HYDRAULICS

FIRE-FIGHTING SYSTEM

offire

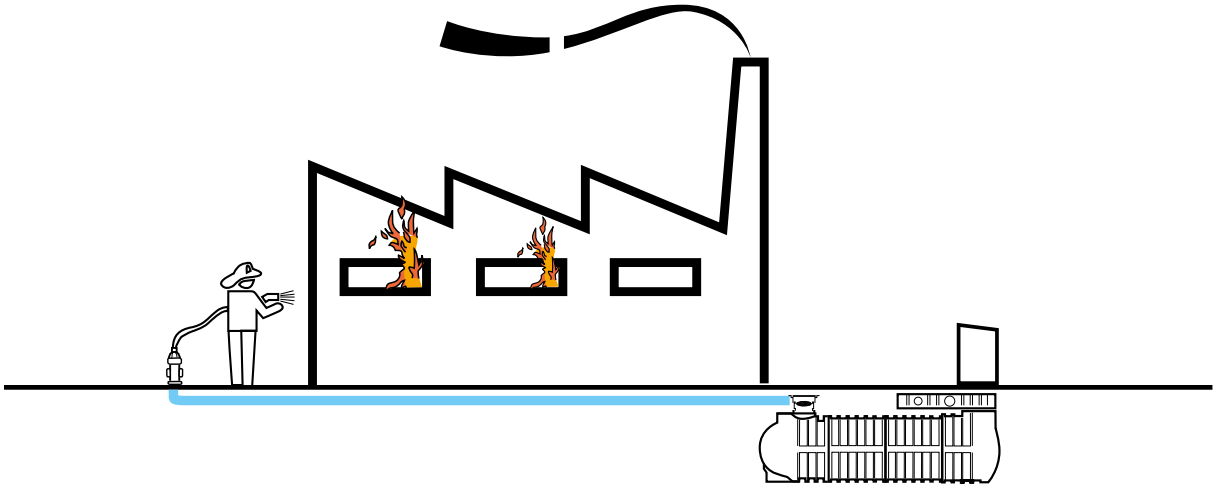
StaRplast

2023

OFFIRE
fire-fighting system

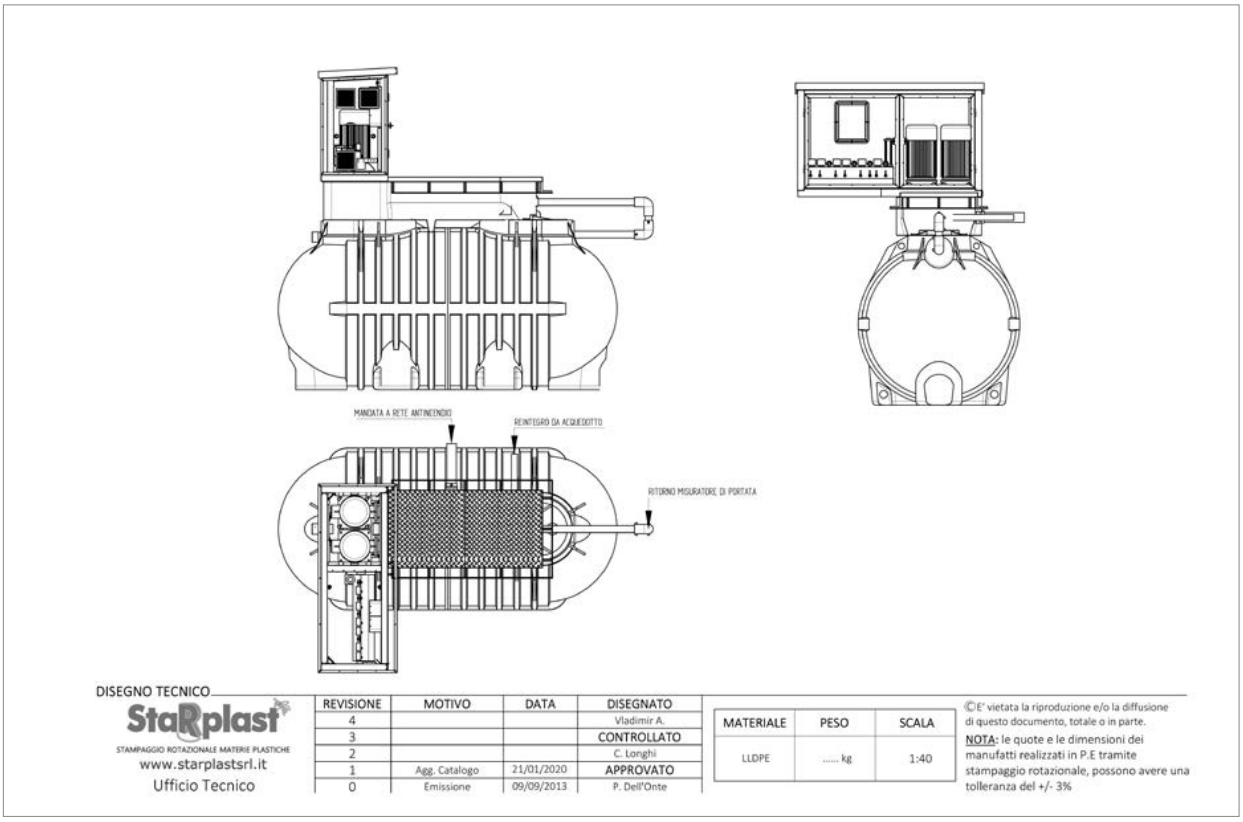
It began as the first integrated system for fire-fighting plants in full respect of Resolution UNI EN 12845.
Complete plant of water reserve and pressurization station, all undergound without the use of technical rooms box or containers (above ground or underground), but with a simple external control panel.

PLANT / **ICON**



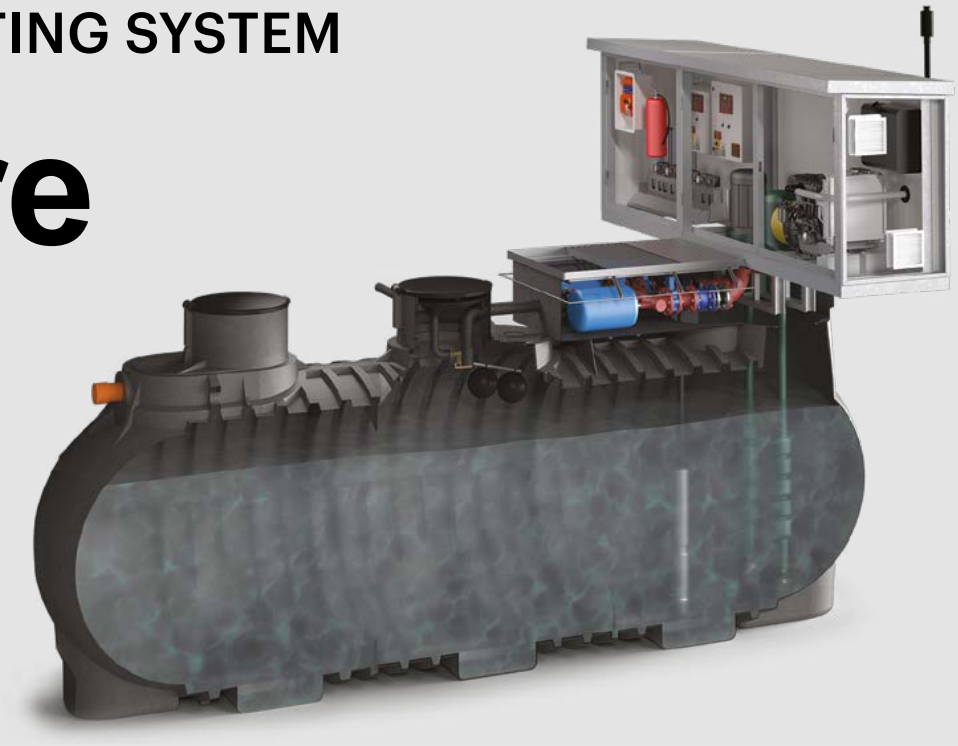
PLANT / **TECHNICAL DRAWING**

OFFIRE FIRE-FIGHTING / OFF 12000 EEP



FIRE-FIGHTING SYSTEM

offire



FUNCTION AND USE

Fire-fighting plant Offire consisting of underground polyethylene tank as water storage and pressurization plant with vertical pumps and command/control cabinet for:
- ensuring for a certain period water availability for buildings
- inhibiting fire and smoke propagation inside the building and neighbouring buildings.

