

HT 42 / A / 350 / 0207 / IE

# *Water-Oil Heat Exchangers*

## Scambiatori di calore Acqua-Olio

### Serie MG





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**INFORMAZIONI GENERALI****Scambiatori Acqua-Olio - Serie MG****INTRODUZIONE**

Gli scambiatori di calore acqua-olio sono impiegati per il raffreddamento di circuiti oleodinamici usando, come fluido raffreddante acqua a temperatura ambiente e sono inseriti di norma sulla linea di ritorno al serbatoio. La gamma comprende una vasta scelta di modelli caratterizzati da una elevata efficienza. La scelta di materiali di prima qualità, lavorati con macchinario di precisione, consente di ottenere un prodotto altamente affidabile. Gli scambiatori della serie MG hanno il circuito dell'acqua ispezionabile a 1, 2, 4 passaggi e possono essere forniti con valvola termostatica (vedi catalogo accessori) che consente un notevole risparmio sul consumo di acqua.

**DATI TECNICI****• Fluidi compatibili**

- OLI MINERALI, HL, HLP
- EMULSIONI ACQUA-OLIO
- ACQUA-GLICOLE
- ACQUA/ACQUA INDUSTRIALE
- Per altri fluidi consultare il nostro ufficio tecnico

**• Specifiche tecniche**

- Versioni Standard - Acqua marina - AISI - .....
- Pressione d'esercizio: 12 bar
- Pressione di collaudo: 18 bar
- Temperatura max d'esercizio: 120°C
- Per particolari atmosfere aggressive consultare il nostro ufficio tecnico.

**• Installazione**

In figura 1 è indicata la corretta posizione di entrata / uscita dei due fluidi, che debbono circolare in controcorrente per ottenere il massimo rendimento .

Il posizionamento sulla macchina deve essere fatto con l'ausilio di appositi supporti elastici ed il collegamento al circuito oleodinamico ed alla rete idrica con tubi flessibili.

In impianti operanti in ambienti con notevole escursione termica è consigliabile prevedere l'installazione di una valvola di by-pass (vedi figura 2) fra l'ingresso e l'uscita dell'olio.

Negli impieghi che prevedono una temperatura ambiente molto bassa ( $< 0^{\circ}\text{C}$ ), con impianto fermo sarà opportuno mantenere l'acqua in continua circolazione allo scopo di evitare rotture alle tubazioni, oppure svuotare lo scambiatore utilizzando il tappo di scarico .

**GENERAL INFORMATION****Water- Oil Heat exchangers - MG Series****DESCRIPTION**

*The MG Water-oil heat exchangers are normally used for cooling oil in the hydraulic systems and are installed on the return line .*

*The range comprises a large choice of applicable models, highly efficient.*

*The range of high quality materials working with precision machinery, all produce an extremely reliable product.*

*The MG Water-oil heat exchangers have a water system of 1, 2 or 4 circuits and they can be supplied with thermostatic valves ( see accessories catalogue ) which greatly assist in the reduction of water consumption.*

**TECHNICAL DATA****• Compatible fluids**

- MINERAL OILS, HL, HLP.
- WATER-OIL EMULSION.
- WATER-GLYCOL ACID .
- WATER / INDUSTRIAL WATER .
- Consults our Tech. Dpt. for other fluids

**• Technical specifications**

- Versions : Fresh water , Sea water , AISI .....
- Operating pressure: 12 bar.
- Test pressure: 18 bar.
- Max. operating temperature: 120°C
- For specially "aggressive" atmospheres contact our Tech. Dpt.

**• Installation**

*The correct position of inlet / outlet of the two fluids is indicated in fig 1.*

*They should circulate in opposite direction, in order to obtain the maximum heat exchange.*

*The installation of the heat exchanger on the machine should be carried out using flexible supports and all those in connection with hydraulic or power plant, through flexible hoses.*

*It is advisable, to preserve the heat exchanger, that a by-pass valve is installed ( see fig 2 )*

*At very low ambient temperatures ( $< 0^{\circ}\text{C}$ ), it is advisable to keep the water in constant circulation, to prevent harmful fractures, otherwise emptying the exchanger by use of the discharge plug.*



### DATI TECNICI ( continua )

#### • Esempio di scelta di uno scambiatore

##### DATI

Portata olio : 60 lt / min.  
 Peso specifico : 0,88 kg / dm<sup>3</sup>  
 Calore specifico : 0,49 kcal / kg°C  
 Viscosità olio : 32 cst  
 Temperatura olio entrata : 55 °C  
 Temperatura acqua entrata : 20 °C  
 Potenza da dissipare : 15 kW ( 20 HP )

Conoscendo la portata dell'olio, la potenza da dissipare e stabilito il  $\Delta T$ , ovvero la differenza fra la temperatura di ingresso olio e la temperatura di ingresso acqua, si può ricercare sui diagrammi di ogni singolo scambiatore il modello idoneo allo scopo.

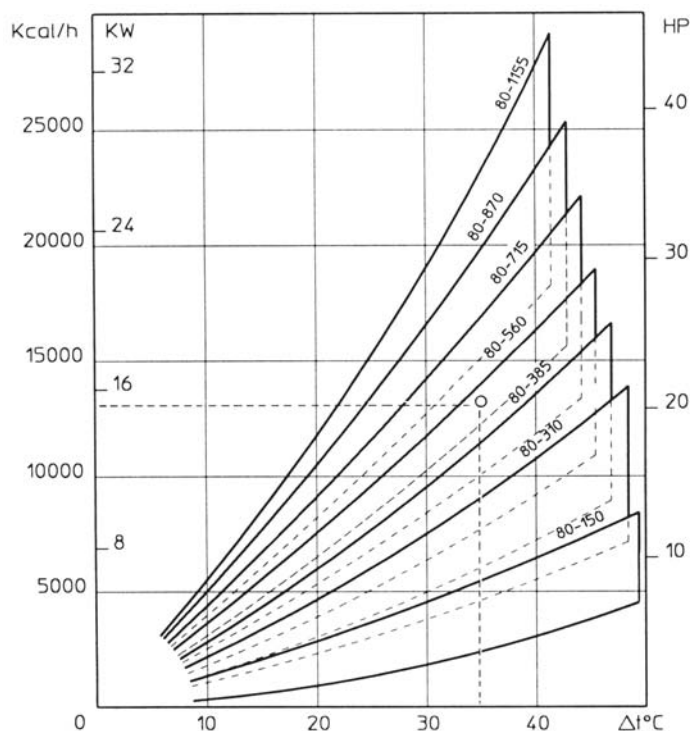
### TECHNICAL DATA ( continued )

#### • Heat exchanger selection

##### DATA

Oil flow : 60 lt / min.  
 Specific weight : 0,88 kg / dm<sup>3</sup>  
 Specific heat : 0,49 kcal / kg°C  
 Oil Viscosity : 32 cst  
 Inlet oil temperature : 55 °C  
 Inlet water temperature : 20 °C  
 Cooling power : 15 kW ( 20 HP )

Knowing the fluid viscosity, flow rate, cooling power and  $\Delta T$  ( In running difference of oil - water temperature ) you can adjust these calculation in the specific exchanger diagram given in the catalogue.



| TIPO<br>TYPE  | PORTATA OLIO<br>OIL FLOW<br>(lt/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL -55°C<br>H <sub>2</sub> O-20°C |
|---------------|--------------------------------------|---|
| MG 80-150-..  | 25-75                                | 4-8   |
| MG 80-310-..  | 25-80                                | 7-14  |
| MG 80-385-..  | 25-80                                | 9-17  |
| MG 80-560-..  | 25-80                                | 12-20   |
| MG 80-715-..  | 35-120                               | 15-24   |
| MG 80-870-..  | 40-130                               | 18-29   |
| MG 80-1155-.. | 40-130                               | 22-36   |

Lo scambiatore selezionato risulta essere il modello MG 80-715-4.

La dissipazione indicata dal diagramma di rendimento espressa in kW ( HP ) è ottenuta con olio avente viscosità 32 cst e portata di acqua come indicato nella tabella A della pagina seguente.

Selected exchanger results in the model MG-80-715-4.

The marked dissipation on the exchange diagram expressed in kW ( HP ) will be arrived with viscosity of 32 cst and water flow as indicated in our following table A.

**DATI TECNICI ( continua )**
**TECHNICAL DATA ( continued )**
**• Esempio di scelta di uno scambiatore**
**• Heat exchanger selection**
**Tab A - Portata acqua x HP da dissipare**
**Tab A - Water flow x HP to be dissipated**

| n° di passaggi lato acqua<br><i>n° of water circuits</i> | lt / min x HP da dissipare<br><i>lt / min x HP to be dissipated</i> |
|--|---|
| 1  | 3   |
| 2  | 2   |
| 4  | 1   |

In caso di variazioni di temperatura e portata dell'acqua considerare i coefficienti di correzione delle segue tabelle B e C .

*In the case owhere there are substantial variations in temperature or /and flow of water, consider the coefficient of the folloving tab. B and C .*

**Fattori di correzione scambio termico**
**Cooling power correction factor**
**Tab B - Portata acqua**
**Tab B - Water flow**

| Portata acqua<br><i>Water flow</i>                | Portata indicata in tab. A<br><i>Flow expressed in tab. A</i> | Portata tab. A x 2<br><i>Flow tab. A x 2</i> | Portata tab. A x 3<br><i>Flow tab. A x 3</i> |
|---|---|--|--|
| Fattore di correzione<br><i>Correction factor</i> | 1   | 1,2  | 1,4  |

**Tab B - Temperatura acqua**
**Tab B - Water temperature**

| Temperatura Acqua<br><i>Water Temperature</i>     | 20°C | 25°C | 30°C | 35°C |
|---|------|------|------|------|
| Fattore di correzione<br><i>Correction factor</i> | 1    | 0,85 | 0,7  | 0,6  |

In caso di dati non conosciuti consultare il nostro Ufficio Tecnico.

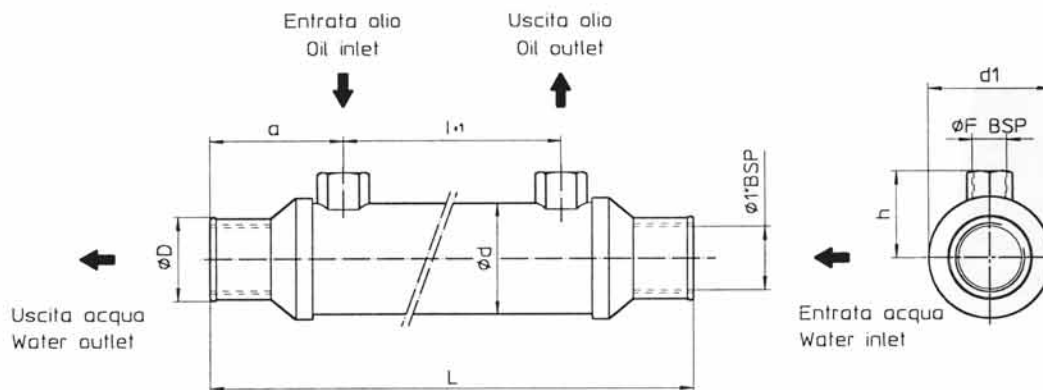
*In case of doubt any of this data please contact our Tech.Dpt*



### Scambiatori di calore Acqua - Olio serie MG 54 Water-Oil heat exchanger series

# MG 54

Con circuito ad acqua ad un passaggio - *With one way water circuit*



Le dimensioni e le caratteristiche tecniche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLLO<br>SHELL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|--------------------|
| SEA WATER    | CuNi10Mn1Fe   | CuZn37                         | CuZn37                | CuZn40          | CuZn37             |

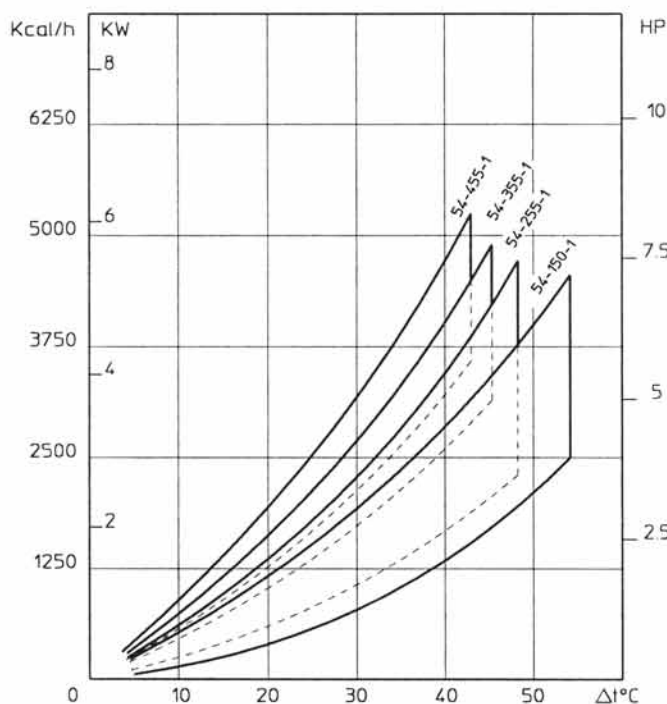
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISSIPATI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>-55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg  | Dimensioni - Overall dimension |      |     |     |    |    |    |    |
|--------------|-------------------------------------|---|------------------------------|-----|--------------------------------|------|-----|-----|----|----|----|----|
|              |                                     |   |                              |     | 1 Pass                         |      |     |     |    |    |    |    |
|              |                                     |   |                              |     | φD                             | φF   | l   | L   | a  | φd | d1 | h  |
| MG 54-150-1  | 10-40                               | 15-4  | 0.26                         | 1.3 | 38.5                           | 3/8" | 150 | 280 | 65 | 54 | 58 | 42 |
| MG 54-255-1  | 10-50                               | 2-4.5   | 0.4                          | 1.8 | 38.5                           | 3/8" | 255 | 385 | 65 | 54 | 58 | 42 |
| MG 54-355-1  | 10-50                               | 3.5-5.5   | 0.5                          | 2.3 | 38.5                           | 3/8" | 355 | 485 | 65 | 54 | 58 | 42 |
| MG 54-455-1  | 10-50                               | 4-6.5   | 0.6                          | 2.7 | 38.5                           | 3/8" | 455 | 585 | 65 | 54 | 58 | 42 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



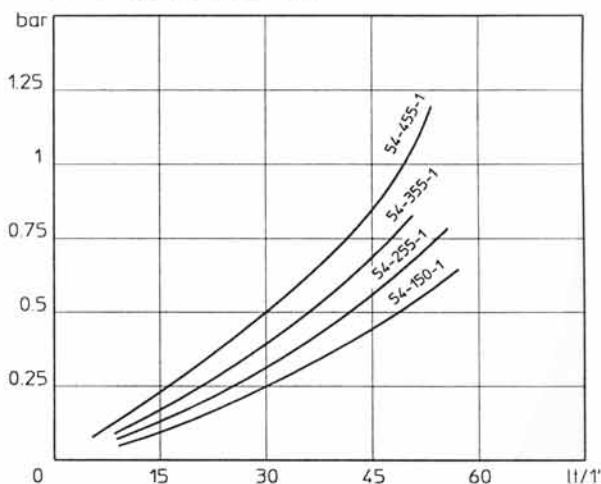
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)



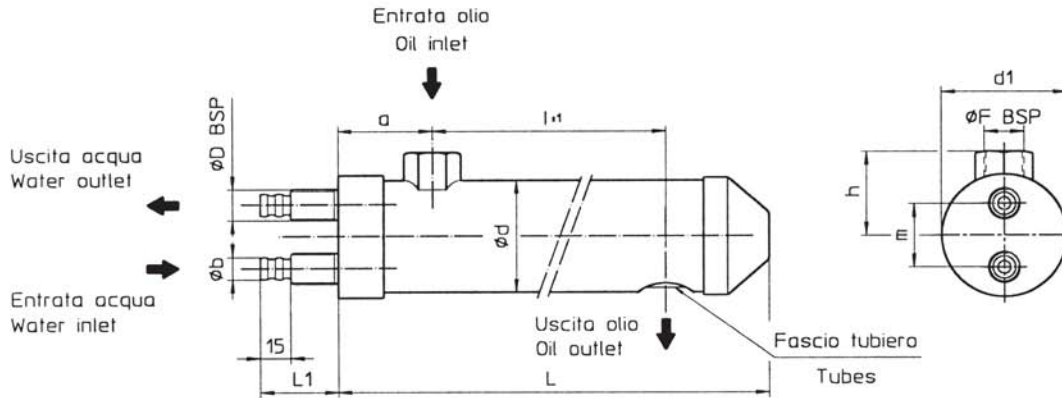


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

serie  
series

# MGC 60 - 80

Con circuito ad acqua a due passaggi - With two way water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | CuZn37            |

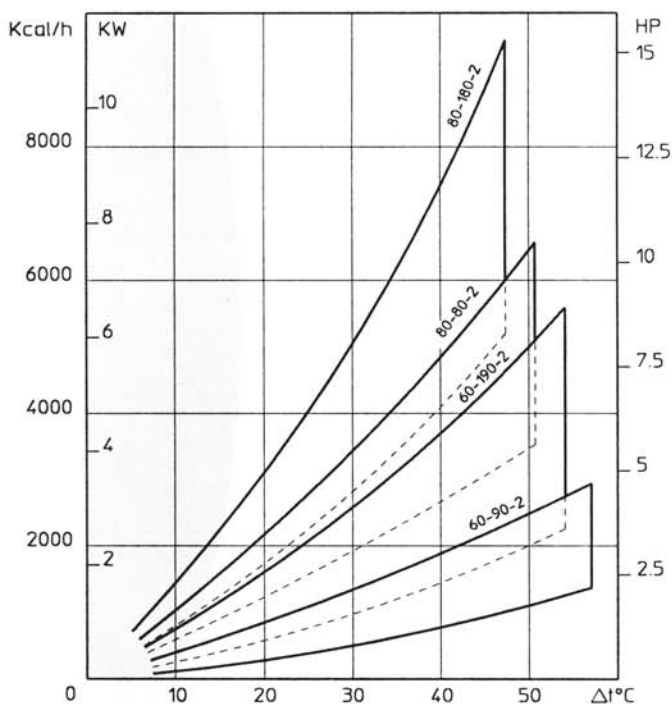
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>-55°C H2O-20°C | CAPACITA<br>CONTENTS<br>(l) | Kg  | Dimensioni - Over all dimension |      |     |     |    |    |    |    |    |    |    |
|--------------|-------------------------------------|--|-----------------------------|-----|---------------------------------|------|-----|-----|----|----|----|----|----|----|----|
|              |                                     |  |                             |     | 2 Pass                          |      |     |     |    |    |    |    |    |    |    |
|              |                                     |  |                             |     | φD                              | φF   | I   | L   | L1 | a  | φb | φd | d1 | h  | m  |
| MGC 60-90-2  | 5-30                                | 1-2.5  | 0.3                         | 1.5 | 3/8"                            | 1/2" | 90  | 190 | 40 | 48 | 13 | 60 | 65 | 45 | 38 |
| MGC 60-190-2 | 7.5-40                              | 2.5-5  | 0.4                         | 2   | 3/8"                            | 1/2" | 190 | 290 | 40 | 48 | 13 | 60 | 65 | 45 | 38 |
| MGC 80-80-2  | 25-60                               | 3.5-6.5  | 0.5                         | 2.3 | 1/2"                            | 3/4" | 80  | 190 | 40 | 50 | 16 | 80 | 85 | 65 | 45 |
| MGC 80-180-2 | 30-80                               | 5.5-10   | 0.7                         | 3.5 | 1/2"                            | 3/4" | 180 | 290 | 40 | 50 | 16 | 80 | 85 | 65 | 45 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



