

SHIELD LOK

FIRE PROTECTION SYSTEM CATALOG

PRODUCT CATALOG



ROYAL GROUP
SANITARY WARE

Beyond Creativity
Stylish, Elegant, Innovation



We believe life safety is
A BEAUTIFUL THING

AT ROYAL

We provide fire protection services, and all of our reliable services are performed under rigorous standards of quality control.

Fire is never a gentle master, unlike many other accidents fires and explosions have the potential to cause catastrophic losses to life, business and properties. So, Protecting your loved ones, business, and your employees from a fire is a priority.

UNITS CONVERSION TABLES

INCHES TO MILLIMETERS

INCH	MM
1/4	6.35
1/2	12.7
3/4	19.05
1	25.4
1.5	38.1
2	50.8
3	76.2
4	101.6
5	127
6	152.4
7	177.8
8	203.2
10	254

CUBIC METERS/HOUR TO
GALLONS/MINUTE

M ³ /H	GPM
1	4.40
5	22.01
10	44.03
25	110.07
50	220.14
100	440.29
150	660.43
200	880.57
250	1100.72
300	1320.86
350	1541
400	1761.15
500	2201.43

METRIC TO UNC

SIZE	BSF/BSW	UNC
M6 x 0.75	1/4	1/4-20
M8 x 1	5/16	5/16-18
M10 x 1.25	3/8	3/8-16
M12 x 1.25	1/2	1/2-13
M14 x 1.5	9/16	9/16-12
M16 x 1.5	5/8	5/8-11
M20 x 1.5	3/4	3/4-10

**EXPERT IN
SOFTWARE ENGINEERING**



AUTODESK
REVIT



ELITE

CERTIFICATES & APPROVAL



The Civil Defense is one of the important agencies for every country and society, as it undertakes a set of procedures and actions necessary to protect people, especially from the dangers of fire, disasters and various accidents.



The Palestinian Standards and Metrology Organization provides inspection services in the field of construction, chemical, mechanical and electrical industries, so that establishments that obtain the institution's marks (quality mark / supervision mark) are followed up by a qualified technical staff in the various fields of specialization.



Established in 1894, Underwriters' Laboratories (UL) is the premier global independent safety science company employing more than 6,900 professionals in over 100 countries. UL is globally recognized for their independent testing, lists and approves equipment for fire protection, including fire pumps. UL 448 standard includes specifications for fire pumps, specifications for pump design and materials, specifications for pump testing.



FM Global began in 1835 as Manufacturers Mutual Fire Insurance Company, combining the concepts of mutual insurance, property protection, and regular fire inspections. FM Global is a worldwide insurer of property in addition to being a testing and approval agency for all types of fire pump and fire system equipment. Of particular importance is FM Global also approves the installation & design of fire protection systems worldwide. Their approval of a fire pump package is a requirement on an FM-insured project. In other words, the fire protection system, including the fire pump, being installed in an FM-insured building must be approved by FM.



The NFPA (National Fire Protection Association) is the world's leading advocate for fire prevention. Established since 1896. Their mission is to reduce the worldwide burden of fire and related hazards to protect the quality of life. Most reliable source on public safety against fire. They developed and published more than 300 consensus codes and standards. NFPA has a strong influence all over the world and renowned for their works and missions.

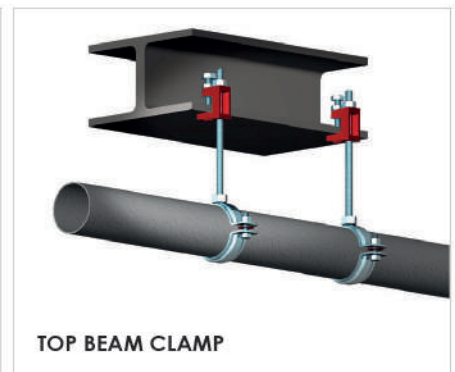
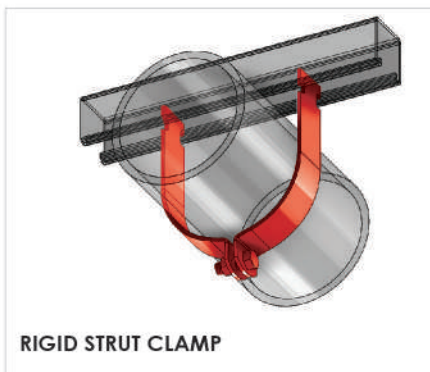
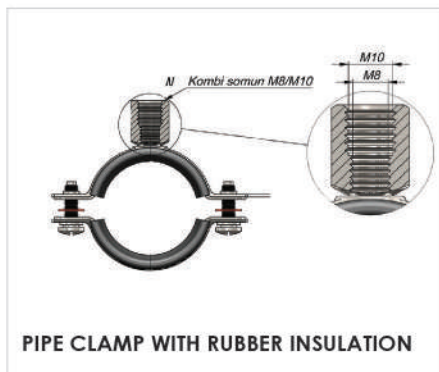


The Standards Institute of Israel (SII) is a state-owned corporation responsible for setting standards for products and services provided in Israel. The Standards Institute tests and certifies products, granting a "stamp of approval" (tav teken). It also verifies that certified products maintain their quality over time.

EN 12845

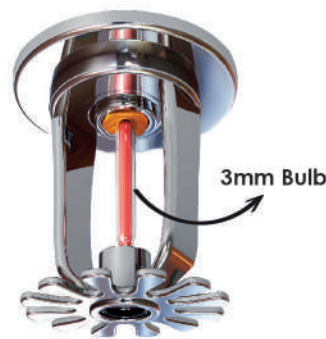
Specifies requirements and gives recommendations for the design, installation and maintenance of fixed fire sprinkler systems in buildings and industrial plants, and particular requirements for sprinkler systems that are integral to measures for the protection of life.

Clamps installation:

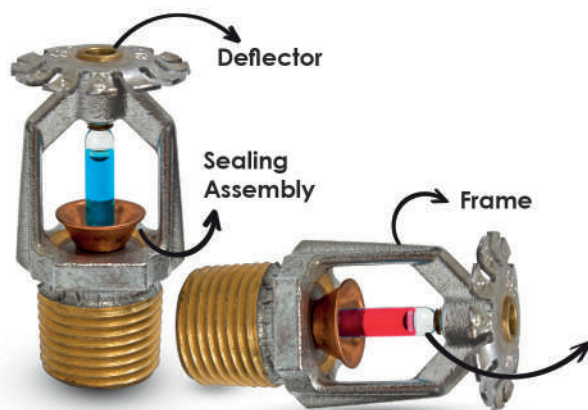
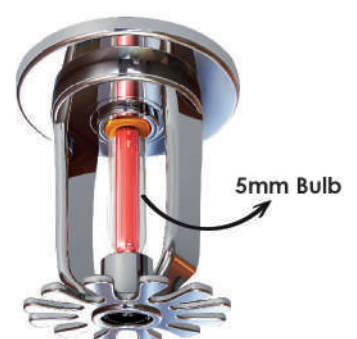


Fire Sprinklers

Quick Response



Standard Response



Sprinkler Head Operating Temperatures

C°	F°	Color	
57°C	135°F	Orange	Ordinary
68°C	155°F	Red	Ordinary
79°C	174°F	Yellow	Intermediate
93°C	200°F	Green	Intermediate
141°C	286°F	Blue	High
191-163°C	375-325°F	Purple	Extra High
343-204°C	650-400°F	Black	Ultra High

The main difference between:



Vs.



Dry risers, on the other hand, are not pressurised. They have an inlet breeching in the bottom of the pipework on the outside of the building. In the event of a fire, firefighters can connect this to a water supply and pump water up the pipework to the landing valves.

Wet risers are kept constantly pressurised. This is with water from either a mains supply or a water storage tank. The basic design is near enough the same as that of a dry riser, with the water supply accessed from the landing valves.

