"Recovering The Efficiency Lost In Existing Systems,
Quick Return on Investment By Increasing Efficiency"

IRONTRAP®

MAGNETIC FILTERS

PROTECTIVE AND CLEANING FLUIDS

TayTech®
advanced automation solutions

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CONTENTS

Unspoken Heroes In Your Installation

Installation engineers have a common objective. Their objective is to deliver the energy, which is prepared at maximum efficiency and minimum cost, from the place that is released all the way to the final user. It delivers energy produced by the boiler or cooling group to premises such as apartments, offices, operating classes, training classes. These are the final point of use of water, which is the carrying the fluid. For years, installation engineers have worked to ensure that the energy produced during this journey reaches to the point of use from the point of production by the most efficient means. During this route, energy passes through a multitude of controls, pump systems and heat exchangers intended for intermediate transmission. Almost all of these equipments have been designed with productivity enhancement functions. The most efficient operation of these products and the high efficiency of the energy produced that reaches the end-use point depend on the water's ability to transmit the energy. 65% of the faults occurring within 2 years after initial installation of the system can be traced back to the water quality. IronTrap magnetic filters and protective cleaning fluids enable heating and cooling systems to run more efficiently and contribute for greener environment. IronTrap products restore efficiency loss in existing systems and maintain efficiency throughout systems' life providing savings and opportunities for new investments.

IRONTRAP® Magnetic Filter

IronTrap magnetic filter separates iron powder from the system with a powerful neodymium magnet bar. Protects the accumulation of iron powder in heating and cooling system which extends the life of the entire system.

IRONTRAP® Cleaning Fluids

IronTrap cleaning fluids removes magnetite iron powder, deposits, and scale from the system. It helps to extend the life of the magnetic filter and significantly reduces maintenance costs.

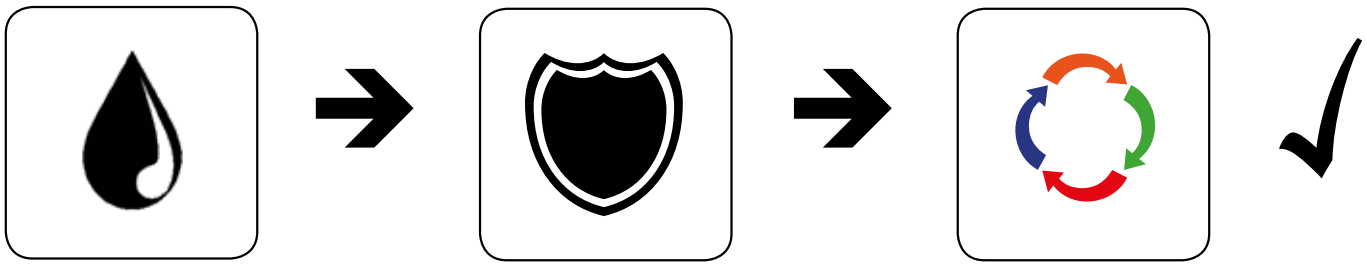
IRONTRAP® Protective Fluids

Strong inhibitors protect the heating cooling system from corrosion. It prevents the buildup of limescale and ensures that the system efficiency is sustainable.

Clean

Protect

Trace



IRONTRAP® Areas of use

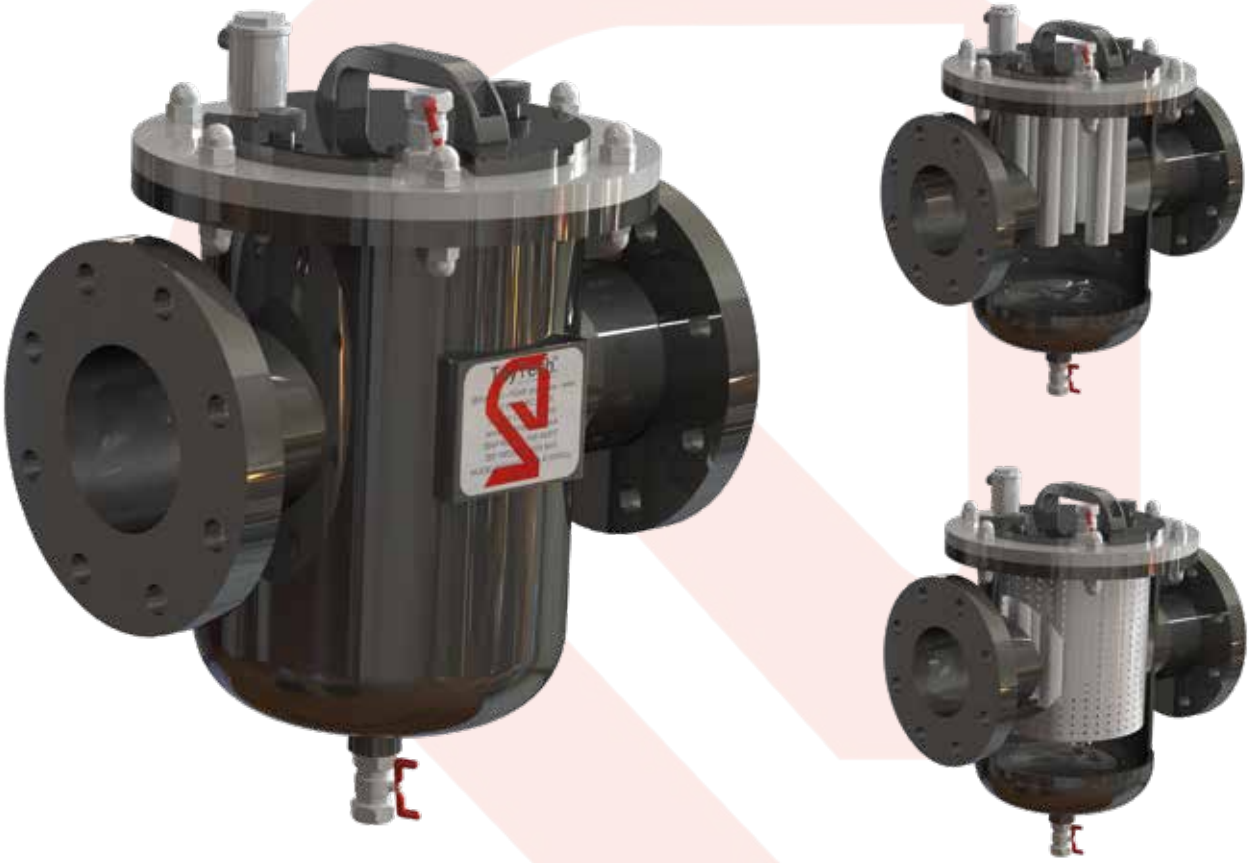
Magnetic Filters and Protective and Cleaning Fluids

