

# IDROGO

## CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 5"

in AISI 304 stainless steel



Multistage submersible centrifugal electric pumps, 5", in AISI 304.

### APPLICATIONS

- Handling clear water from wells, cisterns and first collection tanks
- Pressurising domestic systems
- Small irrigation systems
- Washing vehicles
- Increasing pressure in general

### TECHNICAL FEATURES

- Fitted with double mechanical seals with interposing oil chamber
- Supplied with 20 m power cord, type H07RN-F (5 m for IDROGO 40/06 M)
- Single phase version with float available on request (version "A")
- Available in the three phase 230V  $\pm 10\%$  50Hz version
- Installation: horizontal or vertical

### PUMP TECHNICAL DATA

- Maximum operating pressure: 10 bar
- Maximum fluid temperature: 40°C
- Maximum immersion: 2 m (with 5 m cable)  
10 m (version "A" with 20 m cable)  
17 m (with 20 m cable)
- Maximum solid dimensions: 2.5 mm
- Delivery connection G1 1/4

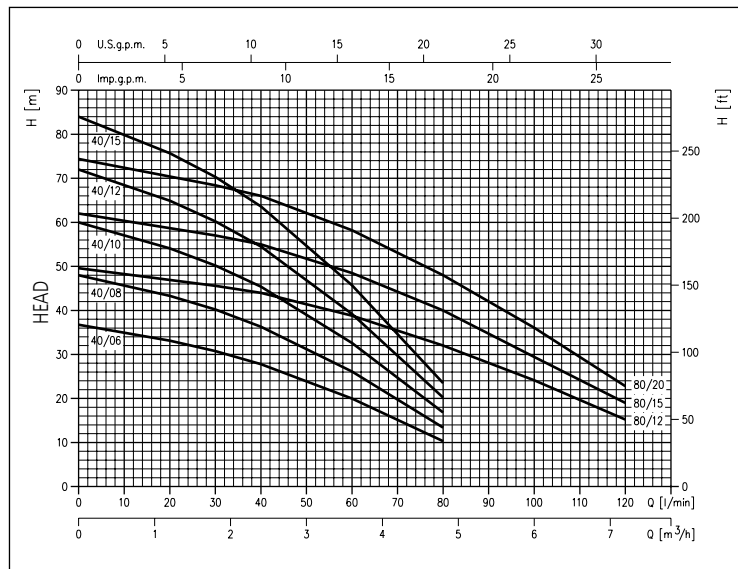
### MOTOR TECHNICAL DATA

- 2 pole asynchronous self-ventilating motor cooled by the process fluid
- Insulation class F
- Protection degree IP68
- Single phase voltage 230V  $\pm 10\%$  50Hz,  
three phase voltage 230/400V  $\pm 10\%$ , 50Hz
- Permanently active condenser and integrated automatic re-arming thermal cutout for the single phase motor
- Protection must be supplied by the user for the three phase version

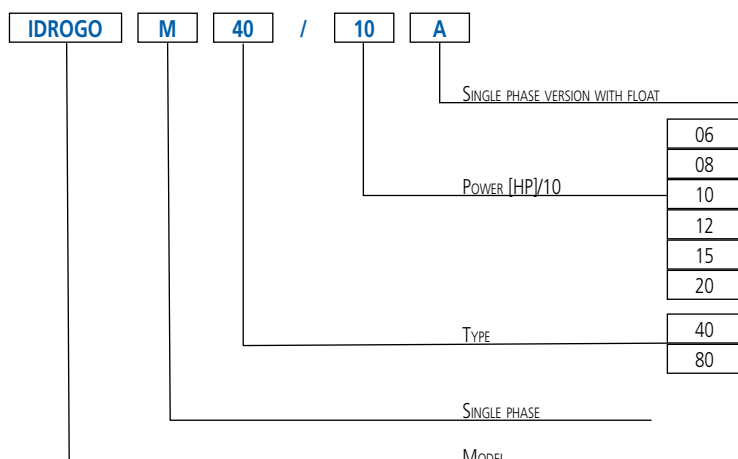
### MATERIALS

- External casing, motor cover, seal disk, filter and closing ring in AISI 304
- Impeller, diffuser and spacer in PPE + PS reinforced with fibreglass
- Shaft made of AISI 431 steel
- Upper mechanical seal (motor side) in Carbon/Ceramic/NBR and lower seal (pump side) in SiC/Carbon/NBR

