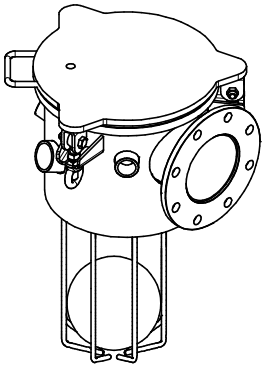
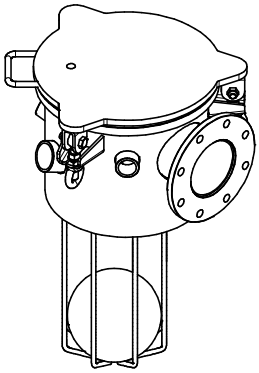
EN

PRIMARY SHUTOFF DN100-125-150

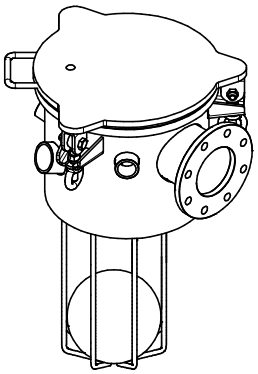
ORIGINAL INSTRUCTIONS



PRIMARY SHUTOFF
DN150



PRIMARY SHUTOFF
DN125



PRIMARY SHUTOFF
DN100

TECHNICAL DATA SHEET

CODE 18450 029 10 – 18450 029 20
CODE 18450 027 10 – 18450 027 20
CODE 18450 028 10 – 18450 028 20
CODE 18450 026 10 – 18450 026 20
CODE 18450 037 10 – 18450 037 20
CODE 18450 031 10 – 18450 031 20

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COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL = ISO 9001 =

COMPANY WITH ENVIRONMENTAL SYSTEM CERTIFIED BY DNV GL = ISO 14001 =

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL = UNI EN ISO 3834-2 =

Rev. 03
04-10-2016

1. General warnings

This technical data sheet contains technical information concerning the steel and stainless steel opening primary shutoffs and the main installation and maintenance instructions.

Complying with the instructions contained in this technical data sheet is crucial for the recognition of warranty against defective parts. Upon receiving the goods, ensure that they are intact and have not been accidentally damaged during transport. In the event parts of the accessory must be replaced, **use only genuine spare parts**.

2. Technical data

The opening primary shutoffs are designed to be welded to the machine, where the vacuum line starts. The primary shutoffs are equipped with an "overflow" system with a stainless steel floating ball. This system prevents the suctioned material (liquids or similar) from entering the vacuum line when the maximum level inside the tank is reached. The opening primary shutoffs are equipped with a series of side couplings that enable the connection of various types of accessories, such as vacuum breaker and safety valves, pressure gauges and vent systems and cyclone drains.

The opening primary shutoffs are available in the following three categories:

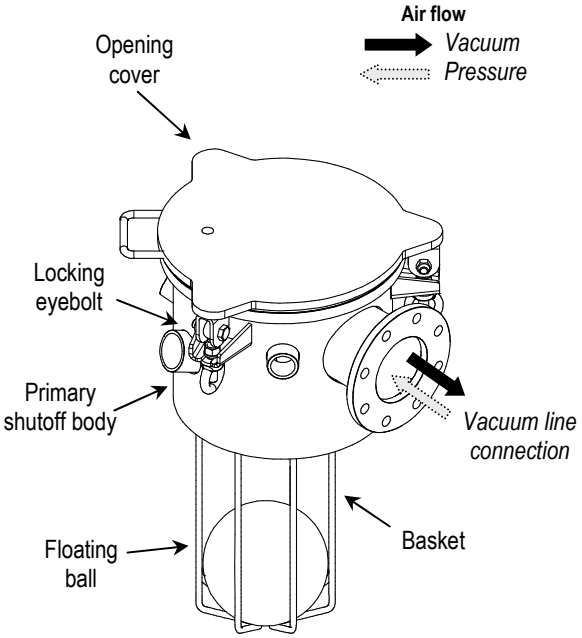
- **Opening primary shutoff DN100**, available in the versions with low ferrule and high ferrule;
- **Opening primary shutoff DN125**, available in the versions with low ferrule and high ferrule**;**
- **Opening primary shutoff DN150**, available in the versions with low ferrule and high ferrule**.**

Each of the models described above is available in the Iron and Stainless steel versions. The manufacturing materials are the following:

- Iron version made of **EN 10025-5/EN10155 S355J2WP 1.8946 mild steel** for the body (EN10025-2 S355J2 mild steel for the cover);
- Stainless steel version made of **EN10088 AISI316L 1.4404 engine turned stainless steel.**

All the versions of the primary shutoff are equipped with cover seal, NBR floating ball seal (double taper), stainless steel 316 floating ball seal and stainless steel 304L internal basket.

