**OPERATING LIMITS**

- Flow rates up to: 6 m³/h
- Heads up to: 6,5 m
- Max. operating pressure: 10 bar
- Max. loop temperature: +80°C
- Max. circulator temperature: 110°C
- Max. ambient temperature: +40°C
- Water hardness (TH): 35°F
- ND ports : 15-20-25

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**NSB - NSB-S - DSB**

**SINGLE AND TWIN-HEADS CIRCULATORS**

Bronze and stainless steel casings
Domestic secondary hot water range - 50 Hz

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**APPLICATIONS**

This circulator is suitable for drinking water only.
Hot water accelerated circulation in distribution loops.

- Domestic installations and small commercial installations.
- Hot water on opening tap.

---

**ADVANTAGES**

- Water quality preserved:
  - constant water renewal in rotor chamber;
  - choice of materials compatible with network;
  - DSB “Anti legionella” Infection System.
- Anti-blocking system guaranteeing exceptional resistance to hard water, up to 35°F.
- Easier choice:
  - 3 speed,
  - adaptation accessories enabling replacement without altering the piping.
- DSB: continued availability of an emergency circulator with perfect irrigation of the domestic hot water loop due to the ALS system.
- Simultaneous operation possible in the case of increase in flow rate.
- Automatic permutation possible through the Pump Management Unit (see specific instructions: MGP N° 300-88).
- For NSB-S: integrated and automatic motor overload protection.

---

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NSB - NSB-S - DSB

DESIGN

• Hydraulic part
Casing with threaded ports for direct assembly on piping:
- in bronze for assembly on copper piping (NSB and DSB);
- in stainless steel for assembly on galvanized piping (NSB-S).
Rotating parts in contact with water in anti-corrosive material.
Stainless steel ring at impeller seal.
DSB: single bronze casing with suction and discharge ports on the same axis.
DSB: check valve integrated with the “Anti legionella” Infection System.

• Motor
3 speed (NSB 05-15B single speed).
Manual speed change.
Wet rotor and self-lubricating bearing bushings.
Capacitor incorporated in the terminal.
Speed: see table
Winding 1-phase: 230 V
Frequency: 50 Hz (option 60 Hz)
Insulating category: F (155°C)
Conformity: CE
NSB-S Specific: IP 44
Immunity: EN 61000-6-2
Emission: EN 61000-6-3

STANDARD CONSTRUCTION

<table>
<thead>
<tr>
<th>Main parts</th>
<th>Material</th>
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<tbody>
<tr>
<td>Pump casing</td>
<td>NSB…B Bronze</td>
</tr>
<tr>
<td></td>
<td>NSB-S Stainless steel</td>
</tr>
<tr>
<td></td>
<td>DSB Bronze</td>
</tr>
<tr>
<td>Impeller</td>
<td>Composite material</td>
</tr>
<tr>
<td>Impeller shaft</td>
<td>Ceramic</td>
</tr>
<tr>
<td>Bushings</td>
<td>Graphite</td>
</tr>
<tr>
<td>Can</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Leaktight seals</td>
<td>EPDM</td>
</tr>
</tbody>
</table>

IDENTIFICATION

domestic range  NSB 33 - 25 B
D: twin casing
N: single casing
Q nominal
Ø suction and discharge ports
Type of casing: B = bronze
S = Stainless steel

PRESELECTION CURVES AT MAXIMUM SPEED

FITTING POSITIONS
**SECTIONAL DRAWINGS**

- **NSB-S**

**Interior of the single circulator**

1. Stainless steel casing proposed on wide diameter apparatus - compatibility with galvanized steel piping.

2. Ceramic shaft: - constant renewal of water, temperature maintained above the threshold of lime precipitation.

3. Stainless steel cartridge and rotor with a stainless steel sleeve.

4. Integrated and automatic motor overload protection for running security.

- **Twin circulator: principle of the anti-legionella infection system (ALS) (Patent pending).**

**Interior of the single circulator**

The ALS gives constant circulation and renewal of water in the hydraulic casing of the emergency circulator when its motor is shut down:

- no stagnant water (no ox-bow phenomenon);
- maintaining a steady temperature between the two circulator units which avoids formation of "legionella" infection in hot water installations adjusted to a normal operating temperature.

1. Casing with motor in operation.

2. Casing with motor shut down

- Water circulation in the domestic hot water loop.

- ALS water circulation.
HYDRAULIC PERFORMANCES
INSTALLATION DIAGRAM

Domestic hot water distribution loop:
• Loop maximum temperature 60° C (according to Standard Local Rule).
• Recommended flow speed between 0.5 and 1 m/s maximum.
• Circulator assembled on the backflow of the loop, after the drawing points.
### FEATURES

a) Electrical
- Single-phase 230 V, 50 Hz with capacitor integrated in the terminal box.

b) Installation
- Motor shaft always horizontal.
- Connection with the network:
  - Copper unions (R) to be welded, or brass unions to be screwed (RU brass) on copper piping.
  - Steel unions to be screwed (RU) on galvanized steel piping.

c) Conditionnement
- With gaskets, without union.

d) Maintenance
- Standard exchange of the assembly.

### OPTIONS & ACCESSORIES
- Unions.
- NP6 oval screw-on counter flanges to be screwed.
- Check valve.
- Isolating valves.

### ELECTRICAL DATA AND DIMENSIONS

#### NSB-B bronze casing

#### NSB-S stainless casing

#### DSB bronze casing

#### ORDER REFERENCE

<table>
<thead>
<tr>
<th>Speed selector position</th>
<th>Motor speed</th>
<th>W</th>
<th>A</th>
<th>nominal amperage</th>
<th>capacitor capacity</th>
<th>H</th>
<th>P</th>
<th>L B.A.B.</th>
<th>L1</th>
<th>P1</th>
<th>H2</th>
<th>H1</th>
<th>mass</th>
<th>Ø G</th>
<th>connection by</th>
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<tbody>
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<td>R2022 or RU1521 brass 9h</td>
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* also available in H = 150 mm Ø G 1°