Working Pressure     | 30 bar | Brasatura<br>Brazing Material     | Cu 99,95% |

| Collegamenti Standard<br>Standard of Connection Location                  | Connessioni<br>Connection Types      |
|---|--------------------------------------|
| K1 / K4 - Ingresso/uscita caldo<br>K1 / K4 - Inlet/Outlet Hot Side        | G 1" Femmina<br>Internal Thread G 1" |
| K3 / K2 - Ingresso/uscita freddo<br>K3 / K2 - Inlet/Outlet Cold Side      | G 1" Femmina<br>Internal Thread G 1" |
| A richiesta connessioni speciali<br><i>Special connections on request</i> |                                      |

| N° Piastre<br>Plate No. | A (mm) | Peso ( Kg )<br>Weight ( Kg ) | Capacità per circuito It<br>Channel Volume |
|-------------------------|--------|------------------------------|--|
| 10                      | 35     | 4                            | 0.36                                       |
| 20                      | 59     | 5.9                          | 0.72                                       |
| 30                      | 83     | 7.8                          | 1.08                                       |
| 40                      | 107    | 9.7                          | 1.44                                       |
| 50                      | 131    | 11.6                         | 1.8  |
| 60                      | 155    | 13.5                         | 2.16                                       |
| 70                      | 179    | 15.4                         | 2.52                                       |
| 80                      | 203    | 17.3                         | 2.88                                       |
| 90                      | 227    | 19.2                         | 3.24                                       |
| 100                     | 251    | 21.1                         | 3.6  |
| 110                     | 275    | 23                           | 3.96                                       |
| 120                     | 299    | 24.9                         | 4.32                                       |
| 130                     | 323    | 26.8                         | 4.68                                       |
| 140                     | 347    | 28.7                         | 5.04                                       |
| 150                     | 371    | 30.6                         | 5.4  |