Fire Curtain Types

FIRE CURTAINS
SMOKE CURTAINS

FIRE CURTAIN - HORIZONTAL
FIRE CURTAIN - EGRESS

ACCORDION CURTAINS
DRAFT CURTAINS

Fire Curtain

Fire Curtains are life safety systems that are designed to arrest the spread of fire in a building.

Smoke Curtain

Smoke Curtains are used to control the movement of smoke through a building in the event of a fire.



Pre-Action System

Single Interlock Pre-Action

A.-1 Wet Pilot activated.
A.-2 Dry Pilot activated
A.-3 Electrical activated

If the detector (1) detect, it gives signal to control panel (2). Control panel send the correct alarm signal to closed solenoid valve (3). After opening the solenoid valve, water in deluge system, is discharging and cell in the deluge system will be opened (4). After opening the cell, water going to respectively check valve (5). Water moves on the sprinkler pipes and sprinkler don't explode (6) that's why there is no flowage problem on the are, In deluge valve start the working, pressured safety valve (7) allow the water moves, than check and confirm the deluge valve was opened.

Working Principle:

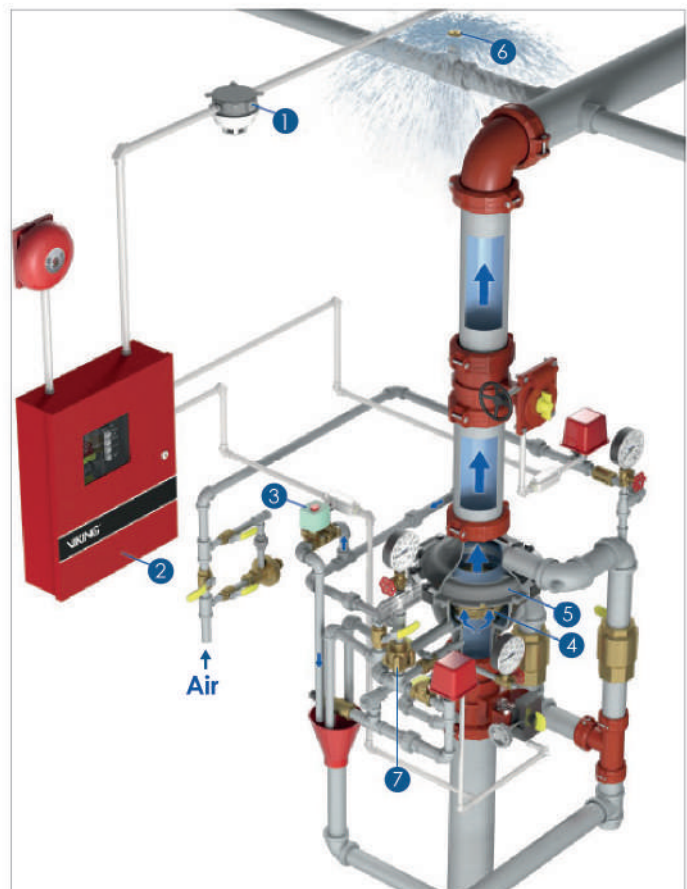
In pilot lines (wet, dry), after sprinklers explode or electrical detection (fume, heat and electrical discharging button) water moves is starting. Extra detection system (pilot sprinkler or detectors) it choose by provide the more quick detection.

Usage Purpose:

For preventing the hazards, which is cause from the sprinkler lines or sprinklers explodes.

Applications:

- Archives
- Computer rooms
- Libraries





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**Be safe
Be aware**



FIRE FIGHTING

Approvals/Listings:



Grooved Elbow 45°

Item No.	Size(inch)	Price
55-1012	1"	52
55-1014	1.5"	52
55-1015	2"	60
55-1017	3"	93
55-1018	4"	154
55-1019	6"	420



Grooved Tee Equal

Item No.	Size(inch)	Price
55-1502	1"	77
55-1504	1.5"	80
55-1505	2"	80
55-1507	3"	138
55-1508	4"	231
55-1509	6"	685



Grooved Elbow 90°

Item No.	Size(inch)	Price
55-1112	1"	52
55-1114	1.5"	52
55-1115	2"	60
55-1117	3"	104
55-1118	4"	190
55-1119	6"	419



Grooved Tee Reduced

Item No.	Size(inch)	Price
55-1652	2" X 1"	103
55-1654	2" X 1.5"	103
55-1674	3" X 1.5"	173
55-1675	3" X 2"	173
55-1684	4" X 1.5"	263
55-1685	4" X 2"	263
55-1687	4" X 3"	263
55-1698	6" X 4"	624



Grooved Drain Elbow

Item No.	Size(inch)	Price
55-1152	2" X 1"	257
55-1172	3" X 1"	322
55-1182	4" X 1"	399
55-1192	6" X 1"	540



Grooved Cross

Item No.	Size(inch)	Price
55-1905	2"	176
55-1907	3"	196
55-1908	4"	393



Grooved Reducing Elbow 90°

Item No.	Size(inch)	Price
55-1320	1" X 1/2"	64
55-1321	1" X 3/4"	64
55-1340	1.5" X 1/2"	80
55-1341	1.5" X 3/4"	80
55-1342	1.5" X 1"	84
55-1350	2" X 1/2"	114
55-1351	2" X 3/4"	114
55-1352	2" X 1"	114



Grooved Concentric Reducer

Item No.	Size(inch)	Price
55-2042	1.5" X 1"	70
55-2052	2" X 1"	70
55-2054	2" X 1.5"	70
55-2074	3" X 1.5"	74
55-2075	3" X 2"	78
55-2084	4" X 1.5"	100
55-2085	4" X 2"	100
55-2087	4" X 3"	131
55-2097	6" X 3"	256
55-2098	6" X 4"	256

FIRE FIGHTING

Approvals/Listings:



Grooved Coupling

Item No.	Size(inch)	Price
55-2103	1"	40
55-2104	1.5"	44
55-2105	2"	50
55-2107	3"	63
55-2108	4"	89
55-2109	6"	159
55-2110	8"	250



Grooved Reducing Coupling

Item No.	Size(inch)	Price
55-2242	1.5" X 1"	111
55-2254	2" X 1.5"	126
55-2274	3" X 1.5"	155
55-2275	3" X 2"	155
55-2285	4" X 2"	194
55-2286	4" X 3"	229
55-2297	6" X 4"	380



Threaded Mechanical Tee

Item No.	Size(inch)	Price
55-2470	3" X 1/2"	107
55-2471	3" X 3/4"	107
55-2472	3" X 1"	107
55-2474	3" X 1.5"	131
55-2480	4" X 1/2"	152
55-2481	4" X 3/4"	152
55-2482	4" X 1"	152
55-2492	6" X 1"	325



U-Blots Branch Mechanical Tee

Item No.	Size(inch)	Price
55-2320	1" X 1/2"	39
55-2321	1" X 3/4"	39
55-2340	1.5" X 1/2"	39
55-2341	1.5" X 3/4"	39
55-2342	1.5" X 1"	40
55-2350	2" X 1/2"	40
55-2351	2" X 3/4"	40
55-2352	2" X 1"	41



Threaded Reducer

Item No.	Size(inch)	Price
55-1742	1.5" X 1"	50
55-1752	2" X 1"	55



Grooved End Cap

Item No.	Size(inch)	Price
55-2902	1"	39
55-2904	1.5"	39
55-2905	2"	39
55-2907	3"	63
55-2908	4"	66
55-2909	6"	160

FIGHTING FIRE WITH INNOVATION



Grooved Mechanical Tee



Item No.	Size(inch)	Price
55-2554	2" X 1.5"	107
55-2572	3" X 1"	131
55-2574	3" X 1.5"	151
55-2575	3" X 2"	151
55-2584	4" X 1.5"	159
55-2585	4" X 2"	159
55-2586	4" X 3"	178
55-2594	6" X 1.5"	200
55-2595	6" X 2"	200
55-2596	6" X 3"	254
55-2597	6" X 4"	280

