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Technical data sheet

# CYCLONE SECONDARY SHUT OFF

## DN80 / DN100 / DN125 / DN150

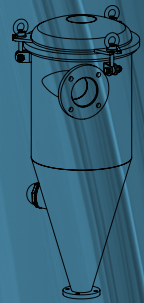
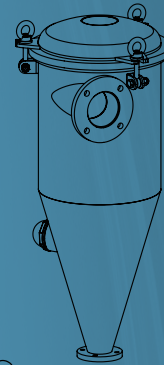
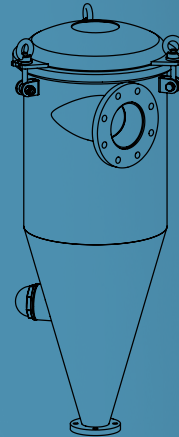
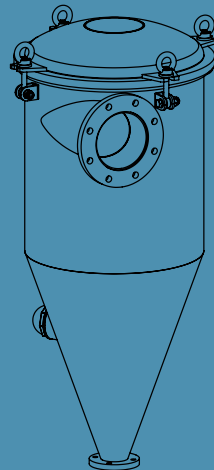


DN 150

DN 125

DN 100

DN 80





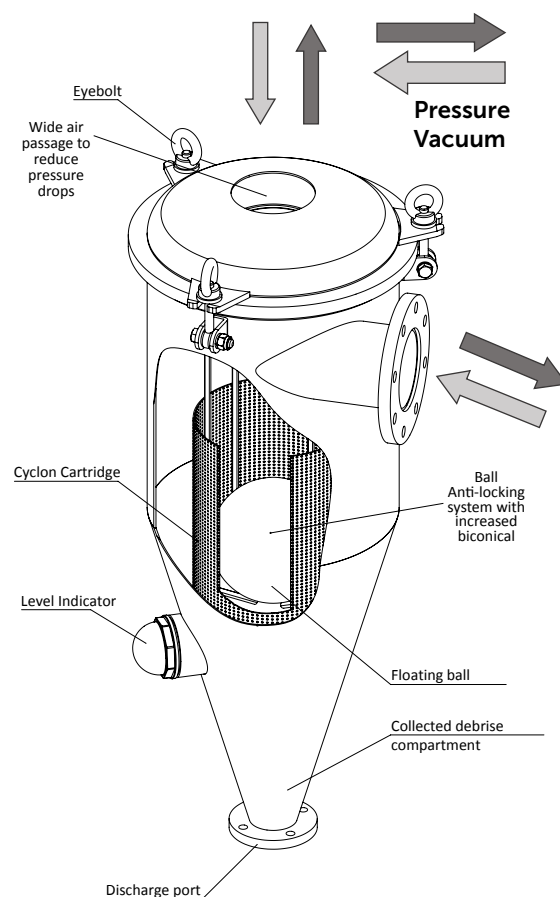
### DESCRIPTIONS AND TECHNICAL DATA

The cyclone secondary shut offs and moisture trap are designed to be installed in the vacuum/pressure line between the pump and the tank. The cyclone valves prevents external parts, liquid or solid, that may go past the primary shut off to entering into the pump. The cyclone consists of a vertical cylinder with a conical bottom. The flow stream enters the body of the separator tangentially through the inlet, the mixture of solids and fluid starts to swirl, materials that are denser are separated from the fluid by this downward flow as a result of the centrifugal force and can be collected at the bottom compartment. As the mixture is circulating down the cone it creates a "whirlpool effect" in the middle. This process generates a vortex in the center of the cone through which the lighter flow stream rises.

The cyclone secondary shut off valves are offered in three different dimensions and two different materials as follow:

CODE	MODEL	CYCLON SECONDARY SHUT OFF MATERIAL
6100200064	DN80	CARBON STEEL
6100200065	DN80	ENGINE TURN STAINLESS STEEL
6100200057	DN100	CARBON STEEL
6100200058	DN100	ENGINE TURN STAINLESS STEEL
6100200059	DN125	CARBON STEEL
6100200060	DN125	ENGINE TURN STAINLESS STEEL
6100200061	DN150	CARBON STEEL
6100200062	DN150	ENGINE TURN STAINLESS STEEL

The cyclone secondary shut off can operate both in vacuum and pressure conditions. The cyclones are equipped with two flanges compliant with **UNI EN 1092-1 PN6**. The upper side flange is a standard DN (100-125-150) for the connection of the pipe coming from the tank. The bottom flange is closed to the discharge port. The pump connection pipe shall be welded on to the cyclone cover.



