Euro-system separator GENO®-DK 2-Mini

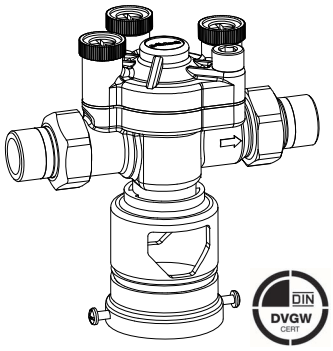

Fig. 1: Euro-system separator GENO®-DK 2-Mini

Designated application

The Euro-system separator GENO®-DK 2-Mini described herein, is a safety device to be installed in water pipes if special withdrawal points or appliances are connected to the drinking water supply. The Euro-system separator prevents the back-flow, back-pressure and back-suction of modified drinking water into the drinking water network. The construction design BA is approved for protection **up to and including hazard class 4** as per DIN 1988 part 4.5.1.

Determination of the required safety measures as per DIN 1988 part 4.5.1 (excerpt of the classification).

In order to be able to correctly select and use the proper safety measures which differ with regard to their function and effectiveness, it is necessary to classify substances or micro-organisms that could get into the drinking water and might cause adverse effects or risks due to the modified drinking water into 5 classes - irrespective of the concentration of such substances or micro-organisms. If several substances or micro-organisms might get into the drinking water at the same time, the most hazardous substance or micro-organism shall determine the hazard class.

Class 1

Without health risk or adverse effects (e.g. regarding taste, odour or colour).

Examples: Heated drinking water, temporary turbidity due to air bubbles.

Class 2

Without health risk but with adverse effects (detectable for example due to changes regarding taste, odour or colour).

Examples: Coffee, iron bacteria, stagnating drinking water in the drinking water installation.

Class 3

Health risk due to slightly poisonous substances. These are substances that cannot be classified in class 4.

Examples: Ethylene glycol, copper sulphate solution, heating water without additives or with additives as per class 3.

Class 4

Health risk due to poisonous, highly poisonous, carcinogenic or radioactive substances (danger to life). (for a more detailed definition, please refer to DIN 1988 part 4.5.1)

Examples: Lindane, phosalone, parathion (insecticides), hydrazine.

Class 5

Health risk due to pathogens of communicable diseases (contagion, danger to life).

Examples: Hepatitis viruses, salmonellae

Design

The Euro-system separator consists of a housing with test connections 1/8", a filter for coarse impurities in the inlet pressure zone, two non-return valves, a draining valve, a drain connection as per EN 1717 and screw connections incl. reduction to ¾".

Functional description

The Euro-system separator is divided into three pressure zones.

Inlet pressure zone:
Area upstream of the non-return valve on the inlet side

Middle pressure zone:
Area between the non-return valves

After-pressure zone:
Area downstream of the non-return valve on the outlet side

The control unit closes (flow position) resp. opens (separation position) the drain valve subject to the pressure conditions in the inlet and middle pressure zone, thus preventing back-flow, back-pressure and back-suction. In addition, the non-return valve on the outlet side ensures this as well.

The Euro-system separator does not require any energy supply such as an electrical or a compressed-air connection in order to function. The response values of the control unit are firmly defined and comply with the applicable directives.

For the inspection of the pressure zones, a 1/8" test connection is available at each pressure zone.

Scope of supply

Euro-system separator with integrated 500 µm filter for coarse impurities, ready for installation and operation, with screw connections, flat seals and operation manual, packed in a cardboard box.

Accessories

Service case to inspect the pressure zones as per W/TPW 135
Service set **Order no.132 095**

Installation requirements

Please observe local installation directives, general guidelines and technical specifications regarding the Euro-system separator.

The installation site must be accessible for maintenance work, flood and frost-proof and ensure the system's protection from chemicals, dyes, solvents and vapours.

As indicated in the installation example - refer to fig. 2 - shut-off valves for maintenance and inspection purposes have to be provided on the inlet and outlet side. The shut-off valve on the inlet side must be combined with a draining valve.

According to DIN EN 1988, part 2, quick-closing shut-off fittings that might cause positive or negative water hammer may only be used for continuous actuation in water installations if the max. admissible water hammer pressure and operating pressure are observed. Exceptions apply for fittings that are only used for test purposes and are operated by experts.

