

LDT-T200 ZA

CLASSE TENUTA
AIR LEAKAGE CLASSIFICATION

EN 1751:2014

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EN 1751:2024

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ATC3



Air leakage damper 200 mm pitch in galvanized steel + natural aluminium

DAMPERS



Description and application:

Rectangular duct damper with double flange, multi-blade type, equipped with an extended shaft suitable for both manual operation and motorized actuation.

Designed to ensure high air tightness by minimizing leakage in HVAC systems, it is ideal for airflow shut-off and isolation, suitable for installation in air distribution networks and in rectangular ducts, whether main, secondary or terminal, in ventilation and air conditioning systems, for both civil and industrial applications.

Construction:

- Execution made of Z200 galvanized steel + natural aluminium;
- Frame thickness 1,5 mm, riveted + front welded, depth 210 mm, in galvanized steel;
- Frame internally sealed at the corners to ensure air tightness;
- Flange 40mm drilled Ø9 pitch 300mm with BM=20mm;
- Blades in natural aluminium extruded alloy EN AW-6060 with silicone sealing gasket;
- Blade pitch 200 mm with opposed movement operation;
- Side sealing strips in raw stainless steel AISI301;
- Bronze bushings;
- Stub shafts Ø18 mm in galvanized steel;
- Blades movement by external linkage in galvanized steel;
- Control shaft Ø18 extended L=100mm;
- Control plate suitable for manual operation and/or motorized actuator (for models with anti-rotation rod).

Available execution:

- Atex version (see page 7).

Operating limits:

- Maximum dimensions WxH: 2000x2010 mm;
- Temperature range: from -20* to +180 °C;
- Dimensional drawing and drilling pattern: page 3;
- V max recommended: 15 m/s (see table page 5);
- Pressure: see graph page 5.

* Negative temperature is achievable only if ice formation is prevented.

Certifications and Testing:

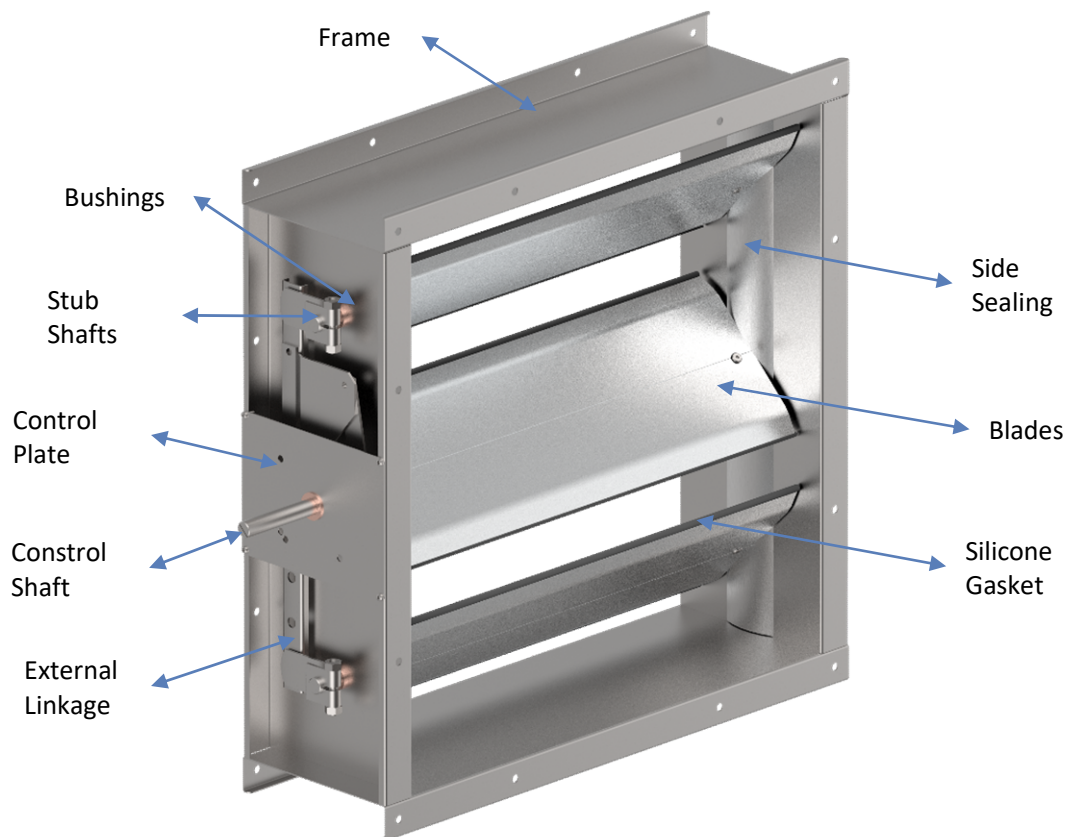
- Pressure drop tests carried out in accordance with ISO 7244;
- Self-generated noise tests carried out in accordance with UNI EN 25135;
- Air leakage tests carried out in accordance with DIN 1946/4;
- Air leakage tests carried out in accordance with EN 1751.



