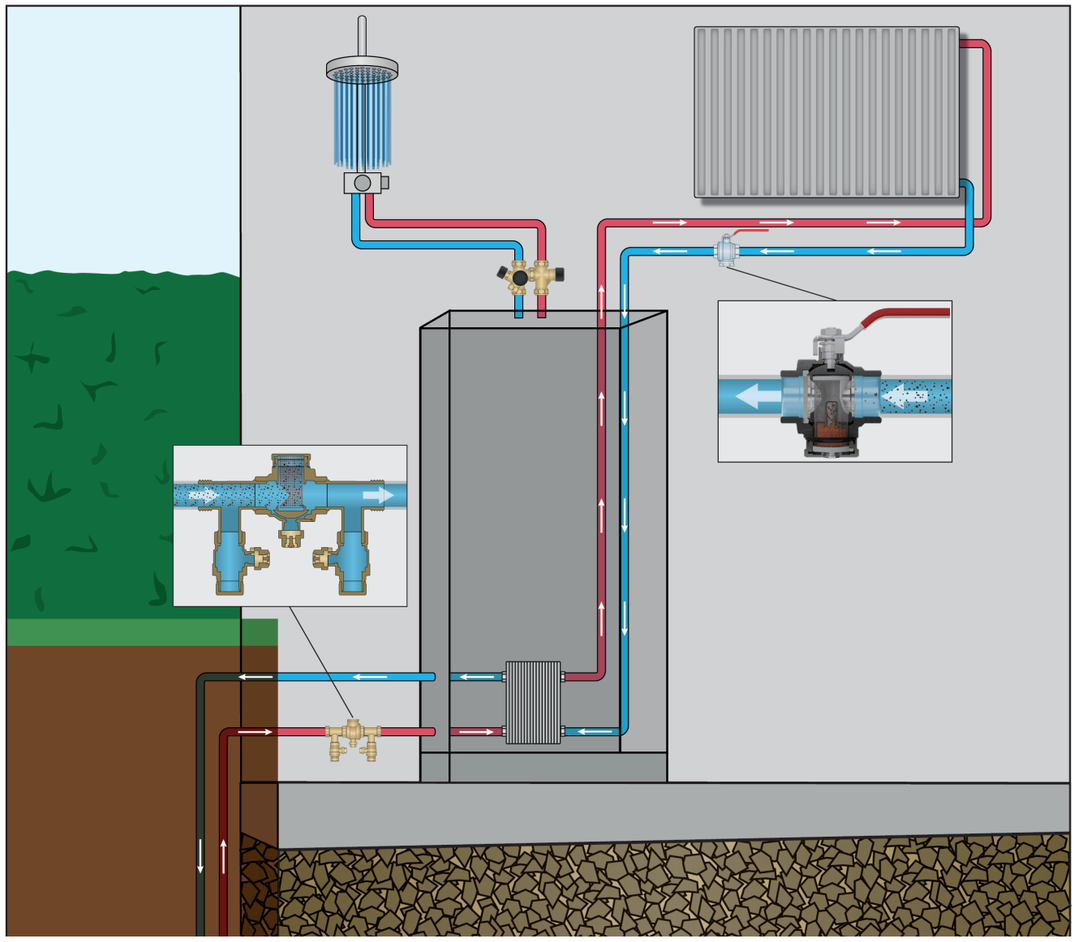
impel

FILTER BALL VALVE

FILTER BALL VALVE - FILLING DEVICE

Filter ball valve - All features in a single valve!



HISTORY

Impel has developed products for heating and tap water systems for close to 40 years.
The filter ball valve 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 filter ball valve or the filter ball valve with magnet, contamination can be reduced to a minimum, whilst filtration becomes simple and easy!
The filter ball valve also keeps the “cold side“ of the heat pump clean when integrated in the filling device 752, 753, 756 and 757, see page 8-10.
Most importantly, during service the filter ball valve is serviced and cleaned easily, safely and quickly. All features in a single valve!

Filter ball valve - Take good care of your system!

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.