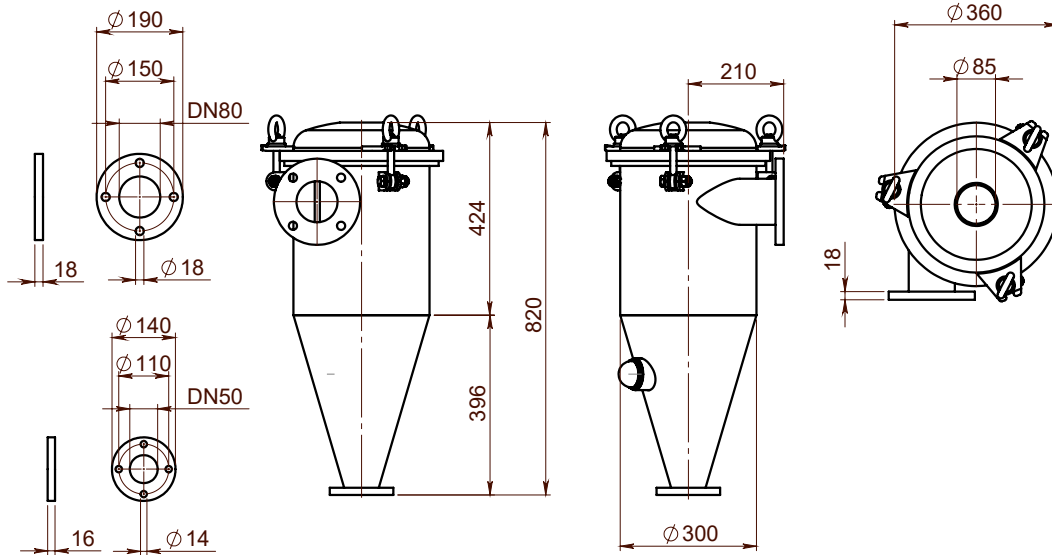
**Schematic diagram of the cyclone valve**

Operating Parameter	DN80	DN100	DN125	DN150
Maximum Flow Rate	1100 m <sup>3</sup> /h	1800 m <sup>3</sup> /h	2700 m <sup>3</sup> /h	4500 m <sup>3</sup> /h
Design pressure	-1 / +4 bar	-1 / +4 bar	-1 / +4 bar	-1 / +4 bar
Operating pressure	-1 / +0,5 bar	-1 / +0,5 bar	-1 / +0,5 bar	-1 / +0,5 bar
Weight	32 Kg	47 Kg	56 Kg	72 Kg