### PERFORMANCE CURVES (per ISO 9906 Annex A)



### IDENTIFICATION CODE



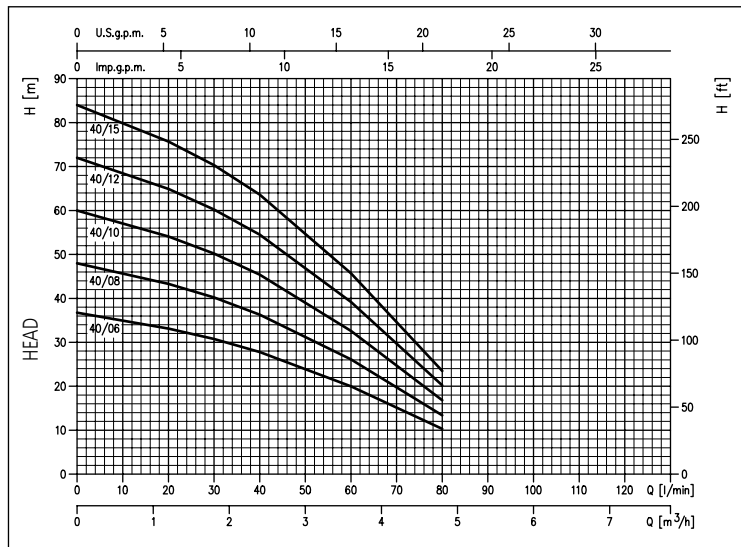
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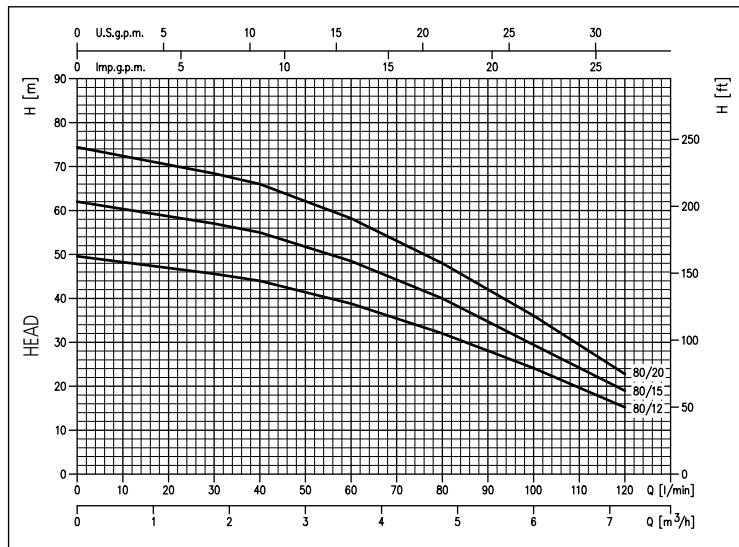
### PERFORMANCE CURVES series IDROGO 40

(per ISO 9906 Annex A) - Impeller dia.: 104 mm



### PERFORMANCE CURVES series IDROGO 80

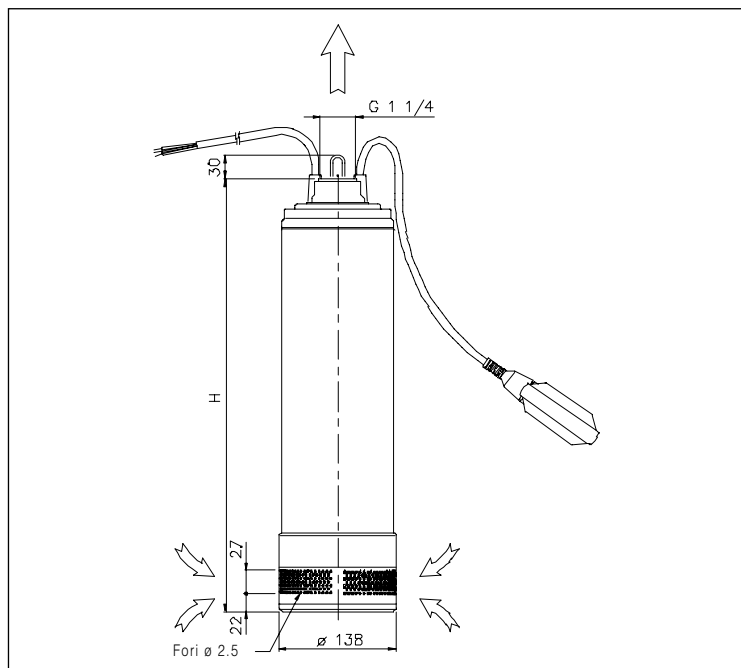
(per ISO 9906 Annex A) - Impeller dia.: 102 mm