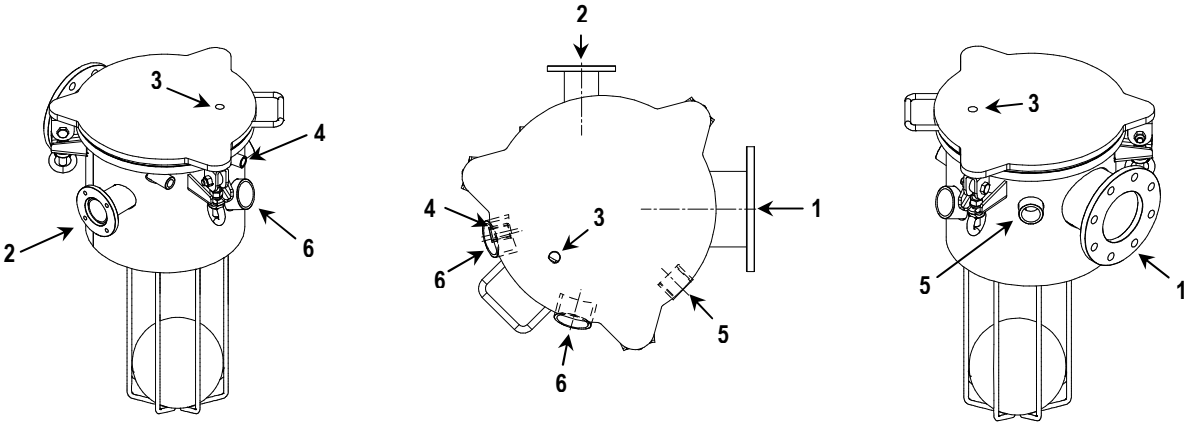
The following figure shows a schematic diagram of an opening primary shutoff, highlighting the main components.



The opening primary shutoffs are designed to operate under vacuum (with the vacuum pump suctioning from the tank) and under pressure (vacuum pump that discharges in the tank e.g., the material contained in it).

All the opening primary shutoffs are equipped with the following components:

1. Flange for coupling to the vacuum line (DN100 – DN125 – DN150 according to the chosen version);
2. Flange for coupling to the cyclone drain **DN50**;
3. Threaded hole for ½“ **G** pressure gauge connection;
4. Threaded hole for ½“ **G** pressure switch connection;
5. Threaded hole for **1** ¼“ **G** vent valve connection;
6. Threaded hole for **2”** **G** safety valve connection;



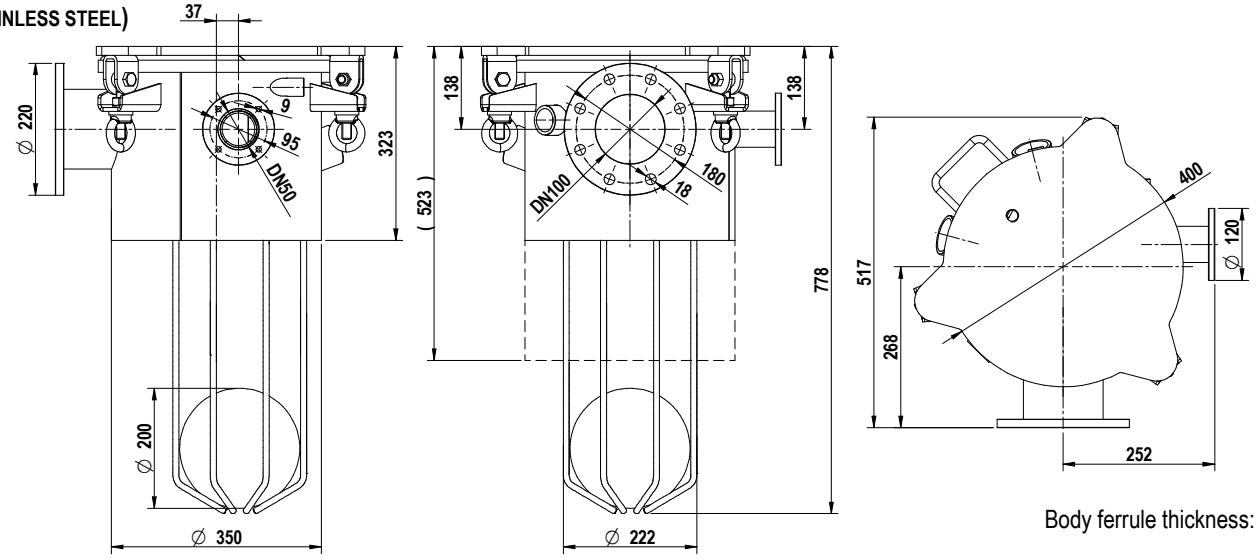
The following table shows the main features and operating parameters with reference to the material, height and ferrule of the primary shutoff, the design pressure and weight of the available opening primary shutoff valves.

