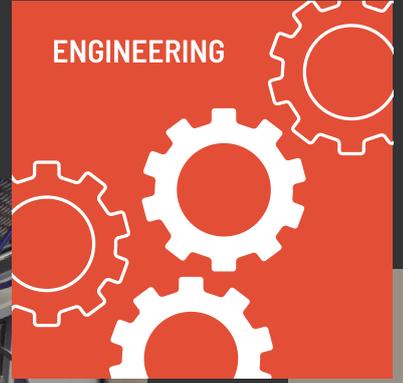


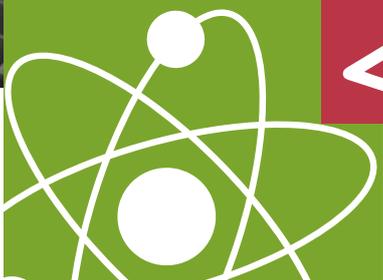
FlyDryHybrid

UVA-LEDtronic + IR-Drytronic

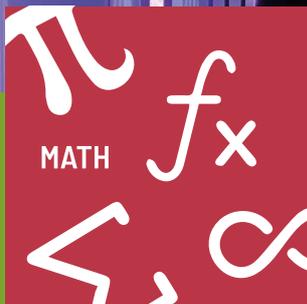
ENGINEERING



SCIENCE



MATH



TECHNOLOGY



FLYDRY HYBRID

The FlyDry Hybrid (FDH) is a **drying robot for coatings used in car bodyshops**. It uses IR-Drytronic technology and UVA-LEDtronic technology and can dry any part of the vehicle.

It is normally installed in several preparation bays or in a spraybooth. The FlyDry Hybrid can dry bodyfiller, the primer, waterborne basecoat and clearcoat.

The FDH is composed of an overhead crane and an automatic column that can rotate 360°, moving automatically on all sides and horizontal sections of the vehicle.

It has an arm with 2 IR-Drytronic lamps and 2 UVA-LEDtronic M2 lamps that cover an area of about 2 m. (6'6 3/4") in height, for a possible movement as long as the work area. This automatic movement allows the entire side of the car to be dried in a single pass.

TECHNOLOGIES FOR DRYING

The FDH has 2 technologies for drying:

- **IR-Drytronic technology:** is gas catalytic infrared that dries with heat, any conventional paint with an exposure of the painted surface between 30 and 50 seconds of time.
 - For IR drying, the FDH has a database of formulas for drying any type and brand of paint and also allows you to create new customized ones.
 - the robot automatically manages the drying treatment managing and variables of; distance, color, paint thickness and room temperature.
 - the control and regulation of the drying treatment parameters are constantly controlled by a temperature laser.
- **UVA-LEDtronic:** is a UVA light which dries cold, any UV coating with an exposure of 15-30 seconds of time.
 - The FDH UVA-LEDtronic dries the UV compatible coated surface, exposing it to UV light with an automatic passage lasting a few seconds.
 - The FDH has a database of recipes for drying UVA products but it is also possible to create new personalized formulas.
 - UVA-LEDtronic technology dries UV compatible coatings; putty, primer and UV clearcoat.

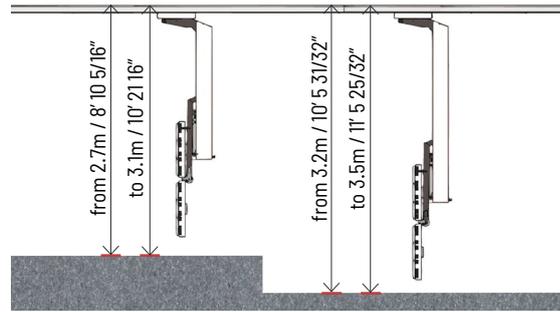


COLUMN MODELS

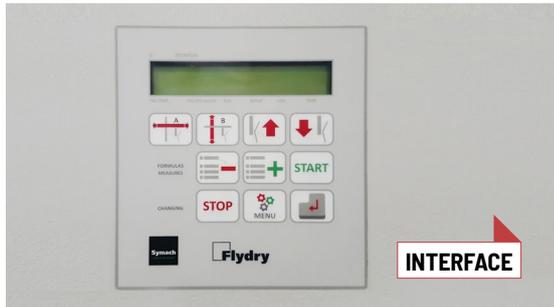
The FDH is available in 2 different models:

- **Model 3000** for cars, which covers the height of the work bay from 2.7m (8'10 5/16") to 3.1m (10'21 16").
- **Model 3500** for commercial vehicles, which covers the height of the work bay from 3.2m (10'5 31/32") to 3.5m (11'5 25/32").

