



klīma celje

INDUSTRIJA AEROTERMIČNIH NAPRAV D.D.



10/2013

**AVJ / ODT AVJ
AVJ-R / ODT AVJ-R**

ODT AVV



ODT AV



**AKSIALNI VENTILATORJI ZA ODVOD DIMA IN TOPLOTE
AKSIALNI POTISNI VENTILATORJI**

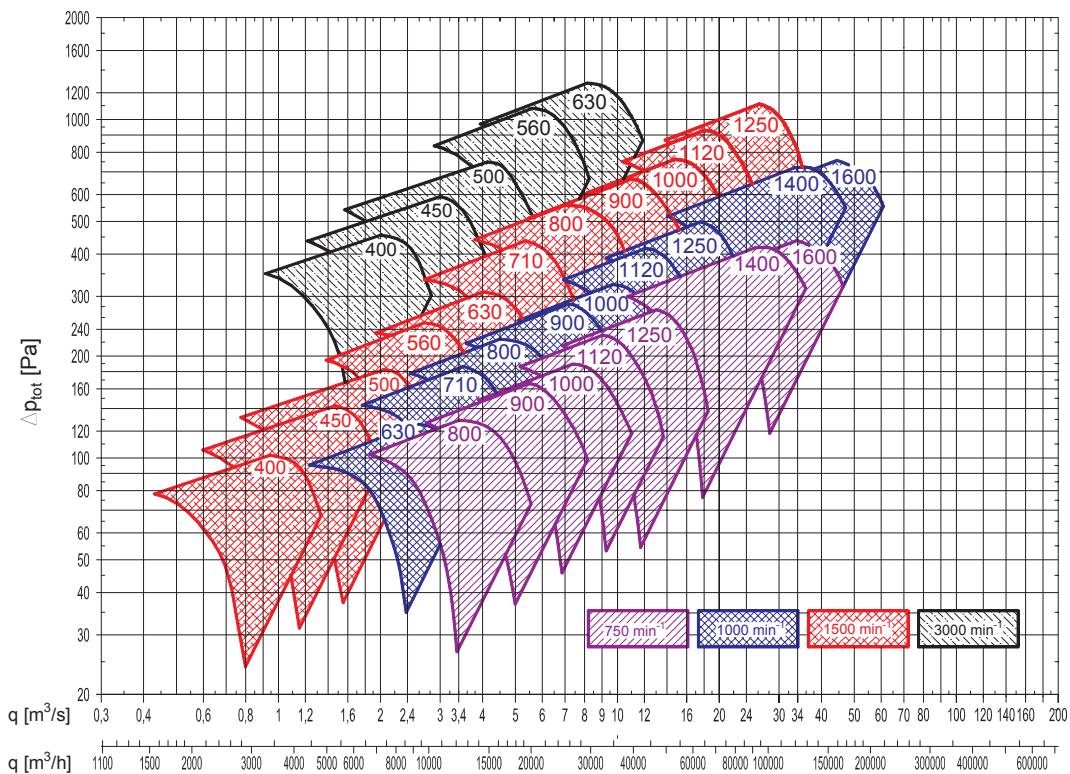
**AXIAL FANS FOR SMOKE AND HEAT EXTRACTION
AXIAL JET FANS**

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AKSIALNI VENTILATORJI ZA ODVOD DIMA IN TOPLOTE
AXIAL FANS FOR SMOKE AND HEAT EXTRACTION
ZBIRNI DIAGRAM
SELECTION DIAGRAM


TEHNIČNI OPIS

Sistem za odvod dima in toplote mora zagotoviti odvod vročega zraka, dima, prašnih in ostalih toksičnih produktov zgorevanja predvsem v zgodnji fazi požara in s tem omogočiti evakuacijo oseb in lažji začetek gašenja. Pomemben del sistema so ventilatorji za odvod dima in toplote, ki po Uredbi (EU) št. 305/2011 ustrezajo standardu EN 12101-3.