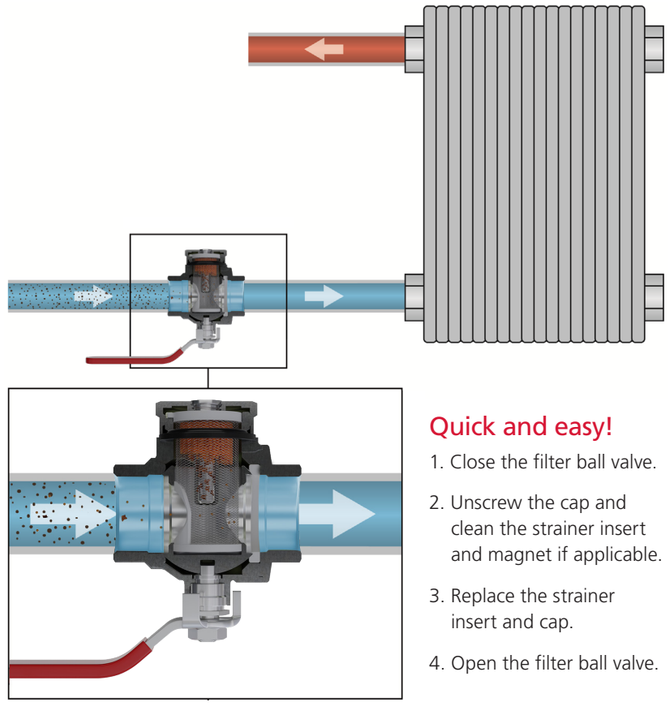
The filter ball valve is a compact “all in one" solution and features:

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

The filter ball valve with magnet is the same valve as the filter ball valve but also features a magnetite trap.

Complete functionality offered in a single product.

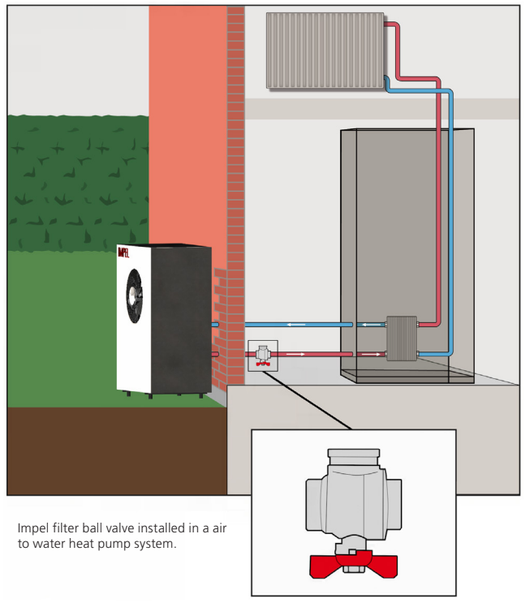
Take advantage of quick and simple service.



Quick and easy!

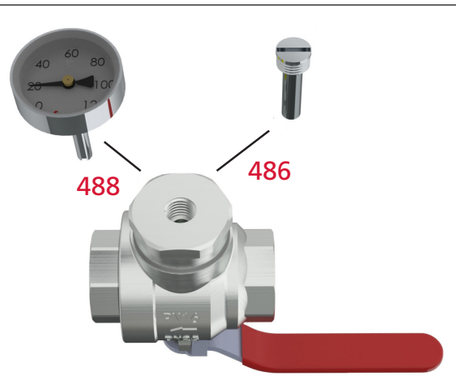
1. Close the filter ball valve.
2. Unscrew the cap and clean the strainer insert and magnet if applicable.
3. Replace the strainer insert and cap.
4. Open the filter ball valve.

Typical application for the filter ball valve



Impel filter ball valve installed in a air to water heat pump system.

Different need - different version



Our new version of our popular filter ball valve with magnet has a pocket which makes it easier to clean the magnet rod compared to our older model. The new design also makes it easy to install a thermometer for measuring the sysytem temperatur. There is also a possiblity to mount a external temperature sensor in the pocket.