Available versions and operating parameters

Model	Code	Material	Ferrule height	Design pres.	Weight
Iron primary shutoff DN 100	18450 029 10 - 18450 029 18	S355J2WP mild steel	Low	-1 / +4 bar	56 Kg
Stainless steel primary shutoff DN 100	18450 027 10 - 18450 027 18	AISI316L engine turned st. steel			
Iron high primary shutoff DN 100	18450 029 20 - 18450 029 28	S355J2WP mild steel	High	-1 / +4 bar	66 Kg
St. steel high primary shutoff DN 100	18450 027 20 - 18450 027 28	AISI316L engine turned st. steel			
Iron primary shutoff DN 125	18450 028 10 - 18450 028 18	S355J2WP mild steel	Low	-1 / +4 bar	57 Kg
Stainless steel primary shutoff DN 125	18450 026 10 - 18450 026 18	AISI316L engine turned st. steel			
Iron high primary shutoff DN 125	18450 028 20 - 18450 028 28	S355J2WP mild steel	High	-1 / +4 bar	67 Kg
St. steel high primary shutoff DN 125	18450 026 20 - 18450 026 28	AISI316L engine turned st. steel			
Iron primary shutoff DN 150	18450 037 10 - 18450 037 18	S355J2WP mild steel	Low	-1 / +4 bar	58 Kg
Stainless steel primary shutoff DN 150	18450 031 10 - 18450 031 18	AISI316L engine turned st. steel			
Iron high primary shutoff DN 150	18450 037 20 - 18450 037 28	S355J2WP mild steel	High	-1 / +4 bar	68 Kg
St. steel high primary shutoff DN 150	18450 031 20 - 18450 031 28	AISI316L engine turned st. steel			

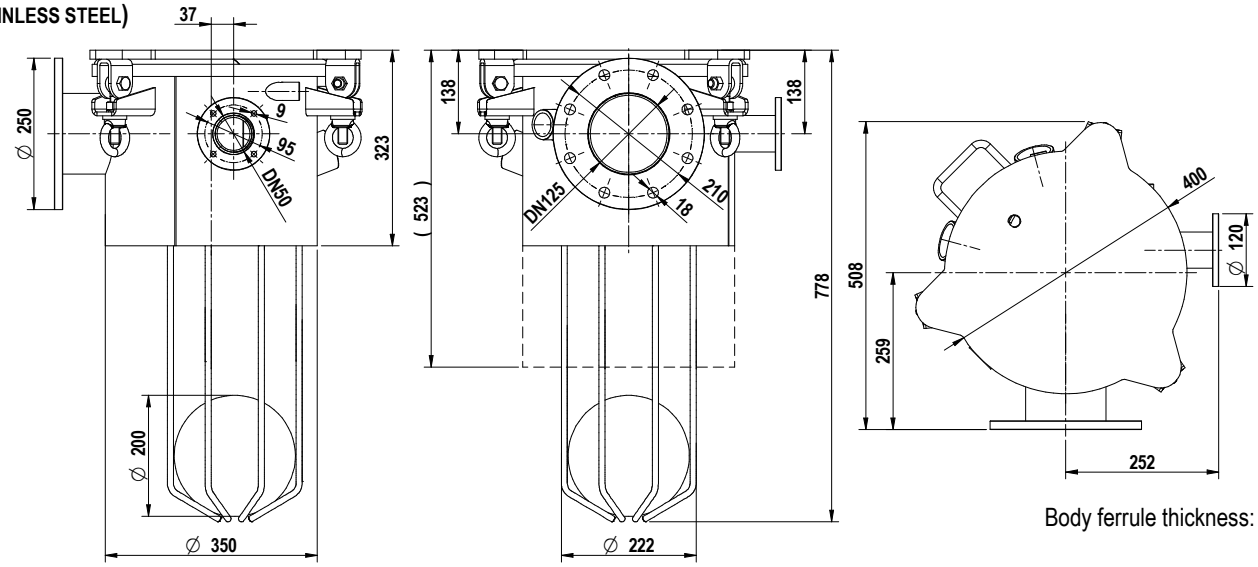
The opening primary shutoffs are made in compliance with the EN13445-3 and EN14025 standards concerning pressure vessels. The primary shutoffs marked with the 8 final number on the code (es. 18450 029 18), are supplied with radiographies as per ADR.

Opening primary shutoff DN100 – code 18450 029 10 (8) - 18450 029 20 (8) (MILD STEEL) – code 18450 027 10 (8) - 18450 027 20 (8) (STAINLESS STEEL)