Nipple Grooved To Thread



Item No.	Size(inch)	Price
55-2804	1.5"	95
55-2805	2"	115

Grooved Check Valve



Item No.	Size(inch)	Price
55-3105	2"	1300
55-3107	3"	1750
55-3108	4"	2050
55-3109	6"	3600

Threaded Mechanical Cross



Item No.	Size(inch)	Price
55-2752	2" X 1"	139
55-2772	3" X 1"	161
55-2782	4" X 1"	229

Sensor Water Flow Switch



Item No.	Size(inch)	Price
55-3205	2"	1750
55-3207	3"	1900
55-3208	4"	2150
55-3209	6"	2273

Grooved Mechanical Cross



Item No.	Size(inch)	Price
55-2675	3" X 2"	226
55-2684	4" X 1.5"	239
55-2685	4" X 2"	239
55-2686	4" X 3"	267

Grooved Butterfly Valves



Item No.	Size(inch)	Price
55-3305	2"	1955
55-3307	3"	2136
55-3308	4"	2273
55-3309	6"	3182

Grooved Adapter Flanged



Item No.	Size(inch)	Price
55-3005	2"	261
55-3007	3"	352
55-3008	4"	472
55-3009	6"	599

Flexible Fire Hose Sprinkler



Item No.	Size	Lenght	Price
55-5810	1" x 1/2"	70	200
55-5820	1" x 1/2"	120	280
55-5821	1" x 3/4"	120	280
55-5840	1" x 1/2"	150	350

Threaded Adapter Flanged



Item No.	Size(inch)	Price
55-3025	2"	261
55-3027	3"	352
55-3028	4"	472

Fire Hydrant



Item No.	Size(inch)	Price
55-3508	3"	4545



Flange Landing Valve

Item No.	Size(inch)	Price
55-9726	3"	3400



Key Flange For Landing Valve

Item No.	Size(inch)	Price
55-97261	3"	365



Angle Valve Of Fire Fighting

Item No.	Size(inch)	Price
55-9735	2"	500



Test Drain Valve

Item No.	Size(inch)	Price
55-3602	1"	1230
55-3603	1.25"	1590



Siamese Connections

Item No.	Size(inch)	Price
55-3408	4 "X 2.5 " X 2.5 "	2045



Sprinkler Upright Temp 68C°

Item No.	Size	K-Factor	Material	Price
55-5100	1/2"	5.6	Brass	78
55-5101	3/4"	8.1	Brass	160
55-5200	1/2"	5.6	Chrome	78
55-5201	3/4"	8.1	Chrome	150
55-5301	3/4"	8.1	Brass	150



Check Valve

Item No.	Size(inch)	Price
55-3418	4"	2500



Window Sprinkler Temp 68C°

Item No.	Size	K-Factor	Material	Price
55-5130	1/2"	5.6	Chrome	117
55-5230	1/2"	5.6	Brass	140



Sprinkler Pendent Temp 68C°

Item No.	Size	K-Factor	Material	Price
55-5110	1/2"	5.6	Brass	78
55-5111	3/4"	8.1	Brass	160
55-5210	1/2"	5.6	Chrome	78
55-5211	3/4"	8.1	Chrome	150
55-5311	3/4"	8.1	Brass	150



Sprinkler Temp 68C°

Item No.	Size	K-Factor	Color	Price
55-5620	1/2"	5.6	Chrome	200
55-5151	3/4"	8.1	Chrome	250



Sprinkler Sidewall Temp 68C°

Item No.	Size	K-Factor	Color	Price
55-5120	1/2"	5.6	Brass	160
55-5121	3/4"	8.1	Brass	290
55-5220	1/2"	5.6	Chrome	78
55-5221	3/4"	8.1	Chrome	150
55-5620	1/2"	5.6	White	200
55-5621	3/4"	8.1	White	250



Sprinklers Wrench

Item No.	Size(inch)	Price
55-5950	1/2"	300



Sprinklers Chrome Cover

Item No.	Size(inch)	Price
55-5920	1/2"	23



Sprinklers White Cover

Item No.	Size(inch)	Price
55-5910	1/2"	23



Upper Side Pressure Gauge

Item No.	Pressure(bar)	Price
44-5905	10	60



Back Side Pressure Gauge

Item No.	Pressure(bar)	Price
44-5900	10	60



Hose Reel With Nozzle

Item No.	Size(m)	Price
55-4101	1" X 30	1636



Fire Fighting Cabinet

Item No.	Size	Price
55-4201	80L X 80W X 30D	1091
55-4203	120L X 80W X 30D	1591



Female Threaded Coupling

Item No.	Size(inch)	Price
55-9505	2"	65
55-9506	3"	120
55-9507	4"	250



Male Threaded Coupling

Item No.	Size(inch)	Price
55-9515	2"	65
55-9516	3"	120
55-9517	4"	250



Blank Cap With Chain

Item No.	Size(inch)	Price
55-9525	2"	100
55-9526	3"	150
55-9527	4"	250



Coupling Reducer

Item No.	Size(inch)	Price
55-9535	2" X 3"	170



Coupling Spanner

Item No.	Size(inch)	Price
55-9595	2"x3"	118



Fire Hose With Coupling 15 Bar

Item No.	Size(inch)	Price
55-9700	2"	500



Fire Hose With Coupling 40 Bar

Item No.	Size(inch)	Price
55-9705	2"	1800



Fire Nozzle

Item No.	Size(inch)	Price
55-9740	1"	130



Short Fire Hoze Nozzle

Item No.	Size(inch)	Price
55-9750	1"	170



Long Fire Hose Nozzle

Item No.	Size(inch)	Price
55-9760	2"	350



Silver Silicone Sealant

Item No.	Flame RES	Price
33-9142	1200 C°	100



Lubricant

Item No.	Size(L)	Price
55-4900	2	159

Pipe Painted Red

Item No.	Size(inch)	Finsh	SCH	Price
55-0602	1"	Black	40	464
55-0652	1"	Glav	40	711
55-0404	1.5"	Black	10	711
55-0504	1.5"	Glav	10	880
55-0604	1.5"	Black	40	1226
55-0654	1.5"	Glav	40	1380
55-0405	2"	Black	10	903
55-0505	2"	Glav	10	1134
55-0605	2"	Black	40	1403
55-0655	2"	Glav	40	1657
55-0407	3"	Black	10	1480
55-0507	3"	Glav	10	1935
55-0607	3"	Black	40	2825
55-0657	3"	Glav	40	3248
55-0408	4"	Black	10	2064
55-0508	4"	Glav	10	2074
55-0608	4"	Black	40	4253
55-0658	4"	Glav	40	4574
55-0409	6"	Black	10	3174
55-0509	6"	Glav	10	3780
55-0609	6"	Black	40	7200
55-0659	6"	Glav	40	8181



ascelik



Galvanized Hanger Clip



Item No.	Size(inch)	Price
30-1512	1"	6.8
30-1513	1.25"	8.2
30-1514	1.5"	8.2
30-1515	2"	9
30-1516	3"	13
30-1517	4"	20.5
30-1518	6"	34



Galvanized Hanger Clip UNC

Item No.	Size(inch)	Price
30-1502	1"	6.4
30-1504	1.5"	7.3
30-1505	2"	8.2
30-1506	2.5"	12.7
30-1507	3"	13.6
30-1508	4"	20.5
30-1509	6"	34.1

INKA



Galvanized Hanger Clip



Item No.	Size(inch)	Price
30-1522	1"	10.5
30-1523	1.25"	11
30-1524	1.5"	11
30-1525	2"	12
30-1526	3"	18
30-1527	4"	25
30-1528	6"	41



Rigid Strut Clamp

Item No.	Size(inch)	Price
30-1700	1/2"	3
30-1701	3/4"	3.2
30-1702	1"	4.5
30-1703	1.25"	5.5
30-1704	1.5"	8.3
30-1705	2"	9
30-1706	2.5"	11
30-1707	3"	12
30-1708	4"	18
30-1709	6"	25
30-1710	8"	30

