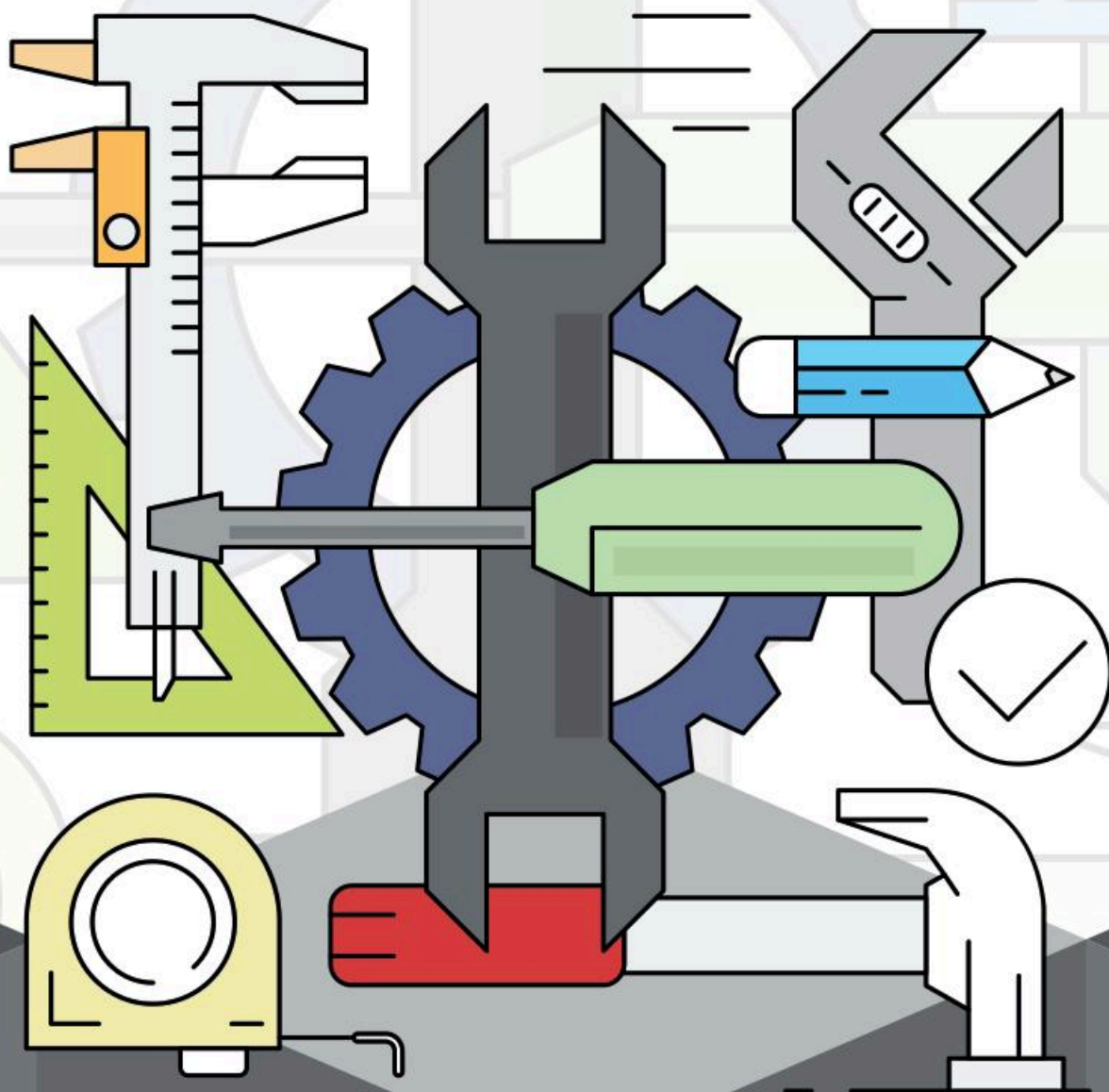




byz

TECHNOLOGY

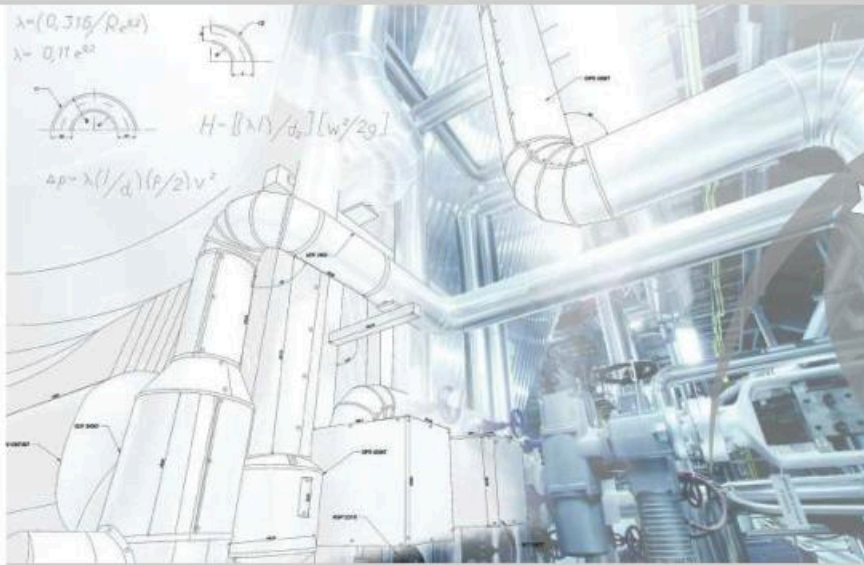


MECHANICAL
CATALOGUE



byz

TECHNOLOGY



COMPANY VISION & MISSION

As **BYZ Technology** we have been working hard to provide you with a high grade and exemplary service to achieve Top Notch and modern living standard.

It all started in 2018 with our 10-years of previous experience, we decided to broaden our vision and horizon locally as well as globally. With our professional background and efficiency, we'll make sure to provide you with the best brands.

Although we started small but with our work ethics and customer satisfaction as our first and utmost concern. We have grown visibly, and with our customers' feedback, we will continue to grow.

With all these developments, We are also making solution partnerships with many famous brands from Turkey and the world, with which we continue to grow together, and their number is increasing.

If you want all-inclusive offers regarding your Mechanic and Electrical work from A to Z you have come to the right place. Finally, after a short but intense time since our establishment, we would like to proudly talk about our projects that we have completed and are ongoing in the Republic of Iraq. As in every project, we have done these projects with the excitement of the first day and we will do the next projects with the same excitement and more experience.

- In Republic Of Iraq
- Arjaan Rotana
- Erbil World Trade Center
- Gulan Park Tower
- Concept Company
- Faruk Holding-Shari Jwan Sulaimani
- Dania City – Sulaimani
- Iraq Mall - Baghdad
- Four Bridges Co. The Boulevard Project-Sales Office
- Sky Towers
- Bakhtyari Twin Towers
- London Towers



MECHANICAL

- HVAC
- Fire Fighting System
- Domestic Water
- Project Workmanship and Labor Cost Calculations
- BOQ Calculations
- Plumbing
- Duct Channel and Ventilation
- Heating/Cooling System
- Central Heating/Cooling Systems
- Radiator Heating System
- Heat Pumps
- Fire Extinguishing Systems
- Natural Gas Systems
- Industrial Facility Extinguishing Systems
- Sewage Water Line
- Garbage and Laundry Chute
- Water Treatment System
- LPG Gas System

VRV

Maximum flexibility,
minimum concern;
As it should be.



Meet our superhero: VRV 5 Heat Recovery



Purpose-built to support the decarbonisation
of commercial buildings

**Support your customers in future-proofing their buildings with
a breakthrough solution for sustainable climate control.**

Now, more than ever, we all have a part to play in reducing our environmental impact. That's why Daikin is introducing the VRV 5 Heat Recovery unit with innovative new superpowers that make it a future-proof climate solution. Smarter and more responsive than ever – it offers you and your customers complete peace of mind.

Help your customers reduce their CO₂ footprint now while enjoying maximum comfort and ease of use. Visit www.daikin.eu/VRV5HR to learn more about the VRV 5 Heat Recovery unit.



An R-32 system for every VRV application

R-32

BLUEEVOLUTION



VRV 5 S-series

VRV 5 Heat Recovery

VRV 5 Heat Pump



12.1kW



14.2kW

80kW

90kW

The most extensive range:

Indoor ventilation & control systems



DAIKIN
CLOUD
PLUS

KNX BACnet Interface
Modbus Interface LonWorks Interface

Start to decarbonize commercial buildings today!



Market-leading seasonal efficiency makes VRV5 more sustainable over its entire lifecycle, reducing the indirect CO₂ eq. impact



Specifically built for lower GWP R-32 refrigerant, greatly reducing the reducing the potential direct CO₂ impact with 71% compared to R-410A systems



The perfect partner for BREEAM, LEED and other green building schemes

Ultra-flexible climate control



Wide piping flexibility to tackle any VRV application



Widest range of dedicated R-32 indoor units on the market



Easily integrates HRV and AHU ventilation units



Connectable to all known Daikin smart controls, including Onecta app



5 low sound steps



High ESP fans allowing concealed installation



Shîrudo Technology truly sets VRV 5 apart

- › Complete peace of mind as Daikin provides all required tools to ensure compliance to the IEC product standard
- › Factory supplied refrigerant control measures make the VRV 5 quick and flexible to design without the need for complex and time consuming calculations
- › For stress free design of any commercial building, validate your project in our Xpress software, featuring floor plan integration

RXYS-AV1 / AY1

VRV 5 S-series

Lower CO₂ equivalent and market-leading flexibility

- › Reduced CO₂ equivalent thanks to the use of lower GWP R-32 refrigerant and lower refrigerant charge
- › Top sustainability over the entire lifecycle, thanks to market leading real-life seasonal efficiency
- › Low-height single fan range
- › Easy to transport thanks to lightweight and compact design
- › Wide access area to easily reach all key components
- › Tackle small room applications without any additional measures, thanks to Shīrudo technology
- › Specially designed indoor units for R-32, ensuring low sound and maximum efficiency



5 low sound steps



Flexibility to take care of every room

Sound enclosure for VRV5 S-series

- › Specially designed for RXYS-A4-5-6AV1/AY1
- › Fully optimized and tested in Daikin Factory
- › Outdoor unit sound reduction up to -10 dB(A) on Sound Power values
- › Very low capacity and pressure drop
- › Fast & easy installation & servicing



More details and final information can be found by scanning or clicking the QR codes.



RXYS-AV1



RXYS-AY1

			4AV1	5AV1	6AV1	4AY1	5AY1	6AY1	8AY1	10AY1	12AY1	
Capacity range		HP	4	5	6	4	5	6	8	10	12	
Cooling capacity	Prated,c	kW	12.1	14.0	15.5	12.1	14.0	15.5	22.4	28.0	33.5	
Heating capacity	Prated, h	kW	12.1	14.0	15.5	12.1	14.0	15.5	22.4	28.0	33.5	
	Max.	kW	14.2	16.0	18.0	14.2	16.0	18.0	25.0	31.5	37.5	
Recommended combination			3x FXSA25A2VEB + 1x FXSA32A2VEB	4x FXSA32A2VEB	2x FXSA32A2VEB + 2x FXSA40A2VEB	3x FXSA25A2VEB + 1x FXSA32A2VEB	4x FXSA32A2VEB	2x FXSA32A2VEB + 2x FXSA40A2VEB	4x FXSA50A2VEB	4x FXSA63A2VEB	6x FXSA50A2VEB	
SEER			8.2	7.7	7.6	7.9	7.4	7.3	6.4	6.9	6.5	
SCOP			5.1	4.7		4.9	4.5		4.4		4.6	
ηs,c		%	324.5	306.1	301.0	312.5	294.8	289.9	251.4	274.2	255.8	
ηs,h		%	200.5	185.7	183.6	193.1	178.8	176.8	173.8		182.6	
Dimensions	HxWxD	mm	869x1,100x460						1,430x940x320		1,615x940x460	
Weight		kg	102						144		180	
Sound power level	Cooling	dB(A)	67.0	68.1	69.0	67.0	68.1	69.0	73.2	74.0	76.1	
	Heating	dB(A)	69.0	70.0	71.0	69.0	70.0	71.0	73.5	74.0	76.0	
Sound pressure level	Cooling	dB(A)	49.0	51.0		49.0	51.0		58.1	57.0	60.0	
Operation range	Cooling	Min °C	-5 ~ 46						-5 ~ 52			
	Heating	Max °C	-20 ~ 16						-20 ~ 15.5			
Refrigerant	Type/GWP		R-32 / 675.0						R-32 / 675.0			
	Charge	tCO2eq/kg	3.40/2.30						5.2/3.51	7/4.73	7.1/4.79	
Piping connections	Liquid OD	mm	9.52						9.5		12.7	
	Gas OD	mm	15.9						19.1		22.2	
H/P/LP gas OD		mm										
Tot. pip. length Sys. actual		m	300						300			
Power supply	Phase/Freq./ Voltage	Hz/V	1~/50/220-240			3N~/50/380-415			3N~/50/380-415			
Current - 50Hz	Max. fuse amps (MFA)	A	32			16			25		32	

VRV 5 outdoor unit overview

Capacity class (kW)

Model			Product name	4	5	6	8	10	12	13	14	16	18	20	22	24	26	28	VRV indoor units Residential indoor units	Hydrobox HRV units VAM	HRV units EKVDX	AHU connection	Air curtains	Remarks
Cooling Capacity							22.4	28.0	33.5	36.4	40.0	45.0	50.4	56.0	61.5	67.4	73.5	78.5						
Heating Capacity							25.0	31.5	37.5	41.0	45.0	50.0	56.5	63.0	69.0	75.0	82.5	87.5						
Air-cooled heat recovery	VRV 5 heat recovery	➢ Reduced CO₂ equivalent thanks to the use of lower GWP refrigerant R-32 ➢ Top sustainability over the entire lifecycle ➢ „Free“ heating through heat recovery ➢ Tackle small room applications thanks to Shirudo Technology ➢ The perfect personal comfort thanks to simultaneous cooling and heating	REYA-A																					
Air-cooled heat pump	NEW VRV 5 heat pump	➢ Reduced CO₂ equivalent thanks to the use of lower GWP refrigerant R-32 ➢ Top sustainability over the entire lifecycle ➢ Tackle any room thanks to Shirudo Technology	RXYA-A																					
	VRV 5 S-series	➢ Reduced CO₂ equivalent thanks to the use of lower GWP refrigerant R-32 ➢ Top sustainability over the entire lifecycle ➢ Unique low-height single fan range ➢ Tackle small room applications thanks to Shirudo technology	RXYS-AV1/AY1		1~																			
					3~																			

● Single unit, ● Multi combination

Sound enclosure for VRV5 S-series

- ✓ Specially designed for RXYSA4-5-6AV1/AY1
- ✓ Fully optimized and tested in Daikin Factory
- ✓ Outdoor unit sound reduction up to -10 dB(A) on Sound Power values
- ✓ Very low capacity and pressure drop
- ✓ Fast & easy installation & servicing



~10dB(A)!



Shirudo Technology truly sets VRV 5 apart

- › Complete peace of mind as Daikin provides all required tools to ensure compliance to the IEC product standard
- › Factory-integrated refrigerant control measures make the VRV 5 quick and flexible to design without the need for complex and time consuming calculations
- › For stress free design of any commercial building, validate your project in our Xpress software, featuring floor plan integration



VRV 5 indoor unit overview

Capacity class (kW)

Type	Model	Product name	10	15	20	25	32	40	50	63	71	80	100	125	140	200	250		
Ceiling mounted cassette	UNIQUE Round flow cassette	360° air discharge for optimum efficiency and comfort › Auto cleaning function ensures high efficiency › Intelligent sensors save energy and maximize comfort › Flexibility to suit every room layout › Lowest installation height in the market! › Widest choice ever in decoration panel designs and colors			FXFA-A														
	UNIQUE Fully flat cassette	Unique design that integrates fully flat into the ceiling › Perfect integration in standard architectural ceiling tiles › Blend of iconic design and engineering excellence › Intelligent sensors save energy and maximize comfort › Small capacity unit developed for small or well-insulated rooms › Flexibility to suit every room layout	FXZA-A																
	NEW 1-way blow cassette	1-way blow unit for corner installation › Compact dimensions enable installation in narrow ceiling voids › Flexible installation thanks to different air discharge options › New modern decoration panel	FXKA-A																
Concealed ceiling	Slim concealed ceiling unit	Slim design for flexible installation › Compact dimensions enable installation in narrow ceiling voids › Medium external static pressure up to 44Pa › Only grilles are visible › Small capacity unit developed for small of well-insulated rooms › Reduced energy consumption thanks to DC fan motor	FXDA-A																
	Concealed ceiling unit with medium ESP	Slimmest yet most powerful medium static pressure unit on the market! › Slimmest unit in class, only 245mm › Low operating sound level › Medium external static pressure up to 150Pa facilitates using flexible ducts of varying lengths › Automatic air flow adjustment function measures the air volume and static pressure and adjusts it towards the nominal air flow, guaranteeing comfort	FXSA-A																
	NEW Concealed ceiling unit with high ESP	ESP up to 270 Pa, ideal for extra large sized spaces › Optimum comfort guaranteed no matter the length of ductwork or type of grilles, thanks to automatic air flow adjustment › Large capacity unit: up to 31.5 kW heating capacity	FXMA-A																
Wall mounted	Wall mounted unit	For rooms with no false ceilings nor free floor space › Flat, stylish front panel is more easy to clean › Small capacity unit developed for small of well-insulated rooms › Reduced energy consumption thanks to DC fan motor › The air is comfortably spread up- and downwards thanks to 5 different discharge angles	FXAA-A																
Ceiling suspended	NEW Ceiling suspended unit	For wide rooms with no false ceilings nor free floor space › Ideal for comfortable air flow in wide rooms thanks to Coanda effect › Rooms with ceilings up to 3.8m can be heated or cooled very easily! › Can easily be installed in both new and refurbishment projects › Can even be mounted in corners or narrow spaces without any problem	FXHA-A																
	NEW & UNIQUE 4-way blow ceiling suspended unit	Unique Daikin unit for high rooms with no false ceilings nor free floor space › Rooms with ceilings up to 3.5m can be heated up or cooled down very easily! › Can easily be installed in both new and refurbishment projects › Flexibility to suit every room layout	FXUA-A																
Cooling capacity (kW) ¹					1.1	1.7	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0	22.4	28.0
Heating capacity (kW) ²					1.3	1.9	2.5	3.2	4.0	5.0	6.3	8.0	9.0	10.0	12.5	16.0	18.0	25.0	31.5

(1) Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m

(2) Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m

Biddle air curtains

Type	Product name	Model
Free-hanging	CYA-S/M/L-DK-F	Easy wall mounted installation › Connectable to ERQ and VRV units › Unified range for R-32 and R-410A refrigerant › Payback period of less than 15 years compared to installing an electric air curtain
Cassette	CYA-S/M/L-DK-C	Mounted into a false ceiling leaving only the decoration panel visible › Connectable to ERQ and VRV units › Unified range for R-32 and R-410A refrigerant › Payback period of less than 15 years compared to installing an electric air curtain
Recessed	HXHD-A8	Neatly concealed in the ceiling › Connectable to ERQ and VRV units › Unified range for R-32 and R-410A refrigerant › Payback period of less than 15 years compared to installing an electric air curtain



INNOVATION • SERENITY • COMFORT LISTENING • COMMITMENT

Airwell manifesto

A vision for the future.

This is how Airwell was born in 1947. With the crazy idea of bringing innovative solutions from the United States that did not yet exist in Europe: air conditioning.

Today, innovation is more than ever at the heart of Airwell, as we have become leaders in the creation of thermal and climatic solutions. A deeply human innovation, listening to consumers.

Just like the family spirit that defines Airwell, based on wellbeing and respect for everyone's expectations.

Optimising our energy consumption, favouring solar energy to preserve our natural resources, reinventing consumer uses to limit our environmental footprint, cultivating the comfort of each interior...

At Airwell, we are committed to this for the well-being of everyone and the environment.

"What was our ambition became our mission."

Yes, energy solutions must be intuitive in their management and use.

Yes, they must reduce the ecological and economic impact of housing.

Yes, the world of tomorrow must be built around a single principle: the serenity of each individual.

"And we are convinced of this."

Our most beautiful energy story is you.

WANT TO INVEST AND BECOME A CONTRIBUTOR IN THE ENERGY TRANSITION?

A propitious context:



■ Airwell, the French reference for heat pumps



■ A market driven by new environmental standards



■ A CSR approach at the heart of Airwell



■ A strategy of conquest driven by the new management



■ Airwell, French expert and manufacturer since 1947



■ Innovative energy-efficient solutions

I BECOME A SHAREHOLDER

All the steps are detailed on our website:

<https://groupe-airwell.com/en/become-a-shareholder/>

72

employees

200

business partners

70

service partners

Airwell operates in

80

countries



Control YOUR VRF SYSTEM FROM ANYWHERE

The FlowLogic VRF system can be remotely controlled by the intelligent Wi-Fi module and controlled by the AirConnect Smart application.

1

Control your Airwell VRF air conditioning system wherever you are, up to 4 VRF systems and 64 indoor units.

2

Pair all your indoor units at once thanks to Airwell Wi-Fi Bus Control technology.

3

Multi-site management: quick and easy to use for managing several sites equipped with Airwell VRF from your smartphone.

4

Create your own regulation for greater comfort, maximum efficiency and energy savings with the automation and scenario platform.

5

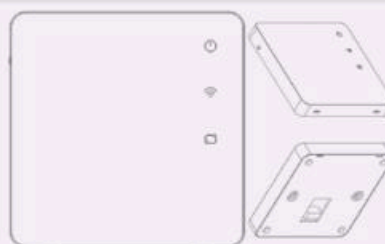
Add a multitude of connected objects.

To download the application, it's simple: just scan the QR code.





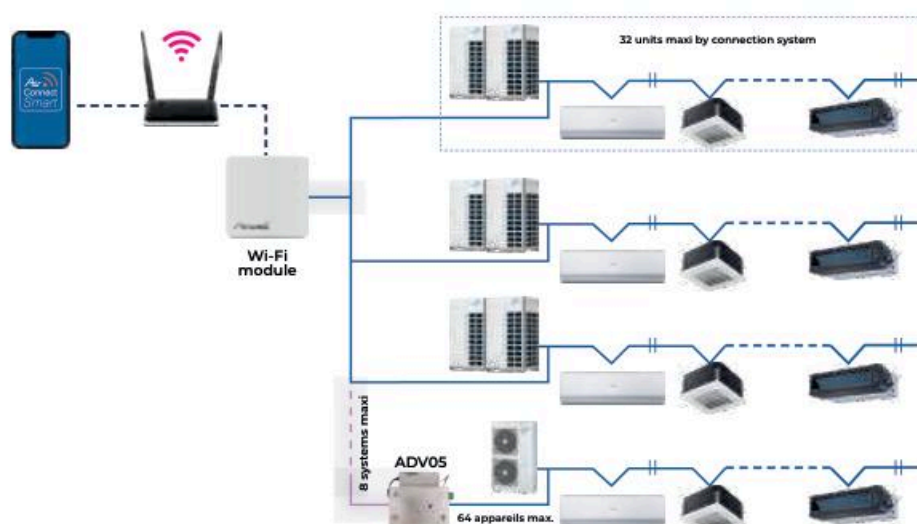
SMART WI-FI MODULE:
► Part number: 7ACEL1869



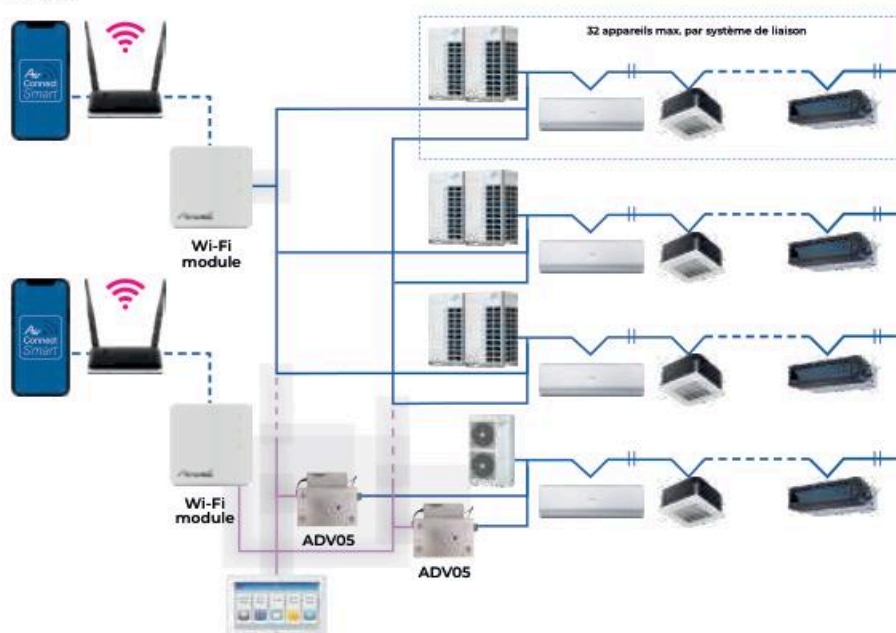
- Dimension du module : 86x86x12 mm
- Models compatibles : VVFA, VVTA, VVEA

INSTALLATION METHOD

- Thanks to Airwell Wi-Fi Bus Control, a single pairing to connect all your indoor units.



- The Airwell VRF can be associated with both the central controller (RWV06, RWV09) and the AirConnect Smart Wi-Fi module.





OUTDOOR UNIT MODELS

REFRIGERANT
TYPECAPACITY
(HP)COOLING
CAPACITY (KW)HEATING
CAPACITY (KW)

p.13

VVFA - 2-PIPES - FRONT DISCHARGE



VVFA-125R

R410A

4

12.10

14.20

VVFA-150R

6

15.50

18.00

VVFA-220R

8

22.60

22.60

VVFA-280R

10

28.00

30.50

VVFA-335R

12

31.50

31.50

p.16

VVTA - 2-PIPES - TOP DISCHARGE



VVTA-250R

R410A

8

25.20

25.20

VVTA-280R

10

28.00

28.00

VVTA-335R

12

33.50

33.50

VVTA-400R

14

40.00

40.00

VVTA-450R

16

45.00

45.00

VVTA-504R

18

50.40

50.40

VVTA-560R

20

56.00

56.00

VVTA-615R

22

61.50

61.50

VVTA-680R

24

68.00

68.00

VVTA-735R

26

73.50

73.50

p.26

VVEA - 3-PIPES - TOP DISCHARGE



VVEA-250R

R410A

8

22.40

22.40

VVEA-280R

10

28.00

28.00

VVEA-335R

12

33.50

33.50

VVEA-400R

14

40.00

40.00

VVEA-450R

16

45.00

45.00

VVEA-504R

18

50.40

50.40

VVEA-560R

20

56.00

56.00

VVEA-615R

22

61.50

61.50

p.36

WATER FLOWLOGIC



VWVO-220R

R410A

8

22.40

25.00

VWVO-280R

10

28.00

31.50

VWVO-335R

12

33.50

37.50

The indoor units of the VRF range adapt to all destinations and all projects. From the 4-way cassette to the 360° cassette, from the extra-flat duct to the high-pressure duct and from the wall to the ceiling-light, Airwell meets all the needs in terms of thermal comfort.

- Fitted with DC inverter fan motors offering high aerodynamic performance with a very low sound level and an electronic expansion valve offering 475 opening steps, the indoor units in the range will combine **comfort and performance**.
- The entire range of indoor units offers a **standard dry contact** allowing the unit to be controlled through a window or door contact or a "room card" for a hotel application.
- At Airwell, each indoor unit is delivered with its RWV05 wired or RCV03 infrared remote control.

MODELS INDOOR UNITS

REFRIGERANT TYPE

p.40		HIGH WALL	HVVA	R410A
p.41		CASSETTE 600X600	CVQA	R410A
p.42		1-WAY CASSETTE	CVPA	R410A
p.43		2-WAYS CASSETTE	CVOA	R410A
p.44		360° CASSETTE	CVTA	R410A
p.45		FLOOR CEILING	FVVA	R410A
p.46		LOW-PRESSURE DUCTED	DVLA	R410A
p.47		MEDIUM-PRESSURE DUCTED	DVMA	R410A
p.48		HIGH-PRESSURE DUCTED	DVHA	R410A
p.49		FULL FRESH AIR UNIT	DVFA	R410A
p.50		CONSOLE	XVVA	R410A
p.52		AHU CONNECTION KIT		

VENTILATION FANS AND SYSTEMS

point



VENTILATION FANS AND SYSTEMS



ROUND DUCT TYPE FAN

YKF

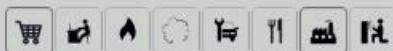


MODELS	FLOW (m ³ /h)	POWER (W)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)	PRICE
P-YKF 100	380	67	230	0.35	2300	50	40	S
P-YKF 125	540	70	230	0.38	2330	50	41	1
P-YKF 150	650	73	230	0.40	2400	50	44	1
P-YKF 200 A	780	95	230	0.57	1400	50	46	
P-YKF 200 B	1000	103	230	0.66	2600	50	49	
P-YKF 250 A	1100	145	230	0.71	2500	50	49	
P-YKF 250 B	1200	165	230	0.85	2700	50	54	
P-YKF 315 A	1550	180	230	1.2	2400	50	52	
P-YKF 315 B	1900	195	230	1.3	2500	50	56	

RECTANGULAR DUCT TYPE FAN

KF

With External Motor



MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-KF 30-15	470	0.09	230	0.42	2600	50	45
P-KF 40-20 A	960	0.16	230	0.68	2600	50	52
P-KF 40-20 B	1160	0.18	230	0.80	2700	50	56
P-KF 50-25	1620	0.18	230	0.80	2700	50	54
P-KF 60-30	1860	0.29	230	1.50	2500	50	50
P-KF 60-35 A	2750	0.21	230	1	1400	50	54
P-KF 60-35 B	3350	0.26	230	1.20	1350	50	58
P-KF 70-40 A	4400	0.43	230	1.50	1380	50	58
P-KF 70-40 B	5850	0.80	230	3.50	1350	50	60
P-KF 80-50	7540	1.10	230	2.50	1400	50	64
P-KF 100-50	9650	1.50	230	2.60	1400	50	66

RECTANGULAR DUCT TYPE FAN

DKF

With Internal Motor

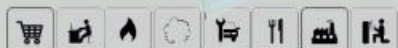


MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-DKF 315 M	2200	0.25	230	2	1500	50	70
P-DKF 355 M	3100	0.25	230	2	1500	50	75
P-DKF 400 M	4200	0.37	230	3.20	1500	50	79
P-DKF 450 M	5500	0.55	230	4.20	1500	50	82
P-DKF 500 M	8100	1.1	230	7.10	1500	50	85
P-DKF 560 M	10500	2.2	230	13.40	1500	50	90
P-DKF 315 T	2200	0.25	380	0.80	1500	50	97
P-DKF 355 T	3100	0.25	380	0.80	1500	50	97
P-DKF 400 T	4200	0.37	380	1.15	1500	50	97
P-DKF 450 T	5500	0.55	380	1.60	1500	50	97
P-DKF 500 T	8100	1.10	380	2.60	1500	50	97
P-DKF 560 T	10500	2.2	380	5	1500	50	97

VENTILATION FANS AND SYSTEMS

RECTANGULAR DUCT TYPE FAN

DKF-EX
External Motor
Ex-Proof



MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-DKF EX 315	2200	0.25	380	0.8	1500	50	70
P-DKF EX 355	3100	0.25	380	0.8	1500	50	75
P-DKF EX 400	4200	0.37	380	1.15	1500	50	79
P-DKF EX 450	5500	0.55	380	1.60	1500	50	82
P-DKF EX 500	8100	1.1	380	2.70	1500	50	85
P-DKF EX 560	10500	2.2	380	3.60	1500	50	85

RECTANGULAR DUCT TYPE FAN

KF-EC
External EC Motor



MODELS	FLOW (m ³ /h)	POWER (W)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-KF-EC 30-15	565	97	230	0,73	3300	50	44
P-KF-EC 40-20 A	810	91	230	0,69	2470	50	43
P-KF-EC 40-20 B	1190	192	230	1,43	3010	50	47
P-KF-EC 50-25	1590	252	230	1,85	2500	50	45
P-KF-EC 60-30	2545	326	230	2,45	2000	50	48
P-KF-EC 60-35 A	2815	361	230	2,62	2000	50	49
P-KF-EC 60-35 B	4290	1308	230	2,35	3160	50	55
P-KF-EC 70-40 A	5710	795	230	3,48	1400	50	53
P-KF-EC 70-40 B	6810	2748	230	2,80	2530	50	57
P-KF-EC 80-50	8395	2025	380	2,01	1470	50	60
P-KF-EC 100-50	11190	3429	380	5,00	1800	50	66

WITH EC MOTOR FANS

REDUCING ENERGY CONSUMPTION

WE SHED LIGHT ON THE FUTURE OF OUR WORLD



VENTILATION FANS AND SYSTEMS

RADIAL ROOF TYPE FAN-HORIZONTAL THROW

CF

With Internal Motor

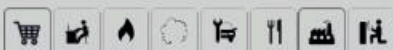


MODELS	FLOW (m ³ /h)	POWER (W)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-CF 180	480	0.09	230	0.42	2600	50	48
P-CF 225	910	0.16	230	0.68	2600	50	49
P-CF 250	1250	0.18	230	0.80	2700	50	51
P-CF 280	2000	0.29	230	1.50	2500	50	46
P-CF 355	2930	0.21	230	1.00	1400	50	45
P-CF 400	4120	0.26	230	1.20	1350	50	50
P-CF 450	5350	0.80	230	3.50	1350	50	51
P-CF 500	7650	1.50	380	2.60	1400	50	55
P-CF 560	9890	2.50	380	4.50	1340	50	65

RADIAL ROOF TYPE FAN-VERTICAL THROW

CF-V

With Internal Motor

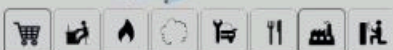


MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-CFV 225	910	0.09	230	0.59	2750	50	49
P-CFV 280	2000	0.15	230	0.85	1400	50	46
P-CFV 355	2930	0.22	230	1.16	1400	50	45
P-CFV 400	4120	0.33	230	1.63	1400	50	50
P-CFV 450	5350	0.45	230	2.16	1400	50	51
P-CFV 500	7650	0.86	230	2.46	1400	50	55
P-CFV 560	9890	1.48	230	4.09	1400	50	65

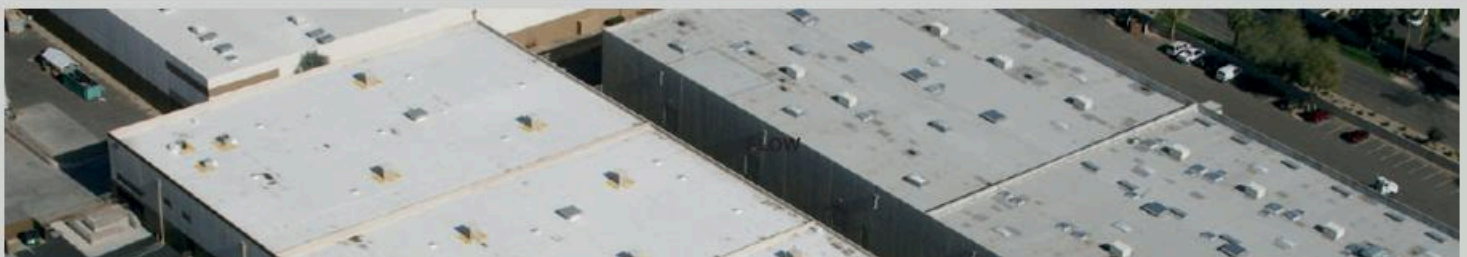
RADIAL ROOF TYPE FAN-VERTICAL THROW

DCF-V

With External Motor



MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-CFV 225	910	0.09	230	0.59	2750	50	49
P-CFV 280	2000	0.15	230	0.85	1400	50	46
P-CFV 355	2930	0.22	230	1.16	1400	50	45
P-CFV 400	4120	0.33	230	1.63	1400	50	50
P-CFV 450	5350	0.45	230	2.16	1400	50	51
P-CFV 500	7650	0.86	230	2.46	1400	50	55
P-CFV 560	9890	1.48	230	4.09	1400	50	65



VENTILATION FANS AND SYSTEMS

RADIAL ROOF TYPE FAN-HORIZONTAL THROW

DCF
With External Motor



MODELS	FLOW (m ³ /h)	POWER (Kw)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-DCF 280 M	1000	0.25	230	2	1500	50	53
P-DCF 315 M	1950	0.25	230	2	1500	50	53
P-DCF 355 M	2900	0.25	230	2.00	1500	50	55
P-DCF 400 M	4000	0.37	230	3.20	1500	50	60
P-DCF 450 M	5550	0.55	230	4.20	1500	50	62
P-DCF 500 M	8400	1.1	230	7.10	1500	50	64
P-DCF 560 M	10800	2.20	230	13.40	1500	50	66
P-DCF 280 T	1000	0.25	380	0.80	1500	50	53
P-DCF 315 T	1950	0.25	380	0.80	1500	50	53
P-DCF 355 T	2900	0.25	380	0.80	1500	50	55
P-DCF 400 T	4000	0.37	380	1.15	1500	50	60
P-DCF 450 T	5550	0.55	380	1.6	1500	50	62
P-DCF 500 T	8400	1.1	380	2.6	1500	50	64
P-DCF 560 T	10800	2.2	380	5	1500	50	66



RADIAL ROOF TYPE FAN-HORIZONTAL THROW

DCF-EX
With External
Motor



MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-DCF EX 280 T	1000	0.25	380	0.8	1500	50	53
P-DCF EX 315 T	1950	0.25	380	0.8	1500	50	53
P-DCF EX 355 T	2900	0.25	380	0.80	1500	50	55
P-DCF EX 400 T	4000	0.37	380	1.15	1500	50	60
P-DCF EX 450 T	5550	0.55	380	1.60	1500	50	62
P-DCF EX 500 T	8400	1.1	380	2.70	1500	50	64
P-DCF EX 560 T	10800	2.20	380	3.60	1500	50	66
P-DCF EX 630 T	13100	3.00	380	7.40	1000	50	60
P-DCF EX 710 T	15000	4.00	380	9.40	1000	50	63
P-DCF EX 800 T	17000	7.50	380	16.00	1000	50	67

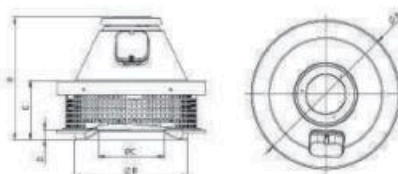


RADIAL ROOF TYPE FAN-HORIZONTAL THROW (CHIMNEY AND HOOD)

DCF-M
With External
Motor



MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-DCF 315-1 M	1950	0.25	230	1.80	3000	50	53



VENTILATION FANS AND SYSTEMS

RADIAL ROOF TYPE FAN-HORIZONTAL THROW

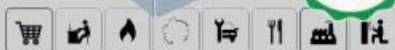
CF
With Internal
Motor



MODELS	FLOW (m ³ /h)	POWER (W)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-CF 180	480	0.09	230	0.42	2600	50	48
P-CF 225	910	0.16	230	0.68	2600	50	49
P-CF 250	1250	0.18	230	0.80	2700	50	51
P-CF 280	2000	0.29	230	1.50	2500	50	46
P-CF 355	2930	0.21	230	1.00	1400	50	45
P-CF 400	4120	0.26	230	1.20	1350	50	50
P-CF 450	5350	0.80	230	3.50	1350	50	51
P-CF 500	7650	1.50	380	2.60	1400	50	55
P-CF 560	9890	2.50	380	4.50	1340	50	65

RADIAL ROOF TYPE FAN-HORIZONTAL THROW

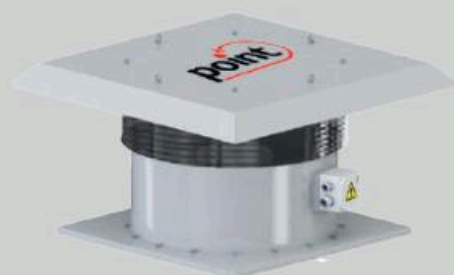
CF-EC
With Internal
Motor



MODELS	FLOW (m ³ /h)	POWER (W)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-CF 180-EC	670	0.10	230	0.77	3520	50	52
P-CF 225-EC	1290	0.10	230	0.8	2400	50	47
P-CF 250-EC	1470	0.16	230	1.29	3300	50	54
P-CF 280-EC	2330	0.18	230	1.34	2610	50	48
P-CF 355-EC	3830	0.67	230	3.36	1550	50	51
P-CF 400-EC	5380	0.53	230	3.90	1450	50	58
P-CF 450-EC	8110	1.32	230	3.27	1560	50	63
P-CF 500-EC	10900	1.35	380	2.08	1480	50	67
P-CF 560-EC	13640	2.14	380	3.83	1540	50	69

AXIAL ROOF TYPE FAN-HORIZONTAL THROW

ACF



MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-ACF 400	5500	0.25	380	0.8	1500	50	51
P-ACF 450	7000	0.37	380	1.15	1500	50	55
P-ACF 500	8500	0.55	380	1.60	1500	50	57
P-ACF 560	10500	0.55	380	1.60	1500	50	61
P-ACF 630	12500	0.75	380	2.00	1500	50	63
P-ACF 710 A	16500	1.5	380	3.50	1500	50	68
P-ACF 710 B	18500	2.20	380	5.00	1500	50	68
P-ACF 710 C	24000	3.00	380	6.60	1500	50	68
P-ACF 800	28500	3.00	380	6.60	1500	50	70
P-ACF 900	35000	4.00	380	8.40	1500	50	74
P-ACF 1000	46000	5.5	380	11.2	1500	50	77

VENTILATION FANS AND SYSTEMS

SHELTER FAN

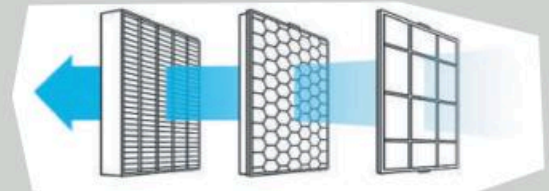
SV
Package



G4 CASSETTE FILTER
H13 HEPA FILTER
ACTIVATED CARBON FILTER



MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dBa)
P-SV 225	500	0,1	230	0,6	3000	50	55
P-SV 250	800	0,13	230	1,05	3000	50	60
P-SV 280	1000	0,18	230	1,10	3000	50	65
P-SV 355	2000	0,14	230	1,50	1500	50	70
P-SV 400	3000	0,38	230	3,50	1500	50	75
P-SV 450	4000	0,69	230	2,50	1500	50	80
P-SV 500	6000	1,08	230	2,60	1500	50	85
P-SV 560	8000	1,67	230	3,00	1500	50	90

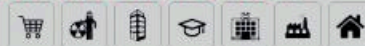


SHELTER FAN

SV-WW
Modul



G4 CASSETTE FILTER
H13 HEPA FILTER
ACTIVATED CARBON FILTER



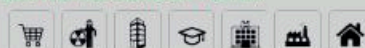
MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dBa)
P-SV-W 225	500	0,1	230	0,6	3000	50	55
P-SV-W 250	800	0,13	230	1,05	3000	50	60
P-SV-W 280	1000	0,18	230	1,10	3000	50	65
P-SV-W 355	2000	0,14	230	1,50	1500	50	70
P-SV-W 400	3000	0,38	230	3,50	1500	50	75
P-SV-W 450	4000	0,69	230	2,50	1500	50	80
P-SV-W 500	6000	1,08	230	2,60	1500	50	85
P-SV-W 560	8000	1,67	230	3,00	1500	50	90

SHELTER FAN

HSV
Cell Type



G4 CASSETTE FILTER
H13 HEPA FILTER
ACTIVATED CARBON FILTER

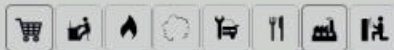


MODELS	FLOW (m ³ /h)	POWER (W)	VOLTAGE (V)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dBa)
P-HSV-WM-1000	800-1000	0,55	380	3000	50	70
P-HSV-WM-1500	1200-1500	0,75	380	3000	50	75
P-HSV-WM-2000	1600-2000	1,1	380	3000	50	80
P-HSV-WM-2400	2100-2400	1,1	380	3000	50	85
P-HSV-WM-3000	2500-3000	1,5	380	3000	50	90
P-HSV-WM-5500	4500-5500	3,00	380	3000	50	95
P-HSV-WM-6500	5700-6500	4,00	380	3000	50	100
P-HSV-WM-7500	6600-7500	5,5	380	1500	50	110
P-HSV-WM-8500	7600-8500	5,5	380	1500	50	120

VENTILATION FANS AND SYSTEMS

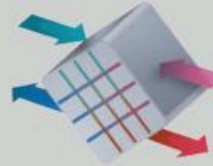
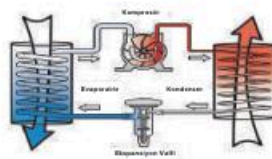
HEAT RECOVERY UNIT

IGK-IP
With Heat Pump



MODELS

	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)	COOLING CAPACITY (kW)	HEATING CAPACITY (kW)
P-IP-IGK 1000	1000	0,21*2	230	1450	50	45	5,16	8,02
P-IP-IGK 2000	2000	0,40*2	230	1450	50	55	9,68	13,74
P-IP-IGK 3000	3000	0,80*2	230	1450	50	55	14,19	21,12
P-IP-IGK 4000	4000	0,37*2	230	1450	50	55	18,93	29,26



HEAT RECOVERY UNIT

IGK-ECO
Eco-Single Internal Wall



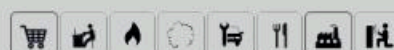
MODELS

	FLOW (m³/h)	POWER (W)	VOLTAGE (V)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-IGK ECO 500	500	0,3	230	1450	50	45
P-IGK ECO 750	750	0,3	230	1450	50	45
P-IGK ECO 1000	1000	0,3	230	1450	50	45
P-IGK ECO 1500	1500	0,4	230	1450	50	55
P-IGK ECO 2000	2000	0,4	230	1450	50	55
P-IGK ECO 3000	3000	0,4	230	1450	50	55
P-IGK ECO 4000	4000	0,40	230	1450	50	55
P-IGK ECO 5000	5000	0,80	230	1450	50	55
P-IGK ECO 6000	6000	1,10	230	1450	50	57



HEAT RECOVERY UNIT

IGK
With Plug Fan-Double Internal Wall



MODELS

	FLOW (m³/h)	POWER (W)	VOLTAGE (V)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-IGK 500	500	0,3	230	1450	50	45
P-IGK 750	750	0,3	230	1450	50	45
P-IGK 1000	1000	0,3	230	1450	50	45
P-IGK 1500	1500	0,4	230	1450	50	55
P-IGK 2000	2000	0,4	230	1450	50	55
P-IGK 3000	3000	0,4	230	1450	50	55
P-IGK 4000	4000	0,40	230	1450	50	55
P-IGK 5000	5000	0,80	230	1450	50	55
P-IGK 6000	6000	1,10	230	1450	50	57



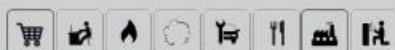
VENTILATION FANS AND SYSTEMS

LOW PRESSURE SNAIL FAN

OBSF
Back Curved, Sparse Blade



MODELS	FLOW (m³/h)	POWER (W)	PRESSURE (pa)	VOLTAGE (V)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-OBSF 50	5000	1,1	300	380	1500	50	89
P-OBSF 75	7500	1,5	300	380	1500	50	90
P-OBSF 100	10000	2,2	300	380	1500	50	90
P-OBSF 125	12500	3	300	380	1500	50	92
P-OBSF 150	15000	4	400	380	1500	50	93
P-OBSF 175	17500	5,5	400	380	1500	50	93
P-OBSF 200	20000	7,50	700	380	1500	50	94
P-OBSF 250	25000	11,00	700	380	1500	50	95