Iron powder and magnetite are not just a problem for residential installations. This is the product for maintaining a clean system and protection in industrial applications. IronTrap products can be used various applications in heating and cooling systems. **Including but not limited to;**

- **Industrial:** Factory and Production Facilities
- **Commercial Facility:** Office Buildings, Public Buildings
- **Housing:** High-Rise Buildings, Estates, Apartments
- **Health:** Hospitals
- **Sports Facilities:** Swimming Pools, Stadium, Sports Halls
- **Education:** Universities, Colleges, and Schools
- **Accommodation:** Hotel, Holiday Village, Cinemas, shopping mall

When using the IronTrap Magnetic Filter and protective cleaning fluids together, heating and cooling systems get the complete protection. Long-term system protection is ensured if regular monitoring of the system is maintained in addition to the use of protective fluids.

IronTrap Magnetic Filters are manufactured in accordance with PED Pressure Vessel Regulation 2014/68 / EU and EN 13445:2021 standards.



IRONTRAP®

IRON**TRAP**® Magnetic Filter is used to retain and separate the magnetite passing through the heating and cooling system.
IRON**TRAP**® Magnetic Filter is a full flow filter that enables complete filtration of water.
IRON**TRAP**® Magnetic Filters are used in heating and cooling systems running at 3-100 ° C.
IRON**TRAP**® Magnetic Filter is mounted on the systems' return line
IRON**TRAP**® Magnetic Filter retains underwater deposits by its stainless separator. 60% of air conditioning system failures in the first few years after installation are due to accumulation of mud in the system.
IRON**TRAP**® Magnetic Filter separates the accumulated sludge from the system.

ADVANTAGES OF IRONTRAP®

► Compatible with all heating and cooling systems.

► Reduces abrupt failure and high maintenance costs.

► Extends the life of the equipment throughout the system.

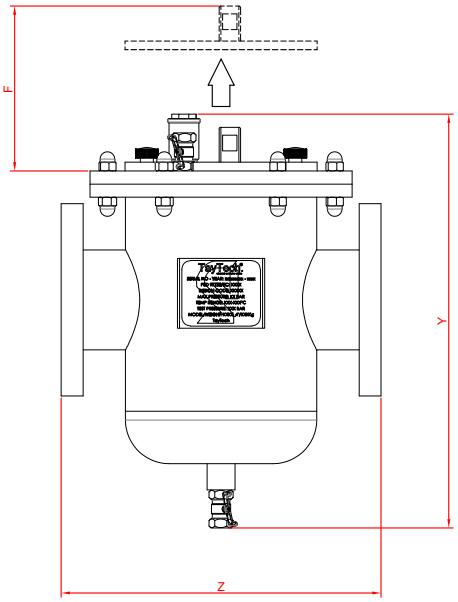
► Helps to restore the system efficiency.

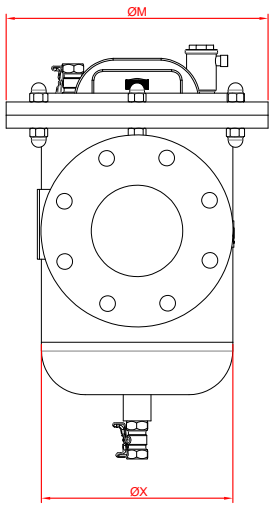
► High performance magnetic sticks capture even the smallest magnetic particles.

► Easy to install and maintain.