Tipi

ODT AV – aksialni ventilatorji za odvod dima in toplote

ODT AVV – aksialni ventilatorji za odvod dima in toplote z vodilnikom – za večje tlake, namenjeni so za vgradnjo s tlačnim cevovodom ali difuzorjem.

Namen

Aksialni ventilatorji ODT AV in ODT AVV so konstruirani za dvojni namen in sicer prezračevanje v normalnih razmerah za temperaturo medija do 40°C in odvod dima in toplote v primeru požara za deklariran temperaturni razred. V vseh vrstah objektov se lahko uporabljajo za vgradnjo **v požarno cono** za:

- prezračevanje v normalnih razmerah in prisilni odvod dima in toplote v primeru požara (dvojni namen);
- samo za prisilni odvod dima in toplote v primeru požara.

Opis

Tekač ventilatorja ima profilirane, kokilno odlite lopatice, ki zagotavljajo dober izkoristek in nizko šumnost. Material lopatic je korozijsko in temperaturno odporna Al zlitina. V mirovanju lahko spreminjamo nastavni kot lopatic in tako prilagodimo karakteristiko ventilatorja zahtevani obratovalni točki sistema. Tekači so statično in dinamično uravnoteženi v razredu G 6,3 po DIN ISO 1940-1. Ohišje ventilatorja je standardno barvano z RAL 7040. Električna priključna omarica je nameščena na ohišju in omogoča enostaven električni priklop.

Ventilatorji ODT AV imajo vgrajene trifazne temperaturno odporne elektromotorje 3x400V; 50 Hz; IP 55, IM B3 s certifikatom po EN 12101-3. Motorji so na zahtevo opremljeni s PTC tipali za termično zaščito pri prezračevanju v normalnih pogojih.

Za delovanje v primeru požara, je potrebno zagotoviti izklop vseh el. motornih zaščit.

Ustreznost kategorijam po EN 12101-3

- F200: 200°C / 120min
- F300: 300°C / 60min in 120min, certifikat št. 1404-CPR-2168, ZAG Ljubljana 2013.
- F400: 400°C / 120 min, certifikat št. 1404-CPR-2170, ZAG Ljubljana 2013.

Dodatna oprema

Standardna dodatna oprema so vstopni lijaki, elastični priključki, samodvižne lopute in dušilci zvoka.

Ustreznost direktivam

Ventilatorji ODT AV in ODT AVV ustrezajo direktivam in uredbam:

- DIREKTIVA 2006/42/ES o strojih
- DIREKTIVA 2006/95/ES o uskladitvi zakonodaje držav članic v zvezi z električno opremo, konstruirano za uporabo znotraj določenih napetostnih mej
- DIREKTIVA 2009/125/ES o vzpostavitvi okvira za določanje zahtev za okoljsko primerno zasnovane izdelke, povezanih z energijo
- UREDBA (EU) št. 305/2011 o določitvi usklajenih pogojev za trženje gradbenih proizvodov
- UREDBA (EU) št. 327/2011 o izvajanju Direktive 2009/125/ES Evropskega parlamenta in Sveta glede zahtev za okoljsko primerno zasnovane ventilatorje, ki jih poganjajo motorji z električno vhodno močjo med 125 W in 500 kW

GENERAL

Smoke and heat extraction system have to assure effective exhausting of smoke, hot-air, dust and other toxic substances in the beginning of the fire, so that evacuation of people and quick extinguishing could be possible. Important parts of the system are fans for smoke and heat extract which according to the Regulation (EU) No 305/2011 meet the standard EN 12101-3.

Types

ODT AV – smoke and heat extract axial fans

ODT AVV – smoke and heat extract axial fans with guide vane for high pressure systems and installation with pressure duct or diffuser.

Purpose of use

Axial fans ODT AV and ODT AVV construction ensure double purpose use: normal ventilation for medium temperature up to 40°C and for smoke and heat extraction in case of fire for specified temperature – time class, suitable for installation **inside a fire zone** for:

- ventilation at normal conditions and smoke and heat extraction in the case of fire (dual purpose);
- only smoke and heat extraction in the case of fire.