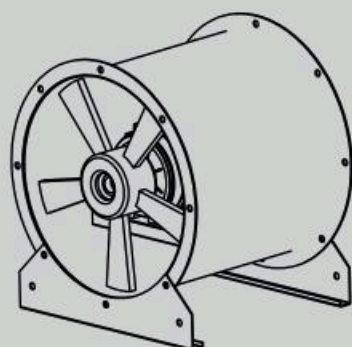


AXIAL PRESSURIZATION FAN

BF



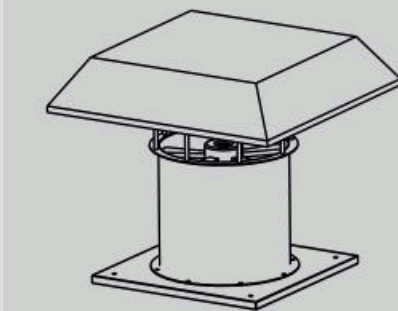
MODELS	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-BF 315 A	2350	0.18	380	0.6	1500	50	38
P-BF 315 B	11000	0.55	380	1.3	3000	50	41
P-BF 355 A	4500	0.18	380	0.60	1500	50	44
P-BF 355 B	13200	1.1	380	2.30	3000	50	47
P-BF 400 A	3100	0.25	380	0.80	1500	50	50
P-BF 400 B	17500	1.5	380	3.30	3000	50	53
P-BF 450 A	6100	0.37	380	1.15	1500	50	56
P-BF 450 B	19800	3.00	380	5.90	3000	50	59
P-BF 500 A	5000	0.55	380	1.60	1500	50	62
P-BF 500 B	22000	3.00	380	5.90	3000	50	65
P-BF 560 A	10000	0.55	380	1.6	1500	50	68
P-BF 630 A	6600	0.75	380	2	1500	50	71
P-BF 630 B	14100	1.5	380	3.5	1500	50	74
P-BF 630 C	8000	2.2	380	5	1500	50	77
P-BF 630 D	17800	3	380	6.6	1500	50	80
P-BF 710 A	27000	4	380	8.4	1500	50	83
P-BF 800 A	35000	4	380	8.4	1500	50	86
P-BF 800 B	37000	5.5	380	11.2	1500	50	89
P-BF 800 C	42000	7.5	380	15.4	1500	50	92
P-BF 900 A	44000	5.5	380	11.2	1500	50	95
P-BF 900 B	47000	7.5	380	15.4	1500	50	98
P-BF 1000 A	52000	5.5	380	11.2	1500	50	101
P-BF 1000 B	58000	7.5	380	15.4	1500	50	104
P-BF 1000 C	65000	11	380	21.3	1500	50	107
P-BF 1250 A	73000	11	380	21.3	1500	50	110
P-BF 1250 B	80000	15	380	29.8	1500	50	113
P-BF 1250 C	105000	22	380	42.5	1500	50	116
P-BF 1250 D	120000	30	380	55	1500	50	119



VENTILATION FANS AND SYSTEMS

AXIAL PRESSURIZATION FAN

CAF
Roof Type



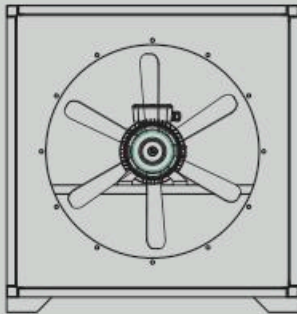
MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dba)
P-CAF 315 A	2350	0,18	380	0,58	1450	50	38
P-CAF 355 A	3100	0,18	380	0,58	1450	50	41
P-CAF 400 A	5000	0,25	380	0,81	1450	50	44
P-CAF 450 A	6600	0,37	380	1,20	1450	50	47
P-CAF 500 A	8000	0,55	380	1,60	1450	50	50
P-CAF 560 A	11000	0,55	380	1,60	1450	50	53
P-CAF 630 A	13200	0,75	380	2,10	1450	50	56
P-CAF 630 B	17500	1,50	380	3,60	1450	50	59
P-CAF 630 C	19800	2,20	380	5,30	1450	50	62
P-CAF 630 D	22000	3,00	380	6,60	1450	50	65
P-CAF 315 B	4500	0,55	380	1,30	2850	50	68
P-CAF 355 B	6100	1,10	380	2,50	2850	50	71
P-CAF 400 B	10000	1,50	380	3,45	2850	50	74
P-CAF 450 B	14100	3,00	380	6,50	2850	50	77
P-CAF 500 B	17800	3,00	380	6,50	2850	50	80
P-CAF 710 A	27000	4,00	380	8,70	1450	50	83
P-CAF 800 A	35000	4,00	380	8,70	1450	50	86
P-CAF 800 B	37000	5,50	380	11,80	1450	50	89
P-CAF 800 C	42000	7,50	380	15,80	1450	50	92
P-CAF 900 A	44000	5,50	380	11,80	1450	50	95
P-CAF 900 B	47000	7,50	380	15,80	1450	50	98
P-CAF 1000 A	52000	5,50	380	11,80	1450	50	101
P-CAF 1000 B	58000	7,50	380	15,80	1450	50	104
P-CAF 1000 C	65000	11,00	380	22,50	1450	50	107
P-CAF 1250 A	73000	11,00	380	22,50	1450	50	110
P-CAF 1250 B	80000	15,00	380	30,00	1450	50	113
P-CAF 1250 C	105000	22,00	380	42,00	1450	50	116
P-CAF 1250 D	120000	30,00	380	57,00	1450	50	119



VENTILATION FANS AND SYSTEMS

AXIAL PRESSURIZATION FAN

HAF
Cell Type



MODELS	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-HAF 315 A	2350	0,18	380	0,58	1450	50	38
P-HAF 355 A	3100	0,18	380	0,58	1450	50	41
P-HAF 400 A	5000	0,25	380	0,81	1450	50	44
P-HAF 450 A	6600	0,37	380	1,20	1450	50	47
P-HAF 500 A	8000	0,55	380	1,60	1450	50	50
P-HAF 560 A	11000	0,55	380	1,60	1450	50	53
P-HAF 630 A	13200	0,75	380	2,10	1450	50	56
P-HAF 630 B	17500	1,50	380	3,60	1450	50	59
P-HAF 630 C	19800	2,20	380	5,30	1450	50	62
P-HAF 630 D	22000	3,00	380	6,60	1450	50	65
P-HAF 315 B	4500	0,55	380	1,30	2850	50	68
P-HAF 355 B	6100	1,10	380	2,50	2850	50	71
P-HAF 400 B	10000	1,50	380	3,45	2850	50	74
P-HAF 450 B	14100	3,00	380	6,50	2850	50	77
P-HAF 500 B	17800	3,00	380	6,50	2850	50	80
P-HAF 710 A	27000	4,00	380	8,70	1450	50	83
P-HAF 800 A	35000	4,00	380	8,70	1450	50	86
P-HAF 800 B	37000	5,50	380	11,80	1450	50	89
P-HAF 800 C	42000	7,50	380	15,80	1450	50	92
P-HAF 900 A	44000	5,50	380	11,80	1450	50	95
P-HAF 900 B	47000	7,50	380	15,80	1450	50	98
P-HAF 1000 A	52000	5,50	380	11,80	1450	50	101
P-HAF 1000 B	58000	7,50	380	15,80	1450	50	104
P-HAF 1000 C	65000	11,00	380	22,50	1450	50	107
P-HAF 1250 A	73000	11,00	380	22,50	1450	50	110
P-HAF 1250 B	80000	15,00	380	30,00	1450	50	113
P-HAF 1250 C	105000	22,00	380	42,00	1450	50	116
P-HAF 1250 D	120000	30,00	380	57,00	1450	50	119



Türkiye'nin Her Yerine
Teknik Servis İmkânı



**HAVALANDIRMA
SİSTEMLERİ**

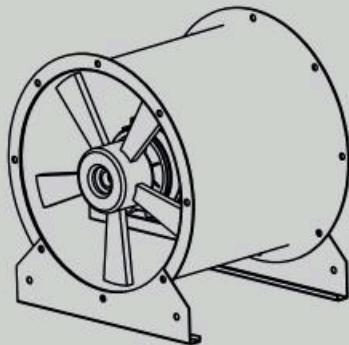
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VENTILATION FANS AND SYSTEMS

SMOKE EXTRACTION FAN

DTF



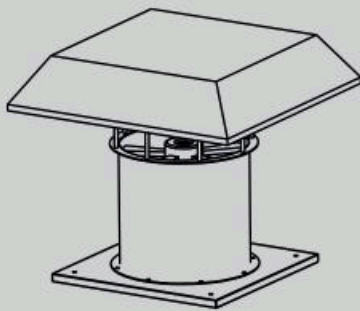
MODELS	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-DTF 355 A	5500	0.75	380	1.7	3000	50	90
P-DTF 355 B	6100	1.1	380	2.3	3000	50	90
P-DTF 400 A	10000	1.5	380	3.30	3000	50	90
P-DTF 400 B	11000	2.2	380	4.50	3000	50	90
P-DTF 450 A	13000	2.2	380	4.50	3000	50	90
P-DTF 450 B	14100	3	380	5.90	3000	50	91
P-DTF 500 A	17800	3.00	380	5.90	3000	50	91
P-DTF 560 A	20000	3.00	380	5.90	3000	50	91
P-DTF 630 A	22000	3.00	380	6.60	1500	50	92
P-DTF 630 B	22500	4.00	380	8.40	1500	50	91
P-DTF 710 A	26000	3	380	6.6	1500	50	93
P-DTF 710 B	27000	4	380	8.4	1500	50	94
P-DTF 710 C	31000	5.5	380	11.2	1500	50	95
P-DTF 800 A	31800	3	380	6.6	1500	50	96
P-DTF 800 B	35000	4	380	8.4	1500	50	97
P-DTF 800 C	37000	5.5	380	11.2	1500	50	95
P-DTF 900 A	40500	4	380	8.4	1500	50	95
P-DTF 900 B	44000	5.5	380	11.2	1500	50	95
P-DTF 900 C	47000	7.5	380	15.4	1500	50	96
P-DTF 1000 A	52000	5.5	380	11.2	1500	50	94
P-DTF 1000 B	58000	7.5	380	15.4	1500	50	97
P-DTF 1000 C	65000	11	380	21.3	1500	50	98
P-DTF 1000 D	72000	15	380	29.8	1500	50	99
P-DTF 1250 A	80000	15	380	29.8	1500	50	100
P-DTF 1250 B	88000	18.5	380	34.5	1500	50	102
P-DTF 1250 C	105000	22	380	42.5	1500	50	104
P-DTF 1250 D	120000	30	380	55	1500	50	105



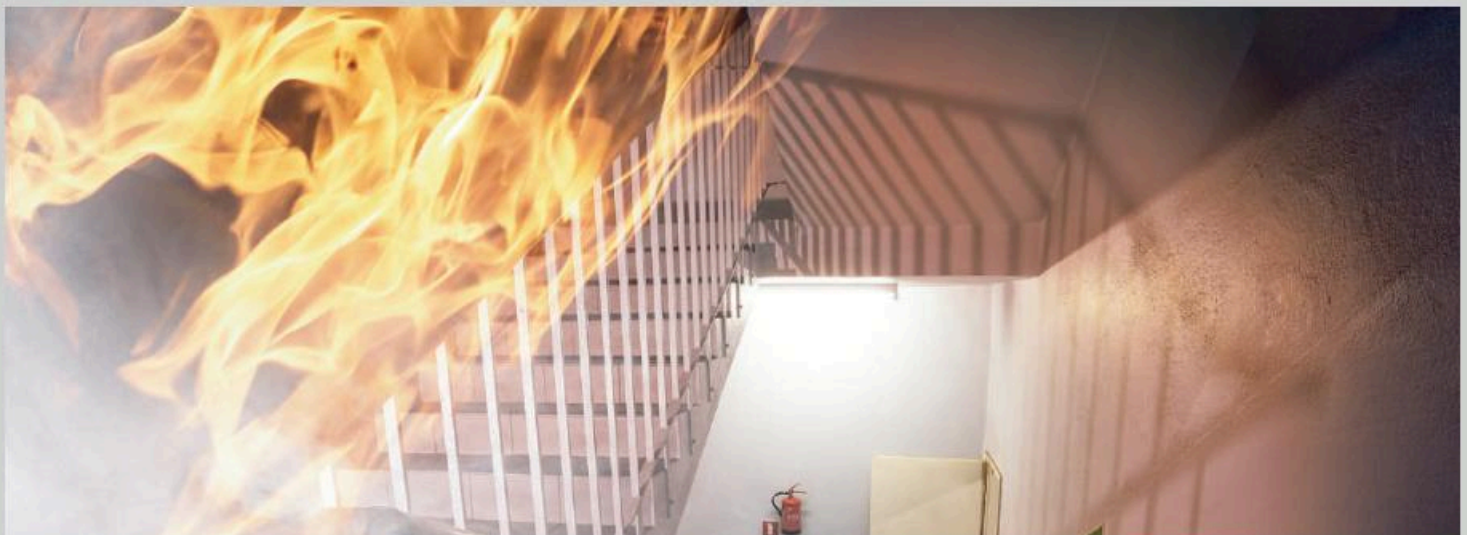
VENTILATION FANS AND SYSTEMS

SMOKE EXTRACTION FAN

CDTF
Roof Type



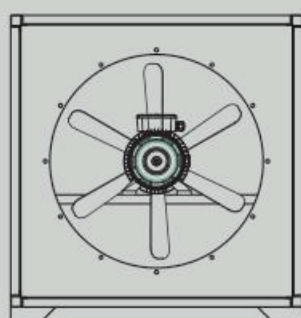
MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-CDTF 355 A	5500	0,75	380	1,7	3000	50	90
P-CDTF 355 B	6100	1,1	380	2,3	3000	50	90
P-CDTF 400 A	10000	1,5	380	3,30	3000	50	90
P-CDTF 400 B	11000	2,2	380	4,50	3000	50	90
P-CDTF 450 A	13000	2,2	380	4,50	3000	50	90
P-CDTF 450 B	14100	3	380	5,90	3000	50	91
P-CDTF 500 A	17800	3,00	380	5,90	3000	50	91
P-CDTF 560 A	20000	3,00	380	5,90	3000	50	91
P-CDTF 630 A	22000	3,00	380	6,60	1500	50	92
P-CDTF 630 B	22500	4,00	380	8,40	1500	50	91
P-CDTF 710 A	26000	3	380	6,6	1500	50	93
P-CDTF 710 B	27000	4	380	8,4	1500	50	94
P-CDTF 710 C	31000	5,5	380	11,2	1500	50	95
P-CDTF 800 A	31800	3	380	6,6	1500	50	96
P-CDTF 800 B	35000	4	380	8,4	1500	50	97
P-CDTF 800 C	37000	5,5	380	11,2	1500	50	95
P-CDTF 900 A	40500	4	380	8,4	1500	50	95
P-CDTF 900 B	44000	5,5	380	11,2	1500	50	95
P-CDTF 900 C	47000	7,5	380	15,4	1500	50	96
P-CDTF 1000 A	52000	5,5	380	11,2	1500	50	94
P-CDTF 1000 B	58000	7,5	380	15,4	1500	50	97
P-CDTF 1000 C	65000	11	380	21,3	1500	50	98
P-CDTF 1000 D	72000	15	380	29,8	1500	50	99
P-CDTF 1250 A	80000	15	380	29,8	1500	50	100
P-CDTF 1250 B	88000	18,5	380	34,5	1500	50	102
P-CDTF 1250 C	105000	22	380	42,5	1500	50	104
P-CDTF 1250 D	120000	30	380	55	1500	50	105



VENTILATION FANS AND SYSTEMS

SMOKE EXTRACTION FAN

HDTF
Cell Type
F 300°C / 2 H



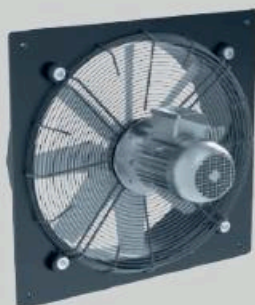
MODELS	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-HDTF 355 A	5500	0,75	380	1,7	3000	50	41
P-HDTF 355 B	6100	1,1	380	2,3	3000	50	43
P-HDTF 400 A	10000	1,5	380	3,30	3000	50	45
P-HDTF 400 B	11000	2,2	380	4,50	3000	50	47
P-HDTF 450 A	13000	2,2	380	4,50	3000	50	51
P-HDTF 450 B	14100	3	380	5,90	3000	50	53
P-HDTF 500 A	17800	3,00	380	5,90	3000	50	55
P-HDTF 560 A	20000	3,00	380	5,90	3000	50	57
P-HDTF 630 A	22000	3,00	380	5,90	1500	50	59
P-HDTF 630 B	22500	4,00	380	8,40	1500	50	61
P-HDTF 710 A	26000	3	380	6,6	1500	50	63
P-HDTF 710 B	27000	4	380	8,4	1500	50	65
P-HDTF 710 C	31000	5,5	380	11,2	1500	50	67
P-HDTF 800 A	31800	3	380	6,6	1500	50	69
P-HDTF 800 B	35000	4	380	8,4	1500	50	71
P-HDTF 800 C	37000	5,5	380	11,2	1500	50	73
P-HDTF 900 A	40500	4	380	8,4	1500	50	75
P-HDTF 900 B	44000	5,5	380	11,2	1500	50	77
P-HDTF 900 C	47000	7,5	380	15,4	1500	50	79
P-HDTF 1000 A	52000	5,5	380	11,2	1500	50	81
P-HDTF 1000 B	58000	7,5	380	15,4	1500	50	83
P-HDTF 1000 C	65000	11	380	21,3	1500	50	85
P-HDTF 1000 D	72000	15	380	29,8	1500	50	87
P-HDTF 1250 A	80000	15	380	29,8	1500	50	89
P-HDTF 1250 B	88000	18,5	380	34,5	1500	50	91
P-HDTF 1250 C	105000	22	380	42,5	1500	50	93
P-HDTF 1250 D	120000	30	380	55	1500	50	95



VENTILATION FANS AND SYSTEMS

AXIAL WALL TYPE FAN WITH F300

AF



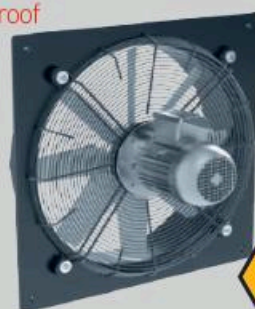
MODELS	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-AF 400	5000	0,25	380	0,81	1450	50	64
P-AF 450	6000	0,37	380	1,15	1450	50	65
P-AF 500	7500	0,55	380	1,60	1450	50	68
P-AF 560	10000	0,55	380	1,60	1450	50	69
P-AF 630	12000	0,75	380	1,92	1450	50	70
P-AF 710 A	16000	1,5	380	3,50	1450	50	75
P-AF 710 B	18000	2,2	380	4,90	1450	50	76
P-AF 710 C	23000	3	380	6,70	1450	50	78



AXIAL WALL TYPE FAN

AF-EX

Ex-Proof



MODELS	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-AF EX 315	2600	0,25	380	0,81	1450	50	65
P-AF EX 355	3800	0,25	380	0,81	1450	50	66
P-AF EX 400	5300	0,25	380	0,81	1450	50	64
P-AF EX 450	7500	0,37	380	1,15	1450	50	65
P-AF EX 500	9100	0,55	380	1,60	1450	50	68
P-AF EX 560	10800	0,55	380	1,60	1450	50	69
P-AF EX 630	13000	0,75	380	1,92	1450	50	70
P-AF EX 710 A	17000	1,5	380	3,50	1450	50	75
P-AF EX 710 B	20100	2,2	380	4,90	1450	50	76
P-AF EX 710 C	23500	3	380	6,70	1450	50	78

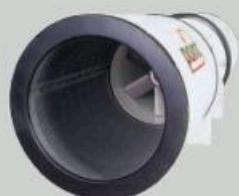


AXIAL JET FAN

AJF



MODELS	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	IMPULSE (N)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-AJF 315	2500-5000	0,70-0,85	380	7/26	2-2,3	1500-3000	50	39-58
P-AJF 355	3500-7000	1-1,3	380	12/46	2,5-3,3	1500-3000	50	41-62
P-AJF 400	5000-10000	1,3-1,8	380	19/76	3-4,3	1500-3000	50	44-65



MODELS	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	IMPULSE (N)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-AJF 315	2500-5000	0,25/1	380	7/26	0,70-2,2	1500-3000	50	39-58
P-AJF 355	3500-7000	0,33/1,3	380	12/46	0,90-2,8	1500-3000	50	41-62
P-AJF 400	5000-10000	0,5/2	380	19/76	1,2-4,2	1500-3000	50	44-65

MODELS	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	IMPULSE (N)	CURRENT (A)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-AJF 315	2500-5000	0,25/1	380	7/26	0,70-2,2	1500-3000	50	70
P-AJF 355	3500-7000	0,33/1,3	380	12/46	0,90-2,8	1500-3000	50	75
P-AJF 400	5000-10000	0,5/2	380	19/76	1,2-4,2	1500-3000	50	79



VENTILATION FANS AND SYSTEMS

RADIAL JET FAN

RJF



F 300°C / 2 H

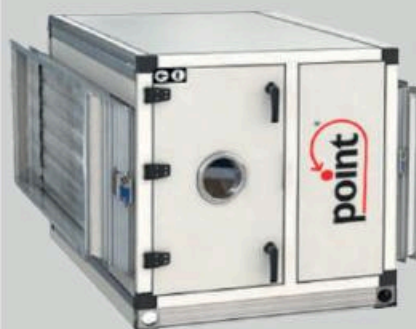


MODELS	FLOW (m³/h)	POWER (kW)	VOLTAGE (V)	IMPULSE (N)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-RJF 500	2500-5000	0,3/1,2	380	12/48	750-1500	50	55-73
P-RJF 560	3500-7000	0,55/2,2	380	18/69	750-1500	50	60-91

CELL ASPIRATOR

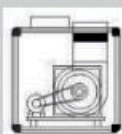
SH

Forward Curved

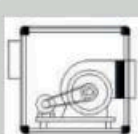


MODELS	FLOW (m³/h)	PRESSURE (Total Static) (pa)	MODEL OF FAN	MOTOR (kW)	VELOCITY (rpm)	VOICE (dBa)
P-SH-11T	1000	300	7*7	0,25		74,3
P-SH-17T	2000	500	7*7	0,75	1390	79,9
P-SH-23T	3000	500	9*9	1,1	1773	80,6
P-SH-29T	4000	500	9*9	1,5	1488	84,5
P-SH-35T	5000	500	10*10	1,5	1494	85
P-SH-41T	6000	500	12*12	2,2	1180	88,7
P-SH-47T	7000	500	12*12	2,2	1022	90,4
P-SH-53T	8000	500	15*11	2,2	999	88,8
P-SH-59T	9000	500	15*15	3	824	90,5
P-SH-65T	10000	500	15*15	3	854	93,3
P-SH-71T	11000	500	18*18	3	849	94,6
P-SH-77T	12000	500	18*18	3	723	92,5
P-SH-83T	13000	500	18*18	4	723	93,3
P-SH-89T	14000	500	18*18	4	717	93,3
P-SH-92T	15000	500	450	5,5	713	93,8
P-SH-98T	16000	500	450	5,5	733	97,4
P-SH-102T	17000	500	450	5,5	732	93,3
P-SH-107T	18000	500	500	5,5	734	93,5
P-SH-111T	19000	500	500	5,5	684	95,4
P-SH-115T	20000	500	500	5,5	684	93,1
P-SH-119T	21000	500	500	7,5	685	87,1
P-SH-123T	22000	500	500	7,5	687	87,1
P-SH-127T	23000	500	560	7,5	691	87,1
P-SH-131T	24000	500	560	7,5	605	87,1
P-SH-135T	25000	500	560	7,5	605	87,1
P-SH-139T	26000	500	560	7,5	606	87,1
P-SH-143T	27000	500	560	7,5	607	90
P-SH-147T	28000	500	630	7,5	609	93,6
P-SH-151T	29000	500	630	7,5	522	93,3
P-SH-154T	30000	500	630	11	520	90,8
P-SH-157T	31000	500	630	11	518	93,7
P-SH-160T	32000	500	630	11	517	91,8
P-SH-163T	33000	500	630	11	516	94
P-SH-166T	34000	500	630	11	516	91,7

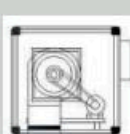
* Please specify direction number when ordering.



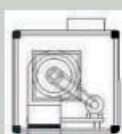
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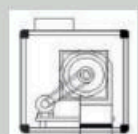
Direction 2



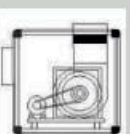
Direction 3



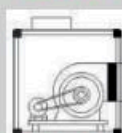
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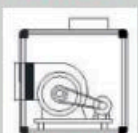
Direction 5



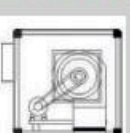
Direction 6



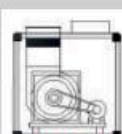
Direction 7



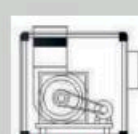
Direction 8



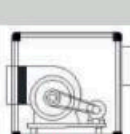
Direction 9



Direction 10



Direction 11



Direction 12

* Please contact for intermediate models.



VENTILATION FANS AND SYSTEMS

CELL ASPIRATOR

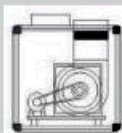
SYH

Backward Curved Blade

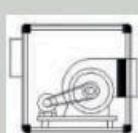


MODELS	FLOW (m³/h)	PRESSURE (Total Static) (pa)	MODEL OF FAN	MOTOR (kW)	VELOCITY (rpm)	VOICE (dBa)
P-SYH-11T	2000	300	250	0,37	1902	77,6
P-SYH-16T	3000	500	250	1,1	2632	80,8
P-SYH-20T	4000	500	280	1,1	2296	86,7
P-SYH-24T	5000	500	280	1,5	2663	90,3
P-SYH-28T	6000	500	280	2,2	3043	90,5
P-SYH-32T	7000	500	315	2,2	2476	92,9
P-SYH-36T	8000	500	315	3	2770	94,7
P-SYH-40T	9000	500	355	3	2134	97,5
P-SYH-44T	10000	500	355	4	2358	95,4
P-SYH-48T	11000	500	355	5,5	2671	97,9
P-SYH-52T	12000	500	450	3	1519	99,7
P-SYH-56T	13000	500	400	5,5	2284	94,8
P-SYH-60T	14000	500	450	4	1650	97,2
P-SYH-64T	15000	500	450	5,5	1785	97,7
P-SYH-68T	16000	500	450	7,5	1915	94,7
P-SYH-72T	17000	500	450	7,5	1983	96,4
P-SYH-76T	18000	500	500	5,5	1508	97,1
P-SYH-80T	19000	500	500	7,5	1215	99,7
P-SYH-84T	20000	500	500	7,5	1673	94
P-SYH-88T	21000	500	500	11	1833	97,1
P-SYH-92T	22000	500	500	11	1887	97,3
P-SYH-96T	23000	500	560	7,5	1348	98,2
P-SYH-100T	24000	500	560	7,5	1437	96,3
P-SYH-104T	25000	500	560	11	1475	96,9
P-SYH-108T	26000	500	560	11	1610	99,2
P-SYH-112T	27000	500	560	11	1647	99,3
P-SYH-116T	28000	500	630	7,5	1152	99,4
P-SYH-120T	29000	500	630	7,5	1176	101
P-SYH-124T	30000	500	630	11	1291	101,2
P-SYH-128T	31000	500	630	11	1273	95,9
P-SYH-132T	32000	500	630	11	1300	96
P-SYH-136T	33000	500	630	15	1410	98,4
P-SYH-140T	34000	500	630	15	1436	98,5
P-SYH-144T	35000	500	710	11	1105	98,5
P-SYH-148T	36000	500	710	11	1035	98,6
P-SYH-152T	37000	500	710	11	1093	98,6
P-SYH-156T	38000	500	710	15	1111	96
P-SYH-160T	39000	500	710	15	1206	95,6
P-SYH-164T	40000	500	710	15	1149	96,6
P-SYH-168T	41000	500	710	15	1242	98,2
P-SYH-172T	42000	500	710	15	1206	96,6
P-SYH-176T	43000	500	710K	18,5	1278	98,8
P-SYH-180T	44000	500	710K	18,5	1297	98,9
P-SYH-184T	45000	500	710K	18,5	1315	99,1

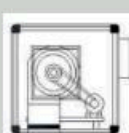
* Please specify direction number when ordering.



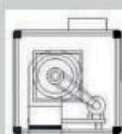
Direction 1



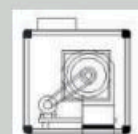
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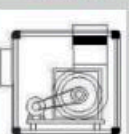
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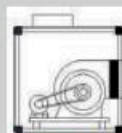
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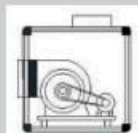
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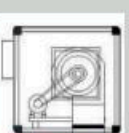
Direction 6



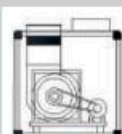
Direction 7



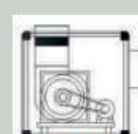
Direction 8



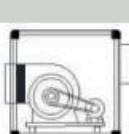
Direction 9



Direction 10



Direction 11



Direction 12

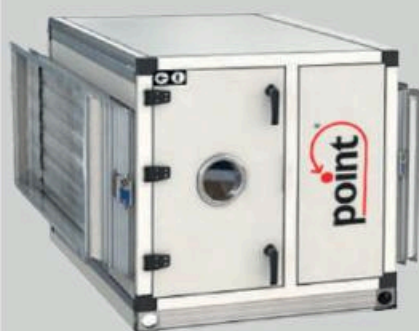
* Please contact for intermediate models.



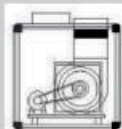
VENTILATION FANS AND SYSTEMS

CELL ASPIRATOR

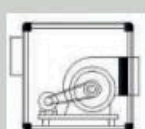
PH
Plug Fanlı



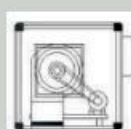
* Please specify direction number when ordering.



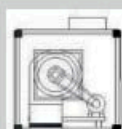
Direction 1



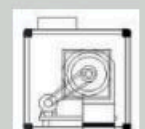
Direction 2



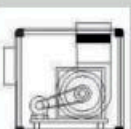
Direction 3



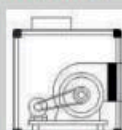
Direction 4



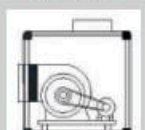
Direction 5



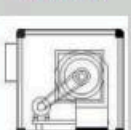
Direction 6



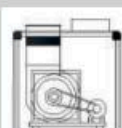
Direction 7



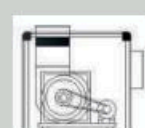
Direction 8



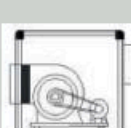
Direction 9



Direction 10



Direction 11



Direction 12

* Please contact for intermediate models.

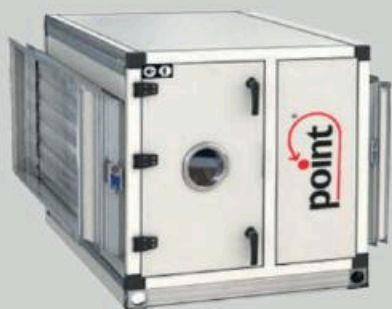
MODELS	FLOW (m ³ /h)	PRESSURE (Total Static) (pa)	MODEL OF FAN	MOTOR (kW)	VELOCITY (rpm)	VOICE (dBA)
P-PH-11T	2000	300	280	0,55	2538	88
P-PH-16T	3000	500	280	1,1	3123	94
P-PH-20T	4000	500	315	1,5	2880	96
P-PH-24T	5000	500	355	2,2	2450	96
P-PH-28T	6000	500	400	2,2	2111	101
P-PH-32T	7000	500	400	3	2345	93
P-PH-36T	8000	500	450	2,2	1945	103
P-PH-40T	9000	500	450	3	2112	98
P-PH-44T	10000	500	500	3	1783	96
P-PH-48T	11000	500	500	4	1907	99
P-PH-52T	12000	500	560	4	1550	96
P-PH-56T	13000	500	560	4	1636	98
P-PH-60T	14000	500	560	5,5	1725	100
P-PH-64T	15000	500	630	5,5	1374	101
P-PH-68T	16000	500	630	5,5	1434	103
P-PH-72T	17000	500	630	5,5	1496	100
P-PH-76T	18000	500	630	5,5	1560	101
P-PH-80T	19000	500	710	5,5	1192	102
P-PH-84T	20000	500	710	5,5	1231	103
P-PH-88T	21000	500	710	7,5	1271	105
P-PH-92T	22000	500	710	7,5	1313	98
P-PH-96T	23000	500	710	7,5	1355	99
P-PH-100T	24000	500	800	7,5	1064	100
P-PH-104T	25000	500	800	7,5	1092	101
P-PH-108T	26000	500	800	7,5	1121	102
P-PH-112T	27000	500	800	7,5	1150	103
P-PH-116T	28000	500	800	11	1179	104
P-PH-120T	29000	500	800	11	1209	105
P-PH-124T	30000	500	900	11	942	106
P-PH-128T	31000	500	900	11	961	107
P-PH-132T	32000	500	900	11	981	107
P-PH-136T	33000	500	900	11	1002	108
P-PH-140T	34000	500	900	11	1022	104
P-PH-144T	35000	500	900	11	1043	105
P-PH-148T	36000	500	900	11	1064	105
P-PH-152T	37000	500	1000	11	859	106
P-PH-156T	38000	500	1000	11	873	107
P-PH-160T	39000	500	1000	11	888	107
P-PH-164T	40000	500	1000	15	903	108



VENTILATION FANS AND SYSTEMS

Cell Kitchen Hood Fan

MDF



MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-MDF 3000	3000	0,25	230		50	40
P-MDF 4000	4000	0,37	230	1450	50	43
P-MDF 5000	5000	0,55	230	1450	50	47
P-MDF 7500	7500	1,1	230	1450	50	51
P-MDF 10000	10000	2,2	230	1450	50	54

* Please specify direction number when ordering.



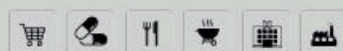
ECOLOGY UNIT

ESF

Plant with Electrostatic Filter



MODELS	FLOW (m ³ /h)	POWER (kW)	VOLTAGE (V)	VELOCITY (rpm)	FREQUENCY (Hz)	VOICE (dbA)
P-ESF 350	3500	1,1	380	1450	50	87
P-ESF 500	5000	1,5	380	1450	50	90
P-ESF 750	7500	3	380	1450	50	94
P-ESF 1000	10000	4	380	1450	50	96
P-ESF 1500	15000	7,5	380	1450	50	98
P-ESF 2000	20000	11	380	1450	50	99



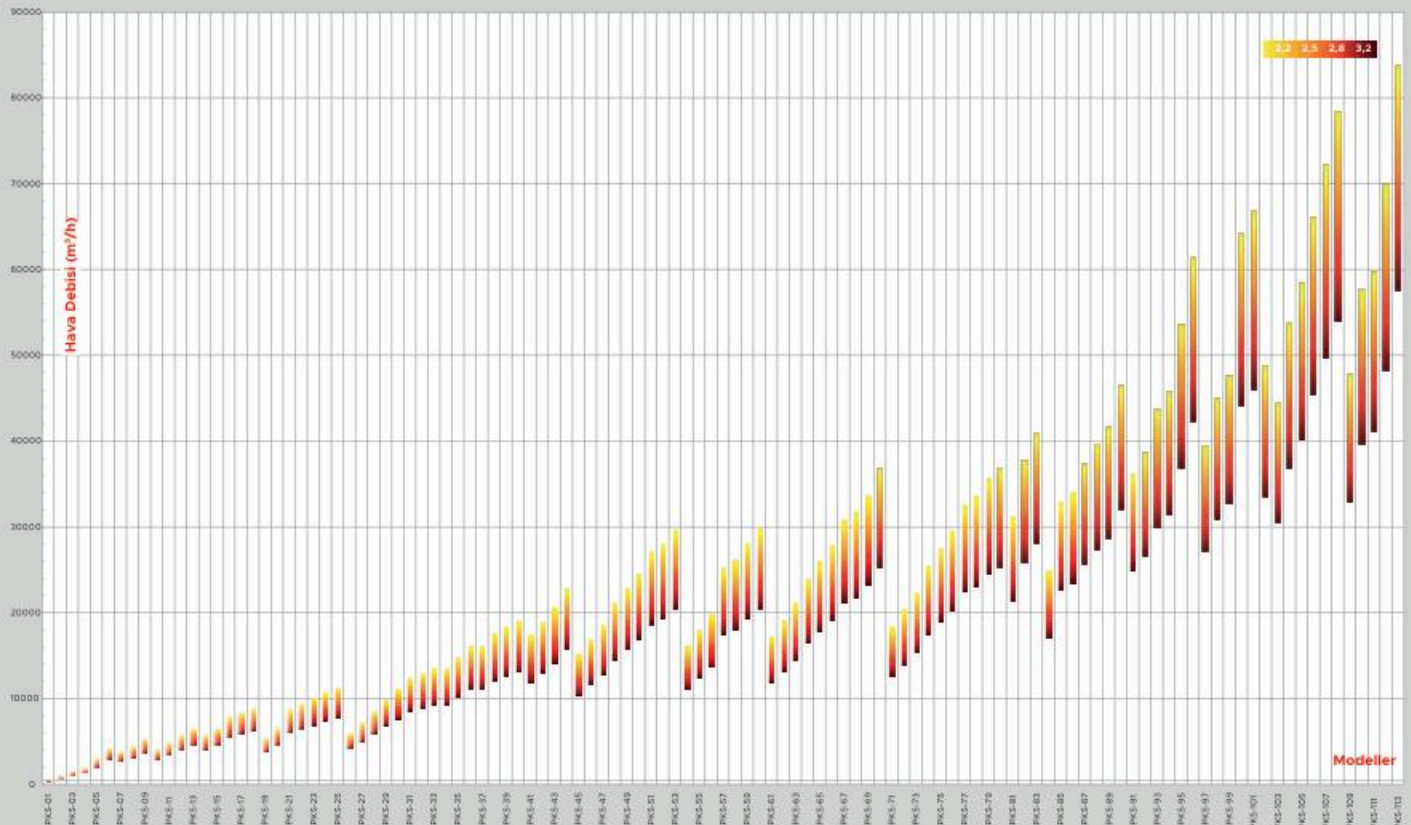
VENTILATION FANS AND SYSTEMS

AIR HANDLING UNIT

KS



- * Aluminum profile carcass structure
- * Integrated automation
- * Drip trap separator
- * Technical Services facilities
- * Galvanized Sheet



VENTILATION FANS AND SYSTEMS

DEHUMIDIFICATION PLANT

POOL



MODEL		P-POOL 040			P-POOL 060			P-POOL 080			P-POOL 100			P-POOL 120			P-POOL 150			P-POOL 180			P-POOL 210			P-POOL 250			P-POOL 315		
TIP																															
Dehumidification Capacity *	Kg/h	23,0	21,1	17,9	31,2	27,3	24,9	38,0	37,8	34,9	42,1	39,7	38,9	58,9	57,3	52,4	66,9	64,1	61,4	79,3	78,5	71,2	89,6	84,7	82,1	109,1	106,8	104,9	150,1	142,8	133,6
Dehumidification Capacity	Kg/h	24,3			40,2			51,1			52,9			76,8			98,4			112,3			129,4			159,6			201,4		
Air Flow	m³/h	4,000			6,000			8,000			10,000			12,000			15,000			18,000			21,000			25,000			31,500		
Cooling Capacity ***	kW	24,1	22,3	27,2	39,8	35,4	40,4	50,0	48,2	52,1	57,8	55,6	60,5	75,9	74,7	81,2	87,4	86,3	91,1	94,5	93,2	98,9	116,2	113,5	129,1	143,2	140,8	154,3	187,7	184,3	204,4
Water Coil Heating Capacity ****	kW	46,8			70,9			106,1			113,4			139,6			155,8			217,2			220,1			279,5			313,6		
Compressor Type		SCROLL			SCROLL			SCROLL			SCROLL			SCROLL			SCROLL			SCROLL			SCROLL			SCROLL			SCROLL		
Number of Compressors	adet	1			1			1			1			1			2			2			2			2			2		
External Pres. Loss of Blow Line	Pa	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Suction Line External Pressure Loss	Pa	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Ventilator Motor Power	kW	2,2	2,2	2,2	4	4	4	5,5	5,5	5,5	7,5	7,5	7,5	7,5	7,5	7,5	11	11	11	11	11	11	15	15	15	15	15	15	18,5	18,5	18,5
Aspirator Motor Power	kW	1,5	1,5	1,5	3	3	3	4	4	4	5,5	5,5	5,5	5,5	5,5	5,5	7,5	7,5	7,5	7,5	7,5	7,5	11	11	11	11	11	11	15	15	15
Compressor Tractive Power	kW	6,33	6,33	6,33	10,48	10,48	10,48	14,8	14,8	14,8	15,16	15,16	15,16	18,46	18,46	18,46	22,04	22,04	22,04	30,32	30,32	30,32	30,32	31,20	31,2	36,92	36,92	36,92	45,28	45,28	45,28
Total Tractive Power	kW	10,03	10,03	10,03	17,48	17,48	17,48	24,3	24,3	24,3	28,16	28,16	28,16	31,46	31,46	31,46	40,54	40,54	40,54	48,82	48,82	48,82	57,2	57,2	57,2	62,92	62,92	62,92	78,78	78,78	78,78

BOYUTLAR																															
L (Length)	mm	3.700	3.400	3.200	3.900	3.400	3.200	4.000	3.700	3.500	4.500	4.100	4.000	4.700	4.200	4.100	4.900	4.200	4.100	4.900	4.400	4.200	5.500	4.600	4.600	6.300	5.000	5.000	6.600	5.300	5.300
W (Depth)	mm	1050			1250			1350			1450			1800			1900			2300			2500			2500			2700		
H (Height)	mm	1700			2000			2100			2200			2400			2700			2700			3000			3000			3000		
Weight	Kg	600	550	500	1300	1250	1000	1400	1400	1070	1750	1700	1450	1950	1900	1700	2480	2340	1980	2600	2450	2065	2900	2900	2380	3650	3700	2750	4620	4800	3670

*According to VDI 2089 **Indoor condition 30°C K.T. and for 55% RH. ***Outdoor condition -12°C K.T. and 90% rh is for 90-70°C water regime.(PR) - Plate Heat Recovery (HPR) - Heat Pipe Heat Recovery (NN) - No Heat Recovery



ACCESSORIES

ELECTRIC HEATER

EI
Duct Type



MODELS	POWER (kW)	VOLTAGE (V)	FREQUENCY (Hz)	MOUTH SIZE H (mm)	MOUTH SIZE W (mm)	LENGTH L (mm)	HEIGHT Hmax (mm)
P-EI 3000	3	220	50	300	300	300	450
P-EI 6000	6	380	50	400	300	300	450
P-EI 9000	9	380	50	450	400	400	550
P-EI 12000	12	380	50	600	400	400	550
P-EI 15000	15	380	50	600	500	400	650
P-EI 18000	18	380	50	750	500	400	650
P-EI 21000	21	380	50	850	500	400	650
P-EI 24000	24	380	50	1000	500	400	650



Frequency Inverter

FI



MODELS	INPUT VOLTAGE (V)	OUTPUT VOLTAGE (V)	Power (kW)
P-FI 10	380	380	0,75
P-FI 15	380	380	1,5
P-FI 22	380	380	2,2
P-FI 30	380	380	3
P-FI 40	380	380	4
P-FI 55	380	380	5,5
P-FI 75	380	380	7,5
P-FI 110	380	380	11
P-FI 150	380	380	15
P-FI 185	380	380	18,5
P-FI 220	380	380	22
P-FI 300	380	380	30
P-FI 370	380	380	37



SPEED CONTROL DEVICE

HKC



MODELS	VOLTAGE (V)	CURRENT (A)
P-HKC 1	220	2
P-HKC 2	220	5
P-HKC 3	220	8



Blauberg Products



Sileo

MODEL	Voltage (V)	Power (W)	Current (A)	Air Flow (m3/h)	Noise (dbA)
BLAUBERG SILEO 100	230	7,5	0,04	97	25
BLAUBERG SILEO 125	230	17	0,11	187	32
BLAUBERG SILEO 150	230	17-19	0,08-0,09	225-318	28-33
BLAUBERG SILEO MAX 150	230	19-22	0,09-0,10	283-375	32-38



MODEL	Option
Timer	T
Pull-Cord Switch	S
Humidity Sensor	H
Pull-Cord Switch and Timer	ST
Timer,Pull-Cord Switch,Humidity Sensor	SH
Timer and Motion Sensor	IR

Aero Still

MODEL	Voltage (V)	Power (W)	Air Flow (m3/h)	Noise (dbA)
BLAUBERG AERO STILL 100	220-240	5,5	84	25
BLAUBERG AERO STILL 125	220-240	9,4	158	31
BLAUBERG AERO STILL 150	220-240	19,0	254	33



MODEL	Option
Timer	T
Pull-Cord Switch	S
Pull-Cord Switch and Timer	H
Pull-Cord Switch and Timer	ST
Timer,Pull-Cord Switch,Humidity Sensor	SH

Auto

MODEL	Voltage (V)	Power (W)	Rotation (rpm)	Air Flow (m3/h)	Noise (dbA)
BLAUBERG AUTO 100	220-240	18	2300	98	34
BLAUBERG AUTO 125	220-240	22	2400	185	35
BLAUBERG AUTO 150	220-240	26	2400	295	39



MODEL	Option
Timer	T
Pull-Cord Switch	S
Timer-Humidity Sensor	H
Pull-Cord Switch and Timer	ST
Timer,Pull-Cord Switch,Humidity Sensor	SH
Timer and Motion Sensor	IR

Bravo

MODEL	Voltage (V)	Power (W)	Rotation (rpm)	Air Flow (m³/h)	Noise (dbA)
BLAUBERG BRAVO 100	220-240	14	2300	101	35
BLAUBERG BRAVO 125	220-240	16	2400	92	37
BLAUBERG BRAVO 150	220-240	24	2400	305	39



MODEL	Option
Timer	T
Pull-Cord Switch	S
Timer and Humidity Sensor	H
Pull-Cord Switch and Timer	ST
Timer, Pull-Cord Switch and Humidity Sensor	SH
Timer and Motion Sensor	IR

Slim

MODEL	Voltage (V)	Power (W)	Rotation (rpm)	Air Flow (m³/h)	Noise (dbA)
BLAUBERG SLIM 100	220-240	14	2300	105	33
BLAUBERG SLIM 125	220-240	16	2400	190	34
BLAUBERG SLIM 150	220-240	24	2400	305	37



MODEL	Option
Timer	T
Pull-Cord Switch	S
Timer and Humidity Sensor	H
Pull-Cord Switch and Timer	ST
Timer, Pull-Cord Switcher, Humidity Sensor	SH

Line

MODEL	Voltage (V)	Power (W)	Rotation (rpm)	Air Flow (m³/h)	Noise (dbA)
BLAUBERG LINE 100	220-240	14	2300	95	34
BLAUBERG LINE 125	220-240	16	2400	180	35
BLAUBERG LINE 150	220-240	24	2400	292	38



MODEL	Option
Timer	T
Pull-Cord Switch	S
Timer and Humidity Sensor	H
Pull Cord and Timer	ST
Timer, Pull Cord Switch and Humidity Sensor	SH

Quatro

MODEL	Voltage (V)	Power (W)	Rotation (rpm)	Air Flow (m³/h)	Noise (dbA)
BLAUBERG QUATRO 100	220-240	14	2300	88	33
BLAUBERG QUATRO 125	220-240	16	2400	167	34
BLAUBERG QUATRO 150	220-240	24	2400	265	37



MODEL	Option
Timer	T
Pull-Cord Switch	S
Timer and Humidity Sensor	H
Pull Cord Switch and Timer	ST
Timer,Pull-Cord Switch,Humidity Sensor	SH



Platinum



Chrome



Hi-Tech



Gold

MODEL

BLAUBERG QUATRO 100
BLAUBERG QUATRO 125
BLAUBERG QUATRO 150

In-Duct Axial Fan

MODEL	Voltage (V)	Power (W)	Rotation (rpm)	Air Flow (m³/h)	Noise (dbA)
BLAUBERG TUBO 100	220-240	16	2300	137	38
BLAUBERG TUBO 125	220-240	22	2400	245	39
BLAUBERG TUBO 150	220-240	30	2400	361	40



MODEL	Option
Timer	T

Turbo Mixed Flow Duct Fan

MODEL	Voltage (V)	Frequency (Hz)	Power (W)	Current (A)	Air Flow (m³/h)	Rotation (rpm)	Max.Heat (°C)	Noise (dbA)
BLAUBERG TURBO E-100	1-230	50/60	21-33	0,11-0,21	145-187	2180-2385	60	27-36
BLAUBERG TURBO 100	1-230	50/60	23-25	0,10-0,11	170-220	1980-2545	60	27-32
BLAUBERG TURBO E-125	1-230	50/60	23-37	0,18-0,27	220-280	1950-2455	60	28-37
BLAUBERG TURBO 125	1-230	50/60	25-30	0,11-0,13	230-345	1535-2265	60	29-34
BLAUBERG TURBO E-150	1-230	50/60	30-60	0,17-0,27	405-520	1680-2460	60	33-44
BLAUBERG TURBO E-160	1-230	50/60	30-60	0,17-0,27	405-520	1680-2460	60	33-44
BLAUBERG TURBO 150	1-230	50/60	42-50	0,19-0,22	430-560	1940-2620	60	37-46
BLAUBERG TURBO 160	1-230	50/60	42-50	0,19-0,22	430-560	1940-2620	60	37-46
BLAUBERG TURBO 200	1-230	50/60	76-108	0,34-0,48	805-1080	1915-2380	60	45-52
BLAUBERG TURBO 250	1-230	50/60	125-177	0,54-0,79	1070-1360	1955-2440	60	47-55
BLAUBERG TURBO 315	1-230	50/60	227-315	0,99-1,42	1420-1750	2115-2505	60	47-56
BLAUBERG TURBO E 125 MAX	1-230	50/60	23-37	0,18-0,27	220-280	1950-2455	60	28-37



BLAUBERG TURBO E-100	Timer
BLAUBERG TURBO 100	Timer
BLAUBERG TURBO E-125	Timer
BLAUBERG TURBO 125	Timer
BLAUBERG TURBO E-150	Timer
BLAUBERG TURBO E-160	Timer
BLAUBERG TURBO 150	Timer
BLAUBERG TURBO 160	Timer
BLAUBERG TURBO 200	Timer
BLAUBERG TURBO 250	Timer
BLAUBERG TURBO 315	Timer
BLAUBERG TURBO 125 MAX	Timer

Bliss

MODEL	Voltage (V)	Power (W)	Rotation (rpm)	Air Flow (m³/h)	Noise (dbA)
BLAUBERG BLISS 100	220-240	14	2300	95	36



Cabrio Base

MODEL	Voltage (V)	Frequency (Hz)	Power (W)	Current (A)	Air Flow (m³/h)	Rotation (rpm)	Noise (dbA)
BLAUBERG CABRIO 100	220-240	50	3-5	0,126-0,196	70-101	1850-2650	22-27
BLAUBERG CABRIO 100 V2	220-240	50	3-5	0,126-0,196	70-101	1850-2650	22-27



MODEL

Option

Timer

T

Humidity Sensor

H

Art

MODEL	Voltage (V)	Power (W)	Current (A)	Air Flow (m³/h)	Rotation (rpm)	Noise (dbA)
BLAUBERG ART 100	220-240	14	0,085	105	2300	37
BLAUBERG ART 125	220-240	16	0,1	185	2400	38
BLAUBERG ART 100	220-240	24	0,13	298	2400	40



Art -1



Art -2



Art -3



Art -4



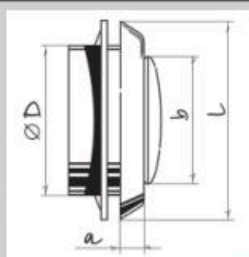
Art -5



Art -6

VPR Plastic Disc Valve (Mariner)

MODEL	A (mm)	B (mm)	L (mm)	D (mm)
BLAUBERG VPR 80	18	90	132	80
BLAUBERG VPR 100	28	90	148	100
BLAUBERG VPR 125	20	110	166	125
BLAUBERG VPR 150	20	128	200	150
BLAUBERG VPR 200	20	128	246	200



Ventilation

Grills and Dampers





Single Row Bladed Grilles Without Damper

W/H	100	150	200	250	300	350	400	450	500	600	700	800	900
100													
150													
200													
250													
300													
350													
400													
450													
500													
600													
700													
800													
900													
1000													



Single Row Bladed Grilles With Damper

W/H	100	150	200	250	300	350	400	450	500	600	700	800	900
100													
150													
200													
250													
300													
350													
400													
450													
500													
600													
700													
800													
900													
1000													
1100													
1200													



Double Row Bladed Grilles Without Damper

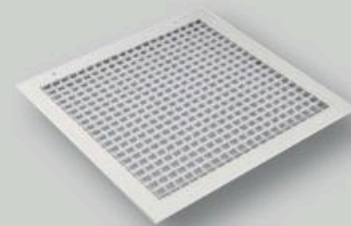
W/H	100	150	200	250	300	350	400	450	500	600	700	800	900
100													
150													
200													
250													
300													
350													
400													
450													
500													
600													
700													
800													
900													
1000													
1100													
1200													



Double Row Bladed Grilles With Damper

W/H	100	150	200	250	300	350	400	450	500	600	700	800	900
100													
150													
200													
250													
300													
350													
400													
450													
500													
600													
700													
800													
900													
1000													
1100													
1200													

The price figures are in USD.