UNC Pipe Clamp with Rubber Insulation

Item No.	Size(inch)	Size(mm)	Price
30-1600	1/2"	20-25	7
30-1601	3/4"	26-30	7.5
30-1602	1"	32-36	8.2
30-1603	1.25"	38-43	9
30-1604	1.5"	47-51	10
30-1605	2"	60-64	11
30-1606	2.5"	75-80	12
30-1607	3"	87-92	14
30-1608	4"	107-112	23
30-1609	6"	159-166	33
30-1610	8"	200-212	41



Galvanized UNC Drop-in Anchor

Item No.	Size(inch)	Price
30-8002	3/8"	2.30
30-8003	1/2"	4.20



Galvanized UNC Drop-in Anchor

Item No.	Size(inch)	Price
30-8012	3/8"	7
30-8013	1/2"	13

Pipe Clamp with Rubber Insulation



Item No.	Size(inch)	Size(mm)	Price
30-1620	1/2"	20-24	7
30-1621	3/4"	25-28	7.5
30-1622	1"	32-35	8.2
30-1623	1.25"	39-46	9
30-1624	1.5"	48-53	10
30-1625	2"	59-66	11
30-1626	3"	87-94	16
30-1627	4"	110-116	21
30-1628	6"	162-170	33



Galvanized UNC Threaded Rod

Item No.	Size(inch)	Price
30-8052	3/8"	13
30-8053	1/2"	24



Galvanized Drop-in Anchor

Item No.	Size(mm)	Price
30-8101	M8	2.4
30-8102	M10	3.2
30-8103	M12	4.5



Drop-in Anchor

Item No.	Size(mm)	Price
30-8111	M8	3.7
30-8112	M10	6
30-8113	M12	13



Galvanized Threaded Rod



Item No.	Size(mm)	Price
30-8151	M8	16
30-8152	M10	23
30-8153	M12	28



Slotted G Channel

Item No.	Size(mm)	length(m)	Price
30-8212	40x20	3	175
30-8213	40x40	3	250



Slotted Cantilever Arm

Item No.	Size(mm)	length(mm)	Price
30-8253	40x40	300	70
30-8254	40x40	400	80
30-8255	40x40	500	95



Top Beam Clamp

Item No.	Size(inch)	Profile(cm)	Price
30-1902	3/8"	1.5	16
30-1903	1/2"	1.5	24



Wide Mouth Beam Clamp

Item No.	Size(inch)	Profile(cm)	Price
30-1912	3/8"	3	19
30-1913	1/2"	3	25



EQUIPMENTS & TOOLS



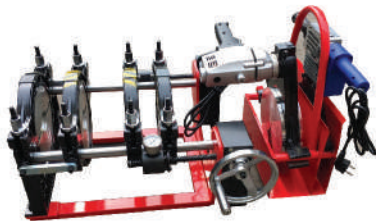
Roll Groover Machine 1 Phase

Item No.	Size(inch)	Power	Price
55-6210	1"- 6"	750 w	62400



Pipe Drilling Machine 1 Phase

Item No.	Size(inch)	Price	Price
55-6310	1"- 4"	550 w	14000



Wheel Manual Butt Fusion Machine 1 Phase

Item No.	Size(mm)	Power	Price
33-9610	40 - 160	1700 w	17500



Drain Cleaning Machine 1 Phase

Item No.	Size(mm)	Power	Length	Price
33-9720	20 - 125	400 w	30 m	11000



Pipe Cutter

Item No.	Size(inch)	Price
55-6110	1"- 4"	1400



Pipe Cutter

Item No.	Size(mm)	Price
55-6120	50-110	1400



GRP WATER TANK

Description:

GRP Panel Tanks are an ideal way to store water. The panel tank is a modular system, which then enables a tank of any desired size to be assembled and constructed. These tanks are generally offered as insulated or non-insulated

Features:

- Non-leakage.
- Easy installation.
- High strength and durability.
- Easy to assemble in any size.
- Easy cleaning and maintenance.
- Easy to increase or decrease the size.
- Excellent UV and weather-resistant characteristics; corrosion and rust resistant.

Applications:

- For fire fighting.
- For agriculture water tank.
- For collecting and storing rainwater.
- For storing hazardous materials or waste
- For your residential or commercial drinking water storage.
- universities, hospitals, construction sites and industrial buildings.

EASY TO ASSEMBLE IN ANY SIZE



TANK SPECIFICATIONS

Panels Technical Data:

- **Material**

1. Food grade unsaturated polyester resin .
2. Alkali free twist glass fiber roving .
3. Thickner (MgO),initiator (curing agent) ,cross linking agent,etc.

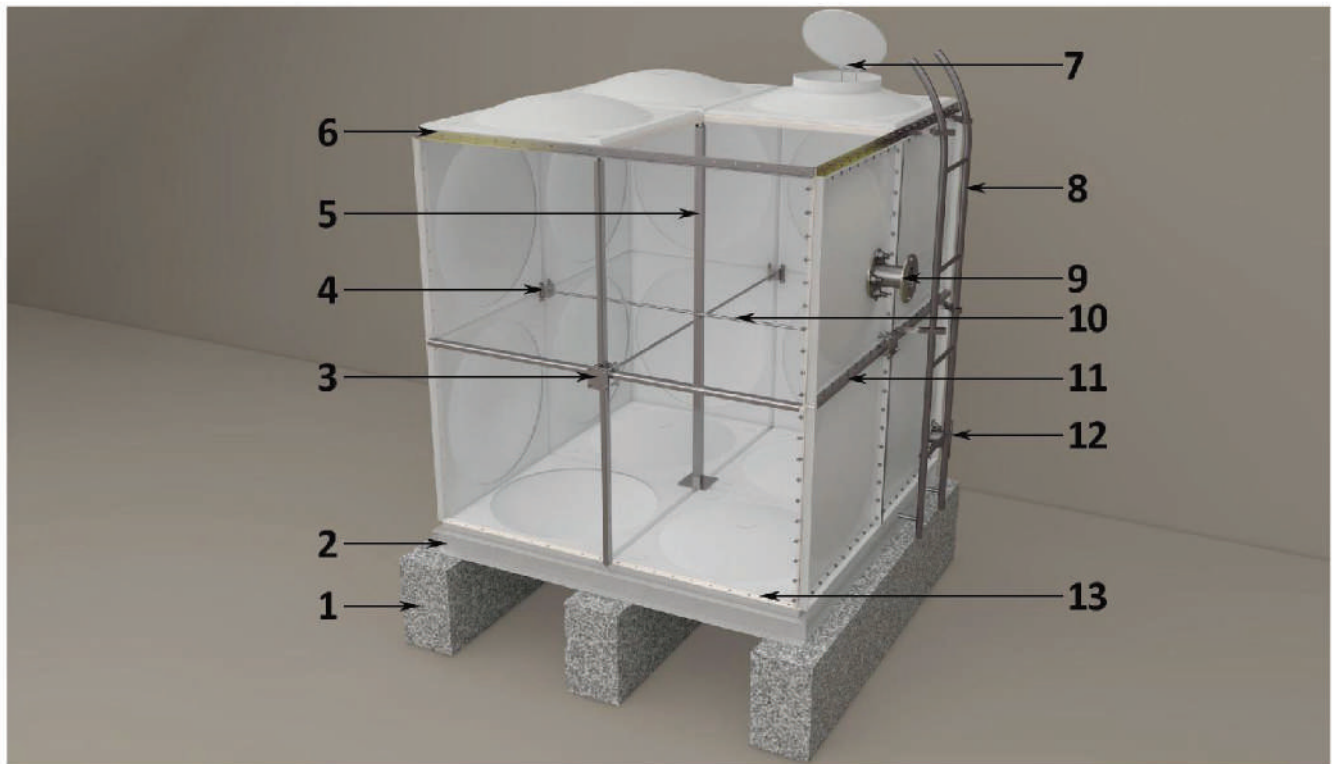
- **Size & Weight**

1. The size of FRP/GRP panel are produced by standard mould, having size 1*1m, 1*0.5 m and 0.5*0.5 m.
2. The panel thickness is depends on tank height.
3. The available highest height is 5 meters (Add external C channel or I-beam reinforcement for 4m and 5m height).