Description

Axial impellers have airfoil, mould cast blades that ensure high efficiency and low sound level. Blades material is corrosion and temperature resistant Al alloy. At fan standstill the blades angle is individually adjustable and the fan characteristic can be adjusted according to system operating point. Impellers are statically and dynamically balanced in class Q 6.3 according to DIN ISO 1940-1. Casing is standard painted with RAL 7040. Terminal box which is mounted on the fan casing and enable easy electrical connection.

ODT AV axial fans have integrated smoke extraction three-phase motors 3x400V; 50Hz, IP55, IM B3 with certificate according to EN 12101-3. Motors with PTC sensors for thermal protection at normal operation are delivered on request.

In the case of fire all protections of the electromotor must be disabled.

Conformity with regulations EN 12101-3

- F200: 200°C / 120min
- F300: 300°C / 60min and 120min, certificate No. 1404-CPR-2168, ZAG Ljubljana 2013.
- F400: 400°C / 120 min, certificate No. 1404-CPR-2170, ZAG Ljubljana 2013.

Accessories

Standard accessories are inlet bells, flexible connections, back draft shutters and silencers.

Directives and regulations

ODT AV and ODT AVV fans meet requirements of directives and regulations:

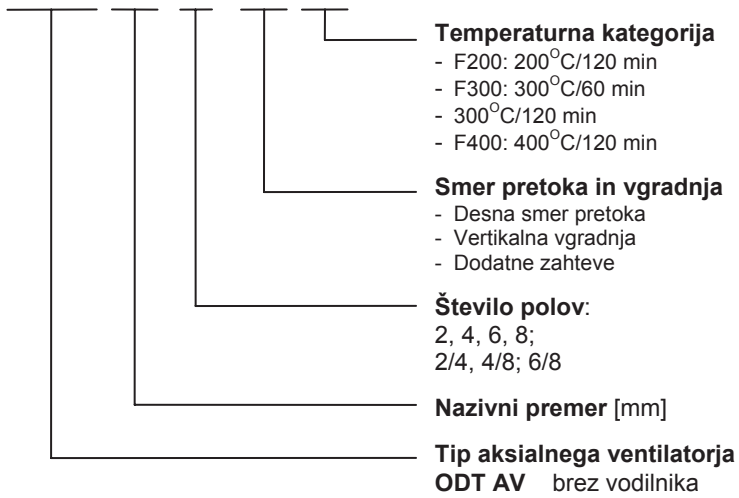
- DIRECTIVE 2006/42/EC on machinery
- DIRECTIVE 2006/95/EC on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits
- DIRECTIVE 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products
- REGULATION (EU) No 305/2011 laying down harmonised conditions for the marketing of construction products
- REGULATION (EU) No 327/2011 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for fans driven by motors with an electric input power between 125W and 500kW



OZNAČEVANJE

FAN DESIGNATION

ODT AV 630 – 4/8 – xxx F400



Temperature/time classification

- F200: 200°C/120 min
- F300: 300°C/60 min
- 300°C/120 min
- F400: 400°C/120 min

Airflow direction and installation

- Right flow direction
- Vertical design
- Additional requests

Motor poles no.

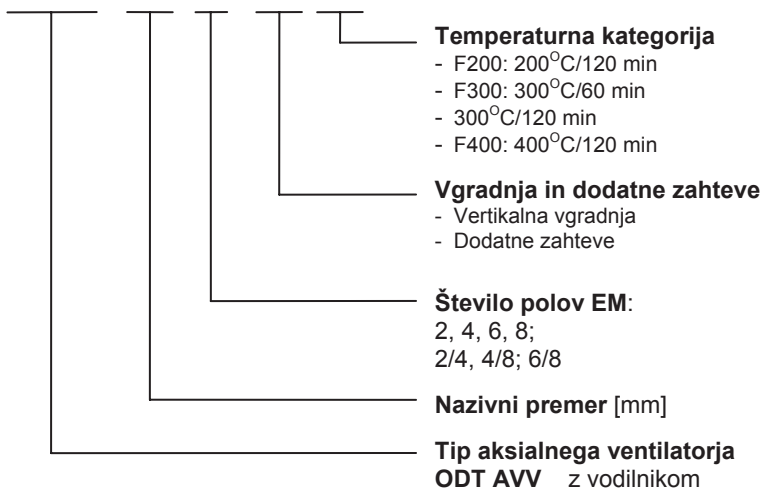
- 2, 4, 6, 8;
2/4, 4/8; 6/8

Nominal diameter [mm]

