



JOHNSON PUMP
AN SPX BRAND

Instruction Manual

Heavy Duty, Magnetic driven, Seal-less, Circulating pumps

Flanged to 12/24/32 V DC motor
CM10P7-1, CM30P7-1



Read and understand this manual prior to
operating or servicing this product.

IB-301/03 (0902)

SPX®

Cirkulation pump CM10/30

Typical applications

- Circulation of water/antifreeze in heating system for cars, boats, recreation vehicles, etc.
- Circulation for cooling fresh water in vehicles.
- All-round pumps wherever self-priming is not essential.

Technical description

| | |
|-----------------------------|--|
| Body: | Glass reinforced plastic (PPA, GF 30%) |
| Shaft: | Stainless steel |
| Wear plate: | Stainless steel |
| O-ring: | EPDM |
| Impeller: | Body: Glass reinforced plastic (PPS, GF 40%) Magnet: Ferrit Bearing: Resin-bonded carbon |
| Magnet housing: | Glass reinforced plastic (PSU, GF 30%) |
| Motor flange: | Glass reinforced plastic (PA66, GF 30%) |
| Polletube: | Steel, el-plated zink-iron, black chromated |
| Motor end: | Glass reinforced plastic (PA66, GF 30%) |
| Screws: | Steel, el-plated zink-iron, black chromated |
| Motor: | Ball bearing permanent magnet motor, 12/24 V |
| Motorbracket: | Aluminium, painted |
| Motor protection: | IP67 (DIN40050) |
| Connection: | CM10: 16 alt 20 mm hose CM30: 20 mm hose |
| Radio disturbance shielded: | EN55014 |

Type specification

| Pump type | Art No | Connection |
|----------------|-------------|--------------|
| CM10P7-1, 12 V | 10-24501-03 | 16 mm (5/8") |
| CM10P7-1, 24 V | 10-24501-04 | 16 mm (5/8") |
| CM10P7-1, 12 V | 10-24502-03 | 20 mm (3/4") |
| CM10P7-1, 24 V | 10-24502-04 | 20 mm (3/4") |
| CM30P7-1, 12 V | 10-24504-03 | 20 mm (3/4") |
| CM30P7-1, 24 V | 10-24504-04 | 20 mm (3/4") |

Pressure and capacity data (see page 18)

Based on water at 20°C (68°F)

Spare parts (see page 17)

Installation recommendation

The CM-series pumps are normal-priming centrifugal pumps and should be mounted in a manner that ensures that they are always flooded or else be primed before being switched on.

The pump should not be run dry, even if it stands a shorter time of dry running. Max dry running 30 min. Note! Noise at dry running.

The direction of rotation of the pump is clock-wise, viewed from the front towards the body (see rotation arrow).

The motors are made for continuous duty and for voltage fluctuation of $\pm 20\%$. Capacity data (page 18) is for the rated voltage. Overvoltage reduces component life.

Temperature ranges:

Liquid: $-40^{\circ} - +100^{\circ}\text{C}$

Ambient: $-40^{\circ} - +70^{\circ}\text{C}$

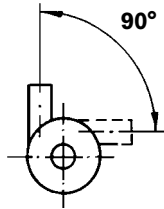
Max system pressure: 2.5 bar.

The pumps should not be used for soiled water containing hard particles.

Important!

The pumps can be installed in optional position, horizontally or vertically.

To avoid air-locks when mounted horizontally, the outlet should be turned in such a way that it is directed upwards or is placed on the upper side of the pump body.



Electrical installation

Connect red lead to positive (+) terminal and black lead to negative (-) terminal.

Electrical installation in boat

The pump must be installed according to ISO 10133 (Small craft - Electrical system - Extra low voltage DC installation for continuous current). Other electrical devices, eg switch, circuit breaker, must be installed between the pump and the positive (+) lead on the battery (on the red wire). Note: The fuse must be ignition protected.

All electrical connections must be placed above highest bilge water level.