12mm X 12mm Perforation Grills

W/H	100	150	200	250	300	350	400	450	500	600	700	800	900
100													
150													
200													
250													
300													
350													
400													
450													
500													
600													
700													
800													
900													
1000													
1100													
1200													



Linear Grills

W/H	50	75	100	125	150	175	200	225	250	300	400	500	600
250													
300													
350													
400													
450													
500													
600													
700													
800													
900													
1000													
1200													
1400													
1600													
1800													
2000													



Fixed Wing Exterior Air Louverers

W/H	250	300	350	400	500	600	800	1000	1200	1400	1600	1800	2000
300													
350													
400													
450													
500													
600													
700													
800													
900													
1000													
1200													
1400													
1600													
1800													
2000													
2200													



Square Ceiling Diffuser

WxH	With Damper	Without Damper
150 x 150		
225 X 225		
300 x 300		
375 X 375		
450 X 450		



Circular Air Valves (Anemostat)

Diameter Ø (mm)	With Damper	Without Damper
Ø 150		
Ø 200		
Ø 250		
Ø 300		
Ø 350		
Ø 400		
Ø 450		
Ø 500		



Supply/Exhaust Valves (Mariner Anemostat)

Diam. Ø (mm)
Ø 100
Ø 125
Ø 150
Ø 200



Variable Air Volume Control Damper (V.A.V)

Diam. Ø (mm)
Ø 100
Ø 125
Ø 160
Ø 200
Ø 250
Ø 315
Ø 355
Ø 400
Ø 450
Ø 500



Variable Air Volume Control Damper (V.A.V.)

Diam. Ø (mm)
200
250
300
350
400
450
500
550
600
650
700
800
900
1000



Fire Damper

W/H	150	200	300	400	500	600	700	800
200								
300								
400								
500								
600								
700								
800								
900								
1000								
1100								
1200								
1300								
1400								
1500								



Constant Air Volume Control Damper (C.A.V.)

Diameter Ø (mm)	Length (mm)	Air Flow (m³/h)
Ø 100	170	70 - 200
Ø 125	170	100 - 280
Ø 160	240	180 - 500
Ø 200	240	250 - 900
Ø 250	240	500 - 1500
Ø 315	240	600 - 2000
Ø 400	295	1000 - 2700



Hepa Filter Set

Hepa Filter+ Swirl Diffiseur + Box
305*305
457*457
535*535
575*575
610*610



Ball Jet Diffusers

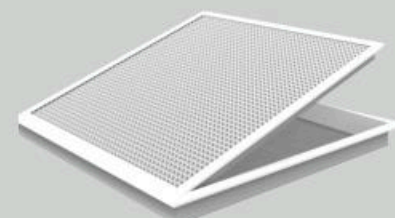
Diameter Ø (mm)
Ø 80
Ø 120
Ø 150
Ø 200
Ø 250
Ø 315
Ø 400



Volumetric Air Regulating Dampers

W/H	100	200	300	400	500	600	700	800	900	1000
150										
200										
250										
300										
350										
400										
450										
500										
600										
700										
800										
900										
1000										

The price figures are in USD.



Perforation Grilles with frame and hinges

W/H	100	150	200	250	300	350	400	450	500	600	700	800	900
100													
150													
200													
250													
300													
350													
400													
450													
500													
600													
700													
800													
900													



Aluminium Grilles For Round Channels

ALN WxH (CM2)	Parallel Blade with Damper		Parallel Blade without Damper	
	Double Row		Single Row	Double Row
100 - 250				
251 - 500				
501 - 750				
751 - 1000				
1001 - 1250				
1251 - 1500				
1501 - 1750				
1751 - 2000				
2001 - 2250				
2251 - 2500				
2501 - 2750				
2751 - 3000				
3001 - 3250				
3251 - 3500				
3501 - 3750				
3751 - 4000				
4001 - 4250				
4251 - 4500				



Slot Diffuser

Number of Slots		Dispersion						Collection					
		1	2	3	4	5	6	1	2	3	4	5	6
W	1000												



ONE

Earth

ONE

Chance



Chimney Systems



Industrial
Chimney Systems



Laser Cutting
& Engraving



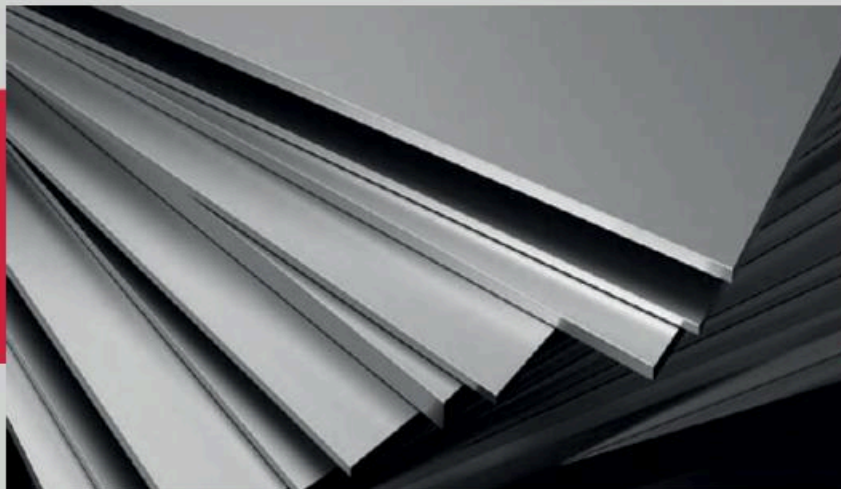
Garbage Chute



Linen Chute

RESPONSIBILITIES

We are doing our best to making sure we do not unresponsibly deplete the natural resources while maintaining a prospering economy for future generations. This means targeting the best possible conditions and wellness of our employees (and everybody related to our business) and minimizing or even reversing our business' environmental impacts as business to be sustainable in the long run.



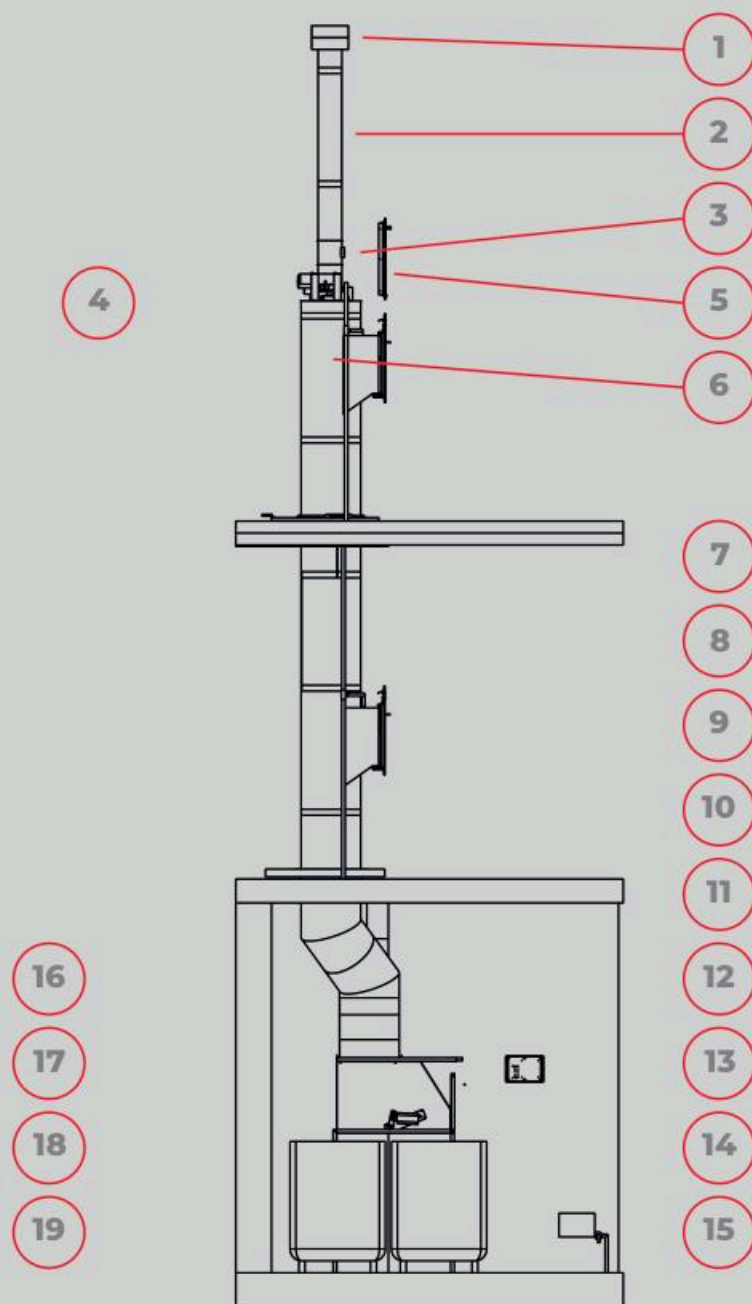
MATERIALS

Majority of our production based on stainless steel which is highly durable and resistant to condensate, humidity and acid. SS 316, SS 304, SS 430 and different grades of stainless steel is processed and manufactured in accordance with the international and local codes and requirements of projects and NFPA #82 Material thickness, hopper door scales, chute diameter, insulation and sound dampening technics are determined by the height of the system, the load of the modules to bear.



TECHNICAL INFO

Garbage and Linen Chute Designs of Falken are address to use in various kind of buildings with different purposes and scales like residences, hotels, commercial facilities, hospitals, factories, flats. Falken provides work and cost effective solutions to differing needs by differentiable modular structure of the systems it is manufacturing. SS 304 and SS 316 grade stainless steel used as raw materials of manufactured products by their high resistance to possible corrosion and acid. Most of the Garbage/Linen Chute Systems are applied within the vertical shaft of buildings. Falken is manufacturing the products with its over-a-decade experience and additional accessories that enables their systems to be installed both internally and externally considering almost every conditions.



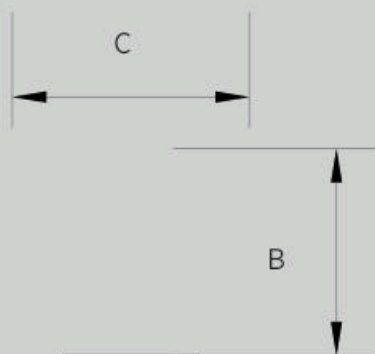
- | | |
|----------------------------------|-------------------------------|
| 1. Ventilation Cap | 11. Intake Throat |
| 2. Ventilation Tube | 12. Hopper Door |
| 3. Fan | 13. Main Support |
| 4. Hoist | 14. Elbows |
| 5. Acces Door | 15. Fire Cut Off (Fire Rated) |
| 6. Cleaning Brush | 16. Control Unit |
| 7. Sanitizing & Fire Safety Unit | 17. Seperator Flap |
| 8. Support Connection | 18. Chemical Sanitizer Pump |
| 9. Floor (1....20) | 19. Waste Container |
| 10. Chute Body Tube | |

1

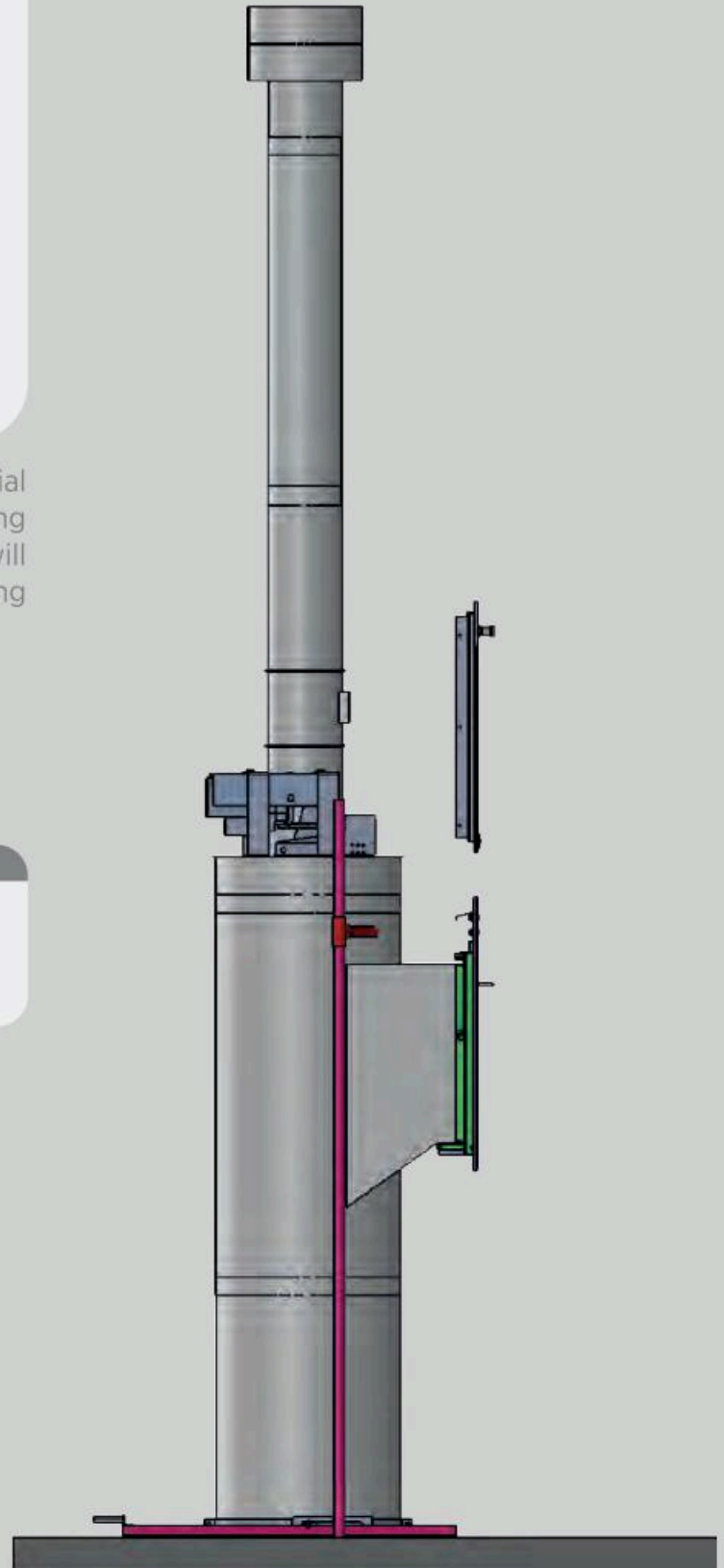


An open ventilation tube on a roof is a potential entry spot for rainwater, moisture and more. Adding a ventilation cap on top of the ventilation tube will prevent animals and foreign matter from entering the tube.

A	B	C
200 mm	300 mm	400 mm
250 mm	375 mm	450 mm
300 mm	450 mm	500 mm
350 mm	525 mm	550 mm

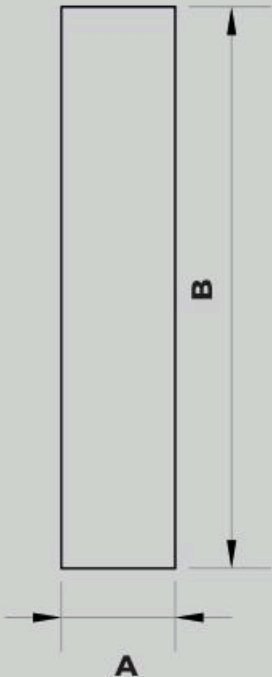
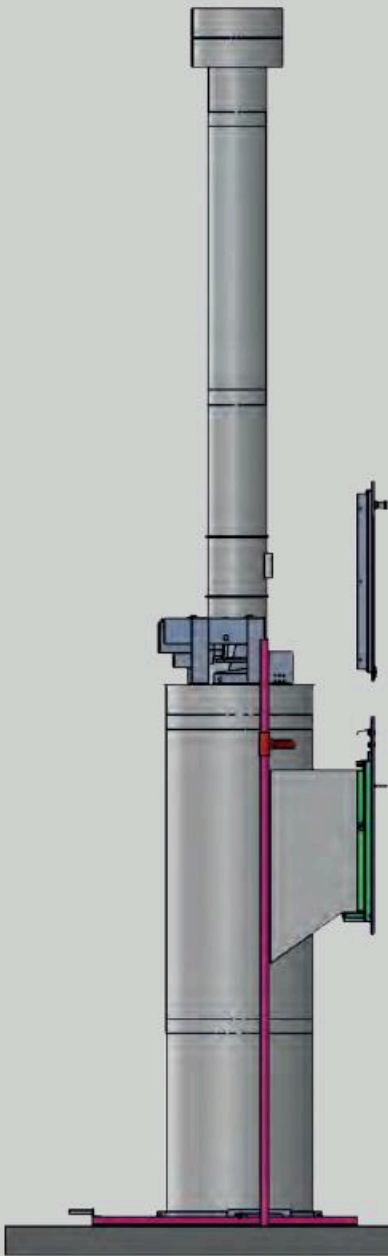


A





An open ventilation tube on a roof is a potential entry spot for rainwater, moisture and more. Adding a ventilation cap on top of the ventilation tube will prevent animals and foreign matter from entering the tube.

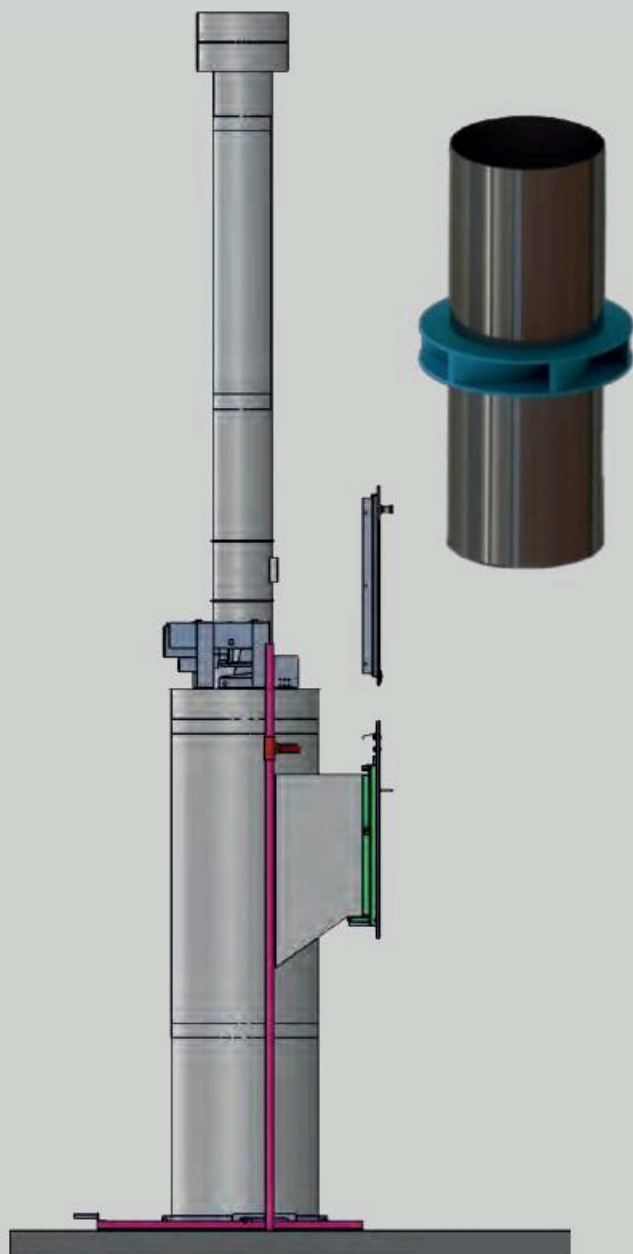


A	B
200 mm	1000 mm
250 mm	1000 mm
300 mm	1000 mm
350 mm	1000 mm



Upper control unit takes commands from the main control panel and manages the cleaning system components.





Phase		1
Type of Voltage		AC
Nominal Voltage	in V	230
Frequency	in Hz	50/60
Type of Data Definition		max. load
Speed	in min-1	1250
Power Input	in W	35
Current Draw	in A	0.27
Max. Back Pressure	in Pa	35
Min. Ambient Temperature	in °C	-30
Max. Ambient Temperature	in °C	50

Ventilation unit is an important factor on a chute system to maintain clean air within the chute body. Ventilation fan, located below the ventilation cap (or over the chute body to ventilation tube reducer, runned by the main controller unit.

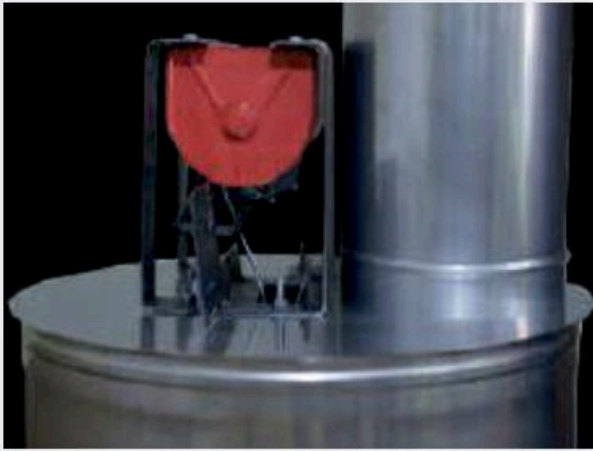
Fan can be set to run under defined conditions;

* Constantly running.

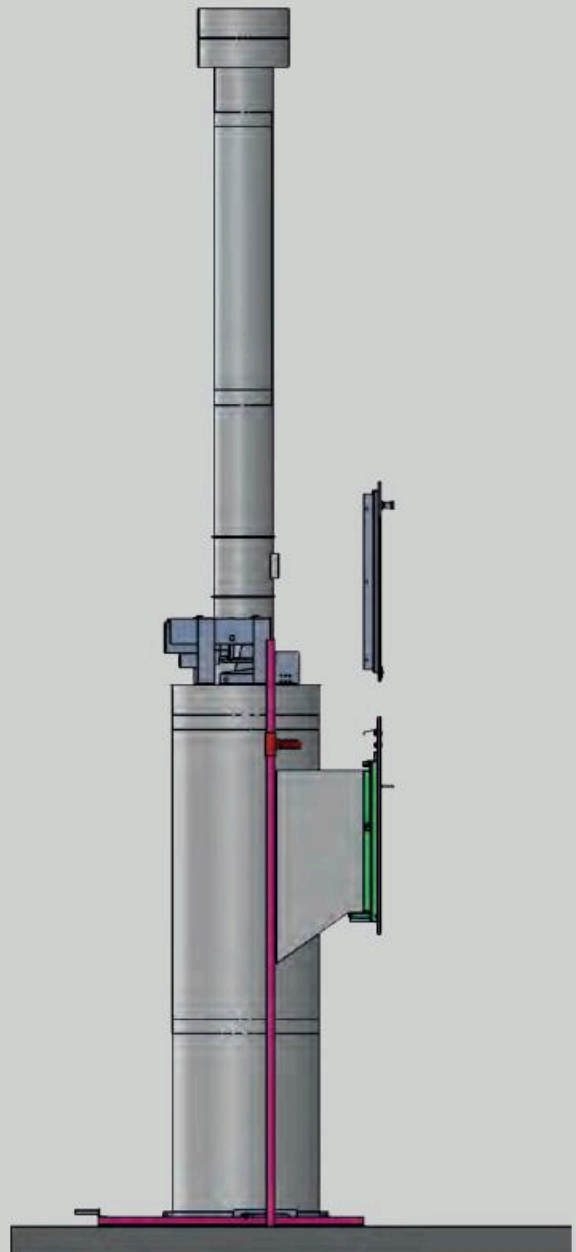
* Run for a certain period of time when/after a hopper door opened or closed.

* Run between the pre-set time of the day.

5



Hoist moves the cleaning brush through the chute body during the cleaning process.



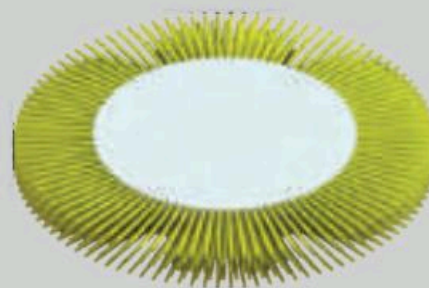
6



(Access Door)

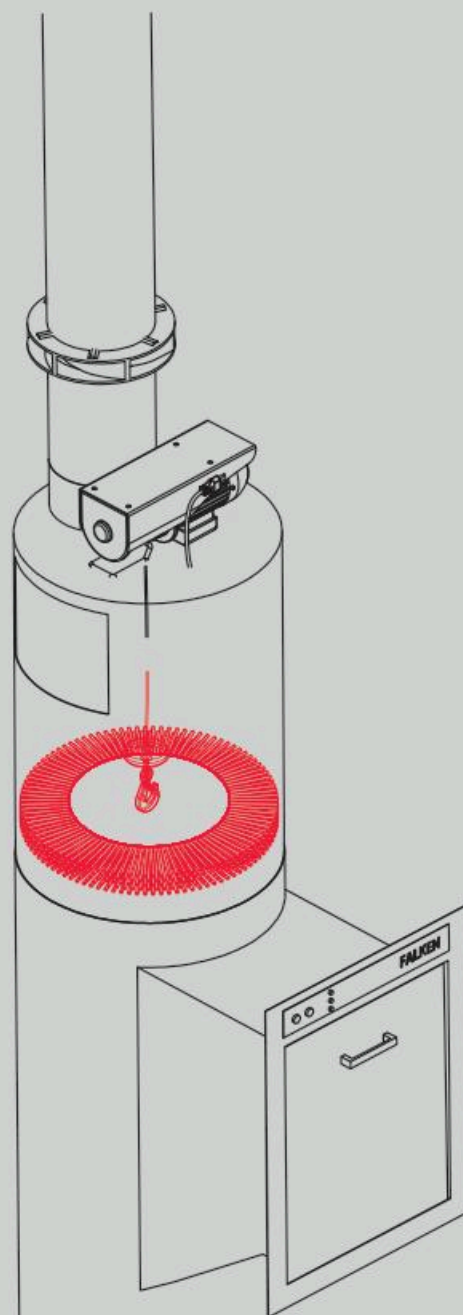
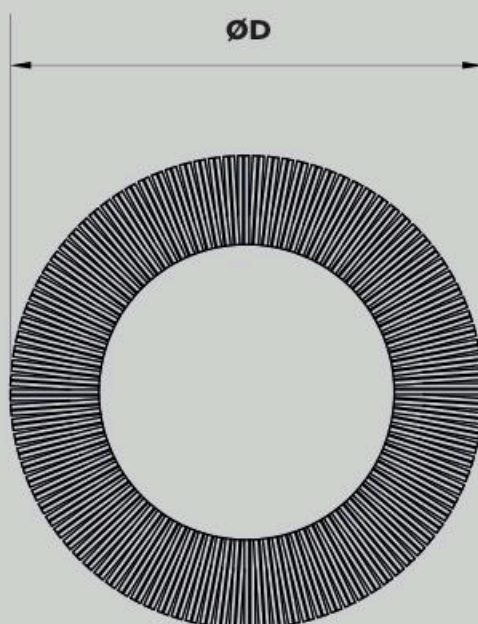
It is placed below the ventilation duct and used for accessing the equipment for maintenance. Interconnected components of the cleaning system including crane, solenoid valve, check valve, cleaning brush, dosage pump, chemical tank and sanitizing unit, located behind the access door.

7



Cleaning Brush provides a residue free surface from top to the bottom of the system thanks to its proper size and design

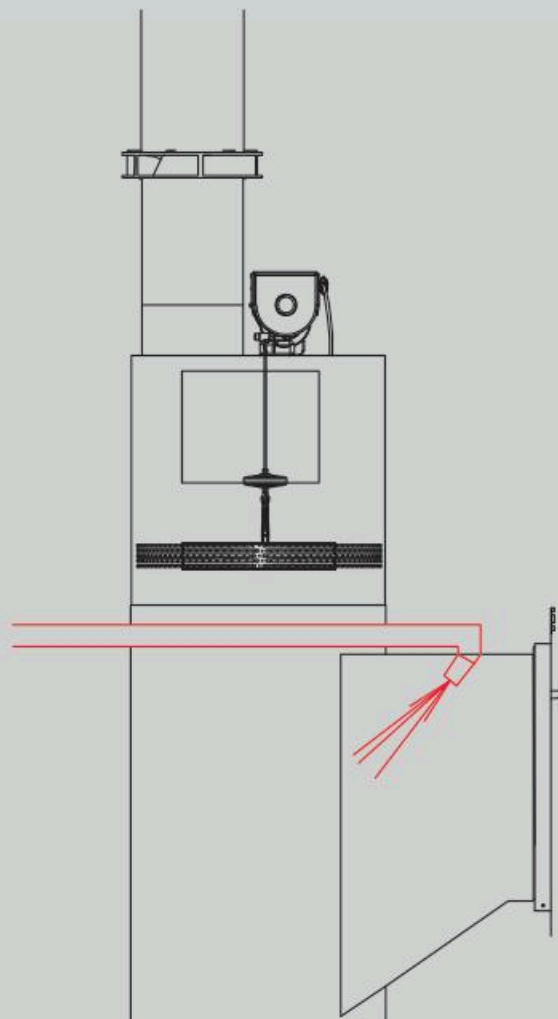
410 mm
460 mm
510 mm
560 mm
610 mm
710 mm
810 mm
910 mm
1010 mm



8



Fire sprinklers and proper cleaning of the internal surfaces of the chute body are essential in terms of compliance with the fire&safety codes in addition to keep the environment and operating areas healthy, disinfected and odour-free. Main controller unit can be connected to the fire alarm system (BMS) to lock the system completely and activate fire prevention procedure in case of fire.

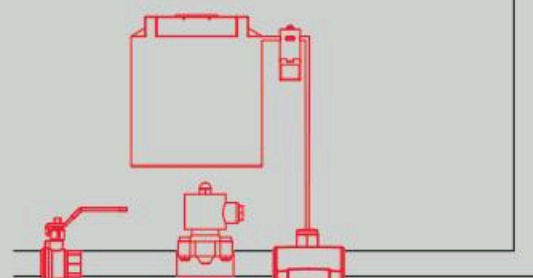


CHEMICAL SANITIZER PUMP

19



Sanitizer pump is a small, positive displacement pump. It is designed to pump a very precise flow rate of the chemical or substance into the water flow within the chute cleaning system.



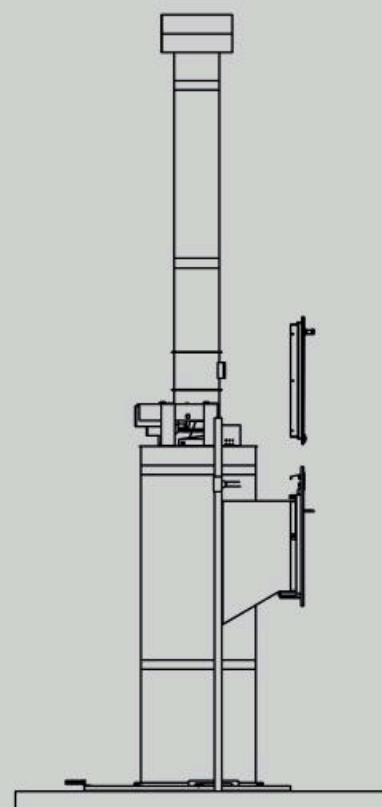
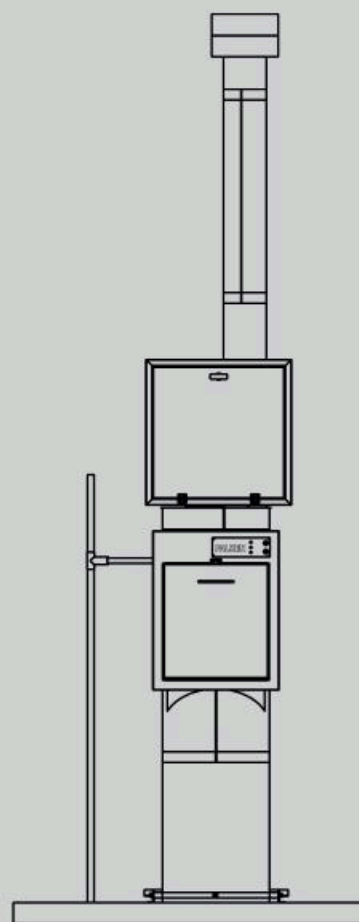
9



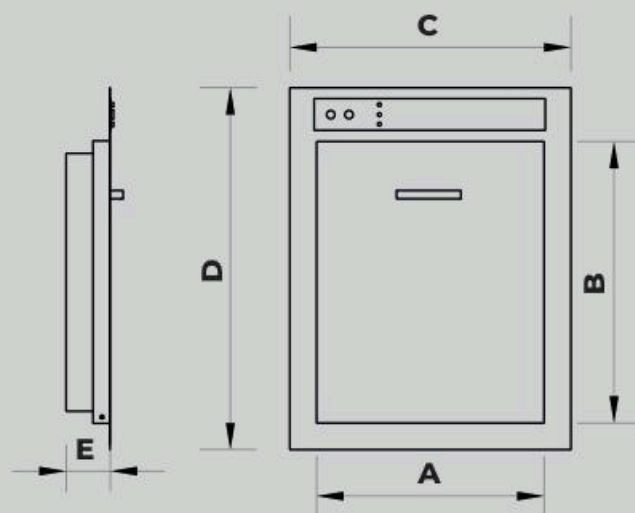
Fire rated (UL-10B & EN 60079) self sealing with highly fire resistant, expanding with heat to block the fire and smoke transition, seal. Silent industrial pneumatic pistons for safe and silent self closing system.

Falken manufactures the hopper doors in various scales in accordance with the diameter of the chute tube.

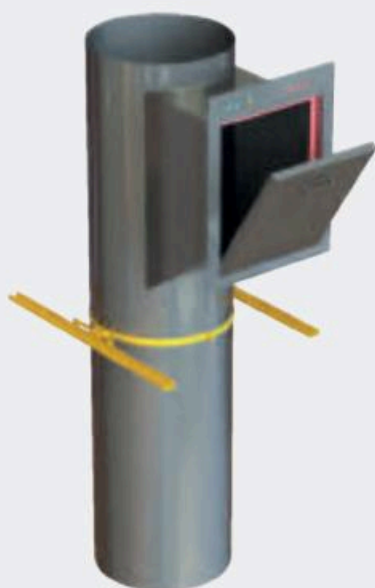
Depending on the request and project requirements, the doors can be produced as equipped with components such as sensors, LED indicator lights, switches, function buttons and electromechanical locks or to operate completely manual by hand.



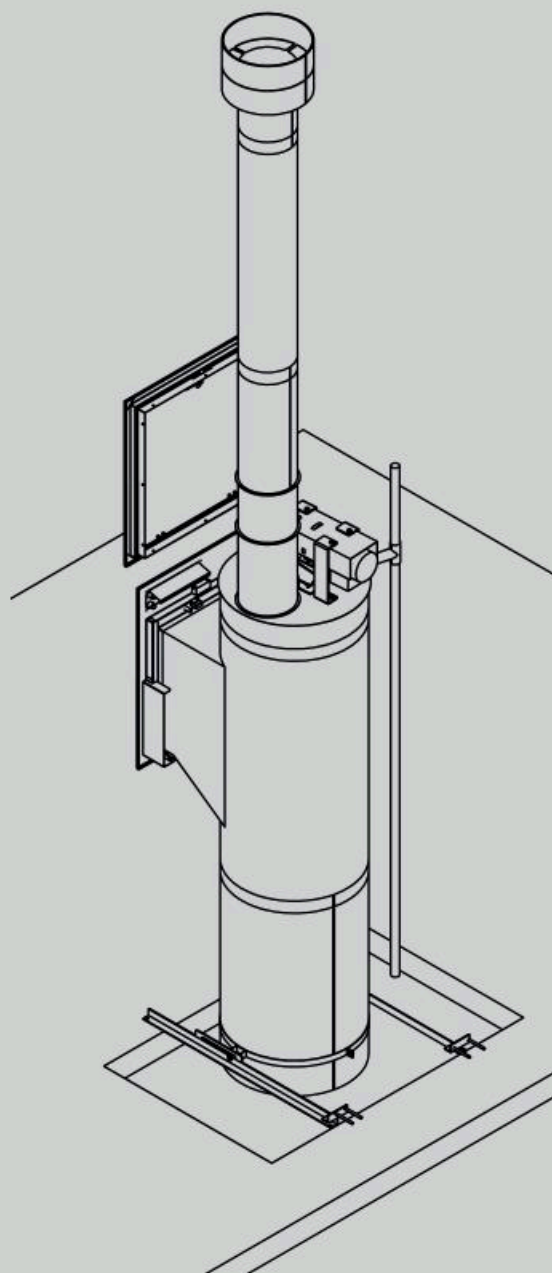
A	B	C	D	E
350 mm	450 mm	500 mm	550 mm	85 mm
400 mm	500 mm	550 mm	600 mm	85 mm
450 mm	550 mm	600 mm	650 mm	85 mm
500 mm	600 mm	650 mm	700 mm	90 mm
550 mm	650 mm	700 mm	750 mm	90 mm
600 mm	700 mm	750 mm	800 mm	90mm



10

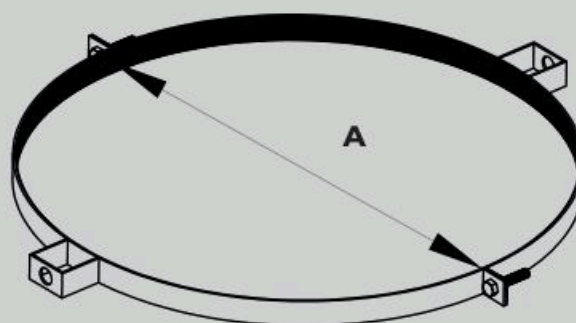


Modules connect each other by male-female muff. Stainless steel connection clamps provide tight and leak proof assembly. The support frames bears the vertical body load of the chute and clamps held in between the frames



A

400 mm
450 mm
500 mm
550 mm
600 mm
700 mm
800 mm
900 mm
1000 mm

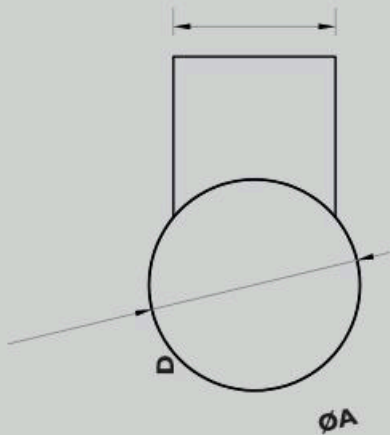
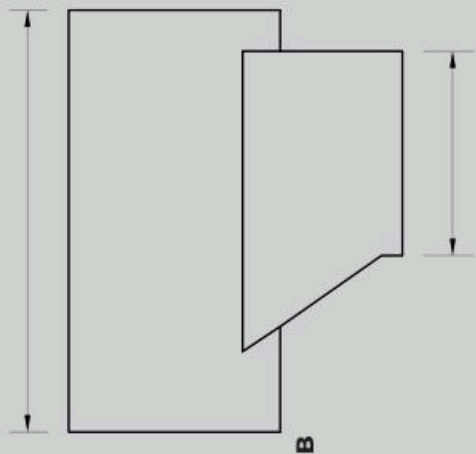
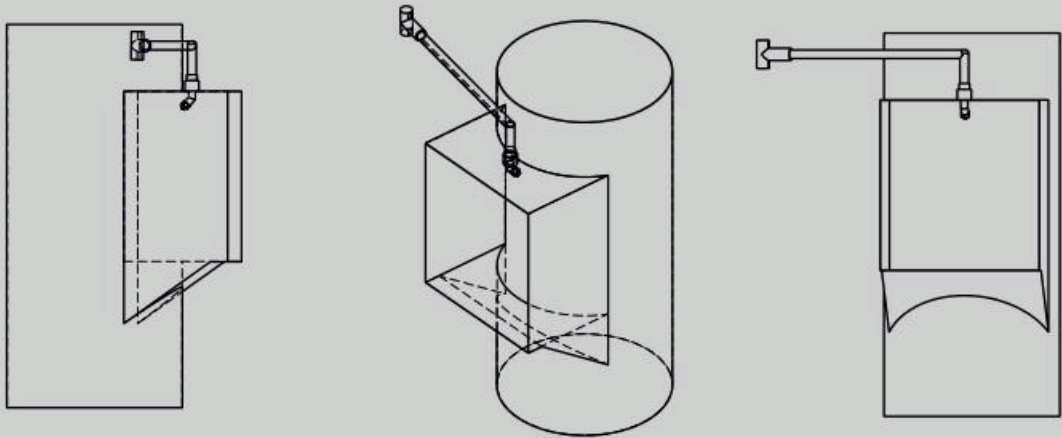


11



A	B	C	D
400 mm	1000 mm	350 mm	450 mm
450 mm	1000 mm	350 mm	450 mm
500 mm	1000 mm	400 mm	500 mm
550 mm	1000 mm	400 mm	500 mm
600 mm	1000 mm	450 mm	550 mm
700 mm	1000 mm	450 mm	550 mm
800 mm	1000 mm	500 mm	600 mm
900 mm	1250 mm	550 mm	650 mm
1000 mm	1250 mm	600 mm	700 mm

Each floor has an intake throat module to assemble the hopper door with preferred enhancements.