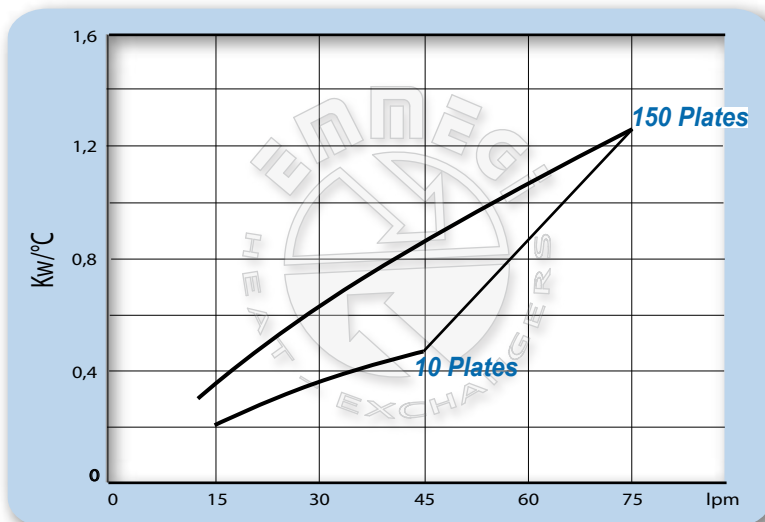
# PB047

# PB060

## Dimensioni Dimensions

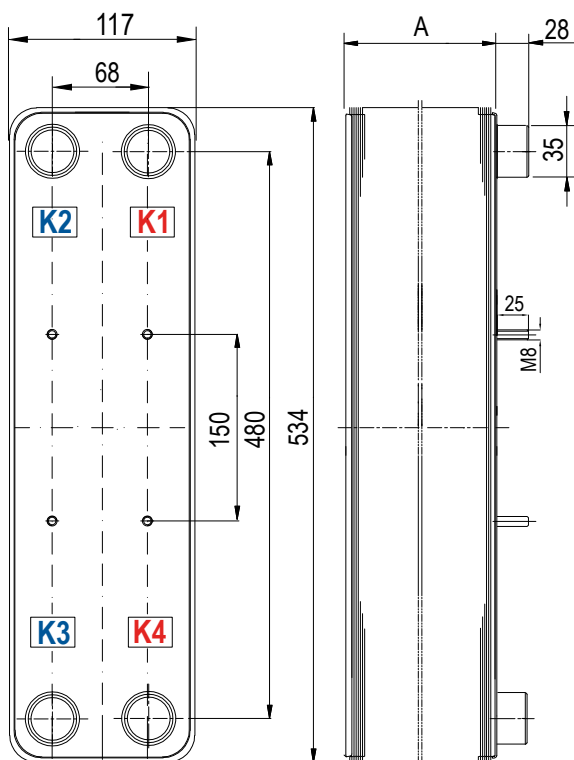


### Diagramma rendimento Performance diagram - ISO VG46 @50°C



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

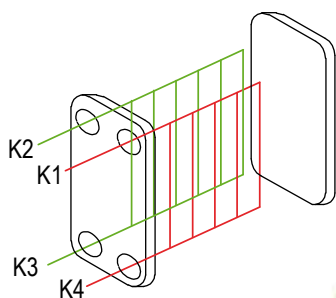
Per informazioni inerenti la perdita di carico contattare l' UTEC EMMEGI.  
For pressure drop information please contact EMMEGI's technical department.



| Condizioni di esercizio<br>Working Conditions  |        | Materiali Utilizzati<br>Materials |           |
|--|--------|-----------------------------------|-----------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C  | Piastre<br>Plate                  | Aisi 316  |
| Minima Temperatura<br>Min. Working Temperature | -10°C  | Attacchi<br>Connection            | Aisi 316  |
| Massima Pressione<br>Max. Working Pressure     | 30 bar | Brasatura<br>Brazing Material     | Cu 99,95% |

| Collegamenti Standard<br>Standard of Connection Location             | Connessioni<br>Connection Types      |
|--|--------------------------------------|
| K1 / K4 - Ingresso/uscita caldo<br>K1 / K4 - Inlet/Outlet Hot Side   | G 1" Femmina<br>Internal Thread G 1" |
| K3 / K2 - Ingresso/uscita freddo<br>K3 / K2 - Inlet/Outlet Cold Side | G 1" Femmina<br>Internal Thread G 1" |
| A richiesta connessioni speciali<br>Special connections on request   |                                      |

| N° Piastre<br>Plate No. | A (mm) | Peso ( Kg )<br>Weight ( Kg ) | Capacità per circuito lt<br>Channel Volume |
|-------------------------|--------|------------------------------|--|
| 10                      | 35     | 4                            | 0.36                                       |
| 20                      | 59     | 5.9                          | 0.72                                       |
| 30                      | 83     | 7.8                          | 1.08                                       |
| 40                      | 107    | 9.7                          | 1.44                                       |
| 50                      | 131    | 11.6                         | 1.8  |
| 60                      | 155    | 13.5                         | 2.16                                       |
| 70                      | 179    | 15.4                         | 2.52                                       |
| 80                      | 203    | 17.3                         | 2.88                                       |
| 90                      | 227    | 19.2                         | 3.24                                       |
| 100                     | 251    | 21.1                         | 3.6  |
| 110                     | 275    | 23                           | 3.96                                       |
| 120                     | 299    | 24.9                         | 4.32                                       |
| 130                     | 323    | 26.8                         | 4.68                                       |
| 140                     | 347    | 28.7                         | 5.04                                       |
| 150                     | 371    | 30.6                         | 5.4  |