Axial fan type

ODT AV without guide vane

ODT AVV 630 – 4/8 – xxx F400



Temperature/time classification

- F200: 200°C/120 min
- F300: 300°C/60 min
- 300°C/120 min
- F400: 400°C/120 min

Installation and additional requests

- Vertical design
- Additional requests

Motor poles no.

- 2, 4, 6, 8;
2/4, 4/8; 6/8

Nominal diameter [mm]

Axial fan type

ODT AVV with guide vane

TEHNIČNI PODATKI ODT AV, AVV F300, F400
TECHNICAL DATA ODT AV, AVV F300, F400

Tip Type	n RPM	Kot Angle	Motor 400V; 50Hz			Teža Weight	
			P _{EM} [kW]		IEC	ODT AV	ODT AVV
ODT AV ODT AVV	[min ⁻¹]		F300	F400		[kg]	[kg]

400-2	3000	16°-24°	1,5	1,5	90	41	47
		23°-32°	2,2	2,2	90	44	50
400-2/4	3000/1500	16°-24°	1,5/0,37	1,5/0,37	90	41	47
		23°-32°	2,2/0,5	2,2/0,6	90	47	53

450-2	3000	16°-22°	2,2	2,2	90	54	61
		23°-30°	3,0	3,0	100	62	69
450-2/4	3000/1500	16°-22°	2,2/0,5	2,2/0,6	90	57	64
		23°-30°	3,0/0,8	3,0/0,8	100	74	81

500-2	3000	16°-20°	3,0	3,0	100	69	77
		21°-25°	4,0	4,0	112	76	84
500-2/4	3000/1500	16°-20°	3,0/0,8	3,0/0,8	100	72	80
		21°-27°	4,5/1,3	4,5/1,3	112	83	91

560-2	3000	16°-18°	5,5	5,5	132	104	114
		18°-21°	7,5	7,5	132	107	117
		22°-30°	11	11	160	120	130

560-4	1500	16°-19°	0,75	0,75	80	48	58
		20°-28°	1,1	1,1	90	53	63
		29°-32°	1,5	1,5	90	59	69

560-2/4	3000/1500	16°	6,1/1,6	6,0/1,6	132	130	140
		17°-26°	9,0/2,5	9,0/2,5	132	135	145
		27°-32°	13,5/3,3	13,0/3,3	160	163	173

630-2	3000	16°	7,5	7,5	132	117	128
		17°-21°	11	11	132	130	141
		22°-28°	15	15	160	174	185
		25°-32°	2,2	2,2	100	67	78

630-4	1500	16°-18°	1,1	1,1	90	55	66
		19°-24°	1,5	1,5	90	61	72
		25°-32°	2,2	2,2	100	67	78

630-2/4	3000/1500	16°-18°	9,0/2,5	9,0/2,5	132	140	151
		19°-25°	13,5/3,3	13,0/3,3	160	174	185
		25°-32°	15,0/4,0	15,0/4,0	160	191	202

710S-4	1500	16°-20°	2,2	2,2	100	98	116
		21°-26°	3,0	3,0	100	102	120
		27°-28°	4,0	4,0	112	108	126

710S-4/8	1500/750	16°-20°	2,2/0,45	2,2/0,45	100	104	120
		21°-26°	3,0/0,6	3,0/0,6	112	105	123
		27°-28°	4,0/0,8	4,0/0,8	112	106	124

710-4	1500	16°-20°	2,2	2,2	100	109	127
		21°-24°	3,0	3,0	100	113	131
		25°-30°	4,0	4,0	112	119	137
		32°	5,5	5,5	132	136	154

