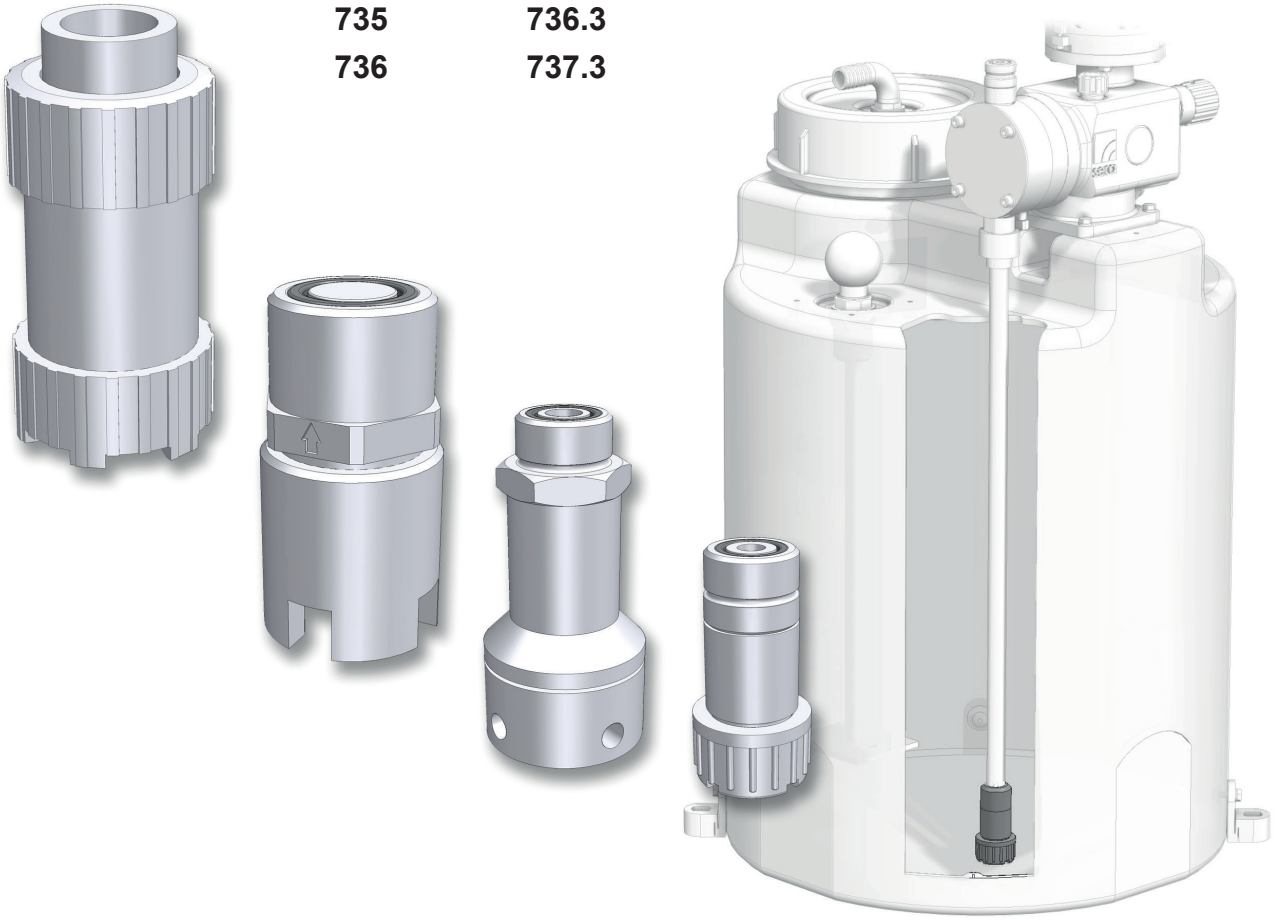
Foot valves

Operating instructions

Types:			
	731	732.3	781.1
	732	733.3	783.1
	733	734.3	
	734	735.3	
	735	736.3	
	736	737.3	



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Keep the operating instructions for future use!
Please state here the exact type of your foot valve. (can be read off the product description on the foot valve)
Type :
These data are important in case of queries or for ordering spare parts and must absolutely be stated.