CALCULATION PARAMETERS

flow rate	Q 18.000÷120.000 lt/h
pressure	4 - 6 - 8 bar

SPECIFICATION ITEMS

Supply of fire-fighting system totally underground "OFFIRE..." type Starplast, equipped with water reserve and integrated pressurization, built according standards UNI EN 12845, composed by a PE tank for underground use with modular horizontal cylindrical shape welded by full bore electrofusion, with constant thickness of the walls and structure stiffened by vertical and horizontal ribs which ensure mechanical seal.

The tank is equipped with:

go-level inspection ø 600 mm and special turret necessary for pumps housing and integration to the system
- piping shaft connected to the tank's turret, equipped with reinforced manhole in corrugated sheet metal. It is reinforced with stainless steel profile with clamps for anchoring to CA base, containing all the pipes and valves foreseen in the Standard
- pressurization group composed by vertical axle pump/s with underground suction "vertical turbine pump" for service line and joker submersed pump for pressure maintaining compensation
- eventual endothermic engine for command of vertical axle pump through angular return group.

Cabinet installed above ground, realized in insulated sheet metal REI 60, with ventilation and thermostat for control min and max temperature, built accoridng to the standards UNI 11292; it will be placed on special turret, for engines and pumps protection, housing command electric panels and dashboard for control and remotized regulation of the piping below.

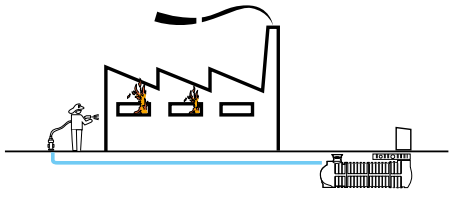
Plant characteristics:

volume lt. ....., n, ... main electropump/s with flow rate ..... m^3/h pressure ..... engine power bar ..... kW, joker pump with flow rate ..... m^3/h
maximum head ..... m.c.a. power ..... kW, endothermic engine ....kW at 2900 rpm/min..

WHERE TO USE IT

In all buildings used for production and commercial activities that fall within the classification of the standard for fire risk.

INSTALLATION SCHEME

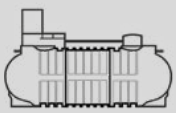
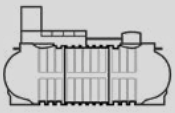
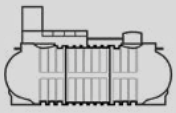


STANDARDS AND CERTIFICATIONS

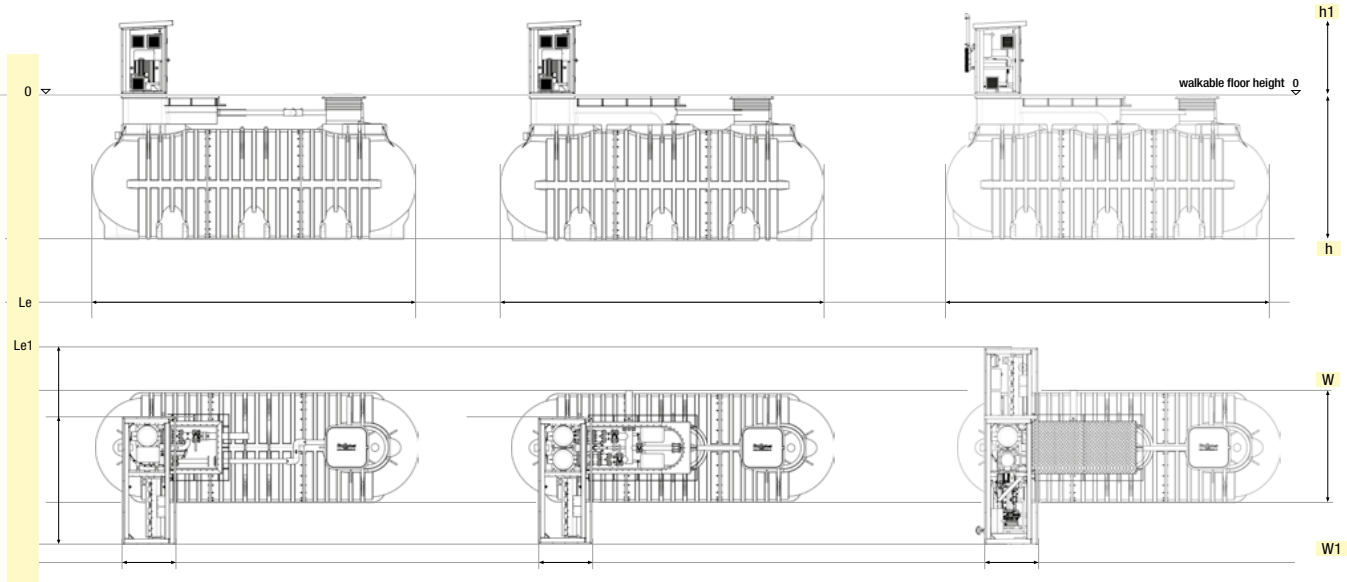
Compliant with the standards:
UNI EN 12845 E UNI 11292
UNI/TR 11438 additional instructions to the norm UNI EN 12845), establishing that:

- **horizontal centrifugal pumps installed underground must be used**
- **the only vertical pumps allowed are the "vertical turbine pumps"**
- **installations having submersible pumps and above ground horizontal centrifugal pumps should be avoided and only used when an undergound alternative is not possible.**