► It provides a quick cleaning by its vacuum valve.

IRON**TRAP**®





Model Name	Connection Diameter	Magnetic Rod Quantity			ØX	Y	Z	ØM	F	Flange Bolt	Flange Hole Quantitiy
		TM10	TM20	TM30							
TIM-50	DN50	2	3	5	168.3	425	270	245	225	M16	4
TIM-80	DN80	2	4	6	219.1	465	330	300	325	M16	8
TIM-100	DN100	3	5	6	219.1	465	360	300	325	M16	8
TIM-150	DN150	3	6	9	323.9	555	470	430	375	M20	8
TIM-200	DN200	3	6	9	323.9	555	540	430	375	M20	12

TECHNICAL SPECIFICATIONS
Maximum Running Pressure: 10 BAR
Running Temperature: 3-100°C

BODY
Material: TS EN 10219
Drainage: 1" Ball Valve TSEN 13547
Vacuum Valveı: 1/2" Ball Valve TSEN 13547
Air Vent: Automatic Air Vent 1/2" TS 7817
110°C PN10

GASKET
Cover Gasket: EPDM

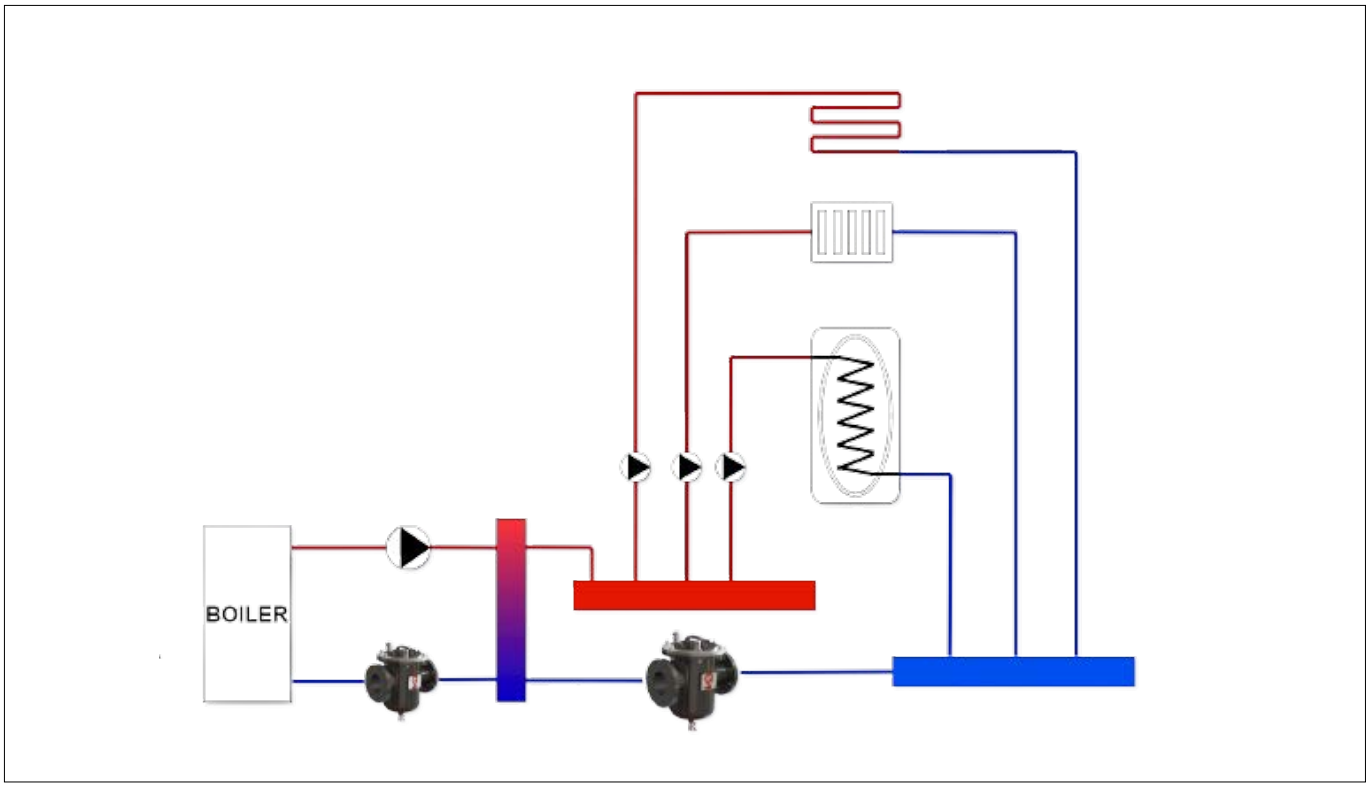
MAGNETS
Magnet Surface Pulling Force: 9500 - 10500 gauss
Magnet Carriage Flange: AISI 304 Stainless Steel
Cleaning Cover: AISI 304 Stainless Steel
Material: High Performance NeFeB
Sleeve: AISI 304 Stainless Steel

SEPERATOR FILTER
Material: AISI 304 Stainless Steel
Pore Size: 1000 micron

CONNECTION FLANGE
Material: TS EN 1092-1
Pressure Class: PN16

IRON**TRAP**® Strong Performance Magnetic Filters Are Designed To Provide Long Lasting Protection. Magnetic Rods Attracts Iron Powders In The Water And Remove It From The System.
IRON**TRAP**® Magnetic Filters Reduce Carbon Emissions, Reduce Energy and Water Consumption by Making Heating-Cooling Systems More Efficient.