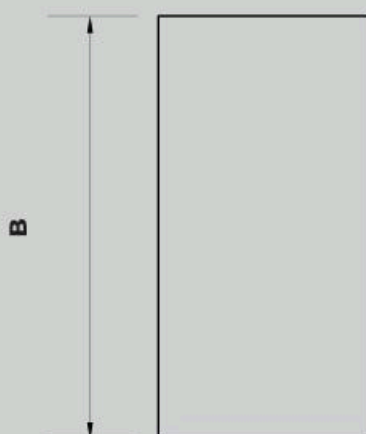
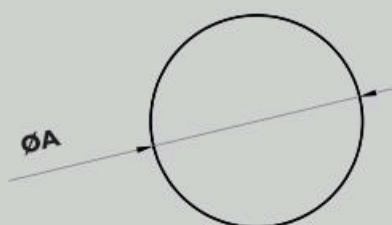


12

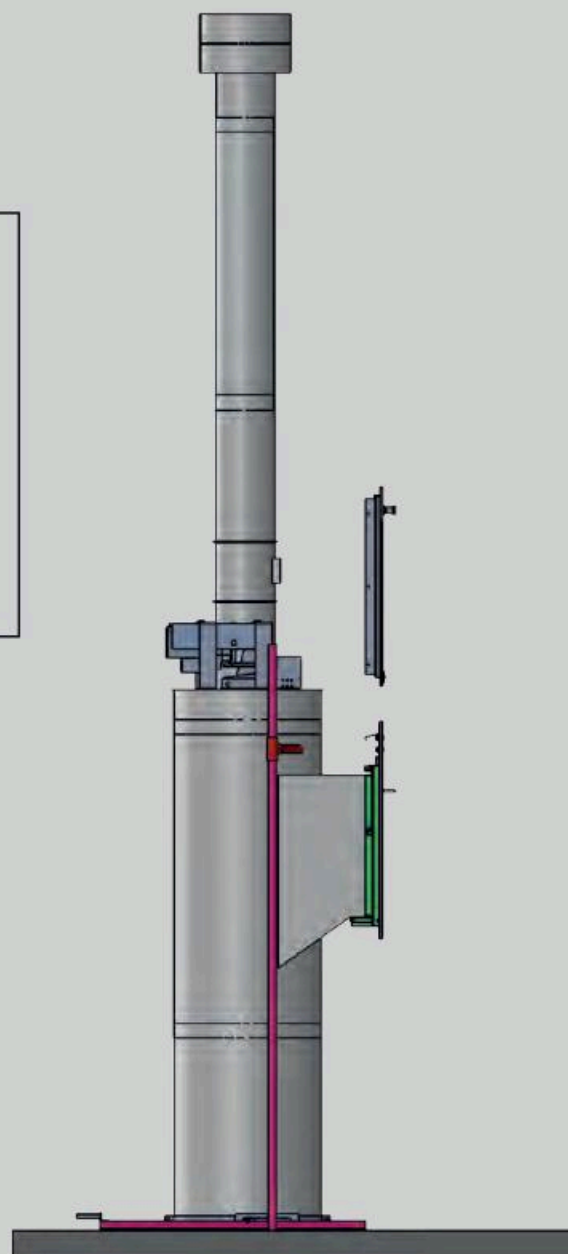


Chute tube provides a silent delivery of the waste-bag within the projectless, smooth inner surface of the chute.

Sound dampening material coated on the outer surface.



A	B
400 mm	1000 mm
450 mm	1000 mm
500 mm	1000 mm
550 mm	1000 mm
600 mm	1000 mm
700 mm	1000 mm
800 mm	1000 mm
900 mm	1250 mm
1000 mm	1250 mm

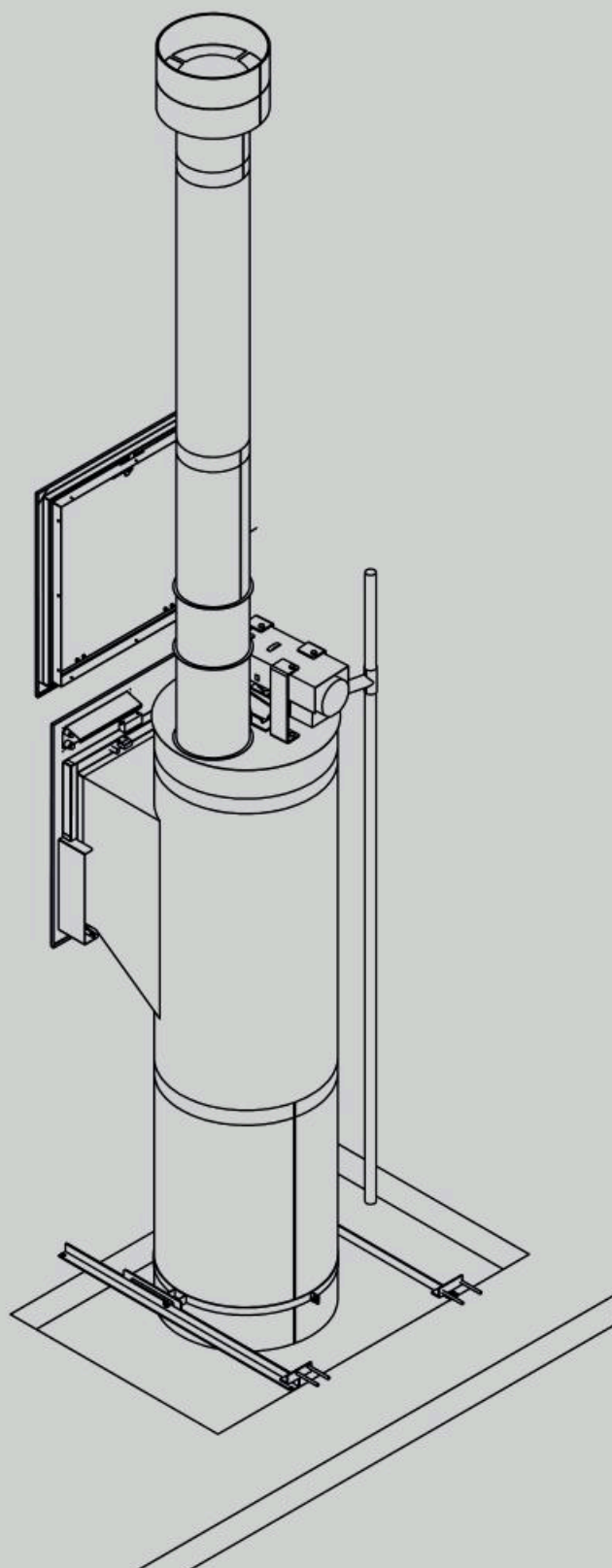
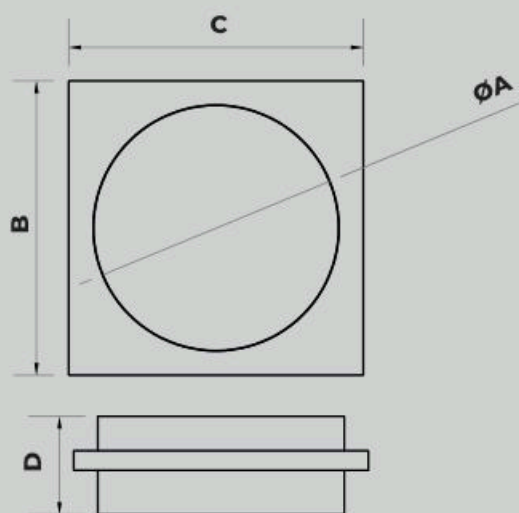


13



Modules connect each other by male-female muff. Stainless steel connection clamps provide tight and leak proof assembly.

The support frames bears the vertical body load of the chute and clamps held in between the frames



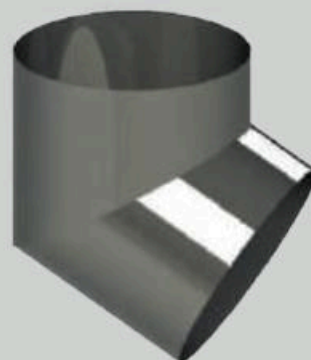
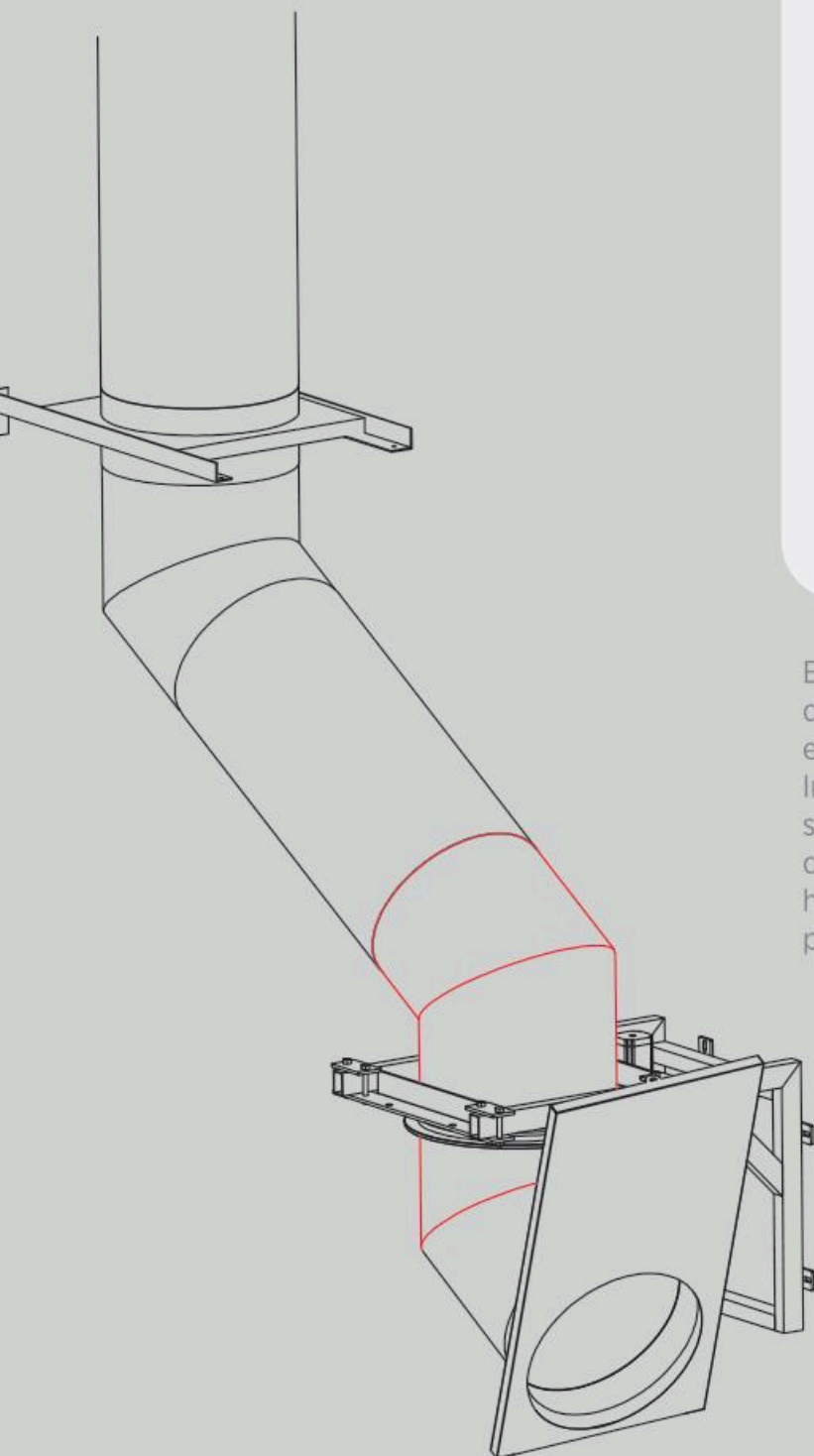
A	B	C	D
400 mm	500 mm	500 mm	200 mm
450 mm	550 mm	550 mm	200 mm
500 mm	600 mm	600 mm	200 mm
550 mm	650 mm	650 mm	200 mm
600 mm	700 mm	700 mm	300 mm
700 mm	800 mm	800 mm	300 mm
800 mm	900 mm	900 mm	300 mm
900 mm	1000 mm	1000 mm	300 mm
1000 mm	1100 mm	1100 mm	300 mm

14



Elbows being placed at the end of the chute body, to direct the waste to the containers, are discharge elbows.

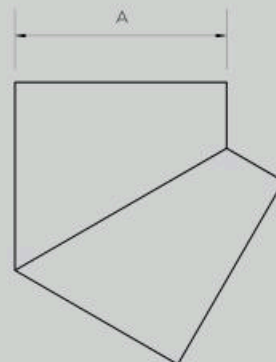
In high buildings, decelerator elbows being used to slow down the free fall of the bags. The impact area designed to withstand the impact of falling bags by higher thickness value and/or supported with proper accessories.



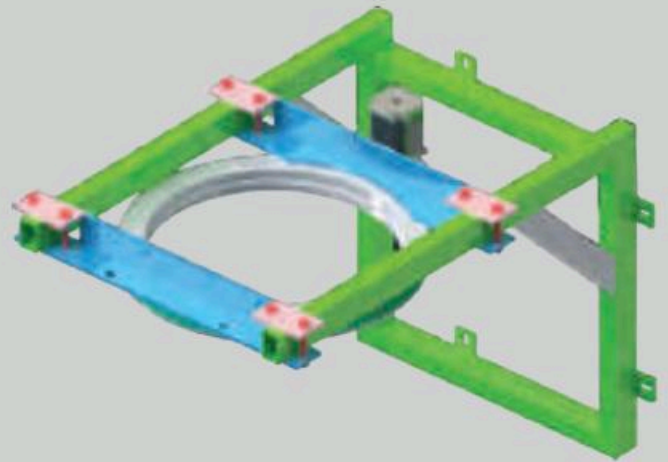
A

400 mm
450 mm
500 mm
550 mm
600 mm
700 mm
800 mm
900 mm
1000 mm

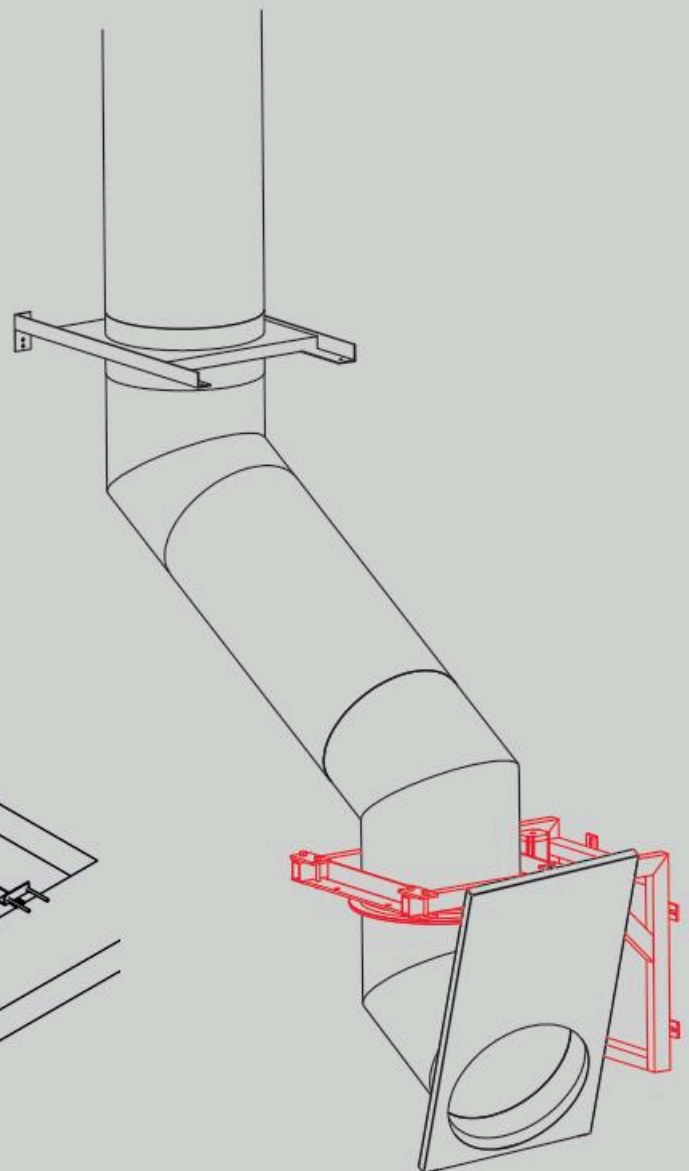
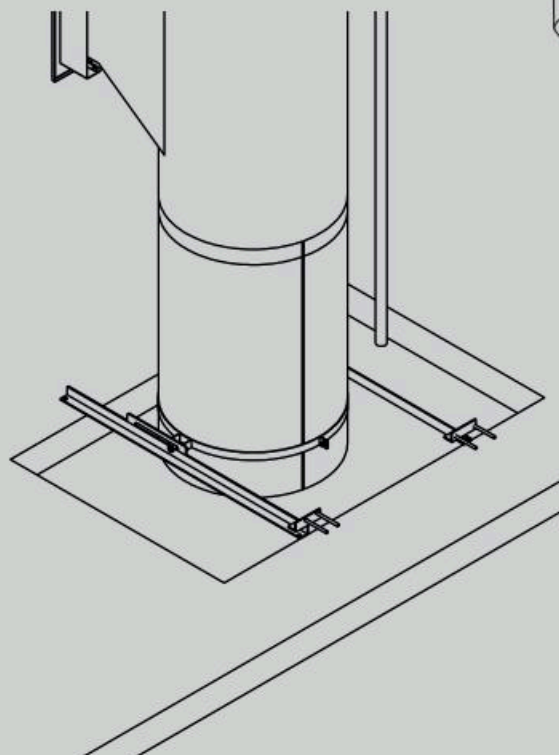
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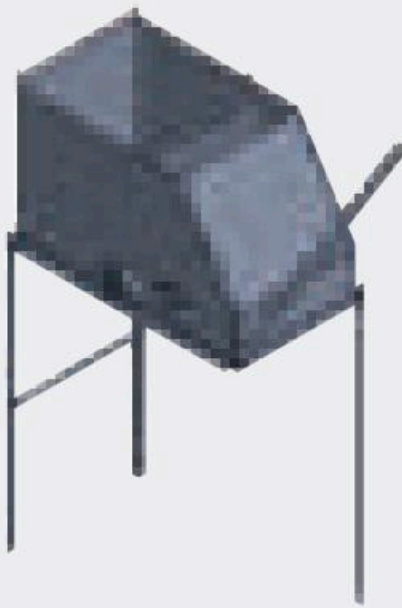
15



Modules connect each other by male-female muff. Stainless steel connection clamps provide tight and leak proof assembly. The support frames bears the vertical body load of the chute and clamps held in between the frames

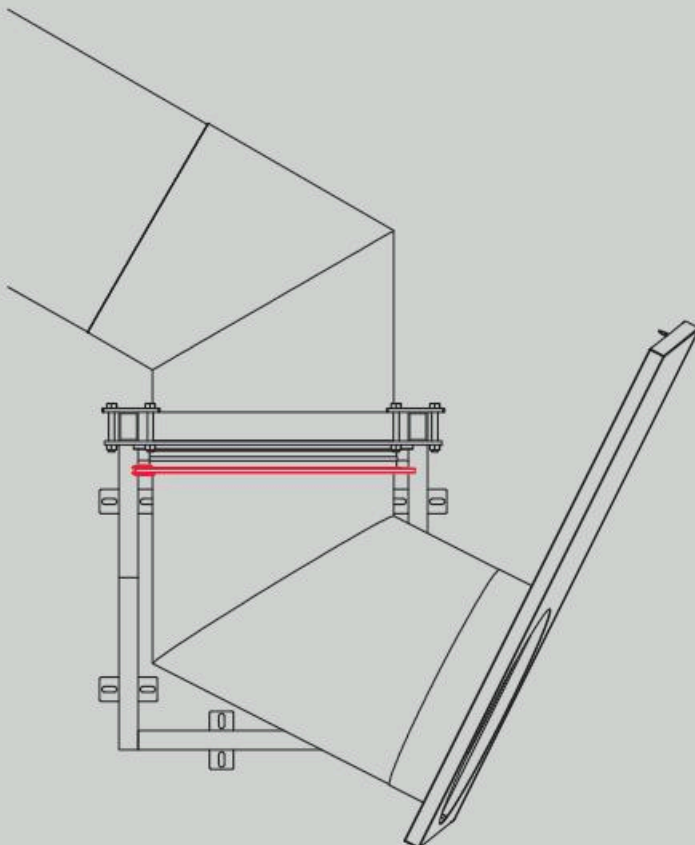
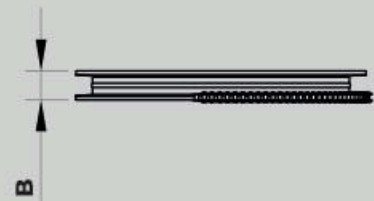
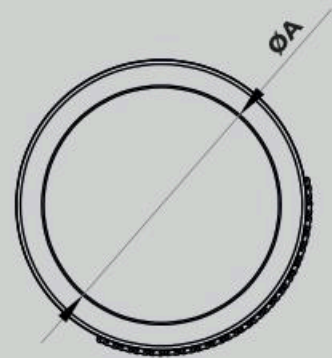


16



There are two options that can be applied as the waste separation method.

Separator Elbow or Seperator Flap is used to manage the waste to make it become much easier to recycle. Effective separation of wastes means that less waste goes to landfill which makes it cheaper, healthier and better for people and the environment. Elbows or flaps can be arranged to separate two, three or more types of waste in according to the requirements.



A	B
400 mm	60 mm
450 mm	60 mm
500 mm	60 mm
550 mm	60 mm
600 mm	60 mm
700 mm	60 mm
800 mm	60 mm
900 mm	60 mm
1000 mm	60 mm

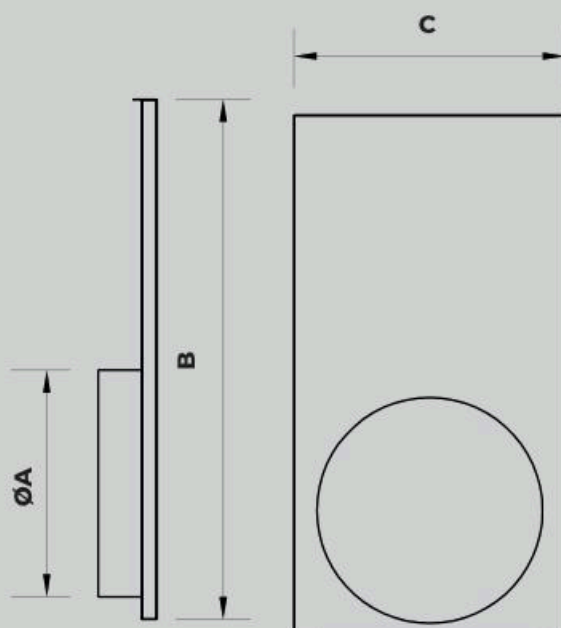
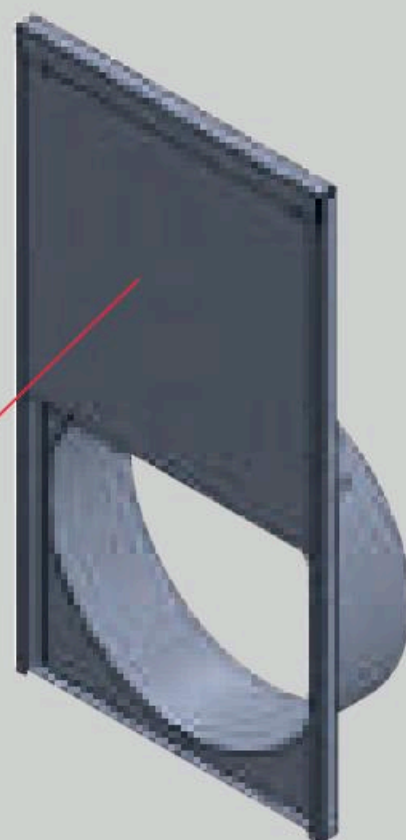
17



Vertical sliding door held by a steel rope on the top side of the guillotine frame and connected with a fusible link in the middle.

In case of fire, the link gets fused at 161° F (72°C) causing the guillotine door to slide shut. All system doors are 2 hours fire rated.

(Fire Cut Off)



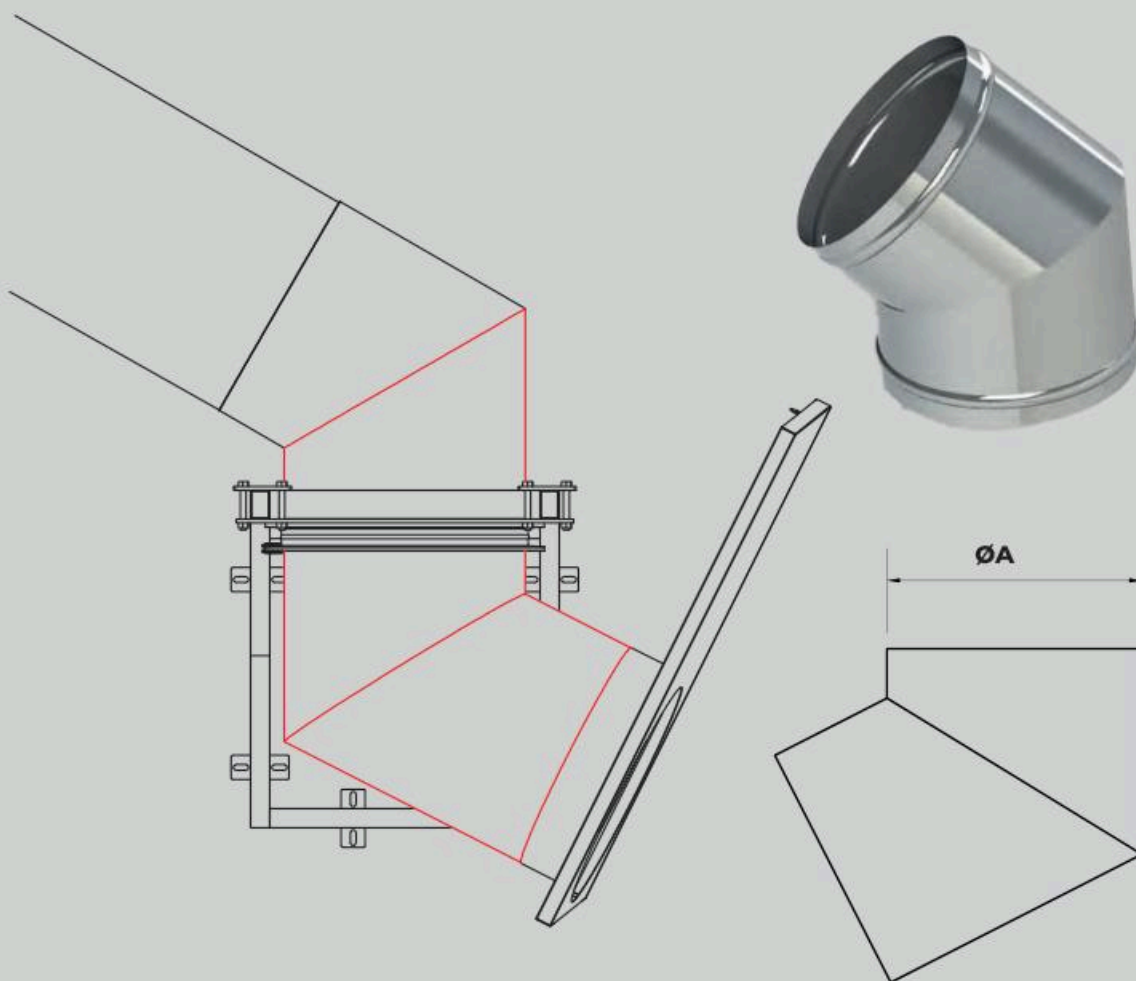
ØA	B	C
400 mm	1100 mm	500 mm
450 mm	1150 mm	550 mm
500 mm	1200 mm	600 mm
550 mm	1250 mm	650 mm
600 mm	1350 mm	700 mm
700 mm	1450 mm	800 mm
800 mm	1550 mm	900 mm
900 mm	1650 mm	1000 mm
1000 mm	1750 mm	1100 mm

18



Elbows being placed at the end of the chute body, to direct the waste to the containers, are discharge elbows.

In high buildings, decelerator elbows being used to slow down the free fall of the bags. The impact area designed to withstand the impact of falling bags by higher thickness value and/or supported with proper accessories.



A
400 mm
450 mm
500 mm
550 mm
600 mm
700 mm
800 mm
900 mm
1000 mm



OPERATION SEQUENCE

- 1** The user approaches the chute at the floor and selects one out of the buttons available to release the electromechanic interlock and open the hopper door
- 2** The waste Separator Elbow /Separator Flap at the bottom of the system, rotates to the related container to direct the disposals into the correct collection bin placed in the garbage room.
- 3** Right after choosing the disposal type, LED indicators on the panels of every hopper door light up in order to inform the users about the system state. System keeps all other doors locked while it releases electromechanic interlock to allow the user open the hopper door to place the disposal bag onto intake throat chamber.
- 4** Disposal bag falls through the chute tube by closing the hopper door and LED indicators at all the floors informs the users by lighting the green LED.

Necessary Features On Chimneys

- All chimneys must be manufactured and applied according to the relevant standards and regulations
- All chimneys must transmit waste gases safely to the atmosphere
- Chimney material must be suitable for fuel
- Chimney material must be smooth
- The flue material must be suitable for the flue gas temperature
- Chimney material, fixing elements and construction must be fire resistant
- The chimney section can be round, square, rectangular or oval, but the recommended chimney section is round
- The chimneys must be modular and can be replaced if necessary Chimney can be cracked, frangible material must not be preferred Chimney sectional dimension, shape and material must not change Chimney connections must be muffled, flanged, muffle or muffle flanged
- Chimney system must be suitable for natural extraction or high pressure heating systems
- The chimney modules must be sealed both inside and at the joints Chimneys must be insulated with stone wool
- Chimney installation must be carried through the chimney shaft
- Chimneys must be away from flammable building materials
- Chimney cross-section and construction must be calculated and determined according to EN 13384 (DIN 4705)
- There must be enough inspection hole at relevant places
- Chimney mouth must sheltered in a way that no birds and foreign bodies can enter
- The chimney must be sufficiently high from the roof and space
- The height of the chimney in adjacent structures must be determined with neighboring buildings according to the location on the roof
- The chimneys must be fixed on the solid support at certain distances
- The chimney shaft must be accessible
- Self standing chimneys must be transported to the structural construction to meet static, dynamic, wind and earthquake loads
- Each heating unit must be connected to the individual chimney
- Up to 5 wall-mounted heating units must be connected to one shunt chimney
- Chimneys of wall-type condensing heating devices should be condensate-resistant and leak-proof and have condensate drainage
- There must be measuring chute (cuff) in horizontal flue for flue gas analysis

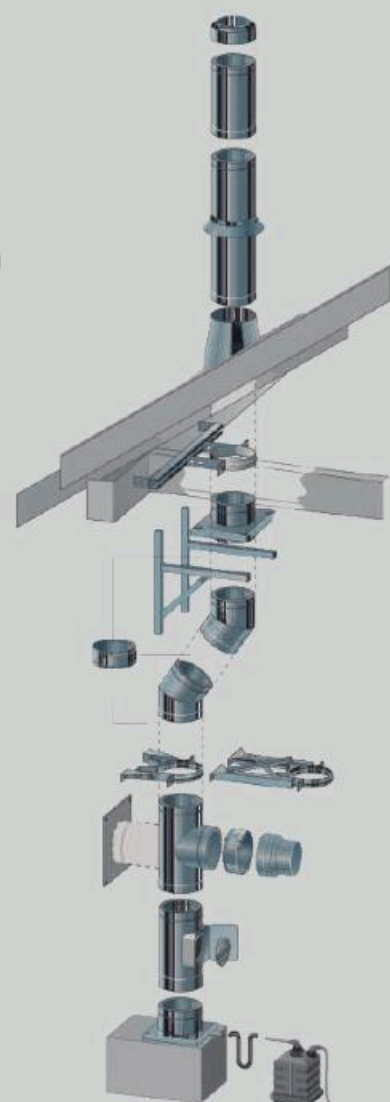
CHIMNEY DETAILS



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CHIMNEY DETAILS



CHIMNEY SYSTEM MODULES

Single Wall Chimney Modules



CHIMNEY SYSTEM MODULES

Double Wall Chimney Modules



Fire Protection Systems Product Catalogue



 /DuyarVana | Duyar.com

DUYAR 
Since 1965

PENDENT SPRINKLER

DY-3327/DY-3337

Standard Response

Specifications

- All Hazards
- 5 mm bulb

Kullanım alanları / Usage areas

- House
- Hotel
- Hospital
- Mall
- Dormitory
- Trade Center



Installation
Manual



They are preferred in suspended ceilings or in locations where downward sprinklers are appropriate. Water sprays in a conically expansion. They can be used with escutcheons.

SIDEWALL SPRINKLER

DY-3329/DY-3339

Standard Response

Specifications

- All Hazards
- 5 mm bulb

Usage areas

- House
- Hotel
- Hospital
- Mall
- Dormitory
- Trade Center



Installation
Manual



They are preferred in suspended ceilings or in locations where downward sprinklers are appropriate. Water sprays in a conically expansion. They can be used with escutcheons.

UPRIGHT SPRINKLER

DY-5333

Standard Response Specifications

- All Hazards
- 5 mm bulb

Usage areas

- Factory
- Warehouse
- Specific Applications



Installation
Manual



Sprinkler Gizli Tip Sprinkler Seti – Concealed Sprinkler

Concealed Sprinkler (Pendent)

DY-3428

Quick Response

Specifications

- Light and Ordinary Hazards
- 3 mm bulb

Usage areas

- Konut / House
- Otel / Hotel
- Hastane / Hospital
- AVİM / Mall
- Yurt / Dormitory
- İş merkezi / Trade Center



Installation
Manual

BONNET

DY-3428-1



They are used in suspended ceilings where pipings is concealed. Used in places such as residences, hotels, hospitals, dormitories, shopping mall.

Concealed Sprinkler (Sidewall)

DY-3330

Quick Response

Specifications

- Light and Ordinary Hazards
- 3 mm bulb

Usage areas

- Hotel Lobbies
- Office
- Sanctuary
- Restaurants



Installation
Manual



Duyar 5.6 K Factor, Fast and Standard Response Concealed Type Sidewall Sprinkler is a 3/5 mm bulb sprinkler with a flat cover plate designed to hide decorative sprinklers.

ESCUTCHEON

Chrome – White – Brass

DY-3300

Preferred for pendent and sidewall type sprinklers. Used for covering gaps in ceilings and walls or to make adjustments.

- Used for 1/2" and 3/4" NPT thread
- Painted in white and chrome coated
- Two-piece, adjustable



SPRINKLER WRENCH



Designed to facilitate the assembly to sprinklers. Available in 1/2" and 3/4"

Wrench for
Concealed Sprinkler

SPRINKLER STOP VALVE

DY-3000

The stop valve is designed for a quick intervention when sprinkler heads are activated, and it is being used for control of the water flow before handling valve and pumps.



SPRINKLER CABINET

For 6 pcs

For 12 pcs

Used to prevent sprinklers from being damaged and keep and protect spare sprinklers for the system. This enables the system not to have a long downtime. Available in sets of 6 and 12.



Y-4010

Specifications

Dimensions: 2 1/2" - 8" / DN65 - DN200

Nominal Pressure: 300 psi (20,6 bar)

Working Temperature: Min. +4°C

Certificate: FM, UL

Design: FM 1041, UL 262, TS EN 12259-2

Flange Connection Standard: EN -1092-2 (PN16) / ANSI Testler / Tests: FM 1041, UL 193, TS EN 12259-2



REF:2809

REF:1725



The wet alarm valve is designed for applications where the water is unlikely to freeze. The water staying pressurized in the pipes is released over the fire area after the sprinkler is activated due to fire. The pressurized water system is not only fed continuously, but also fills in the retard chamber. After the chamber is filled, the pressure switch on the chamber is actuated. The pressure switch sends the alarm information to the fire warning system or the automation system. After the pressure switch is actuated, the water is delivered to the water-motor gong and releases a mechanical alarm.

Dry Alarm Valve

Y-4015

Specifications

Dimensions: 4" - 8" / DN100 - DN200

Nominal Pressure: 300 psi (20,6 bar)

Standards: TS EN 12259-3/UL 260/FM 1021

Flange Connection Standard: EN-1092-2 PN16

Tests: TS EN 12259-3/UL 260/FM 1021



Dry Pipe Sprinkler Systems are designed for applications where piping and sprinklers are subjected to freezing temperatures, such as unheated warehouses, parking garages, store windows, attic spaces, or loading docks. The sprinkler system contains gas instead of water. The dry pipe valve with special clapper keep the pressured water by low air pressure. In case of fire, sprinkler activated and the differential of the system is broke down and it causes to open clapper. After the sprinkler activated by the fire the air in the sprinkler system is discharged from the sprinkler system. The water is sent to location of the fire. By the time clapper opens the water also is sent to pressure switch and the switch send alarm information to fire warning system or automation system. After the switch is activated, the water is delivered to the water-motor gong and releases a mechanical alarm.

Y-4110

General Specifications

External Reset

Düşük Diferansiyel Tip / Differential Type / Low Differential Type Yarı Montajlı /

Semi-Assembled / Easy to Install

Pressure Switch

Mechanical Gong

175 PSI-300 PSI 175 PSI-300 PSI Solenoid Valve / Clapper Type Design



The Deluge Sprinkler System is a system, which has open-ended sprinklers or nozzles; which ensures the discharge of water from all sprinklers at the same time in case of fire and where the pipes are completely empty in case of installation. Duyar Deluge Valve is designed to be used in Deluge, preaction firefighting systems as a main control valve. It is very easy to install after a fire. It has external resetting feature. Thank to this feature, Clapper is allowed to be reseted without the need to remove the cover bolts for re-installation of the valve after a fire. For example; In case of fire, in the Deluge Sprinkler System, it is detected that there is a fire by the detectors (smoke detector, temperature sensor etc.) in the system. With the electrical signal generated by the detectors, the normally closed solenoid valve opens. With the opening of the solenoid valve, the mechanical balance on the valve is disrupted and it causes the valve to open. At the same time, water or foam is discharged from all sprinklers and fire is suppressed.

Indicating Butterfly Valve –Wafer

Y-4020

General Specifications

Dimensions: 2" – 8" / DN65 – DN200

Nominal Pressure: 300 psi (20,6 bar)

Working Temperature: -10°C/+120°C

Standards

Design: FM 1112, UL 1091

Testler / Tests: FM 1112, UL 1091



They are defined as local control valves. Generally they are used in water feed lines as interruption valves in order to separate (to control) zones in the location. Butterfly valves or rising stem valves are used in order to shut off or to control the flow. The position of all valves in fire systems should be visible and electrically monitored. This butterfly valve type has a gearbox with handwheel. The supervisory switch is located inside the butterfly valve and includes also an on/off indicator.

Y-4030

General Specifications

Dimensions: 1" - 2" / DN25 - DN50

Orifice Diameter: K-5.6, K-8.0, K11.2, K-14.0

Nominal Pressure: 300 psi (20,6 bar)

Working Temperature: -10°C/+120°C

Standards

Certificate: UL*, FM*

Design: FM 1625-2009, UL258-2004

Thread Design: ISO 228/1, NPT, NPS, BSP

Tests: FM 1625-2009, UL258-2004



Test and drain valve is used to conduct testing and maintenance on sprinkler systems. Thanks to its orifice available with different sizes it creates a flow equivalent to the flow passing along one sprinkler only and enables tests of alarm devices on the lines for checking purposes in the case of a sprinkler water flow. The orifice diameters of the smallest sprinkler and the test drain valve in the system should be equal. It is also used as a drain valve to discharge water in the piping by changing the position of the valve. It includes a sight glass to observe the flow.

DPS10-1 / DPS10-2

General Specifications

Working Pressure: 300 Psi (21 Bar)

Working Temperature: -10°C/+50°C 14°F/50°F

For Indoor Use Only

Liquid: Su / Water

Liquid Temperature: +4 °C ~ +60 °C +40°F ~ +140 °F

Factory Setting: 4 - 12 PSI (0,28 - 0,8 BAR)

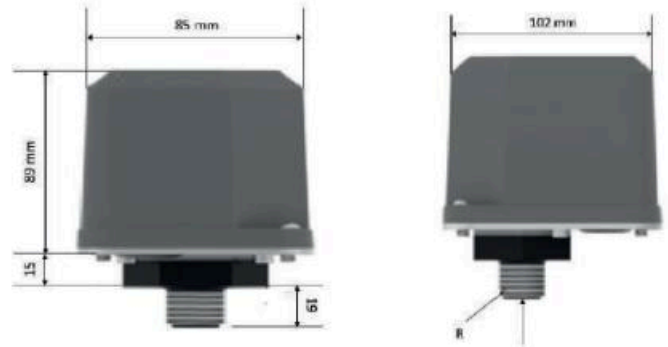
Max. Adjustment Pressure Range: 4 - 12 PSI (0,28 - 0,8 BAR)

Electrical Ratings: 125/250 VAC ~ 10A 6/12/24 VDC...2,5A

Connection: 1/2" Diş / 1/2" BSP Male Thread



Model	Working Pressure	Type
-1	0.28-1 Bar	Single Contact
-2	0.28-1 Bar	Double Contact



In the installation to which the Pressure Switch is connected should be using strainer and water free from dirt. The product will not work in the water flow containing dirt and particles.

- * Pressure switch should be mount vertically as shown in the figures.
- * Personnel authorized in electrical devices and expert for product use should start the installation in the following order.
- * The product should be mounted on the 1/2 " threaded part after the ptfе teflon tape is wrapped in the 1/2 "installation. Excessive torque should not be apply to the product during installation.
- * The red protective cover for the electrical connection should remove with the help of the special key in the box.
- * NO, NC and COM sections will be seen on the switch after removing the red protective cover. Visual or audible alarms can be received from these sections. A signal can be send to the fire control panel.
- * The product pressure adjustment can be made from the frame. After the product has been adjusted to the desired pressure range, the red protective cover must be closed with the screws.
- * After the installation of the product, it should be checked at least 3 times whether or not a signal is received from the product.
- * Product leakage and signal test should check periodically every month, with the test valve on the line. The product with leakage or signal problems shall not be use.

Y-3002

General Specifications

Max. Pressure Rating: 21 Bar (300PSI)

Operating Temperature: 4,5°C - 50°C (40°F - 120°F)

Triggering Flow Rate: Min. 10 USgal/dk 38L/dk

Compatible Pipe: Dişli demir ve pirinç Tee / Threaded Iron & Brass Tee

Contact Ratings: 10.0A 125/250 VAC - 2.5A 6/ 12/ 24 VDC



The threaded water flow switch is a paddle type water flow switch for use in wet sprinkler systems using pipe sizes of 1" (25mm), 1 1/4" (32mm), 1 1/2" (38mm) veya 2" (50mm). The unit can also be used as a sectional water flow detector in large systems. The flow switch can be mounted in a vertical or horizontal position.

Flow Switch

Y-3003

General Specifications

Dimensions: 2" - 8" / DN50-DN200

Nominal Pressure: 450 psi (31 bar)

Working Temperature: +4,5°C/+50°C



They are used in sprinkler system to transmit electrical information due to the flow, when a sprinkler head gets activated. Delay units are available to prevent false alarms. The flow switch can be mounted in a vertical or horizontal position.

T-0330

General Specifications

Dimensions: 2" - 10"

Working Temperature: -10 ... +120 °C (16 Bar)

Flow Sensitivity: 500 GPM

Standards

Design: TS EN 16767

Flange Dimensions: TS EN 1092-2 (PN 16)

Tests: TS EN 12266-1



Permits the flow of the fluid in only one direction. Due to the amount of pressure losses the use of multiple check valves is rather not requested in fire protection systems.

Duyar Fire Swing Check Valve (Grooved)

Y-5065

General Specifications

Nominal Pressure: PN21 300 PSI

Nominal Diameter: DN50 - DN200 2" - 8"

Connection Type: Yivli / Grooved

Coating: Yaş Boya / Ral 3002 / Wet Painting / Ral 3002

Design Standard : FM 1210 / UL 312

Connection: AWWA C-606

Tests: FM 1210 / UL 312



- Swing check valves are for use where backflow must be prevented. It only allows water to flow in one direction.
- Horizontal and vertical mounting can be done.
- The flow direction is indicated on the valve.
- When the flow stops, it closes automatically with the help of an integrated spring and prevents back flow.
- It has a spring clapper structure that minimizes the water hammer.
- Thanks to its grooved structure, it provides the advantage of fast and practical installation by using grooved coupling.
- It provides perfect sealing with its EPDM sealing gasket and bronze seat.
- In the product tests, 84 bar body strength, 42 bar clapper strength and sealing tests were successfully completed.

T-1425

General Specifications

Dimensions: 2 1/2" - 8" / DN65 - DN200

Nominal Pressure: 175 psi (12,1 bar)

Working Temperature: -10°C/+120°C

Standards

Certificate: UL, FM

Design: FM 1120/1130, UL 262

Flange Connection Standard: EN -1092-2 (PN16) / ANSI

Tests: FM 1120/1130, UL 262



They are defined as local control valves. Generally they are used in water feed lines as interruption valves in order to separate (to control) zones in the location. Butterfly valves or rising stem valves are used in order to shut off or to control the flow. The OS&Y valve in full open position is a type of gate valve that does not hinder the flow; the open position enables the observation of the pin moving up and down and allows for electrical tracking with a tracking (supervisory) switch. Compared to a butterfly valve it has less hydraulic losses.

OS&Y Gate Valve

Y-4045

General Specifications

Dimensions: 10" - 12" / DN250 - DN300

Nominal Pressure: 300 psi (20,6 bar)

Working Temperature: -10°C/+120°C

Standards

Certificate: FM

Design: FM 1120/1130, UL 262

Flange Connection Standard: EN -1092-2 (PN16) / ANSI

Tests: FM 1120/1130, UL 262



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T-1436

General Specifications

Dimensions: 2 ½" - 8" / DN65 - DN200

Nominal Pressure: 175 psi (12,1 bar)

Working Temperature: -10°C/+120°C

Standards

Certificate: FM

Design: FM 1120/1130

Flange Connection Standard: EN -1092-2 (PN16) / ANSI

Tests: FM 1120/1130



Such valves are used to shut off and to control main lines and underground water lines in hydrant systems. They can be used with a post indicator showing the on/off position. When used with post indicator below ground, no valve chamber will be required.

Landing Valve

Y-3007

General Specifications

Dimensions: 2" - 2 ½"

Nominal Pressure: 225 psi (16 bar)

Working Temperature: +4°C/+80°C

Standards

Certificate: TSE



In order to supply the fire department with water it is mounted in floors next to fire cabinets, nearby or near the fire escape corridor. In high-rise buildings it is mandatory to have one in every two floors.

Y-3006

General Specifications

Dimensions: 4" x 2 1/2" x 2 1/2"

Nominal Pressure: 300 psi (20,6 bar)

Working Temperature: +4°C/+80°C

Flow Sensitivity: 500 GPM

Standards

Certificate: UL, FM



Mounted outside the building it is used to pump water by the fire department into the existing sprinkler and fire cabinets. For the same installation it should be used in combination with the check valve. When there is a risk of freezing, a bleeder valve should be mounted on the same installation. It can be used for all fire protection lines where there is a fire cabinet and a sprinkler system.

Overground Fire Hydrant

T-1720

General Specifications

Dimensions: DN80

Working Temperature: -10... +120 °C (16 Bar)

Standards

Design: TS EN 14384

Connection Dimensions: TS EN 1092-2 (PN 16)

Tests: TS EN 12266-1

Applications

Fire installations



Y-7010

Specifications

Dimensions: 2" ... 8" | DN50 ... DN200

Nominal Pressure: 250 psi (17,2 Bar)

Connection Standard: Flanged PN 16 (Corner Type)

TSEK

Specifications

- The relief control valves hold the system pressure steady without affecting from the flowrate changes. The relief pilot valve's control mechanism rapidly opens to hold the system pressure steady when the system flowrate reduces. When the system pressure reduces to the valve's adjusted value, it closes up with not causing any blow. After the valve opens rapidly and finishes the evacuation process, it closes up slowly and fully impermeable without causing any pressure fluctuation in the network again. The valve works with the line pressure entirely hydraulic not needing any extra energy source. Because of the valve's design is globe type, its maintenance is quite easy and cheap. The valve works safely even vertical and horizontal mountings.



The pressure relief control valves are used for relieving the system with opening up and evacuating the excessive pressure when the pressure in the system is over a specific limit value. When the system pressure reduces to the valve's adjusted limit value, it closes again. The relief valve's pressure value is adjusted from the pilot valve placed on the main valve. The pilot valve's adjusted value is not affected from the valve's exit's back pressure.

Pressure Reducer Valve

Y-7000

Specifications

Dimensions: 2" ... 8" | DN50 ... DN200

Nominal Pressure: 250 psi (17,2 Bar)

Flange Connection Standard: Flanged PN 16

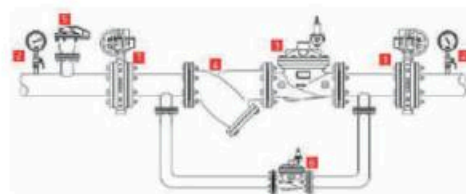
TSEK

Specifications

- The pressure reducing hydraulic control valve works fully automatic with the network pressure without needing any extra energy source.
- The two way pressure reducing pilot valve placed on the control valve reduces the exit pressure to a desired value without affected from the flowrate changes.
- The valve fully opens itself when the entrance pressure value in the network reduces to below the desired exit pressure value.
- In water conduction networks which have variable flowrate value, it is recommended that to use the smaller pressure reducing control valve diameter than the present pressure reducing control valve diameter as a by-pass line.
- § The valve shuts itself down automatically when there is no water in the network.