Panel Size	Panel Weight								
	#5	#8	#10	#12	#14	#16	#18	#20	#22
1*1 m	12Kg	17.5 Kg	21 Kg	25 Kg	29 Kg	33Kg	37 Kg	41 Kg	45 Kg
0.5*1 m	7 Kg	9Kg	11 Kg	13Kg	15Kg	17Kg	19Kg	21 Kg	23 Kg
0.5*0.5 m	4.5 Kg	4.8 Kg	5.8 Kg	6.7 Kg	7.5 Kg	8.5 Kg	9.5 Kg	/	/



TANK ACCESSORIES



- 1. Concrete beam.
- 2. C-channel base.
- 3. Outer tie rod bar.
- 4. Inner tie rod plate.

- 5. Vertical support.
- 6. Top angle bar.
- 7. Manhole.
- 8. External ladder.

- 9. Inlet flange.
- 10. Horizontal tie rod.
- 11. Side angle bar.
- 12. Outlet flange.
- 13. Sealing rubber.

ACCESSORIES SPECIFICATIONS

Bolts & Nuts

- 1. Hot dipped galvanized.
- 2. Stainless steel 316/304.

Internal Structure

- 1. Hot dipped galvanized.
- 2. Stainless steel 316/304.

Sealing Rubber

- 1. Food grade EPDM.
- 2. Silicone.

Skid Base

- 1. Painting.
- 2. Hot dipped galvanized.

Flanges

- 1. Hot dipped galvanized.
- 2. Stainless Steel 316/304.
- 3. P.V.C.

Water Indicator

- 1. Glass with brass valve.
- 2. Float type.

SMC WATER TANK

Description:

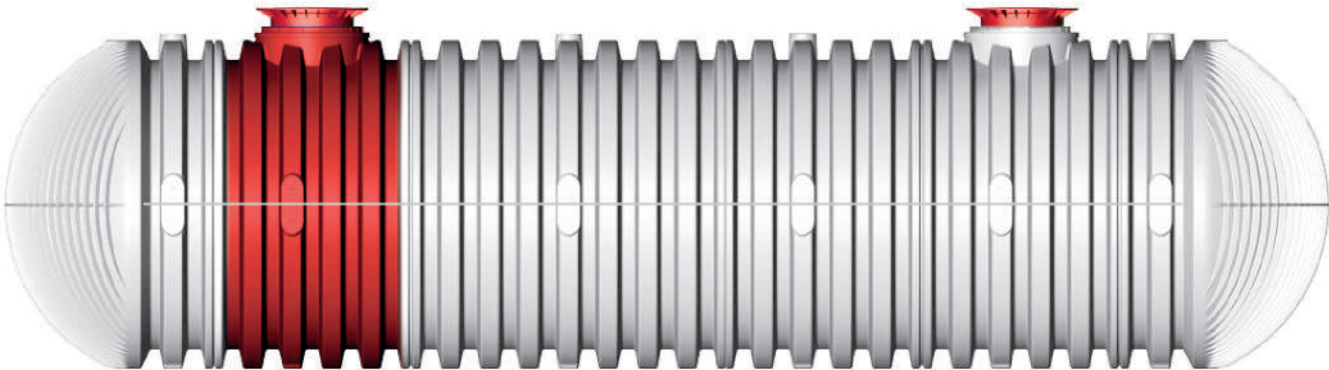
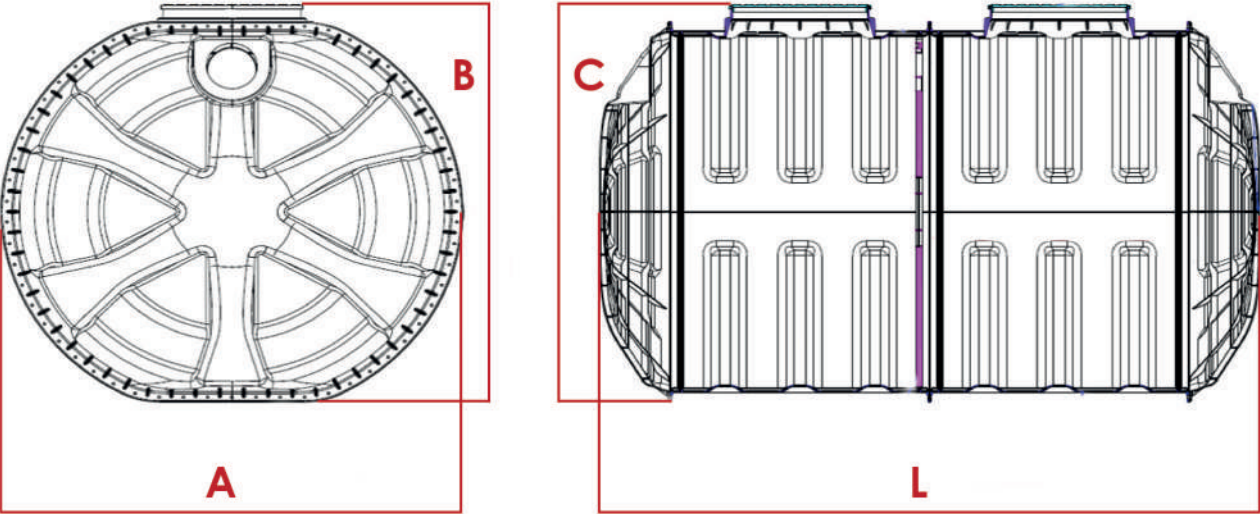
SMC stands for Sheet Molding Composite. Thanks to improved technology, it is more resistant than any metal, having more lifetime compared to plastics, and is also stainless free. It is conform to food regulations, does not lead to a bad smell, doesn't get effected by the warm and cold weather temperatures. It is a highly convenient material for development. SMC, going beyond the usual, uses this material which has a wider application in the automotive sector, to manufacture water tanks. These tanks can be easily used for the storage of rain water, drinkable or wastewater, fire fithing tanks, as a septic, storage tank or a separation tank to separate oil from the water of household waste.

It can be used either on the ground or underground. It is not worn by the sun light or other natural events when on the ground. In the need of space, it can be easily placed underground. There is no leakage risk in both ways neither from outside nor inside, no moss or stink either. It yields higher resistance to high scale earthquakes. It can be offered to households or collective settlements, according to the need or purpose of use of a small sized workshop or larger sized factory with dimensions or capacity required, to be provided with all its accessories and set-up.



Available sizes for SCM tanks

Num	Volume	Size	Weight
1	4 m³	A: 200 cm C: 192 cm B: 184 cm L: 174 cm	160 Kg
2	7 m³	A: 200 cm C: 192 cm B: 184 cm L: 286 cm	278 Kg
3	10 m³	A: 200 cm C: 192 cm B: 184 cm L: 399 cm	395 Kg
4	13 m³	A: 200 cm C: 192 cm B: 184 cm L: 511 cm	502 Kg



WATERFALL PUMPS



Supply, Testing & Commissioning Of Fire Protection Pumps

SUB-VENDORS



WF FIRE PUMP HOUSE (PRE-PACKAGED FIRE SYSTEMS)

Designed according to the site or client's preferences while complying standard requirements. Due to its single source responsibility and compact feature, the on-site installation of the system can be completed in as little as 6 hours which reduces the installation cost, labor hours, project timelines and eliminates potential field installation and interface problems. Pre-wired, factory tested and assembled with components selected from the most reliable manufacturers across the globe in order to ensure that the best functionality of the equipment will be delivered. Consist of UL Listed or FM Approved fire pumps, controllers, valves, pressure gauges, flow meter, fuel tanks etc. and is ensure to undergo for quality checks, inspections and factory tests before the package assembly. Electrical connection, piping lines and installation of the component is completed in the factory. Complete system is tested to eliminate on-site leaks.