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Air leakage damper 200 mm pitch in galvanized steel + natural aluminium

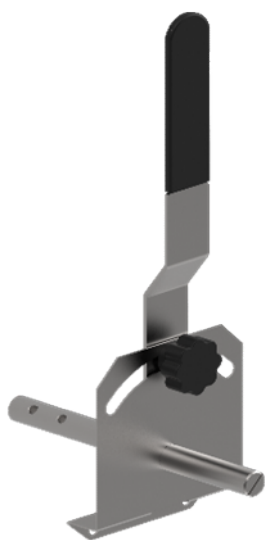
Additional Construction Details



Available Controls, Options, Accessories and Actuators

Manual Control

R18 ZN



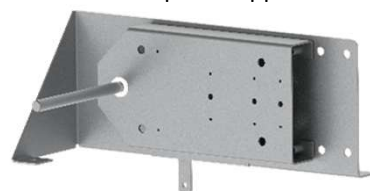
Option

Teflon Bushings (T_{max} 180°C)



Accessories

Internal control plate support R21 ZN



Actuators

On/Off electric actuators with or without spring return

Modulating On/Off electric actuators with or without spring return

- Belimo
- Siemens
- Schischek



Double-acting pneumatic pistons/cylinders with flow regulators

- Waircom

Integrable accessories:

- 5-way solenoid valve + 24V or 230V coil

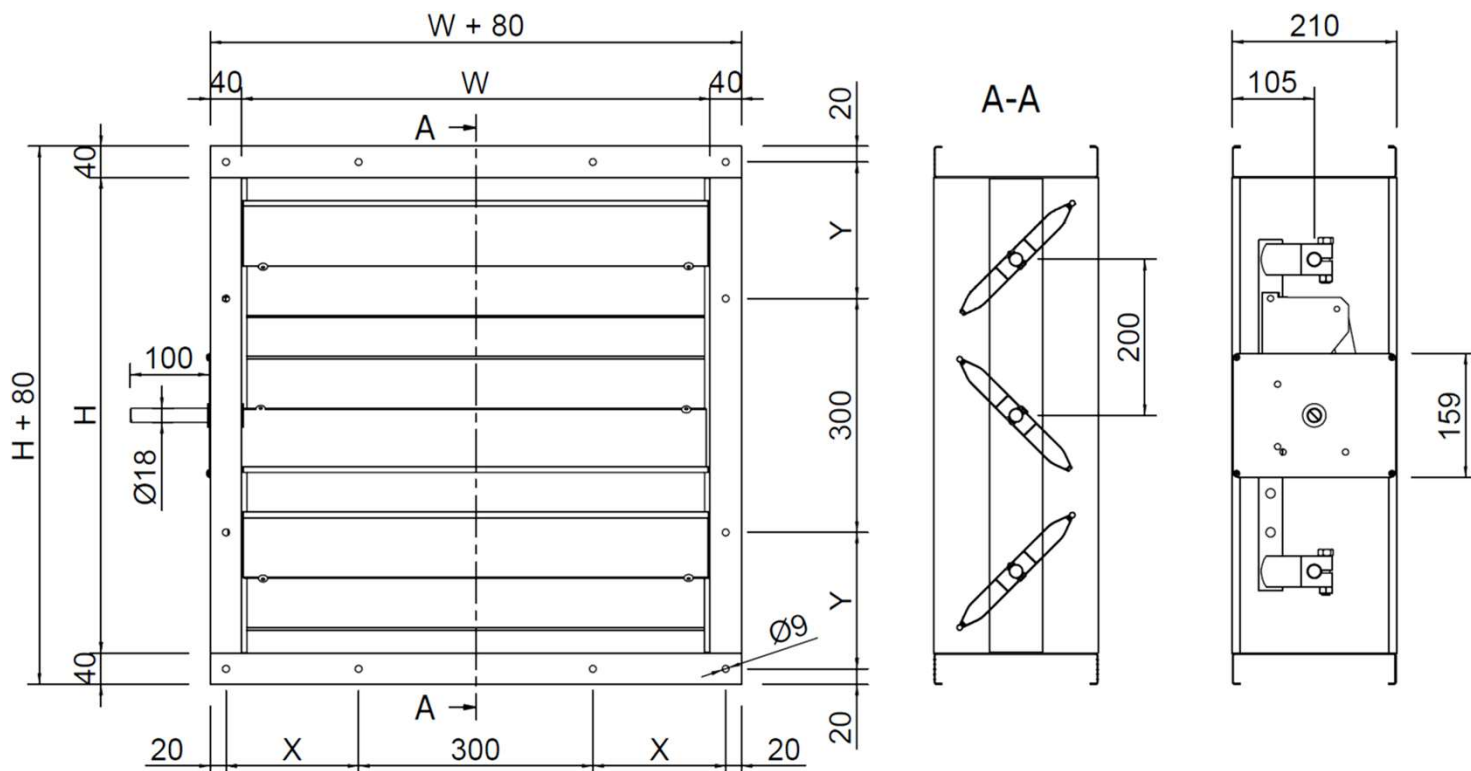




LDT-T200 ZA

Air leakage damper 200 mm pitch in galvanized steel + natural aluminium

Dimensional Drawing and Standard Drilling Pattern (size in mm, always referred to the inside of the flanges)



Nr. 4 HOLES CENTERED IN THE CORNERS ALWAYS PRESENT

WIDTH DRILLING						HEIGHT DRILLING					
W	N°HOLES	X	W	N°HOLES	X	H	N°HOLES	Y	H	N°HOLES	Y
200	\	\	1150	3	295	210	\	\	1150	3	295
250	\	\	1200	3	320	250	\	\	1210	3	325
300	\	\	1250	3	345	300	\	\	1250	3	345
350	\	\	1300	4	220	350	\	\	1300	4	220
400	1	220	1350	4	245	410	1	225	1350	4	245
450	1	245	1400	4	270	450	1	245	1410	4	275
500	1	270	1450	4	295	500	1	270	1450	4	295
550	1	295	1500	4	320	550	1	295	1500	4	320
600	1	320	1550	4	345	610	1	325	1550	4	345
650	1	345	1600	5	220	650	1	345	1610	5	225
700	2	220	1650	5	245	700	2	220	1650	5	245
750	2	245	1700	5	270	750	2	245	1700	5	270
800	2	270	1750	5	295	810	2	275	1750	5	295
850	2	295	1800	5	320	850	2	295	1810	5	325
900	2	320	1850	5	345	900	2	320	1850	5	345
950	2	345	1900	6	220	950	2	345	1900	6	220
1000	3	220	1950	6	245	1010	3	225	1950	6	245
1050	3	245	2000	6	270	1050	3	245	2010	6	275
1100	3	270				1100	3	270			

Note : For sizes not listed in the table, the number of holes and the starting position X or Y (Width or Height) are determined by referring to the next lower standard dimension.

