

Cyclones of type CC-15

Cyclones of type CC-15 are used for dry cleaning of air and gases evolved at some technological processes (drying, roasting, agglomeration, burning of fuel, etc.), and also for cleaning of aspiration air. The cyclones are used in black and nonferrous metallurgy, chemical, oil, engineering, building materials industries, in energy etc.

The cyclones of type CC-15 can not be used in explosive environments; it is not recommended to use them for catching highly agglutinating dusts, especially with small diameters of cyclones.

Depending on air flow and conditions of application cyclones can be single (internal diameter from 200 to 1200 mm) or group - of two, four, six and eight cyclones with identical internal diameter (from 300 to 900 mm).

Group cyclones can be manufactured with the "left" and "right" rotation of a gas flow, single - only with the "right" rotation.

Depending on the configuration group cyclones can have a cleaned air chamber of a "scroll" shape or as a collector, and single cyclones have only "scroll".

Bunkers of cyclones are of the pyramidal form.

When cyclones work the continuous unloading of a dust should be provided. The level of a dust in bunkers should be not above a plane located 0.5 diameters of a cyclone from a cover of the bunker.

In characteristics the values of air flow are attributed to the speed in a cylindrical part of a cyclone of $V=2.5$ m/s and 4.0 m/s. In usual conditions the optimum speed is 4.0 m/s. For work with abrasive dust the recommended speed is 2.5 m/s.

Depending on the ambient temperature the cyclones are made of carbon steel (at temperature down to -40°C) and low-alloy steel (at temperature lower than -40°C). C- cyclone; C- construction; 15 – slope of feed socket relative to the horizontal (deg); digits after the dash: the first – inner diameter of the cylindrical part of the cyclone (mm); the second digit (after the multiplication symbol) – the number of cyclones in a group; S – with a cleaned air chamber of "scroll" shape; C – with a cleaned air chamber as a collector; B – pyramidal shape of a bunker.

MAIN PARAMETERS

Mass concentration of dust in cleaning air, g/m^3 :

for weakly agglutinating dusts

not greater than 1000

for medium agglutinating dusts

250

Temperature of purified air, $^{\circ}\text{C}$

not greater than 400

Pressure (rarefaction), kPa (kgs/m^2)

not greater than 5 (500)



Coefficient of cyclone aerodynamic resistance:

for single version

147

for group version:

with “scroll”

175

with collector

182

Delivery: Cyclones in integrated blocks.

CHARACTERISTICS

Dimension-type of cyclone	Sectional area of cylindrical part of body (group of bodies), m ²	Volume air flow, m ³ /h		Working volume of bunker, m ³
		V=2,5 m/c	V=4 m/c	
CC-15-200 x 1SB	0,0314	283	452	0,04
CC-15-300 x 1SB	0,07	630	1000	0,082
CC-15-400 x 1SB	0,125	1110	1800	0,13
CC-15-500 x 1SB	0,196	1800	2800	0,32
CC-15-600 x 1SB	0,282	2500	4100	0,43
CC-15-700 x 1SB	0,384	3500	5500	0,58
CC-15-800 x 1SB	0,502	4500	7200	1,03
CC-15-900 x 1SB	0,635	5700	9200	1,65
CC-15-1000 x 1SB	0,785	7100	11300	2,50
CC-15-1200 x 1SB	1,13	10200	16200	3,73
CC-15-300 x 2SB (CB)	0,14	1270	2000	0,20
CC-15-400 x 2SB (CB)	0,25	2300	3600	0,31
CC-15-500 x 2SB (CB)	0,392	3500	5600	0,50
CC-15-600 x 2SB (CB)	0,564	5100	8100	0,60
CC-15-700 x 2SB (CB)	0,768	6900	11100	0,83
CC-15-800 x 2SB (CB)	1,004	9000	14400	1,15
CC-15-900 x 2SB (CB)	1,27	11400	18300	1,45
CC-15-400 x 4SB (CB)	0,50	4500	7200	0,76
CC-15-500 x 4SB (CB)	0,784	7000	11300	1,10
CC-15-600 x 4SB (CB)	1,128	10200	16300	1,50
CC-15-700 x 4SB (CB)	1,536	13800	22000	2,03
CC-15-800 x 4SB (CB)	2,008	18100	28900	2,61
CC-15-900 x 4SB (CB)	2,54	22800	36600	3,01
CC-15-500 x 6SB (CB)	1,176	10600	16900	2,72
CC-15-600 x 6SB (CB)	1,692	15300	24400	4,45
CC-15-700 x 6SB (CB)	2,304	20800	33100	6,2
CC-15-800 x 6SB (CB)	3,012	27100	43300	10,2
CC-15-900 x 6SB (CB)	3,81	34300	54900	13,1
CC-15-500 x 8SB (CB)	1,568	14100	22600	6,2



