



FH- Mixing Shunts

FHM-C1 / FHM-C2

Description

Danfoss compact mixing shunts are designed for use with high-temperature heat sources to control flow and supply temperature in hydronic floor heating systems.

The compact, flexible design allows the mixing shunt to be mounted directly onto the manifold on either the left or right side, with the primary pipe connection coming from the side or from below.

A self-acting FTC sensor controls the supply temperature, ensuring the desired underfloor heating temperature remains constant.

A built-in check valve ensures correct flow direction, while the manual air vent, positioned at the highest point of the shunt, can be opened to release trapped air from the system, helping to prevent air pockets and maintain efficiency.

The integrated thermometer displays the current supply temperature, enabling quick visual checks and easy adjustment of system temperature settings. An optional safety thermostat is available to protect the floor from excessively high temperatures by switching off the power supply to the pump, the main controller, or the wiring center.

Features & benefits

- Reliable, robust design ensures high quality and prevents leakage
- Supply temperature control for improved comfort and energy savings
- Compact design allows installation in tight spaces
- UPM3 Pump: Variable-speed pump
- Mirroring concept enables left- or right-side installation
- Option for electronic supply temperature control with Icon2™
- Maximum supply temperature (primary side): 90°C; maximum allowed underfloor heating temperature: 60°C
- Temperature setting scale (15 – 50°C or 35 – 70°C) to cover all heat losses
- Optional safety thermostat to protect the floors

Applications

The Danfoss compact mixing shunt is designed for use in hydronic heating systems where the supply temperature must be reduced and controlled to meet the requirements of a low-temperature system, such as underfloor heating.

It is typically used in installations where the heat source – for example, a boiler, district heating connection, or heat pump – delivers water at a higher temperature than required for the floor heating system. The mixing shunt blends hot water from the primary system with cooler return water from the secondary system, ensuring a constant and comfortable supply temperature.

The compact mixing shunt is ideal for systems with multiple heating zones that require different temperatures, such as combined radiator and underfloor heating installations. It also protects floor surfaces and system components from overheating, while improving overall system efficiency.

Ordering

Product code numbers

Product type	Description	Pump type	Code number
Mixing shunt	FHM-C2 Shunt without FTC	Grundfos UPM3 Auto 15-70	088U0092
	FHM-C1 UPM3 15-70	Grundfos UPM3 Auto 15-70	088U0094

K_{vs} [m³/h] Shunt valve: For 088U0092 is 2.6 (k_v Max.) and for 088U0094 is 0.95 (With FTC k_v 4) (See capacity figure)