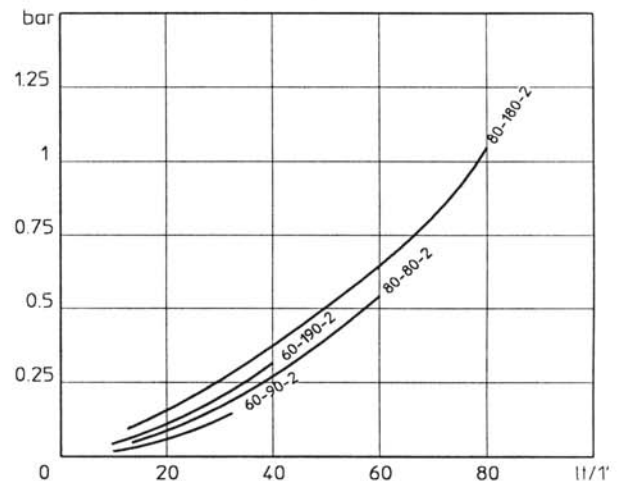
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

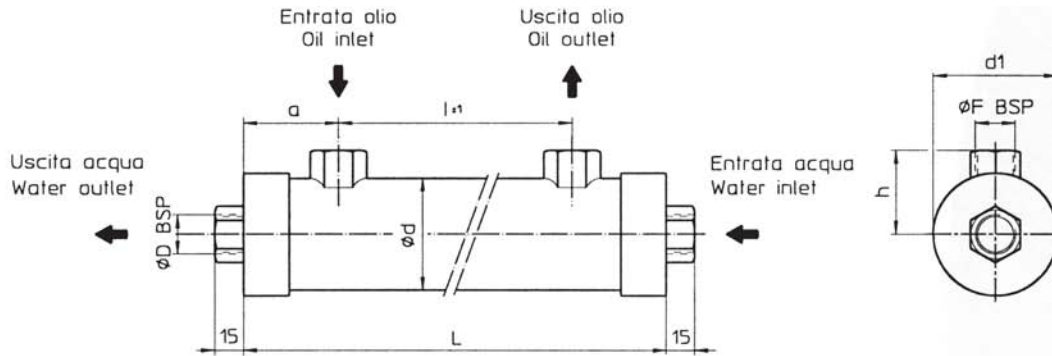
#### PRESSURE DROP (32 cst)



### Scambiatori di calore Acqua - Olio serie MGE 60 - 80-1 Water-Oil heat exchanger series

# MGE 60 - 80-1

Con circuito ad acqua ad un passaggio - With one way water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLLO<br>SHELL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|--------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | CuZn37             |

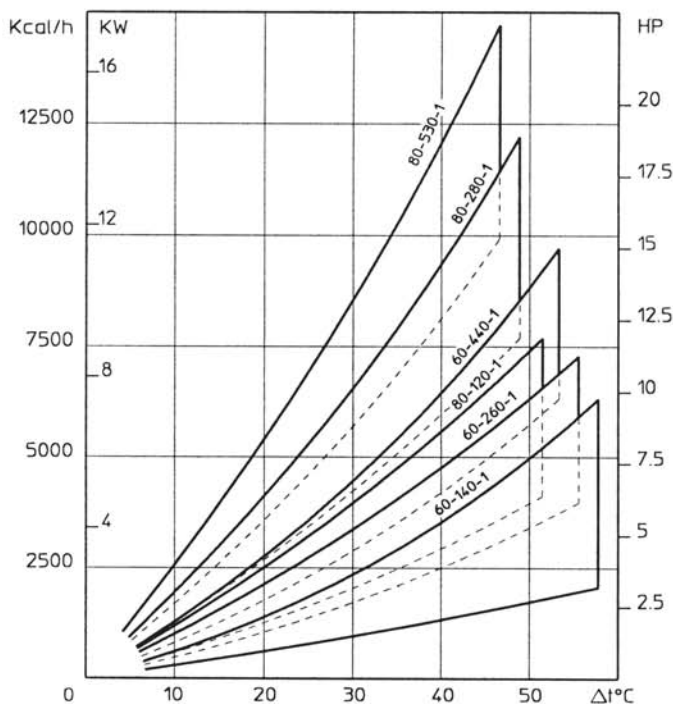
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(lt/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>+55°C H <sub>2</sub> O-20° | CAPACITA'<br>CONTENTS<br>(lt) | Kg  | Dimensioni - Over all dimension |      |     |     |    |    |                |    |
|--------------|--------------------------------------|--|-------------------------------|-----|---------------------------------|------|-----|-----|----|----|----------------|----|
|              |                                      |  |                               |     | 1 Pass                          |      |     |     |    |    |                |    |
|              |                                      |  |                               |     | ØD                              | ØF   | l   | L   | a  | Ød | d <sub>1</sub> | h  |
| MGE 60-140-1 | 5-30                                 | 1.5-4.5  | 0.4                           | 1.8 | 1/2"                            | 1/2" | 140 | 240 | 50 | 60 | 65             | 45 |
| MGE 60-260-1 | 7.5-40                               | 3.5-6.5  | 0.6                           | 3   | 1/2"                            | 1/2" | 260 | 360 | 50 | 60 | 65             | 45 |
| MGE 60-440-1 | 10-50                                | 6-9  | 0.9                           | 5   | 1/2"                            | 1/2" | 440 | 540 | 50 | 60 | 65             | 45 |
| MGE 80-120-1 | 20-50                                | 4-7.5  | 0.6                           | 3   | 3/4"                            | 3/4" | 120 | 240 | 60 | 80 | 85             | 65 |
| MGE 80-280-1 | 25-60                                | 8-12.5   | 1                             | 4.4 | 3/4"                            | 3/4" | 280 | 400 | 60 | 80 | 85             | 65 |
| MGE 80-530-1 | 30-80                                | 11-16  | 1.8                           | 6.8 | 3/4"                            | 3/4" | 530 | 650 | 60 | 80 | 85             | 65 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



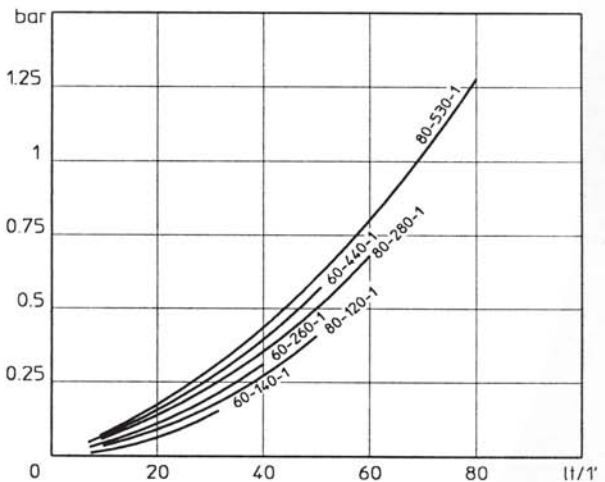
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)

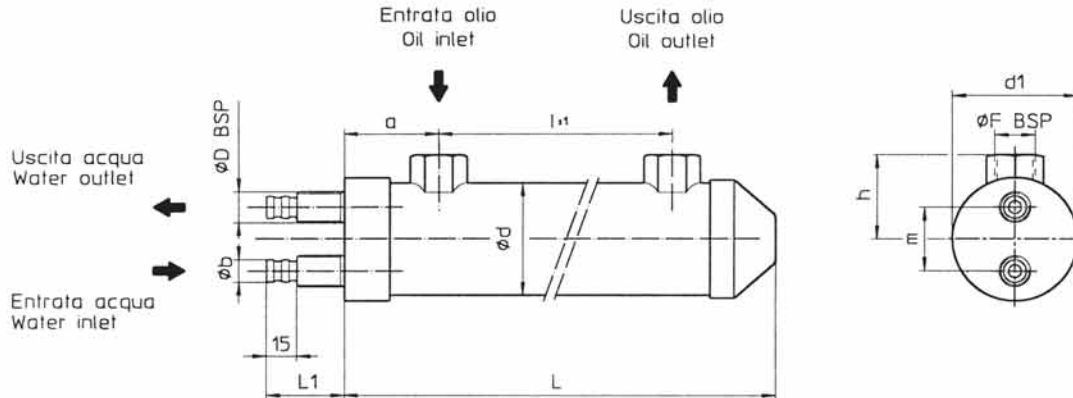


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

serie  
series

# MGE 60 - 80-2

Con circuito ad acqua a due passaggi - With two way water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Overall dimension and technical characteristics are not binding

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|
| STANDARD     | CuZn40        | CuZn40                         | CuZn37                | CuZn40          | CuZn37            |

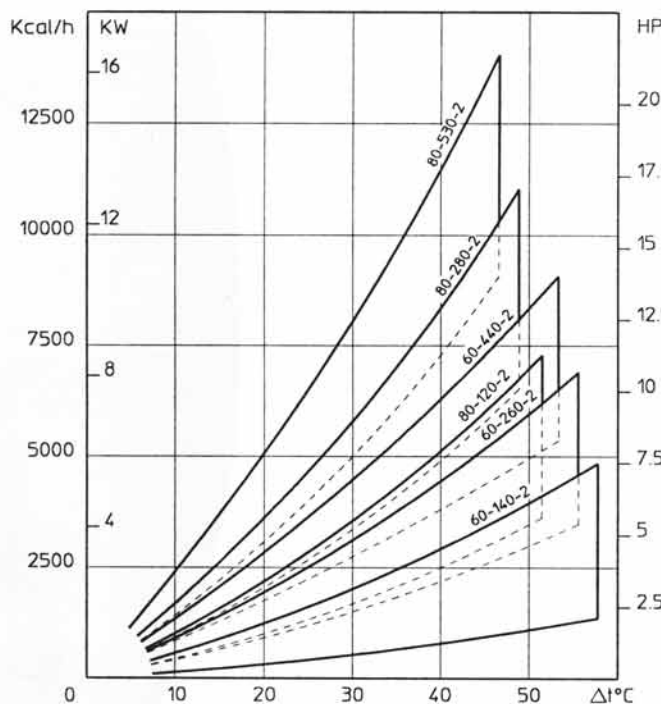
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>-55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(lit) | Kg  | Dimensioni - Over all dimension |          |     |     |    |    |          |          |    |    |    |  |
|--------------|-------------------------------------|--|--------------------------------|-----|---------------------------------|----------|-----|-----|----|----|----------|----------|----|----|----|--|
|              |                                     |  |                                |     | 2 Pass                          |          |     |     |    |    |          |          |    |    |    |  |
|              |                                     |  |                                |     | $\phi D$                        | $\phi F$ | l   | L   | L1 | a  | $\phi b$ | $\phi d$ | d1 | h  | m  |  |
| MGE 60-140-2 | 5-30                                | 1-4  | 0.4                            | 18  | 3/8"                            | 1/2"     | 140 | 245 | 40 | 50 | 13       | 60       | 65 | 45 | 38 |  |
| MGE 60-260-2 | 7.5-40                              | 3-6  | 0.6                            | 3   | 3/8"                            | 1/2"     | 260 | 365 | 40 | 50 | 13       | 60       | 65 | 45 | 38 |  |
| MGE 60-440-2 | 10-50                               | 5-5.8  | 0.9                            | 5   | 3/8"                            | 1/2"     | 440 | 545 | 40 | 50 | 13       | 60       | 65 | 45 | 38 |  |
| MGE 80-120-2 | 20-50                               | 3.5-8  | 0.6                            | 3   | 1/2"                            | 3/4"     | 120 | 255 | 40 | 60 | 16       | 80       | 85 | 65 | 45 |  |
| MGE 80-280-2 | 25-60                               | 7-11.5   | 1                              | 4.4 | 1/2"                            | 3/4"     | 280 | 415 | 40 | 60 | 16       | 80       | 85 | 65 | 45 |  |
| MGE 80-530-2 | 30-80                               | 10-15  | 6.8                            | 6.8 | 1/2"                            | 3/4"     | 530 | 665 | 40 | 60 | 16       | 80       | 85 | 65 | 45 |  |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

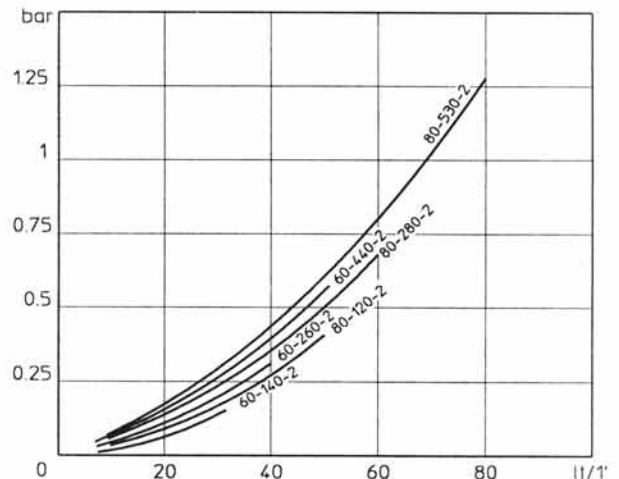
At the maximum and minimum flow stated in schedule



#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst) PRESSURE DROP (32 cst)

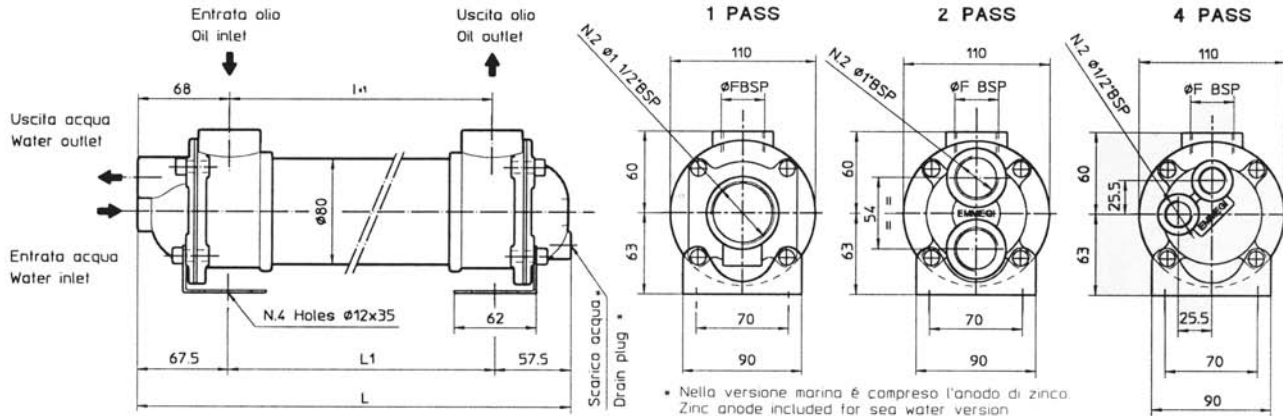




### Scambiatori di calore Acqua - Olio serie Water-Oil heat exchanger series

# MG 80

Con circuito ad acqua ispezionabile a uno - due - quattro passaggi - With one-two-four way inspectionable water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEAL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|---------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork         |
| SEA WATER    | CuNi10Mn1Fe   | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork         |