The pressure reducing hydraulic control valves are used for reducing the high pressure value in the water conduction network to a desired lower value. The pressure reducing control valves protect the exit pressure value without affected from flow and flowrate changes. The pipe diameter is not considered while selecting the valve diameter. The valve diameter can be selected as the smaller or a little bit larger value of the pipe diameter. The cavitation values must be considered while selecting the valve diameter.



Y-7005

Specifications

Working Pressure: 20,7 bar (300 psi)

Set Pressure: Factory preset outlet pressure 5 bar (75 psi)

Operating Temperature Range: 0°C - 90°C

Flange Connection: Flanged according to EN1092-2 PN16, depends on requested valves, flanges can be drilled according to ANSI B16.1 Class 125.

Output Pressure Adjustment Range: 0 - 21 bar (0 - 300 psi)



Specifications

Operates in a wide flow range.

Thanks to its Y type body, pressure losses are low.

Thanks to the connection holes on the body, the valve can be symmetrically connected.

Adjustment pressure can be adjusted with a single adjustment screw on the pressure reducing pilot valve.

It can be maintained without dismantling from the pipeline.

Valve size L conforms to EN558 Series 1.

Paint: Epoxy Oven Paint

The Duyar Y-7005 model pressure-reducing valve is an automatic control valve designed to reduce higher inlet pressure to a constant lower outlet pressure regardless of changing flow rate or inlet pressure. It is a hydraulically controlled, pilot-controlled, diaphragm globe and Y-type valve. When the outlet pressure exceeds the pressure setting set on the pilot valve; the main valve and pilot valve are closed drip tight. The control system is very sensitive to slight pressure changes and instantly controls the main valve to maintain the desired outlet pressure. Pressure adjustment is made with a single adjustment screw on the pilot valve. In water conduction networks that have variable flow rate values, it is recommended to use the smaller pressure-reducing control valve diameter than the present pressure-reducing control valve diameter as a by-pass line.

Ductile Iron

CDY-1030

General Specifications

Working Temperature : -10 ... +110 °C (16 Bar) "

Standards

Certificates :

Design : TS 3148

Flange Dimensions : TS EN 1092-2 (PN 16)

Tests TS EN 12266-1

Applications

Hot and cold water systems, compressed air,
non-acidic and non-flammable liquid fluids



Full Bore Ball Valve (2 Pcs PN 16)

Cast Iron

T-0520

Ductile Iron

T-0525

General Specifications

Working Temperature : -10... +110 ° C (16 Bar)

Standards

Certificates :

Design : TS 3148

Flange Dimensions : TS EN 1092-2 (PN 16)

Face to Face Dimensions : TS EN 558 (Seri 14)

Tests : TS EN 12266-1

Applications

Hot and cold water systems, compressed air,
non-acidic and non-flammable liquid fluids



Cast Iron

T-0530

General Specifications

Working Temperature : -10 ... +110 °C (16 Bar)

Standards

Certificates :

Design : TS 3148

Flange Dimensions : TS EN 1092-2 (PN 16)

Face to Face Dimensions : DN 15 - 125 TS EN 558 (Seri 1) DN 150 - 200

TS EN 558 (Seri 27)

Tests : TS EN 12266-1

Applications

Hot and cold water systems, compressed air,
non-acidic and non-flammable liquid fluids



Metal Seated Gate Valve (F4)

Cast Iron

T-1320

General Specifications

Working Temperature : -10 ... +110 °C 2,5 / 4 / 10 / (16 Bar)

Standards

Certificates :

Design : TS EN 1171

Flange Dimensions : TS EN 1092-2 (PN 10)

Face to Face Dimensions : TS EN 558 (Seri 14)

Tests : TS EN 12266-1

Applications

Hot and cold water systems,
non-acidic and non-flammable liquid fluids



Ductile Iron

T-1130

General Specifications

Working Temperature : -10 ... +110 °C (25 Bar)

Standards

Certificates :

Design : TS EN 593

Connection Dimensions : TS EN 1092-2 (PN 25)

Tests : TS EN 12266-1

Applications

HVAC systems, water treatment systems,
paper industry, fresh water system, sea water



Wafer Vulcanized Butterfly Valve (Stainless Steel Clapper, PN 16)

Ductile Iron

T-0930

General Specifications

Working Temperature : -10 ... +110 °C (16 Bar) *110 °C

*Peak Usage Temperature is 110°C

Standards

Certificates :

Design : TS EN 593

Connection Dimensions : TS EN 1092-2

DN40-DN200: PN10/16 - DN250: PN16 -

DN300: PN6/10/16 - DN350-DN450: PN10/16

Tests : TS EN 12266-1

Applications

HVAC Systems, Water treatment systems,
Paper Industry, Fresh water system



Cast Iron (Flanged)

T-1610

Working Temperature : -10 ... +120 °C (16 Bar),
200 °C (13 Bar), 250 °C (11 Bar), 300 °C (10 Bar)

Standards

Certificates :
Design : TS EN ISO 4126
Flange Dimensions : TS EN 1092-2 (PN 16)
Thread Standard : EN ISO 228-1

Tests : TS EN 12266-1

Applications

Saturated steam applications



Cast Iron (Threaded)

T-1620



Dual Plate Check Valve (PN 16)

Cast Iron

T-0330

General Specifications

Working Temperature : -10 ... +110 °C (16 Bar)

Standards

Certificates :
Design : TS EN 16767
Flange Dimensions : TS EN 1092-2 (PN 16)
Tests : TS EN 12266-1

Applications

Hot and water systems, Irrigation and
water supply lines, Purification systems and
waste water discharge, Fire projection lines, Oil-cooling cycles



Cast Iron

T-0410

Ductile Iron

T-0420

General Specifications

Working Temperature : -10 ... +120 °C (16 Bar)

Standards

Certificates :

Design : TS EN 16767

Flange Dimensions : TS EN 1092-2 (PN 16)

Face to Face Dimensions : TS EN 558 (Seri 48)

Tests : TS EN 12266-1

Applications

Hot and cold water, all non acidic fluids



Y Type Strainer With Pressure Gauge

Cast Iron

T-0830

Ductile Iron

T-0831

General Specifications

Working Temperature : -10 ... +120 °C (16 Bar), 200 °C (13 Bar), 250 °C (11 Bar), 300 °C (10 Bar)

Standards

Certificates :

Design : TS 11494

Flange Dimensions : TS EN 1092-2 (PN 16)

Face to Face Dimensions : TS EN 558 (Seri 1)

Tests : TS EN 12266-1

Applications

Hot and cold water systems, compressed air, saturated steam, non-acidic and non-flammable liquid fluids thanks to the manometers on it, the clogging that occur in the filter can be followed over time. Pressure losses can be followed.



T-1825 T-1845

General Specifications

Working Temperature : -80 ... +420 °C (16 Bar)

DN 25 - 250

T-1825 Movement 30mm (- 20 ... +10 mm)

T-1845 Movement 60mm (- 40 ... +20 mm)

Standards

Certificates :

Design : TS 10880

Connection Dimensions : TS EN 1092-1 (PN 16)

Tests : TS EN 12266-1

Hot and cold water systems, compressed air,
superheated water, steam, superheated steam
systems, superheated oil systems



Gimbal Type Expansion Joints (Flanged)

T-2610 T-2620 T-2650

General Specifications

Working Temperature : -80 ... +420°C (16 Bar)

Expansion - Compression

DN 25 - 250

(T-2610) Movement Eksenel (Axial) X=100mm, Yanal (Lateral) Y= ±50mm (100) Açısıl (Angular) Z=±50mm(100)

(T-2620) Movement Eksenel (Axial) X=100mm, Yanal (Lateral) Y= ±100mm (200) Açısıl (Angular) Z=±100mm(200)

(T-2650) Movement Eksenel (Axial) X=100mm, Yanal (Lateral) Y= ±200mm (400) Açısıl (Angular) Z= ±200mm(400)

Standards

Certificates :

Design : TS 10880

Connection Dimensions : TS EN 1092-1 (PN 16)

Tests : TS EN 12266-1

Applications

Hot and cold water systems, compressed air, superheated water, steam,
superheated steam systems, superheated oil systems, all pipe lines



T-2520 T-2540 T-2560 T-2580

General Specifications

Working Temperature :
-80 ... +420°C (16 Bar) Expansion - Compression

DN 25 - 50

T-2520 Movement (Axial) X=30mm, Lateral) Y= ±50mm (100) T-2540
Movement (Axial) X=30mm, Lateral) Y= ±100mm (200)

DN 65 - 300

T-2560 Movement Axial) X=60mm, (Lateral) Y= ±50mm (100) T-2580
Movement (Axial) X=60mm, (Lateral) Y= ±100mm (200)

Standards

Certificates :

Design : TS 10880

Connection Dimensions : TS EN 1092-1 (PN 16)

Tests : TS EN 12266-1

Applications

Hot and cold water systems, compressed air, superheated water,
steam, superheated steam systems, superheated oil systems



Brass Ball Valve (Threaded, PN 25)

Forced Brass

T-2110

General Specifications

Working Temperature : -10 ... +110 °C (25 Bar)

Standards

Certificates :

Design : TS EN 13547

Thread Standard : EN ISO 228-1

Tests : TS EN 12266-1

Applications

Hot and cold water systems, compressed air,
non-acidic and non-flammable liquid fluids



Forced Brass

T-2120

General Specifications

Working Temperature : -10 ... +110 °C (25 Bar)

Standards

Certificates :

Design : TS EN 13547

Thread Standard : EN ISO 228-1

Tests : TS EN 12266-1

Applications

Hot and cold water systems, compressed air,
non-acidic and non-flammable liquid fluids



Brass Ball Valve, With Stem Extension (Threaded, PN 25)

Forced Brass

T-2130

General Specifications

Working Temperature : -10... +110 °C (25 Bar)

Standards

Certificates :

Design : TS EN 13547

Thread Standard : EN ISO 228-1

Tests : TS EN 12266-1

Applications

Hot and cold water systems, compressed air,
non-acidic and non-flammable liquid fluids



Forged Brass

T-2210

General Specifications

Working Temperature : -10 ... +110°C (16 Bar)

Standards

Certificates :

Design : TS EN 1074-3

Thread Standard : EN ISO 228-1

Tests : TS EN 12266-1

Applications

Hot and cold water systems, compressed air,
non-acidic and non-flammable liquid fluids



Y Type Strainer (Brass, Threaded, PN 16)

Forged Brass

T-2220

General Specifications

Working Temperature : -10 ... +110 °C (16 Bar)

Standards

Certificates :

Design : TS 11494

Thread Standard : EN ISO 228-1

Tests : TS EN 12266-1

Applications

Hot and cold water systems, compressed air,
saturated steam, non-acidic and non-flammable liquid fluids



FIRESIST® FIRE SPRINKLER PIPES



BORUSAN
PIPE



Borusan Pipe is a leading steel pipe company, manufacturing over 4.000 products at 11 world-class facilities in Türkiye, Italy, Romania, and the USA, with over 65 years of expertise.

We provide the widest range of UL listed & FM approved fire protection pipes. We offer the most suitable product for your needs: bare, galvanized, primer varnished, epoxy-coated options and roll grooved, threaded & coupled, or beveled pipe ends. We have a well-established sales organization with active sales in over 35 countries.

Borusan Pipe is determined to become the supplier of choice for your increasingly vital challenges in fire protection projects through customer-centric R&D, long-term collaboration, consistent product quality, and seamless communication. Contact us at: export@borusan.com



FIRESIST EPOXY COATED SPRINKLER PIPES

Epoxy coated Firesist pipes are certified as corrosion resistance category C3-High and proven to exhibit great mechanical performance by European independent third-party testing laboratories.

Firesist pipes are in-line with global BPA regulations and suitable for use in harsh industrial conditions with low-to-moderate salt impact.

- Powder epoxy coating up to 250 microns
- Corrosivity category C3-High certified
- Available in Red (RAL 3000) and Red Brown (RAL 3009)
- Roll grooved, threaded, coupled or beveled pipe end
- Eliminates field painting
- Widest range of UL and FM approval, CE certified
- Produced according to ASTM and EN standards
- Pressure ratings exceeding 300 psi
- Size range between 1/2" – 12"
- Reliable in all sizes
- Inner weld seam removal and custom length upon request
- Tight tolerances, consistent roundness and straightness



FIRESIST PRIMER VARNISHED SPRINKLER PIPES

Primer varnished sprinkler pipes provide protection against corrosion with low overhead cost.

- Varnishing between 20 – 25 microns
- Protects from atmospheric rust
- Available in Black (RAL 9005), Gray (RAL 7012), Red (RAL 3000), Red Brown (RAL 3009), Signal Blue (Ral 5005) and Moss Green (Ral 6005)
- Roll grooved, threaded, coupled or beveled pipe end
- Saves time, labor, cost and scrap
- Inner weld seam removal and custom length upon request

*Please contact the sales team for different RAL code requests.



GALVANIZED SPRINKLER PIPES

Zinc coated sprinkler pipes provide long lasting protection against corrosion. They are compatible for use in wet, dry, pre-action and deluge sprinkler systems.

- Superior Zinc coating between 50 – 55 microns
- Maintains corrosion resistance
- Roll grooved, threaded, coupled or beveled pipe end
- Easy to weld and install
- Compliant with European project requirements
- Inner weld seam removal and custom length upon request



ASTM & EN EASY FLOW NON THREADABLE LIGHTWALL

	OD (mm)	OD (inch)	Wall Thickness (mm)	Wall Thickness (inch)	Weight (kg/m)	Weight (lb/ft)	UL	FM
EASY FLOW LIGHTWALL	33,7	1"	2	0,079	1,56	1,05		✓
	33,7	1"	2,60	0,102	1,99	1,34		✓
	42,4	1 1/4"	2,00	0,079	1,99	1,34		✓
	42,4	1 1/4"	2,30	0,091	2,27	1,53		✓
	42,4	1 1/4"	2,60	0,102	2,55	1,71		✓
	48,3	1 1/2"	2,00	0,079	2,28	1,53		✓
	48,3	1 1/2"	2,30	0,091	2,61	1,75		✓
	48,3	1 1/2"	2,60	0,102	2,93	1,97		✓
	60,3	1 1/2"	2,00	0,079	2,88	1,93		✓
	60,3	2"	2,60	0,102	3,70	2,49		✓
	60,3	2"	2,90	0,114	4,10	2,76		✓
	76,1	2 1/2"	2,18	0,086	3,97	2,67		✓
	76,1	2 1/2"	2,60	0,102	4,71	3,17		✓
	76,1	2 1/2"	2,90	0,114	5,23	3,52		✓
	88,9	3"	2,36	0,093	5,04	3,38		✓
	88,9	3"	2,90	0,114	6,15	4,13		✓
	88,9	3"	3,20	0,126	6,76	4,54		✓
	114,3	4"	2,60	0,102	7,16	4,81		✓
	114,3	4"	3,60	0,142	9,83	6,60		✓
	139,7	5"	3,40	0,134	11,43	7,68		✓
SCH 7	33,4	1"	2,00	0,079	1,55	1,04	✓	✓
	42,2	1 1/4"	2,00	0,079	1,98	1,33	✓	✓
	48,3	1 1/2"	2,13	0,084	2,42	1,62	✓	✓
	60,3	2"	2,13	0,084	3,05	2,05	✓	✓
	73	2 1/2"	2,18	0,086	3,80	2,55	✓	✓
	88,9	3"	2,36	0,093	5,04	3,38	✓	✓
	114,3	4"	2,60	0,102	7,16	4,81	✓	✓
	141,3	5"	3,40	0,134	11,56	7,76	✓	✓
SCH 10	26,7	3/4"	2,11	0,083	1,28	0,86	✓	✓
	33,4	1"	2,77	0,109	2,09	1,41	✓	✓
	42,2	1 1/4"	2,77	0,109	2,69	1,81	✓	✓
	48,3	1 1/2"	2,77	0,109	3,11	2,09	✓	✓
	60,3	2"	2,77	0,109	3,93	2,64	✓	✓
	73	2 1/2"	3,05	0,120	5,26	3,53	✓	✓
	88,9	3"	3,05	0,120	6,46	4,34	✓	✓
	101,6	3 1/2"	3,05	0,120	7,41	4,98	✓	✓
	114,3	4"	3,05	0,120	8,37	5,62	✓	✓
	139,7	5 1/2"	3,6	0,142	12,08	8,12	✓	✓
	141,3	5"	3,4	0,134	11,58	7,78	✓	✓
	168,3	6"	3,4	0,134	13,85	9,30	✓	✓
	219,1	8"	3,76	0,148	19,97	13,4	✓	✓
	219,1	8"	4,78	0,188	25,26	16,96	✓	✓
	273,1	10"	4,19	0,165	27,79	18,67	✓	✓
	273,1	10"	4,78	0,188	31,62	21,23	✓	✓
	323,8	12"	4,78	0,188	37,61	25,28	✓	✓
SCH 30	33,4	1"	2,90	0,114	2,18	1,46		✓
	42,2	1 1/4"	2,97	0,117	2,87	1,93		✓
	48,3	1 1/2"	3,18	0,125	3,53	2,37		✓
	60,3	2"	3,18	0,125	4,48	3,00		✓
	73	2 1/2"	4,78	0,188	8,04	5,40		✓
	88,9	3"	4,78	0,188	9,92	6,65		✓
	101,6	3 1/2"	4,78	0,188	11,41	7,65		✓
	114,3	4"	4,78	0,188	12,91	8,66		✓
	141,3	5"	5,56	0,219	18,61	12,51		✓
	168,3	6"	5,56	0,219	22,31	15,00		✓
	219,1	8"	7,04	0,277	36,82	24,72		✓
	273,1	10"	7,8	0,307	51,05	34,27		✓
SCH 40	21,3	1/2"	2,77	0,109	1,27	0,85	✓	✓
	26,7	3/4"	2,87	0,113	1,69	1,13	✓	✓
	33,4	1"	3,38	0,133	2,50	1,68	✓	✓
	42,2	1 1/4"	3,56	0,140	3,39	2,27	✓	✓
	48,3	1 1/2"	3,68	0,145	4,05	2,72	✓	✓
	60,3	2"	3,91	0,154	5,45	3,66	✓	✓
	73	2 1/2"	5,16	0,203	8,64	5,80	✓	✓
	88,9	3"	5,49	0,216	11,29	7,58	✓	✓
	101,6	3 1/2"	5,74	0,226	13,58	9,12	✓	✓
	114,3	4"	6,02	0,237	16,09	10,80	✓	✓
	141,3	5"	6,55	0,258	21,79	14,63	✓	✓
	168,3	6"	7,11	0,280	28,29	18,99	✓	✓
	219,1	8"	8,18	0,322	45,34	30,45	✓	✓
	273,1	10"	9,27	0,365	60,29	40,52	✓	✓
SCH 80	21,3	1/2"	3,73	0,147	1,62	1,09		✓
	26,7	3/4"	3,91	0,154	2,20	1,48		✓
	33,4	1"	4,55	0,179	3,25	2,19		✓
	42,2	1 1/4"	4,85	0,191	4,49	3,03		✓
	48,3	1 1/2"	5,08	0,200	5,39	3,65		✓
	60,3	2"	5,54	0,218	7,55	5,08		✓
	73	2 1/2"	7,01	0,276	11,52	7,75		✓
	88,9	3"	7,62	0,300	15,39	10,35		✓
	101,6	3 1/2"	8,08	0,318	18,82	12,67		✓
	114,3	4"	8,56	0,337	22,60	15,20		✓
	141,3	5"	9,52	0,375	31,42	21,04		✓
	168,3	6"	10,97	0,432	43,05	28,88		✓
	219,1	8"	12,70	0,500	65,41	44,00		✓

EN 10255 UL & FM

	OD (mm)	OD (inch)	Wall Thickness (mm)	Wall Thickness (inch)	UL	FM
EN 10255 Medium	21,3	1/2"	2,6	0,102		
	26,9	3/4"	2,6	0,102		
	33,7	1"	3,2	0,126		✓
	42,4	1 1/4"	3,2	0,126	✓	✓
	48,3	1 1/2"	3,2	0,126	✓	✓
	60,3	2"	3,6	0,142	✓	✓
	76,1	2 1/2"	3,6	0,142	✓	✓
	88,9	3"	4	0,157	✓	✓
	114,3	4"	4,5	0,177	✓	✓
	139,7	5"	5	0,197	✓	✓
	165,1	6"	5	0,197	✓	✓

	OD (mm)	OD (inch)	Wall Thickness (mm)	Wall Thickness (inch)	FM
EN 10255 Heavy	21,3	1/2"	3,2	0,126	✓
	26,9	3/4"	3,2	0,126	✓
	33,7	1"	4	0,157	✓
	42,4	1 1/4"	4	0,157	✓
	48,3	1 1/2"	4	0,157	✓
	60,3	2"	4,5	0,177	✓
	76,1	2 1/2"	4,5	0,177	✓
	88,9	3"	5	0,197	✓
	114,3	4"	5,4	0,213	✓
	139,7	5"	5,4	0,213	✓
	165,1	6"	5,4	0,213	✓



FIRE SPRINKLER SYSTEM PIPES

UL/FM APPROVED



ÇAYIROVAboru

QUALITY AND RELIABILITY IN FIRE SPRINKLER SYSTEM PIPES

With ever enhancing occupational health and safety measures both in our country and around the world, approaches to structural fire protection measures are dealt with more seriously.

Cayirova Boru fire sprinkler system pipes are UL and FM certified according to EN and ASTM standards. Application of Cayirova Boru products in the fire security sprinkler installations provides economic advantages from the point of insured safety of structures against fire thanks to their high quality and being accredited by international bodies.

Our fire security sprinkler system pipes have been preferred by numerous mega projects in Turkey for many years. Cayirova Boru brand is widely favored in the fire sprinkler installations of many different types of structures such as shopping centers, airports, stadiums, industrial buildings and so on.

Underwriters Laboratories (UL) is a global independent engineering and safety certification company operating in 5 principal strategic branches (Product Safety, Environment, Health, University and Verification Services).

Factory Mutual (FM) is rated among the largest insurance companies in the world, which provides engineering solutions for protection against such risks mainly as fire, acts of god and so on. FM Approvals is an affiliate of FM Global, which certifies industrial and commercial products and services for companies.



UL / FM TESTING

Çayirova Boru plant premises are subject to inspection by UL/FM representatives at 3-month intervals with or without notice and the compliance of products to criteria is assured. The following additional testing is carried out at UL/FM laboratories apart from the essential testing for production standards:



BENDING MOMENT STRENGTH

Bending moment testing is applied onto the system made up with fittings attached onto the pipe sample ends. Pipe ends are tailor-made by the manufacturer for the fittings. Such fittings on the tailor-made ends are applied the pressure values that are designated for the test and the bending moment under pressure is assessed. This testing is carried out to test the strength of the pipes and fitting under a certain load. Coupling strength of pipes under pressure is tested.

ROTATIONAL BENDING MOMENT RESISTANCE

The assemblies for each nominal pipe size considered for approval are tested and the

compliance is verified by this test method. It is verified that no leakage, cracking, fracture or pipe deformation occurs before, during and after the rotational bending moment applied under nominal operating pressure on the assembly prepared with approved fittings, and that it remains leak-proof while being pressurized to nominal operating pressure.

HYDROSTATIC STRENGTH

This test is conducted by using multiple coupling throughout the same pipe or for separate assemblies for each coupling method. Pipe assemblies undergo hydrostatic testing at four times the nominal operating pressure. Each hydrostatic pressure test lasts for five seconds.



VIBRATION RESISTANCE

Compliance in terms of vibration resistance testing is verified by testing minimum one sample assembly for each type. Prepared testing assembly undergoes vibration under hydrostatic nominal operating pressure at 5 cycles by specified vibrating pulse increments gradually once every 5 hours. No leakage or other failure is allowable during such 25-hour test. Then hydrostatic strength test is repeated after the vibration test of each sample assembly. Nonexistence of leakage or other failure is verified.

MARKING DURABILITY

Pipe marking must remain clear and legible under storage, shipping and handling conditions to ensure the identification of the product. Thus, the durability and compliance of the marking are verified by immersing the part of pipe, approximately 450mm in length, which is clearly marked, for five minutes once a day during 10 working days. During such routinely repeated daily procedures, after the samples are pulled out of the water, the zone of marking is vigorously wiped dry by using a cotton or paper towel. If the marking is not rubbed off onto the towels, does not overflow or deposit, after the completion of water immersion test of 10 days, the markings

on the sample is coated with petroleum-based grease and thus it must be kept uncorrupted over the course of 24 hours. At the end of that period, the grease is wiped clean off the sample surface by using cotton or paper towel. Nonexistence of any erasure, staining or any other removal of the pipe marking is verified.

CORROSION RESISTANT COATINGS

For hot dip galvanized coatings, the pipe samples for all sizes coated are inspected and their compliance is verified. Samples are cut off a full-length pipe after coating. Totally three samples are taken, which are approximately 600mm in length, from two free ends and from the centre of the full-length pipe. Measurements are performed at equal spacings around the outside diameter, at a distance of approximately 100mm from the end. For pipes $\leq$ NPS 2 (DN50 – 60,3mm), minimum four measurements are required around the outside diameter and for pipes $>$ NPS 2 (DN50 – 60,3mm) minimum six measurements are required. Each sample pipe, according to whatever standard it is made, must exhibit a coating thickness of 77microns (55 g/m²) on average. Coating thickness must not be $<$ 64microns (0,46 kg/m²) at each point measured.



Specifications	EN 10255	ASTM A53	ASTM A795
Steel Grade	S195T	GR A, GR B	GR A, GR B
Wall Thickness	Medium Series	Sch10 , Sch40	Sch10 , Sch40
<u>Pipe End</u>			
Beveled Ends	✓	✓	✓
Grooved	✓	✓	✓
Square Cut	✓	✓	✓
<u>Protective Coating</u>			
Painted (Water-based/Epoxy)	✓	✓	✓
Hot Dip Galvanized	✓	✓	✓

International Production Standards:

- EN 10255
- ASTM A53
- ASTM A795

Compliance to Construction Products Regulation (305/2011) / CE Certifications:

- TS EN 10255
- TS EN 10219

System Quality Certifications:

- ISO 9001 (TÜV)
- ISO 9001 (API)
- API SPECIFICATION Q1
- ISO 14001
- OHSAS 18001

Certifications for Compliance to Fire Sprinkler System Lines Applications:

- FM
- UL

ASTM A795

ASTM A795		SPRINKLER TUBES								
Diameter		Wall thickness			Mass per Unit				Test Pressure	
					Plain End		Threaded & Coupled			
inch	mm	inch	mm	Sch	lb/ft	kg/m	lb/ft	kg/m	psi	(bar)
3/4	26,7	0,083	2,11	10	1,41	2,09			700	48
		0,113	2,87	40	1,13	1,69	1,13	1,68	700	48
1	33,4	0,109	2,77	10	1,41	2,09			700	48
		0,133	3,38	40	1,68	2,50	1,68	2,50	700	48
1 1/4	42,2	0,109	2,77	10	1,81	2,69			1000	69
		0,140	3,56	40	2,27	3,39	2,28	3,40	1000	69
1 1/2	48,3	0,109	2,77	10	2,09	3,11			1000	69
		0,145	3,68	40	2,72	4,05	2,73	4,07	1000	69
2	60,3	0,109	2,77	10	2,64	3,93			1000	69
		0,154	3,91	40	3,66	5,45	3,69	5,50	1000	69
2 1/2	73,0	0,120	3,05	10	3,53	5,26			1000	69
		0,203	5,16	40	5,80	8,64	5,83	8,68	1000	69
3	88,9	0,120	3,05	10	4,34	6,46			1000	69
		0,126	5,49	40	7,58	11,29	7,62	11,35	1000	69
3 1/2	101,6	0,120	3,05	10	4,98	7,41			1200	83
		0,226	5,74	40	9,12	13,58	9,21	13,71	1200	83
4	114,3	0,120	3,05	10	5,62	8,37			1200	83
		0,237	6,02	40	10,80	16,09	10,91	16,25	1200	83
5	141,3	0,134	3,40	10	7,78	11,58			1200	83
		0,258	6,55	40	14,63	21,79	14,82	22,07	1200	83
6	168,3	0,134	3,40	10	9,30	13,85			1000	69
		0,280	7,11	40	18,99	28,29	19,20	28,60	1200	83
8	219,1	0,188	4,78		16,96	25,26			800	55
		0,277	7,04	30	24,72	36,82			1200	83
10	273,0	0,188	4,78		21,23	31,62			700	48
		0,307	7,80	30	34,27	51,05			1000	69

TS EN 10255 Medium Series

TS EN 10255			WATER TUBES - MEDIUM SERIES				
Diameter			Thickness	Mass per Unit (kg/m)			
inch	mm	DN	mm	Black Plain End	Black Threaded & Coupled	Galvanized Plain End	Galvanized * Threaded & Coupled
3/8	17,2	10	2,3	0,84	0,85	0,88	0,89
1/2	21,3	15	2,6	1,21	1,22	1,27	1,29
3/4	26,9	20	2,6	1,56	1,57	1,65	1,66
1	33,7	25	3,2	2,41	2,43	2,55	2,57
1 1/4	42,4	32	3,2	3,10	3,13	3,28	3,31
1 1/2	48,3	40	3,2	3,56	3,60	3,77	3,80
2	60,3	50	3,6	5,03	5,10	5,33	5,40
2 1/2	76,1	65	3,6	6,42	6,54	6,80	6,90
3	88,9	80	4,0	8,36	8,53	8,85	9,00
4	114,3	100	4,5	12,20	12,50	12,60	13,00
5	139,7	125	5,0	16,60	17,10	16,90	17,50
6	165,1	150	5,0	19,80	20,40	20,10	20,70

*Çayırova Boru production values.

ASTM A53

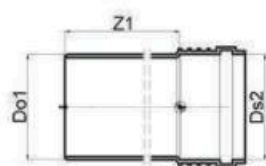
ASTM A53		WATER & GAS TUBES											
Diameter		Wall thickness			Mass per Unit				Test Pressure				
					Plain End		Threaded & Coupled		Gr A		Gr B		
inch	mm	inch	mm	Sch	lb/ft	kg/m	lb/ft	kg/m	psi	(bar)	psi	(bar)	
3/8	17,1	0,091	2,31	40(STD)	0,57	0,84	0,57	0,84	700	48	700	48	
1/2	21,3	0,109	2,77	40(STD)	0,85	1,27	0,86	1,27	700	48	700	48	
3/4	26,7	0,113	2,87	40(STD)	1,13	1,69	1,14	1,69	700	48	700	48	
1	33,4	0,113	3,38	40(STD)	1,68	2,50	1,69	2,50	700	48	700	48	
1 1/4	42,2	0,14	3,56	40(STD)	2,27	3,39	2,28	3,40	1200	83	1300	90	
1 1/2	48,3	0,145	3,68	40(STD)	2,72	4,05	2,74	4,04	1200	83	1300	90	
2	60,3	0,154	3,91	40(STD)	3,66	5,44	3,68	5,46	2300	159	2500	172	
2 1/2	73,0	0,203	5,16	40(STD)	5,80	8,63	5,85	8,67	2500	172	2500	172	
3	88,9	0,125	3,18		4,51	6,72	4,61	6,78	1290	89	1500	100	
		0,156	3,96		5,58	8,29	5,68	8,35	1600	110	1870	129	
		0,188	4,78		6,66	9,92	6,76	9,98	1930	133	2260	156	
		0,216	5,49	40(STD)	7,58	11,29	7,68	11,35	2220	153	2500	172	
		0,250	6,35		8,69	12,93	8,79	13,00	2250	155	2500	172	
3 1/2	101,6	0,125	3,18		5,18	7,72	5,33	7,86	1120	77	1310	90	
		0,156	3,96		6,41	9,53	6,56	9,67	1400	97	1640	113	
		0,188	4,78		7,66	11,41	7,81	11,55	1690	117	1970	136	
		0,226	5,74	40(STD)	9,12	13,57	9,27	13,71	2030	140	2370	163	
4	114,3	0,125	3,18		5,85	8,71	5,97	8,87	1000	69	1170	81	
		0,156	3,96		7,24	10,78	7,36	10,94	1250	86	1460	101	
		0,188	4,78		8,67	12,91	8,79	13,07	1500	103	1750	121	
		0,219	5,56		10,02	14,91	10,14	15,07	1750	121	2040	141	
		0,237	6,02	40(STD)	10,80	16,07	10,92	16,23	1900	131	2210	152	
		0,250	6,35		11,36	16,90	11,48	17,06	2000	138	2330	161	
5	141,3	0,188	4,78		10,80	16,09	11,07	16,39	1220	84	1420	98	
		0,219	5,56		12,51	18,61	12,78	18,91	1420	98	1650	114	
		0,258	6,55	40(STD)	14,63	21,77	14,90	22,07	1670	115	1950	134	
		0,281	7,14		15,87	23,62	16,14	23,92	1820	125	2120	146	
6	168,3	0,188	4,78		12,94	19,27	13,29	19,59	1020	70	1190	82	
		0,219	5,56		15,00	22,31	15,35	22,63	1190	82	1390	96	
		0,250	6,35		17,04	25,36	17,39	25,68	1360	94	1580	109	
		0,280	7,11	40(STD)	18,99	28,26	19,34	28,58	1520	105	1780	123	
		0,312	7,92		21,06	31,32	21,41	31,64	1700	117	1980	137	
8	219,1	0,188	4,78		16,96	25,26			780	54	920	63	
		0,203	5,16		18,28	27,22			850	59	1000	69	
		0,219	5,56		19,68	29,28			910	63	1070	74	
		0,250	6,35	20	22,38	33,31			1040	72	1220	84	
		0,277	7,04	30	24,72	36,31			1160	78	1350	93	
		0,312	7,92		27,73	41,24			1300	90	1520	105	
		0,322	8,18	40(STD)	28,58	42,55			1340	92	1570	108	
		0,344	8,74		30,45	45,34			1440	99	1680	116	
10	273,0	0,188	4,78		21,23	31,62			630	43	730	50	
		0,203	5,16		22,89	34,08			680	47	800	55	
		0,219	5,56		24,65	36,67			730	50	860	59	
		0,250	6,35	20	28,06	41,75			840	58	980	68	
		0,279	7,09		31,23	46,49			930	64	1090	75	
		0,307	7,80	30	34,27	51,01			1030	71	1200	83	
		0,348	8,74		38,70	56,96			1150	79	1340	92	
		0,365	9,27	40(STD)	40,52	60,29			1220	84	1430	99	
		0,203	5,16		27,23	40,55			570	39	670	46	
12	323,8	0,219	5,56		29,34	43,63			620	43	720	50	
		0,250	6,35	20	33,41	49,71			710	49	820	57	
		0,281	7,14		37,46	55,75			790	54	930	64	
		0,312	7,92		41,48	61,69			880	61	1030	71	
		0,330	8,38	30	43,81	65,18			930	64	1090	75	
		0,344	8,74		45,62	67,90			970	67	1130	78	
		0,375	9,52	STD	49,61	73,78			1060	73	1240	85	
		0,406	10,31	40	53,57	79,70			1150	79	1340	92	



low noise soil & waste drainage

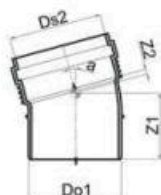


7. Wavin SiTech+ Product range



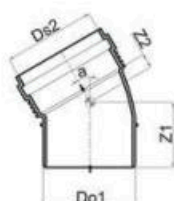
SiTech+ Pipe STEM S/PL

Diameter	Article code	Do1=Ds2	Z1
32 L=0,25 S/PL	3074111	32	250
32 L=0,5 S/PL	3074112	32	500
32 L=1 S/PL	3074113	32	1000
32 L=1,5 S/PL	3074114	32	1500
32 L=2 S/PL	3074115	32	2000
40 L=0,25 S/PL	3074116	40	250
40 L=0,5 S/PL	3074117	40	500
40 L=1 S/PL	3074118	40	1000
40 L=1,5 S/PL	3074139	40	1500
40 L=2 S/PL	3074140	40	2000
50 L=0,15 S/PL	3078869	50	150
50 L=0,25 S/PL	3078870	50	250
50 L=0,5 S/PL	3074142	50	500
50 L=1 S/PL	3074143	50	1000
50 L=1,5 S/PL	3074144	50	1500
50 L=2 S/PL	3074145	50	2000
50 L=3 S/PL	3074146	50	3000
75 L=0,15 S/PL	3085647	75	150
75 L=0,25 S/PL	3074148	75	250
75 L=0,5 S/PL	3074149	75	500
75 L=1 S/PL	3074150	75	1000
75 L=1,5 S/PL	3074151	75	1500
75 L=2 S/PL	3074152	75	2000
75 L=3 S/PL	3074153	75	3000
90 L=0,15 S/PL	3074154	90	150
90 L=0,25 S/PL	3085671	90	250
90 L=0,5 S/PL	3074156	90	500
90 L=1 S/PL	3074157	90	1000
90 L=1,5 S/PL	3074158	90	1500
90 L=2 S/PL	3074159	90	2000
90 L=3 S/PL	3074160	90	3000
110 L=0,15 S/PL	3075739	110	150
110 L=0,25 S/PL	3078871	110	250
110 L=0,5 S/PL	3074163	110	500
110 L=1 S/PL	3074164	110	1000
110 L=1,5 S/PL	3074165	110	1500
110 L=2 S/PL	3074166	110	2000
110 L=3 S/PL	3074167	110	3000
125 L=0,25 S/PL	3074168	125	250
125 L=0,5 S/PL	3074169	125	500
125 L=1 S/PL	3074170	125	1000
125 L=1,5 S/PL	3074171	125	1500
125 L=2 S/PL	3074172	125	2000
125 L=3 S/PL	3074173	125	3000



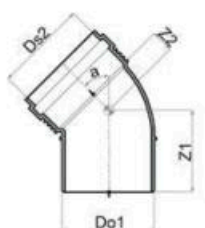
SiTech+ Bend STB 15°

Diameter	Article code	Do1=Ds2	Z1	Z2
32	3067708	32	49	8
40	3067709	40	52	8
50	3067710	50	55	9
75	3067711	75	63	13
90	3067712	90	69	15
110	3067713	110	79	16
125	3067714	125	88	20
160	3067715	160	97	25



SiTech+ Bend STB 30°

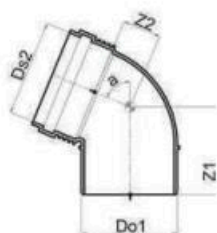
Diameter	Article code	Do1=Ds2	Z1	Z2
32	3067716	32	51	10
40	3067717	40	55	11
50	3067718	50	58	13
75	3067719	75	68	18
90	3067720	90	76	22
110	3067721	110	88	24
125	3067722	125	96	29
160	3067723	160	109	36



SiTech+ Bend STB 45°

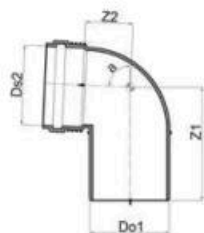
Diameter	Article code	Do1=Ds2	Z1	Z2
32	3067724	32	54	13
40	3067725	40	56	15
50	3067726	50	65	17
75	3067727	75	75	22
90	3067728	90	85	26
110	3067729	110	96	33
125	3067730	125	105	38
160	3067731	160	121	48

Wavin SiTech+ Product range



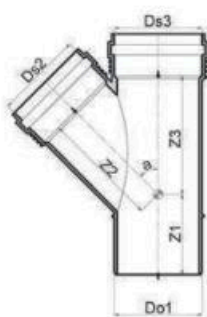
SiTech+ Bend STB 67,5°

Diameter	Article code	Do1=Ds2	Z1	Z2
32	3067732	32	58	17
40	3067733	40	63	20
50	3067734	50	70	21
75	3067735	75	84	34
90	3067736	90	95	41
110	3067737	110	108	47
125	3067738	125	123	55



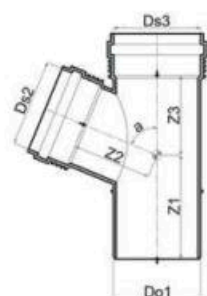
SiTech+ Bend STB 87,5°

Diameter	Article code	Do1=Ds2	Z1	Z2
32	3067739	32	62	21
40	3067740	40	68	26
50	3067741	50	78	31
75	3067742	75	95	45
90	3067743	90	108	54
110	3067744	110	128	64
125	3067745	125	141	74
160	3067746	160	166	94



SiTech+ Branch STEA 45°

Diameter	Article code	Do1=Ds3	Ds2	Z1	Z2	Z3
32x32	3067747	32	32	54	42	42
40x32	3067748	40	32	58	81	52
40x40	3067749	40	40	58	52	52
50x40	3067750	50	40	55	59	57
50x50	3067751	50	50	64	71	71
75x50	3067752	75	50	56	82	77
75x75	3067753	75	75	74	96	96
90x40	3076499	90	40	46	95	86
90x50	3067754	90	50	56	106	96
90x75	3067755	90	75	77	141	121
90x90	3067756	90	90	83	115	115
110x40	3076498	110	40	52	95	85
110x50	3067757	110	50	63	105	93
110x75	3067758	110	75	71	122	113
110x90	3067759	110	90	82	129	124
110x110	3067760	110	110	108	138	138
125x75	3067761	125	75	70	133	121
125x110	3067762	125	110	95	149	146
125x125	3067763	125	125	106	156	156
160x110	3067764	160	110	82	175	164
160x160	3067765	160	160	120	200	200



SiTech+ Branch STEA 67,5°

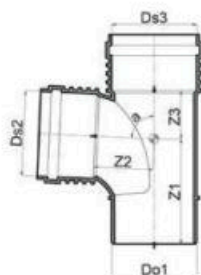
Diameter	Article code	Do1=Ds3	Ds2	Z1	Z2	Z3
50x50	3067766	50	50	69	40	40
75x50	3067767	75	50	70	55	46
90x90	3067768	90	90	94	70	70
110x50	3067769	110	50	77	76	54
110x75	3067770	110	75	101	147	96
110x110	3067771	110	110	87	87	68

Wavin SiTech+ Product range



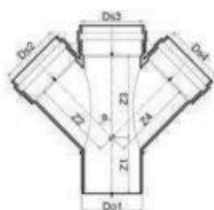
SiTech+ Branch STEA 87,5°

Diameter	Article code	Do1=Ds3	Ds2	Z1	Z2	Z3
40x40	3067772	40	40	69	28	28
50x40	3067773	50	40	71	33	28
50x50	3067774	50	50	82	35	36
75x50	3067775	75	50	82	45	35
75x75	3067776	75	75	95	49	49
90x50	3067777	90	50	87	53	36
110x50	3067778	110	50	96	63	37
110x75	3067779	110	75	135	66	52
125x110	3067780	125	110	133	77	71
125x125	3067781	125	125	141	80	79
160x110	3067782	160	110	165	103	103
160x160	3067783	160	160	165	111	101



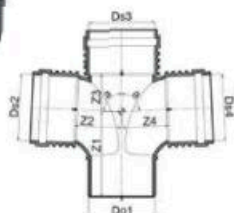
SiTech+ Branch STEA 87,5° Swept

Diameter	Article code	Do1=Ds3	Ds2	Z1	Z2	Z3
90x90	3067833	90	90	126	74	52
110x90	3067834	110	90	137	86	53
110x110	3067835	110	110	144	143	64



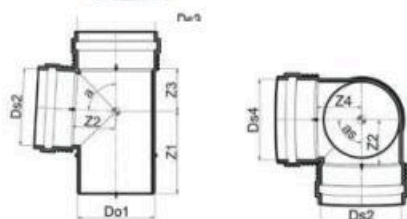
SiTech+ Double Branch STDA

Diameter	Article code	Do1=Ds3	Ds2	Z1	Z2	Z3
90x50x50	3074216	90	50	56	106	96
110x50x50	3074217	110	50	96	63	37



SiTech+ Double Branch STDA 87,5°

Diameter	Article code	Do1=Do3	Do2	Z1	Z2	Z3
75x50x50	3067832	75	50	80	45	35
90x90x90	3075996	90	90	125	125	55
110x110x110	3067838	110	110	144	143	64



SiTech+ Corner Branch STED 87,5°

Diameter	Article code	Do1=Do3	Do2	Z1	Z2	Z3
90x90x90	3075995	90	90	125	63	45
110x50x50	3067831	110	50	96	63	37
110x110x110	3074399	110	110	145	63	55



SiTech+ Shower Branch 87,5°

Diameter	Article code	Do1=Do3	Do2	Z	Z1	Z2	Z3	Z4
90x90x50	3071186	90	50	91	96	53	74	52
90x90x50 Left	3076751	90	50	91	96	53	74	52
90x90x50 Right	3076752	90	50	91	96	53	74	52
110x110x50	3071187	110	50	111	96	63	79	64
110x110x50 Left	3076749	110	50	111	96	63	79	64
110x110x50 Right	3076750	110	50	111	96	63	79	64



SiTech+ Parallel Branch

Diameter	Article code	Do1=Do3	Do2	Z1	Z2	Z3	E
110x110x110	3074400	110	110	110	30	140	133

Wavin SiTech+ Product range



SiTech+ Access pipe STRE

Diameter	Article code	Do1	Z1	Ds2	Z2	H	K
50	3067784	50	83	50	36	80	65
75	3067785	75	102	75	50	111	93
90	3067786	90	118	90	60	132	110
110	3067787	110	135	110	72	155	128
125	3067788	125	142	125	74	162	146
160	3074215	160	200	160	121	236	141



SiTech+ Repair Coupler STU

Diameter	Article code	Do1=Ds2
40	3067790	40
50	3067791	50
75	3067792	75
90	3067793	90
110	3067794	110
125	3067795	125
160	3067796	160



SiTech+ Double Socket Coupler STMM S/S

Diameter	Article code	Do1=Ds2
32	3067797	32
40	3067798	40
50	3067799	50
75	3067800	75
90	3067801	90
110	3067802	110
125	3067803	125
160	3067804	160



SiTech+ Floorgully

Diameter	Article code	Do1=Ds3	Ds2=Ds4	Ds3=Ds5
110/75/50	3086119 3086121*	110	75	50

*Sparepart Bulkhead for Floorgully



SiTech+ Double Long Socket STLL

Diameter	Article code	Do1=Ds2	Z1	Z2
40	3074798	40	50	53
50	3074809	50	52	56
75	3074810	75	59	64
90	3085677	90	63	70
110	3067809	110	152	79
125	3074812	125	171	91
160	3074813	160	187	99



SiTech+ Reducer STR TYPE A

Diameter	Article code	Do1	Ds2	Z1	E
40x32	3067812	40	32	60	3
50x32	3067813	50	32	66	9
50x40	3067814	50	40	63	5
75x50	3067815	75	50	77	12
110x50	3067816	110	50	106	27
110x75	3067817	110	75	98	17
125x110	3067818	125	110	98	7
160x110	3067819	160	110	121	24
160x125	3067820	160	125	117	16



SiTech+ Reducer STR TYPE B

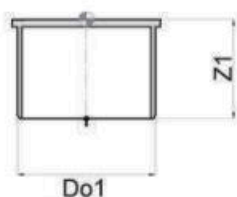
Diameter	Article code	Do1	Ds2	Z1	E
90x50	3067821	90	50	27	17
90x75	3067822	90	75	22	4
110x50	3076497	110	50	23	7
110x75	3076496	110	75	24	9
110x90	3067823	110	90	26	6



SiTech+ PP Reducer

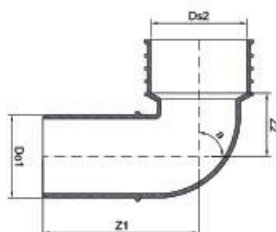
Diameter	Article code	Do1	Ds2	H
940x32	3072601	40	32	65
50x40	3080421	50	40	55

Wavin SiTech+ Product range



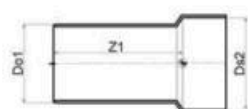
SiTech+ Endcap STM

Diameter	Article code	Do1	Z1
32	3080961	32	45
40	3067824	40	47,5
50	3067825	50	48,5
75	3067826	75	54,5
90	3067827	90	37,4
110	3067828	110	69,5
125	3067829	125	69
160	3067830	160	98,2