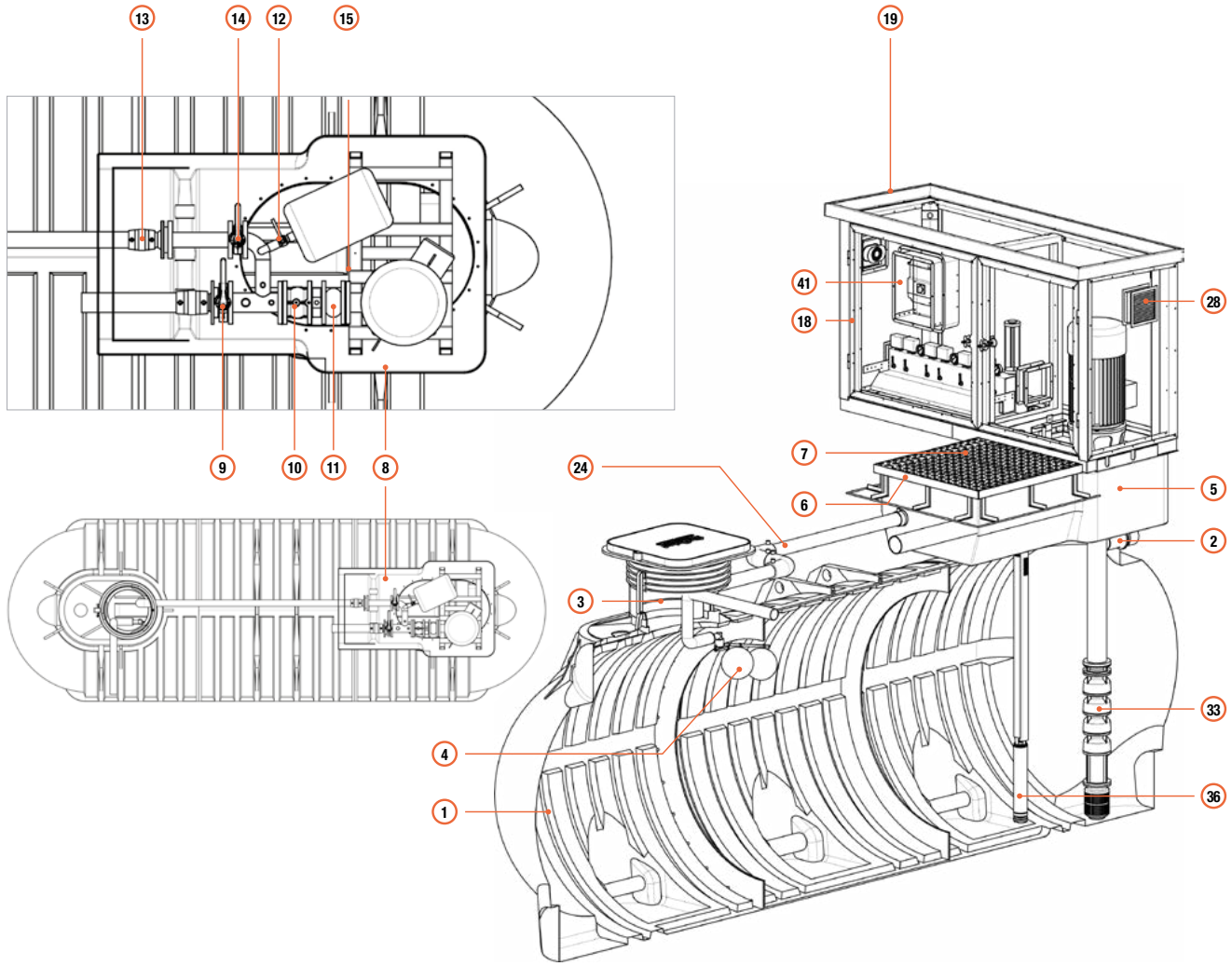
ICON

OFF EP 18000	OFF EEP 18000	OFF EMP 18000
		

TECHNICAL DRAWING

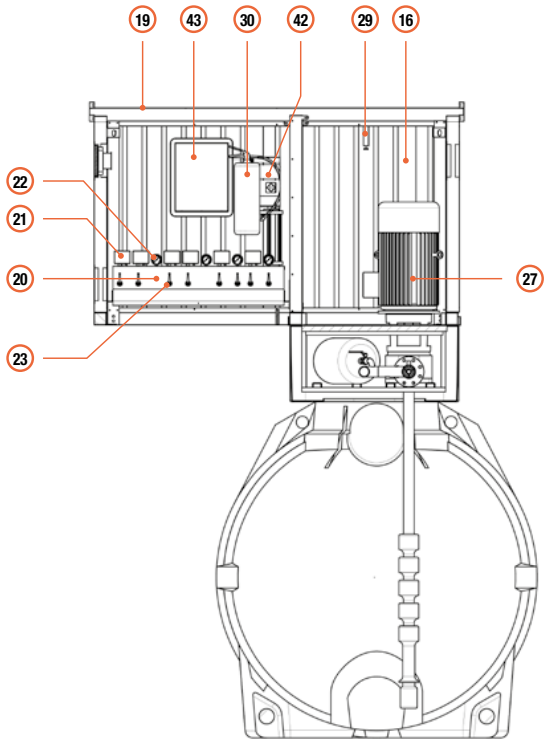


OFF..EP



TECHNICAL TABLE - PRICE LIST

model	tank volume	tank	water supply	command cabinet	main electropump pag. 12							
					flow rate	delivery	power			characteristics ref.		
			Le x W x h	Le1 x W1 x h1			4 bar	6 bar	8 bar	4 bar	6 bar	8 bar
	lt	n.	cm	cm	m³/h	DN	kW			n.		
OFF 18000 EP ..	18.980	1 x 18000	620 x 210 x 275	245 x 100 x 145	18	80	5,5	11,0	11,0	14.1	14.2	14.3
OFF 24000 EP ..	25.200	1 x 24000	800 x 210 x 275		24	80	5,5	11,0	11,0	14.1	14.2	14.3
OFF 36000 EP ..	37.650	1 x 36000	1160 x 210 x 275		36	80	7,5	11,0	18,5	14.4	14.5	14.6
OFF 48000 EP ..	50.100	2 x 24000	800 x 470 x 275		48	80	11,0	15,0	18,5	14.7	14.8	14.9
OFF 60000 EP ..	62.840	2 x 30000	980 x 470 x 275		60	80	11,0	18,5	22,0	14.10	14.11	14.12
OFF 72000 EP ..	75.300	2 x 36000	1160 x 470 x 275		72	100	15,0	22,0	30,0	14.13	14.14	14.15
OFF 90000 EP ..	94.260	3 x 30000	980 x 730 x 275		90	100	15,0	30,0	30,0	14.16	14.17	14.18
OFF 108000 EP ..	112.950	3 x 36000	1160 x 730 x 275		108	125	18,5	30,0	37,0	14.19	14.20	14.21
OFF 120000 EP ..	131.610	3 x 42000	1340 x 730 x 275		120	125	30,0	37,0	45,0	14.22	14.23	14.24



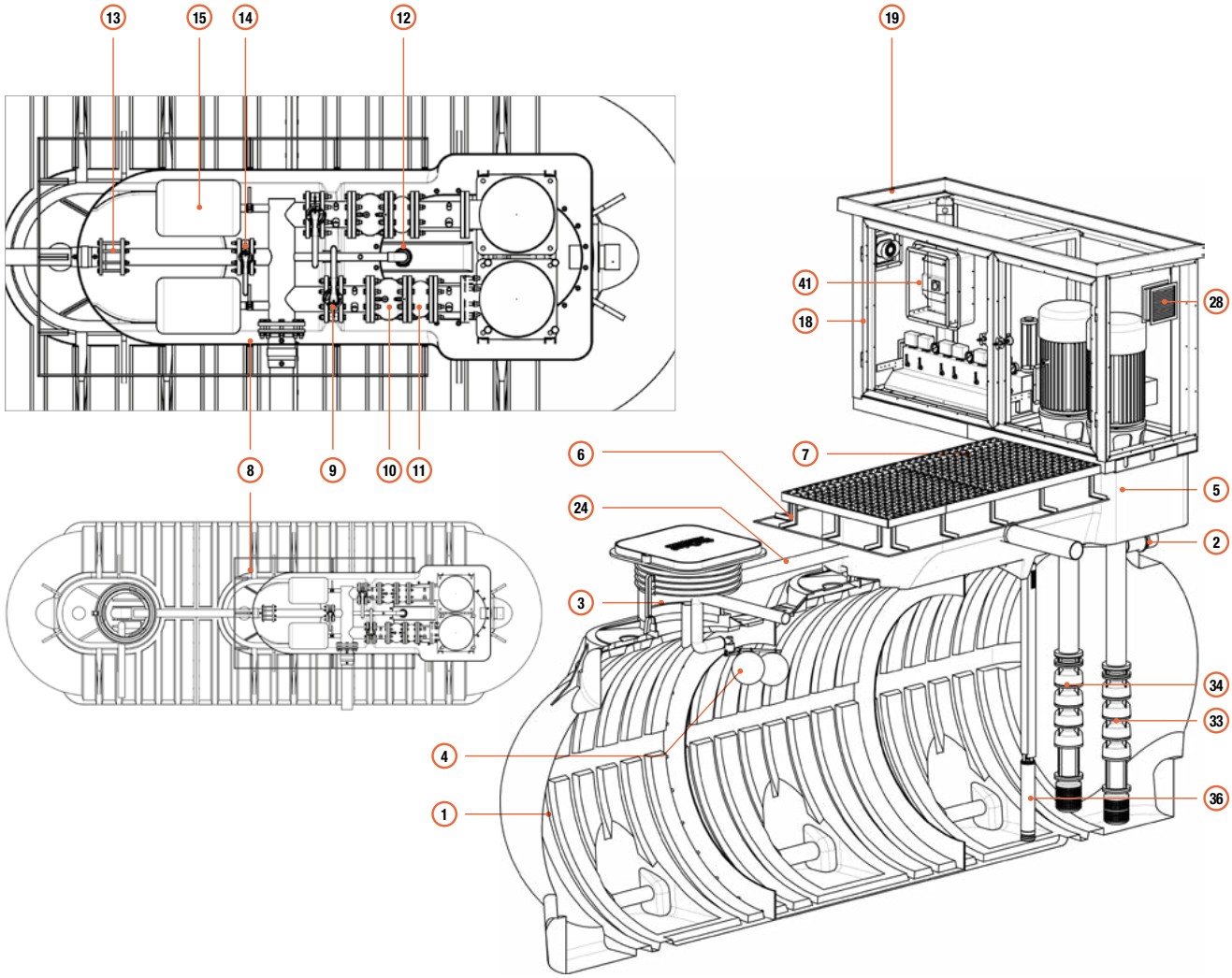
KEY

1. Storage tank
2. Overflow
3. Inspection ø 600
4. Water load float valve
5. PE shaft for piping containment
6. Piping shaft frame with clamps for anchoring to concrete
7. Carriageable manhole covers
8. Piping
9. Butterfly valve LUG main pump
10. Non-return valve axial main pump
11. Vibrant joint
12. Non-return valve Europa threaded jockey pump
13. Wafer flowmeter with remote reading
14. Butterfly valve LUG flow rate test
15. Expansion vessels
16. REI 60 cabinet (above ground) SMALL
18. Front doors opening at 180°
19. Opening roof at 90°
20. Dashboard
21. Pumps command pressure switch
22. Pressure detection gauges
23. Pressure gauges and pressure switches management faucets
24. Return pipe in tank for flow regulation
27. Pumps electric engine
28. Cabinet ventilation grids
29. Sprinkler plant pumps compartment
30. Powder extinguisher electronic panels compartment
33. I° Main vertical axle pumps
36. Submersed jockey pump
41. External allarms panel
42. Electric panel for command jockey pump
43. I° electric panel for command main pump

electric panels pag. 13			€		
characteristics ref.					
4 bar	6 bar	8 bar			
n.			4 bar	6 bar	8 bar
20.1	20.2	20.2	**47.305,00**	**51.065,00**	**52.225,00**
20.1	20.2	20.2	**50.755,00**	**54.515,00**	**55.675,00**
20.1	20.2	20.4	**60.280,00**	**63.140,00**	**65.750,00**
20.2	20.3	20.4	**71.160,00**	**72.150,00**	**74.070,00**
20.2	20.4	20.5	**78.960,00**	**81.060,00**	**83.810,00**
20.3	20.5	20.6	**90.315,00**	**95.710,00**	**99.090,00**
20.3	20.6	20.6	**101.130,00**	**109.470,00**	**110.325,00**
20.4	20.6	20.7	**117.930,00**	**125.495,00**	**127.095,00**
20.6	20.7	20.8	**145.060,00**	**146.460,00**	**150.550,00**