### PERFORMANCE TABLE

| single phase<br>230V | Model        | three phase<br>230V - 400V | P <sub>2</sub> |      | Q=Flow rate   |           |           |           |            |           |          |            |
|----------------------|--------------|----------------------------|----------------|------|---------------|-----------|-----------|-----------|------------|-----------|----------|------------|
|                      |              |                            | [HP]           | [kW] | l/min<br>m³/h | 20<br>1.2 | 30<br>1.8 | 40<br>2.4 | 60<br>3.6  | 80<br>4.8 | 100<br>6 | 120<br>7.2 |
|                      |              |                            |                |      |               |           |           |           | H=Head [m] |           |          |            |
| IDROGO M 40/06       |              | -                          | 0.6            | 0.44 | 33.1          | 30.8      | 27.8      | 20.0      | 10.3       | -         | -        | -          |
| IDROGO M 40/08       | IDROGO 40/08 |                            | 0.8            | 0.6  | 43.3          | 40.2      | 36.3      | 26.1      | 13.4       | -         | -        | -          |
| IDROGO M 40/10       | IDROGO 40/10 |                            | 1              | 0.75 | 54.1          | 50.2      | 45.4      | 32.6      | 16.8       | -         | -        | -          |
| IDROGO M 40/12       | IDROGO 40/12 |                            | 1.2            | 0.9  | 64.9          | 60.2      | 54.5      | 39.2      | 20.2       | -         | -        | -          |
| IDROGO M 40/15       | IDROGO 40/15 |                            | 1.5            | 1.1  | 75.7          | 70.3      | 63.6      | 45.7      | 23.5       | -         | -        | -          |
| IDROGO M 80/12       | IDROGO 80/12 |                            | 1.2            | 0.9  | -             | 45.6      | 44.0      | 38.8      | 32.0       | 23.2      | 15.2     | -          |
| IDROGO M 80/15       | IDROGO 80/15 |                            | 1.5            | 1.1  | -             | 57.0      | 55.0      | 48.5      | 40.0       | 28.0      | 19.0     | -          |
| -                    | IDROGO 80/20 |                            | 2              | 1.5  | -             | 68.4      | 66.0      | 58.2      | 48.0       | 34.8      | 22.8     | -          |

