HOUSE OF
DURATECH
innovative pool products

# Manual

DVS050
DVS100
DVS170
DVM050
DVM100
DVM170



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23-09-21

# VISION **Spectra**

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DURAVISION

## Technical specifications

| Lamp Type | Description | Voltage | Power | Color temp | Luminous flux* |
|---|---|---|---|---|---|
| DVS050-RGB | RGB color 50 mm | 10-14 VAC | 8 W | All colors | 450 lm |
| DVS050-TW | Tunable white 50mm | 10-14 VAC | 8 W | 2000-17500K | 550 lm |
| DVS050-WH | Day white 50mm | 10-14 VAC | 10 W | 5000K | 700 lm |
| DVM050-WH | Low Day white 50mm | 10-14 VAC | 5 W | 5000K | 375 lm |
| DVS100-RGB | RGB color 100mm | 10-14 VAC | 20 W | All colors | 1550 lm |
| DVS100-TW | Tunable white 100mm | 10-14 VAC | 20 W | 2000-17500K | 1500 lm |
| DVS100-WH | Day white 100mm | 10-14 VAC | 26 W | 5000K | 2300 lm |
| DVM100-WH | Low Day white 100mm | 10-14 VAC | 9 W | 5000K | 875 lm |
| DVS170-RGB | RGB color 170mm | 10-14 VAC | 32 W | All colors | 2450 lm |
| DVS170-TW | Tunable white 170mm | 10-14 VAC | 32 W | 2000-17500K | 2400 lm |
| DVS170-WH | Day white 170mm | 10-14 VAC | 40 W | 5000K | 3950 lm |
| DVM170-WH | Low Day white 170mm | 10-14 VAC | 17 W | 5000K | 1675 lm |
| DVM170-RGB | Low RGB color 170mm | 10-14 VAC | 20 W | All colors | 1600 lm |

(*) Propulsion systems remains a tolerance of +/- 10% on luminous flux measurements @ 25°C ; 12VAC



For operation only with a safety isolation transformer

Minimum input voltage: (at lamp terminals) **10 VAC 50 Hz**

Nominal input voltage: (at lamp terminals) **12 VAC 50 Hz**

Maximum input voltage: (at lamp terminals) **14 VAC 50 Hz**




IEC Protection Class III

Operation on DC voltages is NOT allowed

Maximum water temperature: **+40°C**
Lamps have to be kept out of ice zones

Ingress protection rate: **IP68**
measured at 3m
max depth = 3m

# Remarks

## Water conditions

Prevent damage to your pool lamps and wires due to unstable water conditions.
Your local government may have enacted guidelines for your pool water conditions to apply by. If not we strongly advise the following parameter specifications to be applied:

| | |
|---|---|
| **pH level** | 6,8 - 7,6 |
| **Free Chlorine** | max. 3ppm |
| **Combined chlorine** | max. 1 ppm |
| **Water temperature** | max +40°C and lamps need to be kept out of ice zones |

Always adhere to the instructions provided by your chemical brand/supplier for the correct use and application of pool chemicals.

Salt water pools, or pools fitted with a salt water chlorine generator contain salt in the pool water. Salt is a corrosive material. Overdosage and/or consistent levels of salt increase the possibility of deterioration of your pool lamps and cables. As a rule of thumb, a concentration of 35gr/l salt can be accepted when pH values are between 7,2-7,4.
In any case, we urge proper use, care and maintenance of your installation, in order to minimize the effect of corrosion and deterioration.

Please be aware that pool lamps and cables with defects caused due to abnormalities in the water condition are not covered by our factory warranty.