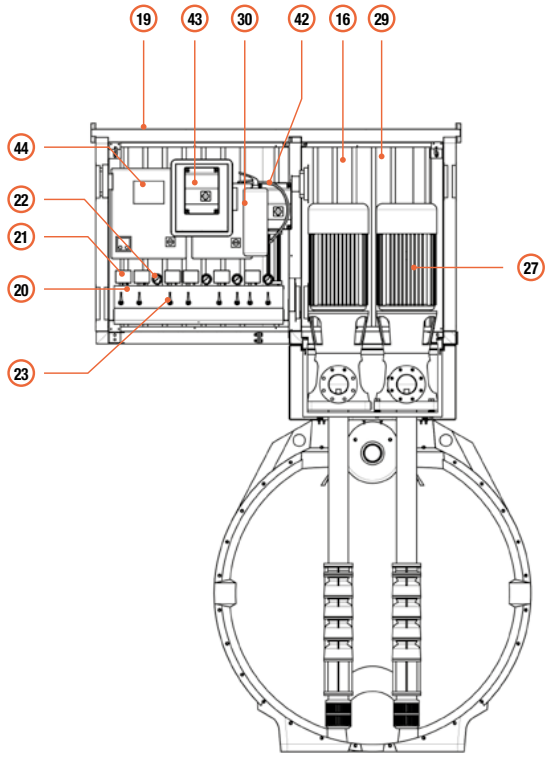
list *data sheet*

OFF..EEP main electropump + backup electropump + jockey pump



TECHNICAL TABLE - PRICE LIST

model	tank volume	tank	water reserve	command cabinet	main electropump pag. 12							
							power			characteristics ref.		
			Le x W x h	Le1 x W1 x h1	flow rate	delivery	4 bar	6 bar	8 bar	4 bar	6 bar	8 bar
	lt	n.	cm	cm	m³/h	DN	kW			n.		
OFF 18000 EEP ..	18.980	1 x 18000	620 x 210 x 275		18	80	5,5	11,0	11,0	14.1	14.2	14.3
OFF 24000 EEP ..	25.200	1 x 24000	800 x 210 x 275		24	80	5,5	11,0	11,0	14.1	14.2	14.3
OFF 36000 EEP ..	37.650	1 x 36000	1160 x 210 x 275		36	80	7,5	11,0	18,5	14.4	14.5	14.6
OFF 48000 EEP ..	50.100	2 x 24000	800 x 470 x 275		48	80	11,0	15,0	18,5	14.7	14.8	14.9
OFF 60000 EEP ..	62.840	2 x 30000	980 x 470 x 275	245 x 100 x 145	60	80	11,0	18,5	22,0	14.10	14.11	14.12
OFF 72000 EEP ..	75.300	2 x 36000	1160 x 470 x 275		72	100	15,0	22,0	30,0	14.13	14.14	14.15
OFF 90000 EEP ..	94.260	3 x 30000	980 x 730 x 275		90	100	15,0	30,0	30,0	14.16	14.17	14.18
OFF 108000 EEP ..	112.950	3 x 36000	1160 x 730 x 275		108	125	18,5	30,0	37,0	14.19	14.20	14.21
OFF 120000 EEP ..	131.610	3 x 42000	1340 x 730 x 275		120	125	30,0	37,0	45,0	14.22	14.23	14.24



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10. Non-return valve axial main pump
11. Vibrant joint
12. Non-return valve Europa threaded jockey pump
13. Wafer flowmeter with remote reading
14. Butterfly valve LUG flow rate test
15. Expansion vessels
16. REI 60 cabinet (above ground) SMALL
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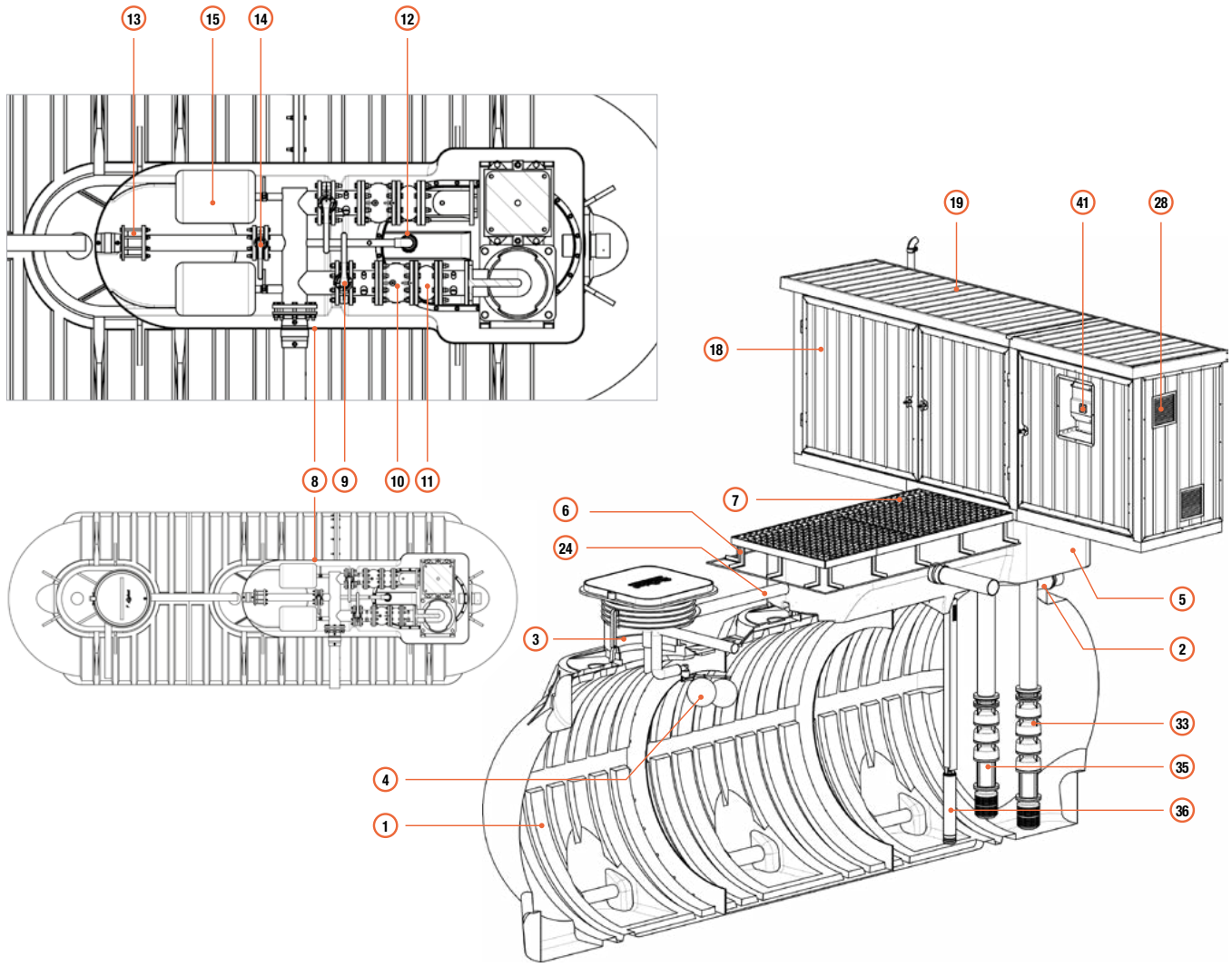
19. Opening roof at 90°
20. Dashboard
21. Pumps command pressure switches
22. Pressure detection gauges
23. Pressure gauges and pressure switches management faucets
24. Return pipe in tank for flow regulation
27. Pumps electric engine
28. Cabinet ventilation grids
29. Sprinkler plant pumps compartment
30. Powder extinguisher electronic panels compartment
33. I° Main vertical axle pumps
34. II° Main vertical axle pumps
36. Submersed jockey pump
41. External allarms panel
42. Electric panel for command jockey pump
43. I° Electric panel for command main pump
44. II* Electric panels for command 2 main pumps