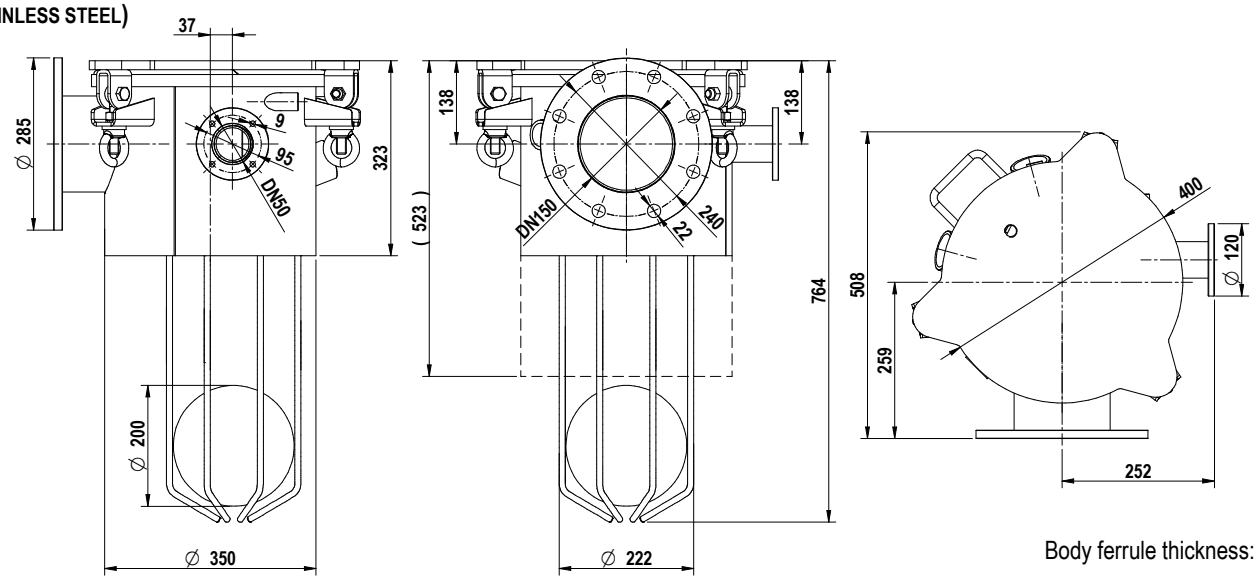
Body ferrule thickness: 6 mm

Opening primary shutoff DN125 – code 18450 028 10 (8) – 18450 028 20 (8) (MILD STEEL) – code 18450 026 10 (8) – 18450 026 20 (8) (STAINLESS STEEL)



Body ferrule thickness: 6 mm

Opening primary shutoff DN150 – code 18450 037 10 (8) - 18450 037 20 (8) (MILD STEEL) – code 18450 031 10 (8) – 18450 031 20 (8) (STAINLESS STEEL)



Body ferrule thickness: 6 mm

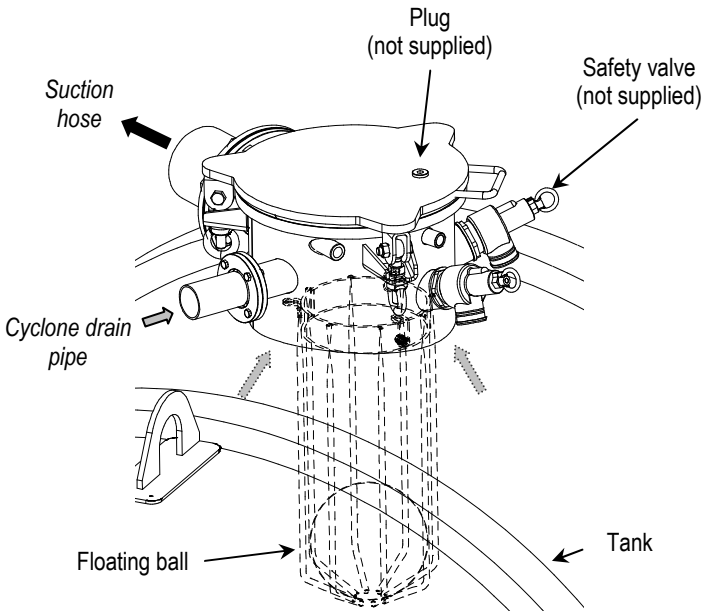
Note: the dimensions in brackets (522) refer to the primary shutoff version with high ferrule.

3. Installation

The primary shutoff must be welded on top of the tank. The figure below shows a schematic view of a correct installation, highlighting some of the possible components that can be assembled.

The primary shutoff can operate both under vacuum (as shown in the figure) and under pressure. This allows optimising the discharge of the material contained in the tank and the operation of the cyclone drain system, if any (in vacuum or in pressure mode).

The primary shutoff is equipped with threaded stumps for the installation of various types of accessories (see Chap. 2). We recommend installing a safety valve on the threaded stump in order to ensure operation within the established pressure limits.



The opening primary shutoff is designed to allow removing and replacing internal components (vacuum stump, basket, floating ball and double taper seal) from the top, without having to access the inside of the tank.

If access to the vacuum stump requires climbing on top of the tank at a greater height than the ground level, provide suitable devices conforming to the standards in force.

Proceed as follows.

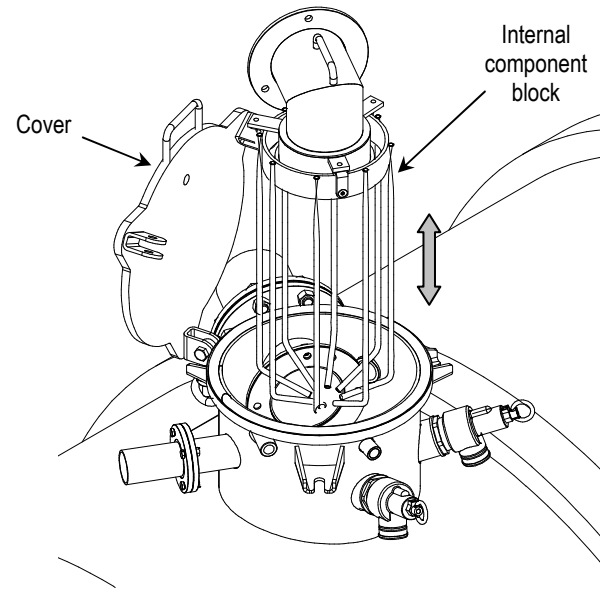
• Loosen the locking eyebolts positioned in the proximity of the opening handle.

