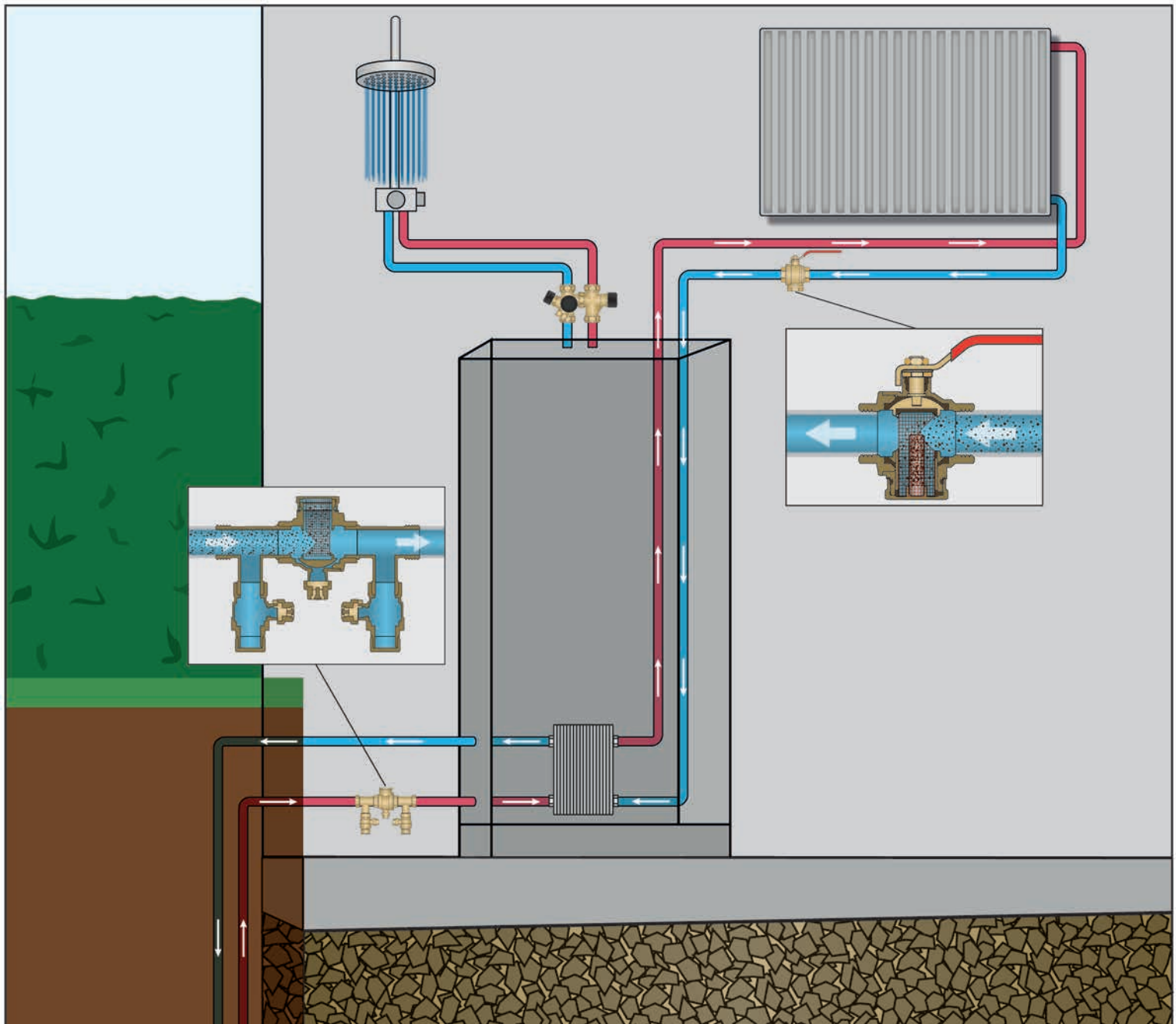




FILTER BALL VALVE



FBV - FBVM - FD



All features in a single valve!