All wire connections ought to be sealed with a marine sealant, e.g. vaseline, silicon rubber or grease.

If the pump is connected with separate earth lead, this should be yellow/green and connected to the motor base.

See the wiring scheme for correct installation. Negative wire must be black.

Choose wire size in accordance with total wire length (see table).

Note: Before installation with electrical control systems, check that equipment to be used is of sufficient rated capacity to accept ampere draw of motor.

Wiring dimensions

(based on 3% voltage drop)

| Wire size | Max wire length in mm* | |
|---------------------|------------------------|------|
| | 12 V | 24 V |
| 1.0 mm ² | 11 m | 44 m |
| 1.5 mm ² | 16.5 m | |
| 2.5 mm ² | 27.4 m | |

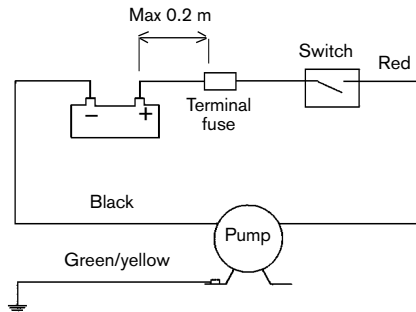
* The wire length is the total distance from the battery to the pump and back to the battery.



Caution

Do not pump gasoline, solvents, thinners, highly concentrated or organic acids. If corrosive fluids must be handled, pump life will be prolonged if flushed with water after each use or after each work day.