• Open the cover by means of the handle.

• Remove the three vacuum stump fastening screw.

• Remove the block consisting of the vacuum stump, basket, floating ball and double taper seal.

The following table shows a schematic view of how to remove internal c



4. Maintenance

To operate correctly, the opening primary shutoff must be cleaned regularly (according to the conditions of use and the type of substances that are suctioned). Under normal conditions of use, it is sufficient to clean with a jet of high pressure water from the rear of the tank (without intervening directly on the sump on top of the tank).

Should more thorough cleaning be required (e.g.in the event the natural movement of the metal floating ball is hindered due to dirt), proceed as follows.

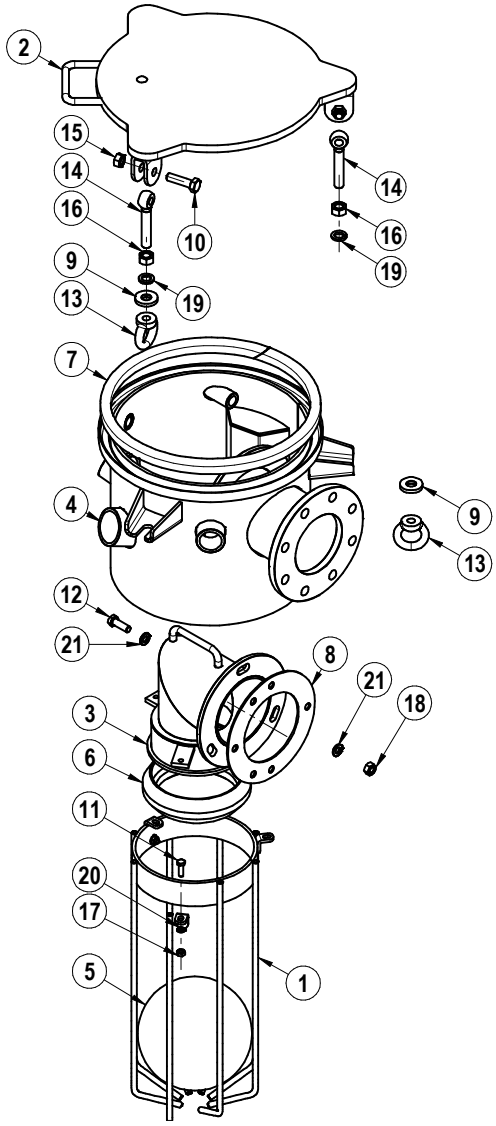
- Loosen the locking eyebolts positioned in the proximity of the opening handle.
- Open the cover by means of the handle.
- Thoroughly clean the inside of the primary shutoff using high pressure water.

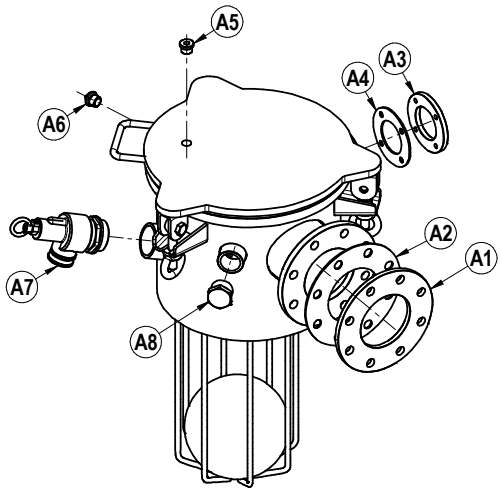
Attention: ensure that the tank is under atmospheric pressure before intervening on the primary shutoff.

In the event of a pressure drop in correspondence of the primary shutoff, ensure the correct position of the cover seal. Replace if worn.

In presence of suctioned material (e.g. liquids) along the vacuum line, ensure the integrity and the correct position of the inner double taper seal. Replace if worn.

OPENING PRIMARY SHUTOFF DN100





Accessories available upon request

Pos.	Code	Description	Qty
A1	4026713806	FLAT FLANGE DN100 PN10 (MILD STEEL)	1
	4026713306	FLAT FLANGE DN100 PN10 (STAIN. STEEL)	1
A2	16807X7WA0	SEAL DN100 PN10	1
A3	1610020900	CYCL. FLANGE D.120X63 TH.10 (MILD STEEL)	1
	1610021000	CYCL. FLANGE D.120X63 TH.10 (ST.STEEL)	1
A4	1680610600	NBR FLANGE SEAL	1
A5	4026701653	GALV. ½ M PLUG W/HEAD SEAL	1
A6	4026700904	CAST IRON ½" M PLUG W/EDGE	1
A7	4027400202	SAFETY VALVE 2"	1
A8	4026703705	ST. STEEL 1"1/4 THREAD. PLUG	1

These accessories do not include nuts and bolts.