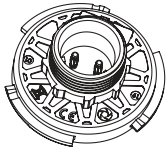
## Installation/maintenance

The luminaire is maintenance free
If the luminaire needs to be replaced, it needs to be completely removed from the water

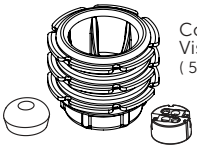
If the external flexible cable or cord of this luminaire is damaged, it shall be exclusively replaced by the manufacturer or his service agent or a similar qualified person in order to avoid hazard

*Vision Spectra Pool lamps must be completely submerged into water during operation.*
*Fixing the lamps with adhesives or silicone kit into a niche is not allowed*
*Not following these instructions, will void warranty.*

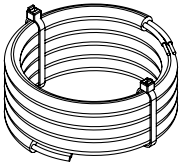
## Box contents



Vision Spectra lamp
(50,100 or 170 mm)



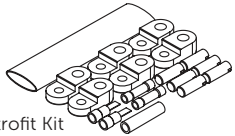
Connection Kit
Vision Spectra
( 513-0228 )



2m Cable
(2x1mm$^2$)




Manual



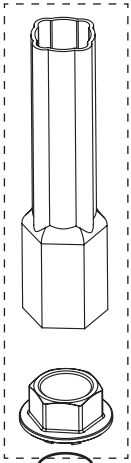
Retrofit Kit
(only for 170mm models)

# Installation instructions

## mounting face plate

Toolset
( not included )

Contact your local distributor for a toolset (513-0151)



Lamp

Face Plate

## mounting the connector

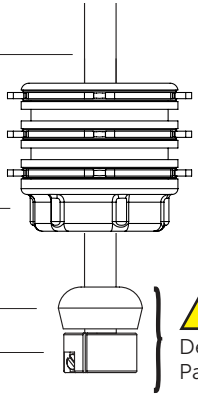
2m Cable

Fix Nut
Washers (3x)

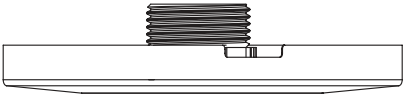
Fix Nut

Silicone Gasket

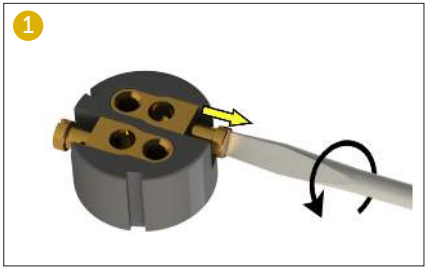
Connector



Details:
Page 8 & 9

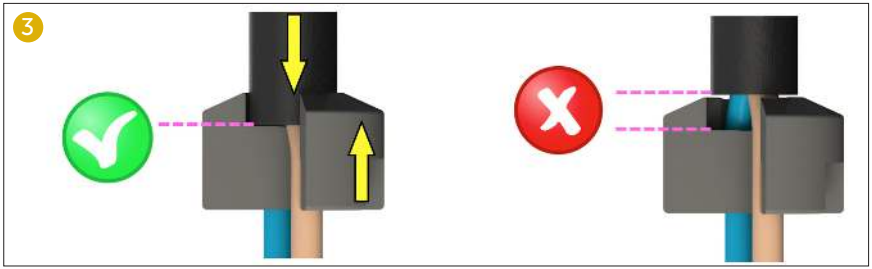


## Connector installation










4

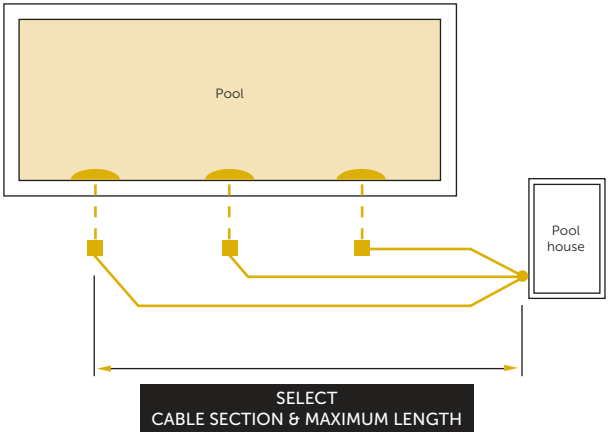

5


6

# Wiring instructions Setup 1

## For new installations

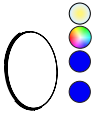
Each lamp is connected to the transformer by a separate cable