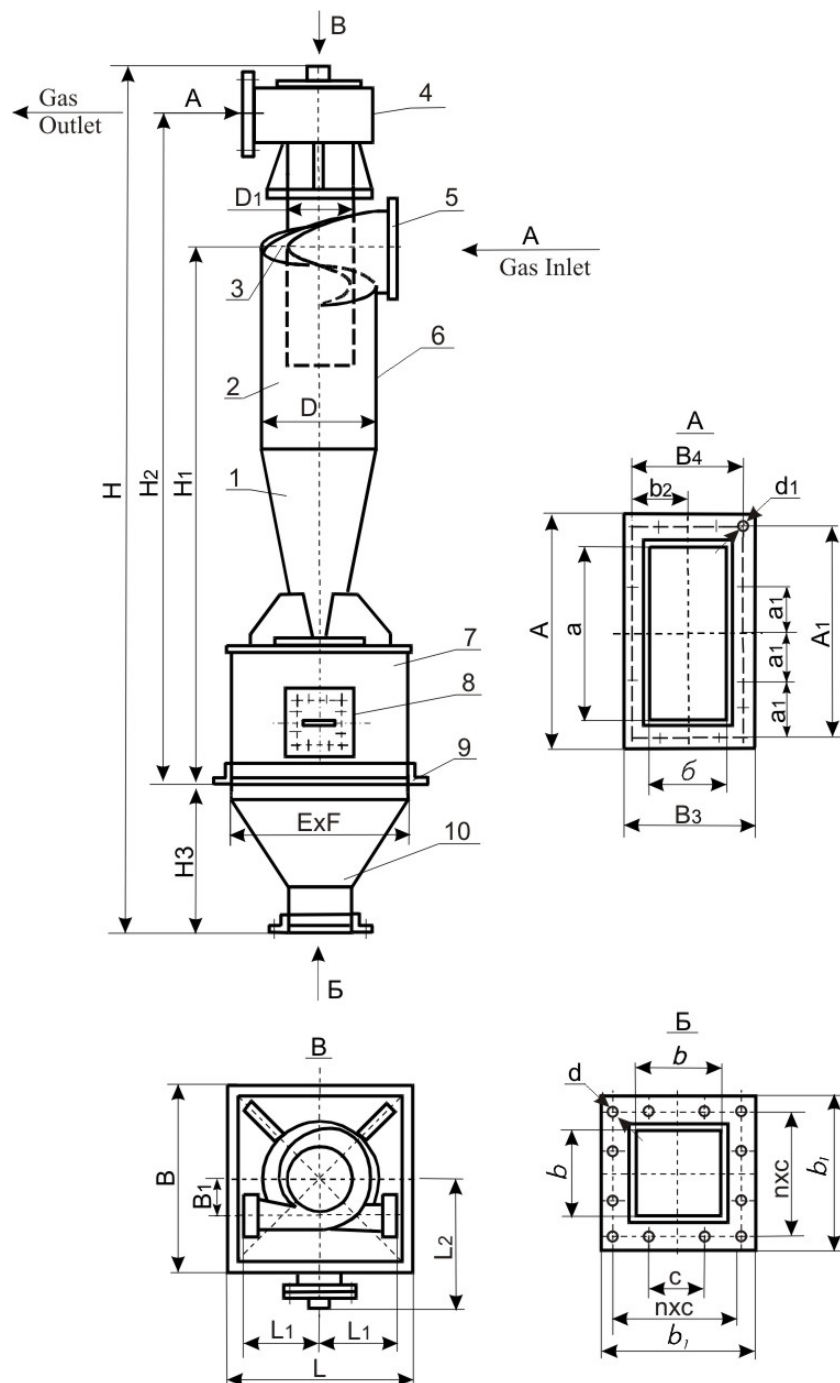
BASIC DIMENSIONAL AND CONNECTING SIZES (mm) OF CYCLONES WITH «SCROLL» AND PYRAMIDAL BUNKER (CONTUNATION)