N.B. If the resulting value of X or Y is greater than 369.5 mm, the number of holes must refer to the next higher dimension .



LDT-T200 ZA

Air leakage damper 200 mm pitch in galvanized steel + natural aluminium

mm W\H	Actuator Torque Selection Table LDT-T200 [Nm]																		
	210	300	410	500	610	700	810	900	1010	1100	1210	1300	1410	1500	1610	1700	1810	1900	2010
200	5	5	10	10	10	10	10	10	10	10	15	15	15	15	15	15	20	20	20
300	5	5	10	10	10	10	10	10	10	10	15	15	15	15	20	20	20	20	20
400	10	10	10	10	10	10	10	10	15	15	15	15	15	15	20	20	20	20	20
500	10	10	10	10	10	10	15	15	15	15	15	15	20	20	20	20	20	20	20
600	10	10	10	10	15	15	15	15	15	15	15	15	20	20	20	20	20	20	25
700	10	10	10	10	15	15	15	15	15	15	20	20	20	20	20	20	25	25	25
800	10	10	10	10	15	15	15	15	20	20	20	20	20	20	25	25	25	25	25
900	10	10	15	15	15	15	20	20	20	20	20	20	25	25	25	25	25	25	30
1000	10	10	15	15	15	15	20	20	20	20	20	20	25	25	25	25	30	30	30
1100	15	15	15	15	15	15	20	20	20	20	25	25	25	25	30	30	30	30	30
1200	15	15	15	15	20	20	20	20	20	20	25	25	30	30	30	30	30	30	40*
1300	15	15	15	15	20	20	20	20	25	25	25	25	30	30	30	30	30	30	40*
1400	15	15	15	15	20	20	20	20	25	25	25	25	30	30	30	30	40*	40*	40*
1500	15	15	15	15	20	20	20	20	25	25	30	30	30	30	40*	40*	40*	40*	40*
1600	15	15	20	20	20	20	25	25	25	25	30	30	30	30	40*	40*	40*	40*	50*
1700	20	20	20	20	20	20	25	25	30	30	30	30	40*	40*	40*	40*	40*	40*	50*
1800	20	20	20	20	20	20	25	25	30	30	30	30	40*	40*	40*	40*	50*	50*	50*
1900	20	20	20	20	20	20	30	30	30	30	30	30	40*	40*	40*	40*	50*	50*	50*
2000	20	20	20	20	20	20	30	30	30	30	40*	40*	40*	40*	50*	50*	50*	50*	50*

* Damper equipped with two standard control shafts protruding on the same side.

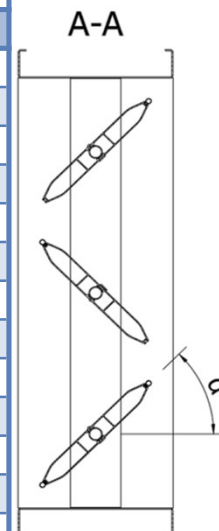
Pneumatic Cylinder Selection Table		
Operating air pressure [Bar]	Cylinder Type	
	Piston rod Ø35 stroke L=150mm	Piston rod Ø50 stroke L=200mm
	Torque [Nm]	Torque [Nm]
2	10	29
3	15	43
4	20	58
5	25	72
6	30	87
7	36	101
8	41	116