SiTech+ Trap bend STSW

Diameter	Article code	Do1	Ds2	Z1	Z2
32/46	3067841	32	46	70	24
40/46	3078802	40	46	79	30
50/53	3078803	50	53	79	35
40/46 prolonged	3078804	40	46	125	30



SiTech+ Trap coupler STS

Diameter	Article code	Do1	Ds2	Z1
32/46	3067843	32	46	52
40/46	3067844	40	46	54
50/53	3067845	50	53	55

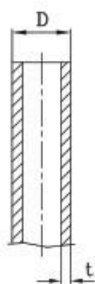
Product guide

Wavin PP-R and PP-RCT Pipe Systems

Hot and Cold Water Systems
and Heating Applications



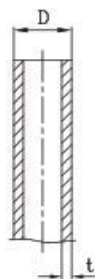
Pipes and fittings



Wavin PPR Pipe (PPR-4mt)

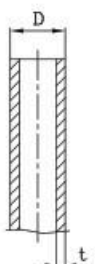
DN	t (mm) 10 Bar	t (mm) 16 Bar	t (mm) 20 Bar	s5 SDR 11 PN10	s3,2 SDR 7,4 PN16	s2,5 SDR 6 PN20	Bundle
20	1,9	2,8	3,4	3050477	3050481	3050484	25
25	2,3	3,5	4,2	3050492	3050496	3050499	20
32	2,9	4,4	5,4	3050506	3050510	3050513	10
40	3,7	5,5	6,7	3050520	3050524	3050528	5
50	4,6	6,9	8,3	3050533	3050537	3050541	5
63	5,8	8,6	10,5	3050546	3050555	3050559	3
75	6,8	10,3	12,5	3050565	3050569	3050572	2
90	8,2	12,3	15,0	3050576	3050580	3050583	2
110	10,0	15,1	18,3	3050588	3050593	3050596	1
125	11,4	17,1	20,8	3050601	3050605	3050608	1

Wavin GlassFiber Multilayer Pipe (PPR-4mt)

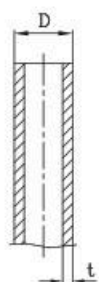


DN	t (mm) 20 Bar	t (mm) 25 Bar	s 3,2 SDR 7,4 PN20	s 2,5 SDR 6 PN 25	Bundle
20	3,4	2,8	3052080	3052081	25
25	4,2	3,5	3052082	3052083	20
32	5,4	4,4	3052084	3052085	10
40	6,7	5,5	3052086	3052087	5
50	8,3	6,9	3075178	3052088	5
63	10,5	8,6	3075449	3052089	3
75	12,5	10,3	3075887	3052090	2
90	15,0	12,3	3075888	3052091	2
110	18,3	15,1	3075939	3052092	1
125	20,8	17,1	3075940	3052093	1

Wavin PP-RCT (4mt)

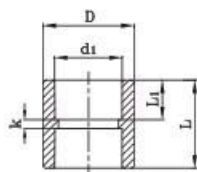


DN	t (mm)	s 4 SDR 9 PN 22	Bundle
20	2,3	3065530	25
25	2,8	3065531	20
32	3,6	3065532	10
40	4,5	3065533	5
50	5,6	3065534	5
63	7,1	3065535	3
75	8,4	3065536	2
90	10,1	3065537	2
110	12,3	3065538	1
125	14	3065539	1



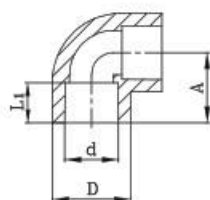
Wavin BasaltFiber Multilayer Pipe (PP-RCT -4mt)

DN	t (mm)	s 4 SDR 9 PN 22	s 3,2 SDR 7,4 PN 25	Bundle
20	2.8		3052146	25
25	3.5		3052147	20
32	4.4		3052148	10
40	5.5		3052149	5
50	6.9		3052150	5
63	8.6		3052151	3
75	8.4	3052152		2
90	10.1	3052153		2
110	12.3	3052154		1
125	14.0	3052155		1



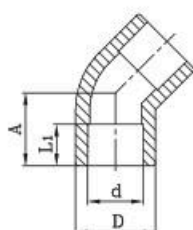
Socket

DN	Sap Code	Bag	Box	d (mm)	L1(min.) (mm)	D (mm)	L (mm)	k (mm)
20	3050911	50	600	19,50	14,50	28	33	4
25	3050912	40	400	24,50	16,00	34	37	4
32	3050913	20	240	31,50	18,00	42,5	41	4
40	3050914	15	120	39,40	20,50	53	46	4,5
50	3050915	10	100	49,40	23,50	66	52	4,5
63	3050916	6	48	62,50	27,50	83	60	4,5
75	3050917	6	30	74,70	30,00	100	65	5
90	3050918	1	24	89,20	33,00	120	71,5	6
110	3050919	1	10	109,00	37,00	146	80	6
125	3050920	1	10	124,60	40,00	167	86	6

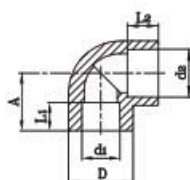


Elbow (90°)

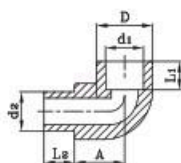
DN	Sap Code	Bag	Box	d (mm)	L1(min.) (mm)	D (mm)	A (mm)
20	3050934	50	450	19,5	14,5	28	25,5
25	3050936	50	300	24,5	16	33	29,5
32	3050938	25	150	31,5	18	43,5	35
40	3050940	10	80	39,4	20,5	53	41,5
50	3050942	5	40	49,4	23,5	67	50
63	3050944	5	25	62,5	27,5	83,5	60
75	3050946	3	15	74,7	30	100	68
90	3050948	1	8	89,2	33	120	78,5
110	3050950	1	4	109	37	147	92,5
125	3050952	1	4	124,6	40	168	102

**Elbow (45°)**

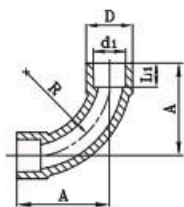
DN	Sap Code	Bag	Box	d (mm)	L1(min.) (mm)	D (mm)	A (mm)
20	3050933	50	400	19,5	14,5	26,5	20
25	3050935	50	250	24,5	16	33,5	22
32	3050937	20	120	31,5	18	43,5	32
40	3050939	10	100	39,4	20,5	52,5	31
50	3050941	8	48	49,4	23,5	68	35
63	3050943	4	24	62,5	27,5	84	42,5
75	3050945	3	18	74,7	30	100	47

**Elbow with Reducer**

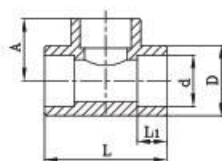
DN	Sap Code	Bag	Box	d1 (mm)	L1(min.) (mm)	d2 (mm)	L2(min.) (mm)	D	A
25-20	3051217	30	300	19,5	14,5	25	16	33	29,5

**Elbow (Female-Male) 90°**

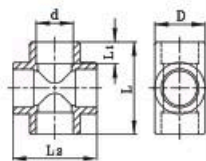
DN	Sap Code	Bag	Box	d1 (mm)	L1(min.) (mm)	d2 (mm)	L2(min.) (mm)	D (mm)	A (mm)
20	3050958	50	500	19,5	14,5	20	15	28,5	25
25	3050960	30	300	24,5	16	25	15,5	33,5	29,5
25/20	3050961	30	300	24,5	16	20	15,5	33	29,5

**Bend**

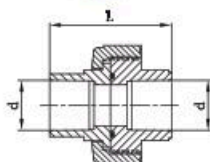
DN	Sap Code	Bag	Box	d1 (mm)	L1(min.) (mm)	D (mm)	L2(min.) (mm)	L (mm)
25	3079933	20	180	25,5	16	35	63,5	88

**Tee**

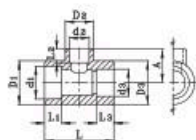
DN	Sap Code	Bag	Box	d (mm)	L1(min.) (mm)	D (mm)	L (mm)	A (mm)
20	3050996	30	240	19,5	14,5	27	51,5	26
25	3050997	25	150	24,5	16	33	63	30
32	3050998	15	90	31,5	18	43	72	36
40	3050999	5	50	39,4	20,5	53	85	43,5
50	3051000	4	32	49,4	23,5	66,5	100	50
63	3051001	3	18	62,5	27,5	84,5	119,5	60
75	3051002	2	12	74,7	30	100	130	73
90	3051003	1	6	89,2	33	120	158	79
110	3051004	1	4	109	37	146	186	93
125	3051005	1	3	124,6	40	167	208	103,5

**Cross Tee**

DN	Sap Code	Bag	Box	d (mm)	L1(min.) (mm)	D (mm)	L (mm)	L2 (mm)
20	3051046	25	200	19,5	14,5	26,5	51	51
25	3051047	15	150	24,5	16	33	60	60
32	3051048	10	90	31,5	18	42,5	70	70
40	3051049	5	50	39,4	20,5	53	84	84
50	3051050	3	24	49,4	23,5	66,5	103,5	103,5

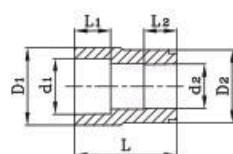
**Manchon Union PN 10**

DN	Sap Code	Bag	Box	d (mm)	L (mm)
20	3051174	15	180	19,5	41
25	3051175	10	120	24,5	51
32	3051176	5	60	31,5	63
40	3051177	5	40	39,4	71
50	3051178	4	32	49,4	74



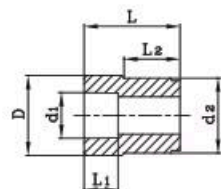
Unequal Tee

D1	D2	D3	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	d2 (mm)	L2(min) (mm)	D2 (mm)	d3 (mm)	L3(min) (mm)	D3 (mm)	L (mm)	A (mm)
20x25x20			3051008	25	150	19,5	14,5	33	24,5	16	33,5	19,5	14,5	33	65	37,5
25x20x20			3051009	25	150	24,5	16	35	19,5	14,5	28	19,5	14,5	28	53	27,5
25x20x25			3051010	25	150	24,5	16	33	19,5	14,5	26,5	24,5	16	33	55	28,5
25x25x20			3051011	25	150	24,5	18	33,5	24,5	16	33,5	19,5	14,5	33,5	65	35,5
32x20x20			3051012	15	90	31,5	18	42,5	19,5	14,5	42,5	19,5	14,5	42,5	73,5	40,5
32x20x25			3051013	15	90	31,5	18	43	19,5	14,5	42,5	24,5	16	43	73,5	40,5
32x20x32			3051014	15	90	31,5	18	42,5	19,5	14,5	27	31,5	18	42,5	60	31,5
32x25x20			3051015	15	90	31,5	18	42,5	24,5	16	42,5	19,5	14,5	42,5	73,5	40
32x25x25			3051016	15	90	31,5	18	43	24,5	16	43	24,5	16	43	66	40
32x25x32			3051017	15	90	31,5	18	43	24,5	16	34	31,5	18	43	103	35
32x50x32			3051019	4	32	31,5	18	65	49,4	23,5	65	31,5	18	65	65,5	54,5
40x20x40			3051020	5	50	39,4	20,5	53	19,5	14,5	33	39,4	20,5	53	70	38,5
40x25x40			3051021	5	50	39,4	20,5	53	24,5	16	33	39,4	20,5	53	70	38,5
40x32x40			3051022	5	50	39,4	20,5	53	31,5	18	43	39,4	20,5	53	80	41
40x50x40			3051023	4	32	39,4	20,5	66	49,4	23,5	65,5	39,4	20,5	66	103	54,5
50x20x50			3051024	4	32	49,4	23,5	66,5	19,5	14,5	33	49,4	23,5	66,5	85	44
50x25x50			3051025	4	32	49,4	23,5	66,5	24,5	16	33	49,4	23,5	66,5	85	44
50x32x32			3051026	4	32	49,4	23,5	66,5	31,5	18	65,5	31,5	18	66,5	103	55,5
50x32x40			3051027	5	50	49,4	23,5	66	31,5	18	65,5	39,4	20,5	66	103	54,5
50x32x50			3051018	4	32	49,4	23,5	65	31,5	18	51	49,4	23,5	65	90	49,5
50x40x32			3051028	4	32	49,4	23,5	66,5	39,4	20,5	66	31,5	18	66,5	103	55,5
50x40x40			3051029	4	32	49,4	23,5	66	39,4	20,5	65,5	39,4	20,5	66	104	55,5
50x40x50			3051030	4	32	49,4	23,5	65	39,4	20,5	52	49,4	23,5	65	90	49,5
50x50x32			3051031	4	32	49,4	23,5	66	49,4	23,5	66	31,5	18	66	103,5	55
50x50x40			3051032	4	32	49,4	23,5	65,5	49,4	23,5	65	39,4	20,5	65,5	103,5	54,5
63x20x63			3051033	2	20	62,5	27,5	84	19,5	14,5	26,5	62,5	27,5	84	80	52
63x25x63			3051034	2	20	62,5	27,5	84	24,5	16	33	62,5	27,5	84	85	52
63x32x63			3051035	2	20	62,5	27,5	84	31,5	18	42,5	62,5	27,5	84	91	52
63x40x63			3051036	2	20	62,5	27,5	83,5	39,4	20,5	53	62,5	27,5	83,5	101	54
63x50x63			3051037	2	20	62,5	27,5	83,5	49,4	23,5	66	62,5	27,5	83,5	112	57
75x20x75			3051038	1	12	74,7	30	100	19,5	14,5	33	74,7	30	100	130	60
75x25x75			3051039	1	12	74,7	30	100	24,5	16	33	74,7	30	100	130	60
75x32x75			3051040	1	12	74,7	30	100	31,5	18	53	74,7	30	100	130	60
75x40x75			3051041	1	12	74,7	30	100	39,4	20,5	53	74,7	30	100	130	60
75x50x75			3051042	1	12	74,7	30	100	49,4	23,5	83,5	74,7	30	100	130	68
75x63x75			3051043	1	12	74,7	30	100	62,5	27,5	83,5	74,7	30	100	130	68
90x75x90			3051044	1	8	89,2	33	120	74,7	30	120	89,2	33	120	158	79
110x90x110			3051045	1	4	109	37	146	89,2	33	146	109	37	146	186	93

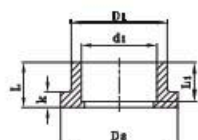


Female-Female Reducer

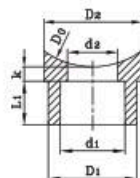
DN	Sap Code	Bag	Box	d1 (mm)	L1 (min.) (mm)	d2 (mm)	L2 (min) (mm)	D1 (mm)	D2 (mm)	L (mm)
25/20	3051134	30	300	24,5	16	19,5	14,5	35	32,5	39
32/20	3051135	25	250	31,5	18	19,5	14,5	43	41	48,5
32/25	3051136	25	250	31,5	18	24,5	16	43	41	48,5

**Female-Male Reducer**

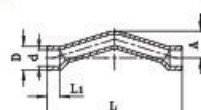
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	d2 (mm)	L2(min.) (mm)	D (mm)	L (mm)
25/20	3051112	40	560	19,5	14,5	25	18	29	39
32/20	3051113	30	300	19,5	14,5	32	13,5	35	39
32/25	3051114	30	300	24,5	16	32	15,5	35	39,5
40/20	3051115	30	240	19,5	14,5	29	25	40	47,5
40/25	3051116	30	240	24,5	16	34	24,5	40	48
40/32	3051117	20	200	31,5	18	40	27,5	42	47
50/20	3051118	20	200	19,5	14,5	29	23,5	50	48
50/25	3051119	25	200	24,5	16	34	23,5	50	49,5
50/32	3051120	15	150	31,5	18	42	23,5	50,5	47,5
50/40	3051121	10	120	39,4	20,5	50	24,5	53,5	48
63/25	3051122	10	120	24,5	16	34	28	63	56,5
63/32	3051123	10	120	31,5	18	43	28,5	63	57,5
63/40	3051124	5	80	39,4	20,5	53	28	63	53
63/50	3051125	5	60	49,4	23,5	63	28	67	53
75/50	3051126	5	50	49,4	23,5	67	31	75,5	61,5
75/63	3051127	5	40	62,5	27,5	75	26	84,5	67
90/63	3051128	4	36	62,5	27,5	84	28	90	76,5
90/75	3051129	2	24	74,7	30	90	33	97	81,5
110/63	3051130	1	18	62,5	27,5	84	32,5	110	88
110/75	3051131	1	18	74,7	30	100	32,5	110	91,5
110/90	3051132	1	18	89,2	33	110	32,5	119	93,5
125/110	3051133	1	13	109	37	125	37	148	102

**Flange Adaptor**

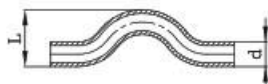
DN	Sap Code	Bag	Box	d (mm)	L1(min.) (mm)	D1 (mm)	D2 (mm)	L (mm)	k (mm)
40	3051165	25	250	39,4	20,5	50,5	62	24	8,5
50	3051166	15	150	49,4	23,5	61,5	73,5	27	8,5
63	3051167	10	80	62,5	27,5	77	90,5	31,5	8
75	3051168	4	36	74,7	30	90,5	106	38	16
90	3051169	4	36	89,2	33	109	124,5	42,5	18
110	3051170	2	20	109	37	132	150,5	50	21
125	3051171	1	12	124,6	40	164	185	62	20

**Saddle**

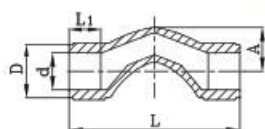
DN	Sap Code	Bag	Box	d0 (mm)	d1 (mm)	L1(min.) (mm)	d2 (mm)	D1 (mm)	D2 (mm)	k (mm)
63/20	3051137	50	600	63	19,5	14,5	17	28,5	37	6
63/25	3051139	50	600	75	19,5	14,5	17	28,5	37	6
75/20	3051141	50	600	90	19,5	14,5	17	28,5	37	6
75/25	3051143	50	600	110	19,5	14,5	17	28,5	37	6
90/20	3051138	50	600	63	24,5	16	19	33,5	37,5	6
90/25	3051140	50	600	75	24,5	16	19	33,5	37,5	6
110/20	3051142	50	600	90	24,5	16	19	33,5	37,5	6
110/25	3051144	50	600	110	24,5	16	19	33,5	37,5	6

**Crossover Bridge**

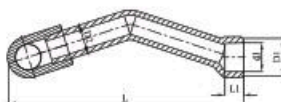
DN	Sap Code	Bag	Box	d1 (mm)	L1(min.) (mm)	D (mm)	L (mm)	A (mm)
20	3051106	15	150	19,5	14,5	28,5	160	33
25	3051107	10	100	24,5	16	33	194	40
32	4056716	4	56	31,5	18	46	216	49

**Bridge**

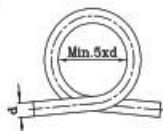
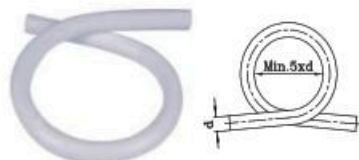
DN	Sap Code	Bag	Box	d (mm)	L (mm)
20	3051102	15	135	20	45
25	3051103	10	90	25	55
32	3051104	5	45	32	69
40	3051105	3	27	40	85

**Short Bridge**

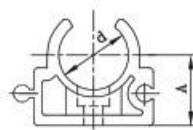
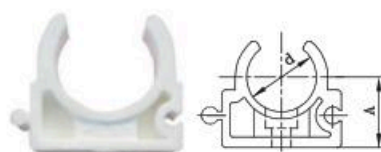
DN	Sap Code	Bag	Box	d (mm)	L1(min.) (mm)	D (mm)	A (mm)	L (mm)
20	4047830	30	240	19,5	14,5	28	23	90
25	4047831	25	150	24,5	16	33,5	31	96

**Tee w/ V Type Bridge**

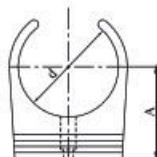
DN	Sap Code	Bag	Box	d1 (mm)	L1(min.) (mm)	D1 (mm)	D2 (mm)	L (mm)
20/20/20	3074991	10	100	19,5	14,5	28	20	160
25/25/25	3074992	10	100	24,5	16	32,5	25	203
25/20/25	3074993	5	50	19,5	14,5	28	20	165
32/25/32	3074994	5	50	24,5	16	32,5	25	212

**Omega**

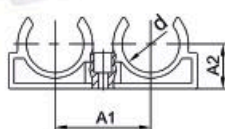
DN	Sap Code	Bag	Box	d (mm)
20	3051108	5	25	20
25	3051109	3	15	25
32	3051110	1	8	32
40	3051111	1	4	40

**Clips**

DN	Sap Code	Bag	Box	d (mm)	A (mm)
20	3050985	100	1200	20,5	19
25	3050986	80	960	25,5	22
32	3050987	50	500	32,5	25
40	3050988	40	320	40,5	29

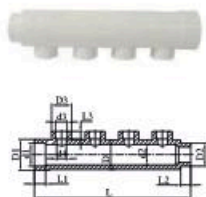


50	3050989	25	200	48,5	44
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**Double Clips**

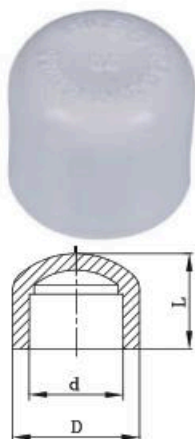
DN	Sap Code	Bag	Box	d (mm)	A1 (mm)	A2 (mm)
20	3050990	50	500	20	38	17,5
25	3050991	40	320	25	44,5	19,5
32	3050992	25	200	32	53,5	25

Manifold



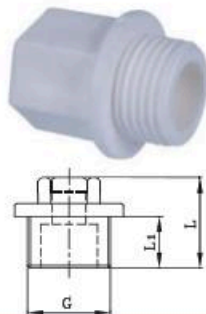
DN	Sap Code	d1 (mm)	L1 (mm)	D1 (mm)	D2 (mm)	L2 (mm)	d2 (mm)	d3 (mm)	D3 (mm)	L3 (mm)	d4 (mm)	D (mm)	L (mm)
50x25	3081245	49,4	23,5	66,5	50	21	44	24,5	42,5	16,0	21	63	335
50x32	3081549	49,4	23,5	66,5	50	21	44	24,5	42,5	16,0	28	63	335

End Cap



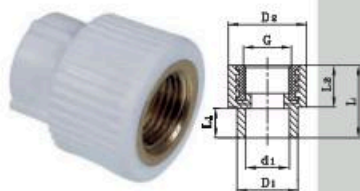
DN	Sap Code	Bag	Box	d (mm)	D (mm)	L (mm)
20	3050921	100	800	19,5	28,5	25,5
25	3050922	80	640	24,5	34,5	29
32	3050923	50	400	31,5	43	32
40	3050924	25	200	39,4	53,5	37,5
50	3050925	10	100	49,4	67	43,5
63	3050926	10	80	62,5	85	52
75	3050927	6	48	74,7	100,5	58
90	3050928	4	32	89,2	121	64
110	3050929	2	16	109	146,5	71,5

Male Threaded End Cap



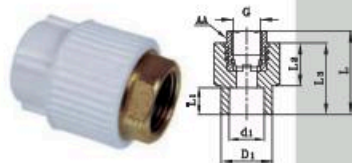
DN	Sap Code	Bag	Box	L1 (mm)	L (mm)	G (mm)
20x1/2	3050930	100	1000	11	34	1/2"
25x3/4	3050931	80	640	11	31	3/4"
32x1	3050932	50	400	20	40	1"

Female Threaded Adaptor

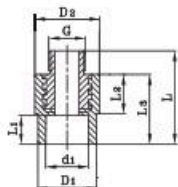


DN	Sap Code	Bag	Box	d1 (mm)	L1 (min) (mm)	D1 (mm)	D2 (mm)	L2 (mm)	L (mm)	G (mm)
20x1/2	3087071	20	320	19,5	14,5	28,5	38,5	24	40,5	1/2"
20x3/4	3087072	20	240	19,5	14,5	29	42,5	24	40	3/4"
25x1/2	3087073	25	250	24,5	16	33,5	38	24	40,5	1/2"
25x3/4	3087075	20	280	24,5	16	33	42,5	24	40,5	3/4"
32x3/4	3087076	10	120	31,5	18	43	45,5	24,5	44	3/4"
32x1	3051073	10	120	31,5	18	43	53	28	47,5	1"

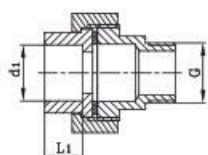
Female Threaded Adaptor (Hexagonal Shaped)



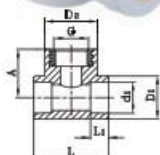
DN	Sap Code	Bag	Box	d1 (mm)	L1 (min) (mm)	D1 (mm)	L2 (mm)	L3 (mm)	L (mm)	G (mm)
40x1 1/4"	3051074	10	40	39,4	20,5	54	25,5	47	61	1-1/4"
50x1 1/2"	3051075	4	24	49,4	23,5	68	29	53,5	67,5	1-1/2"
63x2"	3051076	2	14	62,5	27,5	84	28,5	55	73	2"
75x2 1/2"	3051077	2	12	74,7	30	100	30	59,5	78	2-1/2"
90x3"	3051078	1	5	89,2	33	120,5	44	75,5	92	3"
110x4"	3051079	1	4	109	37	147	48	84	102	4"

**Male Threaded Adaptor**

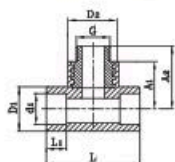
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	D2 (mm)	L (mm)	L2 (mm)	L3 (mm)	G (mm)
20x1/2	3087077	25	250	19,5	14,5	28,5	35	53	24	40	1/2"
20x3/4	3087078	20	200	19,5	14,5	29	42,5	53	23,5	40	3/4"
25x1/2	3087079	15	240	24,5	16	34	39	53	23,5	40	1/2"
25x3/4	3087080	15	150	24,5	16	33	42	53	24	40	3/4"
32x3/4	3087081	10	100	31,5	18	43	45	57	24,5	44	3/4"
32x1	3051085	10	100	31,5	18	43	52,5	62,5	28	47	1"

**Male Threaded Adaptor (Hexagonal Shaped)**

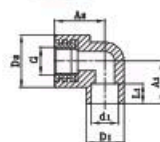
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	L2 (mm)	L3 (mm)	L (mm)	G (mm)
40x1 1/4"	3051086	5	25	39,4	20,5	54	25	47	81	1-1/4"
50x1 1/2"	3051087	2	16	49,4	23,5	68	29	53,5	87,5	1-1/2"
63x2"	3051088	1	10	62,5	27,5	84	28,5	55	98	2"
75x2 1/2"	3051089	1	6	74,7	30	100	30	59,5	105	2-1/2"
90x3"	3051090	1	5	89,2	33	120,5	43,5	76	118	3"
110x4"	3051091	1	3	109	37	147	48	84,5	129,5	4"

**Female Threaded Tee**

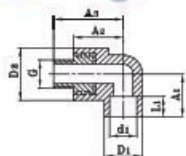
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	D2 (mm)	A (mm)	L (mm)	G (mm)
20x1/2	3087065	25	200	19,5	14,5	27	38,5	35	51,5	1/2"
20x3/4	3087066	20	140	19,5	14,5	28,5	43	36	60,5	3/4"
25x1/2	3087067	20	120	24,5	16	33	38	37	60	1/2"
25x3/4	3051055	15	120	24,5	16	35	43,5	37	59,5	3/4"
32x1	3051056	10	70	31,5	18	43,5	53,5	43	70	1"

**Male Threaded Tee**

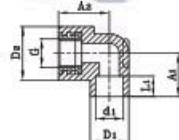
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	D2 (mm)	A1 (mm)	A2 (mm)	L (mm)	G (mm)
20x1/2	3087068	15	150	19,5	14,5	27	38,5	35	47,5	51,5	1/2"
20x3/4	3087069	10	130	19,5	14,5	28,5	43	36,5	49,5	60,5	3/4"
25x1/2	3087070	10	100	24,5	16	33	38	37	50,5	60,5	1/2"
25x3/4	3051060	10	100	24,5	16	35	43	36,5	49,5	59,5	3/4"
32x1	3051061	10	60	31,5	18	43	53,5	48	63,0	73,5	1"

**Female Threaded Elbow**

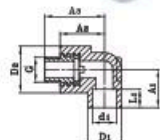
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	D2 (mm)	A1 (mm)	A2 (mm)	G (mm)
20x1/2	3087063	25	250	19,5	14,5	28,5	38,5	31,5	36	1/2"
20x3/4	3087074	20	280	19,5	14,5	29	40	31	35,5	3/4"
25x1/2	3087085	20	160	24,5	16	33,5	38,5	32	38	1/2"
25x3/4	3087087	15	180	24,5	16	33,5	43	32	40	3/4"
32x3/4	3087088	10	100	31,5	18	44	57,5	34	45	3/4"
32x1	3050968	10	100	31,5	18	43,5	54,0	34	45	1"

**Male Threaded Elbow**

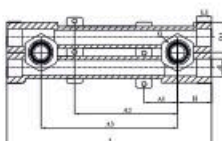
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	D2 (mm)	A1 (mm)	A2 (mm)	A3 (mm)	G (mm)
20x1/2	3087089	25	200	19,5	14,5	28,5	38,5	31,5	36	49	1/2"
20x3/4	3087090	10	180	19,5	14,5	29	40	31	36	48	3/4"
25x1/2	3087091	10	140	24,5	16	33,5	38,5	32	38	51	1/2"
25x3/4	3087092	20	160	24,5	16	33,5	43	32	40	53	3/4"
32x3/4	3087064	10	80	31,5	18	43,5	57,5	34,5	45	58	3/4"
32x1	3050974	10	80	31,5	18	43,5	54	34,5	45	60	1"

**Underplaster Female Elbow**

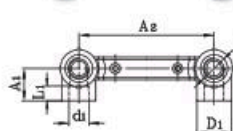
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	D2 (mm)	A1 (mm)	A2 (mm)	G (mm)
20	3087082	20	200	19,5	14,5	28	38,5	31	35	1/2"
25	3087083	15	180	24,5	16	33	38,5	31,5	36	1/2"

**Underplaster Male Elbow**

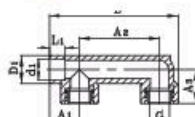
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	D2 (mm)	A1 (mm)	A2 (mm)	A3 (mm)	G (mm)
20	3087084	15	180	19,5	14,5	28	38,5	31	35	48	1/2"
25	3087086	10	180	24,5	16	33	38,5	31	36	49	1/2"

**Adjustable Underplaster Female Elbow**

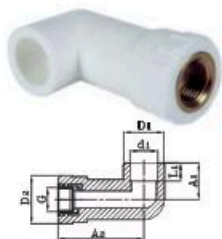
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	A1 (mm)	A2 (mm)	A3 (mm)	L (mm)	H (mm)	G (mm)
20x1/2	3051149	3	36	19,5	14,5	33	37	113	150	224	38	1/2"
25x1/2	4064554	3	36	24,5	16,5	33	37	113	150	224	38	1/2"

**Double Stable Underplaster Female Elbow**

DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	A1 (mm)	A2 (mm)	G (mm)
20x1/2	4047836	5	60	19,5	14,5	34	32	150	1/2"
25x1/2	4047837	5	60	24,5	16	34	32	150	1/2"

**Bide Nozzle Part Female**

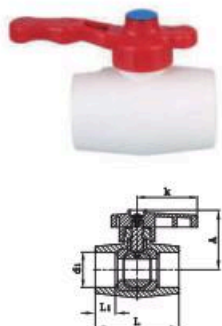
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	A1 (mm)	A2 (mm)	A3 (mm)	L (mm)	G (mm)
20x1/2	3051215	10	60	19,5	14,5	27	28,5	90	32	136	1/2"

**Elbow Long**

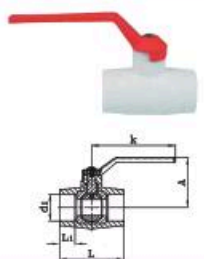
DN	Sap Code	Bag	Box	d1	L1(min.) (mm)	D1 (mm)	D2 (mm)	A1 (mm)	A2 (mm)	G (mm)
25x1/2	4049356	25	150	24,5	16	35	42	32	75	1/2"

**Valve**

DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	D (mm)	A (mm)	L (mm)	G (mm)
20	3078893	5	70	19,5	14,5	28	38	26	72	1/2"
25	3078896	5	70	24,5	16	33	42	30	77	3/4"
32	3078919	3	42	31,5	18	42,5	53	39	80	1"
40	3051183	3	30	39,4	20,5	54	64	43	111	1-1/4"

**Ball Valve**

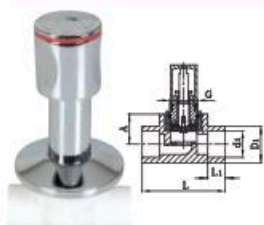
DN	Sap Code	Bag	Box	d (mm)	L1(min) (mm)	A (mm)	k (mm)	L (mm)
20	3079030	5	120	19,5	14,5	50	56	68
25	3079031	5	120	24,5	16	50	56	68
32	3079032	5 4	80	31,5	18	54	56	75



40	3069807	4	48	39,4	20,5	71	119	89
50	3069808	2	28	49,4	23,5	78	119	12
63	3070079	1	15	62,5	27,5	90	157	128
75	3070080	1	12	74,7	30	100	157	148

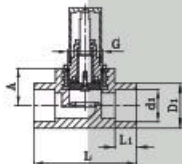
**Chrome Valve**

DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	A (mm)	L (mm)	G (mm)
20	3072118	1	60	19,5	14,5	28,5	26,5	72	3/4"
25	3051185	1	60	24,5	16	33,5	30	77	3/4"
32	3051186	1	50	31,5	18	42,5	39	80	1"

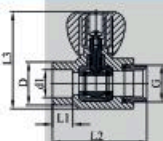
**Valve Round Cap**

DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	A (mm)	L (mm)	G (mm)
20	3072164	1	60	19,5	14,5	28,5	26,5	72	3/4"
25	3052745	1	60	24,5	16	33,5	30	77	3/4"
32	3052746	1	50	31,5	18	43	38,5	80,5	1"

Decorative Valve

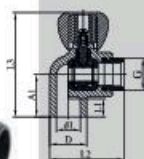


DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	A (mm)	L (mm)	G (mm)
20	3072161	1	60	19,5	14,5	28,5	26,5	72	3/4"
25	3051190	1	60	24,5	16	33,5	30	77	3/4"
32	3051191	1	50	31,5	18	42,5	39	80	1"



Radiator Valve Straight

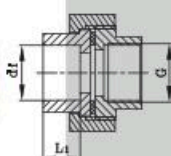
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D (mm)	L2 (mm)	L3 (mm)	G (mm)
20	4047845	5	80	19,5	14,5	30	66	68	3/4"
25x3/4	4081144	5	80	24,30	18	35,50	66	68	3/4"



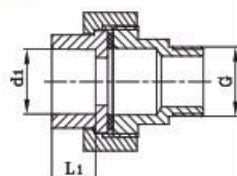
Radiator Valve Elbow

DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D (mm)	A1 (mm)	L2 (mm)	L3 (mm)	G (mm)
20	4047844	5	80	19,5	14,5	30	34,5	60	85	3/4"
25x3/4	4081145	5	80	24,30	16,50	30	35,50	68,50	71	3/4"

Metal Female Threaded Union (Hexagonal Shaped)

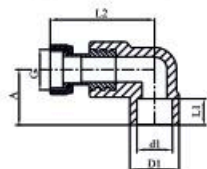


DN	Sap Code	Bag	Box	d (mm)	L1(min.) (mm)	G (mm)
20x1/2"	3051151	10	120	19,5	14,5	1/2"
25x3/4"	3051152	10	80	24,5	16	3/4"
32x3/4"	3051153	5	60	31,5	18	3/4"
32x1"	3051154	5	60	31,5	18	3/4"
40x1 1/4"	3051155	2	24	39,4	20,5	1-1/4"
50x1 1/2"	3051156	2	24	49,4	23,5	1-1/2"
63x2"	3051157	2	18	62,5	27,5	2"

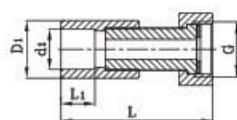


Metal Male Threaded Union (Hexagonal Shaped)

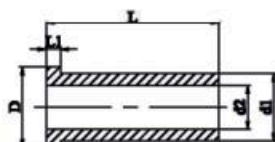
DN	Sap Code	Bag	Box	d (mm)	L1(min.) (mm)	G (mm)
20x1/2"	3051158	10	120	19,5	14,5	1/2"
25x3/4"	3051159	10	80	24,5	16	3/4"
32x3/4"	3051160	5	50	31,5	18	3/4"
32x1"	3051161	5	50	31,5	18	1"
40x1 1/4"	3051162	2	24	39,4	20,5	1-1/4"
50x1 1/2"	3051163	2	20	49,4	23,5	1-1/2"
63x2"	3051164	2	16	62,5	27,5	2"

**Shifting Elbow with Metal Transition**

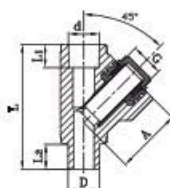
DN	Sap Code	Bag	Box	d1 (mm)	L1(min) (mm)	D1 (mm)	A1 (mm)	L2 (mm)	G (mm)
20x1/2	3051201	30	300	28	14,6	19,3	30	44	1/2"
25x3/4	3051202	25	250	33,50	17,15	24,30	33	44	3/4"

**Shifting Union With Metal Transition**

DN	Sap Code	Bag	Box	d1 (mm)	L1 (min) (mm)	D1 (mm)	L (mm)	G (mm)
20x1/2	4047817	30	300	19,5	14,5	28,5	57	1/2"
20x3/4	4047818	25	250	19,5	14,5	29	59	3/4"
25x1/2	4047819	25	250	24,5	16	33,5	59	1/2"
25x3/4	4047820	25	250	24,5	16	33	59	3/4"
25x1	4065368	20	200	24,5	16	42,5	72	1"

**Shifting Union With Plastic Transition**

DN	Sap Code	d1 (mm)	D2 (mm)	D (mm)	L (mm)	L1 (mm)
25x1	3081757	25,0	16,2	29,8	64,5	5,4

**Strainer Y with Filter**

DN	Sap Codes	Bag	Box	d1 (mm)	L1 (min) (mm)	D (mm)	D2 (mm)	L (mm)	G (mm)
20x1/2	3051203	20	200	19,5	14,5	30	41	80	1/2"
25x3/4	3051204	10	120	24,5	16	35	46	101,5	3/4"

metaksan

"Brings Quality"



MTK
MADE IN TURKEY

PIPE FIXING SYSTEMS



Company Introduction - Firma Hakkında



With its extensive experience and customer-oriented service policy, METAKSAN is proud to be one of the leading manufacturers of pipe fixing systems and cable management solutions in Turkey.



In its 30.000 m2 fully automated facility METAKSAN have all the resources to guarantee the highest efficiency and speed of delivery. Continuously growth and non stop investment in productive equipments allow METAKSAN, to offer high quality and competitive range of products that contributes to the customer satisfaction.

As specilised in Cable Management and Pipe Fixing Systems , METAKSAN is continuously growing by extending its range of products by adding Electrical and Mechanical Equipments & Lighting and Earthing Materials

METAKSAN performs its activities in accordance with ISO 9001 and international Quality Standards.

Our quality policy is to offer quality items and services that would meet requirements of our customers for competitive prices, to make timely deliveries and to ensure continuance of service and quality. Our target is constantly producing high quality items. Our basic target is to be a world brand at our field of operation.

With a total quality management approach, METAKSAN have gained reliable business partners in many countries around the world. Expanding day by day through a network of sales , we are proud to export %80 of our production to more than 60 countries.

We are gratefull for trust you place in our products and in our company.



Pipe Clamp with nut - Somunlu Kelepçe - Хомут для труб с гайкой						mTK MADE IN TURKEY					
With Rubber  SK	Without Rubber  SKL	With Rubber (Set)  SKS	Without Rubber (Set)  SKSL								
Pipe Clamp with Combi Nut - Kombi Somunlu Kelepçe - Хомут для труб с комбинированной гайкой											
With Rubber  KS	Without Rubber  KSL	With Rubber (Set)  KSS	Without Rubber (Set)  KSLS								
Pipe Clamps With Triphone - Trifonlu Kelepçeler - Хомут для труб с шурупом											
With Rubber  TF	Without Rubber  TFL	With Rubber  TU	Without Rubber  TUL	Without Rubber (Set)  TFS	Without Rubber (Set)  TFLS						
Heavy Duty Pipe Clamp with Head - Ağır Hizmet Kelepçeler - Хомут усиленный с приваренной головкой											
With Rubber  AK	Without Rubber  AKL	With Rubber  AS	Without Rubber  ASL	With Rubber (Set)  ACS	Without Rubber (Set)  ACSL						
Sprinkler Pipe Clamps - Sprinkler Yangın Borusu Kelepçesi - Sprinkler Kelepçe - Хомут Спринклерный				Pvc Pipe Clamps - Pvc Boru Kelepçesi - Хомут для ПВХ труб							
Standard  SPR	Long  SPRU	With Rivet Nut  SPRS	 PBK								
Ventilation Pipe Clamps - Havalandırma Kelepçesi - Хомут для вентиляционных труб с гайкой											
With Rubber  HS	Without Rubber  HSL	With Combi Nut  HKS	Combi Nut Without Rubber  HKSL	With Rubber  HC	Without Rubber  HSL						
Sliding Hinge - Kayar Mesnet		Collector Clamp - Kollektör Kelepçesi		U Bolt Pipe Clamp - U bolt Boru Kelepçesi		Insulation Support - Isolasyon Takozu					
 KM		 KOL		 UB		 PIT					
Profiles & Channels - Profil & Kanallar											
 CL 2718								 CL 2830		 C 2141	
 C 4141								 CL 27		 CL 28	
 C 21		 C 41									
Accessories - Aksesuarlar											
 UT4 - UT5		 UT6 - UT7		 UT8		 CLE					
 CLB		 NTP-NTN									



FIRE EXTINGUISHING SYSTEMS

COVER OPTIONS



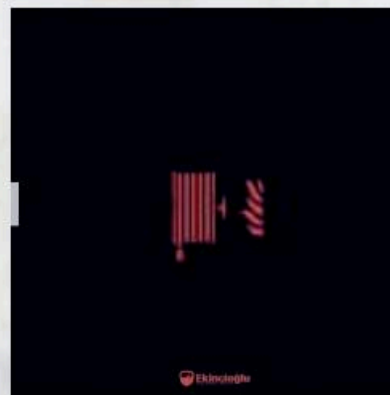
EK 100 D1 COVER



EK 100 D2 COVER



EK 100 D3 COVER



EK 100 D4 COVER



EK 100 SERIES

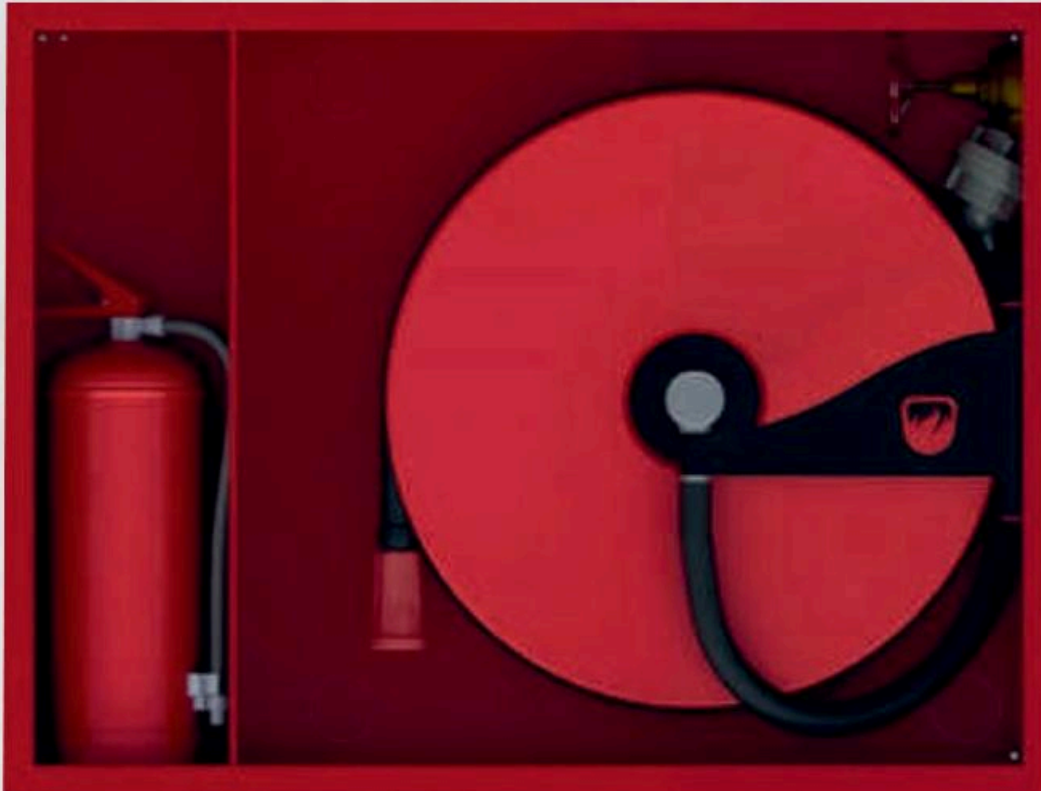
TECHNICAL SPECIFICATIONS

- Water Supplied from Center, Corrosion Resistant Reel, TS-EN 671-1 / CE Certified
- Semi-Hard Fire Hose with round section, TS EN 694 Certificated
- Interconnection Hose (Unbreakable Type) Providing Water Passage between Valve and Reel Center
- 2" Fire Valve
- 2" Internal Threaded Union
- 2"x 1" Reduction
- 5mm Made of Sheet Metal, Laser Cut Reel Arm (Provides 270° Reel Movement)
- With Jet, Spray and Off positions and Nozzle according to UL-FM and DIN / EN 671-1
- A1 Quality Sheet Metal Production, Reel Rim
- Reel Rim Phosphate Coating, Completely Electrostatic Powder Painted, (Red)
- Reel Arm Phosphate Coating, Completely Electrostatic Powder Painted, (Black)
- Products are shipped with cardboard packaging after tested hundred percent.
- All Hose Connections are done with Special Press Method. Clamp etc. are never used.
- All hose Connections are covered with plastic to prevent the damage to user.