HISTORY

Impel has developed products for heating and tap water systems for close to 40 years. The FBV range was launched in 2006 and is being developed continuously. This series is marketed across Europe and is used by both manufacturers and installers of heating system products. Manufacturers typically install the filter ball valve in their heat pumps and other systems. Installers install this valve in existing heating systems for increased reliability and simplified use for end users.

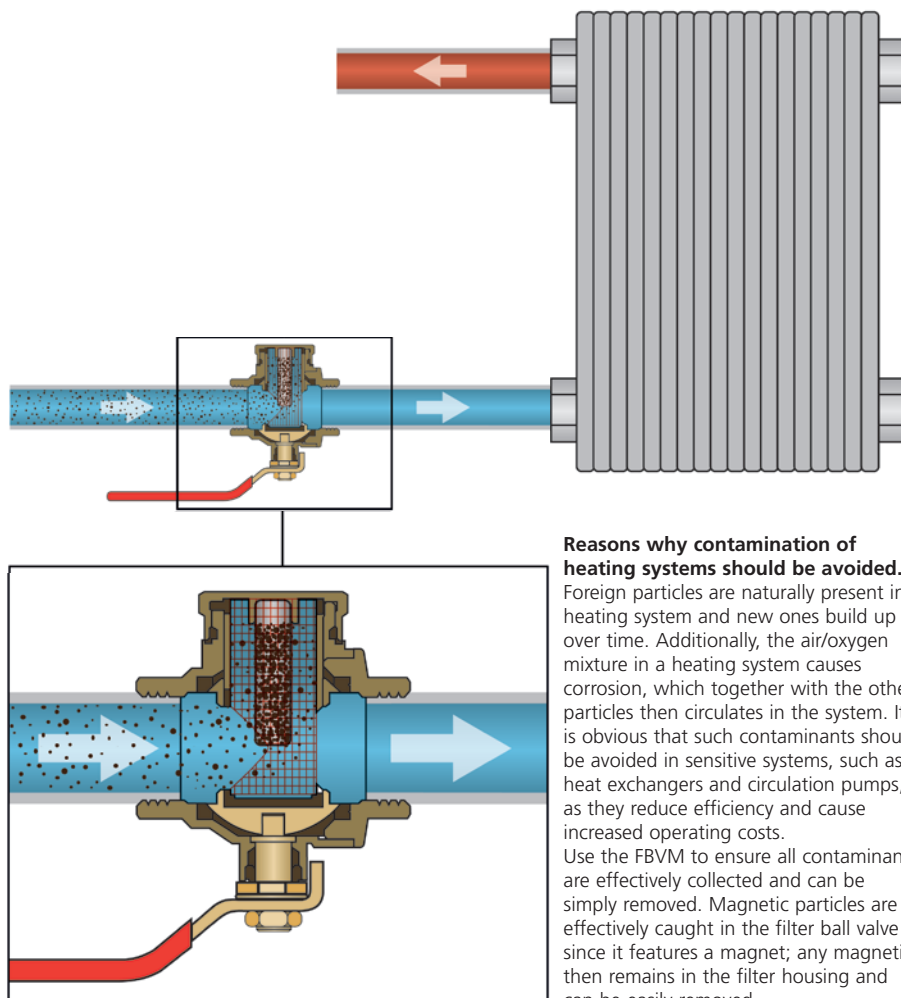
NEEDS

A heating system contains many particles and varying layers of dirt and magnetite. These form coatings on system components and adversely affect product service life. Dirt and foreign particles require the premature replacement of key components, which translates into increased and unnecessary costs. Component contamination also reduces the system capacity, resulting in increased power consumption to deliver an equivalent heating level and thus increased costs.

BENEFITS

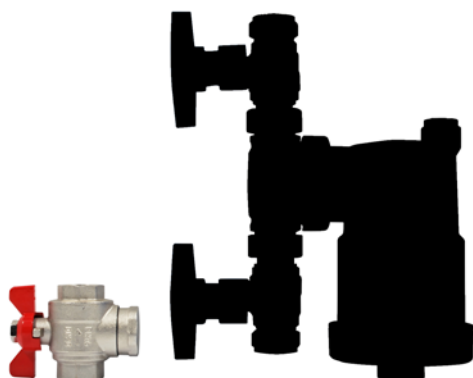
By installing the FBV or FBVM, contamination can be reduced to a minimum, whilst filtration becomes simple and easy! The FBV-FBVM also keeps the "cold side" of the heat pump clean when integrated in the Filling Device-FD, thereby ensuring that the system always remains clean and efficient. Most importantly, during service the filter ball valve is serviced and cleaned easily, safely and quickly. All features in a single valve!