Accessories code numbers



088U0029

Thermometer 0-60°C Ø35mm

Thermometer 0-60°C Ø35mm

Related products

088U0092

088U0094



013G5080

Sensor FTC, 35 °C - 70 °C, 2 m

FTC Thermostatic Element, 35-70 Celcius

Related products

088U0092

088U0094



088U0305

FHM-AF Angle Fittings

FHM-AF Angle Fittings

Related products

088U0092

088U0094



088U0075

Insulation capsule for UPM3 pump

Insulation capsule for UPM3 pump

Related products

088U0092

088U0094



088U0301

Safety Thermostat FH-ST55

Safety Thermostat FH-ST55

Related products

088U0092

088U0094

Spare parts code numbers



088U0860

Replacement pump UPM3 15-70

Replacement pump UPM3 15-70

Related products

088U0092 088U0094



013G5081

Sensor FTC, 15 °C - 50 °C, 2 m

FTC Thermostatic Element, 15-50 Celcius

Related products

088U0094

Product details

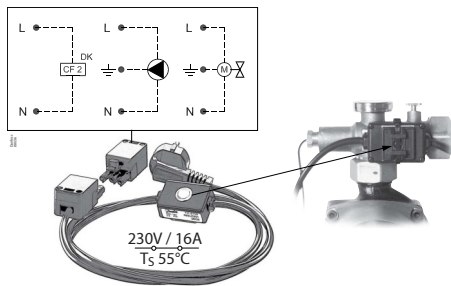
General data

Table: Technical specifications

Supply voltage	230 V AC
Primary connection	½" (DN15)
Max. differential pressure with Danfoss Floor Heating manifolds	0.6 bar
Max. working pressure	PN10
Max. flow temperature	90 °C
FTC flow temperature control	15 – 50 °C
FH-DT supply flow thermometer	0 – 60 °C
Integrated check valve	POM / Stainless steel
Body, unions and other metal parts	Brass / Stainless steel
O-rings and seals	EPDM
Weight	approx. 3.5 – 4 kg (depending on model)

FH-ST55 safety thermostat

Figure: Electrical connection



The FH-ST safety thermostat is mounted on the upper shunt housing and protects the floor and heating system against excessively high temperatures — a feature especially important for wooden floors.

When the temperature reaches 55°C, the FH-ST thermostat switches off the power supply to the main controller or the wiring center. This causes the normally-closed (NC) actuators to close automatically, protecting the floor heating system.

The FH-ST55 can also be connected to a pump or a zone valve.

The thermostat has a **switch difference (hysteresis) of 4 K**, meaning it will switch back on only when the temperature has dropped 4°C below the cut-off point. For example, if it switches off at 55°C, it will switch back on at 51°C. This prevents rapid on/off cycling and ensures stable operation.

Note: The electrical installation must be carried out by an authorized installer only (230V AC).

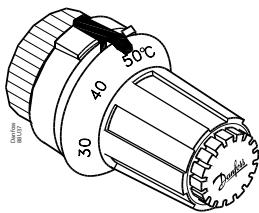
Code no.	088U0301
Shut-off temperature	55 °C
Switch difference	4 K
Classification	IP 40 (mounted)

FTC temperature controller

The FTC is a self-acting thermostatic sensor used for supply temperature control in underfloor heating systems.

The water temperature is measured by a surface sensor, and the snap-lock RA connection of the sensor element ensures a secure and reliable fit to the shunt valve.

Figure: FTC temperature controller



Features:

- Closes on rising sensor temperature
- Available temperature ranges: 15°C – 50°C or 35°C – 70°C