Translation of the orifinal operating instructions!

Operating instructions

Operating instructions

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Operating instructions

1. General

1.1 General user information

The regulations applicable to the place of installation are to be observed before the commissioning and during the operation of the product from **sera**.
Always read these instructions and particularly the safety instructions before installation and commissioning of the **sera** product.

1.2 Symbols and notes used in these operating instructions

Notes (Text and symbol)	Danger type: Danger to life	Danger type: Risk of injury	Danger type: Dam. to property	Meaning (in the operating instructions)
DANGER!	X	X	X	Identifies **imminent danger** that could lead to death or serious injury if not avoided.
WARNING!	X	X	X	Indicates a potentially dangerous situation that could lead to death or serious injury and damage to property if not avoided.
CAUTION!		X	X	Indicates a potentially dangerous situation that could lead to slight or minor injury or damage to property if not avoided.
ATTENTION!			X	Indicates a potentially dangerous situation that could lead to damage to property if not avoided.
NOTE!				Indicates information which help to facilitate the work and is useful for a trouble-free operation.

Operating instructions

1.3 Quality instructions

Observance of these operating instructions and, in particular, the safety instructions, helps to

- avoid dangers to persons, machines and environment,
- increase reliability and service life of the product and the complete system,
- reduce repair cost and downtime.

The **sera** quality management and quality assurance system for pumps, systems, valves and fittings and compressors is certified according to ISO 9001:2008.
The **sera** products meet the valid safety and accident prevention regulations.

ATTENTION!

Always keep these operating instructions within reach at the place of installation.

WARNING!

Pay attention to the safety data sheet of the medium! The owner must take corresponding accident prevention measures to protect operating personnel from danger through the delivery media used!

2. Safety instructions

2.1 Personnel qualification and training

The personnel for operation, maintenance, inspection and installation must be suitably qualified for their tasks. The owner must clearly define responsibility and supervision of the personnel.
If the personnel do not have the knowledge required, then personnel is to be trained and instructed correspondingly. Such training can be provided by the manufacturer / supplier upon order of the owner. In addition, the owner has to ensure that personnel have understood the operating instructions completely.

2.2 Dangers in case of inobservance of the safety instructions

Inobservance of these safety instructions can result in danger to persons, hazards to the environment and damage to the product.
Inobservance of the safety instructions may lead to:

- Failure of important functions of the product/system.
- Inobservance of prescribed methods for maintenance and servicing.
- Danger to persons through chemical influences.
- Hazards to the environment through leaking dangerous media.

2.3 Safety conscious working

The safety instructions specified in this operating manual, the national regulations for accident prevention, the safety regulations for the pumped medium valid at the place of installation as well as internal working-, operating-, and safety instructions of the owner are to be observed.

2.4 Safety instructions for owner / operator

Leaking hazardous delivery media supplies are to be disposed off in such a way that any danger to persons and the environment is excluded. The legal regulations are to be observed.

Operating instructions

2.5 Safety instructions for maintenance, servicing and installation work

The owner must ensure that any maintenance-, servicing- and installation work is only entrusted to authorized and suitably qualified personnel who have carefully read and understood the operating instructions.

Only those spare parts are to be used which meet the requirements of the specified operating conditions.

Threaded joints and connections may only be disconnected when the system is not under pressure.

2.6 Arbitrary modification and production of spare parts

Modifications of or changements to the product are only permitted after previous agreement of the manufacturer. Original spare parts and accessories which were approved by the manufacturer are essential for safety reasons.

CAUTION!

If the product is modified without au-thorization of the manufacturer or spare parts are used which are not approved, any warranty claim becomes null and void.

2.7 Improper operations

Operating safety of the supplied product is only guaranteed if the product is used as intended, according to the descriptions in Chapter „Intended use“ of these operating instructions.