2m cable included in lamp package

Separate cable ( not included )

Always use a toroïdal transformer

| | LAMP TYPE | SELECT CABLE SECTION & MAXIMUM LENGTH 1,5mm² | 2,5mm² | 4,0mm² | 6,0mm² | 10mm² | VA TRANSFORMER (12VAC)* |
|---|---|---|---|---|---|---|---|
|  | DVS050-TW<br>DVS050-RGB<br>DVS050-WH | 75m | 125m | 200m | 300m | 500m | 13 VA |
| | DVM050-WH | 150m | 250m | 400m | 600m | 1000m | 7 VA |
|  | DVS100-TW<br>DVS100-RGB<br>DVS100-WH | 25m | 45m | 75m | 115m | 195m | 34 VA |
| | DVM100-WH | 85m | 140m | 200m | 300m | 550m | 12 VA |
|  | DVS170-TW<br>DVS170-RGB<br>DVS170-WH | 20m | 30m | 50m | 75m | 125m | 52 VA |
| | DVM170-WH | 45m | 75m | 120m | 180m | 300m | 22 VA |
| | DVM170-RGB | 35m | 60m | 100m | 150m | 250m | 26 VA |

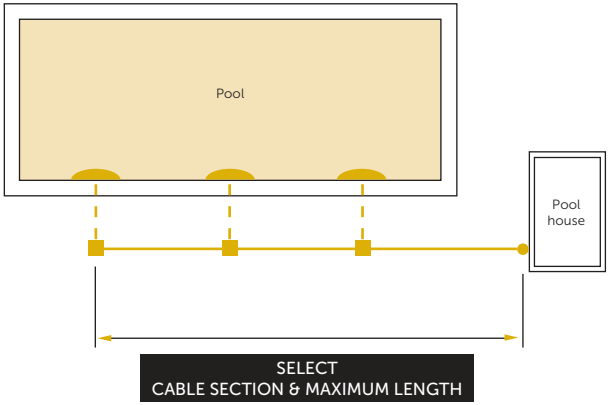
**STABLE OPERATION OF THE POOL LIGHTS IS ONLY GUARANTEED WHEN THE INSTALLED CABLE CROSS SECTION MATCHES OR EXCEEDS THE ADVISED VALUES IN THE ABOVE TABLE**

* The transformer VA rating must be greater or equal to the sum of VA ratings of all connected lamps.
These cable lenghts are calculated with worst case voltage drops in the electrical wiring.

# Wiring instructions Setup 2

## For existing or other installations

All lamps are connected to the transformer via 1 cable




2m cable included in lamp package

Separate cable ( not included )