Table 2

<i>Cyclone dimension-type</i>	<i>L</i>	<i>L₁</i>	<i>L₂</i>	<i>L₃</i>	<i>B</i>	<i>B₁</i>	<i>B₂</i>	<i>H</i>	<i>H₁</i>	<i>H₂</i>	<i>H₃</i>	<i>D</i>	<i>D₁</i>	<i>ExF</i>	<i>V_p</i>	<i>M, kg</i>
CC-15-200 x 1SB	434	120	324	—	434	74	74	1735	1134	1350	260	200	120	330 x 330	0,04	50
CC-15-300 x 1SB	584	180	400	—	581	111	111	2347	1533	1829	360	300	180	480 x 480	0,082	75
CC-15-400 x 1SB	704	240	460	—	704	148	148	2970	1982	2358	420	400	240	600 x 600	0,13	115
CC-15-500 x 1SB	906	300	560	—	906	185	185	3722	2451	2908	590	500	300	800 x 800	0,32	210
CC-15-600 x 1SB	1032	360	610	—	1032	222	222	4473	2851	3461	750	600	360	900 x 900	0,43	370
CC-15-700 x 1SB	1132	420	660	—	1132	259	259	5136	3323	4011	830	700	420	1000 x 1000	0,58	490
CC-15-800 x 1SB	1332	480	760	—	1332	296	296	5958	3852	4620	1010	800	480	1200 x 1200	1,03	630
CC-15-900 x 1SB	1608	540	865	—	1608	333	333	6660	4351	5199	1100	900	540	1400 x 1400	1,65	960
CC-15-1000 x 1SB	1808	600	965	—	1808	370	370	7472	4850	5778	1300	1000	600	1600 x 1600	2,5	1180
CC-15-1200 x 1SB	2010	720	1066	—	2010	456	444	8750	5768	6859	1430	1200	720	1800 x 1800	3,73	2030
CC-15-300 x 2SB	856	180	414	320	656	—	—	2617	1593	1889	570	300	180	700 x 500	0,2	170
CC-15-400 x 2SB	956	240	464	424	756	—	—	3319	2102	2478	650	400	240	800 x 600	0,31	250
CC-15-500 x 2SB	1256	300	514	524	856	—	—	3953	2452	2909	820	500	300	1100 x 700	0,5	390
CC-15-600 x 2SB	1408	360	565	624	1008	—	—	4633	2851	3461	910	600	360	1200 x 800	0,6	690
CC-15-700 x 2SB	1608	420	565	724	1008	—	—	5395	3332	4020	1080	700	420	1400 x 800	0,83	900
CC-15-800 x 2SB	1808	480	615	824	1108	—	—	6127	3771	4539	1260	800	480	1600 x 900	1,15	1160
CC-15-900 x 2SB	2008	540	665	924	1208	—	—	6729	4170	5018	1350	900	540	1800 x 1000	1,45	1400
CC-15-400 x 4SB	1106	460	564	440	1306	—	656	3689	2302	2678	820	400	240	900 x 1100	0,76	500
CC-15-500 x 4SB	1206	570	614	540	1406	—	803	4293	2702	3159	910	500	300	1000 x 1200	1,1	770
CC-15-600 x 4SB	1408	680	664	640	1708	—	960	4883	3101	3711	910	600	360	1200 x 1500	1,5	1360
CC-15-700 x 4SB	1508	790	765	740	1908	—	1112	5585	3602	4290	1000	700	420	1300 x 1700	2,03	1740
CC-15-800 x 4SB	1710	900	815	840	2110	—	1264	6267	4001	4769	1170	800	480	1500 x 1900	2,61	2280
CC-15-900 x 4SB	1910	1010	916	940	2240	—	1416	6959	4400	5248	1350	900	540	1700 x 2030	3,01	2850
CC-15-500 x 6SB	1910	880	1016	580	1910	—	1158	4623	2602	3059	1340	500	300	1700 x 1700	2,72	1500
CC-15-600 x 6SB	2210	1040	1166	680	2210	—	1380	5500	3031	3638	1600	600	360	2000 x 2000	4,45	2400
CC-15-700 x 6SB	2510	1200	1316	780	2510	—	1602	6195	3652	4340	1560	700	420	2300 x 2300	6,2	3260
CC-15-800 x 6SB	2910	1360	1516	880	2910	—	1824	7168	4222	4990	1850	800	480	2700 x 2700	10,2	4320
CC-15-900 x 6SB	3210	1520	1666	980	3210	—	2046	7919	4650	5498	2060	900	540	3000 x 3000	13,1	5230
CC-15-500 x 8SB	2510	1170	1316	580	2510	—	1418	5063	2822	3279	1560	500	300	2300 x 2300	6,2	2260

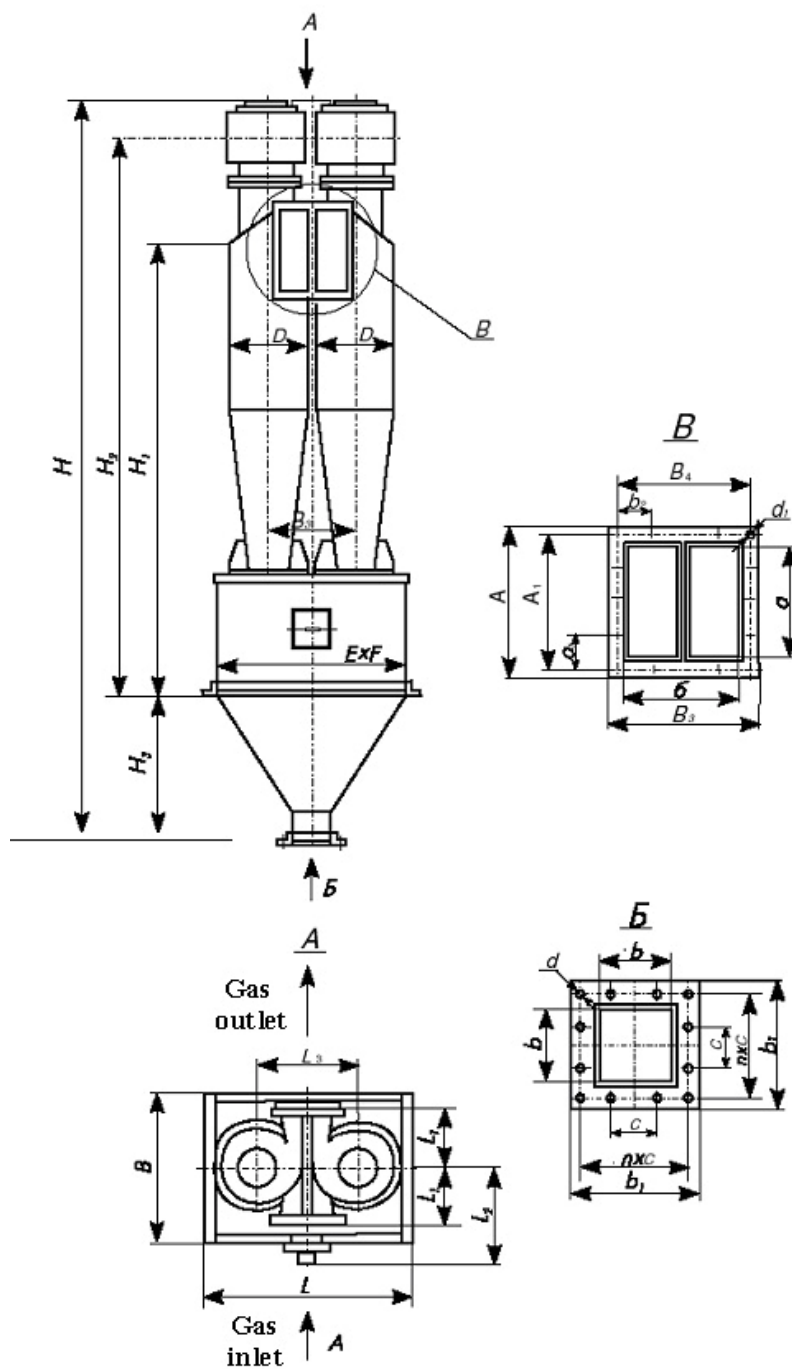
**Basic dimensional and connecting sizes (mm) of cyclones with “scroll”
and pyramidal bunker.
(Continued).**