Filter ball valve 480 - 484

- Body in nickel-plated brass
- Female thread ¾"- 2"
- Male thread ¾" - 1¼"
- Changeable stainless strainer insert
- Lever, T-handle or key grip

Description

Ball valve with strainer insert.

Construction

Ball valve in nickel-plated brass. Changeable strainer insert, mesh 0,6 mm. Gaskets in PTFE. Seals in EPDM between cap and body.

Model 480
Connection female thread 3/4"- 2", lever.

Model 480K
Connection female thread 3/4"- 2", key grip.

Model 481
Connection female thread 3/4" - 1", T-handle.

Model 484
Connection male thread 3/4"- 1 1/4"", lever.
Also available with T-handle.

Item number	Description	Connection thread	Length	Kv (m^3/h)	Weight (kg)
0448002000	Filter ball valve 480-20, 3/4"F, lever	3/4"F	65	7,1	0,54
0448002500	Filter ball valve 480-25, 1"F, lever	1"F	78	12,6	0,81
0448003200	Filter ball valve 480-32, 1 1/4"F, lever	1 1/4"F	87	24,7	1,28
0448004000	Filter ball valve 480-40, 1 1/2"F, lever	1 1/2"F	108	36,8	2,02
0448005000	Filter ball valve 480-50, 2"F, lever	2"F	127	62,7	3,77
0448002001	Filter ball valve 480K-20, 3/4"F, key grip	3/4"F	65	7,1	0,55
0448002501	Filter ball valve 480K-25, 1"F, key grip	1"F	78	12,6	0,83
0448003201	Filter ball valve 480K-32, 1 1/4"F, key grip	1 1/4"F	87	24,7	1,31
0448004001	Filter ball valve 480K-40, 1 1/2"F, key grip	1 1/2"F	108	36,8	2,02
0448005001	Filter ball valve 480K-50, 2"F, key grip	2"F	127	62,7	3,77
0448102000	Filter ball valve 481-20, 3/4"F, T-handle	3/4"F	65	7,1	0,50
0448102500	Filter ball valve 481-25, 1"F, T-handle	1"F	78	12,6	0,78
0448402000	Filter ball valve 484-20, 3/4"M, lever	3/4"M	77	7,1	0,57
0448402500	Filter ball valve 484-25, 1"M, lever	1"M	89	12,6	0,86
0448403200	Filter ball valve 484-32, 1 1/4"M, lever	1 1/4"M	102	24,7	1,38

All dimensions in millimetres

Subject to technical changes and corrections without notice

Filter ball valve 480 - 484

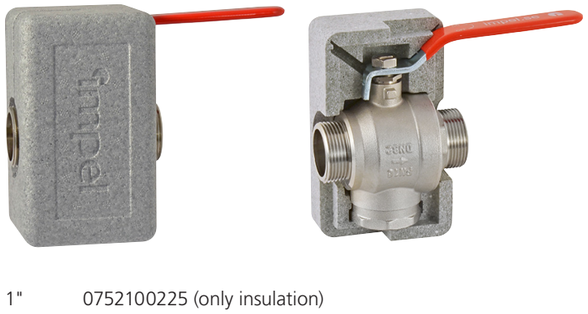
Technical data

Body	Nickel-plated brass CW617N
Ball seal	PTFE
Stem gasket	PTFE
Strainer insert	Stainless steel SS304
Cap seal (o-ring)	EPDM
Cap seal (gasket)	EPDM

Maximum working pressure: 16 bar
Maximum working temperature: 100°C
Minimum working temperature: –20°C

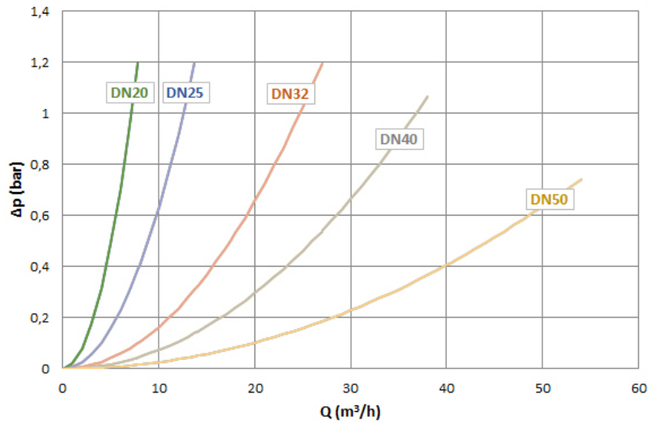
Optional accessories

Insulation for 480, 480K and 484.