2.8 Intended use

The **sera** product is only to be deployed according to the intended purpose stated in the product description.
If the product is to be used for other applications, then the suitability of the suction lance for the new operating conditions must be discussed with **sera** beforehand!

Criteria for operation of the product in accordance with the intended use:

- Observe characteristics of the medium (please see safety- and product data sheet of the delivery medium – the safety data sheet is to be provided by the supplier / owner of the pumped medium).
- Resistance of the materials which come into contact with the pumped medium.
- Operating conditions at the place of installation.
- Temperature of the pumped medium.
- Max. pressure of the product.

2.9 Personal protection for maintenance and service

National safety regulations for the pumped medium must strictly be adhered to.

In case of accidents check whether the following substances are emitted:

- Leaking fluids.
- Leaking vapours.

Emissions are to be monitored by corresponding controly systems of the total installation.

Operating instructions

ATTENTION!

Wear protective clothing, gloves, breathing mask and a face protecting mask.

NOTE!

Personal protective equipment must be provided by the owner!

NOTE!

3. Transport and storage

3.1 General

sera - products are checked for perfect condition and function previous to shipment.
Check for transport damage immediately after arrival of goods. If damage is found, this is to be reported immediately to the responsible carrier and the manufacturer.

NOTE!

The packaging material must be disposed of appropriately!

3.2 Storage

An undamaged packaging protects the unit during storage and should only be opened when the product is installed.

Proper storage increases the service life of the product and includes prevention of negative influences such as heat, moisture, dust, chemicals etc.

The following storage specifications are to be obsered:

- Storage place: cool, dry, dustfree and slightly ventilated
- Storage temperature between +2°C and +40°C
- Relative air humidity not more than 50 %.
- The maximum storage time is 12 months.

If these values are exceeded, metal products should be sealed in foil and protected from condensation water with a suitable desiccant.

Do not store solvents, fuels, lubricants, chemicals, acids, disinfectants and similar in the storage room.

Operating instructions

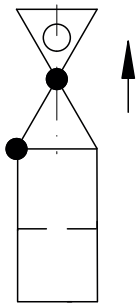
4. Product description

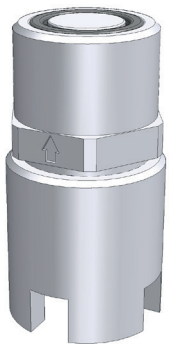
sera foot valve prevents the back flow of the medium once induction has taken place and supports problem-free functioning of the dosing pump.
The foot valves can be mounted and dismounted radially.

NOTE!

The foot valves are not applicable as absolutely tightly closing shut-off fittings!

Symbol	781.1, 783.1	731 ... 736		732.3 ... 737.3
		PVC-U	PP / PVDF / 1.4571	





4.1 Temperature range

The temperature range of the foot valves is between 0°C und +40°C (in relation to water).

The temperature range changes depending on the medium ► this must be checked by the owner.

Operating instructions

5. Technical data

Type	Nominal width DN	Max. admissible operating pressure bar	Max. flow rate [1] bis l/h	Max. pump stroke capacity cm³
781.1	8	10	200	20
783.1	20	10	1450	190
731	8	10	200	20
732	15	10	600	100
733	20	3	1100	190
734	25	3	1500	250
735	32	2	2000	700
736	40	2	4000	1400
732.3	15	10	600	100
733.3	20	10	1100	190
734.3	25	10	1500	250
735.3	32	10	2000	700
736.3	40	10	4000	1400
737.3	50	10	6000	2000