Cyclone dimension-type	A	A ₁	B ₃	B ₄	a ₁	b ₂	d	axb	b	b ₁	nxc	d ₁	n ₁	n ₂
CC-15-200 x 1SB	185	160	105	80	40	40	8	132 x 52	100	168	2x70	8	-	-
CC-15-300 x 1SB	251	228	131	108	57	54	8	198 x 78	150	218	3x95	8	-	-
CC-15-400 x 1SB	317	292	157	132	73	66	8	264 x 104	200	268	3x80	8	-	-
CC-15-500 x 1SB	384	360	184	160	90	80	8	330 x 130	200	274	3x82	8	-	-
CC-15-600 x 1SB	482	448	242	208	112	104	13	396 x 156	200	306	3x90	10	-	-
CC-15-700 x 1SB	548	508	268	228	127	114	13	462 x 182	200	306	3x90	10	-	-
CC-15-800 x 1SB	614	580	294	260	145	130	13	528 x 208	200	306	3x90	14	-	-
CC-15-900 x 1SB	700	652	340	292	163	146	13	594 x 234	300	408	4x90	14	-	-
CC-15-1000 x 1SB	766	720	366	320	180	160	13	660 x 260	300	408	4x90	14	-	-
CC-15-1200 x 1SB	900	852	420	372	213	186	13	792 x 312	300	408	4x90	14	-	-
CC-15-300 x 2SB	281	240	259	220	120	110	13	198 x 176	200	306	3x90	14	-	-
CC-15-400 x 2SB	347	308	315	276	154	138	13	264 x 232	200	306	3x90	14	-	-
CC-15-500 x 2SB	434	384	388	348	128	116	13	330 x 284	300	406	4x90	14	-	-
CC-15-600 x 2SB	502	450	442	402	150	134	13	396 x 336	300	408	4x90	14	-	-
CC-15-700 x 2SB	568	519	494	444	173	148	13	462 x 388	300	408	4x90	14	-	-
CC-15-800 x 2SB	634	585	546	498	195	166	13	528 x 440	300	408	4x90	14	-	-
CC-15-900 x 2SB	700	651	600	549	217	183	13	594 x 492	300	408	4x90	14	-	-
CC-15-400 x 4SB	367	328	567	528	164	176	13	264 x 464	300	406	4x90	14	-	-
CC-15-500 x 4SB	434	392	667	627	196	209	13	330 x 563	300	406	4x90	14	-	-
CC-15-600 x 4SB	502	460	778	736	230	184	13	396 x 672	300	408	4x90	14	-	-
CC-15-700 x 4SB	568	528	882	840	176	210	13	462 x 776	300	408	4x90	14	-	-
CC-15-800 x 4SB	634	594	986	944	198	236	13	528 x 880	300	408	4x90	14	-	-
CC-15-900 x 4SB	700	660	1090	1048	220	262	13	594 x 984	300	408	4x90	14	-	-
CC-15-500 x 6SB	434	392	1022	980	196	196	13	330 x 918	300	408	4x90	14	2	5
CC-15-600 x 6SB	502	460	1198	1160	230	232	13	396 x 1092	300	408	4x90	14	2	5
CC-15-700 x 6SB	568	528	1372	1332	176	222	13	462 x 1266	300	408	4x90	14	3	6
CC-15-800 x 6SB	634	594	1546	1506	198	251	13	528 x 1440	300	408	4x90	14	3	6
CC-15-900 x 6SB	700	660	1720	1680	220	280	13	594 x 1614	300	408	4x90	14	3	6
CC-15-500 x 8SB	434	392	1282	1242	196	207	13	330 x 1178	300	408	4x90	14	2	6