electric panels pag. 13			€		
characteristics ref.					
4 bar	6 bar	8 bar			
n.			4 bar	6 bar	8 bar
20.1	20.2	20.2	**62.875,00**	**70.710,00**	**72.050,00**
20.1	20.2	20.2	**66.325,00**	**73.620,00**	**75.500,00**
20.1	20.2	20.4	**76.530,00**	**82.015,00**	**86.800,00**
20.2	20.3	20.4	**89.860,00**	**91.600,00**	**95.005,00**
20.2	20.4	20.5	**97.660,00**	**101.620,00**	**106.685,00**
20.3	20.5	20.6	**110.215,00**	**120.775,00**	**127.100,00**
20.3	20.6	20.6	**121.030,00**	**137.475,00**	**138.755,00**
20.4	20.6	20.7	**139.470,00**	**154.365,00**	**157.130,00**
20.6	20.7	20.8	**173.935,00**	**176.495,00**	**184.245,00**

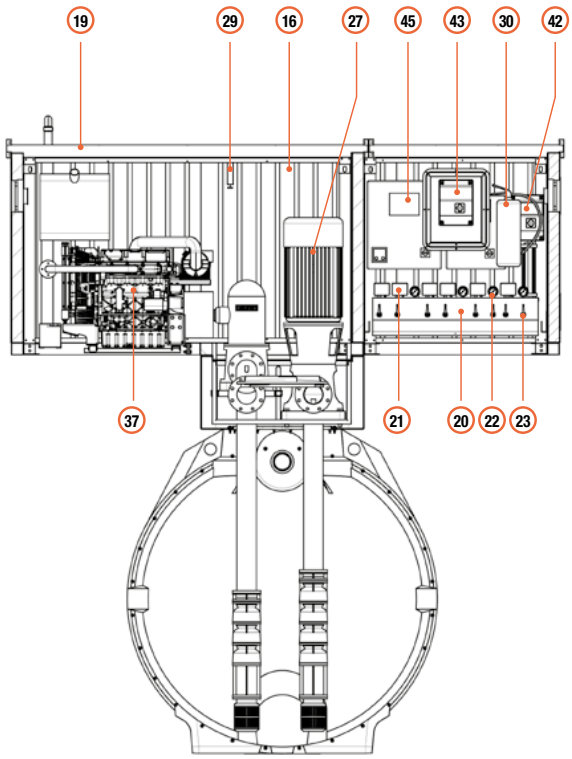
list *data sheet*

OFF..EMP main electropump + backup motor pump + jockey pump



TECHNICAL TABLE - PRICE LIST

model	tank volume	tanks	water reserve	command cabinet	main electropump							
							power			characteristics ref.		
	lt	n.	Le x W x h cm	Le1 x W1 x h1 cm	flow rate m³/h	delivery DN	4 bar kW	6 bar kW	8 bar kW	4 bar n.	6 bar n.	8 bar n.
OFF 18000 EMP ..	**18.980**	1 x 18.000	620 x 210 x 275		18	80	5,5	11,0	11,0	14.1	14.2	14.3
OFF 24000 EMP ..	**25.200**	1 x 24.000	800 x 210 x 275		24	80	5,5	11,0	11,0	14.1	14.2	14.3
OFF 36000 EMP ..	**37.650**	1 x 36.000	1.160 x 210 x 275		36	80	7,5	11,0	18,5	14.4	14.5	14.6
OFF 48000 EMP ..	**50.100**	2 x 24.000	800 x 470 x 275		48	80	11,0	15,0	18,5	14.7	14.8	14.9
OFF 60000 EMP ..	**62.840**	2 x 30.000	980 x 470 x 275	378 x 100 x 145	60	80	11,0	18,5	22,0	14.10	14.11	14.12
OFF 72000 EMP ..	**75.300**	2 x 36.000	1.160 x 470 x 275		72	100	15,0	22,0	30,0	14.13	14.14	14.15
OFF 90000 EMP ..	**94.260**	3 x 30.000	980 x 730 x 275		90	100	15,0	30,0	30,0	14.16	14.17	14.18
OFF 108000 EMP ..	**112.950**	3 x 36.000	1.160 x 730 x 275		108	125	18,5	30,0	37,0	14.19	14.20	14.21
OFF 120000 EMP ..	**131.610**	3 x 42.000	1.340 x 730 x 275		120	125	30,0	37,0	45,0	14.22	14.23	14.24



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5. PE shaft for piping containment
6. Piping shaft frame with clamps for anchoring to concrete
7. Carriageable manhole covers
8. Piping
9. Butterfly valve LUG main pump
10. Non-return valve axial main pump
11. Anti-vibrant joint
12. Non-return valve Europa threaded jockey pump
13. Wafer flowmeter with remote reading
14. Butterfly valve LUG flow rate test
15. Expansion vessels
16. REI 60 cabinet (above ground) SMALL
18. Front doors opening at 180°
19. Opening roof at 90°
20. Dashboard
21. Pumps command pressure switches
22. Pressure detection gauges
23. Pressure gauges and pressure switches management
24. faucets
25. Return pipe in tank for flow regulation
26. Electric wiring
27. Starplast assembly
28. Pumps electric engine
29. Cabinet ventilation grids
30. Sprinkler plant pumps compartment
31. Powder extinguisher electronic panels compartment
32. Diesel tank
33. Drive joint
35. I° Main vertical axle pumps
36. Main pump with angular return
37. Submersed jockey pump
38. Diesel engine
39. Anti-vibration bushings
40. Discharge
41. Battery
42. External allarms panel
43. Electric panel for command jockey pump
45. I° Electric panel for command main pump
45. Electric panel for command motor pump

list *data sheet*

electric panels pag. 12			endothermic engines pag. 13							€		
characteristics ref.			power			characteristics ref.			panel ref.			
4 bar	6 bar	8 bar	4 bar	6 bar	8 bar	4 bar	6 bar	8 bar				
n.			kW			n.			n.	4	6	8
20.1	20.2	20.2	8,1	8,1	8,1	16.1	16.2	16.2	20.10	**82.215,00**	**89.435,00**	**91.315,00**
20.1	20.2	20.2	8,1	11,5	11,5	16.1	16.2	16.2	20.10	**85.665,00**	**92.885,00**	**94.765,00**
20.1	20.2	20.4	8,1	11,5	19,2	16.1	16.2	16.3	20.10	**95.685,00**	**101.280,00**	**110.855,00**
20.2	20.3	20.4	11,5	19,2	19,2	16.2	16.3	16.3	20.10	**109.125,00**	**111.730,00**	**119.065,00**
20.2	20.4	20.5	11,5	19,2	26,3	16.2	16.3	16.4	20.10	**116.925,00**	**121.060,00**	**128.845,00**
20.3	20.5	20.6	19,2	26,3	31,0	16.3	16.4	16.5	20.10	**130.625,00**	**143.220,00**	**146.335,00**
20.3	20.6	20.6	19,2	31,0	31,0	16.3	16.5	16.5	20.10	**141.440,00**	**156.715,00**	**157.990,00**
20.4	20.6	20.7	19,2	31,0	37,0	16.3	16.4	16.5	20.10	**163.025,00**	**177.430,00**	**181.215,00**
20.6	20.7	20.8	31,0	37,0	45,0	16.4	16.5	16.6	20.10	**197.000,00**	**200.580,00**	**209.265,00**