1" 0752100225 (only insulation)
1 1/4" 0752100232 (only insulation)

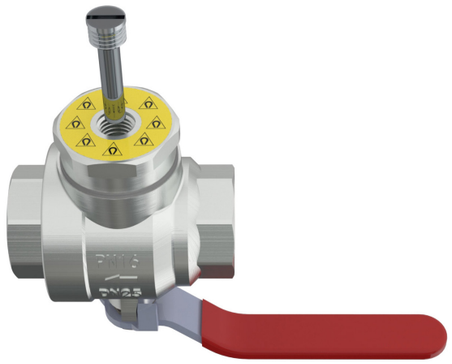
Pressure drop chart

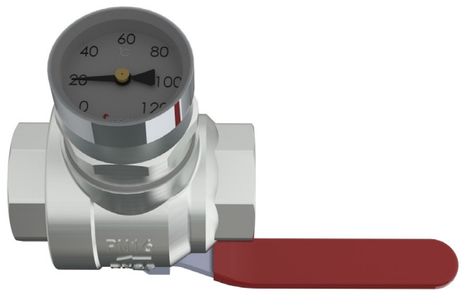


Subject to technical changes and corrections without notice

Filter ball valve 486 - 488

- Body in nickel-plated brass
- Female thread ¾" – 2"
- Changeable stainless strainer insert
- Rod magnet/thermometer
- Lever, T-handle or key grip





Description

Ball valve with strainer insert and rod magnet or thermometer.

Construction

Ball valve in nickel-plated brass.
Changeable strainer insert, mesh 0,6 mm. Gaskets in PTFE.
Rod magnet for collecting magnetite or thermometer for measuring system temperature.
Seals in EPDM between cap and body.

Model 486
Connection female thread 3/4" – 2", lever, magnet.

Model 486K
Connection female thread 3/4" – 2", key grip, magnet.

Model 487
Connection female thread 3/4" – 1", T-handle, magnet.

Model 488
Connection female thread 3/4" – 1", lever, thermometer.

Item number	Description	Connection thread	Length	Kv (m^3/h)	Weight (kg)
0448602010	Filter ball valve 486-20, 3/4"F, lever, magnet	3/4"F	65	7,0	0,56
0448602510	Filter ball valve 486-25, 1"F, lever, magnet	1"F	78	12,7	0,85
0448603210	Filter ball valve 486-32, 1 1/4"F, lever, magnet	1 1/4"F	87	21,1	1,34
0448604010	Filter ball valve 486-40, 1 1/2"F, lever, magnet	1 1/2"F	108	35,9	2,07
0448605010	Filter ball valve 486-50, 2"F, lever, magnet	2"F	127	53,4	3,86
0448602001	Filter ball valve 486K-20, 3/4"F, key grip, magnet	3/4"F	65	7,0	0,56
0448602501	Filter ball valve 486K-25, 1"F, key grip, magnet	1"F	78	12,7	0,86
0448603201	Filter ball valve 486K-32, 1 1/4"F, key grip, magnet	1 1/4"F	87	21,1	1,36
0448604001	Filter ball valve 486K-40, 1 1/2"F, key grip, magnet	1 1/2"F	108	35,9	2,07
0448605001	Filter ball valve 486K-50, 2"F, key grip, magnet	2"F	127	53,4	3,86
0448702010	Filter ball valve 487-20, 3/4"F, T-handle, magnet	3/4"F	65	7,0	0,51
0448702500	Filter ball valve 487-25, 1"F, T-handle, magnet	1"F	78	12,7	0,84
0448802000	Filter ball valve 488-20, 3/4"F, lever, thermometer	3/4"F	65	7,0	0,58
0448802500	Filter ball valve 488-20, 1"F, lever, thermometer	1"F	78	12,7	0,86