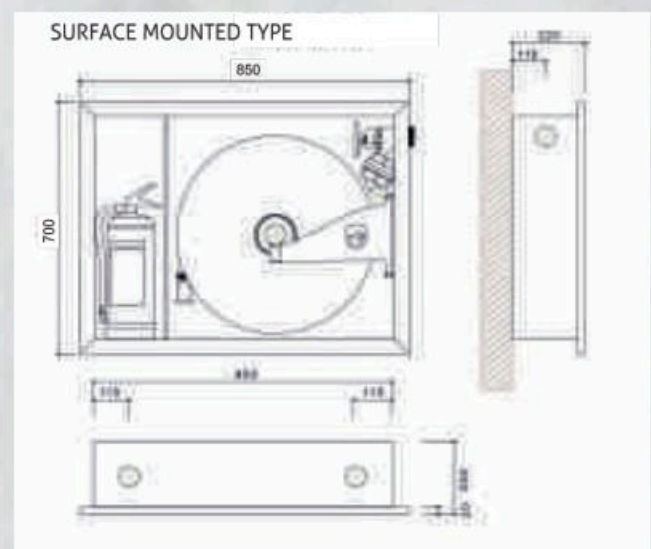
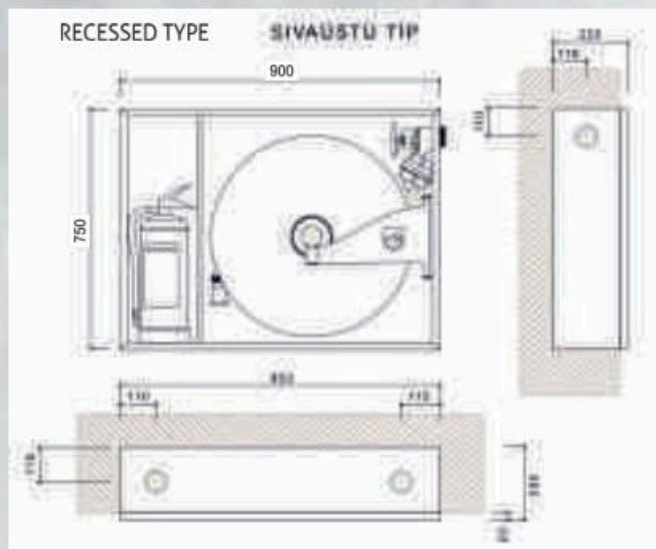
DISASSEMBLED COVER- Mounted Case

- A1 Quality Sheet Metal Production, Disassembled Sheet Metal or Glass Cover
- Recessed Handle (Corrosion Resistant - Stainless)
- 180° Openable, Recessed-Hidden Hinge System (Corrosion Resistant - Stainless)
- 4mm, Smoked Color or Black Painted Tempered Glass on Glass Covers
- Warning Signs and Signs in ISO Standards on the Cover (Tear-Free and Nonfading)
- Cover Phosphate Coating with Red or White Electrostatic Powder Painted.
- Optional Color and Design Options (Ral Codes for customer requests)
- A1 Quality Manufactured as a single piece of sheet metal, Recessed or Surface
- Breakable Valve Connection Caps on Side, Top and Back Surfaces of the Case
- Case Design Suitable for Right and Left Handed Reels
- Case Phosphate Coating with Red or White Electrostatic Powder Painted.
- Optional Color and Design Options (Ral Codes for customer requests)
- Optional, Completely Stainless CrNi Material Options are available.
- Tear-proof, Nonfading, PVC Operating Instructions are available on the Case.





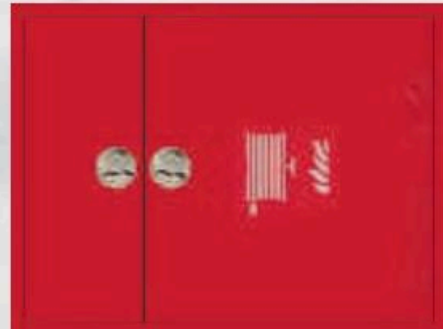
**EK 200 SERIES DOUBLE DOOR FIRE CABINETS WITH SEMI-RIGID HOSE
WITH FIRE EXTINGUISHER HELD UPRIGHT**



COVER OPTIONS



EK 200 D1 COVER



EK 200 D2 COVER



EK 200 D3 COVER



EK 200 SERIES

TECHNICAL SPECIFICATIONS

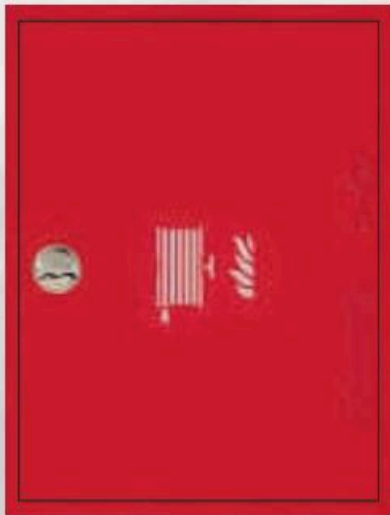
- Water Supplied from Center, Corrosion Resistant Reel, TS-EN 671-1 / CE Certified
- Semi-Hard Fire Hose with round section, TS-EN 694 Certified
- Interconnection Hose (Unbreakable Type) Providing Water Passage between Valve and Reel Center
- 2" Fire Valve
- 2" Internal Threaded Union
- 2"x 1" Reduction
- 5mm Made of Sheet Metal, Laser Cut Reel Arm (Provides 270° Reel Movement)
- With Jet, Spray and Off positions and Nozzle according to UL-FM and DIN / EN 671-1
- A1 Quality Sheet Metal Production, Reel Rim
- Reel Rim Phosphate Coating, Completely Electrostatic Powder Painted. (Red)
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- Recessed Handle (Corrosion Resistant - Stainless)
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- Case Design Suitable for Right and Left Handed Reels
- Case Phosphate Coating with Red or White Electrostatic Powder Painted.
- Optional Color and Design Options (Ral Codes for customer requests)
- Optional, Completely Stainless CrNi Material Options are available.
- Tear-proof, Nonfading, PVC Operating Instructions are available on the Case.



COVER OPTIONS



EK 300 D1 COVER



EK 300 D2 COVER



EK 300 D3 COVER



EK 300 SERIES

TECHNICAL SPECIFICATIONS

- Water Supplied from Center, Corrosion Resistant Reel, TS-EN 671-1 / CE Certified
- Semi-Hard Fire Hose with round section, TS EN 694 Certificated
- Interconnection Hose (Unbreakable Type) Providing Water Passage between Valve and Reel Center
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- 2" Internal Threaded Union
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WITH LAY FLAT HOSE



1" SEMI-RIGID HOSE



WITH LAY FLAT HOSE



FIRE EXTINGUISHER



1 KG FIRE EXTINGUISHER



6 KG FIRE EXTINGUISHER



50 KG FIRE EXTINGUISHER



FIRE DOORS

Tek Kanatlı Yangın Kapısı
Single Wing Fire Door



Standart: 100x210 cm

Single Wing Fire Door
Double Wing Fire Door



Standart: 150x210 cm
Özel: 130x210 cm - Özel: 140x210 cm

SHAFT COVER / COLLECTOR CABINET 40x60 - 60x60 - 80x60





MODULER WATER TANKS



We Store the World's
Water...

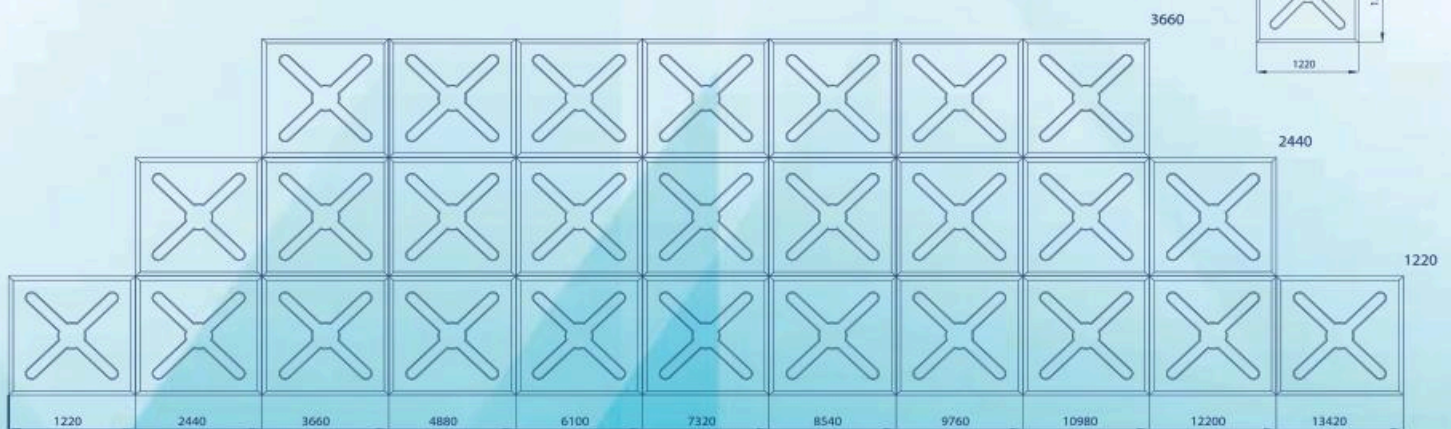
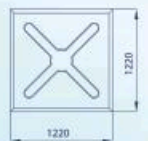


GÖKSUN
www.goksunas.com.tr

Prismatic Modular Water Tank



Standart Panel



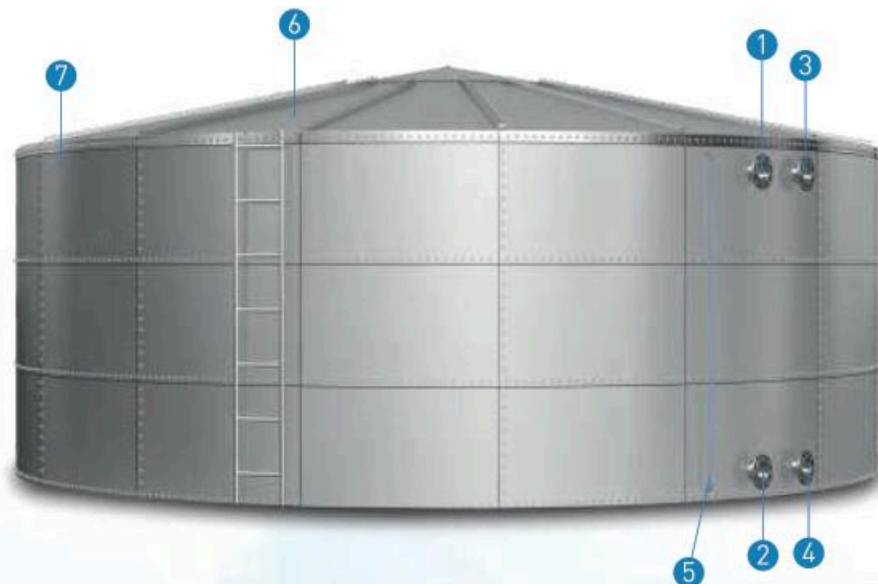
- The height can be performing at maximum 3660 mm. But the dimension of width and lenght can be incrazed according to your need.

Material Alternatives

- Stainless Steel (304-316)
- Galvanized Coated
- Polyurea and Thermoplastic Coating
- Epoxy Painted
- Static Powder Epoxy Painted

Modular Tank and Accessories

- 1 Water Inlet
- 2 Water Outlet
- 3 Overflow Outlet
- 4 Discharge Outlet
- 5 Level Indicator
- 6 Top Maintenance Cover
- 7 Module Plate



(Type)	(Capacity) Lt.	(Dimensions) (mm)		
		Ø (Body)	H (Body)	H (H. Total)
GSD1	33,4	5.548	1.38	1.976
GSD2	66,7	5.548	2.76	3.356
GSD3	100,1	5.548	4.14	4.736
GSD4	133,5	5.548	5.52	6.116
GSD5	166,8	5.548	6.9	7.496
GSD6	59,3	7.398	1.38	2.17
GSD7	118,6	7.398	2.76	3.55
GSD8	177,9	7.398	4.14	4.93
GSD9	237,2	7.398	5.52	6.31
GSD10	296,6	7.398	6.9	7.69
GSD11	92,7	9.247	1.38	2.364
GSD12	185,3	9.247	2.76	3.744
GSD13	278,0	9.247	4.14	5.124
GSD14	370,7	9.247	5.52	6.504
GSD15	463,4	9.247	6.9	7.884
GSD16	133,5	11.096	1.38	2.559
GSD17	266,9	11.096	2.76	3.939
GSD18	400,4	11.096	4.14	5.319

(Type)	(Capacity) Lt.	(mm) (Dimensions)		
		Ø (Body)	H (Body)	H (H. Total)
GSD19	533,8	11.096	5.52	6.699
GSD20	667,3	11.096	6.9	8.079
GSD21	181,6	12.946	1.38	2.753
GSD22	363,3	12.946	2.76	4.133
GSD23	544,9	12.946	4.14	5.513
GSD24	726,6	12.946	5.52	6.893
GSD25	908,2	12.946	6.9	8.273
GSD26	237,2	14.795	1.38	2.947
GSD27	474,5	14.795	2.76	4.327
GSD28	711,7	14.795	4.14	5.707
GSD29	949,0	14.795	5.52	7.087
GSD30	1,186,2	14.795	6.9	8.467
GSD31	300,3	16.644	1.38	3.142
GSD32	600,5	16.644	2.76	4.522
GSD33	900,8	16.644	4.14	5.902
GSD34	1,201,1	16.644	5.52	7.282
GSD35	1,501,3	16.644	6.9	8.662
GSD36	370,7	18.494	1.38	3.336

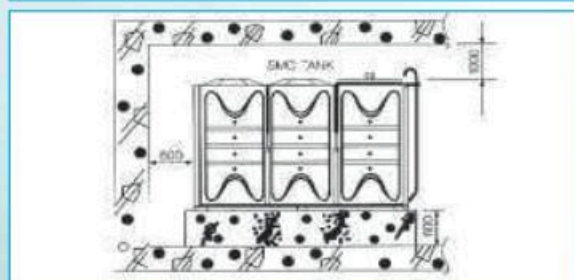
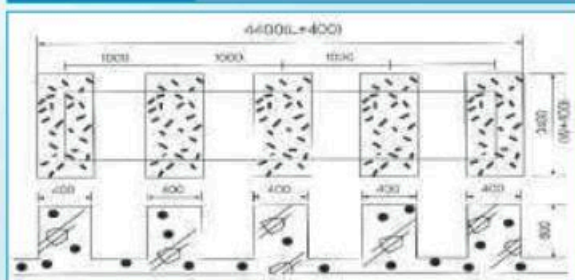
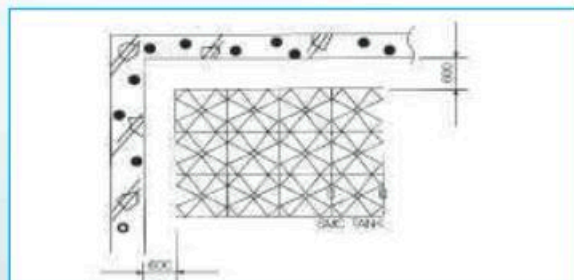
(Type)	(Capacity) Lt.	(mm) (Dimensions)		
		Ø (Body)	H (Body)	H (H. Total)
GSD37	741,4	18.494	2.76	4.716
GSD38	1,112,1	18.494	4.14	6.096
GSD39	1,482,8	18.494	5.52	7.476
GSD40	1,853,5	18.494	6.9	8.856
GSD41	448,5	20.343	1.38	3.53
GSD42	897,1	20.343	2.76	4.91
GSD43	1,345,6	20.343	4.14	6.29
GSD44	1,794,2	20.343	5.52	7.67
GSD45	2,242,7	20.343	6.9	9.05
GSD46	533,8	22.193	1.38	3.725
GSD47	1,067,6	22.193	2.76	5.105
GSD48	1,601,4	22.193	4.14	6.485
GSD49	2,135,2	22.193	5.52	7.865
GSD50	2,669,0	22.193	6.9	9.245
GSD51	626,5	24.042	1.38	3.919
GSD52	1,253,0	24.042	2.76	5.299
GSD53	1,879,4	24.042	4.14	6.679
GSD54	2,505,9	24.042	5.52	8.059

Glass Reinforced Polyester Water Tank

Standard of Base Concrete PAD Installa on and Space

- For maintenance of GRP tank, it needs extra space at least 600 mm from wall and 1,000 mm from ceiling.

Width	Over 400 mm
Height	Over 600 mm (Base Frame Include)
Space	Less than max. 1 m
Other Dimension	W, L + 400 mm
Horizontal Degree	Less than 1 / 500



Cylindrical Water Storage Tank (Welded)



Material Alternatives

- Stainless Steel (304-316)
- Galvanized Coated
- Polyurea and Thermoplastic Coating
- Epoxy Painted
- Static Powder Epoxy Painted

(Type)	(Capacity) Lt.	(mm) (Dimensions)		
		Ø (Diameter)	(Height)	(Number of Modules)
GMSD-1	720	954	1.000	2
GMSD-2	1.070	954	1.500	3
GMSD-3	1.070	954	1.500	2
GMSD-4	1.450	954	2.000	4
GMSD-5	1.450	954	2.000	3
GMSD-6	1.450	954	2.000	2
GMSD-7	1.610	954	2.250	3
GMSD-8	1.800	954	2.500	3
GMSD-9	1.300	1.270	1.000	2
GMSD-10	1.900	1.270	1.500	3
GMSD-11	1.900	1.270	1.500	2
GMSD-12	2.600	1.270	2.000	4
GMSD-13	2.600	1.270	2.000	3
GMSD-14	2.600	1.270	2.000	2

Accumulation and Open Expansion Tank

Material Alternatives

- Stainless Steel (304-316)
- Galvanized Coated
- Polyurea and Thermoplastic Coating
- Epoxy Painted
- Static Powder Epoxy Painted



Open Expansion Tank

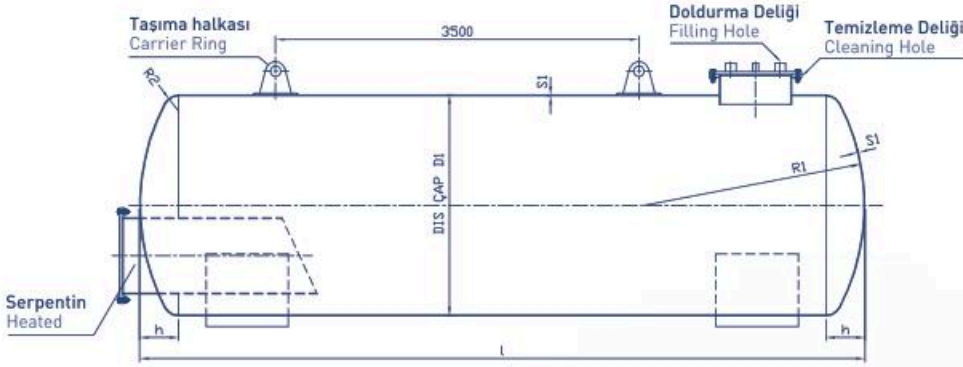
		(Unit)	GGT 500	GGT 750	GGT 1000	GGT 1250	GGT 1500	GGT 1750	GGT 2000	GGT 2500	GGT 3000
Hacimsel Kapasite	Volumetric Capacity	lt.	500	750	1.000	1.250	1.500	1.750	2.000	2.500	3.000
Genişlik	Width	Ø mm	700	800	800	900	1.000	1.000	1.100	1.100	1.200
Uzunluk	Length	mm	1.420	1.650	2.125	2.170	2.080	2.650	2.270	2.820	2.890
Kaide GenişlikxUzunluk	Base Width x Length	mm	700x1420	800x1650	800x2125	900x2170	1000x2080	1000x2650	1110x2270	1100x2820	1200x2890
Emniyet Gidiş Nozulu	Safe Proceeding Nozzle	PN6	2"	2 1/2"	2 1/2"	3"	3"	3"	3"	3"	3"
Emniyet Dönüş Nozulu	Safe Return Nozzle	PN6	2"	2 1/2"	2 1/2"	3"	3"	3"	3"	3"	3"
Taşıma Havalık Nozulu	Carrier Air Nozzle	PN6	1"	1"	1"	1"	1"	1 1/4"	1 1/4"	2"	2"
Haberci Nozulu	Messenger Nozzle	PN6	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Ağırlık	Weight	kg.	116	189	247	350	375	475	550	650	740

Accumulation Tank

		(Unit)	GAT 150	GAT 300	GAT 500	GAT 750	GAT 1000	GAT 1500	GAT 2000	GAT 3000	GAT 4000
Kapasite	Capacity	lt.	150	300	500	750	1.000	1.500	2.000	3.000	4.000
Genişlik	Width	Ø mm	450	550	650	800	800	1.000	1.100	1.150	1.400
Yükseklik	Length	mm	1.200	1.550	1.800	1.800	2.300	2.200	2.450	3.200	2.910
Kaide GenişlikxUzunluk	Base Width x Length	mm	550x500	650x650	750x750	900x900	900x900	1100x1100	1200x1200	1250x1250	1500x1500
Sıcak Su Giriş-Çıkışı	Hot Water Input-Output	PN6	1"	1"	1"	1"	1 1/2"	1 1/2"	1 1/2"	2"	2 1/2"
Termometre Nozulu	Thermometer Nozzle	PN6	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Manometre Nozulu	Manometer Nozzle	PN6	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Emniyet Ventili	Safety Valve	PN6	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Sirkülasyon	Circulation	PN6	1"	1"	1"	1"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	2"
Boşaltma	Drain	PN6	3/4"	3/4"	3/4"	1"	1"	1"	1 1/4"	1 1/4"	1 1/2"

- Stainless Steel (304-316)
- Galvanized Coated
- Polyurea and Thermoplastic Coating
- Epoxy Painted
- Static Powder Epoxy Painted

Fuel Tank



- Identification of horizontal cylindrical surface tank of 10 m³ with cleaning hole: TS712/212/2



Hacim m ³ min.	Volume m ³ min	5	7	10	(13)	16	20	25	30	40	50	60	80	100
Dış Çap D1	Outside Diameter D1	1600			2000			2500			2900			
Toplam uzunluk l max.	Total length l max.	2820	3740	5350	6960	8570	6960	8540	10120	8800	10800	12800	12750	15950
Başlığın yüksekliği, h	Height of Header, h	260			320			400			450			
Sac Kalınlığı, S1 min.	Sheet Thickness, S1 min.	5			6			7			9			
Doldurma Deliği İç Çapı	Filling Hole Inner Diameter	500			600									
Taşıma Halkası Sayısı	Number of Carrier Rings	1			2									
Talkv. Sacının gen. b1	Width of Talkv. Sheet, b1	740	885	1200	1500	1800	2300	2750	3300	4200	5100	6100	9000	11000
Oturma Uzunluğu a1	Sitting Length a1	745	930	1250	1550	1850	2350	2800	3350	4250	5150	6150	9050	11000
Ağırlık kg Tip A	Weight kg Type A	525	740	930	1250	1850	2400	2850	3400	4400	5300	6300	9500	11500
Ağırlık kg Tip B (Serpentini)	Weight kg Type B (Heated)	575	790	980	1300	1900	2450	2900	3450	4450	5350	6350	9550	11600

Our Manufacturing Applications



Basra / Özel Arıtma Tesisi (İRAK) - 100 ton
Basra / Special Treatment Plant (IRAQ) - 100 ton



Kazakistan / Arıtma Tesisi - 880 ton
Kazakhstan / Treatment Plant - 880 ton



Bağdat / Özel Konut Su Deposu (İRAK) - 44 ton
Baghdad / Private Residential Water Tank (IRAQ) - 44 ton



Somali / Hastane Su Deposu - 150 ton
Somalia / Hospital Water Tank - 150 ton



Kerkük / Otel Su Deposu (İRAK) - 80 ton
Kirkuk / Hotel Water Tank (IRAQ) - 80 ton



Eskişehir / Fabrika Su Deposu - 48 ton
Eskişehir / Factory Water Depot - 48 ton



Afganistan Khost - 144 ton
Afghanistan Khost - 144 ton



Artvin / Fabrika Su Deposu - 151 ton
Artvin / Factory Water Tank - 151 ton



Erbil / Havaalanı Su Deposu (İRAK) - 152 ton
Erbil / Airport Water Tank (İRAQ) - 152 ton



Bağdat / Yangın Su Depoları (İRAK) - 500 ton
Baghdad / Fire Water Tanks (İRAQ) - 500 ton



TCDD Marşandız / Su Deposu - 102 ton
TCDD Marşandız / Water Tanks- 102 ton



Erbil / Havaalanı Su Deposu (İRAK) - 170 ton
Arbil / Airport Water Tank (İRAQ) - 170 ton



Almaata / Petrol Rafinerisi Su Deposu (KAZAKİSTAN) - 220 ton
Almaty / Oil Refinery Water Tank (KAZAKHSTAN) - 220 ton



Ankara / EDOK Komutanlığı Su Deposu (TÜRKİYE) - 130 ton
Ankara / EDOK Military Base Water Tank (TURKEY) - 170 ton



Manisa / Organize Fabrika Su Deposu - 151 ton
Manisa / Organize Factory Water Depot - 151 ton



Prizmatik Modüler Sistem Taban Bağlantı Görünüşü
Prismatic Modular Connection System Base Appearance



Modüler Sistem Depo İçi Gergi Görünüşü
Modular System Storage Inner Joints Appearance



Erbil Konut Projesi (İRAK) - 660 ton
Arbil Dwelling Unit (İRAK) - 660 ton



Urfa TOKİ Hastane Su Deposu (TÜRKİYE) - 150 ton
Urfa TOKİ Hospital Water Tank (TURKEY) - 150 ton



Zaho/ Kamp Kazya Su Deposu (İRAK) - 229 ton
Zahoor / Camp Kazy Water Tank (İRAK) - 229 ton



Diyarbakır DİSKİ Su Deposu (TÜRKİYE) - 30 ton
Diyarbakır DİSKİ Water Tank (TURKEY) - 30 ton



Kerkük / Halica Su Deposu (İRAK) - 266 ton
Kirkuk/ Halica Water Tank (İRAK) - 266 ton



Kerkük / Yangın Su Deposu (İRAK) - 305 ton
Kirkuk / Fire Water Tank (İRAK) - 305 ton



Erbil / Lana City Projesi Su Deposu (İRAK) - 406 ton
Erbil / Lana City Project Water Tank (İRAK) - 406 ton

Our Manufacturing Applications



Silindirik Modüler Sistem Taban Görünüşü
Cylindrical Modular System Base Appearance



Hacettepe Üniversitesi, Yüzme Havuzu Kompleksi (ANKARA) - 50 ton
Hacettepe University, Swimming Pool Complex (ANKARA) - 50 ton



Kandahar / Şantiye Su Deposu (AFGANİSTAN) - 855 ton
Kandahar / Site Water Tank (AFGHANISTAN) - 855 ton



Kandahar Amerikan Üssü Su Deposu (AFGANİSTAN) - 150 ton
Kandahar American Base Water Tank (Afghanistan) - 150 ton



İzoleli Kondens Tankı (MKE-ANKARA) - 3 ton
Isolated Condensate Tank (MKE-ANKARA) - 3 ton



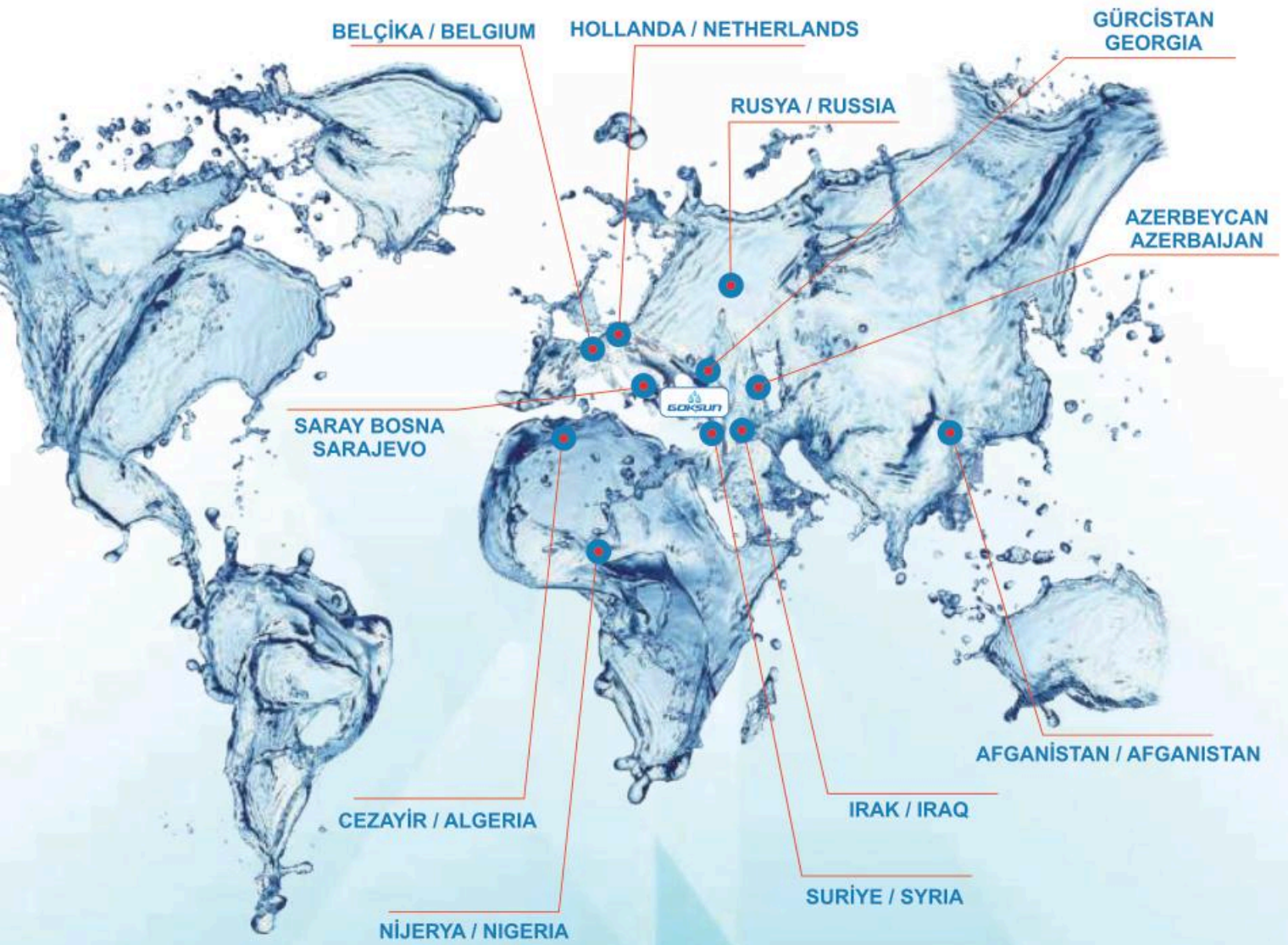
İzoleli Kondens Tankı (MKE-KIRIKKALE) - 5 ton
Isolated Condensate Tank (MKE-KIRIKKALE) - 5 ton



Bağdat Petrol İstasyonu Yakıt Tankı (İRAK) - 20 ton
Baghdad Petrol Station Fuel Tank (IRAQ) - 20 ton



Meteoroloji Genel Müd. Radar İstasyonu Yakıt Tankı (ANTALYA) - 30 ton
General Directorate of Meteorology Radar Station Fuel Tank (ANTALYA) - 30 ton



Standard

Pump • Fire Fighting Units Booster Set

PUMPS

ECO SNT EN 733 NORM PUMPS



ECO SNT Rev.05.03.2024

Handled Liquids

Clean or slightly contaminated low viscosity liquids without solid & fibrous particles.

Technical Data

Discharge Flange _____ DN 32.....DN 250 mm

Capacity _____ up to 1200 m³/h(*)

Head _____ up to 160 m(*)

Speed _____ up to 3600 rpm(*)

Design Temperature _____ -10 °C' to +140 °C(**)

Casing Pressure (Pmax) _____ 10 bar (16 bar)(**)

(Pmax: Suction Pressure + Shut off Head)

(*) Contact company for higher capacity and head values.

(**) The Material of pump differs according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

Design Features

• Horizontal , radially split volute casing type , single stage, end suction centrifugal pump with closed impeller.

• Dimensionally complies with EN 733.

• Complies EU547/2012 regulations.

• In addition to 29 basic sizes conforming with EN 733, there are 17 additional sizes. Dimensions of additional sizes may differ from other suppliers.

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____

Special Application _____



• ECO SNT 40-315, 50-315, 65-315, 80-315, 100-315, 125-250 pumps are given with 3000 rpm only for fire fighting application.

• Suction and discharge flanges conform to EN 1092-2 / PN 16. In case of request, ANSI/ASME flanges can be supplied.

• Due to the back-pull-out design, the complete bearing assembly including impeller and casing cover can be dismantled without removing the volute casing from the piping system. With spacer coupling application, also possible to take out the rotor group without dismantling the electric motor.

• All impellers are balanced dynamically or statically according to ISO 1940 grade 6.3.

• Axial thrust is balanced by impeller balancing holes system.

• Direction of rotation is clockwise viewed from drive end.

• In case of request, wear ring and/or shaft sleeve can be supplied.

• Bearings of ECO SNT type pumps are normally non-maintenance, "life time grease lubricated" ball bearings. In case of demand, oil lubrication or re-greasable bearing can be supplied.

• Oil lubrication bearings are used in pumps with 65 mm shaft end

Shaft Sealing

• In standard production, soft packed stuffing boxes are used.

• Depending on customer request, mechanical seals are available. In this case, pump shaft is always stainless steel.

ECO SNT 100 - 250 - XXX

ECO SNM CLOSED COUPLED CENTRIFUGAL PUMPS



ECO SNM Rev.05 03.2024



Handled Liquids

Clean or slightly contaminated low viscosity liquids without solid & fibrous particles.

Technical Data

Discharge Flange _____ DN 32.....DN 200 mm

Capacity _____ up to 900 m³/h(*)

Head _____ up to 100 m(**)

Speed _____ up to 3600 rpm(*)

Design Temperature _____ -10 °C' to +140 °C(**)

Casing Pressure (Pmax) _____ 10 bar (16 bar)(**)

(Pmax: Suction Pressure + Shut off Head)

(*) Contact company for higher capacity and head values.

(**) The Material of pump differs according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

Design Features

• Horizontal / Vertical closed-coupled, volute casing, single stage, end suction centrifugal pump with closed impeller.

• Volute casing dimensions comply with EN 733.

• Complies EU547/2012 regulations.

• Suction and discharge flanges conform to EN 1092-2 / PN 16. In case of request, ANSI/ASME flanges can be supplied.

Pump Designation

Pump Type _____

Vertical _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____

Special Application _____

ECO SNM-V 100 - 250 - XXX

• Pumps are closed coupled with electric motors of IEC frame sizes with high efficiency class. (IE3-IE4)

• All impellers are balanced dynamically or statically according to ISO 1940 grade 6.3.

• Axial thrust is balanced by impeller balancing holes system.

• Direction of rotation is clockwise viewed from drive end.

• In case of request, wear ring can be supplied.

• The pump and motor have separate shafts connected by a rigid coupling or through slide fit shaft. Axial and radial forces are absorbed by electric motor bearings.

• Closed coupled pumps are lighter and smaller comparing to the norm centrifugal pumps of same hydraulic specifications.

• When the elbow is mounted on the suction of the pump, the name is changed to ECO SNM-V. In this case, the pump is always installed vertically.

• The electrical motor powers of ECO SNM-V pumps are limited because of its installation type.

Shaft Sealing

• Different mechanical seals are available according to customer request or liquid type.

ECO SKY

THERMAL OIL PUMPS

ECO SKY Rev.05.03.2024

Handled Liquids

Heat transfer oil or low viscosity industrial oil without aggressive solid particles.

Technical Data

Discharge Flange _____ DN 32.....DN 150 mm

Capacity _____ up to 550 m³/h*

Head _____ up to 105 m*

Design Temperature _____ up to 350 °C

Cooling Method _____ With Air

Casing Pressure (Pmax) _____ 10 bar (16 bar)**

(Pmax: Suction Pressure + Shut off Head)

(*) Contact company for higher capacity and head values.

(**) The Material of pump differs according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

Design Features

- Horizontal, radially split volute casing type, single stage, end suction, air cooled centrifugal pumps with closed impeller.
- Main dimensions conform to EN 733 standard.
- Suction and discharge flanges conform to EN 1092-2 / PN 16.
- Due to the 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. With spacer coupling application, also possible to take out the rotor group without dismantling the electric motor.

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____

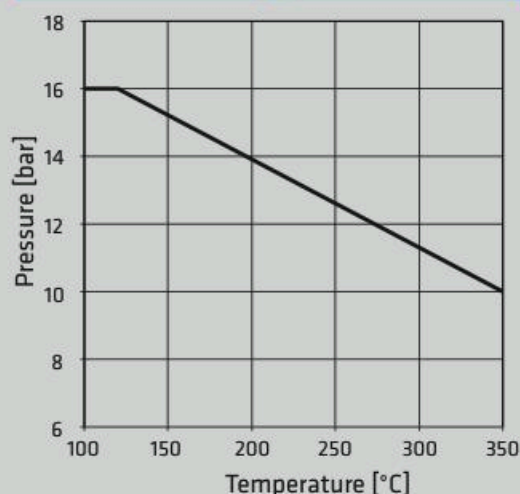


- All impellers are balanced dynamically according to ISO 1940 class 6.3.
- Axial thrust is balanced by impeller balancing holes system.
- Direction of rotation is clockwise viewed from drive end.
- Bearings of ECO SKY type pumps are "grease lubricated" ball bearings.

Shaft Sealing

- High temperature resistant mechanical seals are used.

Pressure & Temperature Limits



ECO SKY 100 - 250



Pump • Fire Fighting Units Booster Set

ECO SNV

PROSES PUMPS (SUMP DESIGN)



ECO SNV Rev.05 03.2024

Handled Liquids

Clean or normal contaminated low or medium viscosity liquids without solid & fibrous particles.

Technical Data

Discharge Flange _____ DN 32....DN 200 mm

Capacity _____ up to 900 m³/h

Head _____ up to 60 m

Speed _____ up to 1500 rpm

Design Temperature _____ up to +95 °C

Casing Pressure (Pmax) _____ 10 bar

Design Features

- Vertical, volute casing, single stage, end suction centrifugal sump pumps with enclosed type impeller.
- Up to 4 m. column length.
- Discharge pipe is extended up to base plate for easy installation.
- Suction and discharge flanges conform to EN 1092-2 / PN 16.
- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.
- Axial thrust is balanced by impeller balancing holes system.

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____



- Direction of rotation is clockwise viewed from driver.
- Bearings of ECO SNV type pumps are grease lubricated. Bottom and internal slide bearings are lubricated by the pumping liquid.
- Discharge flange is screw mounted on to the discharge pipe.
- Head is calculated at the discharge of the volute casing.

Shaft Sealing

- No sealing is required.

ECO SNV 100 - 250



Pump • Fire Fighting Units Booster Set

ECO SNLV-H IN-LINE PUMPS



ECO SNLV-H Rev.05 03.2024

Handled Liquids

Clean or slightly contaminated low viscosity liquids without solid & fibrous particles.

Technical Data

Discharge Flange _____ DN 40.....DN 250 mm

Capacity _____ up to 800 m³/h

Head _____ up to 95 m

Speed _____ up to 2900 rpm

Design Temperature _____ -10 °C' to +140 °C*

Casing Pressure (Pmax) _____ 10 bar (16 bar)*

(Pmax: Suction Pressure + Shut off Head)

(*) The Material of pumps differ according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

Design Features

- Volute casing, single stage, vertical in-line centrifugal pump with closed impeller and with separate own bearing bracket.
- Suction and discharge flanges conform to EN 1092-2 / PN 16.

Pump Designation

Pump Type _____

Suction and Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____



- Due to the 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. With spacer coupling application, also possible to take out the rotor group without dismantling the electric motor.

- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.

- Axial thrust is balanced by impeller balancing holes system.

- Direction of rotation is clockwise viewed from drive end.

- Bearings of ECO SNLV-H type pumps are life time greased lubricated ball bearings.

Shaft Sealing

- In standard production mechanical seals are used according to pumped liquid and working conditions.

ECO SNLV-H 100 - 250



Pump • Fire Fighting Units Booster Set

SCP

ISO 2858 NORM PROSES PUMPS



SCP Rev.05.03.2024

Handled Liquids

Clean or normal contaminated low or medium viscosity liquids without solid & fibrous particles.

Technical Data

Discharge Flange _____ DN 32.....DN 250 mm

Capacity _____ up to 1500 m³/h

Head _____ up to 160 m

Speed _____ up to 2900 rpm

Operating Temperature _____ -10 °C' to +175 °C *

Casing Pressure (Pmax) _____ 16 bar (25 bar) *

(Pmax: Suction Pressure + Shut off Head)

(*) The Material of pumps differ according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

Design Features

- Horizontal, radially split volute casing type, single stage, end suction centrifugal pumps with closed or semi-open impeller.

- In addition to 28 basic sizes conforming with ISO 2858, there are 10 additional sizes. Dimensions of additional sizes may differ from other suppliers.

- Heavy duty shaft not in contact with the medium handled (dry shaft)

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter(mm) _____

Impeller Type (A: semi-open) _____



- For casing sealing, confined gaskets are used to prevent blow-out under pressure.

- Suction and discharge flanges conform to EN 1092-2 / PN 16.

- Due to the 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. (With spacer coupling application, also possible to take out the rotor group without dismantling the electric motor.)

- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.

- For closed impellers, axial thrust is balanced by impeller balancing holes system while for semi-open impellers, it is balanced by back ribs.

- Direction of rotation is clockwise viewed from drive end.

- Bearings of SCP type pumps are always oil lubricated.

Shaft Sealing

- Depending on request or requirement, pumps with soft packing or single, double and cartridge type mechanical seals can be supplied.

- External seal cooling system may be used if required.

SCP 125 - 315 -A

SCP-HT

HOT WATER PUMPS

SCP-HT Rev.05 03.2024

Handled Liquids

SCP-HT pumps are specially designed for hot water and geothermal water application.

Technical Data

Discharge Flange _____ DN 32.....DN 250 mm

Capacity _____ up to 1500 m³/h

Head _____ up to 160 m

Speed _____ up to 2900 rpm

Design Temperature _____ up to +230 °C *

Casing Pressure (Pmax) _____ 25 bar (40 bar) *

(Pmax: Suction Pressure + Shut off Head)

(*) The Material of pumps differ according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

Design Features

• Horizontal, radially split volute casing type, single stage, end suction centrifugal pumps with closed impeller.

• Heavy duty shaft not in contact with the medium handled (dry shaft)

• For casing sealing, confined gaskets are used to prevent blow-out under pressure.

• Coupling misalignment due to thermal expansions are mainly reduced with centerline mounting design.

• Suction and discharge flanges conform to EN 1092-2 / PN 25.

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____



• Due to the 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. (With spacer coupling application, also possible to take out the rotor group without dismantling the electric motor.)

• All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.

• Axial thrust is balanced by impeller balancing holes system.

• Direction of rotation is clockwise viewed from drive end.

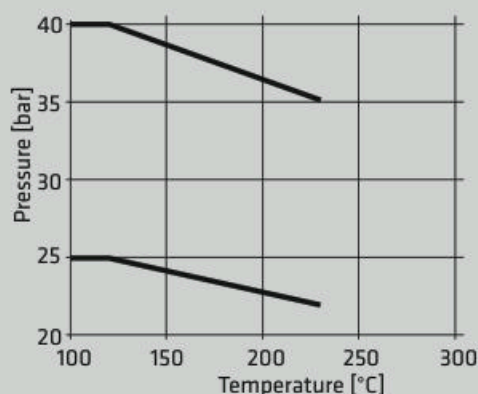
• Bearings of SCP-HT type pumps are always oil lubricated.

Shaft Sealing

• Depending on request or requirement, pumps with soft packing or single, double and cartridge type mechanical seals can be supplied.

• External seal cooling system may be used if required.

Pressure & Temperature Limits



SCP-HT 100 - 250

Handled Liquids

Domestic and industrial waste water, raw sewage, liquids with fibrous and solid substances.

Technical Data

Discharge Flange _____ DN 50.....DN 300 mm

Capacity _____ up to 1600 m³/h

Head _____ up to 95 m

Speed _____ up to 2900 rpm

Design Temperature _____ up to +40 °C *

Casing Pressure (Pmax) _____ 10 bar

(*) For higher temperatures, please contact with STANDART POMPA.

Design Features

- Vertical, wide volute casing, single stage, end suction submersible type centrifugal pump with enclosed, semi-open or vortex types impeller.

- 20 basic sizes covering wide range of operational area.

- Electric motor isolation class is IP 68.

- Discharge flanges conform to EN 1092-2 / PN 10 for pumps with DN 80 and DN 100 discharge diameter, flanges are manufactured as per EN 1092-2 (PN 6)

Pump Designation

Pump Type _____

Discharge Nozzle (DN-mm) _____

Impeller Nominal Diameter (mm) _____

Impeller Type _____

C 100 - 240 B



- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.

- Axial thrust is balanced by impeller back ribs.

- In case of request motor cooling jacket is also applicable (for pumps having bigger than 200 frame motor)

- Bearings of C type pumps are "life time grease lubricated" ball bearings.

Shaft Sealing

- For pumps bigger than 12 HP, always double mechanical seal is applied while for pumps up to 12 HP, single mechanical seal is applied as standard.

- In case of request, double mechanical seal can also be applied for pumps up to 12HP.



PACKAGE TYPE WASTE WATER PUMPING STATION

Conflux Rev.05 03.2024



Package Type Waste Water Pumping Station

Package type waste water pumping stations consist of submersible pump, valves, float switches and control unit is suitable and a good solution for places with lower elevation of main waste water pipeline. They can be used everywhere safely where there is no sewer system or not possible (not economic) to build a sewer system.

They present an environmental approach with preventing pollution of underground waters. They also prevent developing of odor. Their design permit easy installation and provide long life with corrosion resistant materials.

Technical Data

• Tank Volume	: 300 - 500 liter
• Number of Pumps	: 1 main or 1 main + 1 spare
• Piping Diameter	: DN 50
• Material	: Fiberglass composite with polyester added
• Equipments	: Connection pipes, rail pipes, valves, check valve and çekvalfleri, basket grid
• Water Temperature (max)	: 40 °C

Package Types



Conflux 300-1



Conflux 300-2



Conflux 500-2

Pump Designation

Conflux 500 - 2 x 1.5 - 50

Model	_____
Capacity (Liter)	_____
Number of Pumps	_____
Motor Power (kW)	_____
Discharge Diameter (DN)	_____



Pump • Fire Fighting Units Booster Set

PC / PC-VM

WASTE WATER AND PROCESS PUMPS



PC / PC-VM Rev.05 03.2024

Handled Liquids

Domestic and industrial waste water, raw sewage, viscous and corrosive liquids, liquids with fibrous and solid substances.

Technical Data

Discharge Flange _____ DN 40....DN 300 mm

Capacity _____ up to 1600 m³/h

Head _____ up to 95 m

Speed _____ up to 2900 rpm

Design Temperature _____ -10 °C up to +110 °C

Casing Pressure (Pmax) _____ 10 bar (16 bar)*

(Pmax: Suction Pressure + Shut off Head)

(*) The Material of pumps differ according to the type of pumped liquid, operating temperature and pressure. Contact for detailed information.

Desing Features

• Horizontal / Vertical, wide volute casing, single stage, end suction, centrifugal pumps with enclosed, semi-open or vortex type impeller.

• 18 basic sizes covering wide range of operational area.

Pump Designation

Pump Type _____

Vertical Installation _____

Discharge Nozzle (DN-mm) _____

Nominal Impeller Diameter (mm) _____

Impeller Type _____



• Due to the 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. (With spacer coupling application, also possible to take out the rotor group without dismantling the electric motor.)

• Discharge flanges conform to EN 1092-2 / PN 10.

• All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.

• Axial thrust is balanced by impeller back ribs.

• Direction of rotation is clockwise viewed from drive end.

• Bearings of PC type pumps are "life time grease lubricated" ball bearing up to 150-315 size. For bigger sizes oil lubricated bearings are used. In vertical design (PC-VM) always grease lubricated bearings are used.

Shaft Sealing

• In standard production soft packed stuffing boxes are used.

• Depending on customer request, mechanical seals are available. In this case, pump shaft is always stainless steel.

• Only mechanical seal is applied for vertical type installation.

PC -VM 250-315 AB



Pump • Fire Fighting Units Booster Set

NMT WET ROTOR CIRCULATION PUMPS



NMT Rev.05 03.2024



Handled Liquids

In use for pumping clean water or clean water & anti-freeze mixture liquids in heating systems. Water should be according to current quality standards (such as VDI 2035). Liquid should not be contained with abrasive or explosive mixtures, mineral oil, solid or fibrous particles.