Take good care of your system!



Heating products should offer reliable functionality. When installing the filter ball valve with its compact dimensions in your heating product, you get a complete product with strainer, magnetite filter and shut-off valve. As an after-sale accessory, it can be easily mounted on the return line to prevent contaminants from reducing heating product efficiency.

Size matters for product integration!



Easy filtration!

Integrating many products to offer the same functionality takes up valuable space and can be impossible to house together.

In some cases, a strainer and shut-off valves are completely missing.

The FBV is a compact "all in one" solution and features:

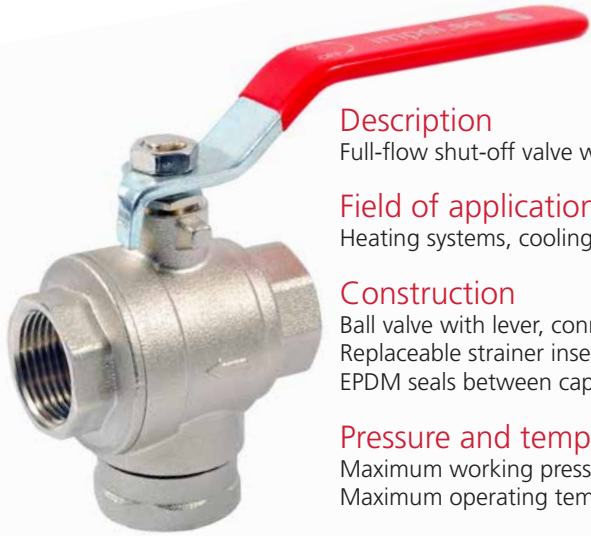
- * High flow – Kv value
- * Shut-off valve
- * Strainer

The FBVM is the same valve as the FBV but also features a magnetite trap.

Close the ball valve.
Unscrew the cap and clean the strainer insert and magnet if applicable.
Replace the strainer insert and cap.
Open the ball valve.

Complete functionality offered in a single product.
Take advantage of quick and simple service.

FBV 480



Description

Full-flow shut-off valve with strainer insert.

Field of application

Heating systems, cooling systems.

Construction

Ball valve with lever, connects with female thread G $\frac{3}{4}$ – G2. Replaceable strainer insert with a mesh of 0.6 mm. EPDM seals between cap and housing.

Pressure and temperature

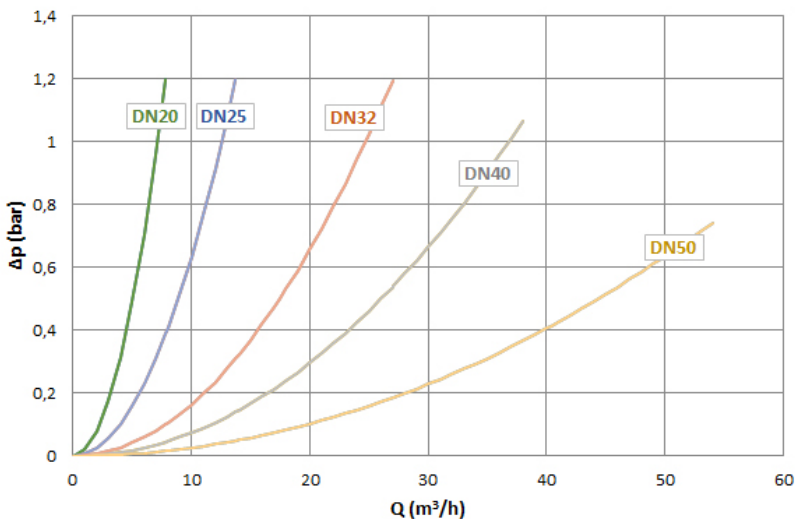
Maximum working pressure: 16 bar.
Maximum operating temperature: -20°C/+100°C



T-handle version.