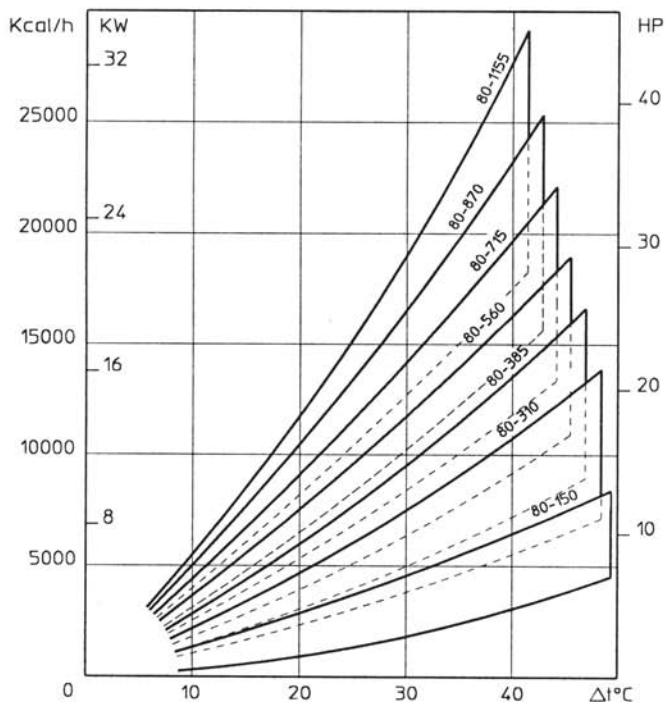
| TIPO<br>TYPE  | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>+55°C H2O+20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg   | Dimensioni - Over all dimension |      |      |      |        |      |      |      |        |      |      |      |
|---------------|-------------------------------------|--|------------------------------|------|---------------------------------|------|------|------|--------|------|------|------|--------|------|------|------|
|               |                                     |  |                              |      | 1 Pass                          |      |      |      | 2 Pass |      |      |      | 4 Pass |      |      |      |
|               |                                     |  |                              |      | øF                              | I    | L    | L1   | øF     | I    | L    | L1   | øF     | I    | L    | L1   |
| MG 80-150...  | 25-75                               | 4-8  | 0.65                         | 4.5  | 1"                              | 150  | 320  | 148  | 1"     | 150  | 275  | 148  | 1"     | 150  | 273  | 148  |
| MG 80-310...  | 25-80                               | 7-14   | 1.1                          | 5.7  | 1"                              | 310  | 480  | 308  | 1"     | 310  | 435  | 308  | 1"     | 310  | 435  | 308  |
| MG 80-385...  | 25-80                               | 9-17   | 1.3                          | 6    | 1"                              | 385  | 555  | 383  | 1"     | 385  | 510  | 383  | 1"     | 385  | 510  | 383  |
| MG 80-560...  | 25-80                               | 12-20  | 1.9                          | 7.5  | 1"                              | 560  | 730  | 558  | 1"     | 560  | 785  | 558  | 1"     | 560  | 685  | 558  |
| MG 80-715...  | 35-120                              | 15-24  | 2.3                          | 8    | 1"                              | 715  | 885  | 713  | 1"     | 715  | 840  | 713  | 1"     | 715  | 840  | 713  |
| MG 80-870...  | 40-130                              | 18-29  | 2.8                          | 10   | 1"                              | 870  | 1040 | 868  | 1"     | 870  | 995  | 868  | 1"     | 870  | 995  | 868  |
| MG 80-1155... | 40-130                              | 22-36  | 3.7                          | 13.5 | 1"                              | 1155 | 1325 | 1153 | 1"     | 1155 | 1280 | 1153 | 1"     | 1155 | 1280 | 1153 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



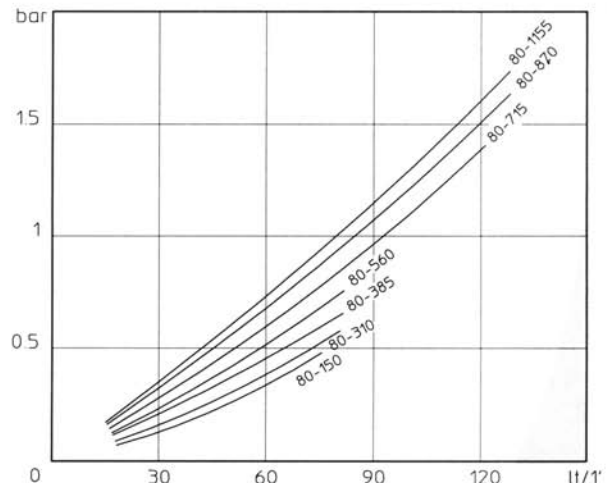
#### FATTORE DI CORREZIONE (F) - PERDITE DI CARICO

#### CORRECTION FACTOR (F) - PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

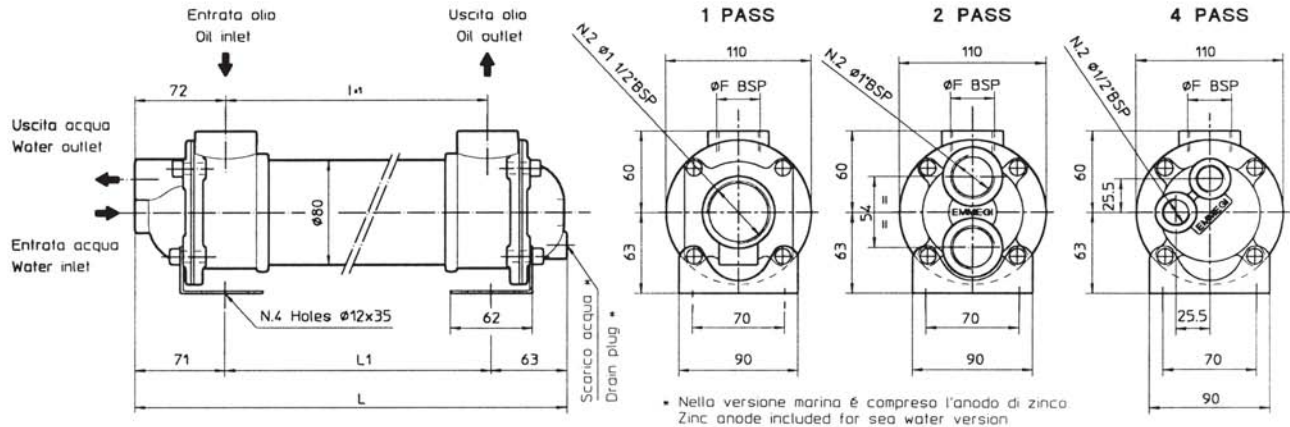
#### PRESSURE DROP (32 cst)



### Scambiatori di calore Acqua - Olio serie Water-Oil heat exchanger series

# MG 81

Con circuito ad acqua ispezionabile a uno - due - quattro passaggi - With one-two-four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|--------------------|----------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | Fe510.2            | Rubber-cork          |
| SEA WATER    | CuNi10Mn1Fe   | CuZn40                         | CuZn37                | CuZn40          | Fe510.2            | Rubber-cork          |

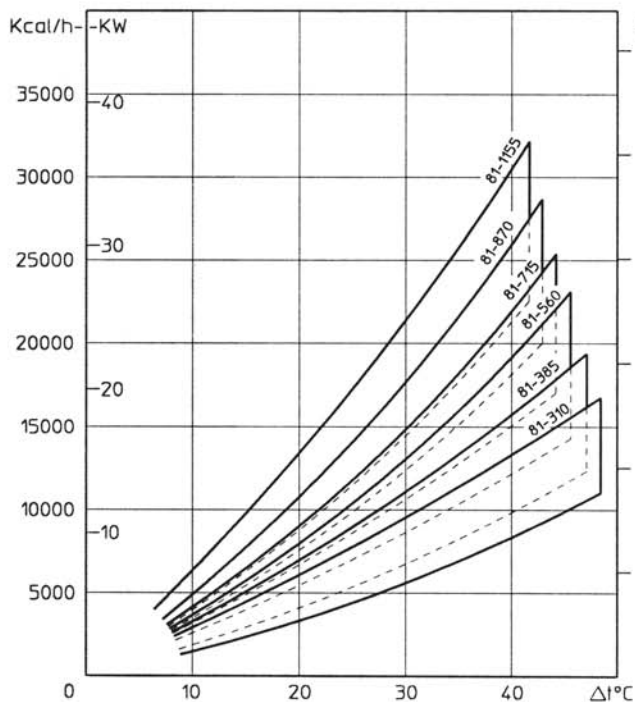
| TIPO<br>TYPE  | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>=55°C H2O=20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg   | Dimensioni - Over all dimension |      |      |      |        |      |      |      |        |      |      |      |
|---------------|-------------------------------------|--|------------------------------|------|---------------------------------|------|------|------|--------|------|------|------|--------|------|------|------|
|               |                                     |  |                              |      | 1 Pass                          |      |      |      | 2 Pass |      |      |      | 4 Pass |      |      |      |
|               |                                     |  |                              |      | øF                              | I    | L    | L1   | øF     | I    | L    | L1   | øF     | I    | L    | L1   |
| MG 81-310-..  | 50-120                              | 11-18  | 1.2                          | 5.7  | 1 1/2"                          | 310  | 509  | 308  | 1 1/2" | 310  | 448  | 308  | 1 1/2" | 310  | 442  | 308  |
| MG 81-385-..  | 50-120                              | 13-21  | 1.4                          | 6    | 1 1/2"                          | 385  | 584  | 383  | 1 1/2" | 385  | 523  | 383  | 1 1/2" | 385  | 517  | 383  |
| MG 81-560-..  | 60-150                              | 16-25  | 2                            | 7.5  | 1 1/2"                          | 560  | 759  | 558  | 1 1/2" | 560  | 698  | 558  | 1 1/2" | 560  | 692  | 558  |
| MG 81-715-..  | 75-180                              | 20-29  | 2.4                          | 8    | 1 1/2"                          | 715  | 914  | 713  | 1 1/2" | 715  | 853  | 713  | 1 1/2" | 715  | 847  | 713  |
| MG 81-870-..  | 75-180                              | 24-34  | 2.9                          | 10   | 1 1/2"                          | 870  | 1069 | 868  | 1 1/2" | 870  | 1008 | 868  | 1 1/2" | 870  | 1002 | 868  |
| MG 81-1155-.. | 75-180                              | 29-40  | 3.8                          | 13.5 | 1 1/2"                          | 1155 | 1354 | 1153 | 1 1/2" | 1155 | 1293 | 1153 | 1 1/2" | 1155 | 1287 | 1153 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



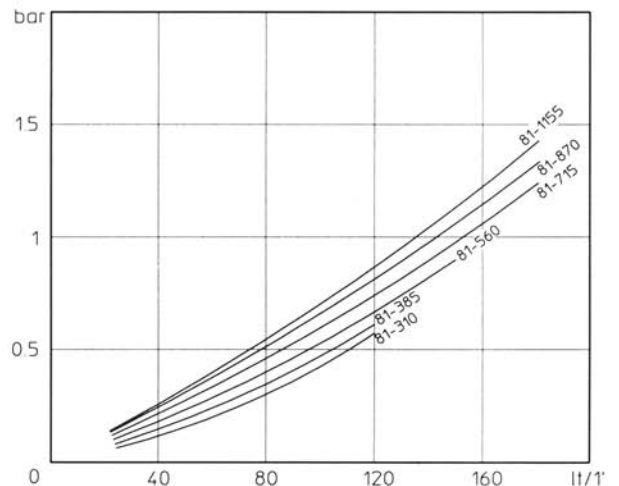
#### FATTORE DI CORREZIONE (F) - PERDITE DI CARICO

#### CORRECTION FACTOR (F) - PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)



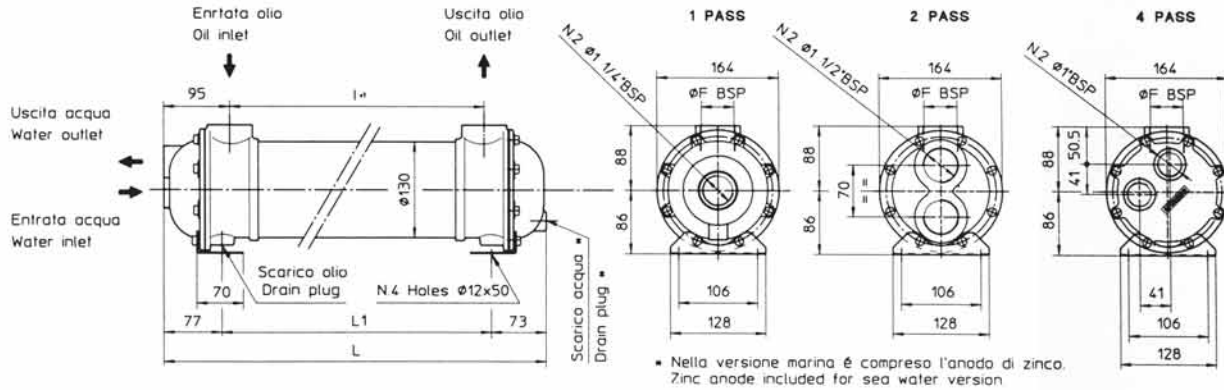


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

serie  
series

# MG 130

Con circuito ad acqua ispezionabile a uno - due - quattro passaggi - With one-two-four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|--------------------|----------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | Fe510.2            | Rubber-cork          |
| SEA WATER    | CuNi10Mn1Fe   | CuZn40                         | CuZn37                | CuZn40          | Fe510.2            | Rubber-cork          |

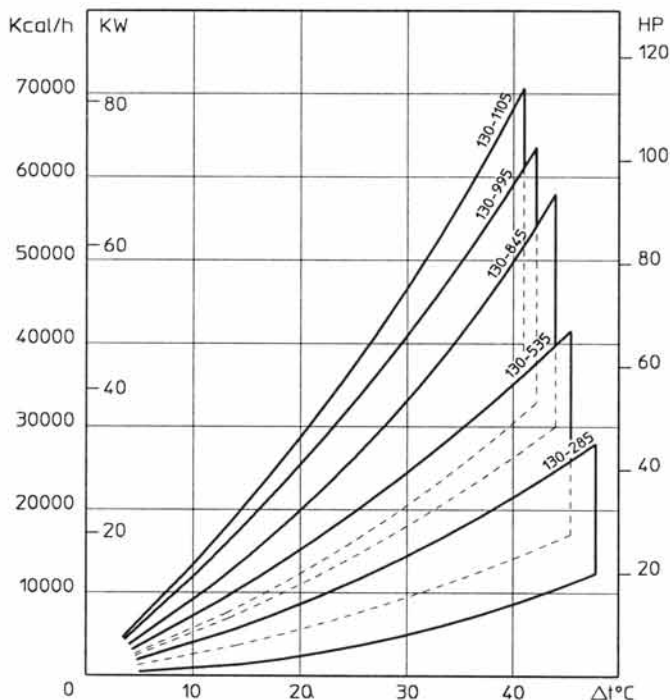
| TIPO<br>TYPE    | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>-55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | Dimensioni - Over all dimension |      |      |      |        |      |      |      |        |      |      |      |
|-----------------|-------------------------------------|--|------------------------------|----|---------------------------------|------|------|------|--------|------|------|------|--------|------|------|------|
|                 |                                     |  |                              |    | 1 Pass                          |      |      |      | 2 Pass |      |      |      | 4 Pass |      |      |      |
|                 |                                     |  |                              |    | øF                              | I    | L    | L1   | øF     | I    | L    | L1   | øF     | I    | L    | L1   |
| MG 130-285-...  | 60-160                              | 12-30  | 3                            | 16 | 1 1/2"                          | 285  | 473  | 300  | 1 1/2" | 285  | 449  | 305  | 1 1/2" | 285  | 450  | 300  |
| MG 130-535-...  | 80-200                              | 18-48  | 5.2                          | 22 | 1 1/2"                          | 535  | 723  | 550  | 1 1/2" | 535  | 699  | 555  | 1 1/2" | 535  | 700  | 550  |
| MG 130-845-...  | 120-280                             | 35-68  | 7.9                          | 28 | 1 1/2"                          | 845  | 1033 | 860  | 1 1/2" | 845  | 1009 | 865  | 1 1/2" | 845  | 1010 | 860  |
| MG 130-995-...  | 120-280                             | 41-78  | 9.2                          | 32 | 1 1/2"                          | 995  | 1159 | 1010 | 1 1/2" | 995  | 1159 | 1005 | 1 1/2" | 995  | 1160 | 1010 |
| MG 130-1105-... | 120-280                             | 50-90  | 10                           | 35 | 1 1/2"                          | 1105 | 1293 | 1120 | 1 1/2" | 1105 | 1269 | 1115 | 1 1/2" | 1105 | 1270 | 1120 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



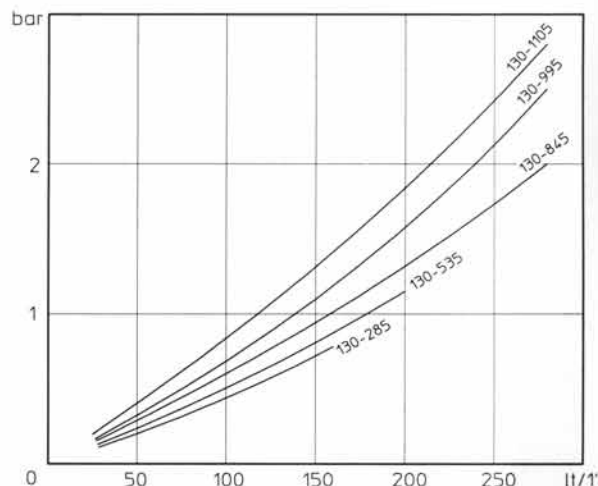
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)



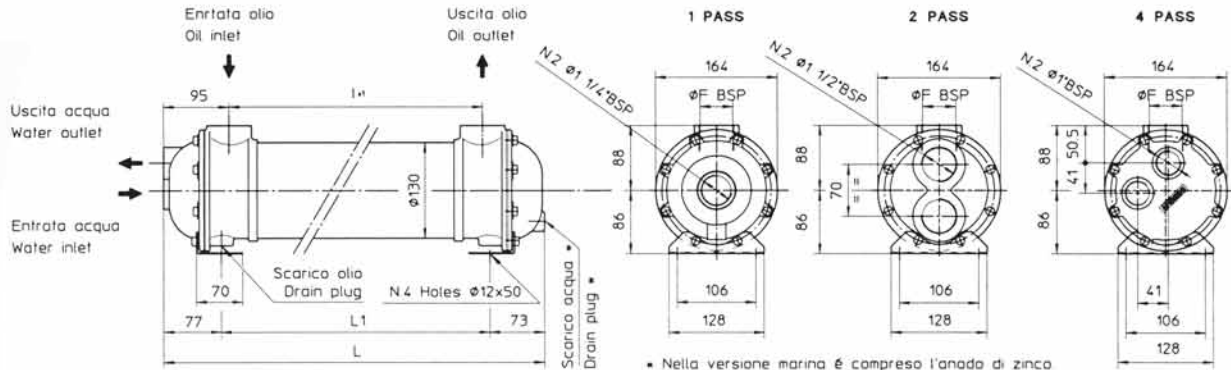


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

### serie series

# MG 131

Con circuito ad acqua ispezionabile a uno - due - quattro passaggi - *With one-two-four way inspectionable water circuit*



Le dimensioni e le caratteristiche non sono impegnative Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |
| SEA WATER    | CuNi10Mn1Fe   | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |

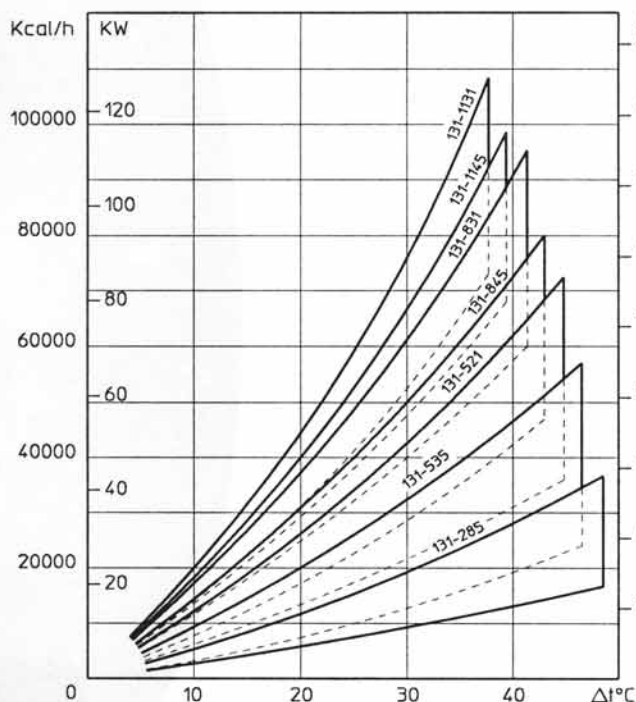
| TIPO<br>TYPE   | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>+55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | Dimensioni - Over all dimension |      |      |      |        |      |      |      |        |      |      |      |
|----------------|-------------------------------------|--|------------------------------|----|---------------------------------|------|------|------|--------|------|------|------|--------|------|------|------|
|                |                                     |  |                              |    | 1 Pass                          |      |      |      | 2 Pass |      |      |      | 4 Pass |      |      |      |
|                |                                     |  |                              |    | øF                              | I    | L    | L1   | øF     | I    | L    | L1   | øF     | I    | L    | L1   |
| MG 131-285-..  | 50-140                              | 17-38  | 2.7                          | 17 | 1 1/2"                          | 285  | 473  | 300  | 1 1/2" | 285  | 449  | 305  | 1 1/2" | 285  | 460  | 310  |
| MG 131-535-..  | 80-200                              | 24-63  | 4.5                          | 23 | 1 1/2"                          | 535  | 723  | 550  | 1 1/2" | 535  | 699  | 555  | 1 1/2" | 535  | 685  | 555  |
| MG 131-521-..  | 120-280                             | 40-82  | 4.6                          | 23 | 2"                              | 521  | 726  | 553  | 2"     | 521  | 685  | 541  | 2"     | 521  | 690  | 546  |
| MG 131-845-..  | 100-250                             | 56-96  | 6.9                          | 29 | 1 1/2"                          | 845  | 1033 | 860  | 1 1/2" | 845  | 1009 | 865  | 1 1/2" | 845  | 1020 | 870  |
| MG 131-831-..  | 160-400                             | 77-120   | 7                            | 29 | 2"                              | 831  | 1036 | 863  | 2"     | 831  | 995  | 851  | 2"     | 831  | 1006 | 856  |
| MG 131-1145-.. | 120-280                             | 85-132   | 8                            | 36 | 1 1/2"                          | 1145 | 1333 | 1160 | 1 1/2" | 1145 | 1309 | 1165 | 1 1/2" | 1145 | 1327 | 1170 |
| MG 131-1131-.. | 160-420                             | 102-153  | 8.1                          | 36 | 2"                              | 1131 | 1336 | 1163 | 2"     | 1131 | 1295 | 1151 | 2"     | 1131 | 1313 | 1156 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

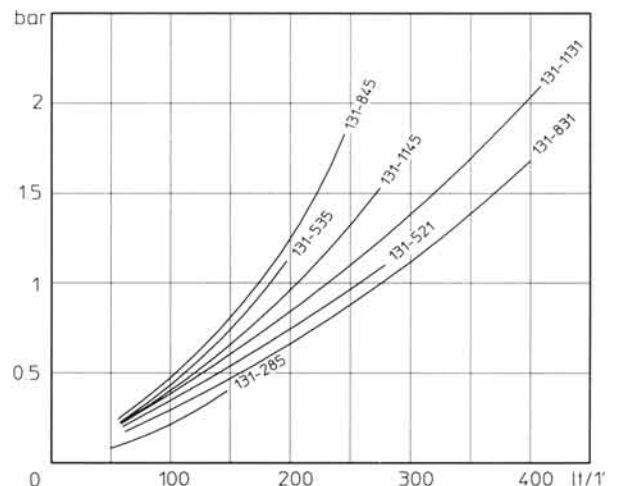
At the maximum and minimum flow stated in schedule



#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst) PRESSURE DROP (32 cst)



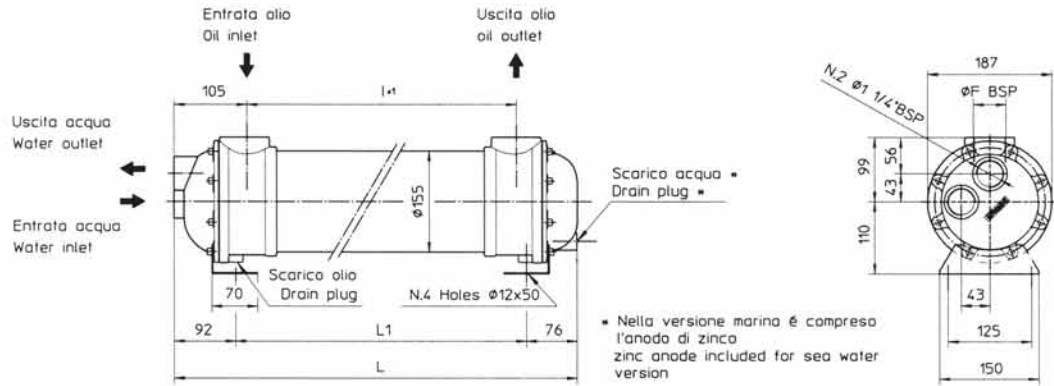


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

### serie series

# MG 157

Con circuito ad acqua ispezionabile a quattro passaggi - With four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |
| SEA WATER    | CuNi30Mn1Fe   | CuZn40                         | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |

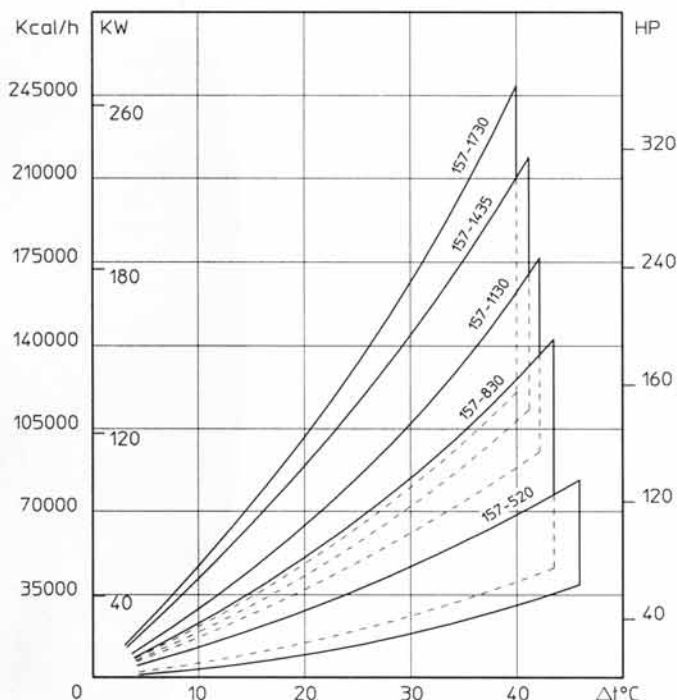
| TIPO<br>TYPE  | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>-55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | Dimensioni - Over all dimension |      |      |      |
|---------------|-------------------------------------|--|------------------------------|----|---------------------------------|------|------|------|
|               |                                     |  |                              |    | 4 Pass                          |      |      |      |
|               |                                     |  |                              |    | $\phi F$                        | l    | L    | L1   |
| MG 157-520-4  | 120-300                             | 35-92  | 5.5                          | 40 | 2"                              | 520  | 722  | 554  |
| MG 157-830-4  | 140-380                             | 54-166   | 8.4                          | 50 | 2"                              | 830  | 1032 | 864  |
| MG 157-1130-4 | 160-420                             | 110-215  | 11.3                         | 59 | 2"                              | 1130 | 1332 | 1164 |
| MG 157-1435-4 | 180-450                             | 140-280  | 14.1                         | 66 | 2"                              | 1435 | 1637 | 1469 |
| MG 157-1730-4 | 180-450                             | 155-315  | 17                           | 76 | 2"                              | 1730 | 1932 | 1764 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



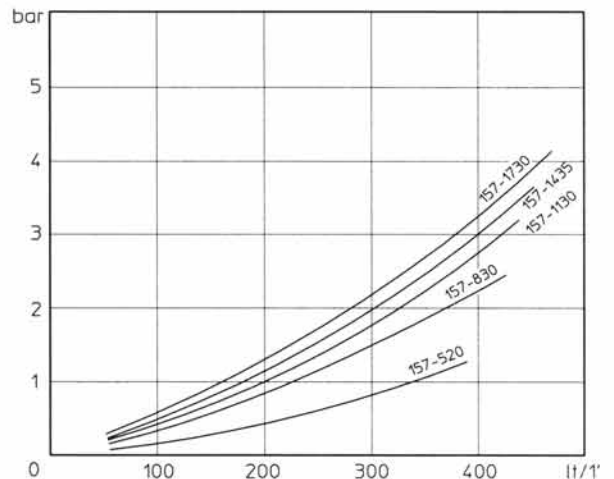
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)

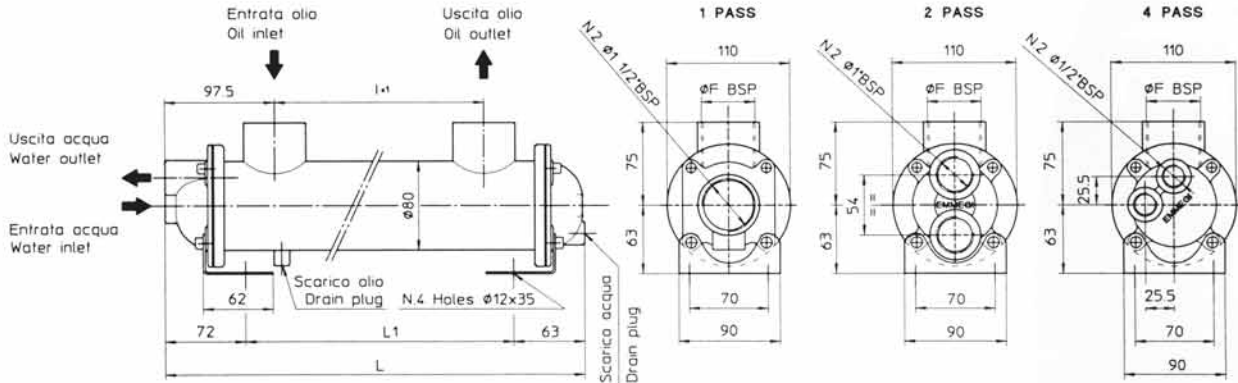




### Scambiatori di calore Acqua - Olio serie MGB 80 Water-Oil heat exchanger series

# MGB 80

Con circuito ad acqua ispezionabile a uno - due - quattro passaggi - With one-two-four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative Overall dimension and technical characteristics are not binding

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLLO<br>SHELL | GUARNIZIONI<br>SEAL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|--------------------|---------------------|
| STANDARD     | CuDHP         | C40                            | CuZn37                | CuZn40          | Fe510.2            | Rubber-cork         |
| AiSi         | AiSi 304      | AiSi 304                       | AiSi 304              | CuZn40          | AiSi 304           | Graphite-kevlar     |

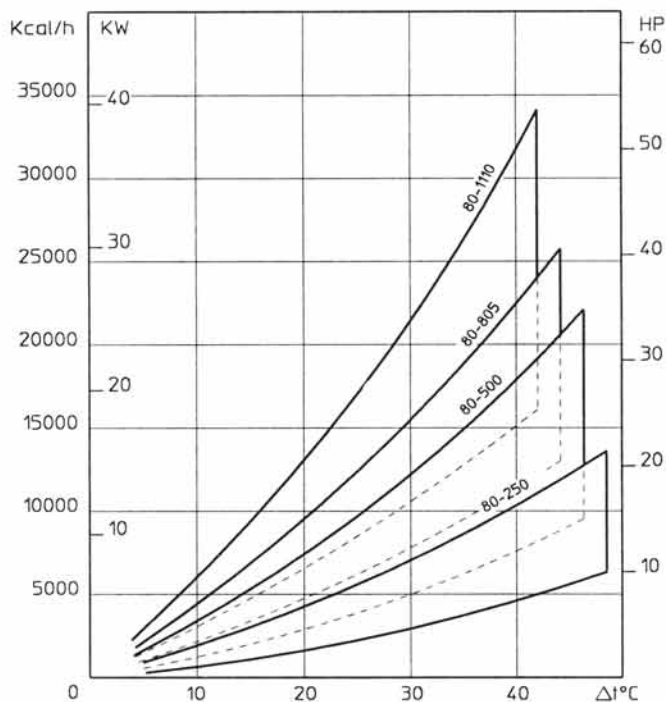
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>+55°C H <sub>2</sub> O+20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | Dimensioni - Over all dimension |      |      |      |        |      |      |      |        |      |      |      |
|--------------|-------------------------------------|---|------------------------------|----|---------------------------------|------|------|------|--------|------|------|------|--------|------|------|------|
|              |                                     |   |                              |    | 1 Pass                          |      |      |      | 2 Pass |      |      |      | 4 Pass |      |      |      |
|              |                                     |   |                              |    | øF                              | I    | L    | L1   | øF     | I    | L    | L1   | øF     | I    | L    | L1   |
| MGB 80-250-  | 30-160                              | 6-14  | 11                           | 6  | 1 1/2"                          | 250  | 516  | 325  | 1 1/2" | 250  | 464  | 325  | 1 1/2" | 250  | 464  | 325  |
| MGB 80-500-  | 40-180                              | 10-24   | 2                            | 9  | 1 1/2"                          | 500  | 766  | 575  | 1 1/2" | 500  | 714  | 575  | 1 1/2" | 500  | 714  | 575  |
| MGB 80-805-  | 40-180                              | 15-30   | 3                            | 12 | 1 1/2"                          | 805  | 1071 | 880  | 1 1/2" | 805  | 1019 | 880  | 1 1/2" | 805  | 1019 | 880  |
| MGB 80-1110- | 50-200                              | 20-42   | 4                            | 15 | 1 1/2"                          | 1110 | 1376 | 1185 | 1 1/2" | 1110 | 1324 | 1185 | 1 1/2" | 1110 | 1324 | 1185 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

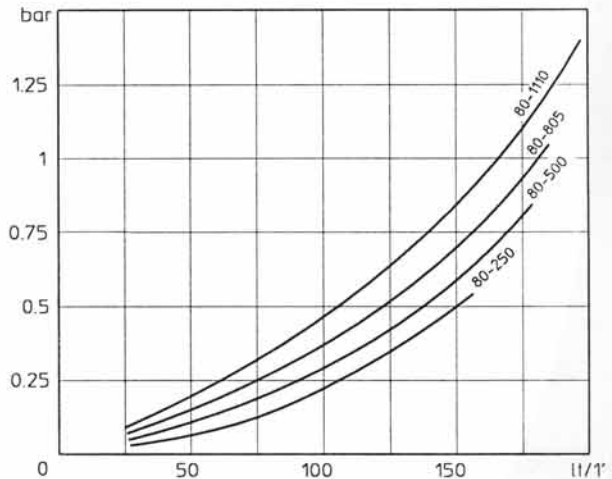
At the maximum and minimum flow stated in schedule



#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst) PRESSURE DROP (32 cst)

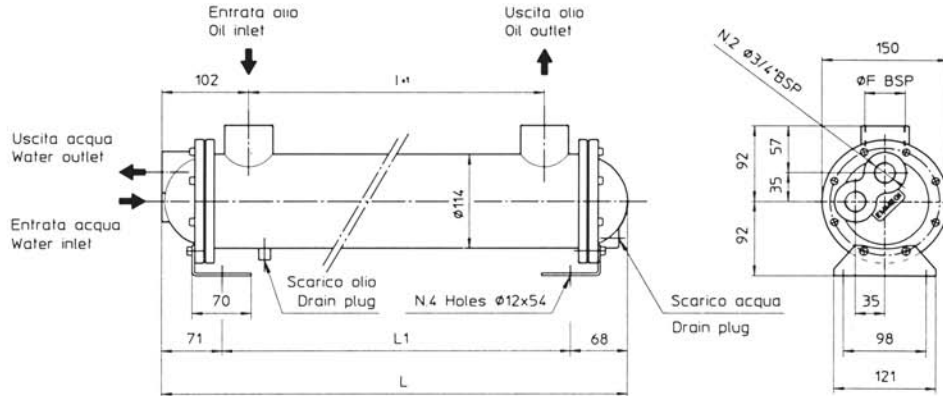


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

serie  
series

# MGB 114

Con circuito ad acqua ispezionabile a quattro passaggi - With four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | C40                            | CuZn37                | G25             | Fe510.2           | OR 4437              |
| AISI         | AISI 304      | AISI 304                       | AISI 304              | G25             | AISI 304          | OR 4437              |