Cyclone of type CC-15x1SB

*1-conic part of cyclone; 2-cylindrical part of cyclone; 3-spiral part of cyclone; 4-chamber of cleaned air;
5-pipe of inlet of dusty gas; 6-exhaust pipe; 7-bunker; 8-hatch; 9-basic belt; 10-pipe of outlet of dust*



Cyclone of type CC-15x2SV

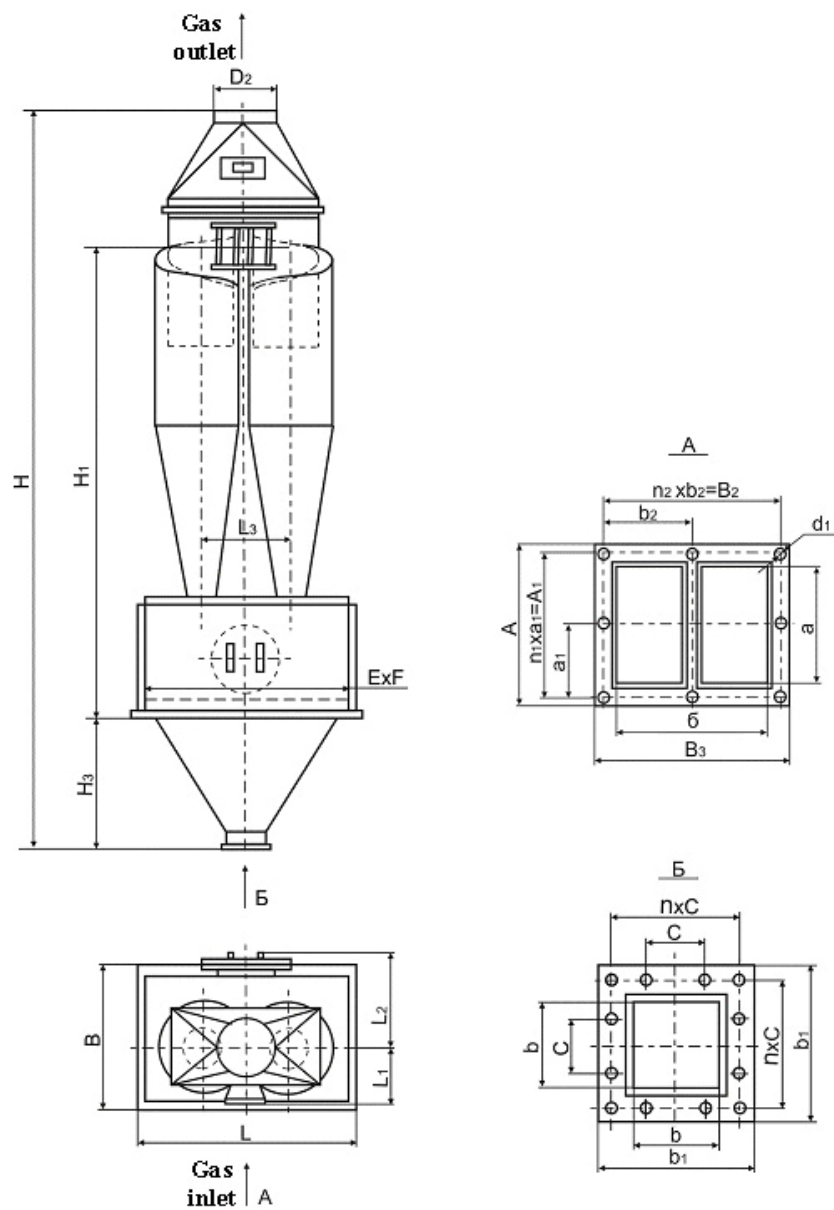


Basic dimensional and connecting sizes (mm) of cyclones with “scroll” and pyramidal bunker