MAGNETIC FILTER SELECTION



• The primary circuit plate heat exchanger with a boiler power of 750KW is 40 meters into the return line.
• Distributed to boiler, floor heating and radiator after passing through 750kW secondary plate heat exchanger. It is in the 800-meter outlet rotating pipeline.

How do I choose a magnetic filter and protective cleaning fluid?

How many magnetic rods should be in the filter?

PRIMARY CIRCUIT
Between Boilers and Heat exchanger

Total loss: 0.016 m3 / year
Purified water volume: 200 lt
Corrosion: 83,000 gr / year
Protective water volume: 500 lt
Monthly corrosion: 14.5 ppt

DN100-TIM100-TM10
3 Magnetic Rods

Diameter	Model	Magnetic Rod Quantity		
		TM10	TM20	TM30
DN50	TIM-50	2	3	5
DN80	TIM-80	2	4	6
DN100	TIM-100	3	5	6
DN150	TIM-150	3	6	9
DN200	TIM-200	3	6	9

SECONDARY CIRCUIT
Between Heat exchanger and System

Total loss: 0.23 m3 / year
Purified water volume: 1200 lt
Corrosion: 1.850.000 gr / year
Protective water volume: 3250 lt
Monthly corrosion: 47 ppt

DN100 - TIM100 - TM20
6 Magnetic Rods

Diameter	Model	Magnetic Rod Quantity		
		TM10	TM20	TM30
DN50	TIM-50	2	3	5
DN80	TIM-80	2	4	6
DN100	TIM-100	3	5	6
DN150	TIM-150	3	6	9
DN200	TIM-200	3	6	9

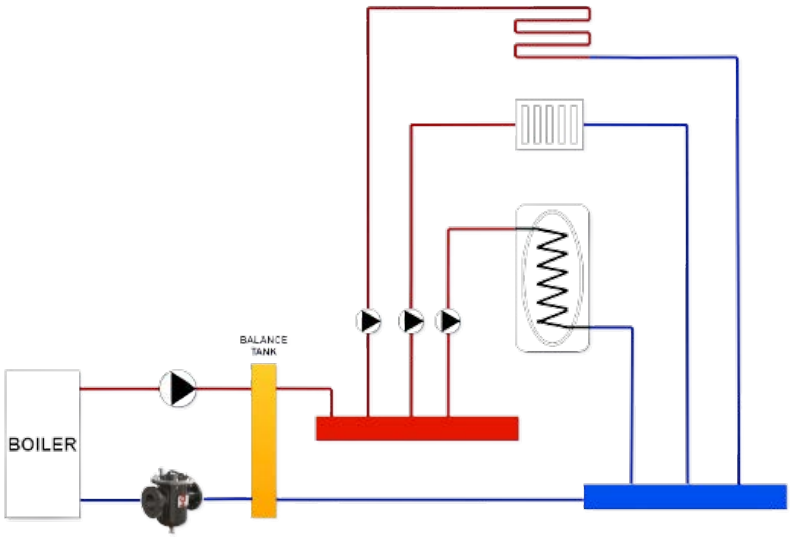
Where to Install IronTrap Magnetic Filter Appropriately?

The IronTrap Magnetic Filter is installed in the return line of the system. It should be placed as close as possible to the main devices in the system. If the system running with a plate heat exchanger, it should be mounted on both to the primary side and the secondary side by making the calculation to ensure appropriate quantity of IronTrap magnetic rods.

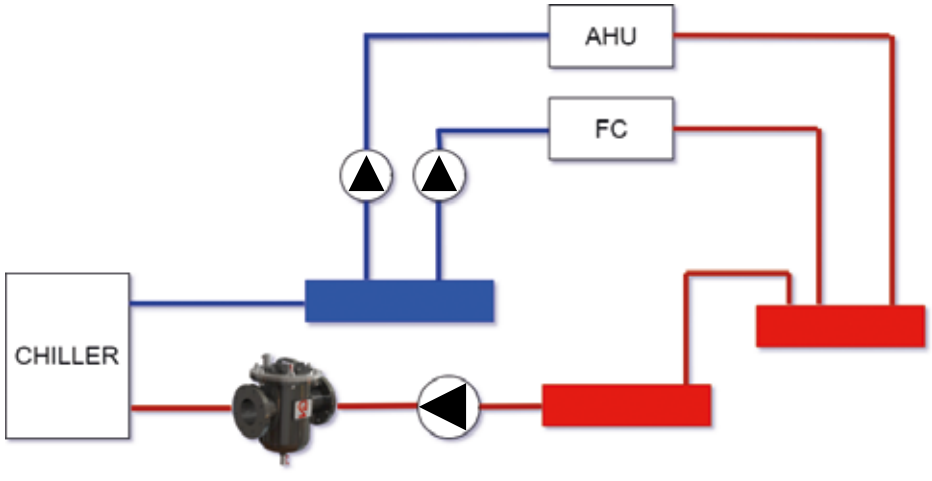
Upon installation, a check should be made to ensure that there is enough clearance space to remove the magnets from the top of IronTrap magnetic filters.