Technical Data

	NMT PLUS NMTD PLUS	NMT SMART NMTD SMART	NMT SMART F NMTD SMART F	NMT MAX F NMTD MAX F	NMT LAN F NMTD LAN F
• Connection Dimension	15-25-32	25-32	32-40-50	40-50	40-65-80-100
• Connection type	Screwed	Screwed	Flange	Flange	Flange
• Maximum Capacity (m ³ /h)	5	11	11	37,5	78
• Maximum Head (m)	8	12	10	12	18
• Pressure Class (PN)	10	10	10	6 / 10	6 / 10
• Maximum Power (W)	55	180	180	560	1600
• Voltage (V)	1x230	1x230	1x230	1x230	1x230
• Design Temperature (°C)	+5 / +95	+2 / +110	+2 / +110	+2 / +110	-10 / +110
Material Information					
• Casing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
• Impeller	Polyamide	PES	PES	PES	S. Steel
• Shaft	Ceramic	S. Steel	S. Steel	S. Steel	S. Steel
• Bearing	Ceramic	Graphite	Graphite	Graphite	Graphite
• Rotor Can	S. Steel	S. Steel	S. Steel	S. Steel	S. Steel

Design Features

- NMT series pumps have variable speed design. Depending on request, they can be supplied as twin type.
- The bearings of the pumps are made of carbon and special hardened steel shaft prevents the wear of the bearings and ensures very quiet operation.
- Good choice for heating systems (Floor Heating – Radiator Heating – Air Conditioning Systems – Solar Systems)
- NMT series pumps, which reduce the electricity consumption to a minimum level, are produced with care as a complete engineering example in terms of efficiency and quality.
- All products (ISO 9001 - CE) are certified and manufactured in European (EU) standards.
- Designed to optimize your energy consumption with features such as variable pressure, constant pressure, constant speed and night mode.
- The full form of ERP regulation is "energy-related products". Purpose of 2009/125 / EC regulation is to reduce energy consumption according to environmental requirements. These environmental requirements are explained in 2013 for EU circulation pumps. From 2013 onwards, this regulation will be practically implemented in the following 2 steps within 7 years.
 - The first phase; EEI max will be 0,23 from 01/08/2015 - Part 2
 - The second phase; EEI max will be 0.23 from 01/01/2020 - Part 2 In this section will cover the replacement of pumps used in heating, ventilation and air conditioning systems.
- Criteria for the best efficient circulators is $EEI \leq 0.20$ - Part 2

•The operation in PLC OPRT system in AUTO mode is same as above. The pressure sensor is connected to the PLC and the pumps are controlled via the software in the PLC. System information entries are made via the operator touch panel located on the panel.

•In case of a malfunction on the electronic system or on the converter in MANUEL position, the pumps that are switched on are operated directly or star-delta via the contactors on the panel. In this case, the pressure is adjusted by the pressure switches at the outlet of the collector.

- Separate operating and fault lamp for each motor.
- Lamp for converter failure.
- Lamp for phase protection.
- Dry contact output for general failure.
- Panel is delivered as ready to commissioning.
- The input shock coil is available as STANDARD to reduce the harmonic distortion in the mains supplied by the panel.



Figure 10: Front view of frequency controlled panel with double pump

Minimum Pipe and Valve Diameters for Mahing Suction Boosters					
	Suction Pipe	Foot Valve		Suction Pipe	Foot Valve
SB M/T 80	1¼"	1½"	CDLF 4	1½"	2"
SB M/T 90	1½"	2"	CDLF 8	2"	2½"
SB M/T 100	2"	2½"	CDLF 12	2"	2½"
SB T 130	2½"	3"	CDLF 16	2"	2½"
GRV VD	2"	2½"	CDLF 20	2½"	3"
GRV VB	2"	2½"	CDLF 32	2½"	3"
SKMV 32	2"	2½"	CDLF 42	3"	4"
SKMV 40	2½"	3"	CDLF 65	4"	5"
SKMV 50	3"	4"	CDLF 85	4"	5"
SKMV 65	4"	5"			

NOTE: Recommendation for suction pipe diameter is given for steel pipe, if plastic pipe is used diameter of pipe should be increased.

Table 4

TH CDLF

STAINLESS BOOSTERS

TH CDLF Rev.05.03.2024



General Information

High pressure, quiet running, compact and low power consumption.

All surfaces that contact with the liquid are stainless steel, In-line (straight pipe attachable) type pumps.

CDLF pumps are suitable for pumping non-abrasive, clean or slightly contaminated, low-viscosity liquids without solid & fibrous particles.

Bearing is provided by tungsten carbide sliding bearings.

Vertical structure saves space.

Technical Data

Capacity ————— up to 110 m³/h

Head ————— up to 160 m

Design Temperature — -10 °C to 120 °C

Casing Pressure ————— 10 - 16 - 25 barv

•Electric motors of high efficiency class conforming to IEC 60034-30 standard are used.

•Booster pumps can be manufactured with valve, check-valve, stainless steel base plate, depending on request.

•The booster pumps can be manufactured as a variable-speed frequency control for convenience.

•At 11 kW and above, the booster pump base plate is NPU iron construction.

Design Features

•TH CDLF booster pumps are manufactured as vertical pump.

•The booster pumps are produced as single, double and triple pumps as a standard according to the desired flow rate. Upon request, up to 6 pumps can be set.

•For Single-pump booster pumps have a water level float (electric floater).

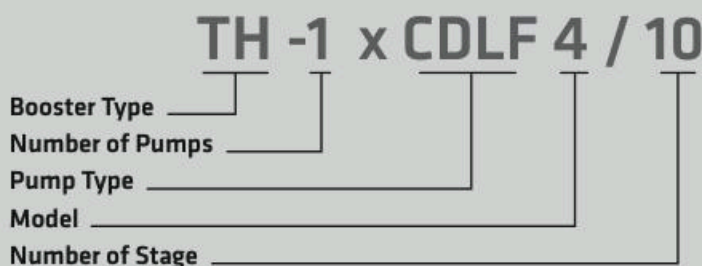
•Phase control system (PCS) is available in single pump, three-phase motorized booster pumps.

•Sequencing, phase control and liquid level control are standard features for multiple pumped booster pumps.

•Booster pumps can operate in two different modes; automatically and manually.

•Electrical materials used in the booster pump panels are selected from reliable and quality brands.

Booster Designation



Material Information

Part Name	Material	
	Standard	Optional
Pump		
Base Plate	GG 25	-
Stage Casing	AISI 304	-
Intermediate Stage	AISI 304	-
Impeller	AISI 304	-
Shaft	AISI 304	-
Tube	AISI 304	-
Panel	Pressure Switch Controlled	Frequency Controlled
Collector	AISI 304	AISI 316 L / Galvanized Steel
Frame	Steel	AISI 316 L
Accessories		
Valve	Brass	AISI 304
Check Valve	Brass	AISI 316

TH SB BOOSTERS

TH SB Rev.05 03.2024



General Information

It is high pressure, quiet running, compact and low power consumption.

SB pumps are suitable for pumping non-abrasive, clean or slightly contaminated, low viscosity liquids without solid & fibrous particles.

Vertical design saves space.

Technical Data

Flow	up to 90 m ³ /h
Head	up to 160 m
Design Temperature	0 °C to 50 °C
Casing Pressure	10 - 16 bar

Design Features

- TH SB booster is manufactured with horizontal or vertical pump.
- The boosters are produced as single, double and triple pumps as a standard according to the desired flow. Upon request, up to 6 pumps can be set.
- Single-pump boosters have a water level float (electric floater).
- Phase control system (PCS) is available in single pump, three-phase motorized boosters.
- Sequencing, phase control and liquid level control are standard features for multiple pumped booster pumps.
- Booster pumps can operate in two different modes; automatically and manually.
- Electrical materials used in the booster pump panels are selected from reliable and quality brands.
- The booster pumps can be manufactured as a variable-speed frequency control for convenience.

Material Equivalents

Part Name	Material	
	Standard	Optional
Pump		
Base Plate	GG 25	-
Stage Casing	NORYL	-
Intermediate Stage	NORYL	-
Impeller	NORYL	-
Shaft	AISI 420	-
Cover Plate	AISI 304	-
Panel	Pressure Switch Controlled	Frequency Controlled
Collector	Steel	AISI 304
Frame	Steel	-
Accessories		
Valve	Brass	-
Check Valve	Brass	-

Booster Designation

Booster Type	TH
Number of Pumps	1x
Pump Type	SB
T : Three-phase M : Mono-Phase	T
Vertical Installation	V
Motor Frame Size	80
Number of Stages	10

TH 1x SB T-V 80 /10

TH SKMV BOOSTERS

TH SKMV Rev.05 03.2024



General Information

High pressure, quiet running, compact and low power consumption.

SKMV pumps are suitable for pumping non-abrasive, clean or slightly contaminated, low viscosity without solid & fibrous particles liquids.

Vertical design saves space.

Technical Data

Capacity _____ up to 300 m³/h

Head _____ up to 180 m

Design Temperature _____ up to 70 °C

Casing Pressure _____ 10 - 16 - 25 bar

Design Features

- TH SKMV boosters are manufactured with vertical pump.
- The boosters are produced as single, double and triple pumps as a standard according to the desired flow. Upon request, up to 6 pumps can be set.
- Single-pump boosters have a water level float (electric floater).
- Phase control system (PCS) is available in single pump, three-phase motorized boosters.
- Sequencing, phase control and liquid level control are standard features for multiple pumped booster pumps.
- Booster pumps can operate in two different modes; automatically and manually.
- Electrical materials used in the booster pump panels are selected from reliable and quality brands.

Booster Designation

TH 2 x SKMV 50/3

Booster Type _____
Number of Pumps _____
Pump Type _____
Pump Outlet Flange (DN-mm) _____
Number of Stage _____

• Electric motors of high efficiency class conforming to IEC 60034-30 standard are used.

• The booster pumps can be manufactured as a variable-speed frequency control for convenience. (upon request)

Material Information

Part Name	Material	
	Standard	Optional
Pump		
Base Plate	GG 25	Bronze / AISI 304
Stage Casing	GG 25	Bronze / AISI 304
Intermediate Stage	GG 25	Bronze / AISI 304
Impeller	Brass	Bronze / AISI 304
Shaft	AISI 420	AISI 304
Panel	Pressure Switch Controlled	Frequency Controlled
Collector	Steel	AISI 304
Frame	Steel	-
Accessories		
Valve	Brass	AISI 304
Check Valve	Brass	AISI 316

TH GRV-VD / VB BOOSTERS

TH GRV-VD / VB Rev.05 03.2024



General Information

High pressure, quiet running, compact and low power consumption.

GRV-VD / VB pumps are suitable for pumping non-abrasive, clean or slightly contaminated, low viscosity without solid & fibrous particles liquids.

Vertical design saves space.

Technical Data

Capacity _____ up to 45 m³/h

Head _____ up to 170 m

Casing Pressure _____ 10-16-25 bar

Design Temperature _____ up to 50 °C

Design Features

•TH GRV-VD / VB boosters are manufactured with vertical pump.

•The boosters are produced as single, double and triple pumps as a standard according to the desired flow. Upon request, up to 6 pumps can be set.

•Single-pump boosters have a water level float (electric floater).

•Phase control system (PCS) is available in single pump, three-phase motorized boosters.

•Sequencing, phase control and liquid level control are standard features for multiple pumped booster pumps.

•Booster pumps can operate in two different modes; automatically and manually.

Booster Designation

TH 1 x GRV-VD 5

Booster Type _____

Number of Pumps _____

Pump Type _____

Number of Stage _____

•Electric motors of high efficiency class conforming to IEC 60034-30 standard are used.

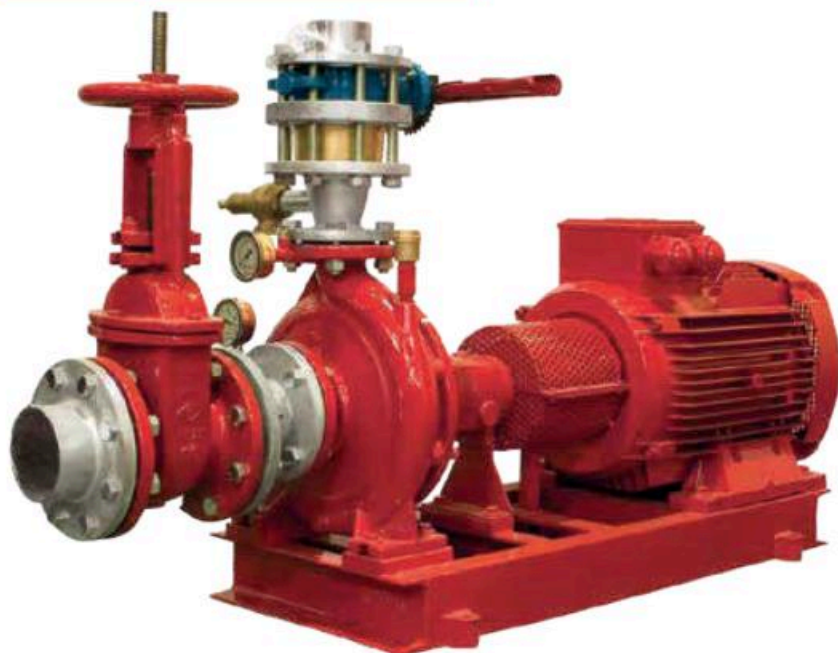
•The booster pumps can be manufactured as a variable-speed frequency control for convenience. (upon request)

Material Information

Part Name	Material	
	Standard	Optional
Pump		
Base Plate	GG 25	Bronz / AISI 304
Stage Casing	NORYL	Bronz / AISI 304
Intermediate Stage	NORYL	Bronz / AISI 304
Impeller	NORYL	Bronz / AISI 304
Shaft	AISI 420	AISI 304
Cover Plate	AISI 304	-
Panel	Pressure Switch Controlled	Frequency Controlled
Collector	Steel	AISI 304
Frame	Steel	Galvanized Steel
Accessories		
Valve	Brass	AISI 304
Check Valve	Brass	AISI 316



Fire Pump with Electric Motor



Fire Pump with Diesel Engine

Generally 100 % redundancy is obtained by diesel engine-driven pumps. The requirements of diesel engine-driven pumps are defined in NFPA 20.



Jockey Pump

Jockey pumps should be selected at a capacity at which to increase the system pressure to the required value in 10 minutes after sensing the leakage in fire fighting system.

Generally a pump with % 3 of rated capacity (min 1 GPM), % 110 of rated pressure.



Control Panels

- Individual control panels are used for electric pump, diesel pump and jockey pump
- Lock mechanism are used on panels
- Continuous grounding
- Pumps can run by manual control and emergency-run mechanical control on controller
- No thermic protection on controller (except jockey pump controller)
- One batteries for diesel engine
- Two batteries for diesel engine (if required)
- Battery charger

For Electric Motor (Type B)



For Diesel Engine (Type B)



The pictures are representative.

• Alarm signals on electric pump controller

1. pump running
2. pump failure
3. phase reversal (if required)
4. loss of phase (if required)
5. power suitable (if required)
6. lamp test (if required)
7. audible and visible (can not be switched off) alarms

• DRY contacts on electric pump controller

1. general alarm
2. weekly test started
3. pump running

• Additive alarm signals for diesel driven pumps

1. high motor temperature (if available in diesel engine)
2. low oil pressure
3. over speed
4. control is in automatic mode
5. failure of 1st battery
6. failure of 2nd battery (if required)
7. starting failure
8. engine running
9. audible and visible (can not be switched off) alarms

• DRY contacts on diesel engine controller

1. control is in automatic mode
2. pump running
3. general alarm

STANDART fire pump groups can communicate with building automation systems. But to operate and stop fire pump groups from the control room is not suggested because of safety reasons.

Pressure switches are very important, because they generate "run command". There shall be at least one pressure switch for each pump and at least two for the system.

After the adjustments pressure switches should be locked at the factory. They should be in control panel and not effected from vibrations. Min and max set levels could be adjusted individually.

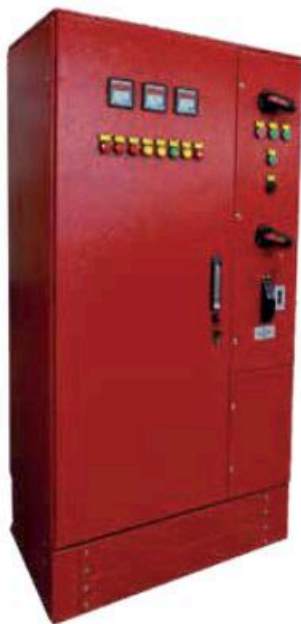
Fire pumps should operate automatically by pressure switches and also should operate manually by pressing an electric push button or pressing a mechanical handle.

Control Panels According to NFPA 20

The control panels has many requirements that are required in NFPA 20. Like a voltage surge arrester, isolation switch emergency run mechanical control, overspeed...

- Individual control panels are used for electric pump, diesel pump and jockey pump
- Lock mechanism are used on panels
- Continuous grounding
- Pumps can run by manual control and emergency-run mechanical control on controller
- In the electric motor pumps, by the help of Locked Rotor Protection (LRP), in case of locking rotor main switch is automatically shut down.
- In the diesel engine pumps, the diesel is stopped in case of overspeed
- No thermic protection on controller (except jockey pump controller)
- Two batteries for diesel engine
- Battery chargers

For Electric Motor (Type C)



For Diesel Engine (Type C)



The pictures are representative.

- Alarm signals on electric pump controller (except jockey pump)

1. pump running
2. pump failure
3. minimum water level(if required)
4. phase reversal
5. loss of phase
6. power suitable
7. Lamp test (if required)
8. audible(can be switched off) and visible(can not be switched off) alarms
9. LRP

- DRY contacts on electric pump controller

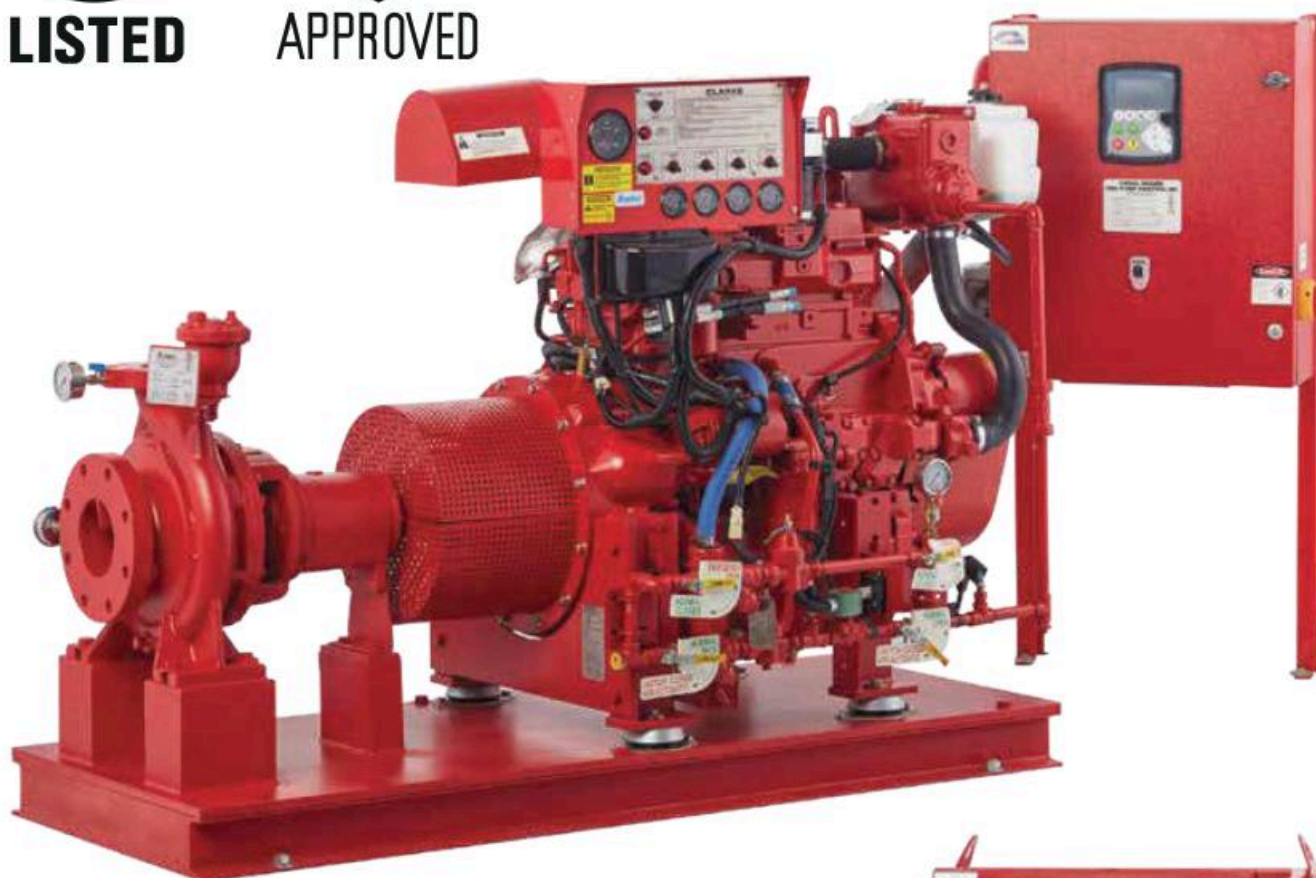
1. general alarm
2. start failer
3. weekly test started
4. pump status
5. phase loss
6. phase opposite
7. power suitable

- Additive alarm signals for diesel driven pumps

1. high motor temperature
2. low oil pressure
3. over speed
4. control is in automatic mode
5. charger lamp
6. failure of 1st battery
7. failure of 2nd battery
8. starting failure
9. failure of battery charger
10. engine running
11. lamp test button (optional)
12. audible(can be switched off) and visible(can not be switched off) alarms

- DRY contacts on diesel engine controller

1. selector switch is at wrong position
2. pump runing
3. general alarm



FIRE PROTECTION SYSTEMS – FULL RANGE EXPERTISE

Vertical Turbine Fire Pumps
– UL and FM approved

be
think
innovate

GRUNDFOS 

GRUNDFOS FIRE PUMPS SUPPLY HIGH-CLASS SAFETY TO CLIENTS AROUND THE WORLD. OUR EXPERTISE SPANS THE GLOBE AND COVERS ALL UL-FM APPROVED FIRE SYSTEMS



With Grundfos as your fire system supplier, you can rest assured that your system lives up to the highest international standards of quality. We have products that comply with your every need and the following approvals:

- » PSB
- » VNIPO
- » CCCF
- » APSAD
- » CEPREVEN
- » VdS
- » UNI
- » LPCB
- » EN 12845
- » CNBOP
- » FM
- » UL
- » NFPA 20
- » OKF
- » PAVUS

YOUR STRONG PARTNER IN FIRE PROTECTION

Grundfos is a proud company with a renowned history of pump manufacturing and innovation. We have extensive experience with fire pumps of all leading standards – including the commonly used NFPA 20 standard and FM-UL approved systems. Our values include a commitment of superior quality products, strong customer focus, and an in-depth understanding of the dimensions of fire protection. As an example, our Regional Competence Centers assemble UL FM firepump sets and are of course also FM approved facility.

Global presence

Grundfos secures efficient and direct deliveries to the construction sites of all our European customers, and with a sales and service centre in every market, Grundfos is never far away. Our competence centre in Wahlstedt, Germany, is at the heart of fire competence in Europe. Here we manufacture and test FM and VdS approved systems. Comprehensive on-site design, testing and a full range of customer training facilities are also provided.



Diesel driven VTF



SERVICE AND EXPERTISE
We cover the world

 Local assembly sites & competence centres
53 sales companies

RELIABILITY ACROSS THE FULL RANGE

Full-line supplier

Grundfos produces fire pump systems for:

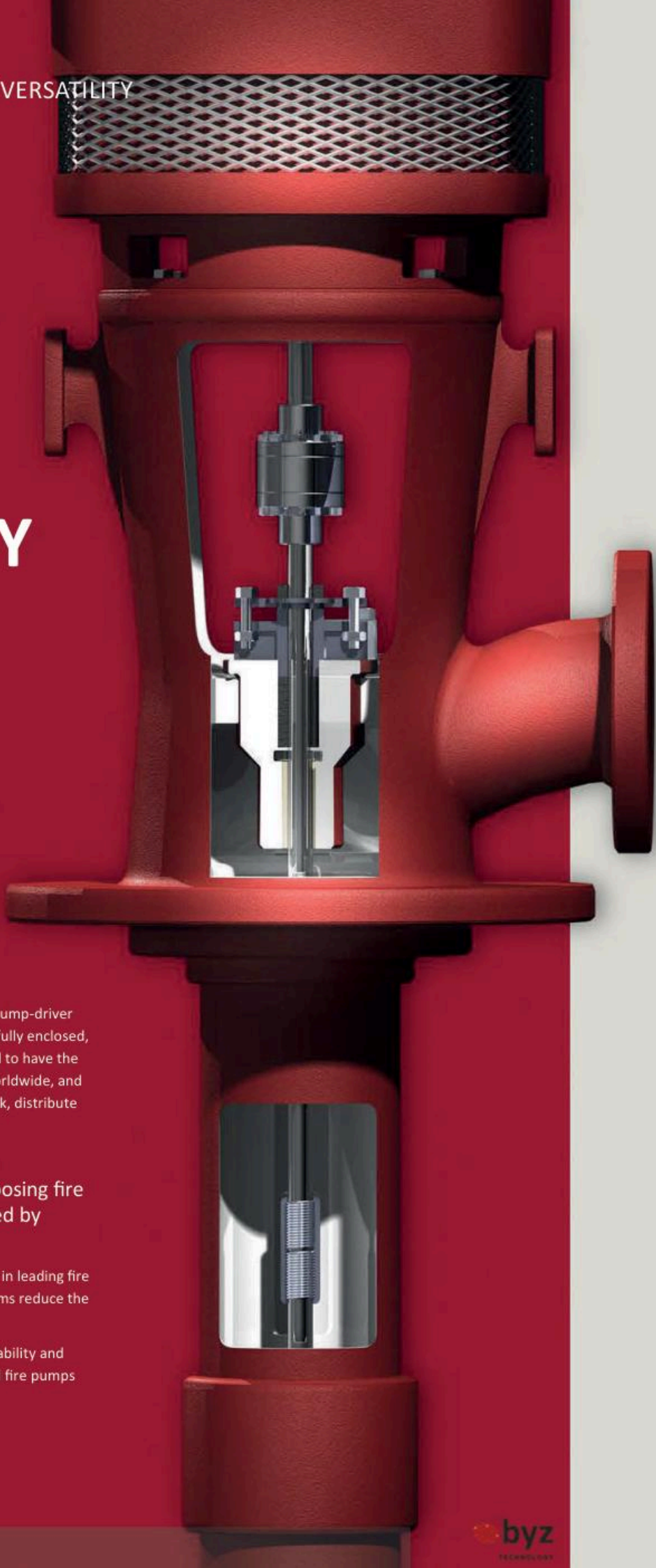
- » Fire hose reels
- » Fire hydrants
- » Fire sprinklers

We design and build systems ranging from simple pump-driver systems on a base frame to highly engineered and fully enclosed, packaged and containerised systems. We are proud to have the widest range of fire pump approvals and listings worldwide, and our expertise enables us to engineer, produce, stock, distribute and service our products all over the world.

There are three main reasons for choosing fire pumps that are approved and certified by accredited third party authorities

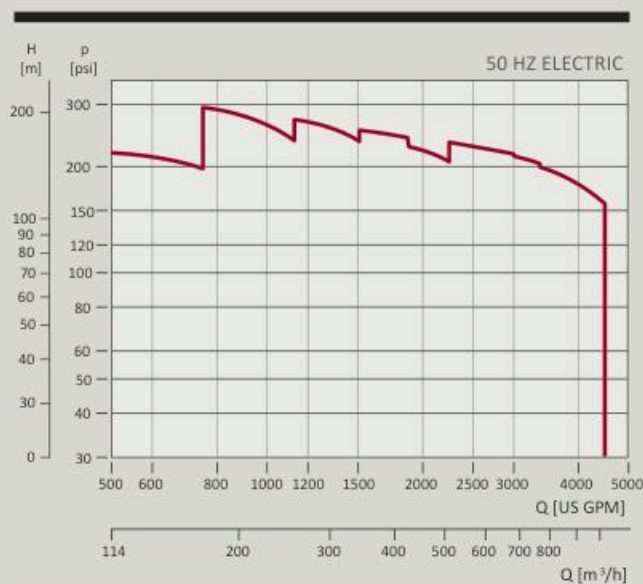
Firstly, based on the massive experience embodied in leading fire protection, regulations and codes, approved systems reduce the risk of damage to life and property in case of fire.

Secondly, approved systems provide maximum reliability and superior quality. Thirdly, using approved and listed fire pumps typically reduces insurance rates significantly.

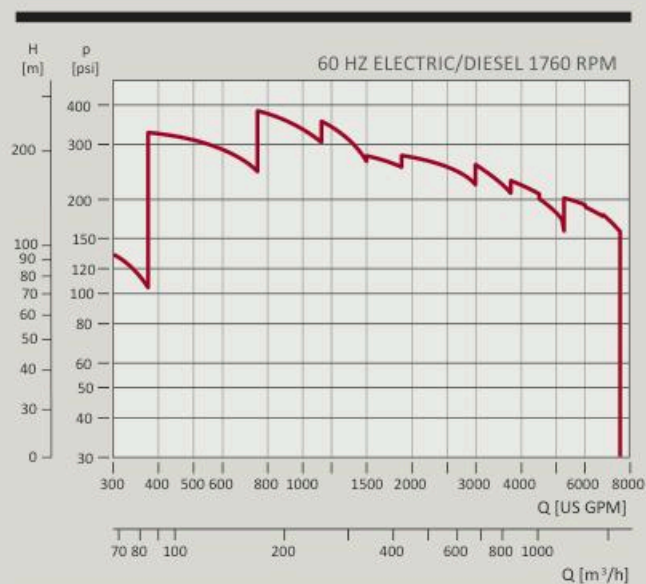


SUPREME PERFORMANCE – UL-LISTED AND FM-APPROVED

Grundfos provides top performance electric and diesel systems that are listed by UL (Underwriters Laboratories) and approved by FM (Factory Mutual). The systems can be supplied as either electric or diesel systems. Below, you can see the standard performance range of our electric and diesel pumps.



Performance range of electric fire pumps 50 Hz



Performance range of 60 Hz electric / diesel 1760 rpm

Grundfos Vertical Turbine Fire pump

This highly efficient pump is adaptable to a variety of configurations, and can easily be staged to meet the desired pressure requirement.

Features

- » High Efficiency
- » No priming necessary
- » A minimum floor space requirement
- » Operation in low NPSH application
- » Ideal for installations on piers, platforms...

Complete diesel fire pump unit including fire pump, diesel engine, fuel tank, batteries and control panel.

Range of sizes

- » Flow rate from 500 to 5000 GPM (114 m³/h - 1136 m³/h)
- » Pressure rating up to 350 PSI (24.1 Bar)
- » Driven by engine or electric motor

ELECTRIC VERTICAL TURBINE FIRE PUMP – UL & FM APPROVED

Electric fire pump controller

- » UL-FM approved controllers as standard, designed to comply with NFPA 70
- » Microprocessor based logic and pressure /event recorder as standard

Optional:

- » CE-Mark as option
- » Star delta, part winding, soft start, auto transformer, variable frequency drive

Seal

- » Packed stuffing box

Shaft

- » 416 Stainless Steel precision ground shafting

Bowls

- » UL-FM approved to NFPA 20 standard
- » Coated and painted red
- » Factory performance and hydrostatically tested

Electric motor

- » Power Safety factor and high reliability
- » UL listed hollow shaft NEMA motors
- » NEMA design – Thrust bearing in the motor

Shaft coupling

Standard:

- » Shaft extension to match a hollow shaft drive

Optional:

- » Flanged spacer couplings

Discharge head

- » UL-FM approved robust cast iron construction
- » ANSI discharge flange
- » Hydrostatically tested
- » Outer surface painted

Column

- » UL-FM approved
- » Variable length depending on suction level
- » Steel – Outside paint red and threaded pipe on unassembled pumps are primed

Impellers

- » UL-FM approved and compliant to NFPA 20 Standard
- » Aluminium Bronze – optional in other materials



DIESEL VERTICAL TURBINE FIRE PUMP – UL & FM APPROVED

Diesel fire pump controller

- » UL-FM approved controllers as standard, designed to comply with NFPA 70
- » Simple start-up and maintenance procedures
- » CE-Mark as option

Diesel engine

- » UL listed and FM approved engine with industrial silencer and flexible exhaust
- » Residential and semi-residential are often used
- » Power safety factor as per NFPA 20
- » Engine cooling by heat exchanger to ensure proper operation

Fuel tank

- » Designed and sized according to NFPA 20
- » Single wall as standard
(Optional – double wall and UL listing)

Battery set

- » Two battery sets (lead acid) provide redundant power supply and ensure full reliability.
- » Sized according to NFPA 20

Engine Baseframe

- » Welded frame with a rigid design
- » Lifting points for easy transportation
- » Painted in red

Column

- » variable length depending on suction level
- » Standard pipe steel
- » Epoxy coated and painted red, and threaded pipe on unassembled pumps are primed

Bowls

- » UL-FM approved to NFPA 20 standard
- » Factory performance and hydrostatically tested
- » Coated and painted red

Drive shaft

- » UL listed PTO shaft
- » Allows movements in axial radial and angular directions

Strainer

- » Brass basket strainer



Right angle gear

- » FM listed
- » Cooling piping in steel. Cooling piping only required for larger size.
- » Gears have non reverse device with uptrust protection
- » Thrustbearings to handle rotor weight and hydraulic thrust

Shaft coupling

Standard:

- » Universal Drive

Optional:

- » Flex Coupling

Discharge head

- » Robust cast iron construction
- » ANSI discharge flange
- » Hydrostatically tested
- » Epoxy coated and painted red, and threaded pipe on unassembled pumps are primed

Seal

- » Packed stuffing box

Shaft

- » 416 Stainless Steel precision ground shafting

Impellers

- » UL-FM approved and compliant to NFPA 20 Standard
- » Aluminium Bronze – optional in other materials

BEYOND STANDARD PRODUCTS

At Grundfos, we have always considered a complex project a great challenge. That is why we offer completely customised solutions that match the requirements of even the most complicated tasks.

Made-to-order programme

Our made-to-order programme contains more than the electrically or diesel-driven Vertical Turbine pumps. We also supply:

- » In-Line fire pumps
- » End Suction and Horizontal Split Case pumps

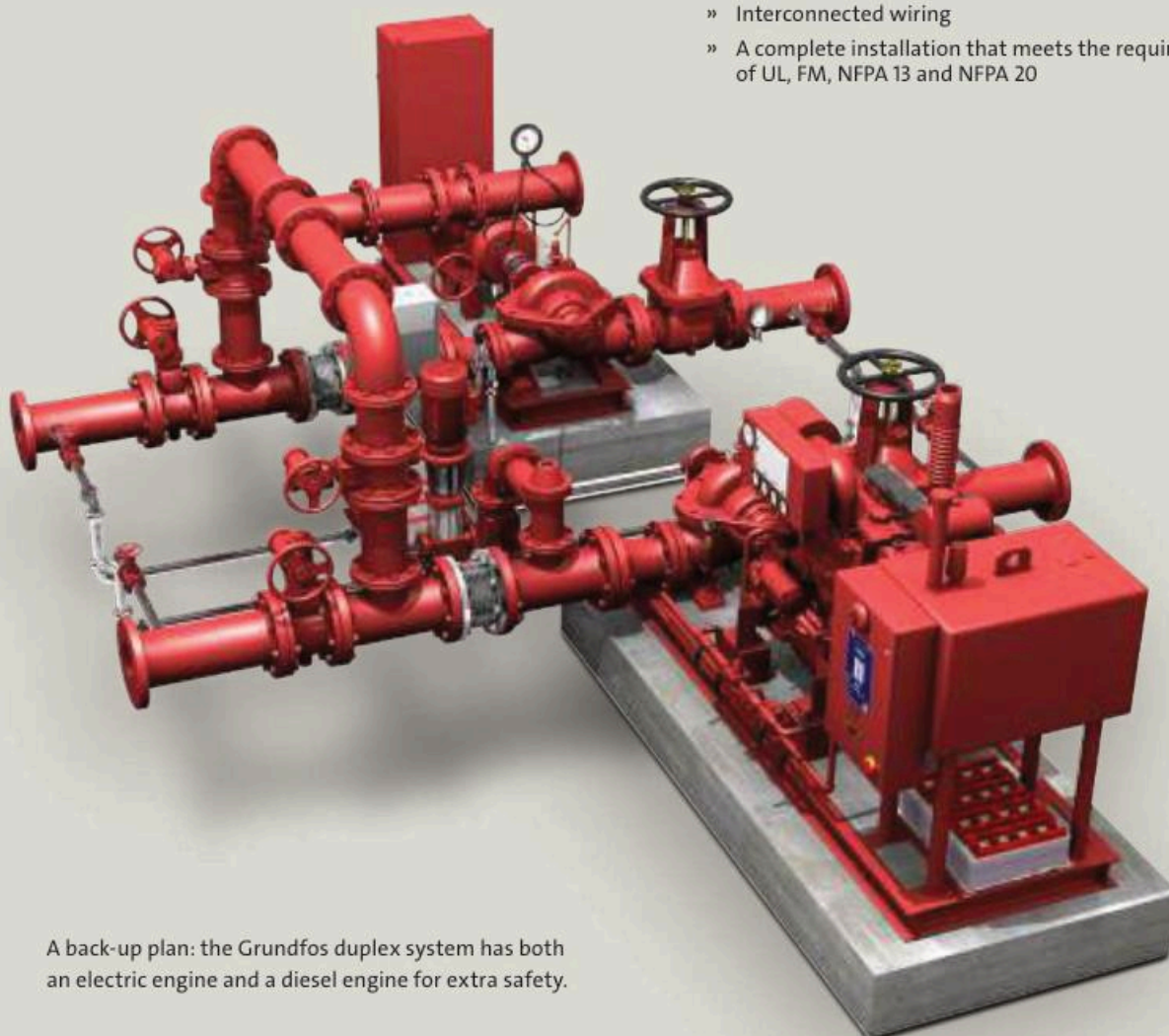
Modularised systems

Grundfos designs and builds customised systems that meet your specific needs. We mount the fire pump, driver, controller and piping with complete interconnected wiring on a common base or a modularised base frame for final assembly on location.

Packaged/containerised systems

With Grundfos' enclosed systems, your installation to operation time is minimal. Our enclosed systems are typically built as an integrated pump and control centre with:

- » Diesel engine
- » All the required controllers
- » In-house piping
- » Fittings
- » Interconnected wiring
- » A complete installation that meets the requirements of UL, FM, NFPA 13 and NFPA 20



A back-up plan: the Grundfos duplex system has both an electric engine and a diesel engine for extra safety.

CASE REFERENCES

Projects with UL-FM Fire Vertical Turbine Pump Systems

PROJECT NAME	LOCATION	COUNTRY	APPLICATION	VERTICAL FIREPUMPS
National Guard project	Riyad	KSA	Government Bldg.	6 Duplex
Techmart – City Diamond	Dubai	United Arab Emirates	Warehouse	1 Duplex
Abudhabi Islamic Bank	Abu Dhabi	United Arab Emirates	Bank	2 Electric
Iraq Project	Kurdistan Region	Iraq	Commercial Bldg.	1 Duplex
La Farge	Beocin	Serbia	Production Facility	1 Diesel
Cummins Factory	Huddersfield	England	Production Facility	2 Diesel
Newell Rubbermaid	Malissard	France	Production Facility	1 Diesel
Centrale électrique à cycle combiné gaz naturel Montoir de Bretagne	Montoir de Bretagne	France	Power Plant	1 Electric

Maritsa East Power Station, Bulgaria

Maritsa East Power Station is enormous and covers 9% of Bulgaria's installed power capacity. The plant is proposed to have an installed capacity of 750 megawatts – starting at 420 megawatts and reaching 600 megawatts by the end of this year. This huge power station trusted Grundfos to protect their plant with Grundfos UL-FM Fire Fighting pumps. The project includes Vertical Turbine pumps and Horizontal Split Case pumps as shown below.

Vertical Turbine pumps

- » 16" MCF electrical pump with 200 HP electric motor
- » 14" MDF diesel pump with Clarke JW6H-UF48 diesel engine (w/all accessories, including fuel tank, batteries, etc.)
- » 10 LB Vertical Jockey pump

Split Case pumps

- » 4 pcs HSEF 6-16 electric split case pumps with 75 HP electric motors
- » 2 pcs CR Grundfos Jockey pumps



Vertical Turbine Fire Pump optional

BOWL ASSEMBLY	UL LISTED	FM APPROVED
Impellers	Ni-Resist Type 2, 316L SS, C952 Aluminum Bronze, C955 Nickel Aluminum Bronze, C958 Nickel Aluminum Bronze, Duplex SS Grades 1A, 4A, or 5A	316L SS, C952 Aluminum Bronze, C958 Nickel Aluminum Bronze
Bowls	Ni-Resist Type 2, 316L SS, C952 Aluminum Bronze, C955 Bronze, C958 Nickel Aluminum Bronze, Duplex SS Grades 1A, 4A, or 5A	—
Impeller Shaft	K500 Monel, Nitronic 5	K500 Monel, Nitronic 50, 17-4PH SS
FLANGED COLUMN	UL LISTED	FM APPROVED
Column Pipe	Epoxy Coated Steel, Ni-Resist Type 2, 316L SS, C952 Aluminum Bronze, C958 Nickel Aluminum Bronze, Duplex SS Grade 5A	Epoxy Coated Steel, 316L SS, C952 Aluminum Bronze, C958 Nickel Aluminum Bronze, Duplex SS Grade 5A
Bearing Spiders	Ni-Resist Type 2, 316L SS, C952 Aluminum Bronze, C958 Nickel Aluminum Bronze, Duplex SS Grade 5A	316L SS, C952 Aluminum Bronze, C958 Nickel-Aluminum-Bronze
Line Shaft	K500 Monel, Nitronic 50	K500 Monel, Nitronic 50, 17-4PH SS
Line Shaft Couplings	K500 Monel, 400 Monel, Nitronic 60	K500 Monel, 400 Monel, Nitronic 60
DISCHARGE HEAD	UL LISTED	FM APPROVED
Discharge Head	Epoxy Coated Cast Iron, Ni-Resist Type 2, 316L SS, C952 Aluminum Bronze, C958 Nickel Aluminum Bronze, Duplex SS Grades 1A, 4A, 5A	Epoxy Coated Cast Iron
Packing Box Assembly	Ni-Resist Type 2, 316L SS, C952 Aluminum Bronze, C958 Nickel Aluminum Bronze, Duplex SS Grades 1A, 4A, 5A	316L SS, C952 Aluminum Bronze, C958 Nickel Aluminum Bronze
Top Shaft	K500 Monel, Nitronic 50	K500 Monel, Nitronic 50, 17-4PH SS
STRAINER	UL LISTED	FM APPROVED
Basket Strainer	316L SS	316L SS, C952 Aluminum Bronze, C958 Nickel Aluminum Bronze
FIRE PUMP FITTINGS	UL LISTED	FM APPROVED
Air Vent, Relief Valve, Gauges, Headers, Hose Valves & Overflow Cones	Standard construction (same as fresh water)	Standard construction (same as fresh water)
ENGINE	UL LISTED	FM APPROVED
Heat Exchanger	Standard heat exchanger is suitable for fresh or sea water service	Standard heat exchanger is suitable for fresh or sea water service
Cooling Water Piping	316 stainless steel piping: bronze strainer and regulator with Monel internal parts	316 stainless steel piping: bronze strainer and regulator with Monel internal parts
Solenoid Valve	Solenoid valve will not be furnished	Solenoid valve will not be furnished
RIGHT ANGLE GEAR	UL LISTED	FM APPROVED
Cooling Coil	Gear manufacturer's standard for marine service	Gear manufacturer's standard for marine service
Cooling Piping	316 stainless steel	316 stainless steel
ENGINE CONTROLLER	UL LISTED	FM APPROVED
Wetted Parts	316 stainless steel	316 stainless steel



EXPERTISE AT GRUNDFOS FIRE COMPETENCE CENTRES

Grundfos Competence Centres

» The Grundfos Fire Competence Centres are spread around the world, and set the scene for a collection of activities that all promote the technology, production and knowledge behind great fire protection systems.

Global presence – local support

- » Production, assembly, and test facilities approved by FM and VdS
- » Quality accreditations such as ISO 9001, 14001, 18001, and EMAS
- » Witness tests where customers can supervise the testing of their products

- » Customer support: system design, technical- and sales backup and shipping
- » Product- and application training for Grundfos staff and customers.
- » Skilled service technicians that support start-up and system maintenance on site
- » All Competence centres assembling UL-FM Fire Pump Sets are FM approved.

STRONG SOLUTION PARTNER OF BIG PROJECTS

REFERENCES

REFERENCES



SkyTowers



IRAQMALL



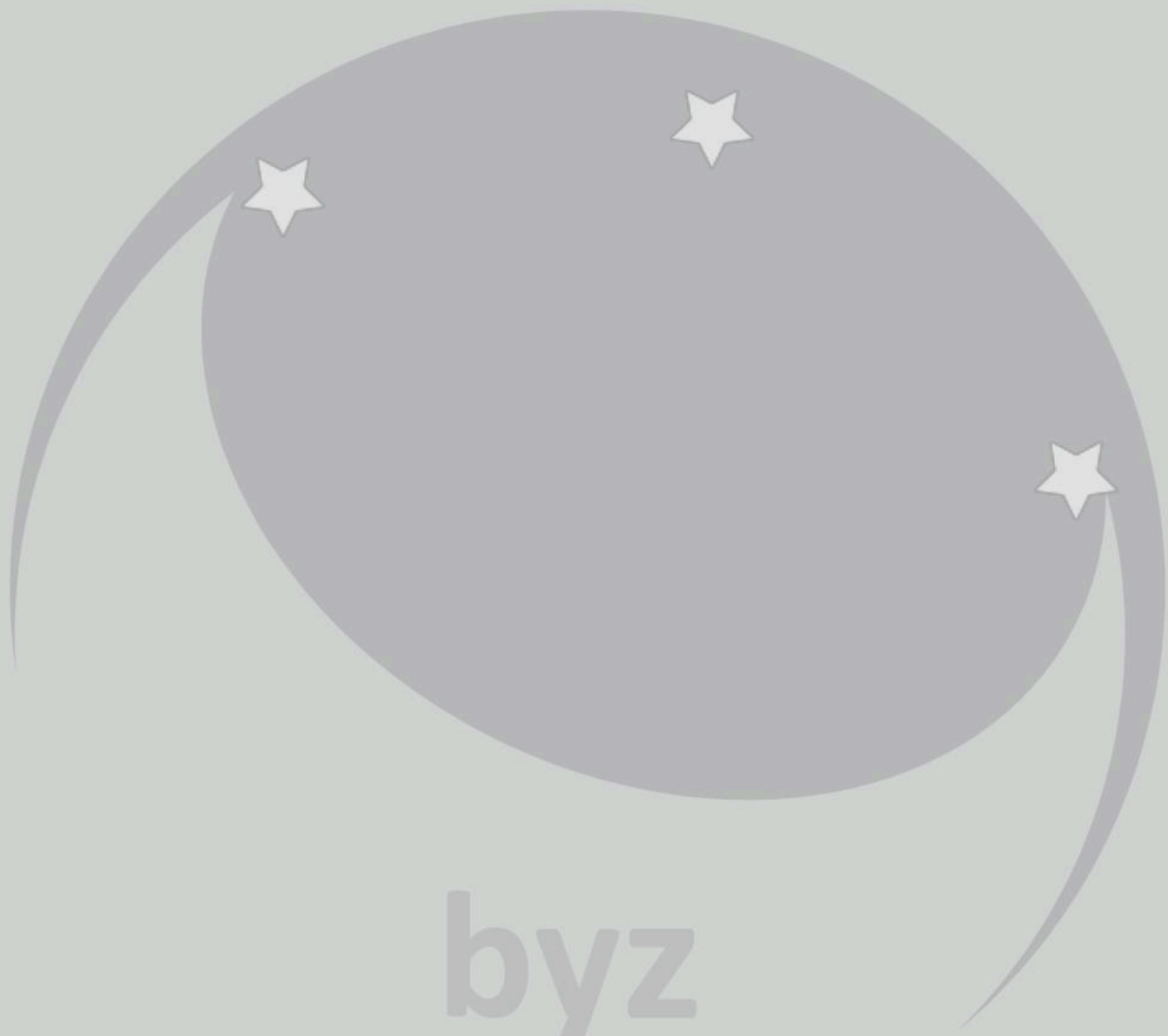
REFERENCES

Bakhtyari Twin Towers



London Towers





byz
TECHNOLOGY

Thank you...



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