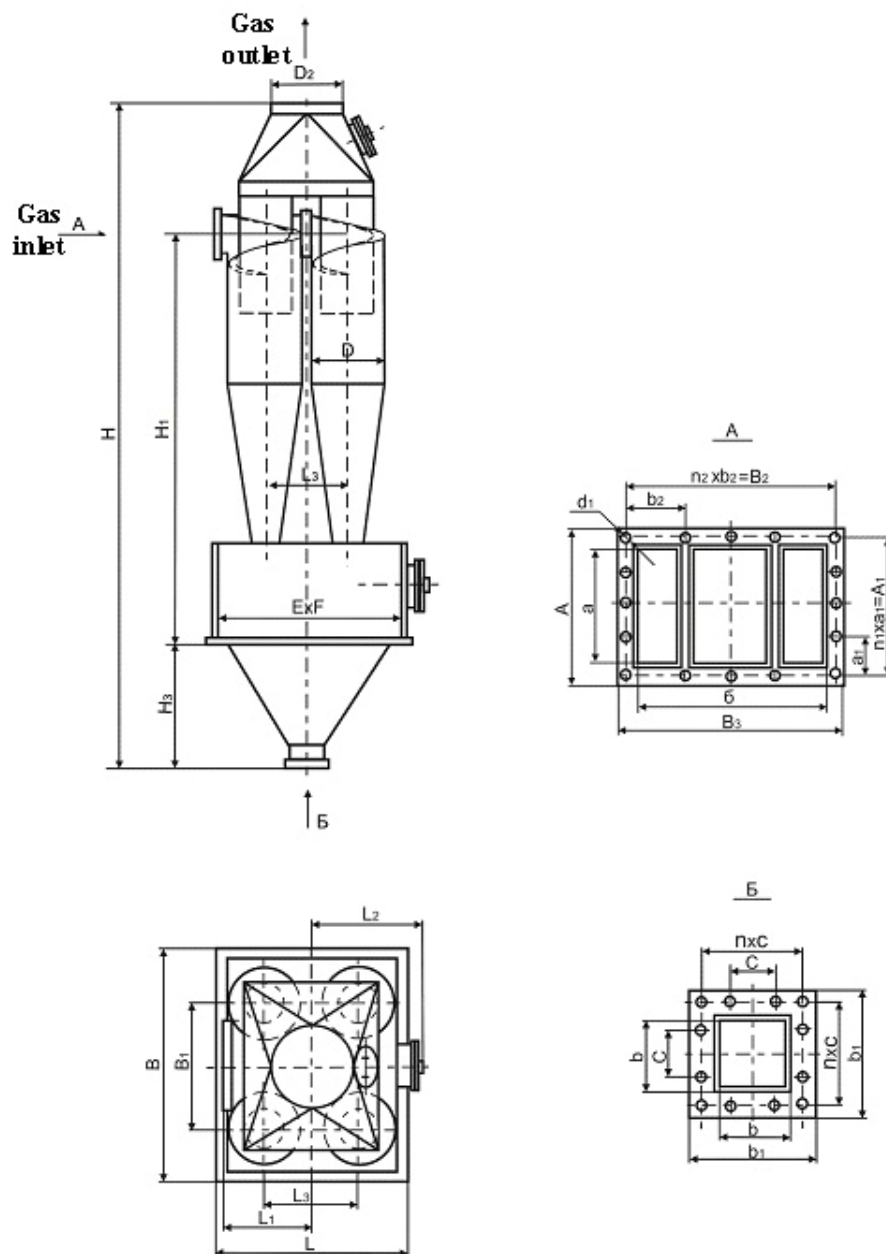
Cyclone dimension-type	L	L ₁	L ₂	L ₃	B	B ₁	B ₂	B ₃	H	H ₁	H ₃	D	D ₁	D ₂	ExF	V _p , m ³	m, kg
CC-15-300x2CB	856	180	414	320	656	—	220	259	2708	1593	570	300	180	245	700 x 500	0,2	170
CC-15-400x2CB	956	240	464	424	756	—	276	315	3434	2102	650	400	240	273	800 x 600	0,31	250
CC-15-500x2CB	1256	300	514	524	856	—	348	388	4154	2452	820	500	300	377	1100 x 700	0,5	390
CC-15-600x2CB	1408	360	565	624	1008	—	402	442	4669	2851	910	600	360	426	1200 x 800	0,6	690
CC-15-700x2CB	1608	420	565	724	1008	—	444	494	5417	3332	1080	700	420	530	1400 x 800	0,83	890
CC-15-800x2CB	1808	480	615	824	1108	—	498	546	6133	3771	1260	800	480	630	1600 x 900	1,15	1150
CC-15-900x2CB	2008	540	665	924	1208	—	549	600	6728	4170	1350	900	540	720	1800 x 1000	1,45	1390
CC-15-400x4CB	1106	460	564	440	1306	656	528	567	3691	2302	820	400	240	426	900 x 1100	0,76	510
CC-15-500x4CB	1206	570	614	540	1406	803	627	667	4276	2702	910	500	300	530	1000 x 1200	1,1	780
CC-15-600x4CB	1408	680	664	640	1708	960	736	778	4788	3101	910	600	360	630	1200 x 1500	1,5	1310
CC-15-700x4CB	1508	790	765	740	1908	1112	840	882	5476	3602	1000	700	420	720	1300 x 1700	2,03	1700
CC-15-800x4CB	1710	900	815	840	2110	1264	944	986	6138	4001	1170	800	480	820	1500 x 1900	2,61	2220
CC-15-900x4CB	1910	1010	916	940	2240	1416	1048	1090	6810	4400	1350	900	540	920	1700 x 2030	3,0	2750
CC-15-500x6CB	1910	880	1016	580	1910	1158	980	1022	4982	2602	1340	500	300	630	1700 x 1700	2,72	1520
CC-15-600x6CB	2210	1040	1166	680	2210	1380	1160	1198	5834	3031	1600	600	360	720	2000 x 2000	4,45	2350
CC-15-700x6CB	2510	1200	1316	780	2510	1602	1332	1372	6550	3652	1560	700	420	820	2300 x 2300	6,2	3100
CC-15-800x6CB	2910	1360	1516	880	2910	1824	1506	1546	7474	4222	1850	800	480	1020	2700 x 2700	10,2	4140
CC-15-900x6CB	3210	1520	1666	980	3210	2046	1680	1720	8195	4650	2060	900	540	1120	3000 x 3000	13,1	5080
CC-15-1000x6CB	3512	1680	1817	1080	3512	2276	1863	1902	9182	5270	2270	1000	600	1220	3300 x 3300	18,53	6700
CC-15-500x8CB	2510	1170	1316	580	2510	1418	1242	1282	5445	2822	1560	500	300	720	2300 x 2300	6,2	2300
CC-15-800x8CB	3730	1800	1926	880	3730	2240	1920	1962	8242	4351	2430	800	480	1120	3530 x 3530	22,35	6150