### DIMENSIONS



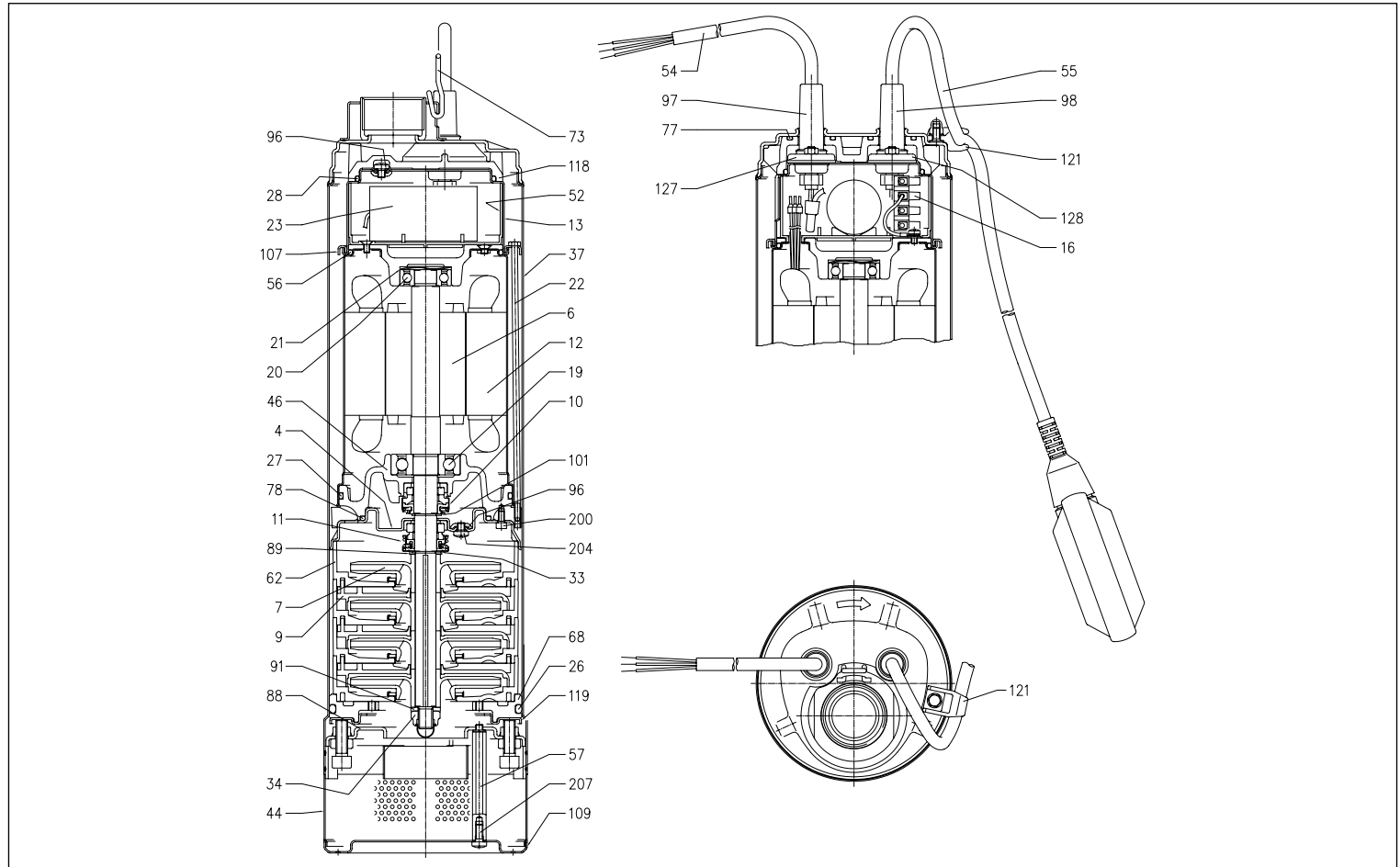
### DIMENSIONAL TABLE

| Model        | H [mm] | Weight [kg]  |             |
|--------------|--------|--------------|-------------|
|              |        | single phase | three phase |
| IDROGO 40/06 | 513    | 13.0         | -           |
| IDROGO 40/08 | 513    | 14.6         | 14.8        |
| IDROGO 40/10 | 539    | 16.0         | 16.1        |
| IDROGO 40/12 | 590    | 17.2         | 17.4        |
| IDROGO 40/15 | 616    | 18.3         | 18.3        |
| IDROGO 80/12 | 540    | 16.5         | 16.4        |
| IDROGO 80/15 | 564    | 17.7         | 17.4        |
| IDROGO 80/20 | 590    | -            | 18.0        |