Product number	Description	Female connection G	Kv value	Width W	Height H
0448002000	FBV 480-20 Female, steel lever, nickel-plated brass	$\frac{3}{4}$	7,14	65	100
0448002500	FBV 480-25 Female, steel lever, nickel-plated brass	1	12,56	78	112
0448003200	FBV 480-32 Female, steel lever, nickel-plated brass	1 $\frac{1}{4}$	24,70	87	129
0448004000	FBV 480-40 Female, steel lever, nickel-plated brass	1 $\frac{1}{2}$	36,80	108	144
0448005000	FBV 480-50 Female, steel lever, nickel-plated brass	2	62,70	127	188

Pressure drop chart



Picture 1



Picture 2



Cleaning the FBV 480 valve during operation

Close the FBV.

Unscrew the cap by hand (picture 1).

Remove the strainer insert and flush clean (picture 2).

Replace the strainer insert and cap after cleaning (picture 3).

Open the FBV.

Picture 3



FBVM 486

Description

Full-flow shut-off valve with strainer insert and rod magnet.

Field of application

Heating systems, cooling systems.

Construction

Ball valve with lever, connects with female thread G $\frac{3}{4}$ – G2.
 Replaceable strainer insert with a 0.6 mm mesh.
 12,000 gauss rod magnet for collecting magnetite.
 EPDM seals between cap and housing.

Pressure and temperature

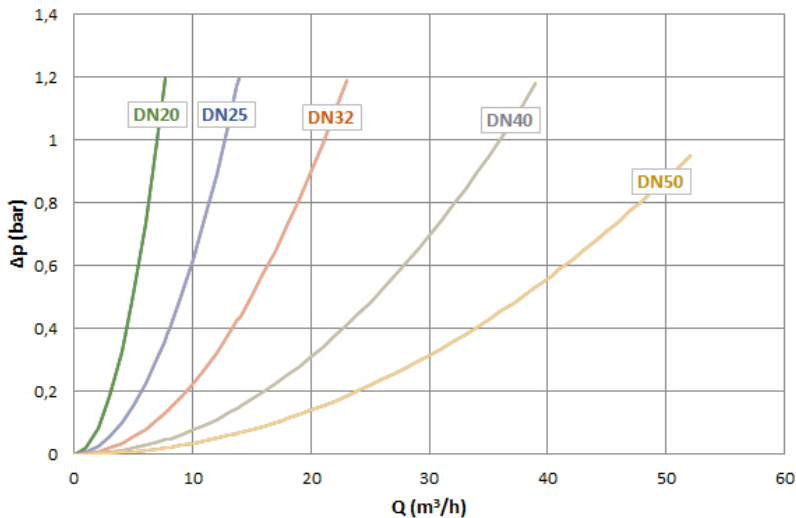
Maximum working pressure: 16 bar.

Maximum operating temperature: -20°C/+100°C



Product number	Description	Female connection G	Kv value	Width W	Height H
0448602000	FBVM 486-20 Female, steel lever, nickel-plated brass, magnet	$\frac{3}{4}$	7,0	65	100
0448602500	FBVM 486-25 Female, steel lever, nickel-plated brass, magnet	1	12,7	78	112
0448603200	FBVM 486-32 Female, steel lever, nickel-plated brass, magnet	1 $\frac{1}{4}$	21,1	87	129
0448604000	FBVM 486-40 Female, steel lever, nickel-plated brass, magnet	1 $\frac{1}{2}$	35,9	108	144
0448605000	FBVM 486-50 Female, steel lever, nickel-plated brass, magnet	2	53,4	127	188

Pressure drop chart



Picture 1



Picture 2



Cleaning the FBVM 486 valve during operation

Close the FBVM.

Unscrew the cap by hand (picture 1).

Remove and clean the strainer insert and rod magnet (picture 2).

Replace the strainer insert and cap after cleaning (picture 3).

Open the FBVM.

Picture 3



Impel Filling Device for total reliability

The Filling Device - FD is an all-in-one, fill & drain valve assembly offering reliable operation in all types of flow systems.