Basic dimensional and connecting sizes (mm) of cyclones with “scroll” and pyramidal bunker (Continuation)

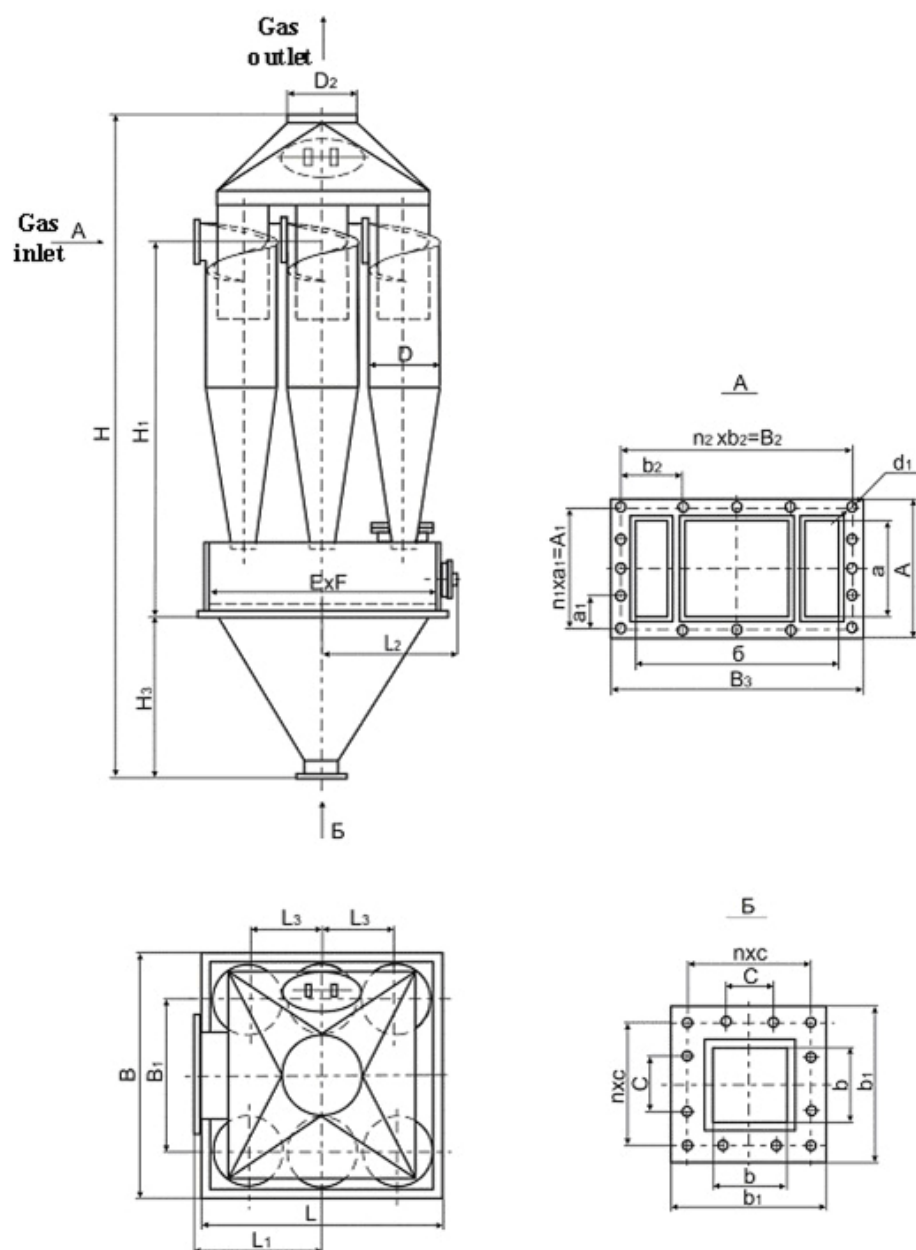
Cyclone dimension-type	A	A ₁	a ₁	b	b ₁	b ₂	axб	d	d ₁	nxc	n ₁	n ₂
CC-15-300 x 2CB	281	240	120	200	306	110	198x176	13	14	3x90	2	2
CC-15-400 x 2CB	347	308	154	200	306	138	264x232	13	14	3x90	2	2
CC-15-500 x 2CB	434	384	128	300	408	116	330x284	13	14	4x90	3	3
CC-15-600 x 2CB	502	450	150	300	408	134	396x336	13	14	4x90	3	3
CC-15-700 x 2CB	568	519	173	300	408	148	462x388	13	14	4x90	3	3
CC-15-800 x 2CB	634	585	195	300	408	166	528x440	13	14	4x90	3	3
CC-15-900 x 2CB	700	651	217	300	408	183	594x492	13	14	4x90	3	3
CC-15-400 x 4CB	367	328	164	300	406	176	264x464	13	14	4x90	2	3
CC-15-500 x 4CB	434	392	196	300	406	209	330x563	13	14	4x90	2	3
CC-15-600 x 4CB	502	460	230	300	408	184	396x672	13	14	4x90	2	4
CC-15-700 x 4CB	568	528	176	300	408	210	462x776	13	14	4x90	3	4
CC-15-800 x 4CB	634	594	198	300	408	236	528x880	13	14	4x90	3	4
CC-15-900 x 4CB	700	660	220	300	408	262	594x984	13	14	4x90	3	4
CC-15-500 x 6CB	434	392	196	300	408	196	330x918	13	14	4x90	2	5
CC-15-600 x 6CB	502	460	230	300	408	232	396x1092	13	14	4x90	2	5
CC-15-700 x 6CB	568	528	176	300	408	222	462x1266	13	14	4x90	3	6
CC-15-800 x 6CB	634	594	198	300	408	251	528x1440	13	14	4x90	3	6
CC-15-900 x 6CB	700	660	220	300	408	280	594x1614	13	14	4x90	3	6
CC-15-1000x 6CB	766	726	242	300	408	207	660x1796	13	14	4x90	3	9
CC-15-500 x 8CB	434	392	196	300	408	207	330x1178	13	14	4x90	2	6
CC-15-800 x 8CB	634	594	198	300	408	240	528x1856	13	14	4x90	3	8