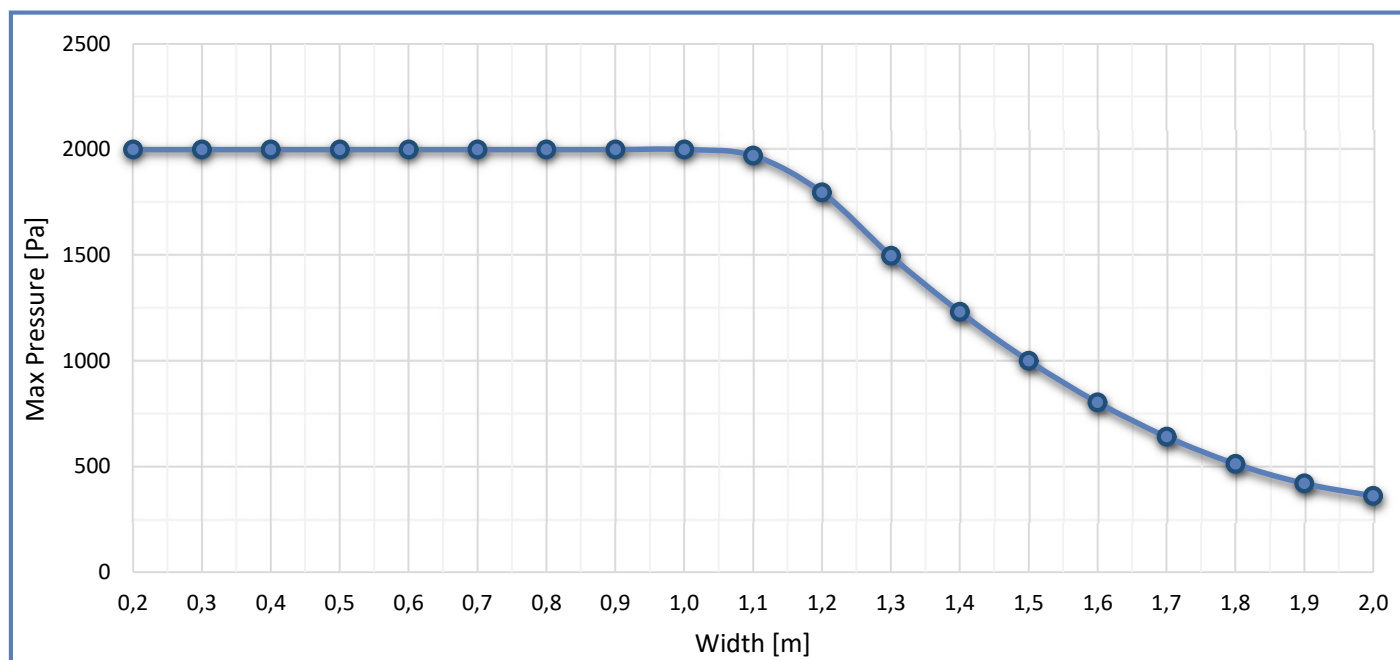
LDT-T200 ZA

Air leakage damper 200 mm pitch in galvanized steel + natural aluminium

Vel. [m/s]	Pressure Loss and Generated Noise Data Table LDT-T200					
	$\alpha = 0^\circ$		$\alpha = 30^\circ$		$\alpha = 60^\circ$	
	Δp [Pa]	LwA [dB(A)]	Δp [Pa]	LwA [dB(A)]	Δp [Pa]	LwA [dB(A)]
1	<5	<20	6	32	130	49
2	<5	23	23	49	520	69
3	<5	34	52	58	1185	76
4	<5	42	94	66	1350	83
5	<5	48	145	71	>1500	87
6	<5	53	215	75	>1500	92
7	7	57	290	79	>1500	95
8	9	61	380	83	>1500	98
9	11	64	480	86	>1500	>100
10	13	68	580	88	>1500	>100
11	16	71	700	91	>1500	>100
12	19	73	830	93	>1500	>100
13	22	75	975	95	>1500	>100
14	25	77	1130	97	>1500	>100
15	27	79	1300	99	>1500	>100