710-6	1000	16°-23°	0,75	0,75	90	95	113
		24°-31°	1,1	1,1	90	97	115
		32°	1,5	1,5	100	105	123

710-4/8	1500/750	16°-20°	2,2/0,45	2,2/0,45	100	97	115
		21°-24°	3,0/0,6	3,0/0,6	112	102	120
		25°-30°	4,0/0,8	4,0/0,8	112	111	129
		32°	5,5/1,1	5,5/0,8	132	128	146

Tip Type	n RPM	Kot Angle	Motor 400V; 50Hz			Teža Weight	
			P _{EM} [kW]		IEC	ODT AV	ODT AVV
ODT AV ODT AVV	[min ⁻¹]		F300	F400		[kg]	[kg]

800-4	1500	14°-18°	4,0	4,0	112	154	176
		19°-24°	5,5	5,5	132	174	196
		25°-32°	7,5	7,5	132	186	208
800-6	1000	14°-19°	1,1	1,1	90	112	134
		20°-24°	1,5	1,5	100	121	143
		25°-32°	2,2	2,2	112	127	149
800-4/8	1500/750	14°-18°	4,0/0,8	4,0/0,8	112	178	200
		19°-24°	5,5/1,1	5,5/0,8	132	186	208
		25°-30°	7,5/1,5	6,7/1,5	132	223	245

900-4	1500	14°	5,5	5,5	132	203	230
		15°-19°	7,5	7,5	132	215	242
		20°-26°	11	11	160	260	287
		27°-32°	15	15	160	279	306

900-6	1000	14°-20°	2,2	2,2	112	140	167
		21°-26°	3,0	3,0	132	159	186
		27°-32°	4,0	4,0	132	174	201

900-4/8	1500/750	14°	5,5/1,1	5,5/0,8	132	251	278
		15°-17°	7,5/1,5	6,7/1,5	132	253	280
		18°-26°	11/2,8	11/2,8	160	274	301
		27°-32°	15/3,8	15/3,3	180	318	345

1000-4	1500	14°-19°	11	11	160	281	313
		20°-24°	15	15	160	300	332
		25°-30°	18,5	18,5	180	338	370
		31°-32°	22	22	180	351	383

1000-6	1000	14°-19°	3,0	3,0	132	181	213
		20°-24°	4,0	4,0	132	196	228
		25°-30°	5,5	5,5	132	200	232
		31°-32°	7,5	7,5	160	237	269

1000-4/8	1500/750	14°-19°	11/2,8	11/2,8	160	274	306
		20°-24°	15/3,8	15/3,3	160	296	328
		25°-30°	20/5,0	20/5,0	180	355	387

1120-4	1500	14°-16°	15	15	160	368	409
		17°-19°	18,5	18,5	180	406	447
		20°-22°	22	22	180	420	461
		23°-28°	30	30	200	470	511
		29°-30°	37	37	225	525	566

1120-6	1000	14°-19°	5,5	5,5	132	269	310
		20°-24°	7,5	7,5	160	309	350
		25°-30°	11	11	160	331	372

1120-4/8	1500/750	14°-16°	15/3,8	15/3,3	160	420	461
		17°-22°	20/5,0	20/5,0	180	424	465
		23°-28°	28/6,5	28/6,5	200	478	519
		29°-30°	37/9,2	37/9,2	225	551	592

1250S-4	1500	14°-17°	30	30	200	539	586
		18°-20°	37	37	225	594	641
		21°-24°	45	45	225	627	668

1250S-6	1000	14°-20°	11	11	160	387	428
		21°-26°	15	15	180	432	473
		27°-28°	18,5	18,5	200	478	519

1250S-4/8	1500/750	14°-16°	28/6,5	28/6,5	200	539	586
		17°-20°	37/9,2	37/9,2	225	594	641
		21°-23°	44/11	44/11	225	627	668