All dimensions in millimetres

Subject to technical changes and corrections without notice

Filter ball valve 486 - 488

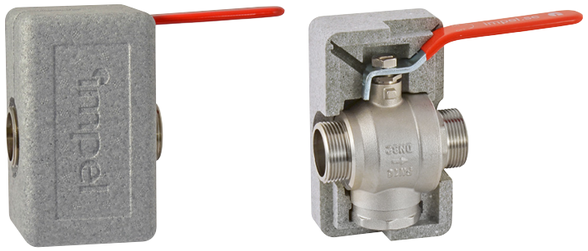
Technical data

Body	Nickel-plated brass CW617N
Stem gasket	PTFE
Rod magnet	NdFeB Neodymium
Strainer insert	Stainless steel SS304
Cap seal (o-ring)	EPDM
Cap seal (gasket)	EPDM
Ball seal	PTFE

Maximum working pressure: 16 bar
Maximum working temperature: 100°C
Minimum working temperature: –20°C

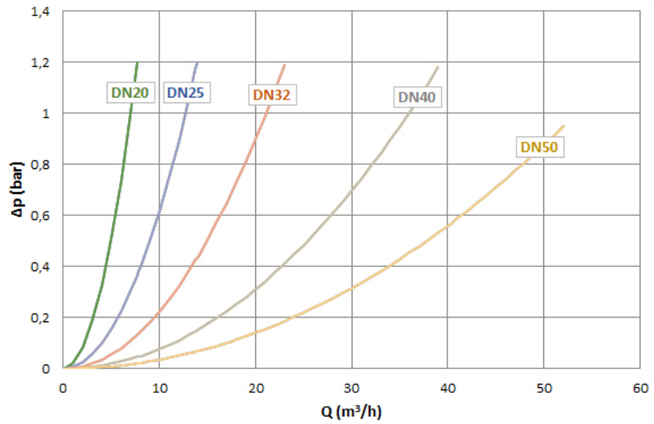
Optional accessories

Insulation for 486 and 486K.



1" 0752100225 (only insulation)
1 1/4" 0752100232 (only insulation)

Pressure drop chart



Subject to technical changes and corrections without notice

Filling device

Heating systems need to be filled, drained and protected!

The filling device - 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.

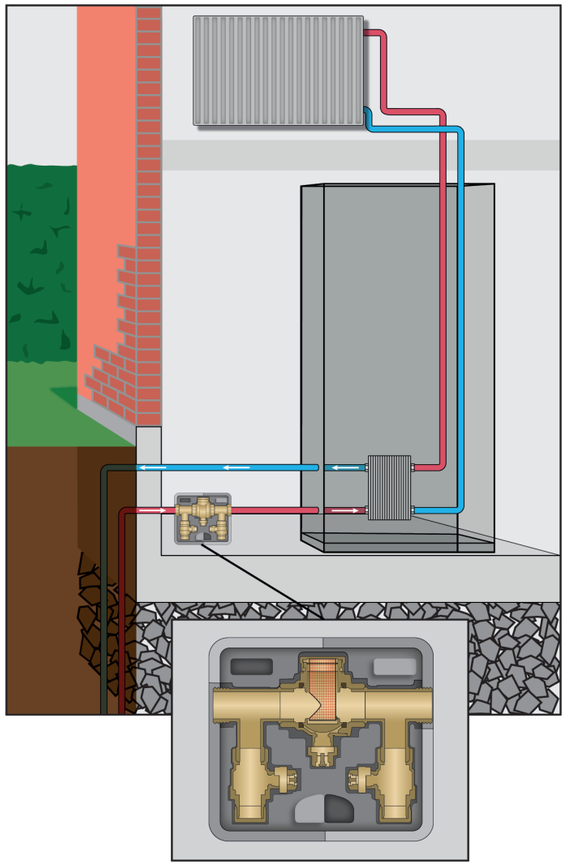
The stylish, compact design includes our handy filter ball valve.