TECHNICAL TABLE - **PUMPS** PRICE LIST

model	pump ref.	electric flow rate	head H	suction filter	pump body	command unit	deliv. mouth	electric engine power	electric engine shape	price list with engine	angular return	price list with return
	n.	lt/h	bar	DN	model	type	DN	kW	cod.	€	type	€
POM Z O 18-4 AV080	14.1		4	80	MEC-80 R 6" 20/4	MEC-80 3" 20B	80	5,5	B5	**7.671,00**	MEC-80 PR50	**11.353,00**
POM Z O 18-6 AV080	14.1	**18.000**	6	80	MEC-80 R 6" 20/6	MEC-80 3" 20B	80	11	B5	**10.518,00**	MEC-80 PR50	**12.074,00**
POM Z O 18-8 AV080	14.2		8	80	MEC-80 R 6" 20/8	MEC-80 3" 20B	80	11	B5	**11.241,00**	MEC-80 PR50	**12.796,00**
POM Z O 24-4 AV080	14.1		4	80	MEC-80 R 6" 20/4	MEC-80 3" 20B	80	5,5	B5	**7.671,00**	MEC-80 PR50	**11.353,00**
POM Z O 24-6 AV080	14.2	**24.000**	6	80	MEC-80 R 6" 20/6	MEC-80 3" 20B	80	11	B5	**10.518,00**	MEC-80 PR50	**12.074,00**
POM Z O 24-8 AV080	14.3		8	80	MEC-80 R 6" 20/8	MEC-80 3" 20B	80	11	B5	**11.241,00**	MEC-80 PR50	**12.796,00**
POM Z O 36-4 AV080	14.4		4	80	MEC-80 6" 20/5	MEC-80 3" 20B	80	7,5	B5	**8.348,00**	MEC-80 PR50	**11.847,00**
POM Z O 36-6 AV080	14.5	**36.000**	6	80	MEC-80 6" 20/5	MEC-80 3" 20B	80	11	B5	**10.292,00**	MEC-80 PR50	**11.847,00**
POM Z O 36-8 AV080	14.6		8	80	MEC-80 6" 20/8	MEC-80 3" 20B	80	18,5	B5	**12.072,00**	MEC-80 PR50	**12.993,00**
POM Z O 48-4 AV080	14.7		4	80	MEC-80 7" 20/3	MEC-80 3" 20B	80	11	B5	**10.116,00**	MEC-80 PR50	**11.671,00**
POM Z O 48-6 AV080	14.8	**48.000**	6	80	MEC-80 7" 20/4	MEC-80 3" 20B	80	15	B5	**10.790,00**	MEC-80 PR50	**12.089,00**
POM Z O 48-8 AV080	14.9		8	80	MEC-80 7" 20/5	MEC-80 3" 20B	80	18,5	B5	**11.961,00**	MEC-80 PR50	**12.882,00**
POM Z O 60-4 AV080	14.10		4	80	MEC-80 7" 20/3	MEC-80 3" 20B	80	11	B5	**10.116,00**	MEC-80 PR50	**11.671,00**
POM Z O 60-6 AV080	14.11	**60.000**	6	80	MEC-80 7" 20/5	MEC-80 3" 20B	80	18,5	B5	**11.588,00**	MEC-80 PR50	**12.509,00**
POM Z O 60-8 AV080	14.12		8	80	MEC-80 7" 20/6	MEC-80 3" 20B	80	22	B5	**13.798,00**	MEC-80 PR50	**12.924,00**
POM Z O 72-4 AV080	14.13		4	100	MEC-100 7" 20/3	MEC-100 4" 20B	100	15	B5	**11.018,00**	MEC-100 PR50	**12.534,00**
POM Z O 72-6 AV080	14.14	**72.000**	6	100	MEC-100 7" 24/4	MEC-100 4" 24C	100	22	B5	**15.768,00**	MEC-100 PR50	**15.111,00**
POM Z O 72-8 AV080	14.15		8	100	MEC-100 7" 24/5	MEC-100 4" 24C	100	30	B5	**17.956,00**	MEC-100 PR50	**15.529,00**
POM Z O 90-4 AV100	14.16		4	100	MEC-100 7" 20/3	MEC-100 4" 20B	100	15	B5	**11.018,00**	MEC-100 PR50	**12.534,00**
POM Z O 90-6 AV100	14.17	**90.000**	6	100	MEC-100 7" 24/5	MEC-100 4" 24C	100	30	B5	**17.956,00**	MEC-100 PR50	**15.529,00**
POM Z O 90-8 AV100	14.18		8	100	MEC-100 7" 24/6	MEC-100 4" 24C	100	30	B5	**18.376,00**	MEC-100 PR50	**15.949,00**
POM Z O 108-4 AV125	14.19		4	125	MEC-125 8" 20/2	MEC-125 5" B	125	18,5	B5	**11.980,00**	MEC-125 PR50	**15.940,00**
POM Z O 108-6 AV125	14.20	**108.000**	6	125	MEC-125 8" 24/3	MEC-125 5" C	125	30	B5	**18.453,00**	MEC-125 PR50	**18.848,00**
POM Z O 108-8 AV125	14.21		8	125	MEC-125 8" 24/4	MEC-125 5" C	125	37	B5	**19.617,00**	MEC-125 PR50	**19.422,00**
POM Z O 120-4 AV125	14.22		4	125	MEC-125 8" 24/3	MEC-125 5" C	125	30	B5	**18.453,00**	MEC-125 PR50	**18.848,00**
POM Z O 120-6 AV125	14.23	**120.000**	6	125	MEC-125 8" 24/4	MEC-125 5" C	125	37	B5	**19.617,00**	MEC-125 PR50	**19.422,00**
POM Z O 120-8 AV125	14.24		8	125	MEC-125 8" 27/5	MEC-125 5" C	125	45	B5	**22.706,00**	MEC-125 PR50	**22.668,00**

TECHNICAL TABLE - **JOCKEY PUMP** PRICE LIST

model	pump ref.	flow rate Q	head H	suction filter	supplier's code	delivery pipe	electric motor power	electric motor shape	€
	n.	lt/h	bar	DN	type	DN	kW	cod.	
POM Z O 4 JS114	18.1	**3.000**	4	1"1/4	ST-1809 + HP1 T	1"1/4	0,75		**770,00**
POM Z O 6 JS114	18.2	**4.800**	6	2"	ST-3514 + HP2 T	2"	1,5	internal	**1.002,00**
POM Z O 8 JS200	18.3	**8.400**	8	2"	ST-4017 + HP4 T	2"	3		**1.440,00**

TECHNICAL TABLE - **DIESEL ENGINES** PRICE LIST

model	pump ref.	cylinders	displace-ment	oil tanks capacity	cooling	spins	power		€
							continued	continued	
	n.	n.	cm^3	lt	type	spins/min	kW		
MOD Z 08 RA	16.1	1	505	1,5	air	3000	8,1	8,8	**7.060,00**
MOD Z 11 RA	16.2	2	851	1,8	air	3000	11,5	11	**9.934,00**
MOD Z 17 RA	16.3	2	1248	2,8	air	3000	19,2	17,7	**11.195,00**
MOD Z 26 RA	16.4	3	1870	5	air	3000	26,3	28,6	**16.044,00**
MOD Z 31 RR	16.5	3	1861	8,5	water/water radiator	2600	31	33,5	**15.329,00**
MOD Z 37 RR	16.6	4	2482	11,5	water/water radiator	2600	36,4	38,5	**17.020,00**
MOD Z 47 RR	16.7	4	2508	12,8	water/water radiator	2900	47	48,6	**18.430,00**

TECHNICAL TABLE - **PANELS** PRICE LIST

model	pump ref.	Le x W x h	start-up	typology	max power		max. electricity		€
							from	to	
	n.	cm	type		kW	HP	A		
QE 1T 0750 O	20.1	40 x 23 x 54	direct	electronic	7,5	10	11	15	**2.739,00**
QE 1T 1100 O	20.2	40 x 23 x 54	Star-Delta	electronic	11	15	15	20	**3.123,00**
QE 1T 1500 O	20.3	40 x 23 x 64	Star-Delta	electronic	15	20	24	31	**3.203,00**
QE 1T 1850 O	20.4	40 x 23 x 64	Star-Delta	electronic	18,5	25	24	36	**3.515,00**
QE 1T 2200 O	20.5	40 x 23 x 64	Star-Delta	electronic	22	30	34	50	**3.618,00**
QE 1T 3000 O	20.6	50 x 23 x 74	Star-Delta	electronic	30	40	48	62	**4.373,00**
QE 1T 3700 O	20.7	50 x 23 x 74	Star-Delta	electronic	37	50	60	77	**4.373,00**
QE 1T 4500 O	20.8	50 x 23 x 74	Star-Delta	electronic	45	60	79	98	**4.940,00**
QM 1T 3700 OM	20.9	70 x 23 x 50	Diesel engines	electromec. (with relè)	4 ÷ 132	5,5 ÷ 180	-	-	**4.823,00**
QE 1T 0400 O	20.10	24 x 17 x 34	direct	electronic	1,1÷4	1,1÷4	2	15	**483,00**
QA 12 0370 BT	20.11	24 x 17 x 41	-	with buffer buttery	-	-	-	-	**801,00**

START-UP AND MAINTENANCE

GENERAL INFORMATION

Starplast plants are realized in polyethylene through rotational moulding and they respect national and European standards relative to the CE marking of the product, referred to the specific typologies of functioning.