Maximum Allowable Pressure Chart LDT-T200 ZA





LDT-T200 ZA

Air leakage damper 200 mm pitch in galvanized steel + natural aluminium

mm W\H	General Weight Table LDT-T200 ZA [Kg]																		
	210	300	410	500	610	700	810	900	1010	1100	1210	1300	1410	1500	1610	1700	1810	1900	2010
200	6,0	7,7	9,0	10,6	11,9	13,6	14,8	16,5	17,8	19,4	20,7	22,4	23,7	25,3	26,6	28,3	29,5	31,2	32,5
250	6,5	8,3	9,6	11,3	12,6	14,4	15,6	17,4	18,7	20,4	21,7	23,5	24,7	26,5	27,7	29,5	30,8	32,6	33,8
300	7,0	8,9	10,2	12,1	13,3	15,2	16,4	18,3	19,5	21,4	22,6	24,5	25,8	27,7	28,9	30,8	32,0	33,9	35,1
350	7,6	9,6	10,8	12,8	14,0	16,0	17,2	19,2	20,4	22,4	23,6	25,6	26,8	28,8	30,0	32,1	33,2	35,3	36,4
400	8,1	10,2	11,4	13,5	14,7	16,8	18,0	20,1	21,3	23,4	24,6	26,7	27,9	30,0	31,2	33,3	34,5	36,6	37,8
450	8,6	10,9	12,0	14,2	15,4	17,6	18,7	21,0	22,1	24,4	25,5	27,8	28,9	31,2	32,3	34,6	35,7	38,0	39,1
500	9,1	11,5	12,6	15,0	16,0	18,5	19,5	21,9	23,0	25,4	26,5	28,9	30,0	32,4	33,4	35,9	36,9	39,3	40,4
550	9,6	12,1	13,2	15,7	16,7	19,3	20,3	22,8	23,9	26,4	27,4	30,0	31,0	33,5	34,6	37,1	38,2	40,7	41,7
600	10,1	12,8	13,8	16,4	17,4	20,1	21,1	23,7	24,7	27,4	28,4	31,1	32,1	34,7	35,7	38,4	39,4	42,0	43,0
650	10,6	13,4	14,4	17,1	18,1	20,9	21,9	24,6	25,6	28,4	29,4	32,1	33,1	35,9	36,9	39,6	40,6	43,4	44,4
700	11,1	14,0	15,0	17,9	18,8	21,7	22,6	25,6	26,5	29,4	30,3	33,2	34,2	37,1	38,0	40,9	41,8	44,8	45,7
750	11,6	14,7	15,6	18,6	19,5	22,5	23,4	26,5	27,4	30,4	31,3	34,3	35,2	38,3	39,1	42,2	43,1	46,1	47,0
800	12,1	15,3	16,2	19,3	20,2	23,3	24,2	27,4	28,2	31,4	32,2	35,4	36,3	39,4	40,3	43,4	44,3	47,5	48,3
850	12,7	15,9	16,8	20,1	20,9	24,2	25,0	28,3	29,1	32,4	33,2	36,5	37,3	40,6	41,4	44,7	45,5	48,8	49,6
900	13,2	16,6	17,4	20,8	21,6	25,0	25,8	29,2	30,0	33,4	34,2	37,6	38,4	41,8	42,6	46,0	46,8	50,2	51,0
950	13,7	17,2	18,0	21,5	22,3	25,8	26,5	30,1	30,8	34,4	35,1	38,7	39,4	43,0	43,7	47,2	48,0	51,5	52,3
1000	14,2	17,9	18,6	22,2	22,9	26,6	27,3	31,0	31,7	35,4	36,1	39,8	40,5	44,1	44,8	48,5	49,2	52,9	53,6