Always use a toroïdal transformer



| LAMP TYPE | QTY | SELECT CABLE SECTION & MAXIMUM LENGTH 2,5mm² | 4,0mm² | 6,0mm² | 10mm² | VA TRANSFORMER (12VAC) |
|---|---|---|---|---|---|---|
| DVS050-TW | 1 | 125m | 200m | 300m | 500m | 13 |
| DVS050-RGB | 2 | 63m | 100m | 150m | 250m | 26 |
| DVS050-WH | 3 | 42m | 67m | 100m | 167m | 39 |
| | 4 | 31m | 50m | 75m | 125m | 52 |
| DVM050-WH | 1 | 250m | 400m | 600m | 1000m | 7 |
| | 2 | 125m | 200m | 300m | 500m | 14 |
| | 3 | 83m | 133m | 200m | 333m | 21 |
| | 4 | 63m | 100m | 150m | 250m | 28 |
| DVS100-TW | 1 | 45m | 75m | 115m | 195m | 34 |
| DVS100-RGB | 2 | 23m | 38m | 58m | 98m | 68 |
| DVS100-WH | 3 | 15m | 25m | 38m | 65m | 102 |
| | 4 | 11m | 19m | 29m | 49m | 136 |
| DVM100-WH | 1 | 140m | 200m | 300m | 550m | 12 |
| | 2 | 70m | 100m | 150m | 275m | 24 |
| | 3 | 47m | 67m | 100m | 183m | 36 |
| | 4 | 35m | 50m | 75m | 138m | 48 |
| DVS170-TW | 1 | 30m | 50m | 75m | 125m | 52 |
| DVS170-RGB | 2 | 15m | 25m | 38m | 63m | 104 |
| DVS170-WH | 3 | 10m | 17m | 25m | 42m | 156 |
| | 4 | 8m | 13m | 19m | 31m | 208 |
| DVM170-WH | 1 | 75m | 120m | 180m | 300m | 22 |
| | 2 | 38m | 60m | 90m | 150m | 44 |
| | 3 | 25m | 40m | 60m | 100m | 66 |
| | 4 | 19m | 30m | 45m | 75m | 88 |
| DVM170-RGB | 1 | 60m | 100m | 150m | 250m | 26 |
| | 2 | 30m | 50m | 75m | 125m | 52 |
| | 3 | 20m | 33m | 50m | 83m | 78 |
| | 4 | 15m | 25m | 38m | 63m | 104 |

**STABLE OPERATION OF THE POOL LIGHTS IS ONLY GUARANTEED WHEN THE INSTALLED CABLE CROSS SECTION MATCHES OR EXCEEDS THE ADVISED VALUES IN THE ABOVE TABLE**

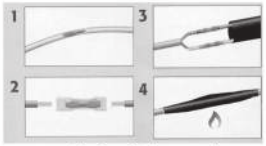
# Retrofit in PAR56 niche (only Vision Spectra 170mm)

**1**



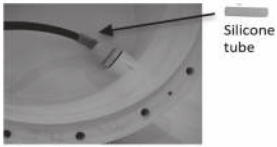
**2**






If old cable is re-used

OR




If new (thinner) cable is used

**3**



# Color programs

## RGB LAMPS

| | | |
|---|---|---|
| 1 | CANDLE LIGHT | 2000K very warm white |
| 2 | WARM WHITE | 3000K warm white |
| 3 | NEUTRAL WHITE | 5000K neutral white |
| 4 | COLD WHITE | 9500K cold white |
| 5 | CARIBEAN BLUE | cyan |
| 6 | BLUE | blue |
| 7 | GREEN | green |
| 8 | RED | red |
| 9 | PURPLE | purple |
| 10 | YELLOW DYNAMIC | slow animation yellow |
| 11 | BLUE DYNAMIC | fast animation blue |

## TW LAMPS

| | | |
|---|---|---|
| 1 | CANDLE LIGHT | 2000K |
| 2 | WARM WHITE | 3000K |
| 3 | NEUTRAL WHITE | 5000K |
| 4 | COLD WHITE | 9500K |
| 5 | BLUE-WHITE | 13500K |
| 6 | COOL BLUE | 17500K |

# Synchronizing & color changing (for RGB and TW lamps only)

**Manual synchronization**

1. Switch ON the 12 VAC line voltage and make sure that all lamps light up.
2. Switch OFF the 12 VAC line voltage and wait for at least 20 sec *(max 60 sec)*
3. Switch ON and switch OFF *(max 3 sec ON and max 3 sec OFF)*
4. Switch ON and switch OFF *(max 3 sec ON and max 3 sec OFF)*
5. Switch ON
6. The lamps should now all be on color program 6: Blue

   ** TW lamps: the lamps will all flicker after 15 seconds on color program 6. You can now choose to lock the lamp on a desired color program by switching off/on within the next 5 seconds. After 5 seconds the flickering will stop and the lamp is locked.*
   *See next page for details.*
   *If you did not select a color when flickering, the lamps will stop flickering after 5 seconds and the lamp will be unlocked.*

**Changing colors**

Quickly turn the lamps OFF and back ON
The lamp will jump to the next color program

**Memorizing the actual color**

Turn the lamp OFF for MINIMUM 20 seconds
The last chosen color has now been memorized

## Color Locking (only for TW lamps)

If desired, TW lamps can be "locked" on a color program of choice. This means the lamp will only light up in that specific color, and it is no longer possible to change the color program of the lamp.
This process can be reversed anytime by "unlocking" the color program. All color programs will then be available again, and can be changed at any time.