HORIZONTAL SPLIT CASE FIRE PUMPS



Typically offer wide range of hydraulic coverage while operating at higher efficiencies. Rugged, heavy duty construction coupled with superior design features make this type of pumps very reliable while requiring low maintenance. Fully enclosed double suction impellers practically eliminate axial thrust while radial load is equally shared by the bearings located at each end of the shaft. The simplicity of design allows service without disturbing piping at site. It can be driven by either an electric motor or a diesel engine with a full range of options and accessories available to comply fully to NFPA standards. Heavy fabricated steel base plates are used to mount the pump and driver along with flexible coupling which connects driver to pump. Horizontal Split Case Fire Pumps are ideal when the source of water is located above the ground as it provides a positive suction pressure to the pump at any performance point.

SPECIFICATIONS:

CERTIFICATIONS & APPROVALS	:	UL & FM
COMPLIANCE TO STANDARDS	:	UL 448 ,FM 1311, NFPA 20
CAPACITY	:	300 GPM up to 3500 GPM
PRESSURE	:	81 PSI up to 345 PSI
FREQUENCY	:	50 Hz / 60 Hz
APPLICATIONS	:	Sprinkler Systems, Hydrant Systems & Deluge Systems



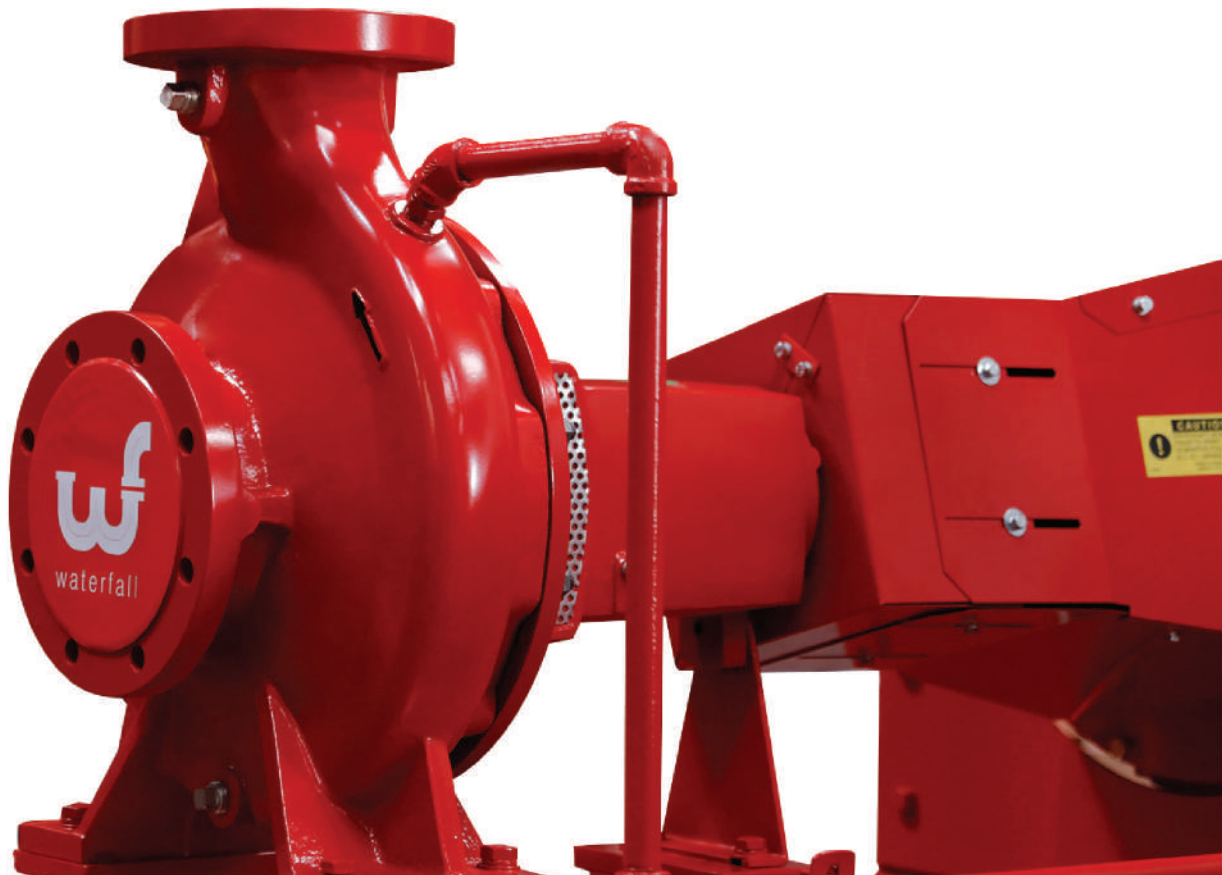
END SUCTION FIRE PUMPS



Are engineered to last with a precision-cast, dynamically balanced and enclosed impeller that minimizes the vibration and maximizes bearing life. Due to its back-pull-out design, the complete bearing assembly including impeller and casing cover can be dismantled without removing the volute casing from the pipe system. It can be driven by either an electric motor or diesel engine with a full range of options and accessories available to complete the NFPA-compliant fire pump. Heavy fabricated steel base is available to mount the pump and driver along with flexible coupling connects driver to pump. End Suction Fire Pumps are ideal when the source of water is located above the ground as it provides a positive suction pressure to the pump at any performance point.

SPECIFICATIONS:

CERTIFICATIONS & APPROVALS	:	UL & FM
COMPLIANCE TO STANDARDS	:	UL 448, FM 1319, NFPA20
CAPACITY	:	50 GPM up to 1000 GPM
PRESSURE	:	80 psi up to 309 psi
FREQUENCY	:	50 Hz / 60 Hz
APPLICATIONS	:	Sprinkler Systems, Hydrant Systems & Deluge Systems



VERTICAL TURBINE FIRE PUMPS



Are specially designed to pump from water source located underground or below deck, where there is no possibility to install a horizontal fire pump. The flexibility of its design allows the use of a wide range of materials. Vertical Turbine Pumps use multistage configuration to meet the specific requirements of the user and can be customized according to specific installation requirements. The space saving vertical design minimizes the floor space requirements. It can be driven by either an electric motor or diesel engine with a full range of options and accessories available to complete the NFPA-compliant fire pump. Waterfall vertical turbine fire pumps are available in a wide range of flow rates, pressure heads and material of construction.

SPECIFICATIONS:

CERTIFICATIONS & APPROVALS	:	UL Listed
COMPLIANCE TO STANDARDS	:	UL448, FM 1312, NFPA20
CAPACITY	:	150 GPM up to 2000 GPM
PRESSURE	:	49 psi up to 402 psi
FREQUENCY	:	50 Hz / 60 Hz
APPLICATIONS	:	Sprinkler Systems, Hydrant Systems & Deluge Systems





ENGINEERING
CONFIDENCE

1KDN COMPACT



UNI EN 12845 FIRE-FIGHTING SETS WITH STANDARDISED CENTRIFUGAL PUMPS

Diesel and electric motor fire-fighting sets, ideal for automatic sprinkler systems and/or hydrants of commercial buildings. Designed to be coupled with each other, in order to obtain all the versions and meet all the requirements of the EN 12845 and UNI 10779 standards.

By means of a elastic spacer coupling, the pump is coupled to an electric (efficiency level IE3) or Diesel motor capable of providing the power absorbed by the pump at any pump load condition, from no-load, to a load corresponding to NPSH1.6m (as requested by section 10.1 of the UNI EN 12845 standard).

MODULAR DESIGN

The UNI EN 12845 DAB fire-fighting sets are supplied in modular version. This setup facilitates transport, and the installation of DAB fire-fighting pump sets in pump rooms, even with narrow access doors. Thanks to a coupling kit (supplied as accessory), it is possible to obtain all the compositions contemplated by the standard (one, two, or three electric or Diesel pumps, with or without jockey pump).