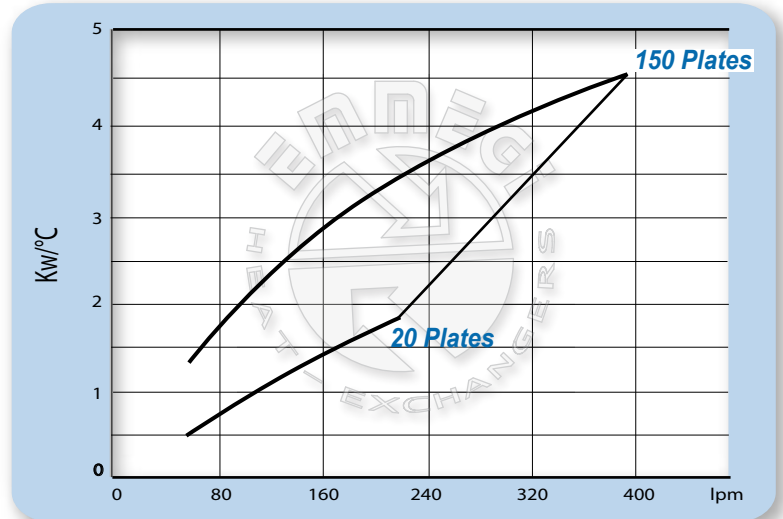


# PB110

## Dimensioni *Dimensions*

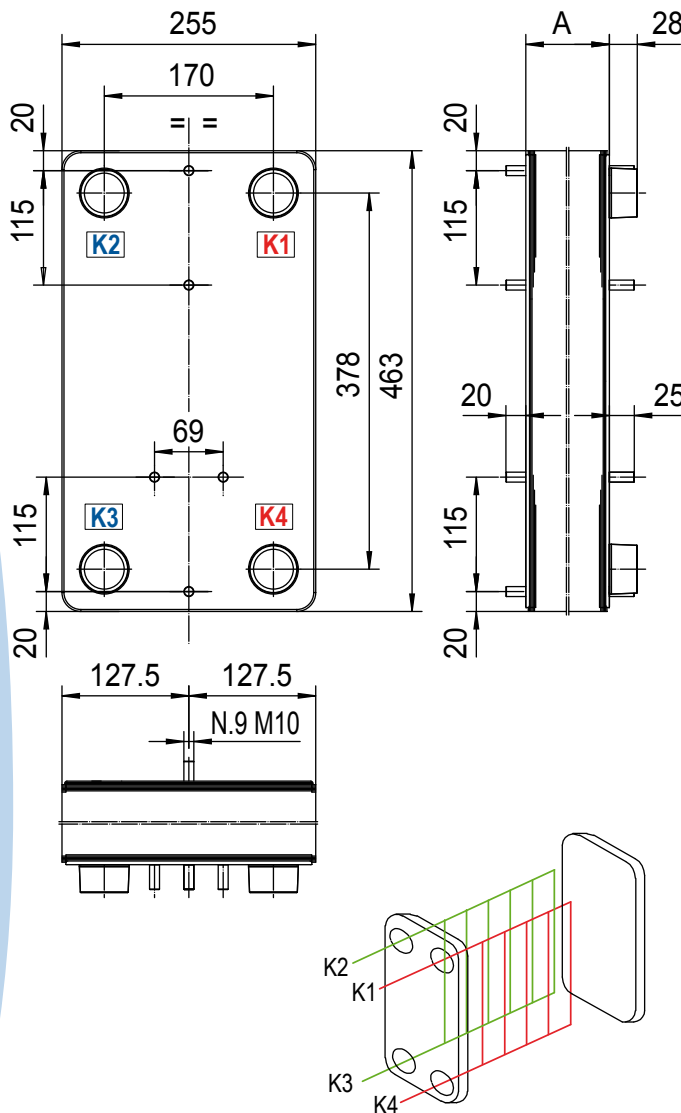


**Diagramma rendimento** *Performance diagram - ISO VG46 @50°C*



**Rapporto portata olio/acqua 2:1 - flow ratio 2:1**

Per informazioni inerenti la perdita di carico contattare l' UTEC EMMEGI.  
For pressure drop information please contact EMMEGI's technical department.



| Condizioni di esercizio<br>Working Conditions |        | Materiali Utilizzati<br>Materials |           |
|---|--------|-----------------------------------|-----------|
| Massima Temperatura<br>Max. Working Pressure  | 230°C  | Piastre<br>Plate                  | Aisi 316  |
| Min. Working Temperature                      | -10°C  | Attacchi<br>Connection            | Aisi 316  |
| Max. Working Pressure                         | 23 bar | Brasatura<br>Brazing Material     | Cu 99,95% |

| Collegamenti Standard<br>Standard of Connection Location             | Connessioni<br>Connection Types      |
|--|--------------------------------------|
| K1 / K4 - Ingresso/uscita caldo<br>K1 / K4 - Inlet/Outlet Hot Side   | G 2" Maschio<br>External Thread G 2" |
| K3 / K2 - Ingresso/uscita freddo<br>K3 / K2 - Inlet/Outlet Cold Side | G 2" Maschio<br>External Thread G 2" |
| A richiesta connessioni speciali<br>Special connections on request   |                                      |