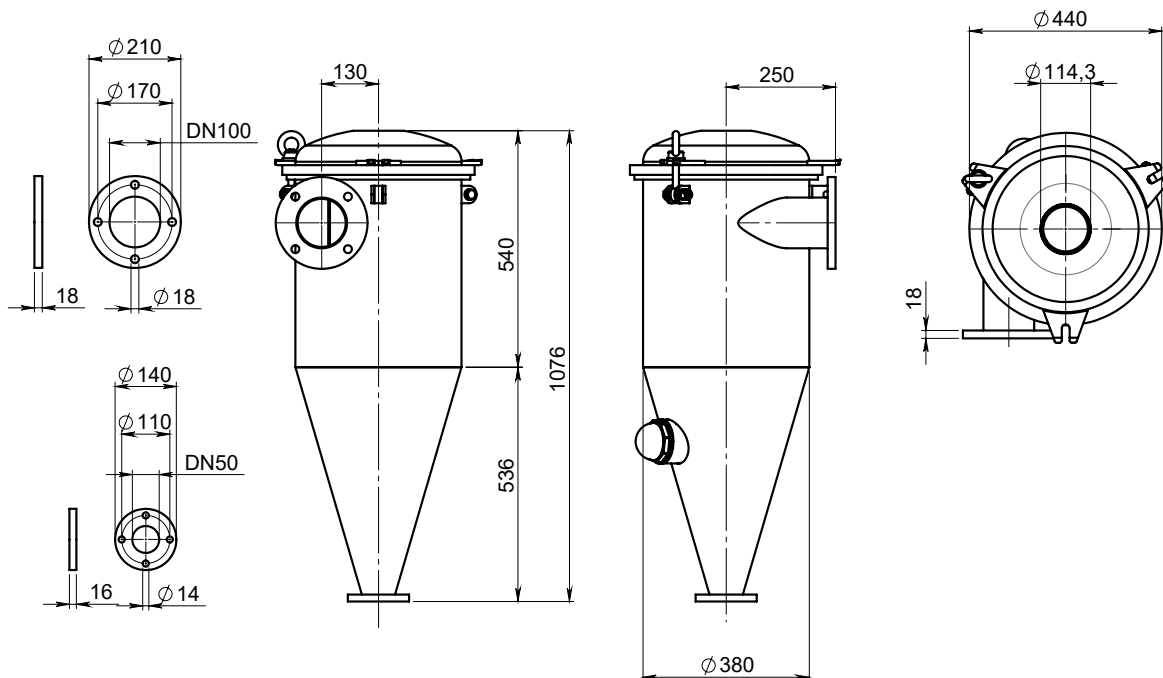


**OVERALL DIMENSIONS**

**DN80 CYCLONE SHUT OFF VALVE:  
6100200064 CARBON STEEL - 6100200065 ENGINE TURN STAINLESS STEEL**

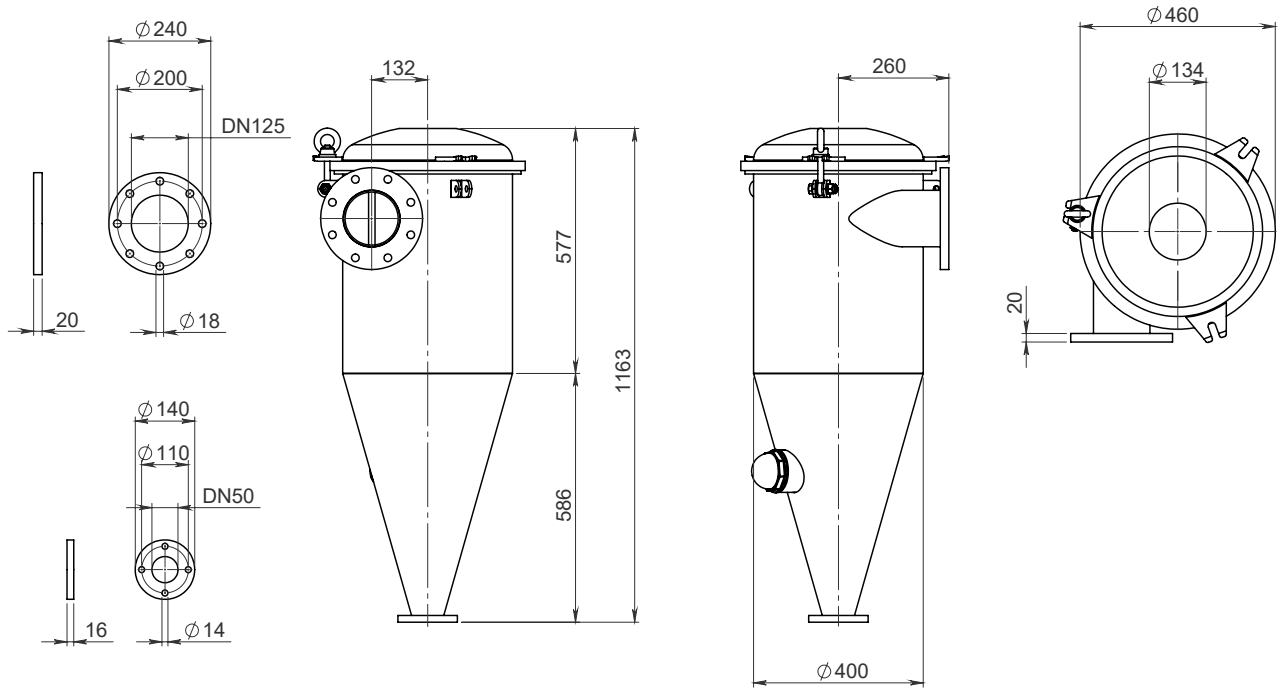


**DN100 CYCLONE SHUT OFF VALVE:  
6100200057 CARBON STEEL - 6100200058 ENGINE TURN STAINLESS STEEL**

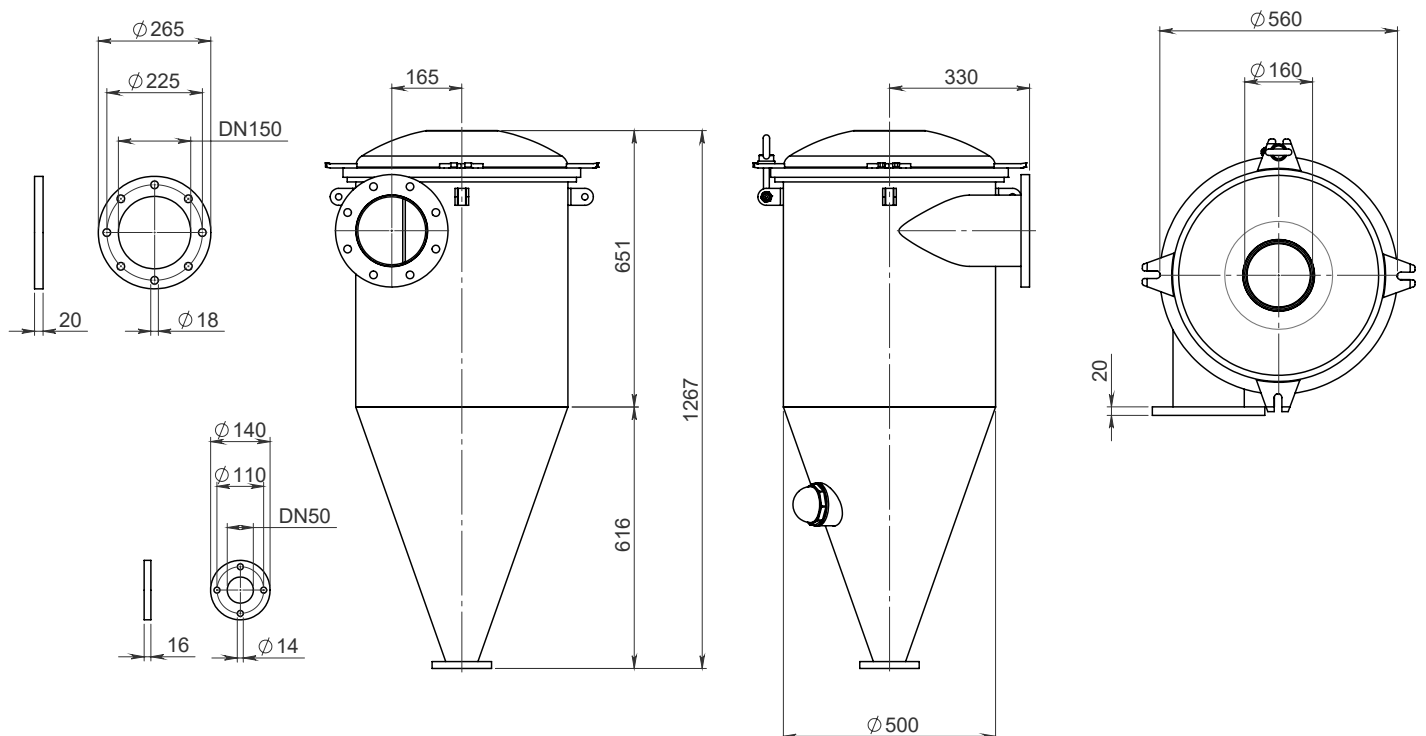




**DN125 CYCLONE SHUT OFF VALVE:  
6100200059 CARBON STEEL - 6100200060 ENGINE TURN STAINLESS STEEL**