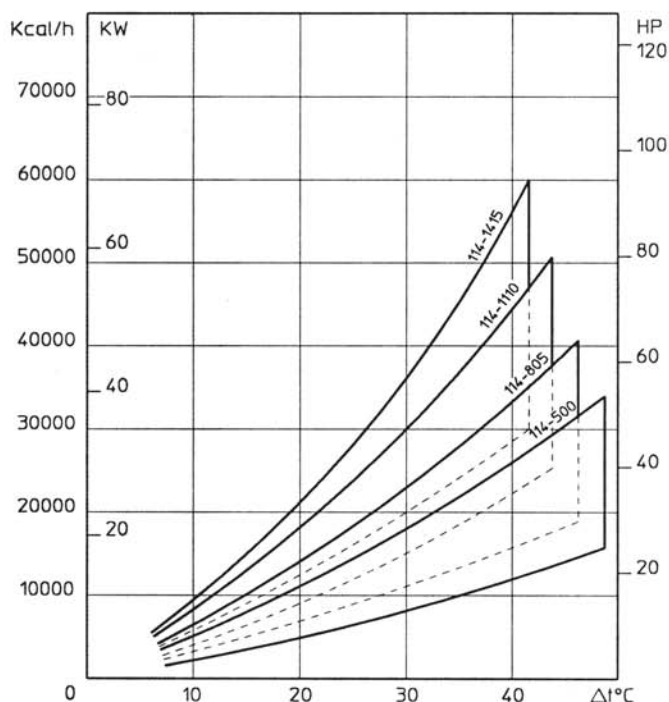
| TIPO<br>TYPE   | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>-55°C H2O+20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | Dimensioni - Over all dimension |      |      |      |
|----------------|-------------------------------------|--|------------------------------|----|---------------------------------|------|------|------|
|                |                                     |  |                              |    | 4 Pass                          |      |      |      |
|                |                                     |  |                              |    | ØF                              | I    | L    | L1   |
| MGB 114-500-4  | 50-220                              | 16-35  | 3.5                          | 17 | 1 1/2"                          | 500  | 731  | 603  |
| MGB 114-805-4  | 60-250                              | 23-45  | 5                            | 21 | 1 1/2"                          | 805  | 1036 | 908  |
| MGB 114-1110-4 | 60-250                              | 30-60  | 6.7                          | 25 | 1 1/2"                          | 1110 | 1341 | 1213 |
| MGB 114-1415-4 | 80-280                              | 38-76  | 8.2                          | 29 | 1 1/2"                          | 1415 | 1646 | 1518 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

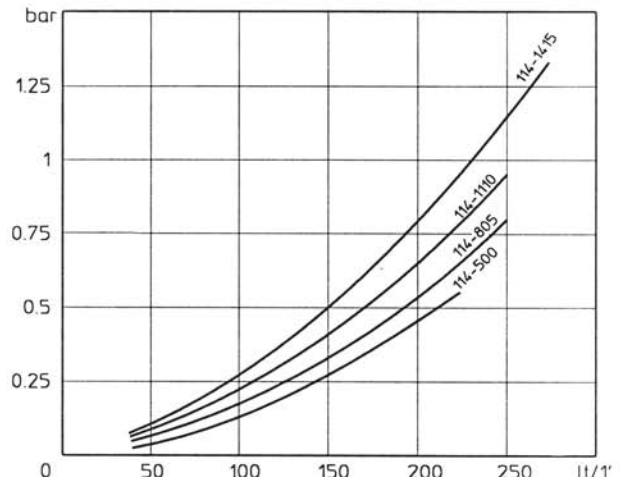
At the maximum and minimum flow stated in schedule



#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst) PRESSURE DROP (32 cst)

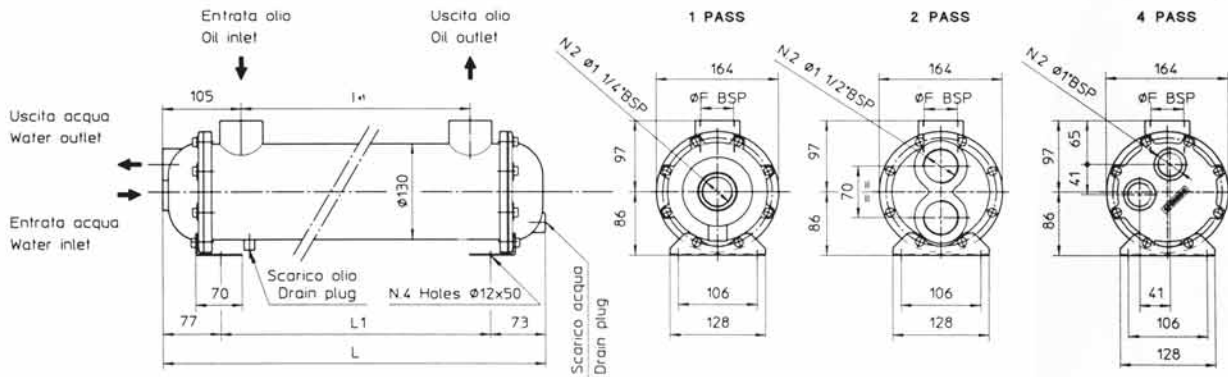


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

serie  
series

# MGB 130

Con circuito ad acqua ispezionabile a uno - due - quattro passaggi - With one-two-four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|--------------------|----------------------|
| STANDARD     | CuDHP         | C40                            | CuZn37                | CuZn40          | Fe510.2            | Rubber-cork          |
| AiSi         | AiSi 304      | AiSi 304                       | AiSi 304              | CuZn40          | AiSi 304           | Graphite-kevlar      |

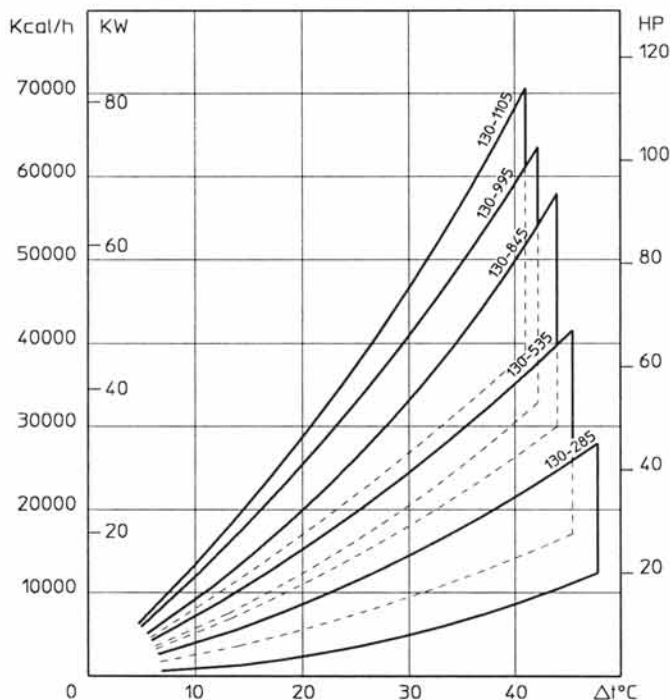
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>+55°C H2O+20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | Dimensioni - Overall dimension |      |      |      |        |      |      |      |        |      |      |      |
|--------------|-------------------------------------|--|------------------------------|----|--------------------------------|------|------|------|--------|------|------|------|--------|------|------|------|
|              |                                     |  |                              |    | 1 Pass                         |      |      |      | 2 Pass |      |      |      | 4 Pass |      |      |      |
|              |                                     |  |                              |    | øF                             | I    | L    | L1   | øF     | I    | L    | L1   | øF     | I    | L    | L1   |
| MGB130-285-  | 60-160                              | 12-30  | 3                            | 16 | 1 1/2"                         | 285  | 563  | 377  | 1 1/2" | 285  | 532  | 373  | 1 1/2" | 285  | 529  | 371  |
| MGB130-535-  | 80-200                              | 18-48  | 5.2                          | 22 | 1 1/2"                         | 535  | 808  | 622  | 1 1/2" | 535  | 777  | 618  | 1 1/2" | 535  | 774  | 616  |
| MGB130-845-  | 120-280                             | 35-68  | 7.9                          | 28 | 1 1/2"                         | 845  | 1108 | 922  | 1 1/2" | 845  | 1077 | 918  | 1 1/2" | 845  | 1074 | 916  |
| MGB130-995-  | 120-280                             | 41-78  | 9.2                          | 32 | 1 1/2"                         | 995  | 1239 | 1087 | 1 1/2" | 995  | 1242 | 1083 | 1 1/2" | 995  | 1239 | 1081 |
| MGB130-1105- | 120-280                             | 50-90  | 10                           | 35 | 1 1/2"                         | 1105 | 1383 | 1197 | 1 1/2" | 1105 | 1352 | 1193 | 1 1/2" | 1105 | 1349 | 1191 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



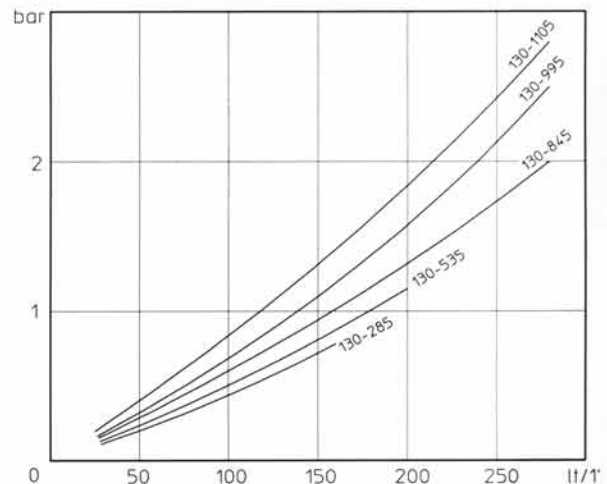
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)



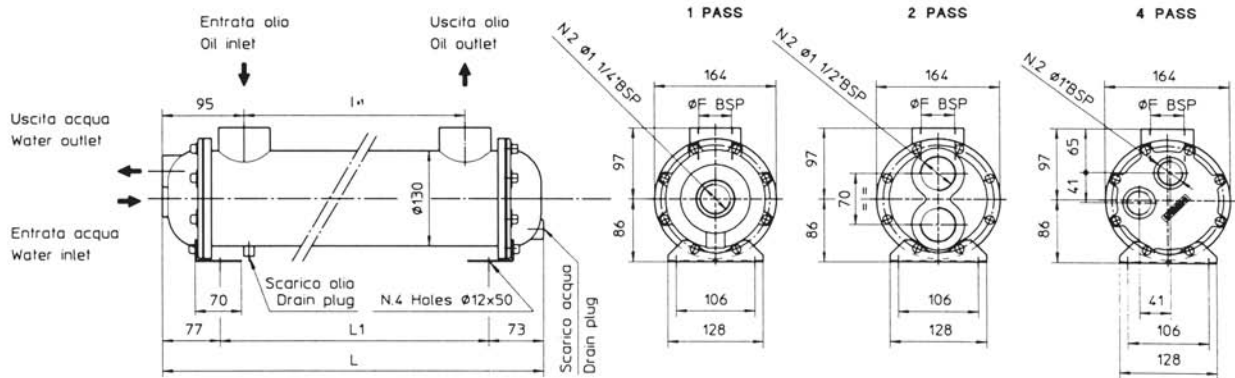


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

serie  
series

# MGB 131

Con circuito ad acqua ispezionabile a uno - due - quattro passaggi - With one-two-four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|--------------------|----------------------|
| STANDARD     | CuDHP         | C40                            | CuZn37                | CuZn40          | Fe510.2            | Rubber-cork          |
| AlSi         | AlSi 304      | AlSi 304                       | AlSi 304              | CuZn40          | AlSi 304           | Graphite-kevlar      |

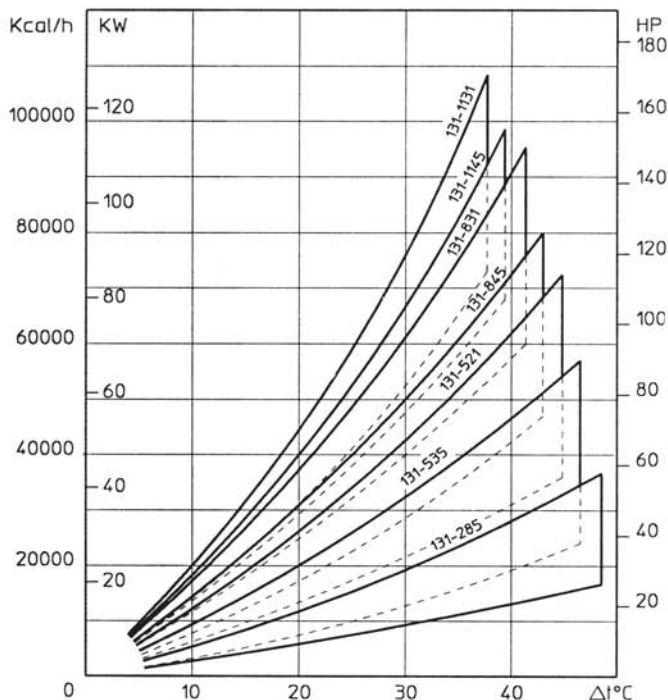
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>+55°C H2O+20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | Dimensioni - Over all dimension |      |      |      |        |        |      |      |        |      |        |      |      |      |
|--------------|-------------------------------------|--|------------------------------|----|---------------------------------|------|------|------|--------|--------|------|------|--------|------|--------|------|------|------|
|              |                                     |  |                              |    | 1 Pass                          |      |      |      | 2 Pass |        |      |      | 4 Pass |      |        |      |      |      |
|              |                                     |  |                              |    | øF                              | I    | L    | L1   | øF     | I      | L    | L1   | øF     | I    | L      | L1   |      |      |
| MGB131-285-  | 50-140                              | 17-38  | 2.7                          | 17 | 1 1/2"                          | 285  | 563  | 377  | 377    | 1 1/2" | 285  | 532  | 373    | 373  | 1 1/2" | 285  | 529  | 371  |
| MGB131-535-  | 80-200                              | 24-63  | 4.5                          | 23 | 1 1/2"                          | 535  | 808  | 622  | 622    | 1 1/2" | 535  | 777  | 618    | 618  | 1 1/2" | 535  | 774  | 616  |
| MGB131-521-  | 120-280                             | 40-82  | 4.6                          | 23 | 2"                              | 521  | 808  | 622  | 622    | 2"     | 521  | 777  | 618    | 618  | 2"     | 521  | 774  | 616  |
| MGB131-845-  | 100-250                             | 56-96  | 6.9                          | 29 | 1 1/2"                          | 845  | 1108 | 922  | 922    | 1 1/2" | 845  | 1077 | 918    | 918  | 1 1/2" | 845  | 1074 | 916  |
| MGB131-831-  | 160-400                             | 77-120   | 7                            | 29 | 2"                              | 831  | 1108 | 922  | 922    | 2"     | 831  | 1077 | 918    | 918  | 2"     | 831  | 1074 | 916  |
| MGB131-1145- | 120-280                             | 85-132   | 8                            | 36 | 1 1/2"                          | 1145 | 1423 | 1237 | 1237   | 1 1/2" | 1145 | 1392 | 1233   | 1233 | 1 1/2" | 1145 | 1389 | 1231 |
| MGB131-1131- | 160-420                             | 102-153  | 8.1                          | 36 | 2"                              | 1131 | 1419 | 1233 | 1233   | 2"     | 1131 | 1388 | 1229   | 1229 | 2"     | 1131 | 1385 | 1227 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



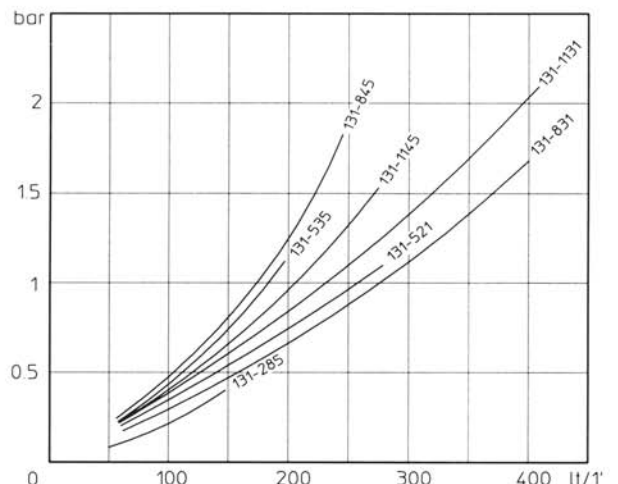
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)

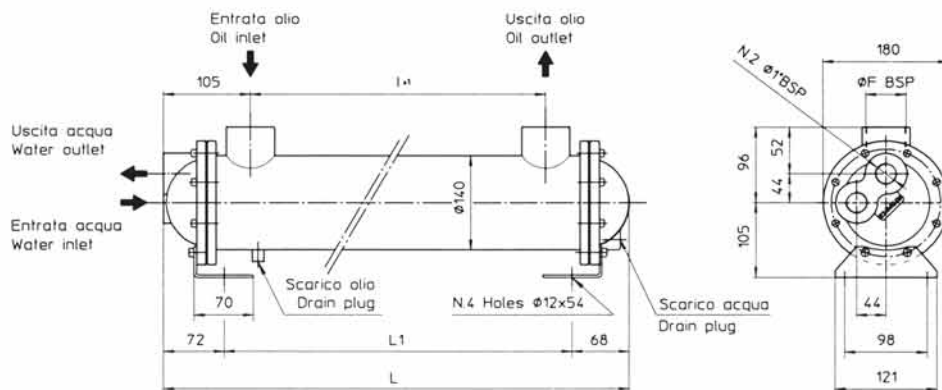


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

### serie series

# MGB 140

Con circuito ad acqua ispezionabile a quattro passaggi - With four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | C40                            | CuZn37                | G25             | Fe5102            | Rubber-cork          |
| AiSi         | AiSi 304      | AiSi 304                       | AiSi 304              | G25             | AiSi 304          | Graphite-kevlar      |

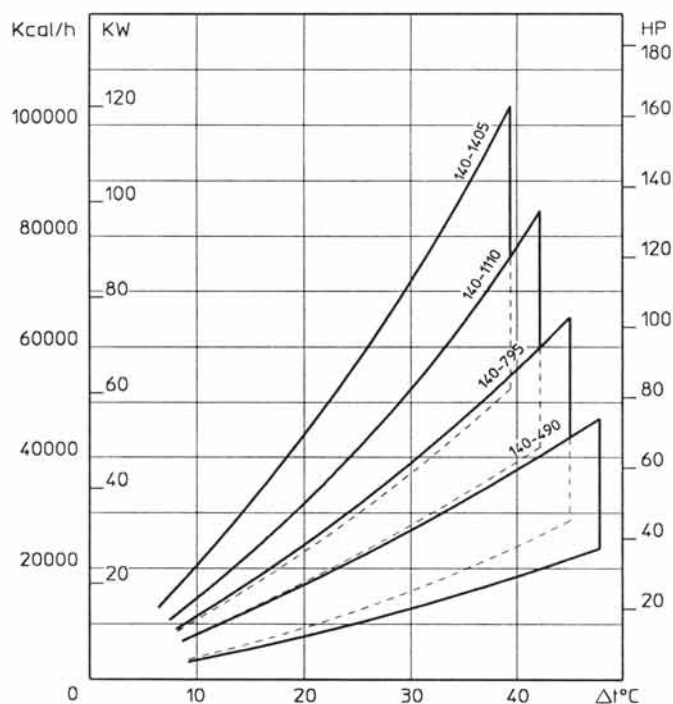
| TIPO<br>TYPE   | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>=55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | Dimensioni - Overall dimension |      |      |      |
|----------------|-------------------------------------|--|------------------------------|----|--------------------------------|------|------|------|
|                |                                     |  |                              |    | 4 Pass                         |      |      |      |
|                |                                     |  |                              |    | ØF                             | I    | L    | L1   |
| MGB 140-490-4  | 50-220                              | 25-50  | 6.4                          | 26 | 1 1/2"                         | 490  | 733  | 591  |
| MGB 140-795-4  | 60-250                              | 35-75  | 9.5                          | 32 | 1 1/2"                         | 795  | 1038 | 896  |
| MGB 140-1110-4 | 60-250                              | 52-105   | 12.5                         | 38 | 1 1/2"                         | 1110 | 1353 | 1211 |
| MGB 140-1405-4 | 80-280                              | 68-138   | 15.5                         | 44 | 1 1/2"                         | 1405 | 1648 | 1506 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