| N° Piastre<br>Plate No. | A (mm) | Peso ( Kg )<br>Weight ( Kg ) | Capacità per circuito It<br>Channel Volume |
|-------------------------|--------|------------------------------|--|
| 20                      | 58     | 17                           | 1.62                                       |
| 30                      | 82     | 21                           | 2.43                                       |
| 40                      | 106    | 25                           | 3.24                                       |
| 50                      | 130    | 29                           | 4.05                                       |
| 60                      | 154    | 33                           | 4.86                                       |
| 70                      | 178    | 37                           | 5.67                                       |
| 80                      | 202    | 41                           | 6.48                                       |
| 90                      | 226    | 45                           | 7.29                                       |
| 100                     | 250    | 49                           | 8.1  |
| 110                     | 274    | 53                           | 8.91                                       |
| 120                     | 298    | 57                           | 9.72                                       |
| 130                     | 322    | 61                           | 10.53                                      |
| 140                     | 346    | 65                           | 11.34                                      |
| 150                     | 370    | 69                           | 12.15                                      |

PB110

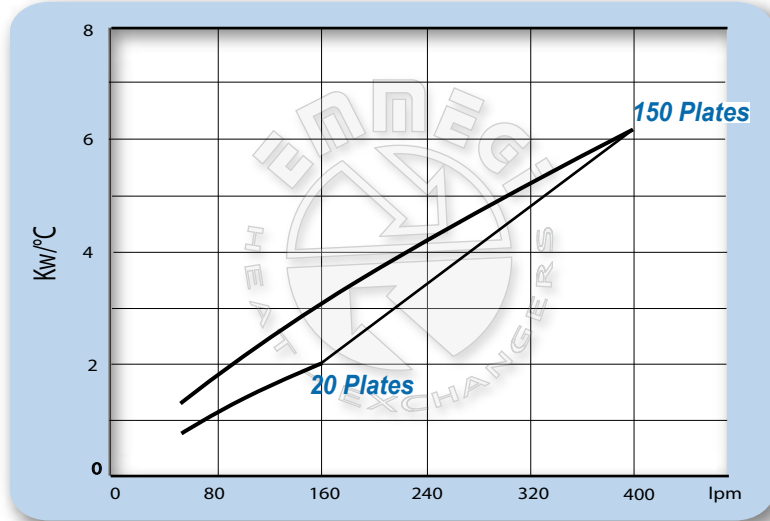
# PB170

## Dimensioni Dimensions

## Diagramma rendimento Performance diagram - ISO VG46 @50°C

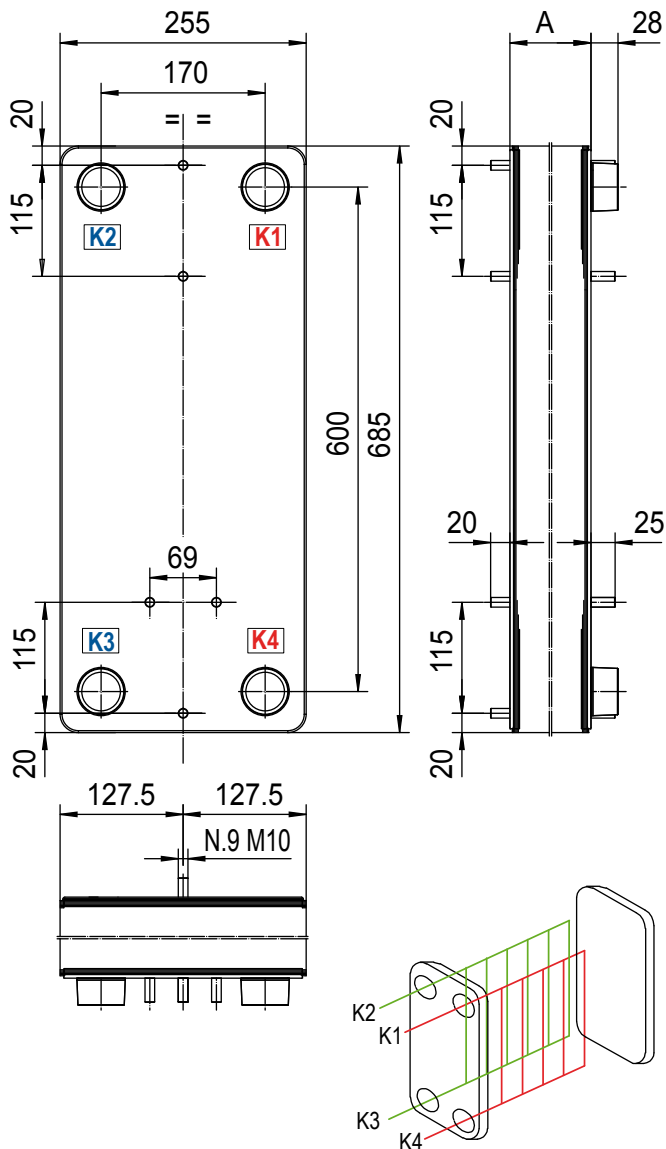


# PB170



Rapporto portata olio/acqua 2:1 - flow ratio 2:1

Per informazioni inerenti la perdita di carico contattare l' UTEC EMMEGI.  
For pressure drop information please contact EMMEGI's technical department.



| Condizioni di esercizio<br>Working Conditions  |        | Materiali Utilizzati<br>Materials |           |
|--|--------|-----------------------------------|-----------|
| Massima Temperatura<br>Max. Working Pressure   | 230°C  | Piastre<br>Plate                  | Aisi 316  |