EXAMPLES OF INSTALLATION WITH 1KDN

FLOODED SUCTION INSTALLATION

The standards set down, in order of preference, the various ways in which a pump for a fire-fighting set can be installed. End-suction horizontal pumps must be installed with flooded suction whenever possible, and the standard EN12845 clearly defines the parameters for flooded suction installation:

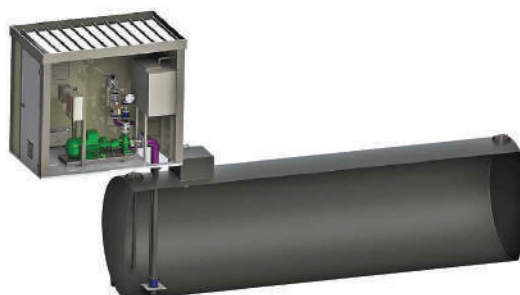
- At least two thirds of the actual suction tank capacity must be above the level of the axis of the pump.
- The axial line of the pump must not be more than 2 m above the minimum level of water in the supply tank.



SUCTION LIFT INSTALLATION

Suction lift installation is the alternative when flooded suction installation is not possible. Standard EN12845, however, advises against suction lift installation and specifies that it should be considered only when flooded suction installation is not feasible. The standard indicates a maximum distance of 3.2 m between the axial line of the pumps and the lowest point of the suction piping.

Specific priming pumps must also be installed above the main pumps (1 per main pump) to ensure that these are all primed.



FEATURES



COLLECTION RESERVOIR

Reservoir for the collection of any fuel leaking out of the diesel tank, included up to 11kW, pursuant to UNI 11292.



BATTERIES - MAINTENANCE

Batteries and sensitive components are in front of the fire-fighting set, making their maintenance simpler.



FRAME

Compact steel frame painted RAL 3000 red to support the pump, with anti-vibration devices to dampen the vibrations transmitted to the system.



ALARM REMOTE CONTROL UNIT

Alarm notification and remote control unit suitable for sets with 1 to 3 pumps. The GSM module accessory makes it possible to receive notification text messages in real time on the status of the pumping system.



TANK

All the engine-drive pumps have a fuel pump sized to ensure 6 hours of operation, as required for the highest hazard classes pursuant to standard EN12845 - 10.9.6.



CLAPET VALVE

An inspectionable check valve is mounted on the delivery port of each main pump to facilitate maintenance.



HIGH QUALITY

Fire-fighting sets designed and manufactured with components that guarantee a high standard of quality.

WE CUSTOMIZE AS YOU NEED



MOTORS

The motors of all the main pumps are sized in accordance with standard EN 12845 - 10.1 to supply the power absorbed by the pump under any load conditions up to an NPSH value of 16 m.c.w.



DESIGN

Compact sizes and modular structure, for coupling together (modular design) in order to meet the requirements of all the versions of the EN 12845 standard, as well as making transport and handling in restricted spaces easier.



HYDRAULICS

End-suction back pull out (as required by the EN 12845 - 10.1 standard) horizontal axis standardised centrifugal pump coupled with an electric or Diesel motor by means of an elastic spacer coupling protected by safety coupling cover.



CONTROL PANELS

All the fire-fighting sets have an electric control panel pursuant to EN 12845 / UNI 10779 for each main pump and an electric control panel for the jockey pump, already connected to the main components (motor, pressure switches, sensor, batteries, etc.).

UNI EN 12845 FIRE-FIGHTING SETS WITH VERTICAL TURBINE PUMPS

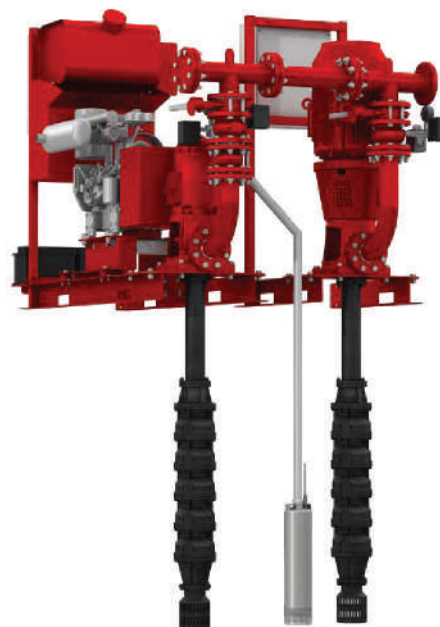
The new 1KVT fire-fighting pump sets with diesel engine or electric motor assembly, ideal for automatic sprinkler systems and/or hydrants of commercial buildings, are manufactured using vertical turbine pumps, in accordance with article 10.6.1 of UNI EN 12845 standards.

- Simple maintenance: Thanks to the submersible pump body and the motor assembly control above the surface, they eliminate any self-priming issues, in addition to making the job of the maintenance technician much easier.
- Modular design: DAB pressurisation sets are designed to be coupled with each other, in order to obtain all the versions and meet all the requirements of the UNI EN 12845 standard.

AVAILABLE SET MODELS:

- 1 KVT EN consisting of an axial flow submersible pump (vertical turbine pump) with electric motor, including submersible pump, cork plug, control head installed on appropriate base, electric control panel.

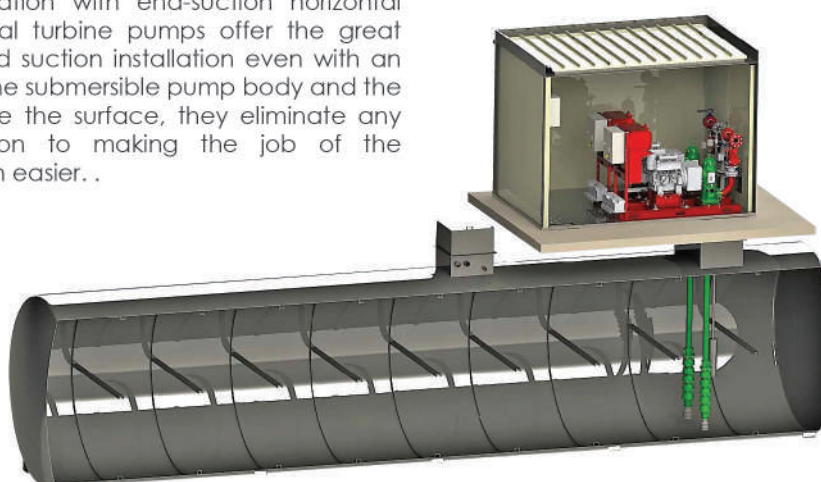
- 1 KVT MD EN consisting of an axial flow submersible pump (vertical turbine pump) with air or radiator cooled diesel engine (heat exchanger on request), including submersible pump, cork plug, control head installed on appropriate base, electric control panel, diesel tank ensuring 6 hours of operation, with fuel collection tank for powers up to 26 kW.



EXAMPLES OF INSTALLATION WITH 1KDN

FLOODED SUCTION INSTALLATION

Standard EN12845 recommends the use of vertical turbine pumps when flooded suction installation with end-suction horizontal pumps is not possible. Vertical turbine pumps offer the great advantage, in fact, of flooded suction installation even with an underground tank. Thanks to the submersible pump body and the motor assembly control above the surface, they eliminate any self-priming issues, in addition to making the job of the maintenance technician much easier. .



FIRE FIGHTING PUMPS



APPLICATION :

These machines are ideal for pumping clean water and other chemically and mechanically non-aggressive liquids. They are adapted for civil, agricultural, industrial or general plant uses, water supply, spray or flowing irrigation, autoclave feed, high pressure system, heating, conditioning and **Firefighting Applications**.