System

Figure: Combined floor heating system with boiler

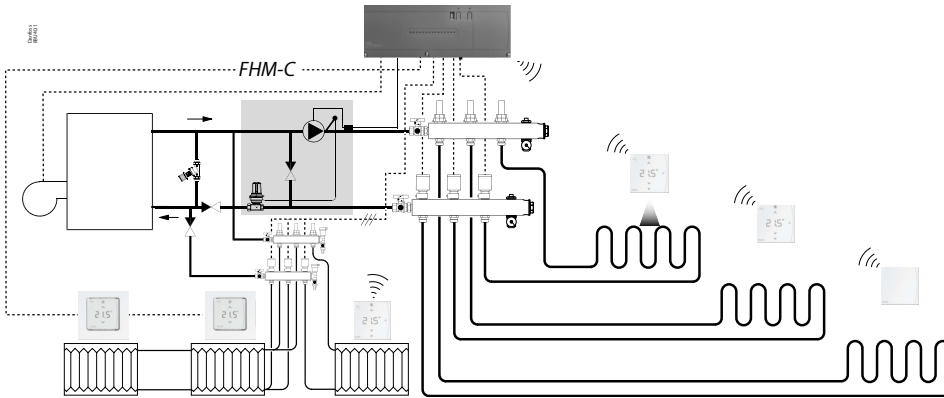
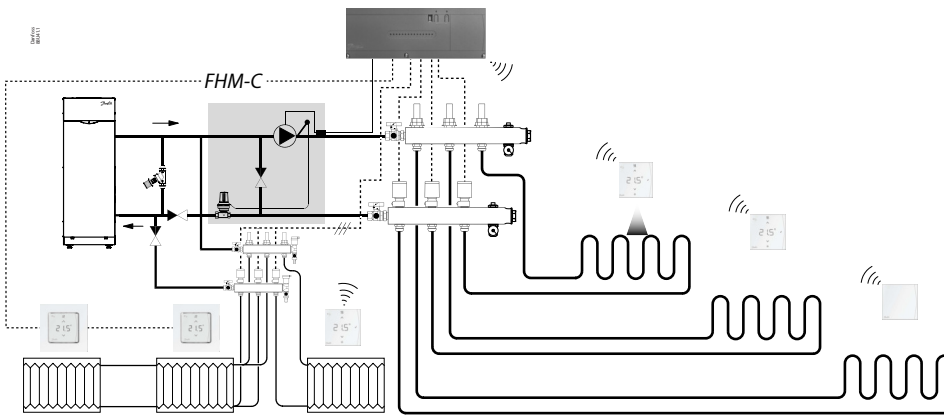
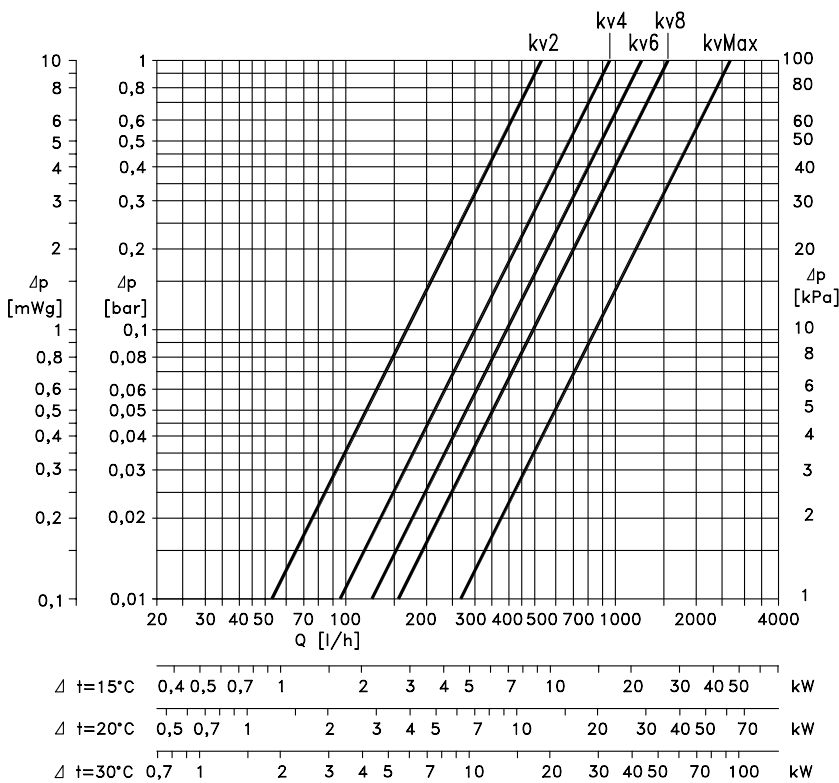