RULES FOR THE GOOD WORKING OF A PLANT

- CORRECT SIZING
- PERFECT INSTALLATION
- REGULAR PERIODIC MAINTENANCE

THEY ALLOW TO:

- REDUCE THE FREQUENCY OF INTERVENTIONS AND EXTRAORDINARY MAINTENANCE
- INCREASE THE USEFUL LIFE OF THE PLANT
- RESPECT THE REGULATORY AND AUTHORIZATION REQUIREMENTS
- REDUCE ELECTRIC ENERGY CONSUMPTION

HOW TO MAKE MAINTENANCE

- **USER** Rely on a specialized technician (electrician or hydraulic)
- **TECHNICIAN** Every other maintenance operation must be carried out by authorized and specialized staff (and after detachment of electric energy.
  Hereafter, we include the minimum indications for a correct management and installation of the plant.

START-UP

After having completed the correct assembly of the entire plant and all the additional components, having made the preliminary checks and after having made sure that the connection of the pipes, as well as the electro-technical connections have been occured withour poblems, it is possible to put the plant into operation.
Follow carefully the indications of the producer of the electro-mechanical devices supplied with the plants.

IMPORTANT
The start-up can occur only at the hands of specialized and authorized staff.
Carefully check again installation

SPECIFIC MAINTENANCE

WATER SUPPLY AND RELATIVE ALARMS
Each water supply must be checked with each valve group of plant control. Pump(s), if present, in the supply must start automatically and pressure of supply to flow rate must not be less than the value required by the standard.

ELECTRIC SUPPLY
Any secondary electric supply coming from diesel generators must be checked to verify its correct functioning.

SHUT-OFF VALVES
All the shut-off valves which control water flow to sprinkler must be worked in order to ensure that they are operational and must be stopped again in safety and according to the correct modality. This must include the shut-off valves on all the water supplies, on the alarm valve(s) and on all the shut-off valves of area or subsidiaries.

FLOW SWITCHES
Fow switches must be checked in order to verify their correct functioning.

REPLACEMENT
Number and conditions of the components to be replaced (considered as spare parts) must be checked.

ANNUAL PERIODIC CHECK
The following controls and inspections must be made at intervals not exceeding the 6 months.

ALARM WITH REMOTE CONNECTION
Electric installation must be checked.

ANNUAL PERIODIC CHECK
The following controls and inspections must be made at intervals not exceeding the 12 months.

TEST OF LACKED STARTER OF DIESEL ENGINE
The alarm of lacked starter must be tested according to the indications below:
the sequence of automatic start-up must do six motor attempts, each of duration from 5 to 10 seconds, with a maximum break of 10 seconds between each single attempt. The starter device must automatically restore itself.
It must work regardless of the electric supply of the line. The system must automatically switch to the other battery after every starter attempt.
Control tension must be taken from both bacteries simultaneously. It is necessary to provide devices to avoid that a bactery has a negative effect on the other.
Immediately after this check, the engine must be operated using the manual start-up system.

FLOAT VALVES IN WATER STORAGE TANKS
Float valves in water storage tanks must be checked to ensure their correct functioning.

SUCTION CHAMBERS OF PUMP AND FILTERS
Suction filters of the pump and sedimentation chambers and relative schemes must be inspectioned annually at least and cleaned if necessary.

THREE-YEAR PERIODIC CHECK
The following controls and inspections must be made at intervals not exceeding the 3 years.

PRESSURIZED AND STORAGE TANKS
All the tanks must be externally examined to verify the eventual presence of corrosion. They must be emptied, cleaned as required and internally examined to verify the presence of eventual corrosion.
All the tanks must be repainted and/or have a new protection against corrosion, if necessary.

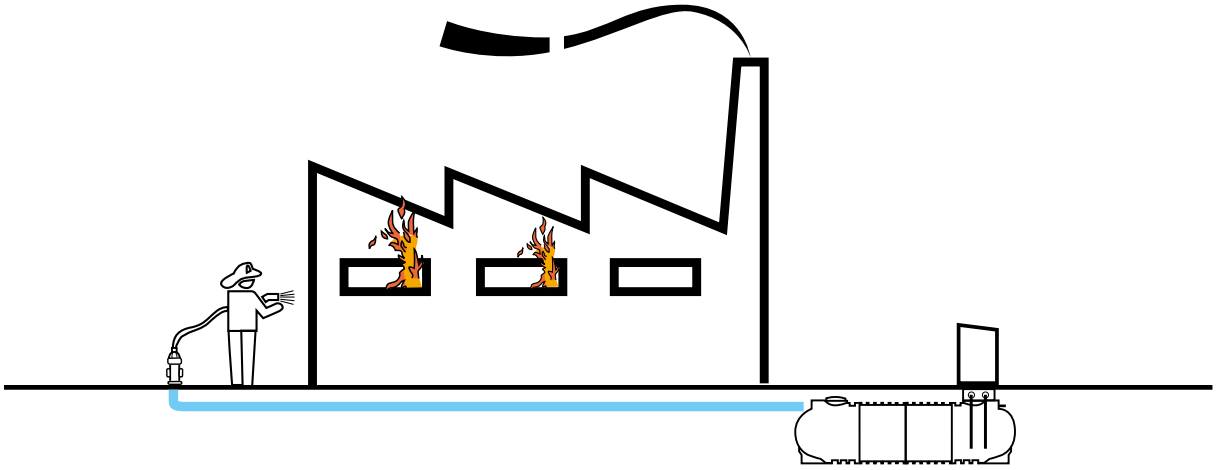
SHUT-OFF VALVES OF WATER SUPPLY, ALARM VALVES AND CHECK VALVES
All the shut-off valves of water supply, alarm valves and check valves must be examined and replaced or revised if necessary.

TEN-YEAR PERIODIC CHECK
At intervals not exceeding the 10 years, all the storage tanks must be cleaned and internally examined and the structure controlled if necessary.

storage for **OVERGROUND** installation

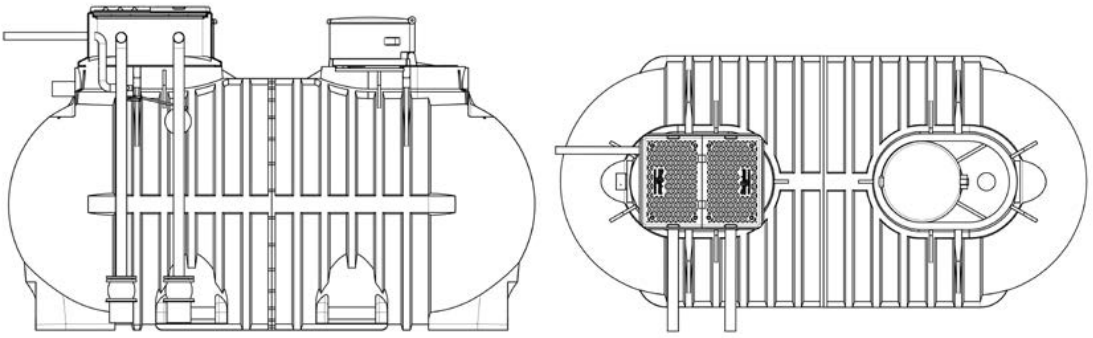
By derogation of the standard storage tanks for overground version are available too.
Such tanks are used for overground pumping stations and can be supplied with all the accessories pre-assembled for the hydraulic connections to pressurization systems in overground version.