**DN150 CYCLONE SHUT OFF VALVE:  
6100200061 CARBON STEEL - 6100200062 ENGINE TURN STAINLESS STEEL**



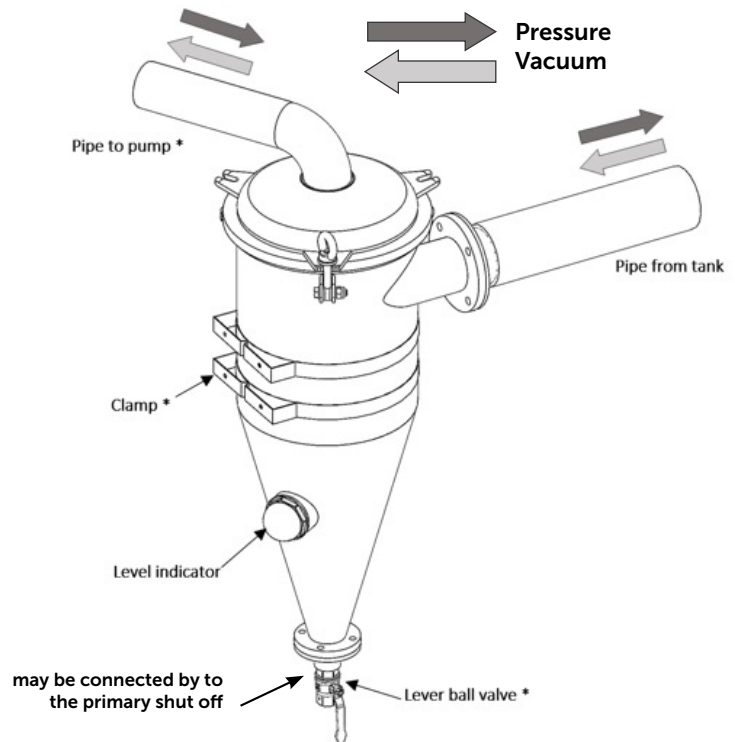
### INSTALLATION AND MAINTENANCE

The cyclone secondary shut off is designed to be installed in the vacuum/pressure line between the pump and the tank. The cyclone valve shall be installed vertically to properly operate.