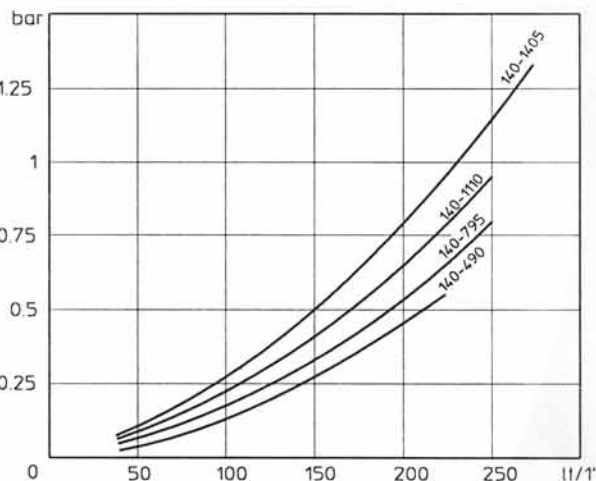
#### FATTORE DI CORREZIONE (F) - PERDITE DI CARICO

#### CORRECTION FACTOR (F) - PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)

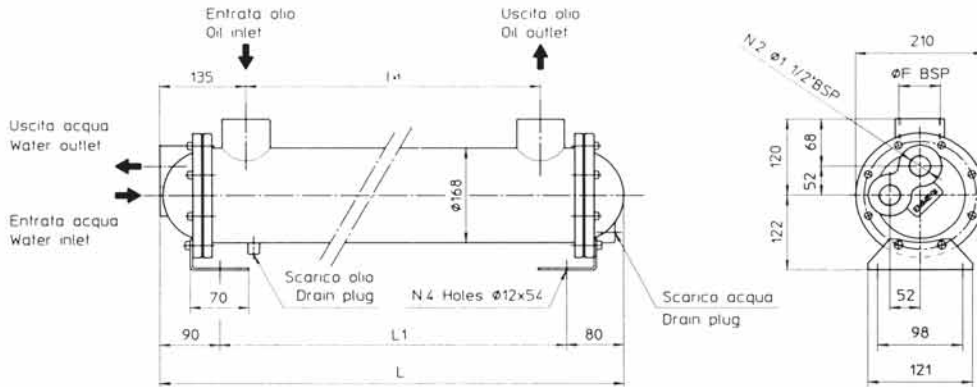


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

serie  
series

# MGB 168

Con circuito ad acqua ispezionabile a quattro passaggi - With four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative Over-all dimension and technical characteristics are not binding

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLLO<br>SHELL | GUARNIZIONI<br>SEAL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|--------------------|---------------------|
| STANDARD     | CuDHP         | C40                            | CuZn37                | G 25            | Fe510.2            | Rubber-cork         |
| AISI         | AISI 304      | AISI 304                       | AISI 304              | G 25            | AISI 304           | Graphite-kevlar     |

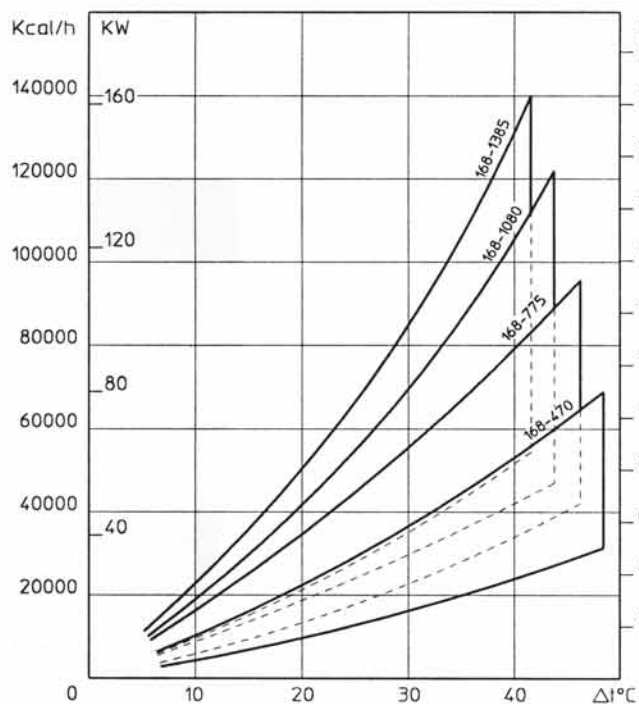
| TIPO<br>TYPE   | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>+55°C H2O+20°C | CAPACITA'<br>CONTENTS<br>(lt) | Kg | Dimensioni - Over all dimension |      |      |      |
|----------------|-------------------------------------|--|-------------------------------|----|---------------------------------|------|------|------|
|                |                                     |  |                               |    | 4 Pass                          |      |      |      |
|                |                                     |  |                               |    | φF                              | I    | L    | L1   |
| MGB 168-470-4  | 100-450                             | 32-72  | 8.3                           | 35 | 2"                              | 470  | 758  | 578  |
| MGB 168-775-4  | 120-500                             | 45-105   | 12.5                          | 43 | 2"                              | 775  | 1063 | 883  |
| MGB 168-1080-4 | 150-550                             | 55-142   | 16.7                          | 50 | 2"                              | 1080 | 1368 | 1188 |
| MGB 168-1385-4 | 150-550                             | 70-172   | 21                            | 57 | 2"                              | 1385 | 1673 | 1493 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



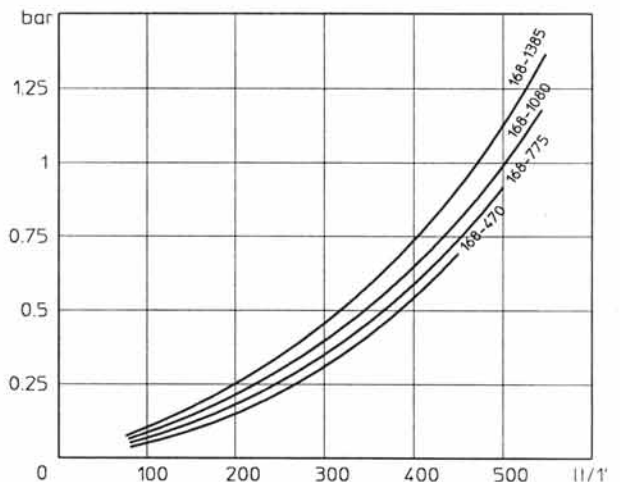
#### FATTORE DI CORREZIONE (F) - PERDITE DI CARICO

#### CORRECTION FACTOR (F) - PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)

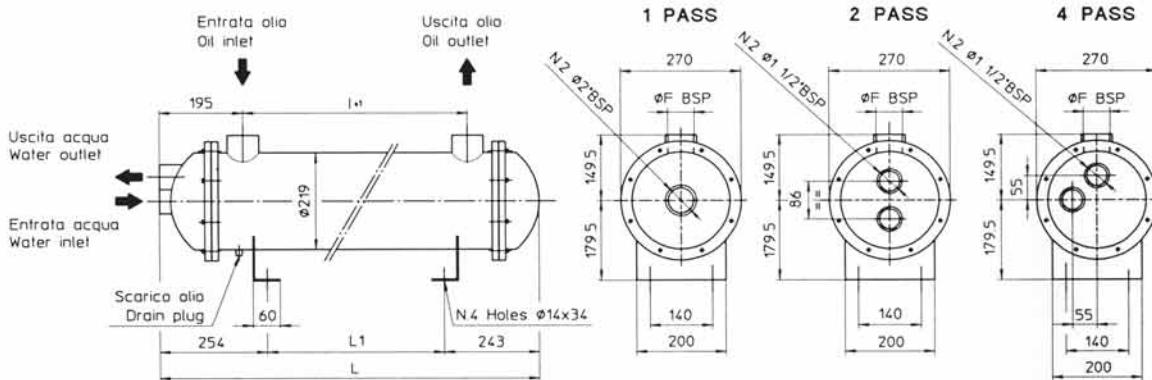




### Scambiatori di calore Acqua - Olio serie MGB 219 Water-Oil heat exchanger series

# MGB 219

Con circuito ad acqua ispezionabile a uno - due - quattro passaggi - With one-two-four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative Over-all dimension and technical characteristics are not binding

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEAL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|---------------------|
| STANDARD     | CuDHP         | C40                            | CuZn37                | Fe 510.2        | Fe510.2           | OR 4900             |
| AISI         | AISI 304      | AISI 304                       | AISI 304              | AISI 304        | AISI 304          | OR 4900             |

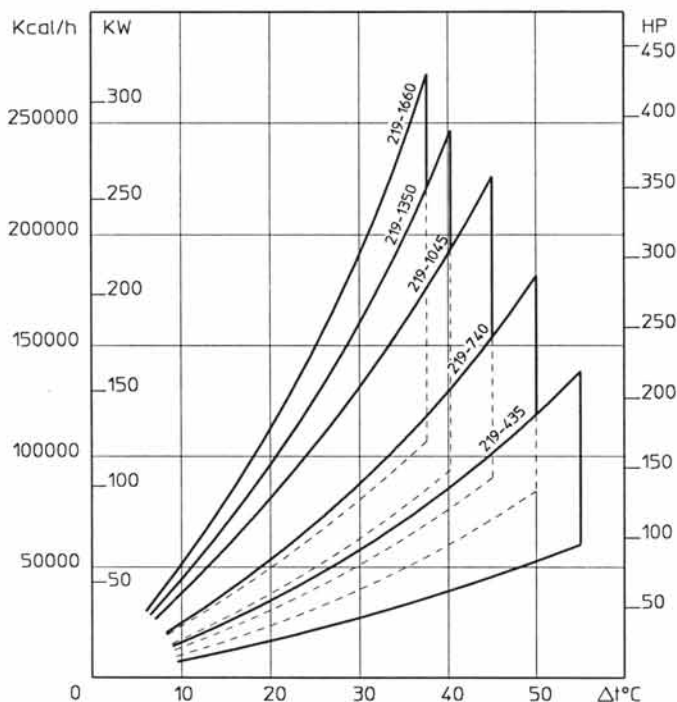
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(lit/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>=55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(lit) | Kg | Dimensioni - Over all dimension |      |      |      |        |      |      |      |        |      |      |      |
|--------------|---------------------------------------|--|--------------------------------|----|---------------------------------|------|------|------|--------|------|------|------|--------|------|------|------|
|              |                                       |  |                                |    | 1 Pass                          |      |      |      | 2 Pass |      |      |      | 4 Pass |      |      |      |
|              |                                       |  |                                |    | øF                              | I    | L    | L1   | øF     | I    | L    | L1   | øF     | I    | L    | L1   |
| MGB219-435-  | 80-800                                | 50-120   | 12.7                           | 36 | 2 1/2"                          | 435  | 839  | 330  | 2 1/2" | 435  | 827  | 330  | 2 1/2" | 435  | 827  | 330  |
| MGB219-740-  | 100-800                               | 75-180   | 19.2                           | 44 | 2 1/2"                          | 740  | 1144 | 635  | 2 1/2" | 740  | 1132 | 635  | 2 1/2" | 740  | 1132 | 635  |
| MGB219-1045- | 100-800                               | 100-250  | 25.7                           | 53 | 2 1/2"                          | 1045 | 1449 | 940  | 2 1/2" | 1045 | 1437 | 940  | 2 1/2" | 1045 | 1437 | 940  |
| MGB219-1350- | 100-800                               | 125-320  | 32.3                           | 59 | 2 1/2"                          | 1350 | 1754 | 1245 | 2 1/2" | 1350 | 1742 | 1245 | 2 1/2" | 1350 | 1742 | 1245 |
| MGB219-1660- | 100-800                               | 150-390  | 39                             | 64 | 2 1/2"                          | 1660 | 2062 | 1555 | 2 1/2" | 1660 | 2050 | 1555 | 2 1/2" | 1660 | 2050 | 1555 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

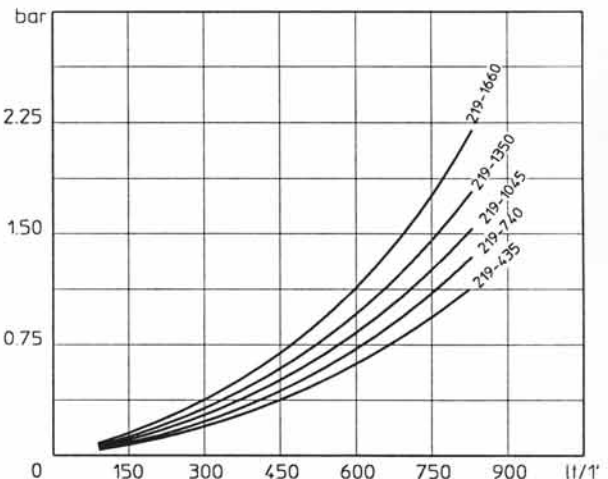
At the maximum and minimum flow stated in schedule



#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

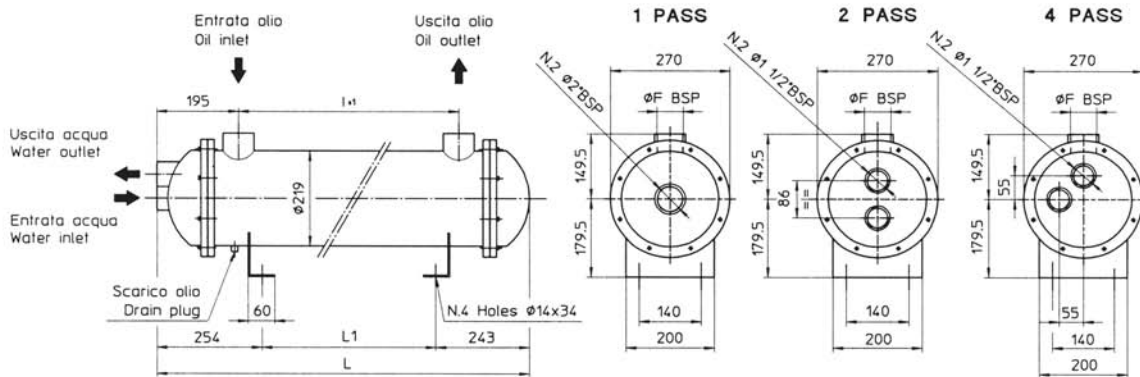
#### PERDITE DI CARICO (32 cst) PRESSURE DROP (32 cst)



### Scambiatori di calore Acqua - Olio serie Water-Oil heat exchanger series

# MGB 220

Con circuito ad acqua ispezionabile a uno - due - quattro passaggi - *With one-two-four way inspectionable water circuit*



Le dimensioni e le caratteristiche non sono impegnative. Over-all dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEAL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|---------------------|
| STANDARD     | CuDHP         | C40                            | CuZn37                | Fe 510.2        | Fe510.2           | OR 4900             |
| AiSi         | AiSi 304      | AiSi 304                       | AiSi 304              | AiSi 304        | AiSi 304          | OR 4900             |

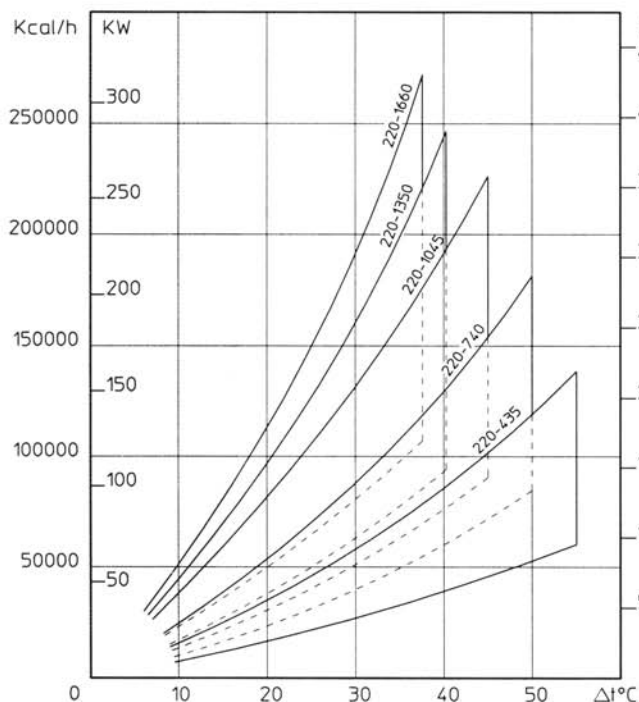
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>=55°C H <sub>2</sub> O=20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg  | Dimensioni - Over all dimension |      |      |      |        |      |      |      |        |      |      |      |
|--------------|-------------------------------------|---|------------------------------|-----|---------------------------------|------|------|------|--------|------|------|------|--------|------|------|------|
|              |                                     |   |                              |     | 1 Pass                          |      |      |      | 2 Pass |      |      |      | 4 Pass |      |      |      |
|              |                                     |   |                              |     | øF                              | I    | L    | L1   | øF     | I    | L    | L1   | øF     | I    | L    | L1   |
| MGB220-435-  | 80-800                              | 50-120  | 11                           | 48  | 2 1/2"                          | 435  | 839  | 330  | 2 1/2" | 435  | 827  | 330  | 2 1/2" | 435  | 827  | 330  |
| MGB220-740-  | 100-800                             | 75-180  | 16.8                         | 82  | 2 1/2"                          | 740  | 1144 | 635  | 2 1/2" | 740  | 1132 | 635  | 2 1/2" | 740  | 1132 | 635  |
| MGB220-1045- | 100-800                             | 100-250   | 22.2                         | 110 | 2 1/2"                          | 1045 | 1449 | 940  | 2 1/2" | 1045 | 1437 | 940  | 2 1/2" | 1045 | 1437 | 940  |
| MGB220-1350- | 100-800                             | 125-320   | 27.9                         | 120 | 2 1/2"                          | 1350 | 1754 | 1245 | 2 1/2" | 1350 | 1742 | 1245 | 2 1/2" | 1350 | 1742 | 1245 |
| MGB220-1660- | 100-800                             | 150-390   | 33.6                         | 145 | 2 1/2"                          | 1660 | 2062 | 1555 | 2 1/2" | 1660 | 2050 | 1555 | 2 1/2" | 1660 | 2050 | 1555 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