1050	14,7	18,5	19,2	23,0	23,6	27,4	28,1	31,9	32,6	36,4	37,0	40,8	41,5	45,3	46,0	49,8	50,5	54,2	54,9
1100	15,2	19,1	19,8	23,7	24,3	28,2	28,9	32,8	33,4	37,4	38,0	41,9	42,6	46,5	47,1	51,0	51,7	55,6	56,2
1150	15,7	19,8	20,4	24,4	25,0	29,1	29,7	33,7	34,3	38,4	39,0	43,0	43,6	47,7	48,3	52,3	52,9	57,0	57,6
1200	16,2	20,4	21,0	25,1	25,7	29,9	30,4	34,6	35,2	39,4	39,9	44,1	44,7	48,8	49,4	53,6	54,1	58,3	58,9
1250	16,7	21,0	21,6	25,9	26,4	30,7	31,2	35,5	36,1	40,4	40,9	45,2	45,7	50,0	50,5	54,8	55,4	59,7	60,2
1300	17,2	21,7	22,2	26,6	27,1	31,5	32,0	36,4	36,9	41,3	41,8	46,3	46,8	51,2	51,7	56,1	56,6	61,0	61,5
1350	17,8	22,3	22,8	27,3	27,8	32,3	32,8	37,3	37,8	42,3	42,8	47,4	47,8	52,4	52,8	57,4	57,8	62,4	62,8
1400	18,3	22,9	23,4	28,0	28,5	33,1	33,6	38,2	38,7	43,3	43,8	48,4	48,9	53,5	54,0	58,6	59,1	63,7	64,2
1450	18,8	23,6	24,0	28,8	29,2	34,0	34,3	39,1	39,5	44,3	44,7	49,5	49,9	54,7	55,1	59,9	60,3	65,1	65,5
1500	19,3	24,2	24,6	29,5	29,8	34,8	35,1	40,1	40,4	45,3	45,7	50,6	51,0	55,9	56,2	61,2	61,5	66,5	66,8
1550	19,8	24,8	25,2	30,2	30,5	35,6	35,9	41,0	41,3	46,3	46,6	51,7	52,0	57,1	57,4	62,4	62,8	67,8	68,1
1600	20,3	25,5	25,8	30,9	31,2	36,4	36,7	41,9	42,1	47,3	47,6	52,8	53,1	58,2	58,5	63,7	64,0	69,2	69,4
1650	20,8	26,1	26,4	31,7	31,9	37,2	37,5	42,8	43,0	48,3	48,6	53,9	54,1	59,4	59,7	65,0	65,2	70,5	70,8
1700	21,3	26,8	27,0	32,4	32,6	38,0	38,2	43,7	43,9	49,3	49,5	55,0	55,2	60,6	60,8	66,2	66,4	71,9	72,1
1750	21,8	27,4	27,6	33,1	33,3	38,9	39,0	44,6	44,8	50,3	50,5	56,0	56,2	61,8	61,9	67,5	67,7	73,2	73,4
1800	22,3	28,0	28,2	33,8	34,0	39,7	39,8	45,5	45,6	51,3	51,4	57,1	57,3	62,9	63,1	68,8	68,9	74,6	74,7
1850	22,9	28,7	28,8	34,6	34,7	40,5	40,6	46,4	46,5	52,3	52,4	58,2	58,3	64,1	64,2	70,0	70,1	75,9	76,0
1900	23,4	29,3	29,4	35,3	35,4	41,3	41,4	47,3	47,4	53,3	53,4	59,3	59,4	65,3	65,4	71,3	71,4	77,3	77,4
1950	23,9	29,9	30,0	36,0	36,1	42,1	42,1	48,2	48,2	54,3	54,3	60,4	60,4	66,5	66,5	72,6	72,6	78,7	78,7
2000	24,4	30,6	30,6	36,8	36,7	42,9	42,9	49,1	49,1	55,3	55,3	61,5	61,5	67,7	67,6	73,8	73,8	80,0	80,0