On the filter ball 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.
Filling device dimensions 1" and 1 1/4" are supplied complete with insulation. Dimensions 3/4", 1 1/2" and 2" should be insulated locally.

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

The filling device 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.

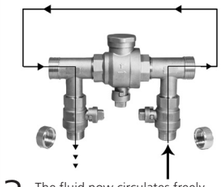


1" - 1 1/4"

Filling / draining the system (1" - 2"):

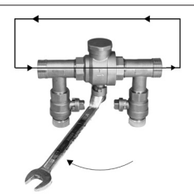
1 Close the filter ball valve.

2 Open the inlet valve and outlet valve.



3 The fluid now circulates freely.

4 Close the inlet valve and outlet valve.



5 Open the filter ball valve. The system is now protected.

Filling device 752 and 756

Description

752 - Filling device including strainer.
756 - Filling device including strainer and rod magnet.

Construction

Ball valve with key grip integrated strainer insert and mesh 0,6mm for closing the circulation loop. Gaskets in PTFE.
Seals in EPDM between cap and body.
Connection thread male/female 3/4".
Connection thread male 1"- 2". Rod magnet for collecting magnetite (756).
Ball valves with key grip for draining/filling with built-in strainer (1" and 1 1/4") for shutting off fill and drain lines.

Technical data

Body and T-pipe	Brass CW617N	Maximum working pressure: 16 bar
Strainer insert	Stainless steel SS304	Maximum working temperature: +100°C
Ball seal	PTFE	Minimum working temperature: -20°C
Stem gasket	PTFE	Maximum kW (752)*: 1" 12kW, 1 1/4" 25kW, 1 1/2" 67kW, 2" 115kW
Cap seal (o-ring)	EPDM	Media water - glycol mixture max 60%.
Cap seal (gasket)	EPDM	
Rod magnet (756)	NdFeB Neodymium	

Benefits:

- Filling and draining using the strainer for both hot and cold side. Magnetic version for effectively collecting and removing magnetic impurities.
- Dimensions ranging from 3/4" to 2" cover most needs.
- 1" and 1 1/4" 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, note flow direction.

¾"

1½" – 2"

Item number	Description	Connection thread	Length	Kv** (m^3/h)	Insulation included	Weight (kg)
0751000020	Filling device 752-20, 3/4"M x 3/4"F, T-handle	3 x 3/4"M, 3/4"F	180	7,1	No	0,85
0751000025	Filling device 752-25, 1"M, key grip	2 x 1"M, 2 x 3/4"M	200	12,6	No	1,84
0752000025	Filling device 752-25, 1"M, key grip, insulation	2 x 1"M, 2 x 3/4"M	200	12,6	Yes	1,92
0751000032	Filling device 752-32, 1 1/4"M, key grip	2 x 1 1/4"M, 2 x 3/4"M	251	24,7	No	2,51
0752000032	Filling device 752-32, 1 1/4"M, key grip, insulation	2 x 1 1/4"M, 2 x 3/4"M	251	24,7	Yes	2,59
0751000040	Filling device 752-40, 1 1/2"M, key grip	2 x 1 1/2"M, 2 x 1"M	255	36,8	No	3,75
0751000050	Filling device 752-50, 2"M, key grip	2 x 2"M, 2 x 1"M	280	62,7	No	5,77
0755000020	Filling device 756-20, 3/4"M x 3/4"F, T-handle, magnet	3 x 3/4"M, 3/4"F	180	7,0	No	0,90
0756000025	Filling device 756-25, 1"M, key grip, magnet, insulation	2 x 1"M, 2 x 3/4"M	200	12,7	Yes	1,98
0756000032	Filling device 756-32, 1 1/4"M, key grip, magnet, insulation	2 x 1 1/4"M, 2 x 3/4"M	251	21,1	Yes	2,65
0755000040	Filling device 756-40, 1 1/2"M, key grip, magnet	2 x 1 1/2"M, 2 x 1"M	255	35,9	No	3,80
0755000050	Filling device 756-50, 2"M, key grip, magnet	2 x 2"M, 2 x 1"M	280	53,4	No	5,81