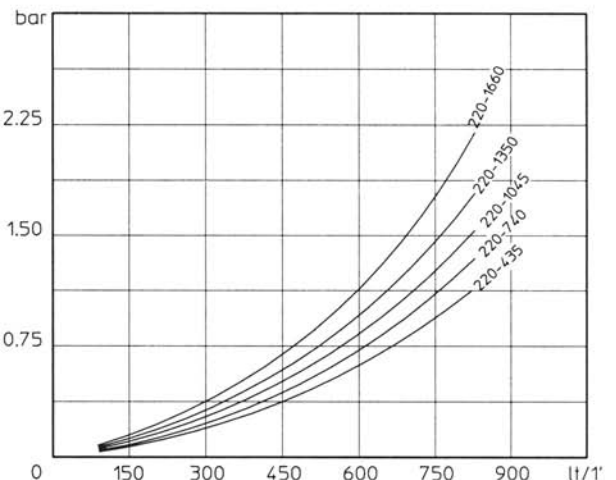
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)

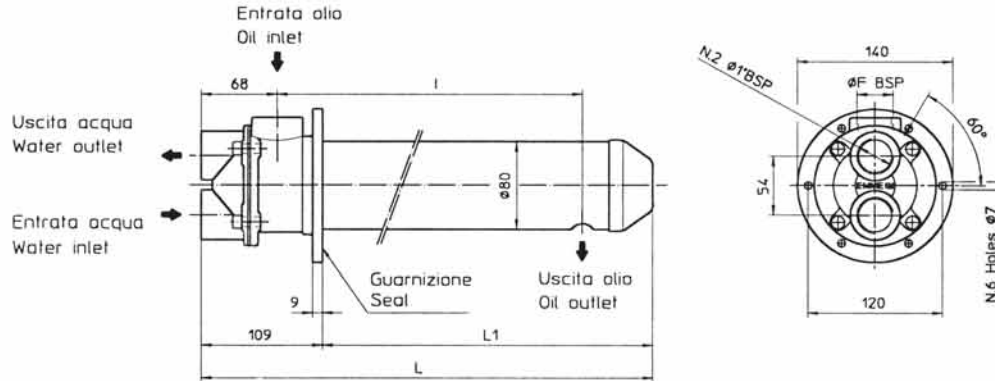


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

serie  
series

# MGF 80

Con circuito ad acqua ispezionabile a due passaggi - With two way inspectionable water circuit



Le dimensioni e le caratteristiche tecniche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEAL |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|---------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | CuZn37            | Rubber-cork         |

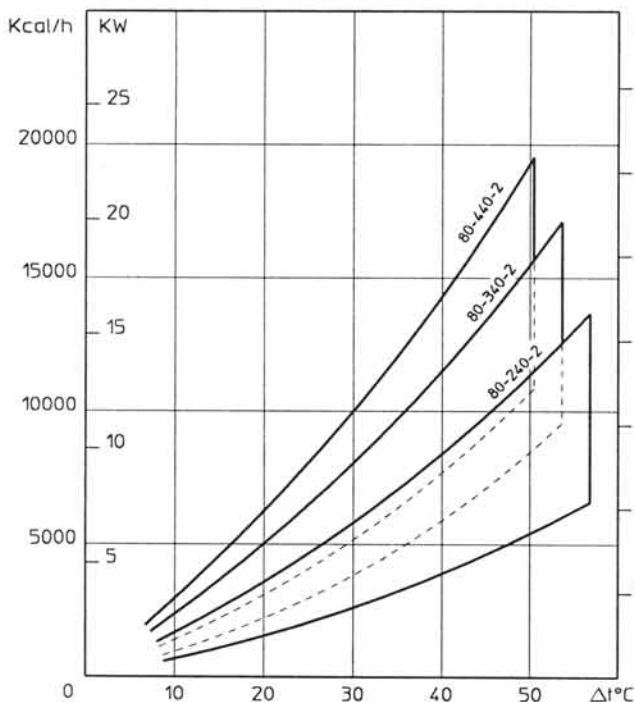
| TIPO<br>TYPE | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>-55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg  | Dimensioni - Over all dimension |     |     |     |
|--------------|-------------------------------------|--|------------------------------|-----|---------------------------------|-----|-----|-----|
|              |                                     |  |                              |     | 2 Pass                          |     |     |     |
|              |                                     |  |                              |     | ØF                              | l   | L   | L1  |
| MGF 80-240-2 | 20-60                               | 3-6  | 0.9                          | 5   | Ø1"                             | 240 | 369 | 260 |
| MGF 80-340-2 | 30-70                               | 6-9  | 1.2                          | 5.7 | Ø1"                             | 340 | 469 | 360 |
| MGF 80-440-2 | 40-80                               | 9-12   | 1.5                          | 6.4 | Ø1"                             | 440 | 569 | 460 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



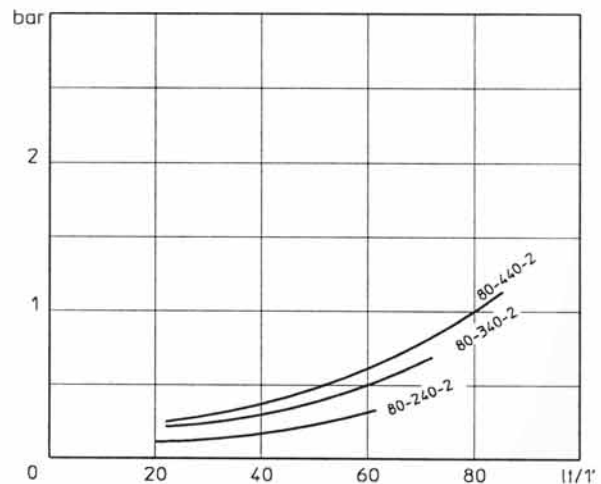
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)



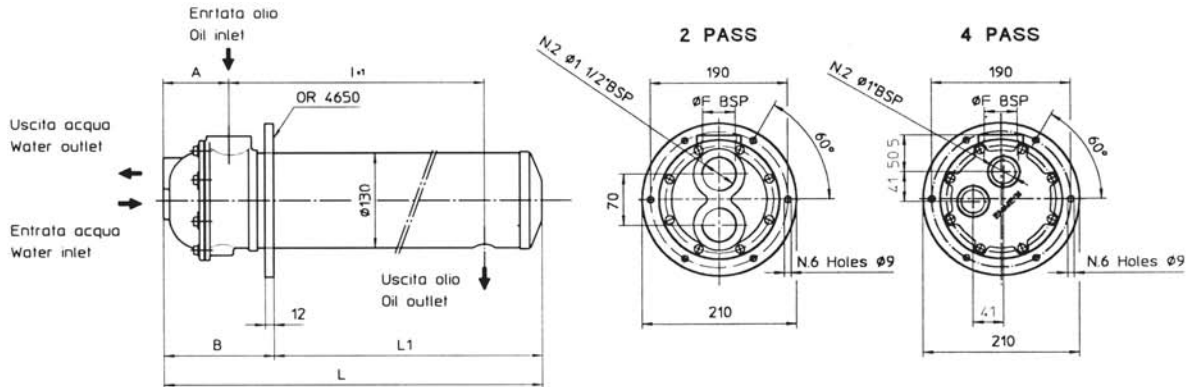


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

serie  
series

## MGF 131

Con circuito ad acqua ispezionabile a due - quattro passaggi - With two-four way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|--------------------|----------------------|
| STANDARD     | CuDHP         | CuZn40                         | CuZn37                | CuZn40          | CuZn37             | Rubber-cork          |

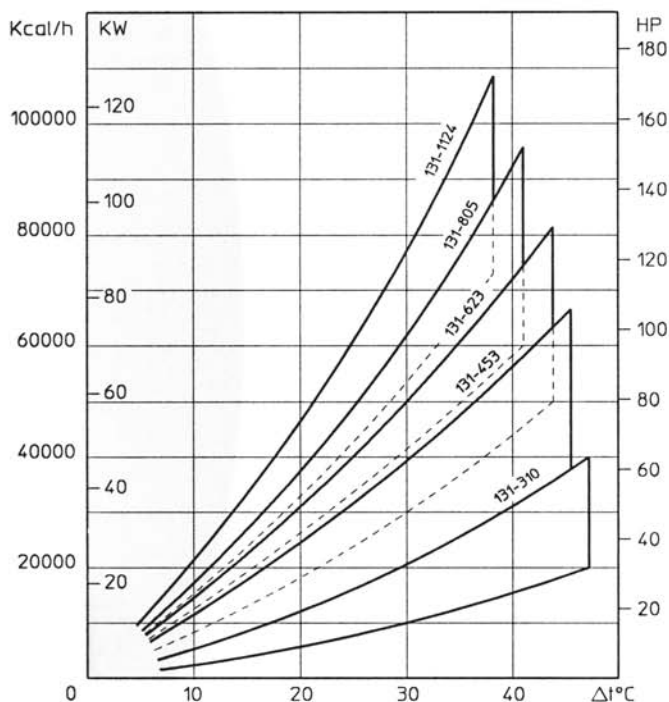
| TIPO<br>TYPE  | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>+55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | A  | B   | Dimensioni - Over all dimension |      |      |      |        |      |      |      |
|---------------|-------------------------------------|--|------------------------------|----|----|-----|---------------------------------|------|------|------|--------|------|------|------|
|               |                                     |  |                              |    |    |     | 2 Pass                          |      |      |      | 4 Pass |      |      |      |
|               |                                     |  |                              |    |    |     | øF                              | I    | L    | L1   | øF     | I    | L    | L1   |
| MGF 131-310-  | 50-150                              | 20-40  | 3.2                          | 16 | 88 | 148 | 1 1/2"                          | 310  | 462  | 314  | 1 1/2" | 310  | 462  | 314  |
| MGF 131-453-  | 100-150                             | 40-75  | 4.3                          | 22 | 88 | 148 | 1 1/2"                          | 453  | 613  | 465  | 1 1/2" | 453  | 613  | 465  |
| MGF 131-623-  | 150-300                             | 58-96  | 5.7                          | 28 | 95 | 160 | 2"                              | 623  | 795  | 635  | 2"     | 623  | 795  | 635  |
| MGF 131-805-  | 150-350                             | 78-118   | 7.1                          | 32 | 95 | 160 | 2"                              | 805  | 977  | 817  | 2"     | 805  | 977  | 817  |
| MGF 131-1124- | 200-400                             | 105-150  | 9.6                          | 35 | 95 | 160 | 2"                              | 1124 | 1296 | 1136 | 2"     | 1124 | 1296 | 1136 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



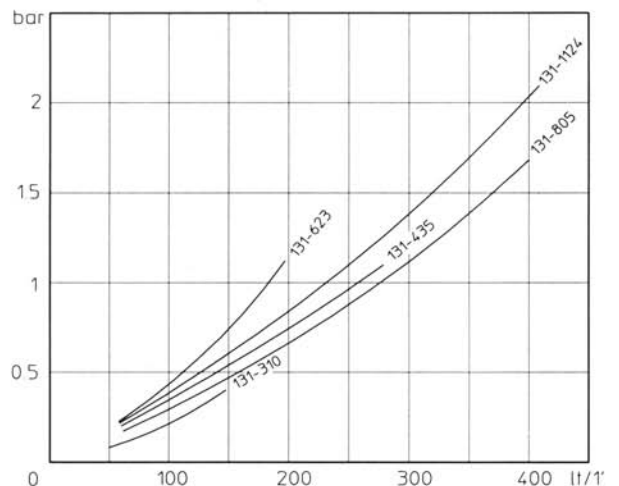
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

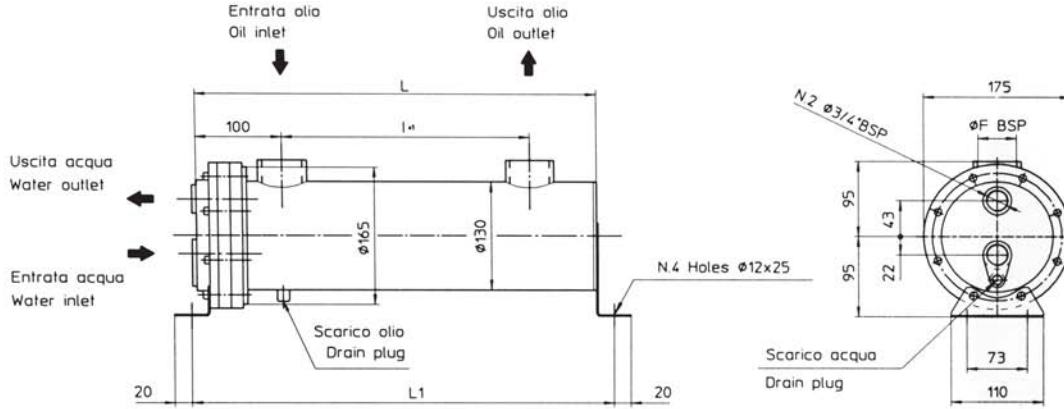
#### PRESSURE DROP (32 cst)



### Scambiatori di calore Acqua - Olio serie Water-Oil heat exchanger series

# MGW 130

Con circuito ad acqua ispezionabile a due passaggi - With two way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | Fe37                           | CuZn37                | CuZn40          | Fe510.2           | OR 4512              |

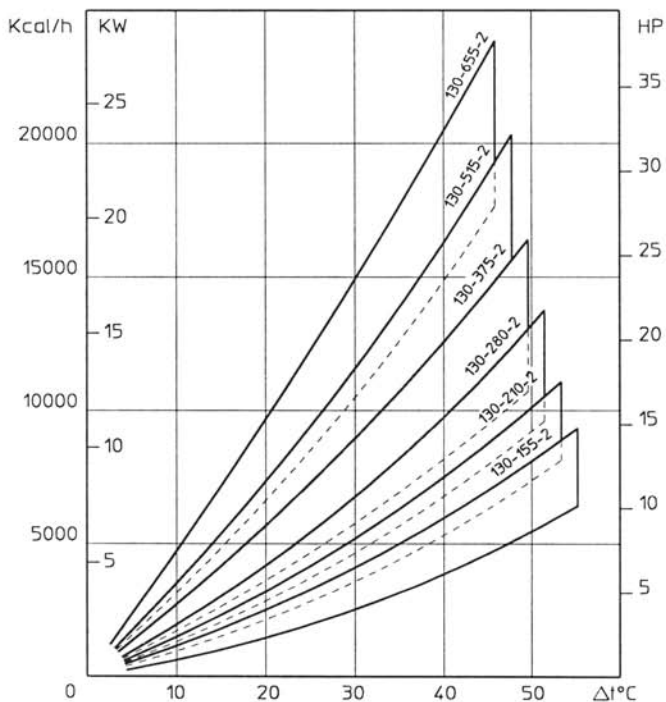
| TIPO<br>TYPE  | PORTATA OLIO<br>OIL FLOW<br>(t/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>-55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg   | Dimensioni - Over all dimension |     |     |     |
|---------------|-------------------------------------|--|------------------------------|------|---------------------------------|-----|-----|-----|
|               |                                     |  |                              |      | 2, Pass                         |     |     |     |
|               |                                     |  |                              |      | ØF                              | l   | L   | L1  |
| MGW 130-155-2 | 30-150                              | 5-8  | 2.3                          | 15   | 1 1/2"                          | 155 | 313 | 369 |
| MGW 130-210-2 | 50-180                              | 7-10   | 2.7                          | 15.5 | 1 1/2"                          | 210 | 368 | 423 |
| MGW 130-280-2 | 60-180                              | 9-13   | 3.2                          | 16   | 1 1/2"                          | 280 | 438 | 493 |
| MGW 130-375-2 | 60-200                              | 11-17  | 4.1                          | 19   | 1 1/2"                          | 375 | 533 | 589 |
| MGW 130-515-2 | 90-200                              | 17-22  | 5.2                          | 22   | 1 1/2"                          | 515 | 673 | 729 |
| MGW 130-655-2 | 90-220                              | 20-28  | 6.4                          | 26   | 1 1/2"                          | 655 | 813 | 869 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



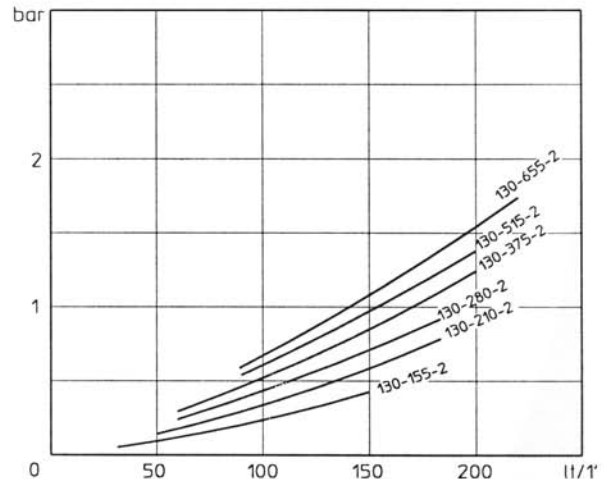
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