# IDROGO

## CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 5" in AISI 304 stainless steel

### SECTIONAL VIEW



### MATERIALS TABLE

| Ref. | Name                       | Material                            | Ref.    | Name                          | Material                            |
|------|----------------------------|-------------------------------------|---------|-------------------------------|-------------------------------------|
| 4    | Gasket disk                | EN 1.4301 (AISI 304)                | 55      | Float [2]                     | -                                   |
| 6    | Shaft                      | EN 1.4057 (AISI 431)                | 56      | O-ring                        | NBR                                 |
| 7    | Impeller                   | PPE + PS reinforced with fibreglass | 57      | Filter spacer                 | EN 1.4305 (AISI 303)                |
| 9    | Diffuser                   | PPE + PS reinforced with fibreglass | 62      | Stage bracket                 | PPE + PS reinforced with fibreglass |
| 10   | Motor side mechanical seal | Carbon/Ceramic/NBR                  | 68      | Lower spacer                  | PPE + PS reinforced with fibreglass |
| 11   | Pump side mechanical seal  | SiC/Carbon/NBR                      | 73      | Borehole hook                 | EN 1.4301 (AISI 304)                |
| 12   | Motor casing               | -                                   | 77      | O-ring                        | NBR                                 |
| 13   | Motor cover                | EN 1.4301 (AISI 304)                | 78      | O-ring                        | NBR                                 |
| 16   | Terminal block             | -                                   | 88      | Mounting flange               | EN 1.4301 (AISI 304)                |
| 19   | Bearing (pump side)        | -                                   | 89      | Washer                        | EN 1.4301 (AISI 304)                |
| 20   | Bearing (motor side)       | -                                   | 91      | Washer                        | EN 1.4301 (AISI 304)                |
| 21   | Compensator ring           | C70 steel                           | 96      | O-ring                        | NBR                                 |
| 22   | Linkage                    | EN 1.4305 (AISI 303)                | 97      | Cable gland (power)           | NBR                                 |
| 23   | Capacitor [1]              | -                                   | 98      | Cable gland (float) [2]       | NBR                                 |
| 26   | O-ring                     | NBR                                 | 101     | Circlip                       | EN 1.4021 (AISI 420)                |
| 27   | O-ring                     | NBR                                 | 107     | Locking ring                  | EN 1.4301 (AISI 304)                |
| 28   | O-ring                     | NBR                                 | 109     | Filter base                   | EN 1.4301 (AISI 304)                |
| 33   | Circlip                    | EN 1.4301 (AISI 304)                | 118     | Upper spacer                  | PPE + PS reinforced with fibreglass |
| 34   | Impeller nut               | EN 1.4301 (AISI 304)                | 119     | Flange for lower spacer       | EN 1.4301 (AISI 304)                |
| 37   | Jacket                     | EN 1.4301 (AISI 304)                | 121     | Float mount [2]               | PPE + PS reinforced with fibreglass |
| 44   | Filter                     | EN 1.4301 (AISI 304)                | 127     | Cable gland connector (power) | EN 1.4301 (AISI 304)                |
| 46   | Bearing mount support      | Brass                               | 128     | Cable gland connector (float) | EN 1.4301 (AISI 304)                |
| 52   | Capacitor mount box        | PA66 reinforced with fibreglass     | 200     | Screw                         | Stainless steel A2 UNI 7323         |
| 54   | Power cable                | -                                   | 204-207 | Screw                         | Stainless steel A2 UNI 7323         |

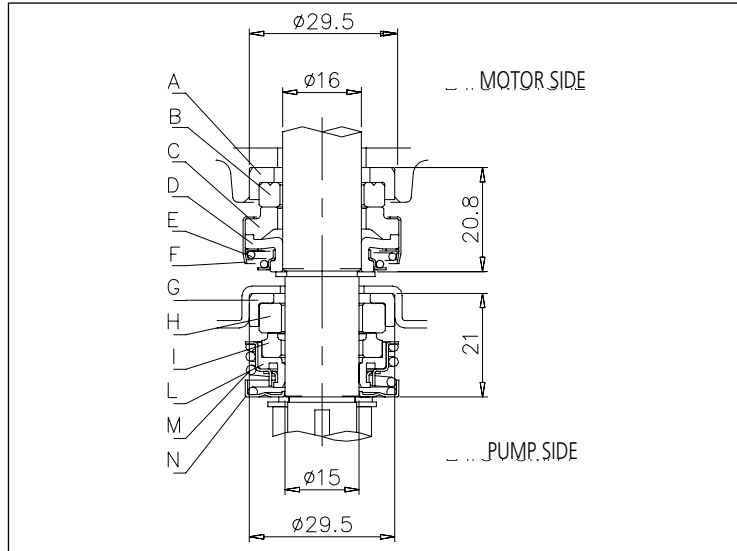
[1]= Single phase only  
[2]= Single phase with float only