PLANT / **ICON**



PLANT / **TECHNICAL DRAWING**

OVERGROUND FIRE-FIGHTING STORAGE TANK / SEI M 12000 AGA



DISEGNO TECNICO

StaRplast
STAMPAGGIO ROTAZIONALE MATERIE PLASTICHE
www.starplastsrl.it
Ufficio Tecnico

REVISIONE	MOTIVO	DATA	DISEGNATO
4			V. Ardelean
3			CONTROLLATO
2			C. Longhi
1			APPROVATO
0	EMISSIONE	22/02/2019	P. Dell'Onte

MATERIALE	PESO	SCALA
LLDPE	0	1:25

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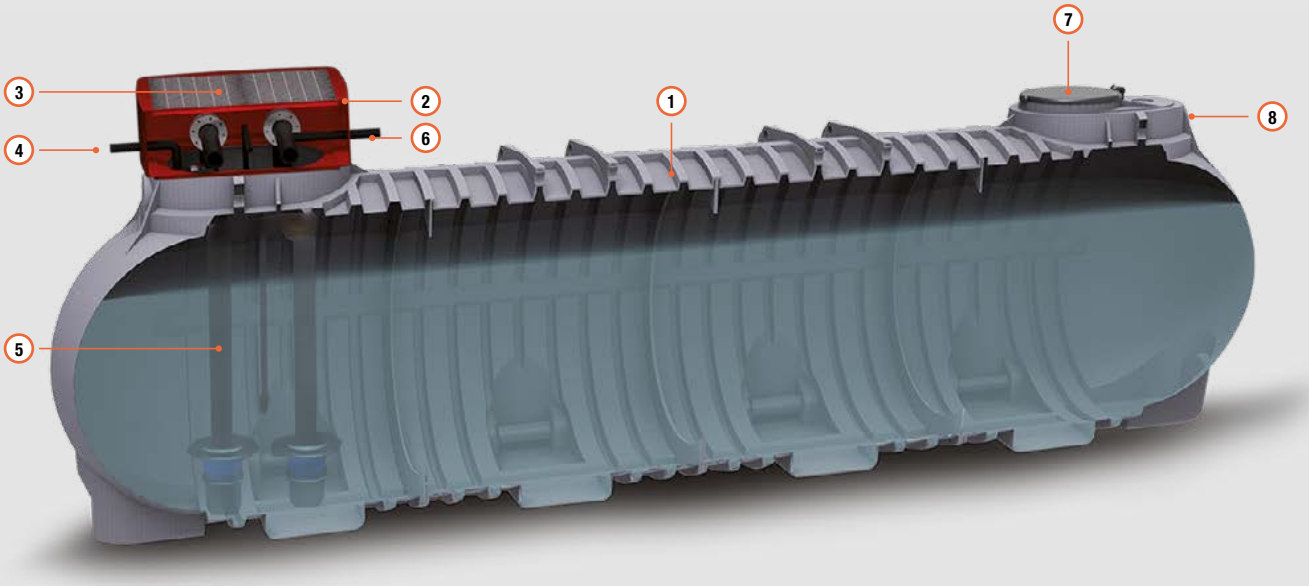
NOTA: le dimensioni dei manufatti realizzati in P.E tramite stampaggio rotazionale, possono avere una tolleranza del +/- 3%

FIRE-FIGHTING WATER STORAGE TANK **OVERGROUND**



SPECIFICATION ITEMS

Supply of tank in polyethylene for underground use "SEI.." type Starplast for water storage as fire-fighting reserve with cylindrical horizontal modular shape welded with total passage electrofusion. Constant thickness of the walls and structure stiffened by vertical and horizontal ribs ensure the mechanical seal. Furthermore, in correspondence of the supporting feet of the tank there are passing holes for anchoring to ground/ base in concrete. On the top generator of the tank there will be a number of entrances appropriate with passing holes ø 600 with bayonet closure cap. The tank can be equipped with special turret in polyethylene for the containing of suction pipes towards plant of fire-fighting pressurization of overhead type, with suction pipes equipped with foot valves and anti-vortex plate.
The tank mod. SEI .. .. will have the following dimensions **Le ... x W ... x h ... total volume lt. ....**

list *data sheet*

TECHNICAL TABLE - PRICE LIST

icon	model	vol.	tanks		Le x W x h	caps Ø cm 60	h max (with turret)	€
		lt	n.	code	cm	n.	cm	
	SEI M 12000 AGA	12.750	1	SEI M 12000 AG	440 x 210 x 234	1	285	8.170,00
	SEI M 18000 AGA	18.980	1	SEI M 18000 AG	620 x 210 x 234	1	285	12.970,00
	SEI M 24000 AGA	25.200	1	SEI M 24000 AG	800 x 210 x 234	1	285	16.420,00
	SEI M 30000 AGA	31.420	1	SEI M 30000 AG	980 x 210 x 234	1	285	20.320,00
	SEI M 36000 AGA	37.650	1	SEI M 36000 AG	1.160 x 210 x 234	1	285	25.270,00
	SEI M 42000 AGA	43.870	1	SEI M 42000 AG	1.340 x 210 x 234	1	285	31.870,00
	SEI M 48000 AGA	50.400	1	SEI M 48000 AG	1.520 x 210 x 234	1	285	35.920,00 *
(x2)	SEI M 60000 AGA	62.840	2	SEI M 30000 AG	980 x 210 x 234	3	285	42.770,00
(x2)	SEI M 72000 AGA	75.300	2	SEI M 36000 AG	1.160 x 210 x 234	3	285	52.670,00
(x2)	SEI M 84000 AGA	87.740	2	SEI M 42000 AG	1.340 x 210 x 234	3	285	65.870,00
(x3)	SEI M 90000 AGA	94.260	3	SEI M 30000 AG	980 x 210 x 234	5	285	64.120,00
(x2)	SEI M 96000 AGA	100.200	2	SEI M 48000 AG	1.520 x 210 x 234	3	285	73.970,00 *
(x3)	SEI M 108000 AGA	112.950	3	SEI M 36000 AG	1.160 x 210 x 234	5	285	78.970,00
(x3)	SEI M 120000 AGA	131.610	3	SEI M 42000 AG	1.340 x 210 x 234	5	285	98.770,00

Prices are inclusive of overflow and sockets Ø 250 for connecting several tanks in parallel.
* Mounting on site not included.

KEY

1. Storage tank
2. Inspection turret
3. Anti-intrusion grid
4. Load pipe with float valve
5. Main pumps suction pipes with bottom valves and anti-vortex plates
6. Return pipe for periodical tests
7. Tank inspection hatch
8. Overflow pipe

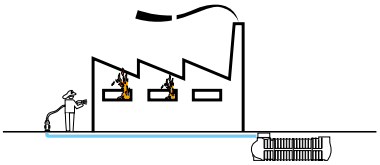
NB

According to standards UNI TR 11438 installations with submersible pumps and overground horizontal centrifugal pumps must be avoided and only used where an underground installation is not technically feasible.

WHERE TO USE IT

In the case of overground pressurisation units usage in all buildings used for production and commercial activities
that fall within the classification of the standard for fire risk.

INSTALLATION SCHEME



STANDARDS AND CERTIFICATIONS

All the equipments of the tanks are compliant with standard:
EN 12845

CALCULATION PARAMETERS

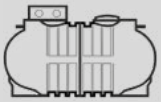
According to the indications relative to the volumes indicated in the project of the fire-fighting plant.

FUNCTION AND USE

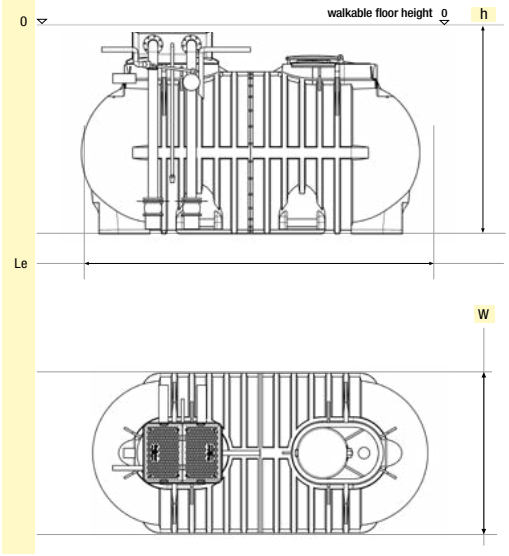
The tanks for overground installation have the function of storing a water reserve which is enough to meet the requirements of a fire-fighting pressurization plant, in case overground pressurization units are used.
They can be equipped with pipes and accessories required by the pressurization units configuration and by the entire design of the system.

ICON

SEI M 12000 AG A



TECHNICAL DRAWING



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- **USER** — Rely on a specialized technician.
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  Hereafter, we include the minimum indications for a correct management and installation of the plant.

START-UP

After having completed the correct assembly of the entire plant and all the additional components, having made the preliminary checks and after having made sure that the connection of the pipes, as well as the electro-technical connections have been occured withour poblems, it is possible to put the plant into operation.
Follow carefully the indications of the producer of the electro-mechanical devices supplied with the plants.

IMPORTANT:
The start-up can occur only at the hands of specialized and authorized staff.
Carefully check again installation and wiring (clamps tightening) of the electric panel.

OVERGROUND FIRE-FIGHTING TANK

SPECIFIC MAINTENANCE

For storage tanks it is necessary to make (at least) annually the following operations:
• Check that at the bottom of the storage tank there is no presence of an excessive layer of slit and, if yes, reclaim the tank with water jet cleaning and disinfection with sodium hypochlorite
• Check the efficiency of eventual spouts of charge and/or discharge inserted on the plan parts of the same.

NOTES

NOTES

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