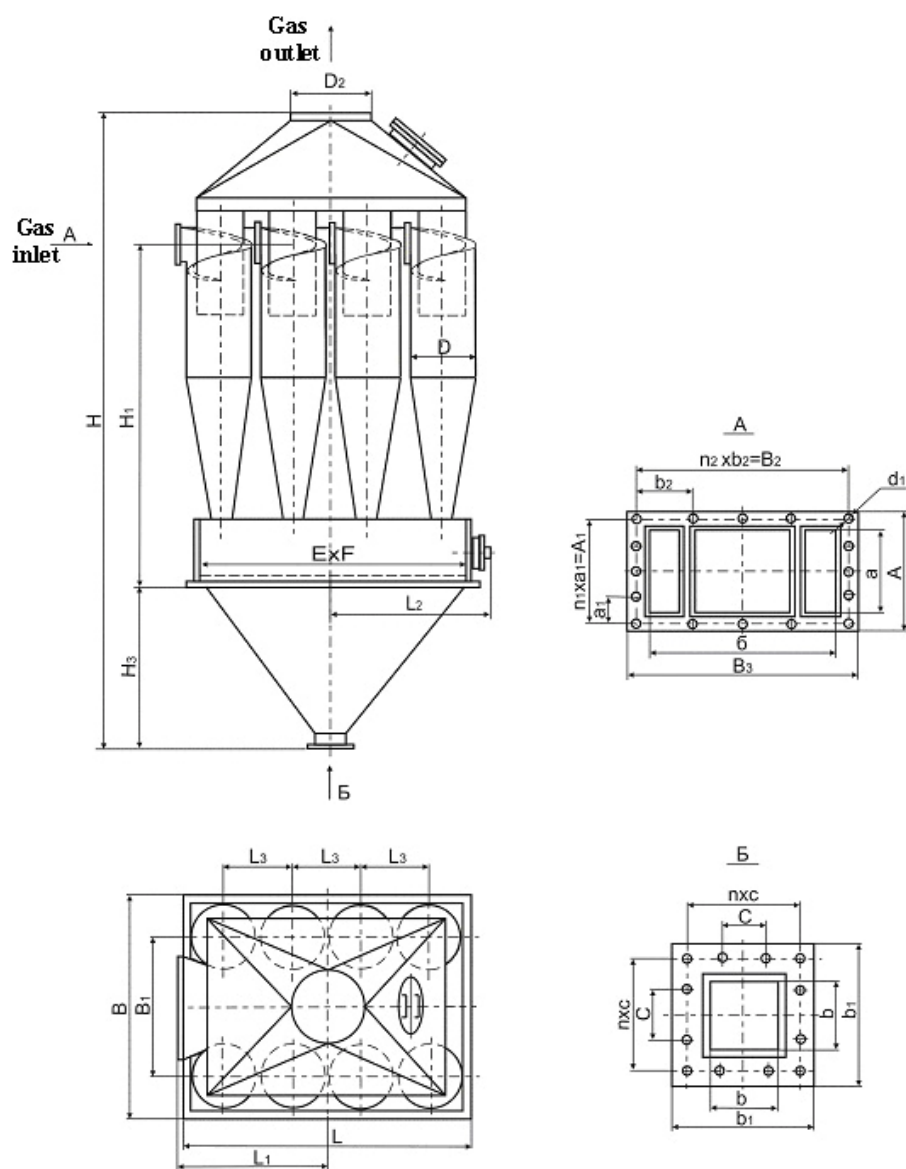
Cyclone of type CC-15x2CB



Cyclone of type CC-15x2CB



Cyclone of type CC-15x6CB



Cyclone of type CC-15x8CB