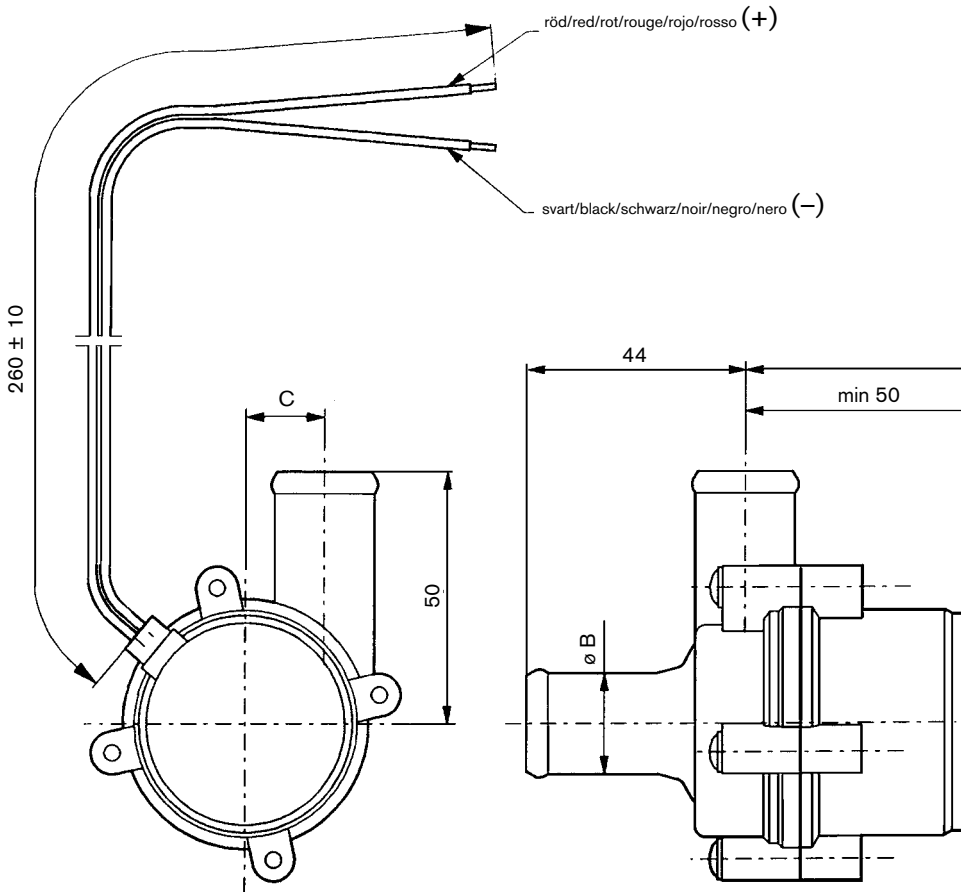
Wiring scheme



Waste handling material recycling

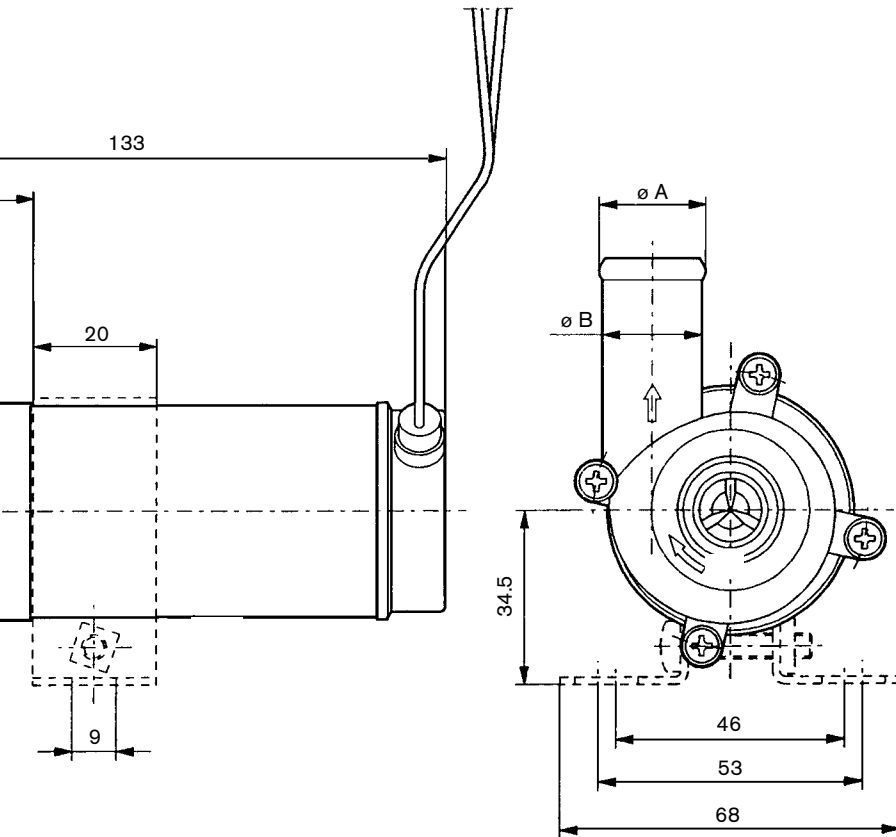
At the products end of life, please dispose of the product according to applicable law. Where applicable, please disassemble the product and recycle the parts material.

Mått och vikt
Dimensions and weight
Abmessungen



Dimensions et poids
Medidas y peso
Misura e peso

| | ø A | ø B | C | Vikt/Weight/Gewicht Poids, Peso |
|---------------|------|-------------|------|------------------------------------|
| CM10P7-1 ø 16 | 17.7 | 16.2 (5/8") | 17.3 | 0.53 kg |
| CM10P7-1 ø 20 | 21.4 | 20.0 (3/4") | 15.8 | 0.53 kg |
| CM30P7-1 ø 20 | 21.4 | 20.0 (3/4") | 15.8 | 0.60 kg |