LDT-T200 ZA

Air leakage damper 200 mm pitch in galvanized steel + natural aluminium

ATEX Compliance:

The product is available in a version compliant with ATEX Directive 2014/34/EU for installation in **potentially explosive atmospheres**, classified as Zone 1 or 2 (gas) or Zone 21 or 22 (dust), depending on the requirements.

If fully motorized versions are requested, it is mandatory to use **ATEX-certified components** (for our certification, only Schischek-Rotork actuators may be used) and to follow the installation instructions specified for these environments.

ATEX EXECUTION and available CERTIFICATIONS:

- Bronze bushings (standard for air leakage damper);
- For manual operation, round control shaft Ø18 mm, L=100 mm (standard shaft);
- For motorized versions, Schischek kit added with control square shaft 12x12 / 16x16 (AISI shaft);
- Grounding tab with corresponding label;
- ATEX certificate.



ATEX version damper simple without actuator equipped with free round control shaft Ø18 mm L=100mm and/or with manual control (optional heating cables can be installed on the damper).
SUITABLE FOR ZONE 1, 2, 21 e 22.

Marcatura / marking

CE II 2G Ex h IIC T6..T3 Gb
 II 2D Ex h IIC T85°C..T200°C Db

ATEX version damper with ExMax Schischek actuator supplied by us and/or only prepared with Schischek kit (optional heating cables can be installed on the damper).
SUITABLE FOR ZONE 1, 21.

Marcatura / marking

CE II 2G Ex h IIC T6..T4 Gb
 II 2D Ex h IIC T85°C..T135°C Db

ATEX version damper with RedMax Schischek actuator supplied by us and/or only prepared with Schischek kit (optional heating cables can be installed on the damper).
SUITABLE FOR ZONE 2, 22.

Marcatura / marking

CE II 3G Ex h IIC T6..T4 Gb
 II 3D Ex h IIC T85°C..T135°C Db

ATEX version damper (Non-Certified) intended for safe areas and does not require certification. Available with free round control shaft Ø18 mm L=100mm and/or manual control mounted, or with InMax Schischek actuator supplied by us and/or only prepared with Schischek kit (optional heating cables can be installed on the damper).
SUITABLE FOR SAFE AREAS.

Kit Schischek Tg.S - Plate support + Square shaft 12x12;



Kit Schischek Tg.M - Plate support + Square shaft 16x16;





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If fully motorized versions are requested, it is mandatory to use **ATEX-certified components** (for our certification, only Schischek-Rotork actuators may be used) and to follow the installation instructions specified for these environments.

ATEX EXECUTION and available CERTIFICATIONS:

- Bronze bushings (standard for air leakage damper);
- For manual operation, round control shaft Ø18 mm L=100 mm (standard shaft);
- For motorized versions, Schischek kit added with control square shaft 12x12 / 16x16 (AISI shaft);
- Grounding tab with corresponding label;
- ATEX certificate.



ATEX version damper simple without actuator equipped with free round control shaft Ø18 mm L=100mm and/or with manual control (optional heating cables can be installed on the damper).
SUITABLE FOR ZONE 1, 2, 21 e 22.

Marcatura / marking

CE  **II 2G Ex h IIC T6..T3 Gb**
II 2D Ex h IIC T85°C..T200°C Db

ATEX version damper with ExMax Schischek actuator supplied by us and/or only prepared with Schischek kit (optional heating cables can be installed on the damper).
SUITABLE FOR ZONE 1, 21.

Marcatura / marking

CE  **II 2G Ex h IIC T6..T4 Gb**
II 2D Ex h IIC T85°C..T135°C Db

ATEX version damper with RedMax Schischek actuator supplied by us and/or only prepared with Schischek kit (optional heating cables can be installed on the damper).
SUITABLE FOR ZONE 2, 22.

Marcatura / marking

CE  **II 3G Ex h IIC T6..T4 Gb**
II 3D Ex h IIC T85°C..T135°C Db

ATEX version damper (Non-Certified) intended for safe areas and does not require certification. Available with free round control shaft Ø18 mm L=100mm and/or manual control mounted, or with InMax Schischek actuator supplied by us and/or only prepared with Schischek kit (optional heating cables can be installed on the damper).
SUITABLE FOR SAFE AREAS.

Kit Schischek Tg.S - Plate support + Square shaft 12x12;



Kit Schischek Tg.M - Plate support + Square shaft 16x16;