The FDH can be used in several preparation bays, from one to four as a maximum, or it can be installed in a spraybooth.



USER INTERFACE



The FDH has a keyboard and a multilingual display on the robotic column. The technician selects the drying formula for; filler, primer, waterborne or clearcoat with conventional paint, or UVA paint.

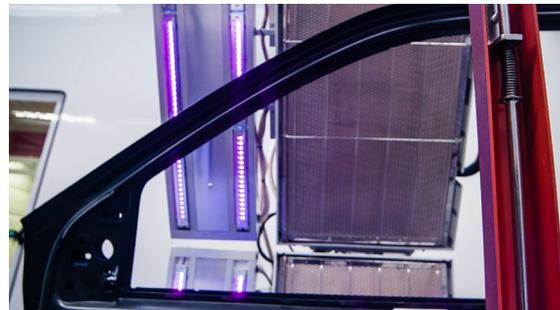
STRUCTURE AND COMPOSITION OF THE FDH

The FDH is made up of:

- **Aluminum guides (rails)**, for sliding of the FDH in the working bay, the guide module covers an entire working bay of 4m width (13.12"). The FDH can operate in a maximum of 4 work bays and the guides allow the FDH to flow at any point of the width of the working bays.
- The **bridge crane** runs the robotic column with the group of drying lamps. The bridge crane allows the sliding of the FDH at any position of the length of the working bay.
- The **robotic column** has two motors to move the FDH at every part of the length and width of the work area. It can rotate 360° allowing orientation, with the face of the drying lamps, towards each side, vertical and horizontal, of the car.
- It has a **pneumatic arm**, on which the drying lamps are fixed, controlled by two pistons to adjust the orientation of the lamps, based on the profile of the car.
- Four lamps in total: **2 IR Drytronic lamps and 2 UVA-LEDtronic M2 lamps**. The lamps are installed on a support that rotates the lamps to adapt to the profile of the car.
- A **laser sensor** monitors the temperature of the conventional paint drying treatment with IR-Drytronic lamps.
- A **keyboard and display** is installed on the FDH column for programming and to control the movements of the FDH.

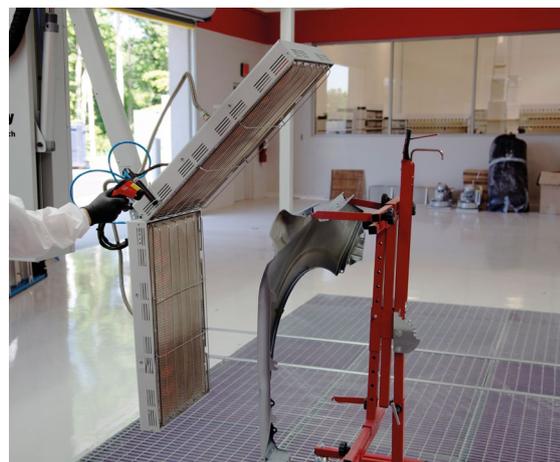
AUTOMATIC MOVEMENTS

The robotic column has the ability to raise and lower the pneumatic arm that carries the lamps, IR and UVA, it can run automatically in every direction in the work area, width and length of the vehicle, drying the vertical and horizontal surfaces.



DRYING LAMPS

- **IR-Drytronic** are 2 catalytic gas lamps; LPG or CNG; which generate a special wavelength patented by Symach that dries the conventional paint in a few seconds of exposure. The lamps are 40cm (1'3 3/4") x 80cm (2'7 1/2").
- **UVA-LEDtronic M2** are 2 lamps with two parallel rows of LEDs, which generate UVA ultraviolet light, developed entirely by Symach, which dry the UV coating in a few seconds of exposure. The lamps are 20cm (7.87") x 100cm (3'3 3/8").
- IR and UVA lamps are both located on a single frame articulated in two parts, to adapt to the profile of the vehicle.