The picture on this page shows a schematic diagram of the installation of the cyclone valve. The cyclone shall be installed supported by one or two clamps (depending on size). Enough clearance shall be arranged to allow emptying the material collected at the bottom of the cone. To facilitate the operation a ball valve shall be installed.

The bottom discharge flange (DN50) may be connected by a rubber hose to the primary shut off connection (DN50 flange) to drain the cyclone by making pressure with the pump. In this case a ball valve shall be installed.

Extraordinary maintenance such as deep cleaning or ball replacement, may require the removal of the cyclone's cover; thus enough clearance shall be provided for this purpose.



**\* Components not included**

During ordinary operations and conditions, we recommend draining the cyclone valve daily. In case of heavy duty operations, we recommend to check the level indicator frequently and drain it in case it is full. Operating the cyclone when the collecting compartment is full (fluids or solids) may reduce the efficiency of the cyclone shut off and hence can damage the pump.

Inspect regularly the overflow valve system and check that the floating ball can move freely. In case of presence of liquids along the vacuum line, check the integrity and the correct installation of the double tapered ball seal and the ball integrity and replace them in case of wear.



All the recovered material from the cyclone shut off must be disposed in compliance with the standard regulations in force.



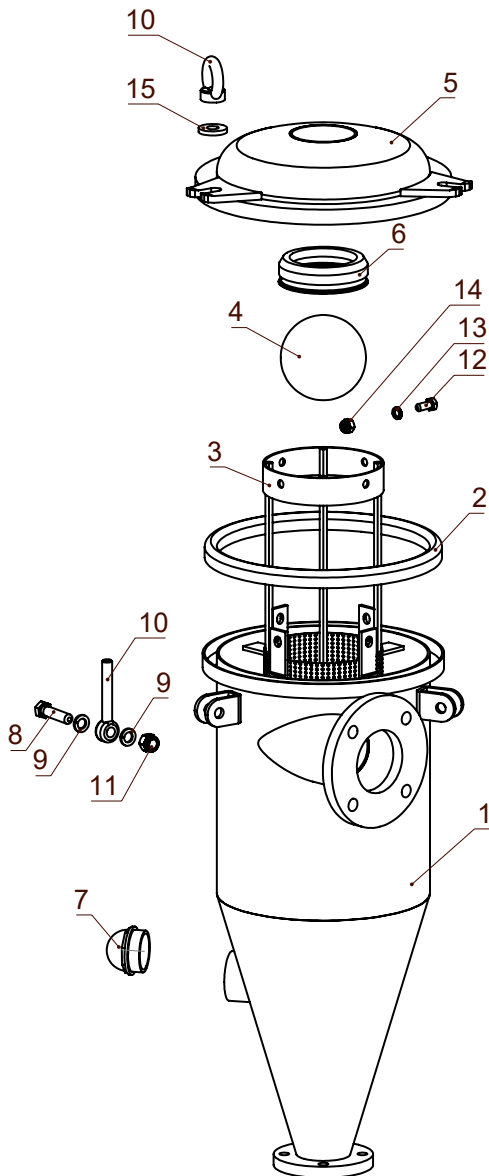
**DN80 CYCLONE SHUT OFF VALVE SPARE PARTS**

**CODE 610020064 CARBON STEEL**

	CODE	DESCRIPTION	Qty
1	4010101247	**CS - VALVE BODY - CYCLON DN80 FE	1
2	5060010035	COVER GASKET - CYCLON DN80	1
3	4060505132	*SS - INOX CARTRIDGE - CYCLON DN80	1
4	5060410105	*SS - INOX 316 FLOATING BALL - Ø120	1
5	4010601248	**CS - FE COVER - CYCLON DN80	1
6	5060010019	RUBBER OF BALL SEAL - Ø120	1
7	5060105001	SIGHT GLASS - 2"GAS	1
8		*SS - INOX SCREW - M14X60 TE	3
9		*SS - INOX GROWER WASHER - M14	6
10		*SS - INOX LOCKING FOR VALVE	3
11		*SS - INOX SELF-LOCKING NUT - M14	3
12		*SS - INOX SCREW - M10X25 TE	4
13		INOX NORD-LOCK WASHER - M10	4
14		*SS - INOX SELF-LOCKING NUT - M10	4
15	4011707217	*SS - INOX LOCKING WASHER	3