[1] at a viscosity of max. 50 mPas

Materials

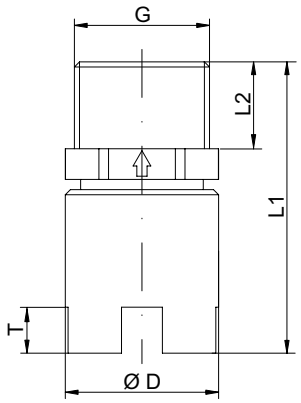
Type	Housing	Seal	Valve ball Valve cone [2]	Sieve [3]
781.1 783.1	■ PP-FRP ■ PVDF-FRP	■ FPM ■ EPDM ■ FEP-cov.	■ Glass ■ 1.4401 ■ PTFE	ETFE
731	■ PVC-U	■ FPM ■ EPDM	■ Glass ■ 1.4401	ETFE
732 ... 736	■ PP/PVDF	■ FPM ■ EPDM	■ Glass ■ PTFE ■ 1.4401	ETFE
731 ... 736	■ 1.4571	■ FPM ■ EPDM	■ 1.4401 ■ PTFE	ETFE
732.3 ... 737.3 [2]	■ PVC-U	■ FPM ■ EPDM	■ PVC-U	ETFE

[2] Valve cone ▶ foot valve 732.3 ... 737.3
[3] Mesh size: 1mm

Operating instructions

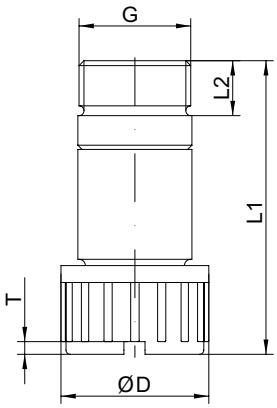
5.1 Dimensions

781.1, 783.1
Thread connection

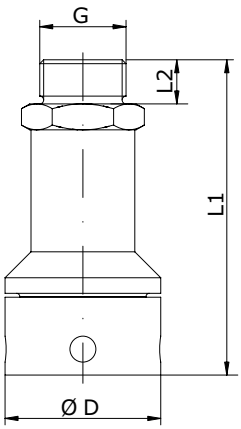


731 ... 736
Thread connection

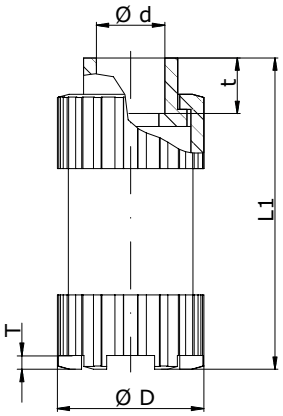
PVC-U



PP / PVDF / 1.4571



732.3 ... 737.3
Glueing bush connection



Material	Type	DN	G	D	d	L1	L2	T	t
				mm					
■ PP-FRP	781.1	8	G3/4	30	---	50	18	6	---
	783.1	20	G1 1/4	50	---	82	25	6	---
■ PVDF-FRP	781.1	8	G3/4	30	---	50	18	6	---
	783.1	20	G1 1/4	50	---	82	24	6	---
■ PVC-U	731	8	G3/4	31	---	70	13	3	---
■ PP ■ PVDF	732	15	G1	60	---	121	15	---	---
	733	20	G1 1/4	80	---	129	15	---	---
	734	25	G1 1/2	80	---	164	20	---	---
	735	32	G2	100	---	240	20	---	---
	736	40	G2 1/4	100	---	240	25	---	---
■ 1.4571	731	8	G3/4	30	---	70	13	---	---
	732	15	G1	60	---	121	17	---	---
	733	20	G1 1/4	80	---	129	20	---	---
	734	25	G1 1/2	80	---	164	20	---	---
	735	32	G2	100	---	240		---	---
	736	40	G2 1/4	100	---	240	25	---	---
■ PVC-U	732.3	15	---	53	20	92	---	4	16
	733.3	20	---	63	25	109	---	4,5	19
	734.3	25	---	70	32	118	---	5	22
	735.3	32	---	85	40	133	---	5,5	26
	736.3	40	---	101	50	144	---	5,5	31
	737.3	50	---	125	63	177	---	10	38

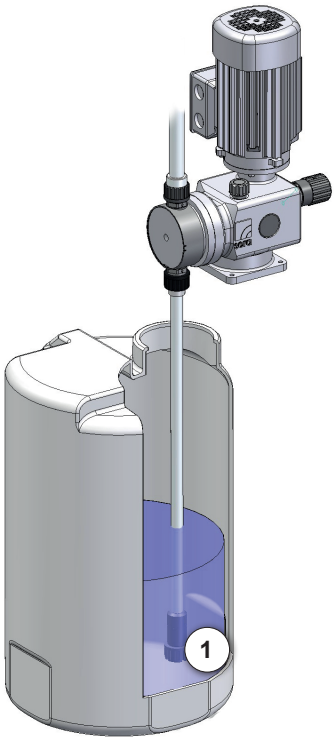
Operating instructions

6. Installation

- The installation / operating position is vertical.
- Flow direction is marked with an arrow.

