

# SPXFLOW

INSTRUCTION MANUAL  
CM90

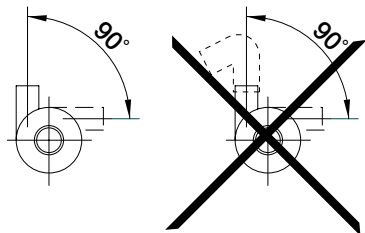
## Heavy duty, Magnetic driven, Seal-less, Circulation Pump

FLANGED TO 12/24/32 V DC MOTOR CM90P7-1

ORIGINAL INSTRUCTIONS/TRANSLATION OF ORIGINAL INSTRUCTIONS  
READ AND UNDERSTAND THIS MANUAL PRIOR TO OPERATING OR SERVICING THIS  
PRODUCT



› **Johnson Pump®**



The pumps should not be used for sea-water or other heavy soiled liquids. The pumps are designed for continuous duty.

### Temperatures

Liquid temperature:

-40°C to +100°C (-40°F to + 212°F)

Ambient temperature in operation:

-40°C to +90°C (-40°F to +194°F) -

Not in operation:

-40°C to +120°C (-40°F to +248°F)

### System pressure:

-0,2 to 2,5 bar at 100°C (212°F)

The motors are designed for a service life of 10 000 hours at nominal voltage and ambient temperature of about 30°C (86°F).

### Voltage range:

10 – 16V (Nom 13.6 V)

20 – 32V (Nom 27.2 V)

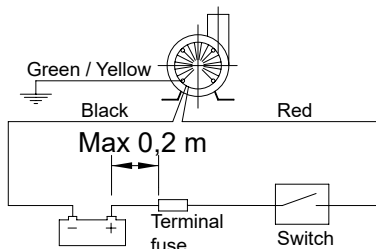
The motors withstands both raised voltage and raised ambient temp within the ranges but both will have a negative influence on service life.

The pump should not be exposed to heat radiation.

Max 60% glycol for a water-glycol mixture.

### Electrical installation

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



### Electric 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, e.g. 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 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 rear end bell of the motor, Use a M3-screw.

See the wiring schema 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.

## > English

### Wiring dimensions

(Based on 3% voltage drop)

Wire size	Max wire length*	
	13,6V	27,2V
1,5 mm <sup>2</sup>	---	16 m
2,5 mm <sup>2</sup>	6,3 m	25 m
3 mm <sup>2</sup>	8 m	31 m
4 mm <sup>2</sup>	10m	40 m

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

### Waste management/Recycling

Dispose of the product in accordance with existing regulations.

Where appropriate, dismantle and sort the product by its material fractions.

### Caution

Do not pump gasoline, solvents, thinner, highly concentrated or organic acids.