The valve assembly features the necessary components for use of brine in heat pumps and other heating systems. Additionally, the valve assembly is reversible.

The stylish, compact design includes our handy filter ball valve.

On the FVB valve housing, an arrow indicates the flow direction to catch contaminants before they reach sensitive system parts. Lift out the strainer insert and flush it clean.

When using brine, there is always a risk of ice formation. As a result, insulation of the product is important.

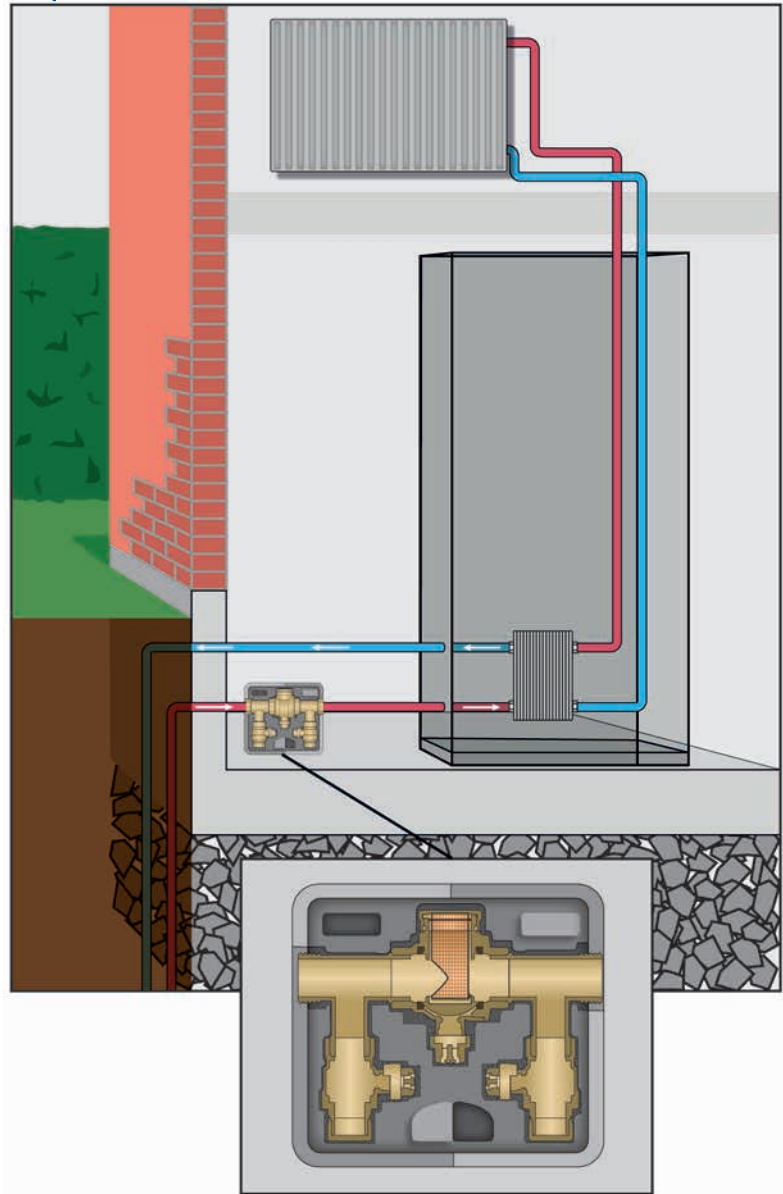
FD dimensions 25 and 32 are supplied complete with insulation.

Dimensions 20, 40 and 50 should be insulated locally.