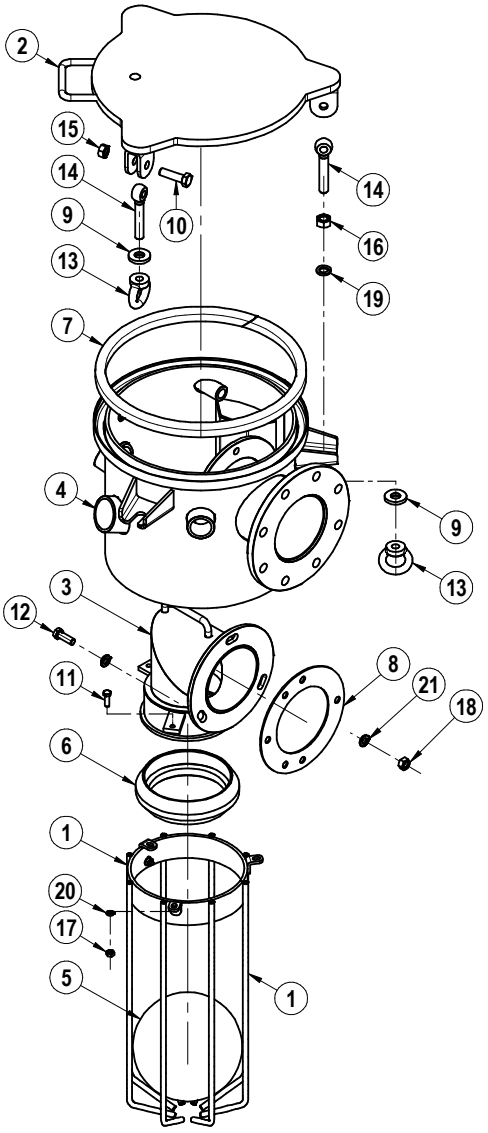
Opening primary shutoff DN100

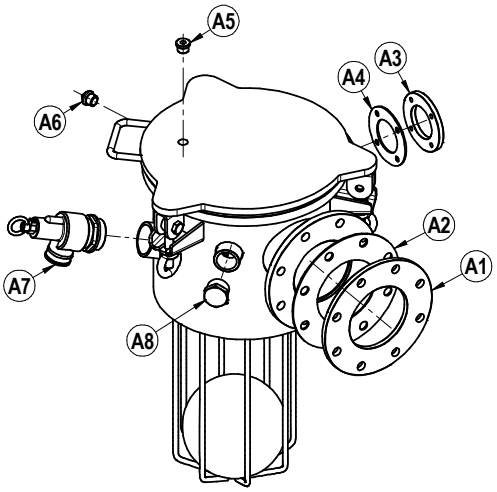
code 18450 029 10 - 18450 029 18 (LOW – MILD STEEL) – 18450 029 20 - 18450 029 28 (HIGH- MILD STEEL) - code 18450 027 10 - 18450 027 18 (LOW - STAINLESS STEEL) – 18450 027 20 - 18450 027 28 (HIGH - STAINLESS STEEL)

Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	15130ZH2B0	ST. STEEL BASKET	1	7	1680613000	PRIMARY SHUTOFF SEAL	1
2	1540002800	OPEN. P. SHUTOFF COVER (MILD STEEL)	1	8	1680614200	PRIM. SHUTOFF SEAL 215X180X135X3	1
	1540002700	OPEN. P. SHUTOFF COVER (ST. STEEL)	1	9	1685200200	BRASS FASTENER WASHERS D.40X17	3
3	15630XILA0	REMOVABLE VACUUM STUMP (MILD STEEL)	1	10	4026103112	GALV. HEX SCREW M14X50	3
	1563026700	REMOVABLE VACUUM STUMP (ST. STEEL)	1	11	4026150408	ST. STEEL HEX SCREW M8X25	3
4	1587006910	LOW FER. DN100 P. SHUTOFF (MILD STEEL)	1	12	4026150609	ST. STEEL HEX SCREW M12X35	3
	1587006918 (*)	LOW FER. DN100 P. SHUTOFF (MILD STEEL)	1	13	4026191103	GALV. FEMALE EYEBOLT M16	3
	1587006810	LOW FER. DN100 P. SHUTOFF (ST. STEEL)	1	14	4026191206	GALV.EYELET M16X100	3
	1587006818 (*)	LOW FER. DN100 P. SHUTOFF (ST. STEEL)	1	15	4026308008	GALV. HEX NUT M14	3
	1587006920	HIGH FER. DN100 P. SHUTOFF (MILD STEEL)	1	16	4026308009	GALV. HEX NUT M16	1
	1587006928 (*)	HIGH FER. DN100 P. SHUTOFF (MILD STEEL)	1	17	4026310007	ST. STEEL HEX NUT M8	3
	1587006820	HIGH FER. DN100 P. SHUTOFF (ST. STEEL)	1	18	4026310509	ST. STEEL SELF-LOCK. HEX NUT M12	3
	1587006828 (*)	HIGH FER. DN100 P. SHUTOFF (ST. STEEL)	1	19	4026350709	GALV. FLAT GROWER WASHER M12	1
5	1592000100	ST. STEEL FLOATING BALL D.200	1	20	4026350805	ST. STEEL GROWER WASHER M8	3
6	1680605200	DOUBLE TAPER SEAL D.200	1	21	4026350807	ST. STEEL GROWER WASHER M12	6

(*) = radiographed versions as per ADR.