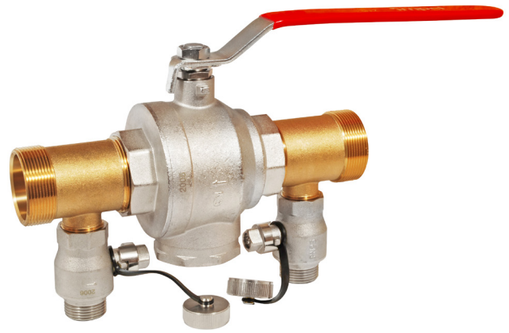
All dimensions in millimetres
* Theoretical value at 0.1 bar pressure drop across the flter ball valve and a 5°C temperature differential
** The Kv value applies to the filter ball valve

Subject to technical changes and corrections without notice

Filling device 753 and 757

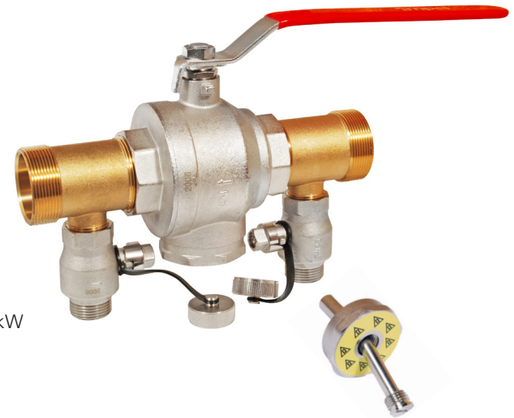
Description

753 - Filling device including strainer.
757 - Filling device including strainer and rod magnet.



Construction

Ball valve with lever and integrated strainer insert and mesh 0,6mm for closing the circulation loop. Gaskets in PTFE.
Seals in EPDM between cap and body.
Connection thread male 1"- 2". Rod magnet for collecting magnetite (757).
Ball valves with key grip for draining/filling with built-in strainer (1" and 1 1/4") for shutting off fill and drain lines.
Key grip position could be turned on request.



Technical data

Body and T-pipe	Brass CW617N
Strainer insert	Stainless steel SS304
Ball seal	PTFE
Stem gasket	PTFE
Cap seal (o-ring)	EPDM
Cap seal (gasket)	EPDM
Rod magnet (757)	NdFeB Neodymium

Maximum working pressure: 16 bar
Maximum working temperature: +100°C
Minimum working temperature: -20°C
Maximum kW (753)*: 1" 12kW, 1 1/4" 25kW, 1 1/2" 67kW, 2" 115kW
Media water - glycol mixture max 60%.

Benefits:

- Filling and draining using the strainer for both hot and cold side. Magnetic version for effectively collecting and removing magnetic impurities.
- Dimensions ranging from 1" to 2" cover most needs.
- The standard models for filling and draining systems also include our filter ball valve.
- Our filling devices are reversible to facilitate installation.

Item number	Description	Connection thread	Length	Kv** (m^3/h)	Insulation included	Weight (kg)
0753000025	Filling device 753-25, 1"M, lever	2 x 1"M, 2 x 3/4"M	200	12,6	No	1,81
0753000032	Filling device 753-32, 1 1/4"M, lever	2 x 1 1/4"M, 2 x 3/4"M	251	24,7	No	2,54
0753000040	Filling device 753-40, 1 1/2"M, lever	2 x 1 1/2"M, 2 x 1"M	255	36,8	No	3,75
0753000050	Filling device 753-50, 2"M, lever	2 x 2"M, 2 x 1"M	280	62,7	No	5,77
0757000025	Filling device 757-25, 1"M, lever, magnet	2 x 1"M, 2 x 3/4"M	200	12,7	No	1,84
0757000032	Filling device 757-32, 1 1/4"M, lever, magnet	2 x 1 1/4"M, 2 x 3/4"M	251	21,1	No	2,57
0757000040	Filling device 757-40, 1 1/2"M, lever, magnet	2 x 1 1/2"M, 2 x 1"M	255	35,9	No	3,80
0757000050	Filling device 757-50, 2"M, lever, magnet	2 x 2"M, 2 x 1"M	280	53,4	No	5,86