A drain connection must be provided for the discharge of the "dripping water". As the drain connection of the Euro-system separator is designed as a free outlet in compliance with the applicable regulations, the waste water pipe must ensure the discharge without back-water.

The Euro system separator should be installed in pipes with the same dimensions as its nominal diameter.

Technical specifications		**Euro-system separator GENO®-DK 2-Mini**
Connection data		
Nominal connection diameter	[DN]	15
Threaded connection (male thread)	[R]	½" (red. ¾")
Performance data		
Nominal pressure (PN)	[bar]	10
Min. flow pressure	[bar]	1
Max. flow	[m³/h]	3.5
KV value (Δp = 1 bar)	[m³/h]	2
Dimensions and weights		
A Installation length with screw connections	[mm]	130
B Installation length without screw connections	[mm]	83
C Drain connection HT pipe	[mm]	40
D Height above centre of pipe connection	[mm]	47
E Height below centre of pipe connection	[mm]	80
F Total height	[mm]	127
G Total width	[mm]	54
H Distance to wall	[mm]	35
H Space required above centre of pipe connection (e. g. for maintenance)	[mm]	200
L Clearance above drain has to be provided in accordance with the planned running of the pipes	[mm]	Observe installation requirements!
Empty weight	[kg]	0.9
Operating weight	[kg]	1.2
Consumption data		
Dripping water volume per opening and closing process, approx.	[ml]	10
Max. waste water volume at drain connection	[m³/h]	1.5
Test certificate/Certification mark		
DVGW registration number		NW-6305BR0345
Ambient data		
Max. water temperature	[°C]	60
Max. ambient temperature	[°C]	60
Order no.		**133 100**

① Gate valve on inlet side
② Euro-system separator GENO®-DK 2-Mini
③ Bleeding screw
④ Gate valve on outlet side
⑤ Draining of gate valve on inlet side

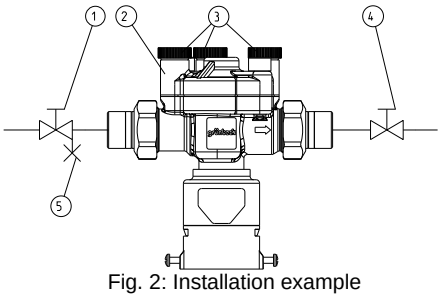

Fig. 2: Installation example

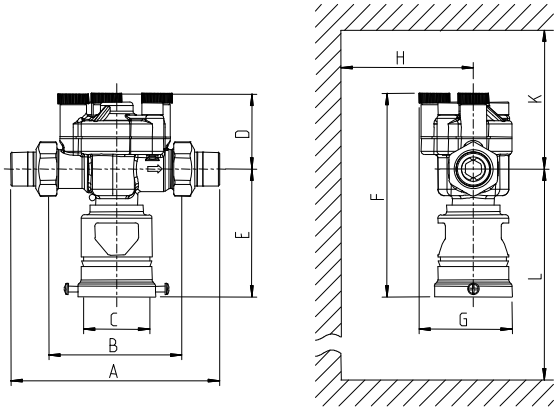

Fig. 3: Dimensional drawing

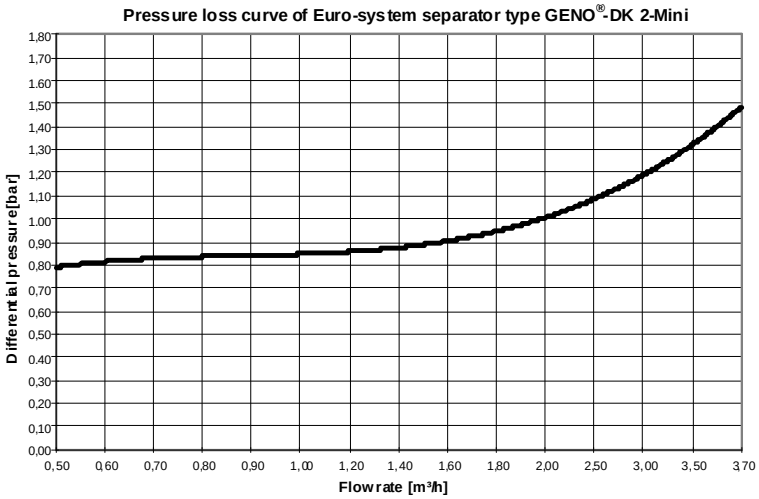

Fig. 4: Pressure loss curve