Reservdelista

Parts list

Ersatzteilliste

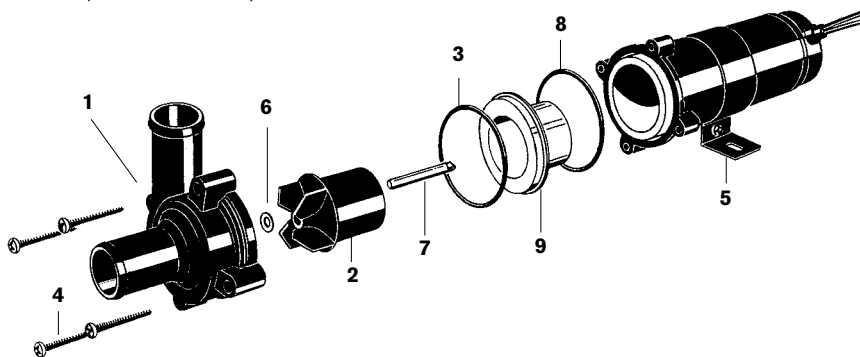
Liste des pièces

Lista de piezas

Elenco delle parti

| Pos | Nos | Benämning | Description | Bezeichnung | Art No |
|-----|-----|---------------|----------------|---------------|-------------|
| 1 | 1 | Pumphus, ø 16 | Body, ø 16 | Gehäuse, ø 16 | 09-46549*) |
| | | Pumphus, ø 20 | Body, ø 20 | Gehäuse, ø 20 | 09-46550*) |
| 2 | 1 | Pumphjul | Impeller | Laufgrad | 09-46551**) |
| 3 | 1 | O-ring | O-ring | O-Ring | 0.2173.020 |
| 4 | 4 | Skruv | Screw | Schraube | 0.0145.002 |
| 5 | 1 | Motorfäste | Motor bracket | Motorträger | 36-503-023 |
| 6 | 1 | Bricka | Washer | Scheibe | 01-46792-01 |
| 7 | 1 | Axel | Shaft | Welle | 01-46317 |
| 8 | 1 | Packning | Gasket | Dichtung | 01-46552 |
| 9 | 1 | Magnethus | Magnet housing | Magnetgehäuse | 01-35733 |

*) incl pos 3, 4 **) incl pos 6, 7



| Pos | Nos | Description | Descripción | Descrizione | Art No |
|-----|-----|----------------------|----------------------|---------------------------|-------------|
| 1 | 1 | Corps de pompe, ø 16 | Cuerpo, ø 16 | Alloggiamento pompa, ø 16 | 09-46549*) |
| | | Corps de pompe, ø 20 | Cuerpo, ø 20 | Alloggiamento pompa, ø 20 | 09-46550*) |
| 2 | 1 | Turbine | Impulsor | Girante | 09-46551**) |
| 3 | 1 | Joint torique | Aro tórico | O-Ring | 0.2173.020 |
| 4 | 4 | Vis | Tornillos | Viti | 0.0145.002 |
| 5 | 1 | Fixation moteur | Fijación del motor | Attacchi motore | 36-503-023 |
| 6 | 1 | Rondelle d'usure | Arandela de desgaste | Rondella antiusura | 01-46792-01 |
| 7 | 1 | Axe | Eje | Alberino della pompa | 01-46317 |
| 8 | 1 | Joint | Junta | Guarnizione | 01-46552 |
| 9 | 1 | Boîtier d'aimant | Caja del imán | Alloggiamento magnete | 01-35733 |

*) incl pos 3, 4 **) incl pos 6, 7

SVENSKA

| Tryck- och kapacitet | Bar | Tryck | | Flöde | | Strömförbr. | |
|--|------|-------|-----|-------|-------|-------------|------|
| | | kPa | ft | l/min | USGPM | 12 V | 24 V |
| CM10P7-1 Slanganslutning ø 16 mm (5/8") Rek. säkring | 0,10 | 10 | 3,3 | 15,0 | 4,0 | 1,2 | 0,6 |
| | 0,15 | 15 | 4,9 | 12,0 | 3,2 | 1,1 | 0,55 |
| | 0,20 | 20 | 6,6 | 7,3 | 1,9 | 0,9 | 0,5 |
| | | | | | | 1,6 | 0,8 |
| CM10P7-1 Slanganslutning ø 20 mm (3/4") Rek. säkring | 0,10 | 10 | 3,3 | 18,5 | 5,0 | 1,2 | 0,6 |
| | 0,15 | 15 | 4,9 | 14,5 | 3,9 | 1,1 | 0,55 |
| | 0,20 | 20 | 6,6 | 9,0 | 2,4 | 1,0 | 0,5 |
| | | | | | | 1,6 | 0,8 |
| CM30P7-1 Slanganslutning ø 20 mm (3/4") Rek. säkring | 0,10 | 10 | 3,3 | 26,0 | 6,9 | 2,2 | 1,1 |
| | 0,20 | 20 | 6,6 | 19,5 | 5,2 | 2,0 | 1,0 |
| | 0,30 | 30 | 9,8 | 9,0 | 2,4 | 1,7 | 0,75 |
| | | | | | | 3,0 | 1,6 |