| Minima Temperatura<br>Min. Working Temperature | -10°C  | Attacchi<br>Connection            | Aisi 316  |
| Massima Pressione<br>Max. Working Pressure     | 23 bar | Brasatura<br>Brazing Material     | Cu 99,95% |

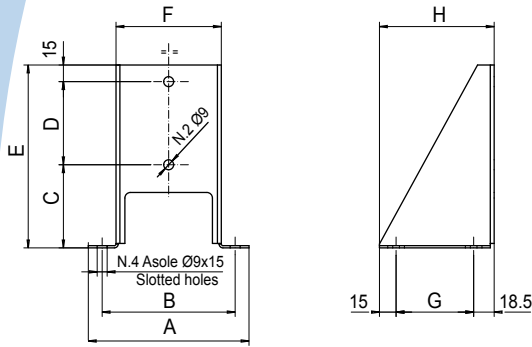
| Collegamenti Standard<br>Standard of Connection Location             | Connessioni<br>Connection Types      |
|--|--------------------------------------|
| K1 / K4 - Ingresso/uscita caldo<br>K1 / K4 - Inlet/Outlet Hot Side   | G 2" Maschio<br>External Thread G 2" |
| K3 / K2 - Ingresso/uscita freddo<br>K3 / K2 - Inlet/Outlet Cold Side | G 2" Maschio<br>External Thread G 2" |
| A richiesta connessioni speciali<br>Special connections on request   |                                      |

| N° Piastre<br>Plate No. | A (mm) | Peso ( Kg )<br>Weight ( Kg ) | Capacità per circuito lt<br>Channel Volume |
|-------------------------|--------|------------------------------|--|
| 20                      | 58     | 17.35                        | 2.55                                       |
| 30                      | 82     | 23.10                        | 3.83                                       |
| 40                      | 106    | 28.85                        | 5.10                                       |
| 50                      | 130    | 34.60                        | 6.38                                       |
| 60                      | 154    | 40.35                        | 7.65                                       |
| 70                      | 178    | 46.10                        | 8.93                                       |
| 80                      | 202    | 51.85                        | 10.20                                      |
| 90                      | 226    | 57.60                        | 11.48                                      |
| 100                     | 250    | 63.35                        | 12.75                                      |
| 110                     | 274    | 69.10                        | 14.03                                      |
| 120                     | 298    | 74.85                        | 15.30                                      |
| 130                     | 322    | 80.60                        | 16.58                                      |
| 140                     | 346    | 86.35                        | 17.85                                      |
| 150                     | 370    | 92.10                        | 19.13                                      |