DRYING TREATMENT

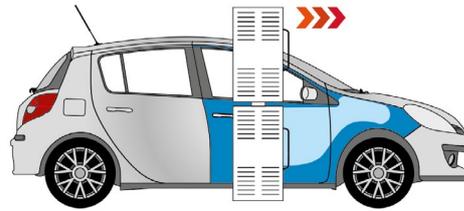
Conventional Paint Products

The FDH with IR-Drytronic lamps automatically dries with heat the conventional paint of all brands, using the selected drying recipe. The IR FDH manages the drying parameters; dynamically, constantly and automatically, monitoring the temperature of the dried surface with a laser.

For example: the clearcoat is dried at a speed of about 80cm.(2'7 1/2") linear per minute, to dry the door of a car the time required is less than 2 minutes.

UV Paint Products

The FDH with UVA-LEDtronic lamps automatically dry cold, the UV coatings of all brands, using the specific drying recipe. The FDH UVA dries the painted surface with a single pass at a speed of about 100cm (3'3 3/8") linear per minute. For example; to dry a car door is less than a minute and a half.



**DRYING
SPEED**

**IR-Drytronic dries the clearcoat
on a door in less than 2 minutes.
UVA-LEDtronic dries the primer
on a door in less than 1 1/2 minute.**

RETROFIT

The **2 UVA-LEDtronic M2 lamps can be installed on any existing Flydry**, purchased after 2005. An installation kit is available that includes the 2 UVA-LEDtronic M2 lamps, a new more powerful pneumatic piston to raise the robotized column arm and the relative electrical system.

FLYDRY HYBRID TECHNICAL DATA

MEASURES AND DATA

FlyDry 3000 column size	min 2,70 m max 3,10 m	min 8.8 ft max 48.2 ft
FlyDry 3000 column and overhead crane weight	120 kg	264 lb
FlyDry 3500 column size	min 3,10 m max 3,60 m	min 10.1 ft max 11.8 ft
FlyDry 3500 column and overhead crane weight	135 kg	297 lb
Overhead crane width	min 3,70 m max 4,00 m	min 12.1 ft max 13.1 ft
Overhead crane length	min 4,00 m max 7,00 m	min 13.1 ft max 22.9 ft
Standard warranty	12 months	

CONTROL BOX

Electronic board	microcontroller	
Keyboard	membrane	
Display	2x20 DIGIT	
Installed power input during first 3':30" after power on	2,9 kW	
Supply voltage	230 V~	
Frequency	50/60 Hz	
Controls voltage	24 V~	

COMPRESSED AIR

Line pressure	8 bar	116 PSI
Pipe size connection	6x8 øix øe mm	5/16"

APPROVAL

Europe	EU: CE - ATEX II 3 G X
Australia	Compliant to Australian safety standards AS/NZS 4114.1:2003 - AS 3814.1:2009
North America	cETLus Listed - Intertek 5000803 ISO 9001



AUSTRALIAN
AS/NZS

GAS

No. of panels	2	
Size of panels	400 x 750 mm	16 x 30"
1 panel		
Power output	11 kW	38,000 BTU/h
Hourly consumption LPG (G31) at 12 mbar	0,65 kg/h	1,43 lb/h
Hourly consumption Natural Gas (G20) at 12 mbar	1,1 m³/h	0,64 CFM
Catalyst life	5.000 h - 30.000 drying cycles	

RAIL MODULE

Aluminum section rails	4.000 mm x 3 pieces 157.4" x 3 pieces
------------------------	--

TECHNICAL DATA FLYDRY-UV

UVA-LEDtronic dimension (1 panel)	850 x 220 mm	33.5 x 8.6"
Power consumption UVA-LEDtronic (1 panel)	270 W	
Power supply (european version)	230 V	
Power supply (american version)	208 V	
UV irradiation surface length (2 lamps of 1 m)	2 m	6'6 3/4"

FLYDRY-UV ADVANTAGES

No waiting times	No size limits
Unlimited time for the use	Extremely easy to use
100% instant and complete drying	Paint materials that can be immediately sanded

FLYDRY-UV RESTRICTIONS

We recommend the use of glasses and devices suitable for protection from UV rays.

FLYDRY-UV CERTIFICATIONS

Europe	EU: CE - ATEX II 3 G / ISO 9001
--------	---------------------------------