Figure: Combined floor heating system with heat pump



Capacity

Figure: Capacities



Dimensions

Figure: FHM-C1

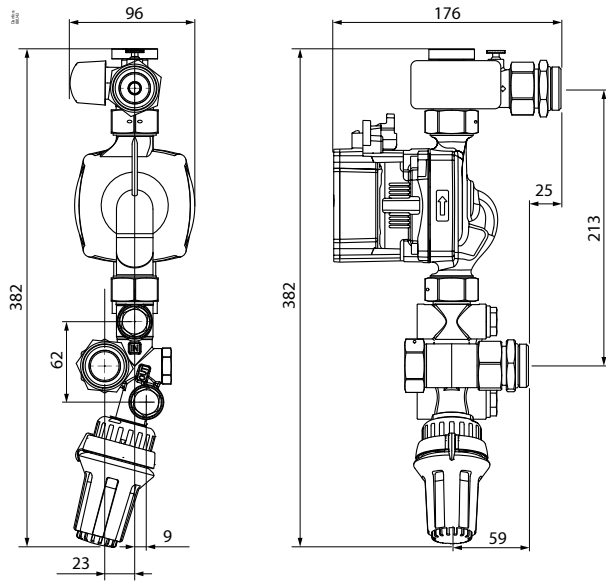
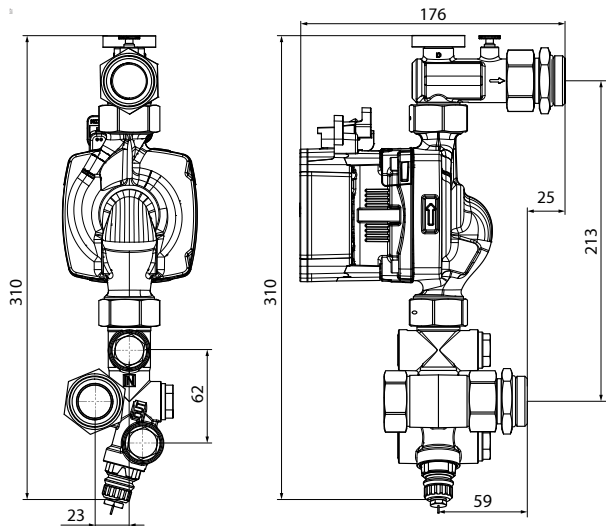


Figure: FHM-C2



All dimensions are in mm

Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Certification body	Approval topic
UA Declaration	Danfoss UA 2023-01-10 mixing units PL34	Danfoss	PED
Export Control Declaration	Mixing shunt	Danfoss	
EU-UK Declaration	Danfoss EU-UK VJIKB102.04	Danfoss	LVD
Pressure Safety Certificate	EURO-TYSK UA.TS.1O146.1110.02-22	LLC CDC EURO TYSK - Ukraine	PED

Contact details

Online support

Danfoss offers a wide range of support along with our products, including digital information, software, mobile apps and expert guidance. See the possibilities below.



The Danfoss Design center

Discover the Design Center, our advanced digital platform that streamlines product selection. With integrated tools and enhanced type pages, it's simpler than ever to access product information and documentation, and to select the right products. Check the availability of Danfoss products at partner locations and enjoy seamless transitions from selection to purchase with our basket-to-basket functionality. Whether you're buying from our distributors or directly from the Product Store, the Design Center simplifies your experience. Learn more at: designcenter.danfoss.com.



The Danfoss product store

The Danfoss Product Store is a one-stop shop available 24/7 for our customers, no matter where you are in the world or what area of industry you work in. Browse our catalog, check product details and documentation, view your prices and product availability, and quickly finalize your purchase. Start browsing at: store.danfoss.com.



Danfoss Partner Portal/Product Data tool

Designed to support you with easy access to product data extracts, essential resources, tools, and information. The Partner Portal provides a centralized hub for product documentation, training materials, marketing assets, and technical support, ensuring you have everything you need to succeed and grow your business with Danfoss. The Partner Portal is available 24/7 at: partner.danfoss.com and is ready to support your business.



Find technical documentation

Find technical documentation you need to get your project up running. Get direct access to our official collection of data sheets, certificates and declarations, manuals and guides, 3D models and drawings, case stories, brochures, and much more. Start searching now at: documentation.danfoss.com.



Danfoss Learning

Danfoss Learning is a free online learning platform. It features courses and materials specifically designed to help engineers, installers, service technicians, and wholesalers better understand the products, applications industry topics, and trends that will help you do your job better. Find your local Danfoss website here: learning.danfoss.com.



Get local information and support

Local Danfoss websites are the main sources for help and information about our company and products. Find product availability, get the latest regional news, or connect with a nearby expert - all in your own language. Find your local Danfoss website here: danfoss.com.

Danfoss A/S

Climate Solutions . danfoss.com . +45 7488 2222

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues description, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the products. All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.
