INTEGRATED FIRE-FIGHTING SYSTEMS



UNI EN 12845 - UNI EN 10779 - UNI 11292









248





EXAMPLES OF INSTALLATION

PREFABRICATED FIRE-FIGHTING MODULE UNI EN 12845 - UNI 11292 - UNI EN 1090



Complete and autonomous fire protection system. Constitutes the room of the fire-fighting water unit. It can contain centrifugal pumps, vertical submersible pumps (VTP) and the control equipment for submersible pumps.



Structure designed and built according to UNI EN 1090

FIREBOX[•] is designed and built according to **UNI EN 1090** Part 1 and Part 2 (Execution of steel structures and aluminium structures – requirements for conformity assessment of structural components).

It is essential to comply with this standard to build and certify metal structures made in the workshop correctly. Only by complying with **UNI EN 1090** can the metal structures be **CE** certified.

Fully assembled accessories

Inside **FIREBOX**[°] there are all the accessories indicated in **UNI 11292** and they are connected, such as: fire extinguishers, general and emergency lighting, 2" sprinkler system, flue pipe, air extraction fan, heating system, openings for permanent ventilation, service electrical system and double-walled diesel tank.

Full accessibility and safety of the operators

FIREBOX[•] consists of side buffers in sandwich panels EI 60 A2 s1 d0, which create movable sides that can be fully opened. It is therefore possible to access the components housed in it from all sides, both during operation and maintenance, as set forth in **UNI 11292 4.2.1 - 4.2.2**

Testing

The components fitted in each **FIREBOX**° have been tested in the test room, in accordance with the requirements set forth in **UNI EN 12845**. In particular, the diesel engine is tested in accordance with **UNI EN 12845/10.9.13**.



catalogue - Edition: September-202

Mandatory certifications

EC Declaration of conformity of the pressurisation unit drawn up in accordance with Annex II a of **DIR. 2006/42/EC**.

Structural report of the room according to **UNI EN 1090**, drawn up by a qualified professional, complete with an anti-seismic report, linked to the individual installation site.

FIRE-RESISTANCE RATING CERTIFICATION and **PROD. DEC.** of the room, drawn up by a qualified professional, who certifies the fire resistance (R60) of the load-bearing structure.

Declaration according to **Italian M.D. 37/08** of the hydraulic and electrical system of the room.

INTERNAL WORKSPACES



Workspace

Inside **FIREBOX**[•] the WORKSPACE (**UNI 11292 3.13**) around every pumping unit (PUMP SET **UNI 11292 3.15**) has minimal plan dimensions that are equal to or greater than 80 cm on at least three sides **UNI 11292 5.2.2**.

ROOM MINIMUM INTERNAL HEIGHT



Room height

A height of not less than 2.4 m is guaranteed in the workspace and along the path to reach it; the delivery manifold and all the pipes are placed at a minimum height of 2 m **UNI 11292 5.2.2**



FIREBOX MODULES DIMENSIONS AND WEIGHTS

TYPE OF MODULE		L	Р	н	N° of DOORS	Weight
		mm	mm	mm		Kg
2X1		1271	2271	2510	4	920
2X2		2271	2400	2500	8	1230
3X2		2271	3410	2500	10	1650
3X3		2850	3410	2500	10	1890
4X2		2271	4442	2500	12	2010
4X3		2850	4442	2500	12	2180
5X2		2271	5580	2500	14	2335
5X3		2850	5580	2500	14	2740
6X2		2271	6680	2500	16	2748
6X3		2850	6680	2500	16	3463

Fire resistance R60

A bearing structure in steel profiles, sized to obtain a fire resistance of 60 minutes (R60) UNI EN 12845:2020 10.3.1.

Reaction to fire

The side buffer of **FIREBOX**^{*} consists of sandwich panels that make it thermally insulated, thanks to the 80 mm rock wool (El60); therefore, they are set up on all sides of the opening walls with $A_2s_1d_0$ fire reaction efficiency, as set forth in **UNI 11292 5.1.**

FIREBOX

UNI EN 12845 - UNI 11292 fire protection system with Horizontal Centrifugal electric pumps



1	Fan		10	Diesel tank (Autonomy 6 h)
2	Side Panels El60 A2s1d0	(11	Pressure switches and diaphragms circuit
3	Structure R60	(12	Main pump
4	Emergency Panel	(13a)	Main pump electric motor
5	Room lighting	(1	13b)	Main pump diesel engine
6	Flowmeter kit complete with upstream pipe section L> 5 diam.	ſ	14	Electrical Panels
7	$2^{\prime\prime}$ Sprinkler Kit complete with Flow switch as required by UNI EN 12259-5	(15	Thermo convector
8	Cover with sandwich panels for structural uses EI60 $\rm A_{2}s_{1}d_{0}$	(16	Jockey pump with H>80% H main pump UNI EN 12845 10.7.5.2
9	Handling brackets	(17)	Priming tank

FIREBOX

UNI EN 12845 - UNI 11292 fire protection system with Horizontal Centrifugal electric pumps