Tip Type	n RPM	Kot Angle	Motor 400V; 50Hz			Teža Weight	
			P _{EM} [kW]		IEC	ODT AV	ODT AVV
ODT AV ODT AVV	[min ⁻¹]		F300	F400		[kg]	[kg]
1250-4	1500	16°-17°	37	37	225	619	696
		18°-20°	45	45	225	652	729
1250-6	1000	16°-19°	11	11	160	411	488
		20°-25°	15	15	180	457	534
		26°-30°	18,5	18,5	200	502	579
		31°-32°	22	22	200	511	588
1250-4/8	1500/750	16°-17°	37/9,2	37/9,2	225	644	721
		18°-20°	44/11	44/11	225	660	729

Tip Type	n RPM	Kot Angle	Motor 400V; 50Hz			Teža Weight	
			P _{EM} [kW]		IEC	ODT AV	ODT AVV
ODT AV ODT AVV	[min ⁻¹]		F300	F400		[kg]	[kg]
1400-6 *	1000	11°-13°	15	15	200	**	**
		14°-17°	18,5	18,5	200	**	**
		18°-20°	22	22	200	**	**
		21°-27°	30	30	225	**	**
		28°-31°	37	37	250	**	**
1400-8 *	750	11°-16°	7,5	7,5	160	**	**
		17°-23°	11	11	180	**	**
		24°-29°	15	15	200	**	**
		30°-31°	18,5	18,5	225	**	**

1600-6 *	1000	9°-11°	18,5	18,5	225	**	**
		12°-13°	22	22	250	**	**
		14°-18°	30	30	250	**	**
		19°-21°	37	37	250	**	**
		22°-25°	45	45	280	**	**
1600-8 *	750	9°-15°	11	11	180	**	**
		16°-19°	15	15	200	**	**
		20°-24°	18,5	18,5	225	**	**
		25°-28°	22	22	225	**	**

Parametri el. motorja lahko odstopajo glede na njegovega proizvajalca.

Natančnejši parametri motorja se določijo glede na zahtevano obratovalno točko ventilatorja.

* samo ODT AVV

** odvisno od motorja

Na zahtevo kupca nudimo tudi ostale motorje.

Parameters of the electric motor can deviate with regard to its producer.

More detailed motor parameters are determined according to the required fan operating point.

* ODT AVV only

** depending on the motor

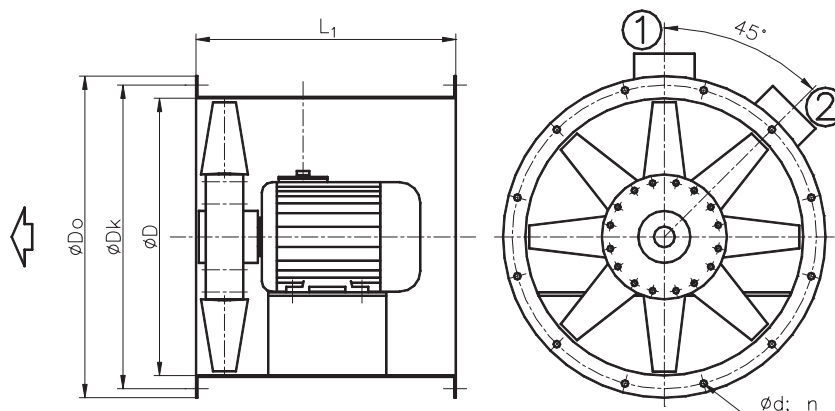
Other motors on customer request.

AKSIALNI VENTILATORJI ODT AV

Izvedbe in dimenzije

ODT AV AXIAL FANS

Designs and dimensions


 Standardna smer pretoka: **LEVA** (motor na sesalni strani)
 Standard air flow direction: **LEFT** (motor on suction side)

 Standardna vrsta vgradnje: **HORIZONTALNA**
 Standard mounting position: **HORIZONTAL**