**CODE 610020065 ENGINE TURN STAINLESS STEEL**

	CODE	DESCRIPTION	Qty
1	4010101248	*SS - INOX VALVE BODY - CYCLON DN80	1
2	5060010035	COVER GASKET - CYCLON DN80	1
3	4060505132	*SS - INOX CARTRIDGE - CYCLON DN80	1
4	5060410105	*SS - INOX 316 FLOATING BALL - Ø120	1
5	4010601249	*SS - INOX COVER - CYCLON DN80	1
6	5060010019	RUBBER OF BALL SEAL - Ø120	1
7	5060105001	SIGHT GLASS - 2"GAS	1
8		*SS - INOX SCREW - M14X60 TE	3
9		*SS - INOX GROWER WASHER - M14	6
10		*SS - INOX LOCKING FOR VALVE	3
11		*SS - INOX SELF-LOCKING NUT - M14	3
12		*SS - INOX SCREW - M10X25 TE	4
13		INOX NORD-LOCK WASHER - M10	4
14		INOX SELF-LOCKING NUT - M10	4
15	4011707217	*SS - INOX LOCKING WASHER	3



\* SS = STAINLESS STEEL  
\*\* CS = CARBON STEEL



**DN100 CYCLONE SHUT OFF VALVE SPARE PARTS**

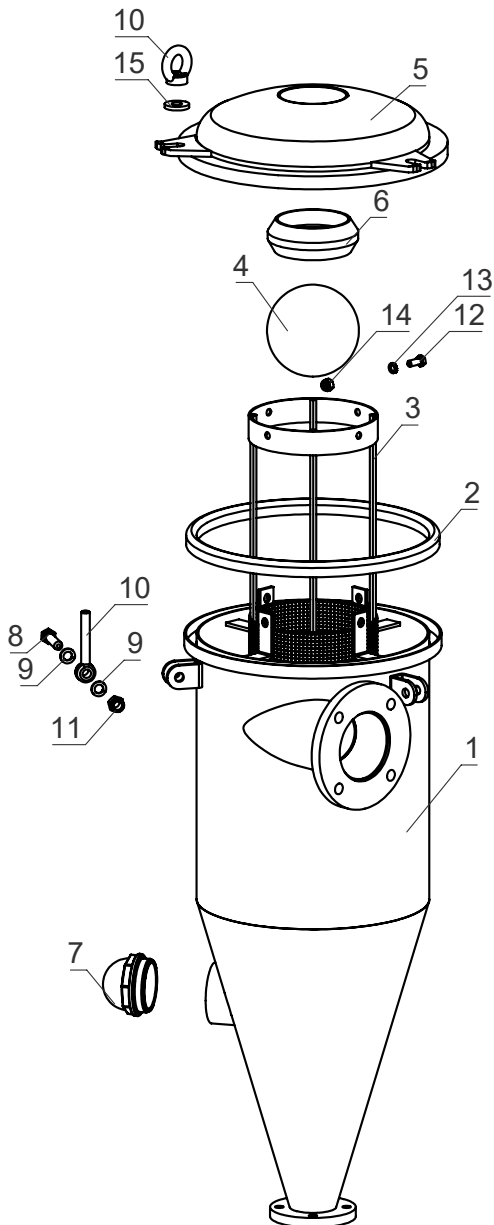
**CODE 610020057 CARBON STEEL**

	CODE	DESCRIPTION	Qty
1	4010101227	**CS - VALVE BODY - CYCLONE DN100	1
2	5060010030	COVER GASKET - CYCLONE DN100	1
3	4060505121	*SS - CARTRIDGE - CYCLONE DN100	1
4	5060410109	*SS - FLOATING BALL - Ø150	1
5	4010601228	**CS - COVER - CYCLONE DN100	1
6	5060010028	RUBBER OF BALL SEAL - Ø150	1
7	5060105002	SIGHT GLASS - 3"GAS	1
8		*SS - SCREW - M14X60 TE	3
9		*SS - GROWER WASHER - M14	6
10		*SS - LOCKING FOR VALVE	3
11		*SS - SELF-LOCKING NUT - M14	3
12		*SS - SCREW - M10X25 TE	4
13		*SS - NORD-LOCK WASHER - M10	4
14		*SS - SELF-LOCKING NUT - M10	4
15	4011707217	*SS - LOCKING WASHER	3

**CODE 610020058 ENGINE TURN STAINLESS STEEL**

	CODE	DESCRIPTION	Qty
1	4010101226	*SS - VALVE BODY - CYCLONE DN100	1
2	5060010030	COVER GASKET - CYCLONE DN100	1
3	4060505121	*SS - CARTRIDGE - CYCLONE DN100	1
4	5060410109	*SS - FLOATING BALL - Ø150	1
5	4010601227	*SS - COVER - CYCLONE DN100	1
6	5060010028	RUBBER OF BALL SEAL - Ø150	1
7	5060105002	SIGHT GLASS - 3"GAS	1
8		*SS - SCREW - M14X60 TE	3
9		*SS - GROWER WASHER - M14	6
10		*SS - LOCKING FOR VALVE	3
11		*SS - SELF-LOCKING NUT - M14	3
12		*SS - SCREW - M10X25 TE	4
13		NORD-LOCK WASHER - M10	4
14		*SS - SELF-LOCKING NUT - M10	4
15	4011707217	*SS - LOCKING WASHER	3