ENGLISH

| Pressure and capacity | Back pressure | | | Flow | | Amperage | |
|---|---------------|-----|-----|-------|-------|----------|------|
| | Bar | kPa | ft | l/min | USGPM | 12 V | 24 V |
| CM10P7-1 Hose connection ø 16 mm (5/8") Fuse required | 0.10 | 10 | 3.3 | 15.0 | 4.0 | 1.2 | 0.6 |
| | 0.15 | 15 | 4.9 | 12.0 | 3.2 | 1.1 | 0.55 |
| | 0.20 | 20 | 6.6 | 7.3 | 1.9 | 0.9 | 0.5 |
| | | | | | | 1.6 | 0.8 |
| CM10P7-1 Hose connection ø 20 mm (3/4") Fuse required | 0.10 | 10 | 3.3 | 18.5 | 5.0 | 1.2 | 0.6 |
| | 0.15 | 15 | 4.9 | 14.5 | 3.9 | 1.1 | 0.55 |
| | 0.20 | 20 | 6.6 | 9.0 | 2.4 | 1.0 | 0.5 |
| | | | | | | 1.6 | 0.8 |
| CM30P7-1 Hose connection ø 20 mm (3/4") Fuse required | 0.10 | 10 | 3.3 | 26.0 | 6.9 | 2.2 | 1.1 |
| | 0.20 | 20 | 6.6 | 19.5 | 5.2 | 2.0 | 1.0 |
| | 0.30 | 30 | 9.8 | 9.0 | 2.4 | 1.7 | 0.75 |
| | | | | | | 3.0 | 1.6 |

DEUTSCH

| Druck- und Leistung | Bar | Druck | | Fördermenge | | Stromverbrauch | |
|---|------|-------|-----|-------------|-------|----------------|------|
| | | kPa | ft | l/min | USGPM | 12 V | 24 V |
| CM10P7-1 Schlauchanschluß ø 16 mm (5/8") Empfohlene Sicherung | 0,10 | 10 | 3,3 | 15,0 | 4,0 | 1,2 | 0,6 |
| | 0,15 | 15 | 4,9 | 12,0 | 3,2 | 1,1 | 0,55 |
| | 0,20 | 20 | 6,6 | 7,3 | 1,9 | 0,9 | 0,5 |
| | | | | | | 1,6 | 0,8 |
| CM10P7-1 Schlauchanschluß ø 20 mm (3/4") Empfohlene Sicherung | 0,10 | 10 | 3,3 | 18,5 | 5,0 | 1,2 | 0,6 |
| | 0,15 | 15 | 4,9 | 14,5 | 3,9 | 1,1 | 0,55 |
| | 0,20 | 20 | 6,6 | 9,0 | 2,4 | 1,0 | 0,5 |
| | | | | | | 1,6 | 0,8 |
| CM30P7-1 Schlauchanschluß ø 20 mm (3/4") Empfohlene Sicherung | 0,10 | 10 | 3,3 | 26,0 | 6,9 | 2,2 | 1,1 |
| | 0,20 | 20 | 6,6 | 19,5 | 5,2 | 2,0 | 1,0 |
| | 0,30 | 30 | 9,8 | 9,0 | 2,4 | 1,7 | 0,75 |
| | | | | | | 3,0 | 1,6 |



PROCESS EQUIPMENT

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