It is also important that the drain valve on the bottom side of the magnetic filter is freely accessible to drain the system when needed.

HEATING SYSTEM DIAGRAM



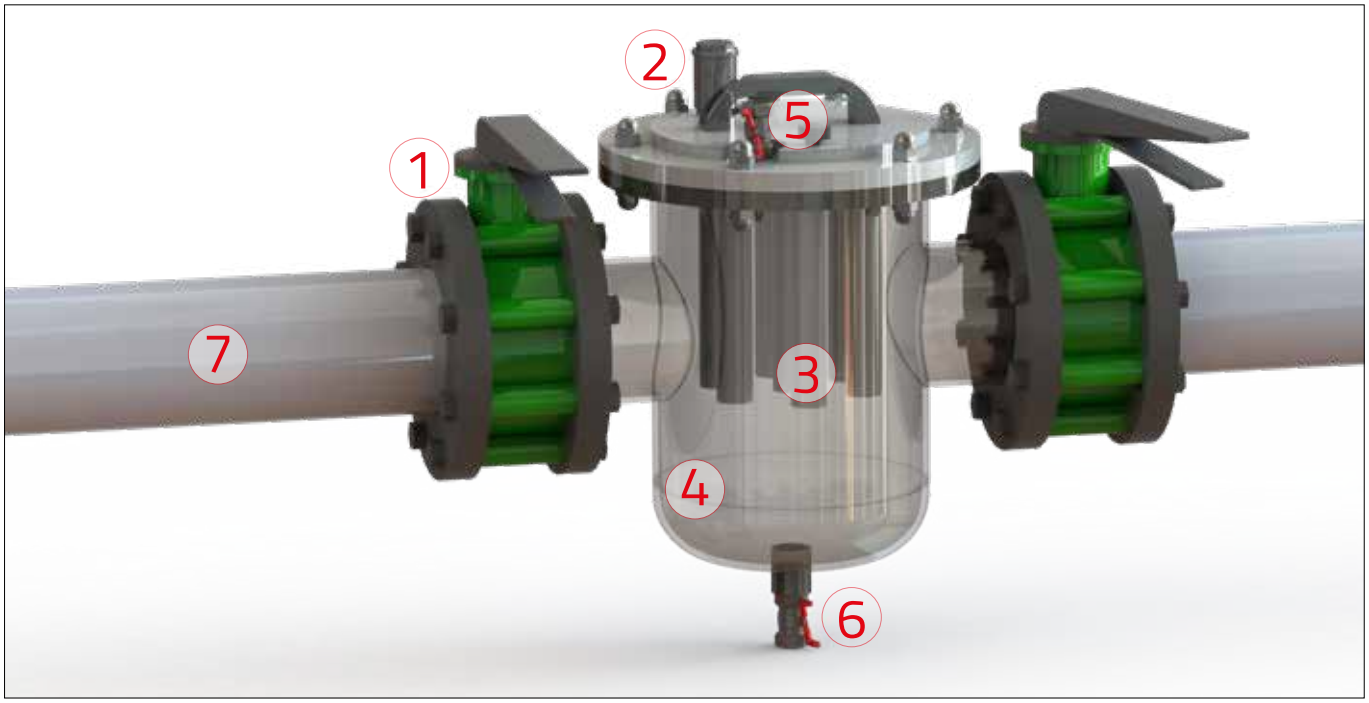
COOLING SYSTEM DIAGRAM



Working Principle of Magnetic Filter

IronTrap magnetic filters, which enables protection against corrosion and magnetite, are designed integrated with automatic air vent. Air is a catalyst and therefore causes corrosion in heating and cooling systems. During installation and draining, air entering to the system is released out of the system with the automatic air vent. When the system is running, the air in the liquid passing through the IronTrap magnetic filter is purged through the automatic vent.

1. Shut-off valve
2. Automatic air venting
3. Strong neodymium magnetic rods
4. Magnetic filter body
5. 1⁄2 vacuum valve
6. Drain valve
7. Input line