\* SS = STAINLESS STEEL  
\*\* CS = CARBON STEEL





**DN125 CYCLONE SHUT OFF VALVE SPARE PARTS**

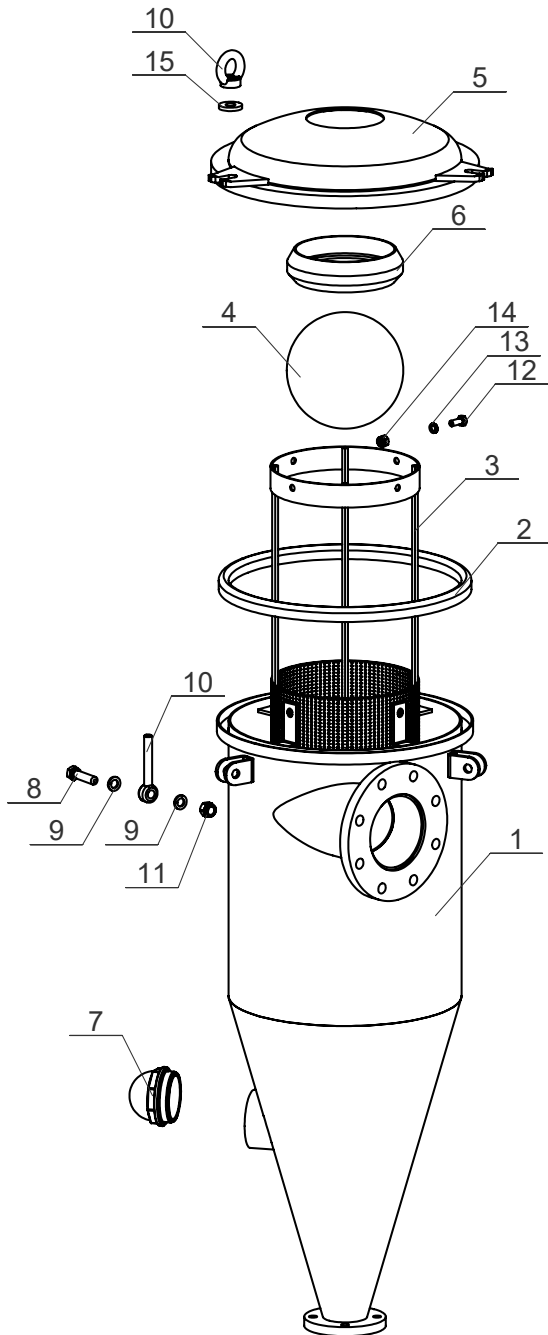
**CODE 610020059 CARBON STEEL**

CODE	DESCRIPTION	Qty
1	4010101234 **CS - VALVE BODY - CYCLONE DN125	1
2	5060010031 COVER GASKET - CYCLONE DN125	1
3	4060505124 *SS - CARTRIDGE - CYCLONE DN125	1
4	5060410106 *SS - FLOATING BALL - Ø200	1
5	4010601237 **CS - COVER - CYCLONE DN125	1
6	5060010029 RUBBER OF BALL SEAL - Ø200	1
7	5060105002 SIGHT GLASS - 3"GAS	1
8	*SS - SCREW - M14X60 TE	3
9	*SS - GROWER WASHER - M14	6
10	*SS - LOCKING FOR VALVE	3
11	*SS - SELF-LOCKING NUT - M14	3
12	*SS - SCREW - M10X25 TE	4
13	NORD-LOCK WASHER - M10	4
14	*SS - SELF-LOCKING NUT - M10	4
15	4011707217 *SS - LOCKING WASHER	3

**CODE 610020060 ENGINE TURN STAINLESS STEEL**

CODE	DESCRIPTION	Qty
1	4010101232 *SS - VALVE BODY - CYCLONE DN125	1
2	5060010031 COVER GASKET - CYCLONE DN125	1
3	4060505124 *SS - CARTRIDGE - CYCLONE DN125	1
4	5060410106 *SS - FLOATING BALL - Ø200	1
5	4010601236 *SS - COVER - CYCLONE DN125	1
6	5060010029 RUBBER OF BALL SEAL - Ø200	1
7	5060105002 SIGHT GLASS - 3"GAS	1
8	*SS - SCREW - M14X60 TE	3
9	*SS - GROWER WASHER - M14	6
10	*SS - LOCKING FOR VALVE	3
11	*SS - SELF-LOCKING NUT - M14	3
12	*SS - SCREW - M10X25 TE	4
13	NORD-LOCK WASHER - M10	4
14	*SS - SELF-LOCKING NUT - M10	4
15	4011707217 *SS - LOCKING WASHER	3