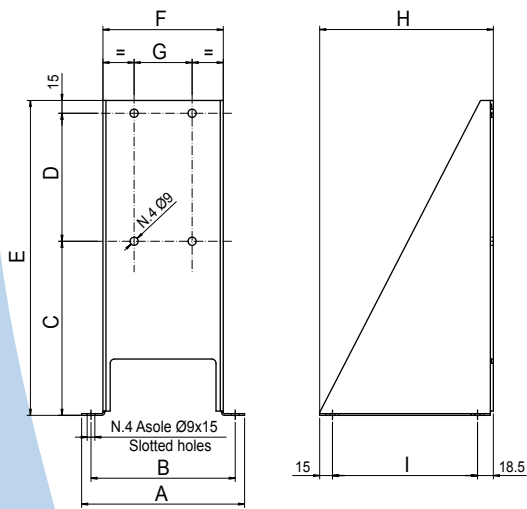


# STAFFE DI FISSAGGIO SERIE PB (ARTICOLO OPTIONAL) *assemblaggio a cura del cliente*

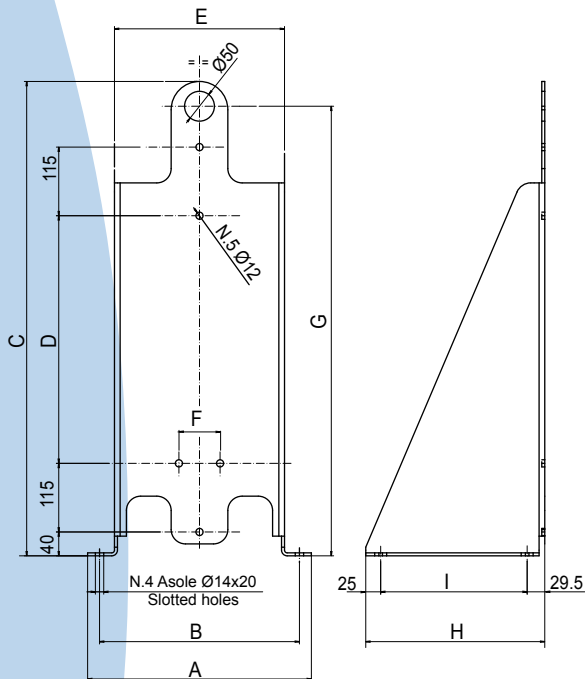
## PB Series supporting frame (OPTIONAL) *the assembling is at customer care*



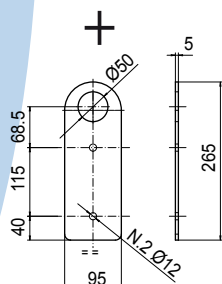
| MODELLO<br>MODEL | Dimensioni<br>Dimensions |     |    |    |     |    |    |       | Staffe di fissaggio<br>Supporting frame |
|------------------|--------------------------|-----|----|----|-----|----|----|-------|---|
|                  | A                        | B   | C  | D  | E   | F  | G  | H     | P/N                                     |
| PB014            | 145                      | 120 | 75 | 75 | 165 | 95 | 70 | 103.5 | 0533920                                 |



| MODELLO<br>MODEL | Dimensioni<br>Dimensions |     |     |     |     |     |    |       |     | Staffe di fissaggio<br>Supporting frame |
|------------------|--------------------------|-----|-----|-----|-----|-----|----|-------|-----|---|
|                  | A                        | B   | C   | D   | E   | F   | G  | H     | I   | P/N                                     |
| PB022            | 145                      | 120 | 87  | 150 | 252 | 95  | 42 | 103.5 | 70  | 0533930                                 |
| PB031            | 191                      | 169 | 80  | 150 | 245 | 141 | 68 | 203.5 | 170 | 0533940                                 |
| PB034            | 145                      | 120 | 173 | 150 | 338 | 95  | 42 | 103.5 | 70  | 0533950                                 |
| PB047            | 191                      | 169 | 144 | 150 | 309 | 141 | 68 | 203.5 | 170 | 0533960                                 |
| PB060            | 191                      | 169 | 204 | 150 | 369 | 141 | 68 | 203.5 | 170 | 0533970                                 |



| MODELLO<br>MODEL | Dimensioni<br>Dimensions |     |     |     |     |    |       |     |       | Staffe di fissaggio<br>Supporting frame |
|------------------|--------------------------|-----|-----|-----|-----|----|-------|-----|-------|---|
|                  | A                        | B   | C   | D   | E   | F  | G     | H   | I     | P/N                                     |
| PB110            | 375                      | 335 | 573 | 193 | 285 | 69 | 531.5 | 300 | 245.5 | 0533980                                 |
| PB170            | 375                      | 335 | 795 | 415 | 285 | 69 | 753.5 | 300 | 245.5 | 0533990                                 |



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