#### PRESSURE DROP (32 cst)

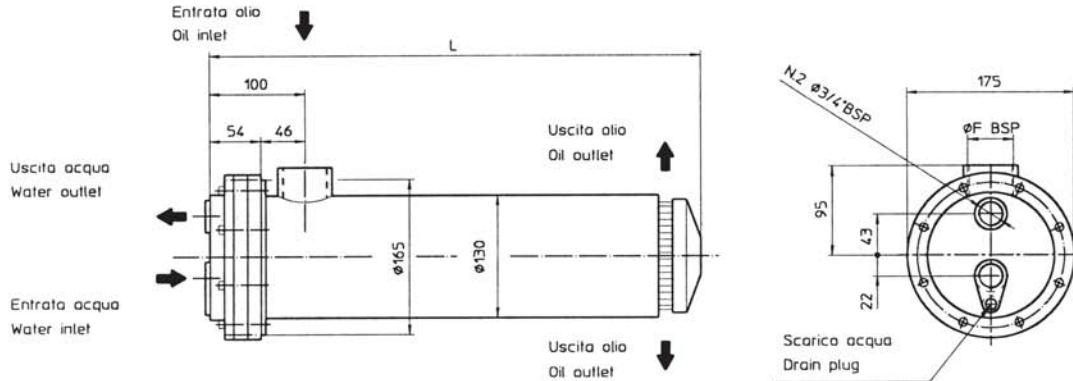


### Scambiatori di calore Acqua - Olio Water-Oil heat exchanger

serie  
series

# MGW 135

Con circuito ad acqua ispezionabile a due passaggi - *With two way inspectionable water circuit*



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | Fe37                           | CuZn37                | CuZn40          | Fe510.2           | OR 4512              |

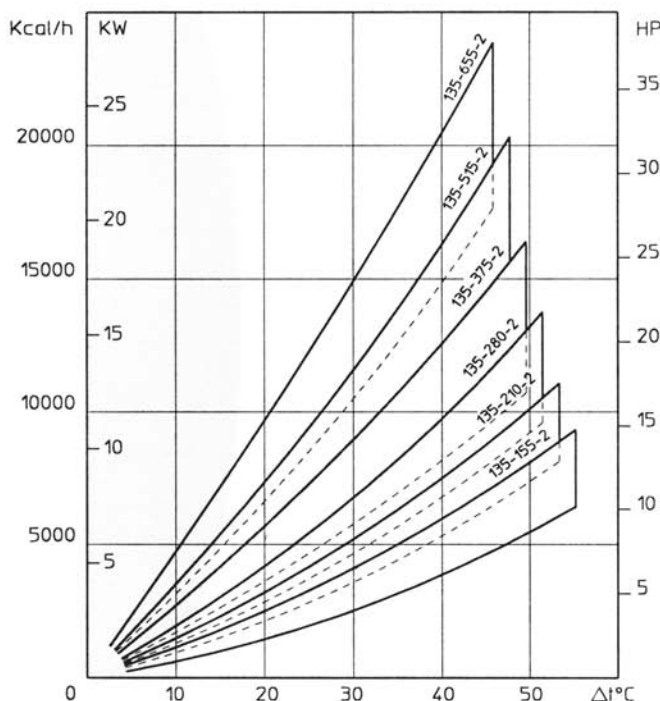
| TIPO<br>TYPE  | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>+55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg   | Dimensioni - Over all dimension |     |
|---------------|-------------------------------------|--|------------------------------|------|---------------------------------|-----|
|               |                                     |  |                              |      | 2 Pass                          |     |
|               |                                     |  |                              |      | $\phi F$                        | L   |
| MGW 135-155-2 | 30-150                              | 5-8  | 2.3                          | 15   | 1 1/2"                          | 318 |
| MGW 135-210-2 | 50-180                              | 7-10   | 2.7                          | 15.5 | 1 1/2"                          | 373 |
| MGW 135-280-2 | 60-180                              | 9-13   | 3.2                          | 16   | 1 1/2"                          | 443 |
| MGW 135-375-2 | 60-200                              | 11-17  | 4.1                          | 19   | 1 1/2"                          | 538 |
| MGW 135-515-2 | 90-200                              | 17-22  | 5.2                          | 22   | 1 1/2"                          | 678 |
| MGW 135-655-2 | 90-220                              | 20-28  | 6.4                          | 26   | 1 1/2"                          | 818 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

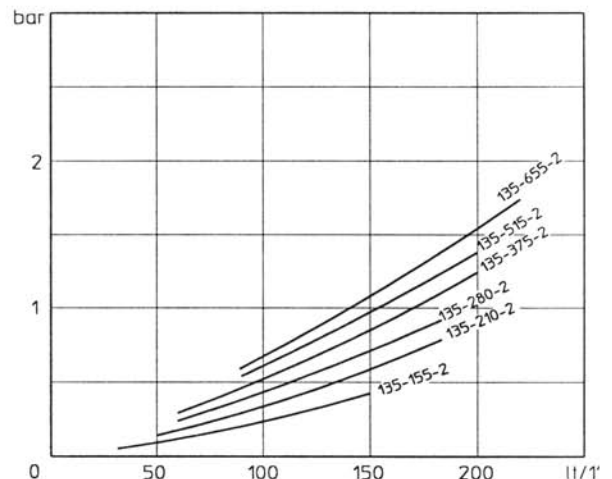
At the maximum and minimum flow stated in schedule



#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst) PRESSURE DROP (32 cst)

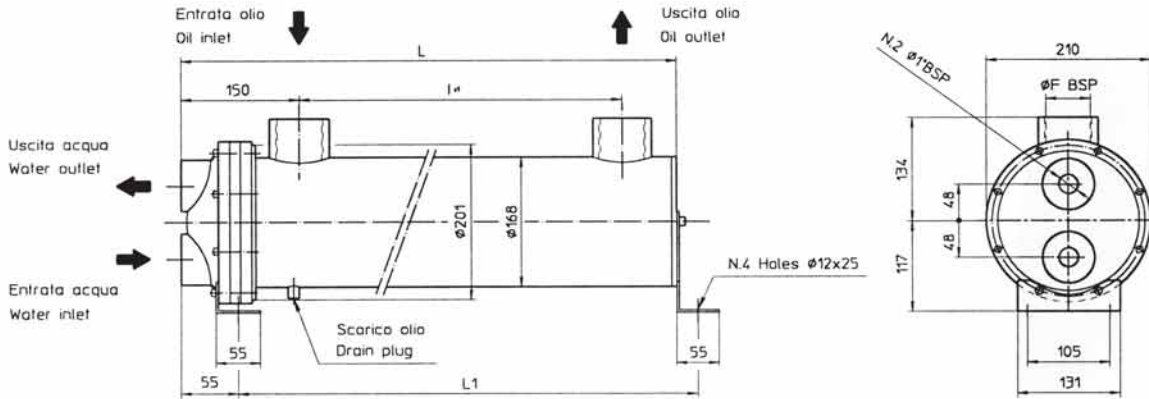




### Scambiatori di calore Acqua - Olio serie Water-Oil heat exchanger series

# MGW 168

Con circuito ad acqua ispezionabile a due passaggi - With two way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|-------------------|----------------------|
| STANDARD     | CuDHP         | Fe37                           | CuZn37                | CuZn40          | Fe510.2           | Rubber-cork          |

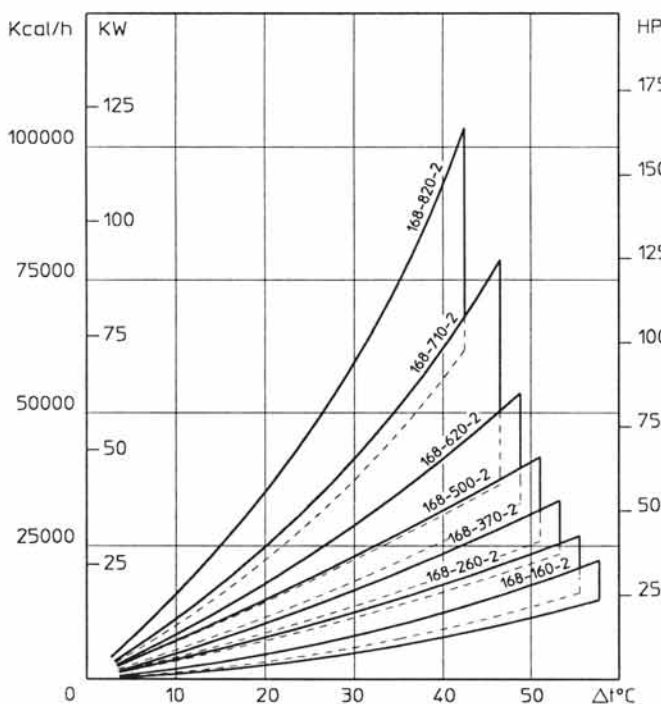
| TIPO<br>TYPE  | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>-55°C H2O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | Dimensioni - Over all dimension |     |      |      |
|---------------|-------------------------------------|--|------------------------------|----|---------------------------------|-----|------|------|
|               |                                     |  |                              |    | 2 Pass                          |     |      |      |
|               |                                     |  |                              |    | $\phi F$                        | L   | L    | L1   |
| MGW 168-160-2 | 90-180                              | 10-16  | 4.3                          | 18 | 2"                              | 160 | 395  | 355  |
| MGW 168-260-2 | 100-180                             | 12-24  | 5.8                          | 23 | 2"                              | 260 | 495  | 455  |
| MGW 168-370-2 | 200-350                             | 22-32  | 7.6                          | 28 | 2"                              | 370 | 605  | 565  |
| MGW 168-500-2 | 210-380                             | 26-43  | 9.7                          | 36 | 2"                              | 500 | 735  | 695  |
| MGW 168-620-2 | 230-400                             | 35-55  | 11.5                         | 39 | 2"                              | 620 | 855  | 815  |
| MGW 168-710-2 | 260-450                             | 42-81  | 12.9                         | 43 | 2"                              | 710 | 945  | 905  |
| MGW 168-820-2 | 320-550                             | 73-120   | 14.6                         | 47 | 2"                              | 820 | 1055 | 1015 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

At the maximum and minimum flow stated in schedule



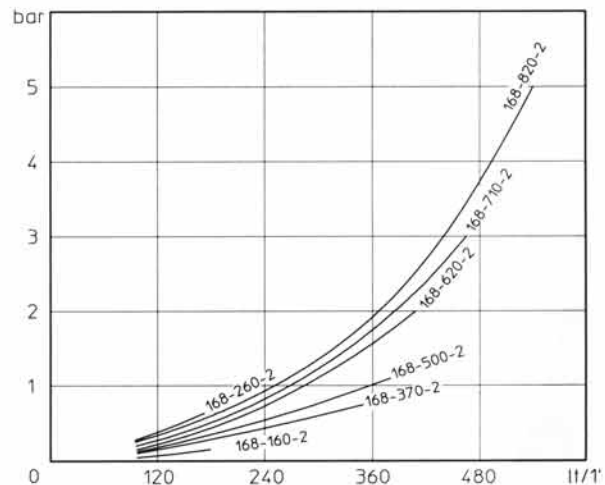
#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO

#### CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst)

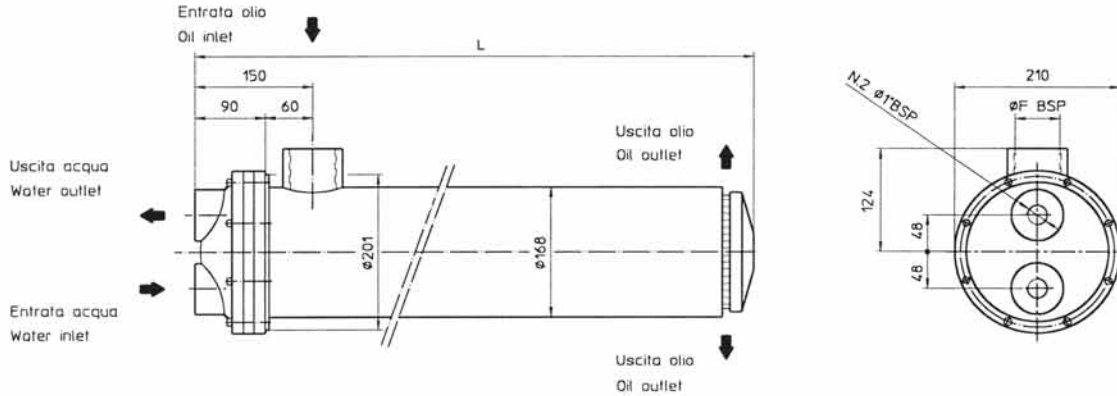
#### PRESSURE DROP (32 cst)



### Scambiatori di calore Acqua - Olio serie Water-Oil heat exchanger series

# MGW 170

Con circuito ad acqua ispezionabile a due passaggi - With two way inspectionable water circuit



Le dimensioni e le caratteristiche non sono impegnative. Overall dimension and technical characteristics are not binding.

| TIPO<br>TYPE | TUBI<br>TUBES | PIASTRA TUBIERA<br>TUBES SHEET | DEFLETTORI<br>BAFFLES | FONDI<br>COVERS | MANTELLLO<br>SHELL | GUARNIZIONI<br>SEALS |
|--------------|---------------|--------------------------------|-----------------------|-----------------|--------------------|----------------------|
| STANDARD     | CuDHP         | Fe37                           | CuZn37                | CuZn40          | Fe510.2            | Rubber-cork          |

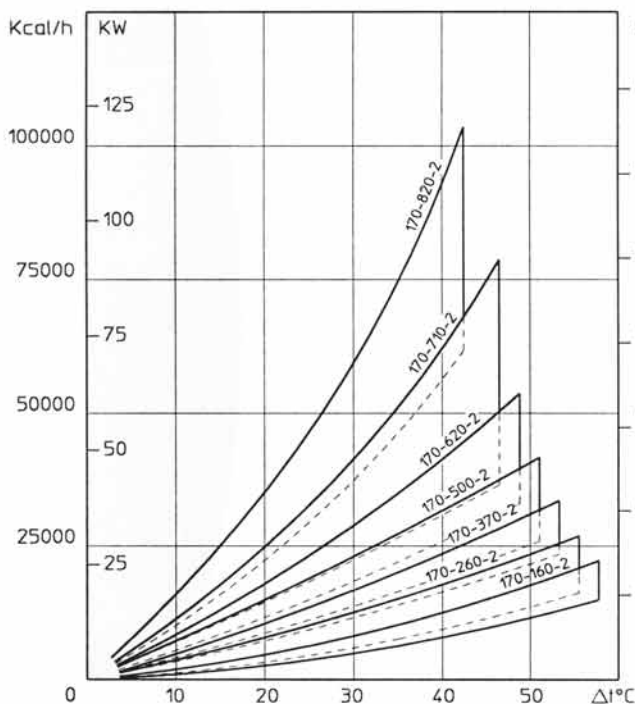
| TIPO<br>TYPE  | PORTATA OLIO<br>OIL FLOW<br>(l/min) | HP DISPERSI<br>CON OLIO<br>HP DISSIPATED<br>WITH OIL<br>-55°C H <sub>2</sub> O-20°C | CAPACITA'<br>CONTENTS<br>(l) | Kg | Dimensioni - Over all dimension |      |
|---------------|-------------------------------------|---|------------------------------|----|---------------------------------|------|
|               |                                     |   |                              |    | 2 Pass                          |      |
|               |                                     |   |                              |    | $\phi F$                        | L    |
| MGW 170-160-2 | 90-180                              | 10-12   | 4.3                          | 18 | 2"                              | 371  |
| MGW 170-260-2 | 100-180                             | 12-18   | 5.8                          | 23 | 2"                              | 471  |
| MGW 170-370-2 | 200-350                             | 22-26   | 7.6                          | 28 | 2"                              | 581  |
| MGW 170-500-2 | 210-380                             | 26-33   | 9.7                          | 36 | 2"                              | 711  |
| MGW 170-620-2 | 230-400                             | 35-44   | 11.5                         | 39 | 2"                              | 831  |
| MGW 170-710-2 | 260-450                             | 42-100  | 12.9                         | 43 | 2"                              | 921  |
| MGW 170-820-2 | 320-550                             | 100-150   | 14.6                         | 47 | 2"                              | 1031 |

#### DIAGRAMMA RENDIMENTO

Alla portata massima e minima indicata in tabella

#### PERFORMANCE DIAGRAM

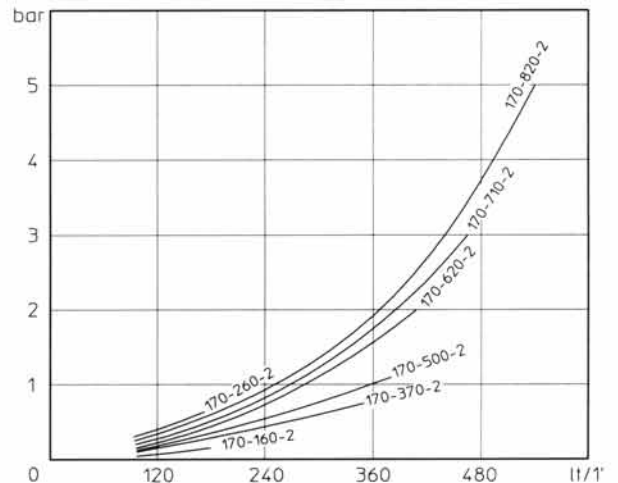
At the maximum and minimum flow stated in schedule



#### FATTORE DI CORREZIONE (F)-PERDITE DI CARICO CORRECTION FACTOR (F)-PRESSURE DROP

| CST | 10  | 15   | 20   | 30 | 40  | 50  | 60  | 80  | 100 | 200 | 300 |
|-----|-----|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| F   | 0.5 | 0.65 | 0.77 | 1  | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 3.3 | 4.3 |

#### PERDITE DI CARICO (32 cst) PRESSURE DROP (32 cst)









Poichè HANSA-TMP offre una gamma di prodotti molto estesa ed alcuni di questi vengono impiegati per più tipi di applicazioni, le informazioni riportate possono riferirsi solo a determinate situazioni.

Se nel catalogo non sono riportati tutti i dati necessari, si prega di contattare HANSA-TMP.

Al fine di poter fornire una risposta esauriente potrà rendersi necessaria la richiesta di dati specifici riguardanti l'applicazione in questione.

Questo catalogo, pur essendo stato approntato con particolare riguardo alla precisione dei dati riportati, non consiste parte di alcun contratto espresso o implicito.

HANSA-TMP si riserva il diritto di apportare qualsiasi modifica ai dati riportati.

*As HANSA-TMP has a very extensive range of products and some products have a variety of applications, the information supplied may often only apply to specific situations.*

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