OPENING PRIMARY SHUTOFF DN125





Accessories available upon request

Pos.	Code	Description	Qty
A1	4026713807	FLAT FLANGE DN125 PN10 (MILD STELL)	1
	4026713307	FLAT FLANGE DN125 PN10 (ST. STEEL)	1
A2	16807X7SA0	SEAL DN125 PN10	1
A3	1610020900	CYCL. FLANGE D.120X63 TH.10 (MILD STELL)	1
	1610021000	CYCL. FLANGE D.120X63 TH.10 (ST.STEEL)	1
A4	1680610600	NBR FLANGE SEAL	1
A5	4026701653	GALV. M 1/2 PLUG W/HEAD SEAL	1
A6	4026700904	CAST IRON PLUG W/EDGE M1/2"	1
A7	4027400202	SAFETY VALVE W/2" HOSE CONNECTION	1
A8	4026703705	ST. STEEL M 1"1/4 THREAD. PLUG	1

These accessories do not include nuts and bolts.

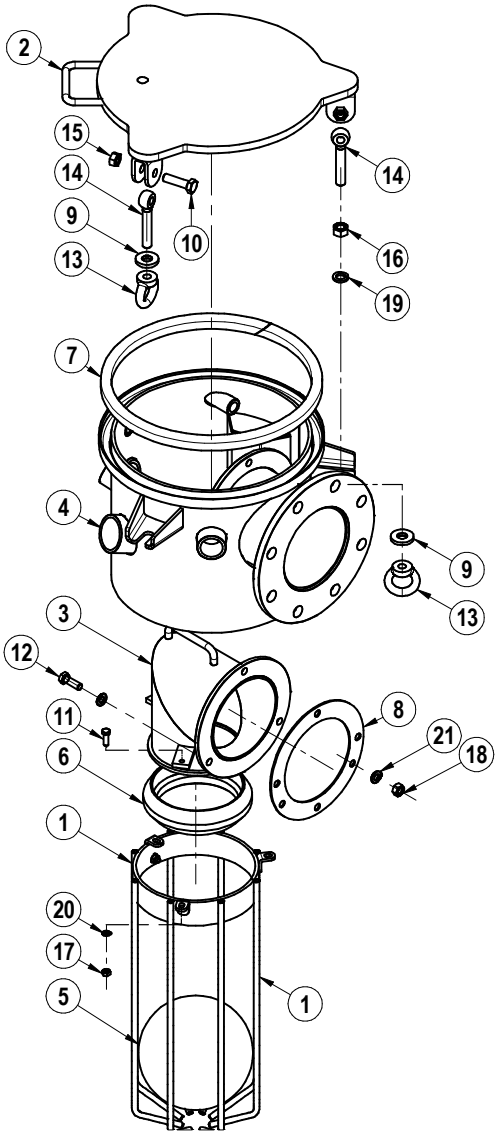
Opening primary shutoff DN125

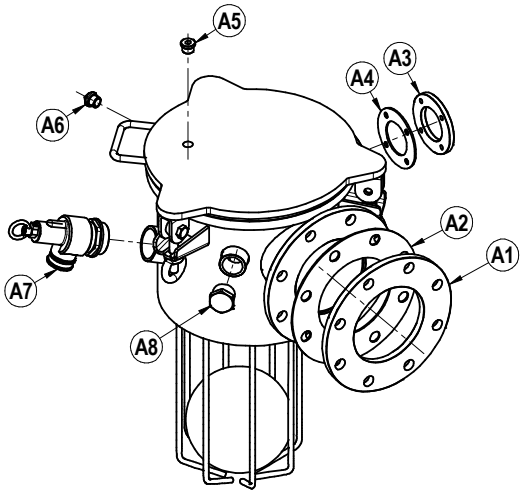
code 18450 028 10 - 18450 028 18 (LOW - MILD STEEL) - 18450 028 20 - 18450 028 28 (HIGH - MILD STEEL) - code 18450 026 10 - 18450 026 18 (LOW - STAINLESS STEEL) - 18450 026 20 - 18450 026 28 (HIGH - STAINLESS STEEL)

Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	15130ZH2B0	ST. STEEL BASKET	1	7	1680613000	PRIMARY SHUTOFF SEAL	1
2	1540002800	OPEN. PR. SHUTOFF COVER (MILD STEEL)	1	8	1680614200	PRIM. SHUTOFF SEAL 215X180X135X3	1
	1540002700	OPEN. PR. SHUTOFF COVER (ST. STEEL)	1	9	1685200200	BRASS FASTENER WASHERS D.40X17	3
3	15630XILA0	REMOVABLE VACUUM STUMP (MILD STEEL)	1	10	4026103112	GALV. HEX SCREW 8.8 M14X60	3
	1563026700	REMOVABLE VACUUM STUMP (ST. STEEL)	1	11	4026150408	ST. STEEL HEX SCREW M8X25	3
4	1587005710	LOW FER. PR. SHUTOFF DN125 (MILD STEEL)	1	12	4026150609	ST. STEEL HEX SCREW M12X35	3
	1587005718 (*)	LOW FER. PR. SHUTOFF DN125 (MILD STEEL)	1	13	4026191103	GALV. FEMALE EYEBOLT M16	3
	1587005610	LOW FER. PR. SHUTOFF DN125 (ST. STEEL)	1	14	4026191206	GALV.EYELET M16X100	3
	1587005618 (*)	LOW FER. PR. SHUTOFF DN125 (ST. STEEL)	1	15	4026308008	SELF-LOCK.HEX NUT M14	3
	1587005720	HIGH FER. PR. SHUTOFF DN125 (MILD STEEL)	1	16	4026308009	GALV. HEX NUT M16	1
	1587005728 (*)	HIGH FER. PR. SHUTOFF DN125 (MILD STEEL)	1	17	4026310007	ST. STEEL HEX NUT M8	3
	1587005620	HIGH FER. PR. SHUTOFF DN125 (ST. STEEL)	1	18	4026310009	ST. STEEL HEX NUT M12	3
	1587005628 (*)	HIGH FER. PR. SHUTOFF DN125 (ST. STEEL)	1	19	4026350709	GALV. FLAT GROWER WASHER M12	1
5	1592000100	ST. STEEL FLOATING BALL D.200	1	20	4026350805	ST. STEEL GROWER WASHER M8	3
6	1680605200	DOUBLE TAPER SEAL D.200	1	21	4026350807	ST. STEEL GROWER WASHER M12	6

(*) = radiographed versions as per ADR.

OPENING PRIMARY SHUTOFF DN150





Accessories available upon request

Pos.	Code	Description	Qty
A1	4026713411	FLAT FLANGE DN150 PN10 (MILD STEEL)	1
	4026713308	FLAT FLANGE DN150 PN10 (ST. STEEL)	1
A2	16807X97A0	SEAL DN150 PN10	1
A3	1610020900	CYCL. FLANGE D.120X63 TH.10 (MILD STEEL)	1
	1610021000	CYCL. FLANGE D.120X63 TH.10 (ST.STEEL)	1
A4	1680610600	NBR FLANGE SEAL	1
A5	4026701653	GALV. M 1/2 PLUG W/HEAD SEAL	1
A6	4026700904	CAST IRON PLUG W/EDGE M1/2"	1
A7	4027400202	SAFETY VALVE 2"	1
A8	4026703705	ST. STEEL 1"1/4 THREAD. PLUG	1

These accessories do not include nuts and bolts.

Opening primary shutoff DN150

code 18450 037 10 - 18450 037 18 (LOW - MILD STEEL) – 18450 037 20 - 18450 037 28 (HIGH - MILD STEEL) – code 18450 031 10 -18450 031 18 (LOW - STAINLESS STEEL) – 18450 031 20 -18450 031 28 (HIGH - STAINLESS STEEL)

Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	15130ZH2B0	ST. STEEL BASKET	1	7	1680613000	PRIMARY SHUTOFF SEAL	1
2	1540002800	OPEN. PR. SHUTOFF COVER (MILD STEEL)	1	8	1680613700	OPEN. PRIMARY SHUTOFF SEAL	1
	1540002700	OPEN. PR. SHUTOFF COVER (ST. STEEL)	1	9	1685200200	BRASS FASTENER WASHERS D.40X17	3
3	1563025400	REMOVABLE VACUUM STUMP (MILD STEEL)	1	10	4026103112	GALV. HEX SCREW M14X50	3
	1563025900	REMOVABLE VACUUM STUMP (ST. STEEL)	1	11	4026150408	ST. STEEL SCREW M8X25	3
4	1587008010	LOW FER. PR. SHUTOFF (MILD STEEL)	1	12	4026150609	ST. STEEL SCREW M12X35	3
	1587008018 (*)	LOW FER. PR. SHUTOFF (MILD STEEL)	1	13	4026191103	GALV. FEMALE EYEBOLT M16	3
	1587007210	LOW FER. PR. SHUTOFF DN150 (ST. STEEL)	1	14	4026191206	GALV.EYELET M16X100	3
	1587007218 (*)	LOW FER. PR. SHUTOFF DN150 (ST. STEEL)	1	15	4026308008	GALV. HEX NUT M14	3
	1587008020	HIGH FER. PR. SHUTOFF (MILD STEEL)	1	16	4026308009	GALV. HEX NUT M16	1
	1587008028 (*)	HIGH FER. PR. SHUTOFF (MILD STEEL)	1	17	4026310007	ST. STEEL HEX NUT M8	3
	1587007220	HIGH FER. PR. SHUTOFF DN150 (ST. STEEL)	1	18	4026310009	ST. STEEL HEX NUT M12	3
	158700722* (*)	HIGH FER. PR. SHUTOFF DN150 (ST. STEEL)	1	19	4026350709	GALV. FLAT GROWER WASHER M12	1
5	1592000100	ST. STEEL FLOATING BALL D.200	1	20	4026350805	ST. STEEL GR. WASHER M8	3
6	1680605200	DOUBLE TAPER SEAL D.200	1	21	4026350807	ST. STEEL GR. WASHER M12	6

(*) = radiographed versions as per ADR.