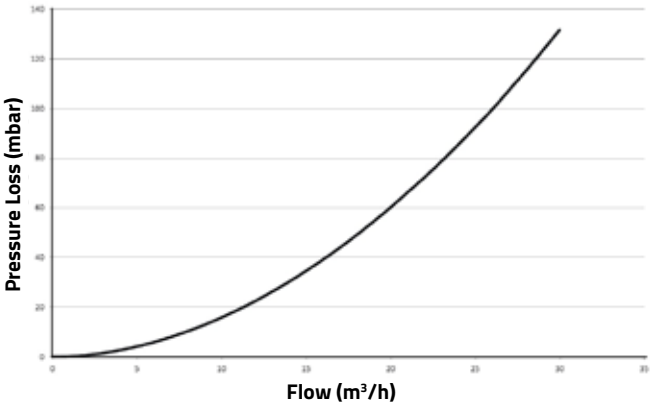


Magnetic filter consists of AISI 304 stainless steel upper flange, a body, a high-gravity NeFeB N52 magnet and an AISI 304 stainless steel magnetic cap. To clean the magnetic filter, a shut-off valve must be placed at the inlet and outlet of the magnetic filter. The magnetic filter design will attract magnetic particles in the water passing through the system. All magnetic filter magnets are separated from the filter at one time as a whole part. AISI 304 stainless steel magnet holder attaches to the flange for easy removal. The flange of the AISI 304 holder has a handle for removal of the cap when cleaning is needed. Magnetic rods do not come into direct contact with water. The top edge flange of the magnetic filter can be easily removed. The upper flange is made of AISI 304 stainless steel. AISI 304 stainless steel sheaths are 0.5 mm thick for minimal loss of magnetic attraction. High-power NeFeB magnets are covered with AISI304 stainless protector. To easily clean the accumulation on the magnetic filter without disconnecting the installation; There is a drain valve at the bottom of the filter and a spherical vacuum valve on the top cover of the filter. There is an automatic air vent on the top cover of the filter which enables easy removal of the air formed in the magnetic filter from the system after cleaning.

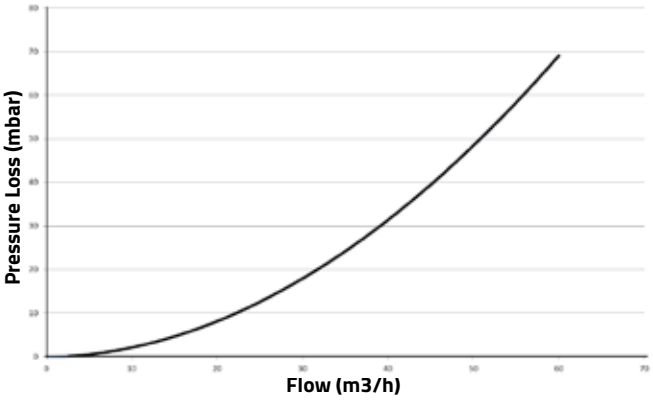
Pressure Loss Graphs

See the graphs below for pressure losses due to flow rate of the IronTrap Magnetic Filter.