**Locking/Unlocking procedure**

Locking the color of a lamp starts with a synchronisation procedure:

1. Switch ON the 12 VAC line voltage
2. Switch OFF the 12 VAC line voltage and wait for at least 20 sec *(max 60 sec)*
3. Switch ON and switch OFF *(max 3 sec ON and max 3 sec OFF)*
4. Switch ON and switch OFF *(max 3 sec ON and max 3 sec OFF)*
5. Switch ON
6. Wait for about 15 seconds. The lamp(s) will now flicker

LOCKING:
- during the flickering of the lamp, select the desired color program by switching (within 5 seconds) the lamps OFF and ON quickly.
- When the right color is selected, then wait 5 seconds, until the flickering stops
- The lamp is now locked on the chosen color program

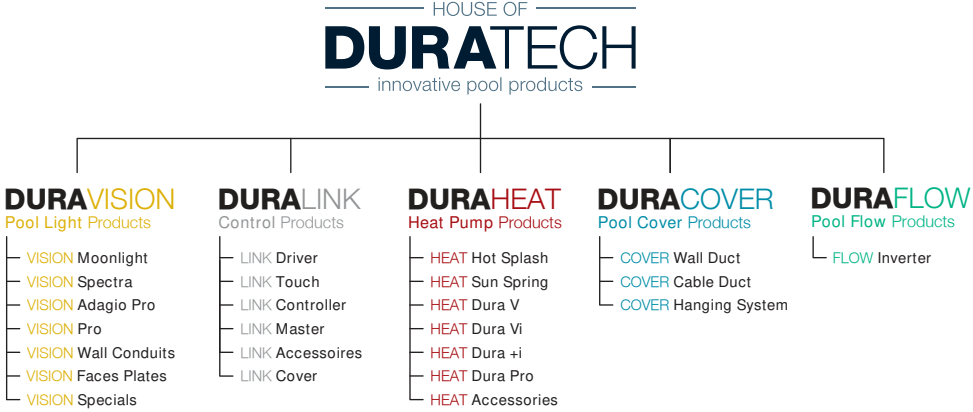
UNLOCKING:
- When the lamps flicker, then do nothing for 5 seconds.
- The flickering will stop, and it is again possible to change the color program of the lamps.

# Troubleshooting

| PROBLEM | SOLUTION |
| --- | --- |
| . The pool light is flickering | • 1. Switch the lamps ON and select Cold white color program<br>2. Remove the lamp from the water, unscrew the fix nut, pull back the gasket and the black cable jacket, so you can reach the brass contacts inside the connector block (do not remove the connector block)<br>3. Measure the voltage at the lamp terminals (while the lamp is still ON)<br>4. The voltage at the lamp should be at least 10VAC 50Hz.<br>If the measured line voltage is below 10VAC:<br>A. Check the output voltage at the transformator terminals. This voltage should be between 12VAC and 14VAC. Verify that the used transformator VA rating is sufficient for powering all connected lamps<br>B. If the transformator output voltage is ok, then install a thicker cable between the transformator and the lamp. (wiring instructions p. 10-13)<br>• In case of TW lamps: make sure the lamp is not in color locking mode |
| . Several pool lights in the pool show different color programs | Make sure that all lamps are connected to the same 12VAC power line. Execute the synchronization as explained on p.16 |

## Declaraction of Conformity

Declarations of conformity covering this product are available for download from the House of Duratech website: www.duratech.be



## Contact details

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