MAIN COMPONENTS





1	Fan
2	Side Panels El60 A2s1d0
3	Structure R60
4	Emergency Panel
5	Room lighting
6	Flowmeter kit complete with upstream pipe section L> 5 diam.
7	2" Sprinkler Kit complete with Flow switch as required by UNI EN 12259-5
8	Cover with sandwich panels for structural uses El60 ${\sf A}_2 {\sf s}_1 {\sf d}_0.$

9	Handling brackets
10	Diesel tank (Autonomy 6 h)
11	Pressure switches and diaphragms circuit
12	Main pump
13a	Main pump electric motor
13b	Main pump diesel engine
14	Electrical Panels
15	Thermo convector
16	lockey pump with H>80% H main pump UNLEN 12845 10.7.5.2

FIREBO

HANDLING & TRANSPORT

FIREBOX[•] requires very limited on site interventions. It is sufficient to place it on or next to the water storage reserve, secure the individual PUMP SETs to the slab using the preset locking points and connect it hydraulically and electrically. The system is now ready to deliver the intended project services (Q/H).





The box must be handled and unloaded by qualified and expert personnel, using only suitable and approved equipment. The box must be lifted and handled with a crane suitable for the

weight indicated on the drawing sent with the order, while ensuring to maintain an angle of all the wire ropes that support it to less than 40°, using all the preset eyebolts simultaneously; using less than four eyebolts is not allowed.

WHAT INFO DO WE NEED FROM THE CUSTOMER FOR TRANSPORT

Minimum customer conditions required for transport and delivery

- Accessibility for trucks/low-floor articulated lorry
 of at least 16.5 metres
- Practical spaces to facilitate vehicle entry and manoeuvring
- Asphalted and/or paved unloading area and transit routes
- Presence of necessary documentation for site access (E.g. Limited traffic zones, occupied public land, etc.)
- Systems and means of adequate capacity to unload the goods

WHAT WE OFFER THE CUSTOMER

Delivery logistics of goods

Organisation of customised, dedicated, ordinary and exceptional transport, with and without escort, in Italy and abroad.

It is possible to provide custom services, including unloading and positioning, through special semitrailers owned by the company, in full compliance with the regulations that govern the transport of special loads.

UNLOADING WARNINGS

- Only use adjustable pendants with at least four arms of adequate length and adequate capacity, checking that the chains are not damaged and the hooks are fitted with safety locks.
- Anchor the hooks in the specific lifting eyebolts in the top perimeter of the structure, taking care to balance the weights.
- Pay particular attention when handling and lifting the Firebox as it has no floor, in accordance with the standard (UNI 11292 6.6).
- Do not stand in the handling area.





Easy transport

Depending on the size, the fully assembled **FIREBOX**[°] can be transported on a trailer with ordinary or exceptional transport, eliminating the need for technical escort, unless mandatory, and it can be handled with simple cranes.

Due to its design as a mobile compartment, **FIREBOX**[•] is moved very easily, if the protected activity is relocated.



PREFABRICATED FIRE-FIGHTING MODULE WITH VTP PUMPS FIREBO UNI EN 12845 - UNI 11292 - UNI EN 1090 FIREBO



VERTICAL TURBINE PUMPS

The technical data are not binding and can be modified without prior notice | The images are indicative and not binding

Using vertical submersible axial flow pumps (UNI EN 12845/10.6.1) leads to the enormous advantage of having an always positive suction head, even with an underground storage water reserve. The vertical pumps can be connected to both electric and diesel engines and guarantee very high operational reliability.

ALWAYS POSITIVE SUCTION HEAD

Choosing to use **FIREBOX**^{*} with vertical pumps and an underground water reserve implements a POSITIVE SUCTION HEAD hydraulic system, as preferred by UNI EN 12845/10.6.1. In this case, there is no limitation to the usable depth within the water reserve.

OPENABLE ROOF

Where units with VERTICAL TURBINE PUMPS are housed, **FIREBOX**^{*} devices are made with an openable roof to facilitate any maintenance. The machines are assembled in the facility and can be positioned in the water reserve with a simple crane.

FIREBOX VTP UNI EN 12845 - UNI 11292 fire protection system with VTP electric pumps

MAIN COMPONENTS



Fire-fighting units catalogue - Edition: September-2021

1	Fan
2	Side Panels El60 $A_2s_1d_0$
3	Structure R60
4	Emergency Panel
5	Room lighting
6	Flowmeter kit complete with upstream and downstream pipe sections L> 5 diam.
7	2" Sprinkler Kit complete with Flow switch in accordance with UNI EN 12259-5
8	Cover with sandwich panels for structural uses El60 $A_2s_1d_0$.

9	Handling brackets
10	Diesel tank (Autonomy 6 h)
11	Pressure switches and diaphragms circuit
12	Vertical shaft semi-axial main pump (VTP).
13a	Main pump diesel engine
13b	Main pump electric motor
14	Thermo convector
15	Electrical Panels
16	Jockey pump with H>80% H main pump UNI EN