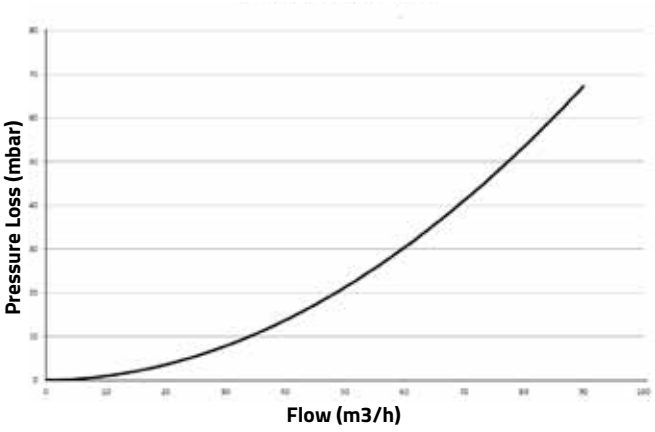
DN50 Pressure Loss Curve



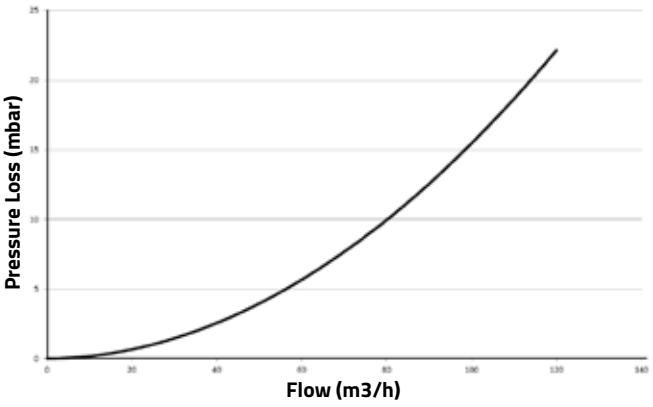
DN80 Pressure Loss Curve



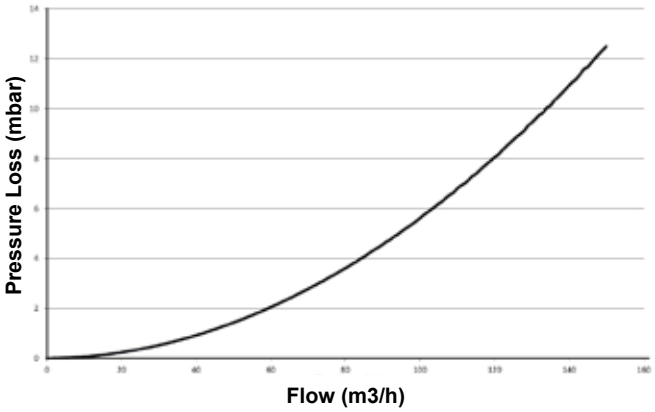
DN100 Pressure Loss Curve



DN150 Pressure Loss Curve



DN200 Pressure Loss Curve



IRONTRAP® Protective and Cleaning Fluids

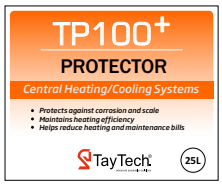
If no precautions are taken after separating the magnetite in the system water using the IronTrap Magnetic Filter, the formation of magnetite will continue. To minimize unwanted buildup, you must completely protect the water in your system with IronTap fluids. We manufacture effective fluids to protect heating and cooling systems. IronTrap's wide range of fluids have been designed specifically for cleaning and protection of the system.

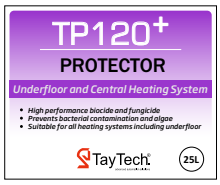
They are the best and most effective support materials for your installer team for making sure of the protection and maintaining the cleaning of the system.

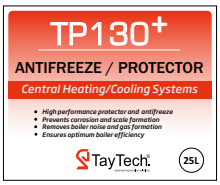
Use of IronTrap cleaning and protective fluids enables us to provide the most realistic data by conducting first-class water quality analyzes in high-quality laboratories.

IRONTRAP® TP Series Protective Fluids

FLUIDS	USAGE	PH	AMOUNT	APPEARANCE	COLOR
TP130+	Protection Against Freezing in Heating and Cooling Systems	8,5	%30/-14 C	Liquid	Light Blue
TP120+	Protection Against Bacteria and Algea Heating and Cooling Systems	2,5	0,10%	Liquid	Turqouise
TP100+	System Protection in Heating and Cooling Systems	8,5	0,50%	Liquid	Yellow

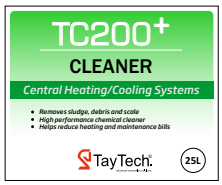


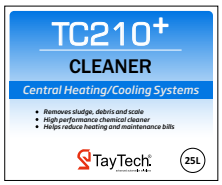




IRONTRAP® TC Series Cleaning Fluids

FLUIDS	USAGE	PH	AMOUNT	APPEARANCE	COLOR
TC200+	Cleaning Fluid in Currently Running System	1,5	0,20%	Liquid	Light Yellow
TC210+	Cleaning Fluid in Newly Installed Systems	7	0,40%	Liquid	Dark Yellow
TC220+	Calcification Prevention in Heating Systems	2,5	10%	Granule	White





TP100+ PROTECTOR

With its powerful and effective formula, it stops the formation of magnetite and other unwanted accumulations that build up in the system because of corrosion and abrasion. It ensures efficient running condition of the boiler by protecting the central system. It helps the system to be durable.

Usage Benefits

- Protects against corrosion and calcification.
- Maintains heating efficiency.
- Extends the life of the system.
- Reduces maintenance bills.

Technical Specifications

- Appearance: Liquid
- Color: Yellow
- pH: 8.5
- Environmental information
  - Harmless
  - Biodegradable
  - Drainage

Amount

For administration of the fluid to the system, 0.5% of the total volume should be applied.
System concentrations should be controlled during regular routine follow-ups. If you are not sure which chemical has been used in the system before, please clean the system before using the recommended amount of TP100+.

Advantages

- Increases system strength by its inhibitors in the structure of the fluid.
- It can be used in both heating and cooling systems.
- Compatible with all types of metals.
- Prevents calcification
- Compatible with all IronTrap fluids
- It forms a film surface by combining with metals which enables the prevention of corrosion.

TP120+ PROTECTOR

It fights with the accumulation of algae and biological residues with its formula of biocides. Protects the system from the formation of bacteria. With its powerful formula, it is effective on preventing problems that normally occur in floor heating and cooling systems.

Usage Benefits

- Effective for floor heating systems.
- Prevents the formation of bacteria.
- It makes the system work more efficiently.
- Effective for PPRC piping.

Technical Specifications

- Appearance: Liquid
- Color: turquoise
- pH: 2.5
- Environmental Information
  - Non-hazardous
  - It's drained

Amount

For administration of the fluid to the system, 0.1 % of the total volume should be applied.

Advantages

- For administration of the fluid to the system, 0.1 % of the total volume should be applied.
- Prevents the formation of bacteria and algae.
- It is suitable for underfloor heating systems
- It is suitable for use in the cooling system.
- It should be left in the system.
- Contains a highly effective biocide.
- Suitable for use with TP100+ Protection Inhibitor.

TP130+ PROTECTOR

TP130 + is a fluid that is developed to protect heating and cooling systems from freezing. By its preservatives, it protects the system from corrosion and limescale formation. It effectively protects the central system in all conditions, not just in cold weather.

Usage Benefits

- Prevents water from freezing in central heating system.
- Protects against corrosion and calcification
- Maintains system efficiency.
- Reduces maintenance costs.
- Guarantees effective and fast heat transfer.