CS

Monoblock Centrifugal Pump

3 Phase

	Model	H.P	M ³ /H	6	7.5	12	21	24	30	36	In/Out (Inch)
44-2060	CS32-160C	2	H	26	25	24	20	18	-	-	2/1.25
44-2061	CS32-160B	3	H	29	29	27	23	22	16	-	2/1.25
44-2062	CS32-160A	4	H	37	36	35	30	29	24	-	2/1.25
44-2063	CS32-200C	5.5	H	41	41	40	37	35	32	26	2/1.25
44-2064	CS32-200B	7.5	H	56	56	55	52	50	47	43	2/1.25
	Model	H.P	M ³ /H	9	21	24	30	36	42	54	In/Out (Inch)
44-20645	CS40-200B	7.5	H	46.5	44.5	43.5	41.5	39.5	37	31.5	2.5/1.5
44-20646	CS40-200A	10	H	56	54	53	51	49	46.5	40.5	2.5/1.5
44-20647	CS40-250B	15	H	74	73.5	73	71	68.5	65.5	54	2.5/1.5
	Model	H.P	M ³ /H	21	27	33	48	60	72	78	In/Out (Inch)
44-2065	CS50-160C	5.5	H	30	29	28	24	21	16	-	2.5/2
44-2066	CS50-160B	7.5	H	37	37	36	32	29	24	21	2.5/2
44-2067	CS50-160A	10	H	40	40	39	35	32	27	23	2.5/2
44-2068	CS50-200C	12.5	H	-	49	48	45	42	37	33	2.5/2
44-2069	CS50-200B	15	H	-	52.5	51.7	49.2	46	41	38	2.5/2
44-20693	CS65-160A	20	H	-	-	-	39.5	38.5	37.5	37	3/2.5
	Model	H.P	M ³ /H	66	84	120	156	195	225	240	In/Out (Inch)
44-20697	CS80-200B	40	H	54.1	53.6	51.3	47.7	41.2	33.6	28.5	4/3

FIRE FIGHTING FOAM PUMPS

FOAM TRANSFER PUMP

- Type: Custom
- Flow: (50-105) gpm
- Pressure: (50-150) psi
- Model: Custom foam transfer pump
- Max. Working Pressure: 150 psi (10.34 bar)
- Storage tank of foam: 300 Liter
- Hose roll length: 30 m
- Engine Type: Diesel
- Engine Type: 4 Stroke horizontal shaft
- Starting System: Manual; recoil with electric start option
- Weight: 38 kg (83,7 lbs)



SECURITY CABIN SOLUTIONS

CABIN INCLUDES:

- Base & roof.
- Outer & inner walls.
- Side window & door.
- Electric installation.

TECHNICAL DATAS:

- Cabin size 150 * 150 up to 270 * 750 cm.
- Cabin Hight 240 cm.
- Snow load 80 Kg/m².
- Wind speed 80 Km/Hour (Cabin must be fixed to the ground).

ADVANTAGES OF SECURITY CABINS:

- Can be transported easily.
- Easy to clean.
- Environmental friendly.
- Light.
- Economical.
- Can be produced faster.
- High quality.
- Provides superior insulation.
- Provides fast assembly-disassembly.



PROJECTS

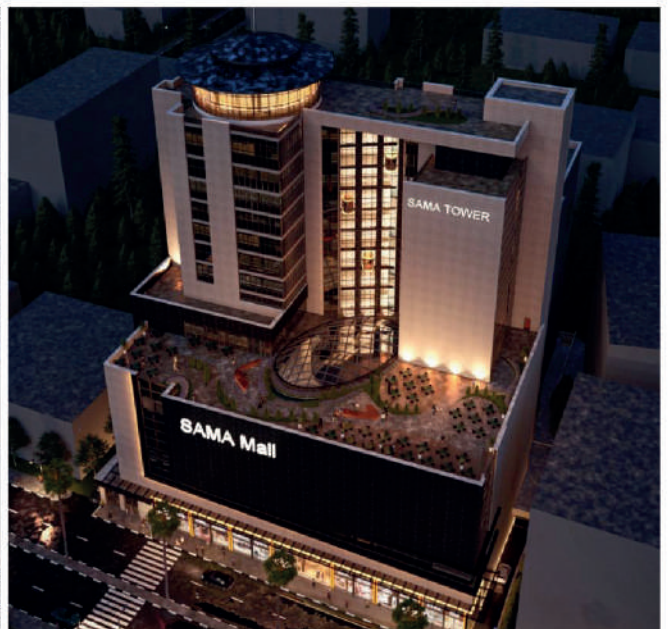
MAZAYA MALL

- This is one of the biggest project in Ramallah city.
- Total area is 40,000 m².
- Supply all the pipes and fittings for fire fighting.
- Supply UL/FM fire fighting pump (1250 gpm @ 11 bar) one electric, one diesel & jockey pump.



SAMA MALL

- One of the biggest project in Hebron city.
- Total area is 50,000 m².
- Supply all the pipes and fittings for fire fighting system.



STORYA MALL

- New project in Ramallah city.
- Total area is 30,000 m².
- Supply all pipes and fire fighting fittings for the project.



ADC WAREHOUSE

- Project in Hebron city.
- Supply and install all fire fighting fittings.
- Supply Fire fighting pump EN12845 from DAB company in Italy (500 gpm @ 5.7 bar) 2 electrical pump, jockey pump.



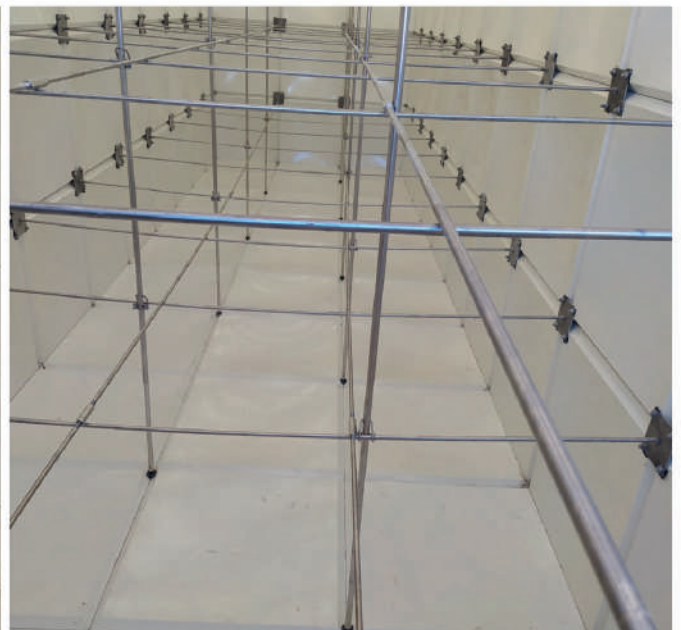
HEBRON MUNICIPALITY

- Project in Hebron city.
- Capacity 20m³.
- Dimensions (5 x 2 x 2) m.
- Supply and install GRP tank for fire fighting system.
- Supply UL/FM fire fighting pump (300 gpm @ 7 bar), one electrical pump with ATS control panel and jockey pump.



OOREDOO WAREHOUSE

- Project in Ramallah city.
- Supply and install GRP tank for fire fighting system.
- Capacity 99m³.
- Dimensions (11 x 3 x 3) m.



OTHER PROJECTS

● STUDENT HOUSING FOR AL-QUDS UNIVERSITY

Supply UL/FM firefighting pump(450 gpm @ 7 bar) one electric, one diesel, and jockey pump.

● AL-HUDHUD FOR FURNITURE-NABLUS

Supply Pipes and fittings for fire fighting system.

Supply and install GRP tank for fire fighting Capacity 40m³, Dimentions (5 x 4 x 2) m.

● HANANIA & KHARAZ-RAMALLAH

Supply and install GRP tank for fire fighting Capacity 60 m³, Dimentions (6 x 6 x 1.5) m.

● PRINCES HALL-BETHLEHEM

Supply UL/FM fire fighting pump(500 gpm @ 8 bar) one electric, ATS, and jockey pump.



NOTE

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