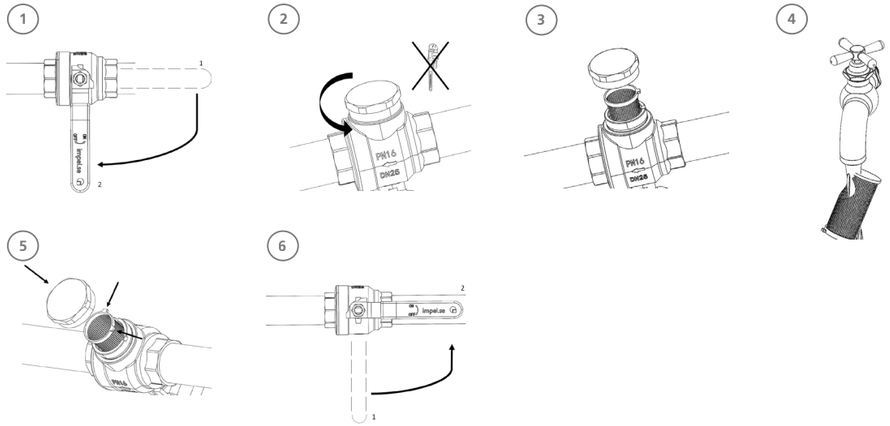
All dimensions in millimetres
* Theoretical value at 0.1 bar pressure drop across the flter ball valve and a 5°C temperature differential
** The Kv value applies to the filter ball valve

Subject to technical changes and corrections without notice

Maintenance

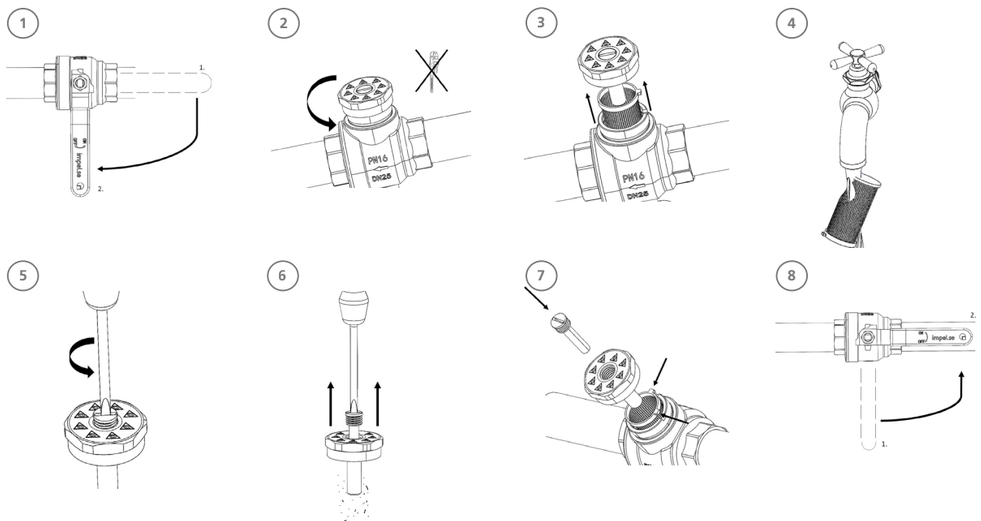
Cleaning the filter ball valve valve during operation

1. Close the filter ball valve.
2. Unscrew the cap.
3. Remove the strainer insert.
4. Flush clean.
5. Put the strainer back (note the small pins) and screw back the cap.
6. Open the filter ball valve.



Cleaning the filter ball valve with magnet valve during operation

1. Close the filter ball valve.
2. Unscrew the cap with magnet.
3. Remove the strainer insert.
4. Flush clean .
5. Unscrew the magnet rod to clean.
6. Make sure all dirt/magnetite has disappeared.
7. Put the strainer back (note the small pins) and screw back the cap and the magnet rod.
8. Open the filter ball valve.



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