\* SS = STAINLESS STEEL  
\*\* CS = CARBON STEEL





**DN150 CYCLONE SHUT OFF VALVE SPARE PARTS**

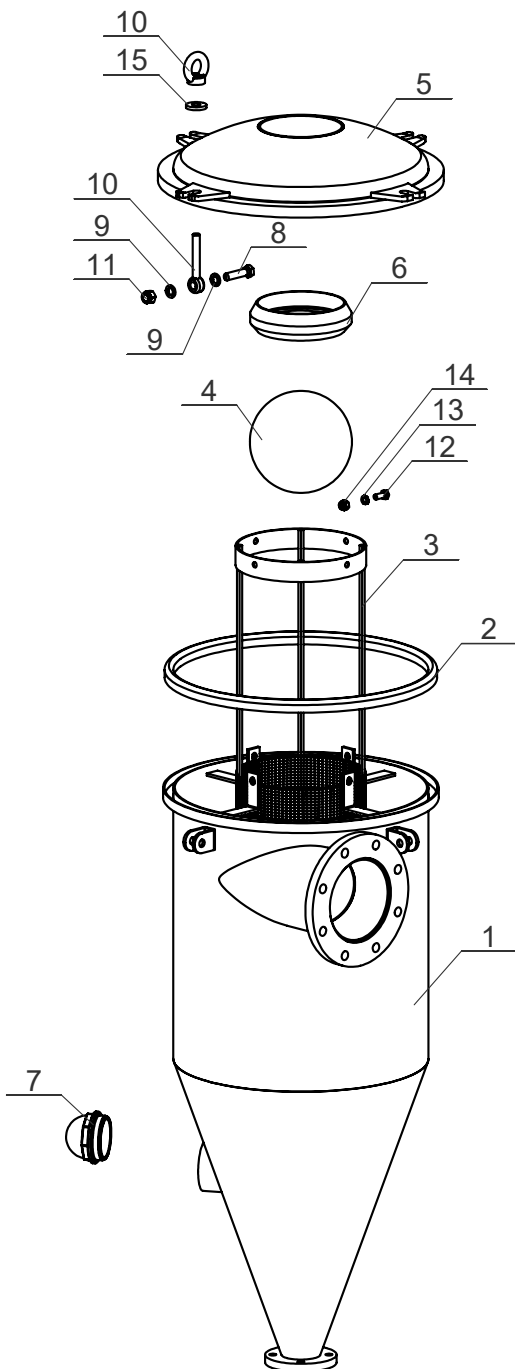
**CODE 6100200061 CARBON STEEL**

CODE	DESCRIPTION	Qty
1	**CS - VALVE BODY - CYCLONE DN150	1
2	COVER GASKET - CYCLONE DN150	1
3	*SS - CARTRIDGE - CYCLONE DN150	1
4	*SS - FLOATING BALL - Ø200	1
5	**CS - COVER - CYCLONE DN150	1
6	RUBBER OF BALL SEAL - Ø200	1
7	SIGHT GLASS - 3"GAS	1
8	*SS - SCREW - M14X60 TE	3
9	*SS - GROWER WASHER - M14	6
10	*SS - LOCKING FOR VALVE	3
11	*SS - SELF-LOCKING NUT - M14	3
12	*SS - SCREW - M10X25 TE	4
13	NORD-LOCK WASHER - M10	4
14	*SS - SELF-LOCKING NUT - M10	4
15	4011707217 *SS - LOCKING WASHER	3

**CODE 6100200061 ENGINE TURN STAINLESS STEEL**

CODE	DESCRIPTION	Qty
1	*SS - VALVE BODY - CYCLONE DN150	1
2	COVER GASKET - CYCLONE DN150	1
3	*SS - CARTRIDGE - CYCLONE DN150	1
4	*SS - FLOATING BALL - Ø200	1
5	*SS - COVER - CYCLONE DN150	1
6	RUBBER OF BALL SEAL - Ø200	1
7	5060105002 SIGHT GLASS - 3"GAS	1
8	*SS - SCREW - M14X60 TE	3
9	*SS - GROWER WASHER - M14	6
10	*SS - LOCKING FOR VALVE	3
11	*SS - SELF-LOCKING NUT - M14	3
12	*SS - SCREW - M10X25 TE	4
13	NORD-LOCK WASHER - M10	4
14	*SS - SELF-LOCKING NUT - M10	4
15	4011707217 *SS - LOCKING WASHER	3

\* SS = STAINLESS STEEL  
\*\* CS = CARBON STEEL







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