Advantages

- Compatible with all metals.
- Suitable for air conditioning systems.
- Protection against corrosion and calcification
- High performance inhibitor provides strong protection
- Prevents the formation of magnetite and mud in the system.

Technical Specifications

- Appearance: Liquid
- Color: Light blue
- pH: 8.5
- Density: 1.1
- Environmental Information
  - Harmless
  - It's drained

Amount

CONCENTRATION RATIO	20%	25%	30%	35%	40%	45%	50%
FREEZING POINT	-8 DEGREES	-11 DEGREES	-14 DEGREES	-18 DEGREES	-22 DEGREES	-26 DEGREES	-32 DEGREES

When applied according to appropriate dosage on the table above, TP130+ protects the system from frost and corrosion.
TP130+ is made ready for use by homogeneously concentrated glycol and indicator during production.
If glycol and indicator are dosed separately into the system, it would not form desired protective mixture, on the contrary, it causes corrosion to increase in the system.

TC200+ CLEANER

It is used to clean magnetite and sediment in running systems.

The TC200+ Advanced Power Cleaner increases thermal efficiency by ensuring the water flow to the radiator and pipe installation.

Usage Benefits

- Helps to restore the efficiency of the central system.
- Cleans mud, sediment, and unwanted accumulation from the system.
- Extends the life of the system.
- Reduces maintenance costs.

Technical Specifications

- Appearance: Liquid
- Color: Clear Yellow
- pH: 1.5
- Environmental Information
  - Harmless
  - Biodegradability
  - It's drained

Amount

For administration of the fluid to the system, 0.2 % of the total volume should be applied. TC200 + is a cleaning solution that can be used on all materials in the system.

Advantages

- It is a powerful cleaning solution.
- Suitable for both heating and cooling systems.
- Compatible with all IronTrap fluids
- Its effective under high temperature.
- Cleans pollutants and improves thermal efficiency.

TC210+ CLEANER

This fluid is ideal for newly installed and commissioned systems. Its powerful formula has been specifically designed to prevent residue from entering the system.

Usage Benefits

- Cleans installation residues and oil on metal surfaces.
- Removes rust-forming lime residue from the system.
- Prepares the inhibitor which protects the system
- Reduces maintenance costs.
- Extends the life of the system.

Technical Specifications

- Appearance: Liquid
- Color: Opaque Yellow
- pH: 7
- Environmental Information
  - Non-hazardous
  - Biodegradable
  - Filtered

Amount

For administration of the fluid to the system, 0.4 % of the total volume should be applied.
For best results, it should be circulated for 24 to 72 hours in the system. At the end of the cleaning, the system is emptied, rinsed and after rinsing the system is ready for protective fluid dosing.

Advantages

- It is a high-performance cleaning fluid.
- Suitable for both heating and cooling systems.
- Compatible with all IronTrap fluids.
- Provides low foaming while running at all temperatures.
- Its effective under high temperature.
- Provides quick interaction within the system.
- Cleans pollutants and improves thermal efficiency.

TC220+ CLEANER

With its powerful formula, TC220+ is specially designed to remove scale and solid residues in heating systems. It is a limescale cleaner and remover.

Usage Benefits

- Cleans limescale and residue buildup in the system.
- Restores the efficiency of existing systems.
- Suitable for all heating systems.
- Can be used on all metals.
- Extends the life of the system.

Technical Specifications

- Appearance: Granular
- Color: White
- Solubility: Water soluble
- pH: 2,5
- Environmental Information
  - Harmless
  - It's drained

Amount

Prepare a concentration using 10% of the fluid with warm water. Dosing is done to the installation. Cleaning duration takes up to 24 hours. The system should be heated to 60 degrees for quick cleaning. After this process, the system should be drained and rinsed.

Advantages

- Quickly removes scale from the system.
- Restores heating efficiency.

Laboratory Services

We emphasize on the importance of actual data while making the selection, operation and integration of water services and equipment. It is very important to get the actual data at every step from the viewpoint of efficiency and feasibility of the water in the system, which has very different characteristics. Sampling and reporting services are crucial when it comes to taking precautions against undesired situations such as breakdowns and inefficiencies, and to create solutions to current problems in the systems We provide the most budget-friendly and safest systems for the improvement of the feed water in accordance with the area to be used, with detailed analyzes of water such as heating and cooling circulation water, network water, well water.

Preliminary Laboratory Analysis

In the preliminary analysis, both the feed water and system water values are checked. There are different zones in the system, which requires separate analyzes by collecting samples from different zones.

Laboratory Application Analysis

In the application analysis, unlike the preliminary analysis, the feed water is not considered while analyzing. If it will be collected from a different source, then a separate check will be needed. According to the data obtained in the preliminary analysis, values will be compared to see if the target values are obtained.

Follow-up Laboratory Analysis

Follow-up analysis is the application that we serve on periodical basis. We collect water samples by making monthly visits to our contracted customers. According to the evaluations we have made in the laboratory, we send our customers a detailed report about the system waters' quality every month.

TayTech®
advanced automation solutions

TAYTECH OTOMASYON VE BİLİŞİM TEKNOLOJİLERİ A.Ş.

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