Example of installation:

Install a foot valve (**1**) at the end of the suction line to avoid an emptying of the suction line.



7. Decommissioning

The following points must be observed when you decommission:

- Switch off the unit.
- Disconnect the unit from the power supply.
- Empty the product.

DANGER!

After the chemical was drained, rinse the unit / product with water or a suitable medium until there are no more chemical residues!
Note the compatibility of the rinsing medium with the chemical according to the safety data sheet.

Exothermic reactions must be avoided by all means!

8. Disposal

- Shut-down the product. Please see “Decommisioning“.

8.1 Dismantling and transport

- Package the suction lance and ship.

NOTE!

A clearance certificate must be filled in when systems are returned to the manufacturer (see Chapter „Clearance certificate“).

Acceptance will be rejected if this clearance certificate is not attached.

Operating instructions

WARNING!

The consignor is responsible for leaking fluids!

8.2 Complete disposal

- Remove all fluid residues.
- Dismount materials and send them to a suitable waste disposal company!

WARNING!

The consignor is responsible for leaking fluids!

9. Clearance certificate

NOTE!

Inspection / repair of machines and machine parts is only carried out after the opposite clearance certificate was filled in correctly and completely by authorized and qualified personnel.

NOTE!

Acceptance will be refused if parts are returned to the manufacturer without a proper clearance certificate.

All industrial companies are obligated by the legal provisions for occupational health, e.g. the workplaces ordinances, the Ordinance on Hazardous Substances, the regulations for prevention of accidents and the environmental protection regulations such as the Waste Management Act and the German Household Water Act to protect their employees or man and the environment from detrimental effects when handling hazardous substances.

Should special safety precautions be necessary despite careful draining and cleaning of the product the necessary information are to be provided.

Machines which are operated with radioactive media shall only be inspected and/or repaired in the safety area of the owner by a sera specialized fitter.

The clearance certificate is part of the inspection-/repair order.
sera reserves the right to refuse acceptance of the order for other reasons.

NOTE!

Please make a copy and leave the original with the operating instructions!
(can also be downloaded from: www.sera-web.com)

Operating instructions

Clearance Certificate

Product

Type _____ Serial-No. _____

the product was carefully emptied before shipping / delivery, and cleaned inside and outside. ☐ **YES**

Conveying medium

Designation _____ Concentration _____ %

Properties

Please tick!

If either of the listed properties, then enclose the appropriate safety and handling instructions.

☐ Harmless

☐ Toxic ☐ Corrosive ☐ Flammable ☐ Oxidising ☐ Unhealthy

☐ Explosive ☐ Dangerous for the environment ☐ Irritant ☐ Bio-hazardous ☐ Radioactive

The product was used with health or water-polluting substances and came up with labeling requirements and pollution prone media in contact. ☐ **YES** ☐ **NO**

Special security arrangements with respect to health or water-hazardous media are in the further handling ☐ **not required** ☐ **required**

The following safety precautions regarding rinsing, residual liquids and waste disposal are required:

Process data

The product was used with the following operating conditions described conveying medium:

Temperature _____ °C Pressure _____ bar

Sender

Company: _____ Telephone: _____

Contact person: _____ FAX: _____

Address: _____ E-mail: _____

Zip code, City: _____ Your order No: _____

We confirm that we have the information in this safety certificate (Clearance Certificate) have been correctly and completely and that the returned parts were carefully cleaned.

The parts are sent free of residues of dangerous amount.

Place, Date _____ Department _____ Signature (and company stamp) _____

Operating instructions

NOTES

Operating instructions

NOTES