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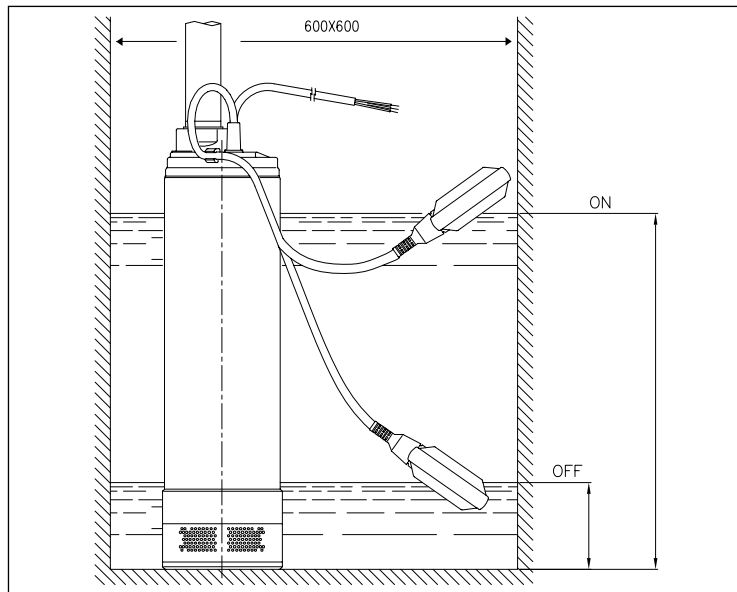
### MECHANICAL SEAL



### MATERIALS TABLE

| Ref. | Name               | Material |
|------|--------------------|----------|
| A    | Fixed gasket       | NBR      |
| B    | Fixed seal ring    | Ceramic  |
| C    | Rotating seal ring | Carbon   |
| D    | Rotating gasket    | NBR      |
| E    | Spring             | AISI 304 |
| F    | Structure/frame    | AISI 304 |
| G    | Fixed gasket       | NBR      |
| H    | Fixed seal ring    | SiC      |
| I    | Rotating seal ring | Carbon   |
| L    | Rotating gasket    | NBR      |
| M    | Spring             | AISI 304 |
| N    | Structure/frame    | AISI 304 |

### INSTALLATION



### INSTALLATION TABLE

| Model        | Dimensions [mm] |     |
|--------------|-----------------|-----|
|              | ON              | OFF |
| IDROGO 40/06 | 560             | 180 |
| IDROGO 40/08 | 560             | 180 |
| IDROGO 40/10 | 590             | 190 |
| IDROGO 40/12 | 660             | 220 |
| IDROGO 40/15 | 730             | 240 |
| IDROGO 80/12 | 590             | 190 |
| IDROGO 80/15 | 640             | 210 |

### ELECTRICAL DATA TABLE

| Model                |                            | P <sub>2</sub> |      | Capacitor<br>single phase |                | P <sub>1</sub>       |                     | Absorbed current<br>[A] |                     |                     |
|----------------------|----------------------------|----------------|------|---------------------------|----------------|----------------------|---------------------|-------------------------|---------------------|---------------------|
| single phase<br>230V | three phase<br>230V - 400V | [HP]           | [kW] | μF                        | V <sub>c</sub> | single phase<br>[kW] | three phase<br>[kW] | single phase<br>230V    | three phase<br>230V | three phase<br>400V |
| IDROGO M 40/06       | -                          | 0.6            | 0.44 | 16                        | 450            | 0.82                 | -                   | 3.8                     | -                   | -                   |
| IDROGO M 40/08       | IDROGO 40/08               | 0.8            | 0.6  | 16                        | 450            | 1                    | 0.95                | 4.3                     | 3.3                 | 1.9                 |
| IDROGO M 40/10       | IDROGO 40/10               | 1              | 0.75 | 20                        | 450            | 1.25                 | 1.18                | 5.7                     | 3.8                 | 2.2                 |
| IDROGO M 40/12       | IDROGO 40/12               | 1.2            | 0.9  | 20                        | 450            | 1.42                 | 1.33                | 6.8                     | 4.2                 | 2.4                 |
| IDROGO M 40/15       | IDROGO 40/15               | 1.5            | 1.1  | 31.5                      | 450            | 1.6                  | 1.55                | 7.3                     | 5.2                 | 3.0                 |
| IDROGO M 80/12       | IDROGO 80/12               | 1.2            | 0.9  | 20                        | 450            | 1.33                 | 1.22                | 6.4                     | 4.0                 | 2.3                 |
| IDROGO M 80/15       | IDROGO 80/15               | 1.5            | 1.1  | 31.5                      | 450            | 1.62                 | 1.52                | 7.5                     | 5.4                 | 3.1                 |
| -                    | IDROGO 80/20               | 2              | 1.5  | -                         | -              | -                    | 1.9                 | -                       | 6.1                 | 3.5                 |