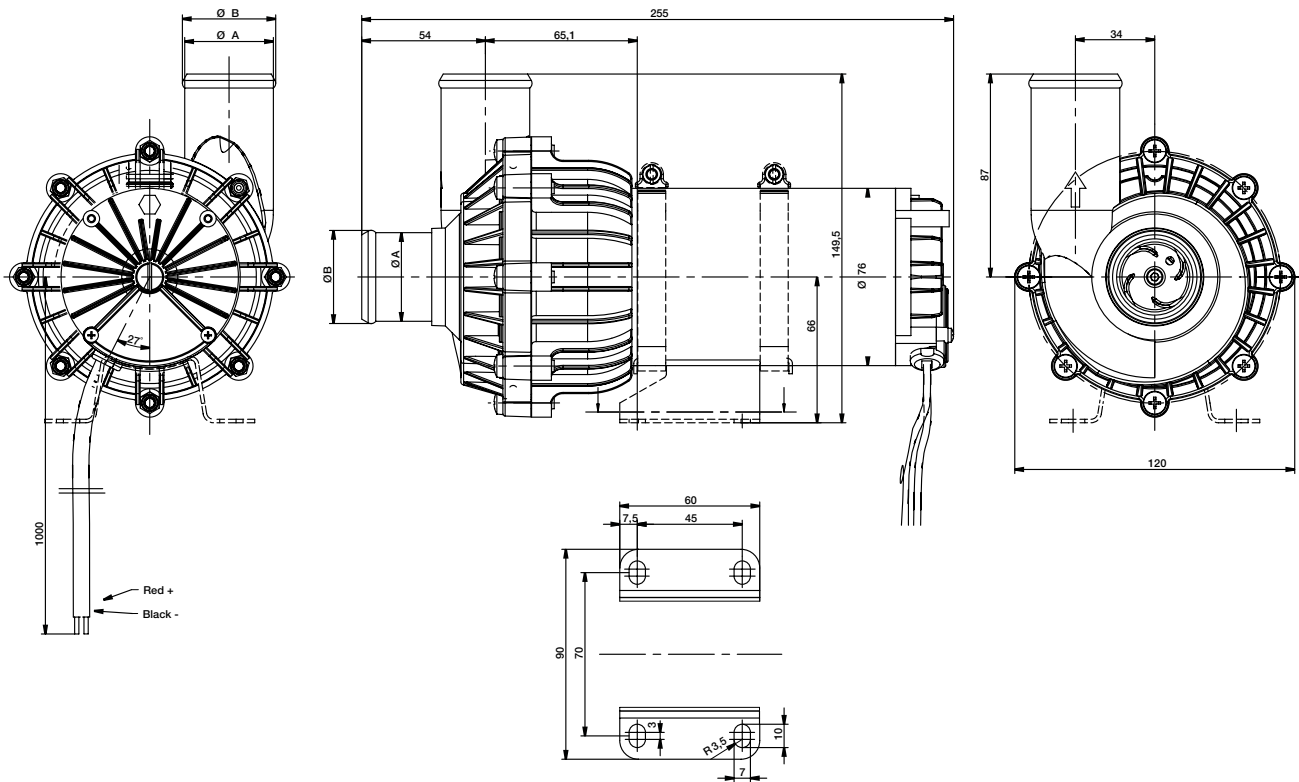
If corrosive fluids must be handled, pump life will be prolonged if flushed with water after each use or after each work day.

### Spare parts (See splitview page 26)

Pos	Nos	Description	Art.nr	Comment
1	1	Motor 13,6V	09-24644-03	Incl drive magnet
1	1	Motor 27,2V	09-24644-04	Incl drive magnet
3	1	Magnet housing	01-36024	
4	1	Impeller magnet	01-36025-1	
5	1	Intermediate part	01-36027-1	
6	1	Impeller	01-35162	
7	1	Screw M4x10	01-45749	Threaded left
8	1	Pump housing Ø38 mm/1½"	01-24659-1	
	1	Pump housing Ø20mm/¾"	01-24696-1	
9	2	O-ring 91,67x3,53 EPDM	0.2173.099	
10	7	Screw M5x22	0.0256.006	
11	1	Bracket kpl	09-36275	Incl 2 pcs klamps

<b>Pressure and capacity data</b>							
Based on water at 20°C/68°F (and recommended hose)							
Hose connection	Back pressure			Flow		Amperage	
	bar	kPa	ft	l/min	USG-PM	13,6V	27,2V
Ø38 (1 1/2")	0,1	10	3,4	115	30,4	10	4,6
	0,25	25	8,4	85	22,5	9,5	4,5
	0,4	40	13,4	40	10,6	9	4,2
Ø20 (3/4")	0,1	10	3,4	65	17,2	8,5	4
	0,25	25	8,4	50	13,2	8	3,8
	0,4	40	13,4	30	7,9	7,5	3,6
Fuse required						12	6





Dimensions

Pump	Part. No.	ØA	ØB
CM90P7-1 D38	10-24664-09/-10	38mm (1½")	40mm
CM90P7-1 D20	10-24750-09/-10	20mm (¾")	21.4mm

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