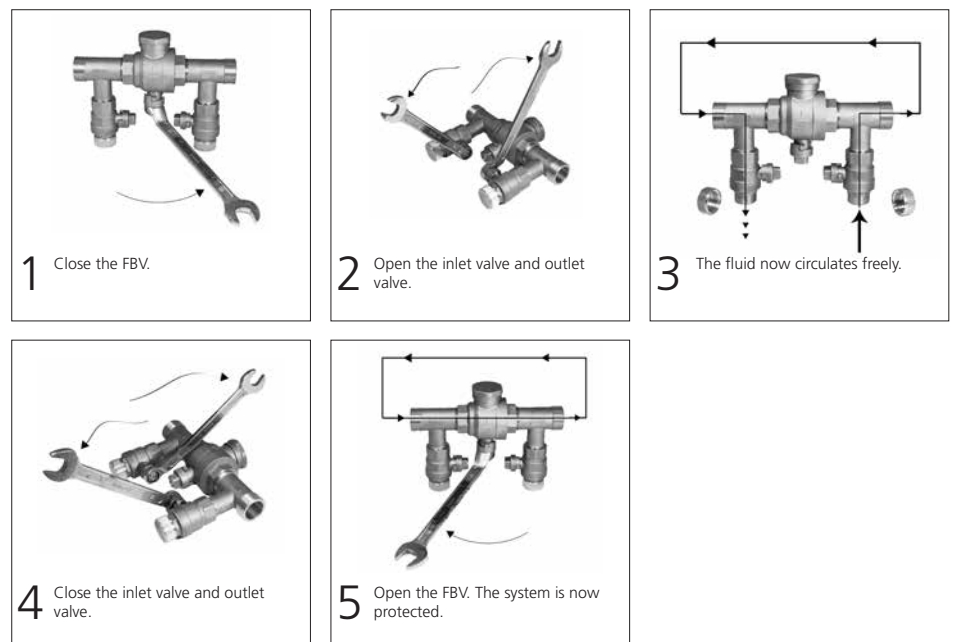
The FD can be used in many other systems that require filling, draining and filtration.

The FD should be cleaned when the system is first started up, and after that at regular intervals. Apart from this, the valve assembly does not require any maintenance but should be inspected regularly.

Heating systems need to be filled, drained and protected!



Filling/draining the system:



Important!

The system must remain clean to achieve and maintain its designed efficiency level.

FILLING DEVICE - FD

Description

Filling device including filter. Supplied in a protective insulation.

Field of application

Refilling, draining and protection of hot and cold side in heat pump systems.
 Medium – glycol-mixed water, max concentration 60%.
 Medium – ethanol-mixed water, max concentration 50%.

Construction

Ball valve with integrated strainer insert and 0.6 mm filter mesh for closing the circulation loop.
 For thread dimensions, see chart. The filter ball valve features EPDM seals between the cap and housing. Ball valves for draining/filling with built in strainer (dimension 25 and 32 only) to shut off fill and drain lines.



Product number	Connection thread G	Length L	Total height H	Kv value*	Max. kW**	Insulation included
0752000020	¾ female x male	180	80	7,14	13	No
0752000025	Male 1	200	107	12,57	23	Yes
0752000032	Male 1¼	251	96	24,70	45	Yes
0752000040	Male 1½	250	110	36,80	67	No
0752000050	Male 2	280	122	62,70	115	No

* The Kv value applies to the filter ball valve.

** Theoretical value at 0.1 bar pressure drop across the filter ball valve and a 5°C temperature differential.

Benefits:

- Filling and draining using the strainer for both hot and cold side.
- Dimensions ranging from DN20 to DN50 cover most needs.
- DN25 and DN32 are supplied complete with insulation.
- The standard models for filling and draining systems also include our filter ball valve.
- Our filling devices are reversible to facilitate installation.
- Other models available upon request. Please contact us.



DN 20 – ¾"



DN 40 – 1½" and DN 50 – 2"



Impel is a reputable OEM partner

We are specialised in developing customer-unique fluidic products and system solutions. Today, most products can be customised to minimise the clients' own work efforts and keep costs in check. We offer cutting-edge technology, our own production facility and one of the broadest product ranges in the market with over 7,000 products in stock. With more than 40 years of cooperation with international suppliers, Impel is able to quickly find the right product and solution for its customers.

Impel's most important asset is its employees. We possess solid know-how in our field of expertise and remain fully committed to every project we undertake. The combination of high skills and total dedication has guided us through many years.

Impel strengths:

- 40 years of experience in customised product solutions
- One of the widest product ranges in the market (7,000 products in stock) that can be customised to each client's unique needs
- Highly skilled staff in product development and total system solutions
- Own production facility
- Strong total concept including logistics and storage solutions



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