ODT AV	ØD [mm]	ØD _k [mm]	ØD _o [mm]	Ød [mm]	n	L ₁ [mm]	L ₁ [*] [mm]	Z Št. Lopatic Blades No.	Priklj. Doza Terminal box
400	400	438	464	Ø9,5	12	400		7	1
450	450	487	513	Ø9,5	12	450		7	1
500	500	541	567	Ø9,5	12	500		7	1
560	560	605	639	Ø11,5	16	550		8	1
630	630	674	708	Ø11,5	16	650	500	8	1
710 S	710	751	785	Ø11,5	16		550	9	2
710	710	751	785	Ø11,5	16		550	7	2
800	800	837	871	Ø11,5	24	650		8	2
900	900	958	1004	Ø14	24	800	700	8	2
1000	1000	1067	1107	Ø14	24	800	700	8	2
1120	1120	1200	1250	Ø18	32	850		9	2
1250 S	1250	1337	1387	Ø18	32	850		11	2
1250	1250	1337	1387	Ø18	32	**	**	8	2

 L₁^{*} – za 4,6-polne elektromotorje (ODT AV 630)
 – za 6,8-polne elektromotorje (ODT AV 900 – 1250)

 L₁^{*} – For 4,6-pole motors (ODT AV 630)
 – For 6,8-pole motors (ODT AV 900 – 1250)

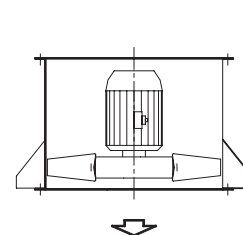
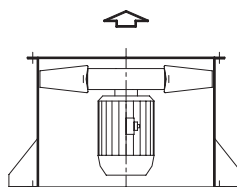
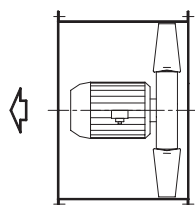
** Odvisno od velikosti elektromotorja

** Depends on electric motor's size

Smer pretoka in vgradnja
Airflow direction and mounting positions

 Smer pretoka: **DESNA** (motor na tlačni strani)
 Airflow direction: **RIGHT** (motor on pressure side)

 Standardna vertikalna izvedba
 Standard vertical design

 Vertikalna izvedba: **DOL**
 Vertical design: **DOWN**

 Možne so tudi kombinacije posebnih vrst vgradnje z desno smerjo pretoka
 Combinations with special mounting positions and right air flow direction are also possible.

Določitev šumnosti ODT AV

Zvočna moč je odvisna v glavnem od pretoka zraka in totalnega tlaka ventilatorja (diagram L_{Wt}).

Korekcija zvočne moči nastopa zaradi:

- premera ventilatorja (K_D);
- nastavnega kota lopatic (K_α);
- lege obratovalne točke v diagramu (K_L).

Nivo zvočne moči je:

$$L_w = L_{Wt} + K_D + K_\alpha + K_L \text{ (dB)}$$

Nivo zvočne moči po posameznih središčnih frekvencah oktavnega pasu določimo po enačbi:

$$L_{W_{okt}} = L_w + K_{okt} \text{ (dB)}$$

Sound level data ODT AV

Sound power level depends on the quantity of supplied air and the total pressure of the fan.

Correction values depend of:

- fan diameter (K_D);
- blades angle (K_α);
- position of operating point in graph (K_L).

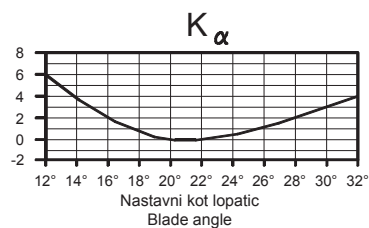
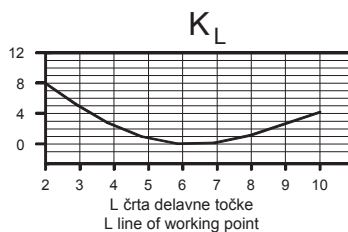
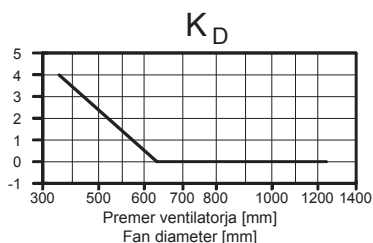
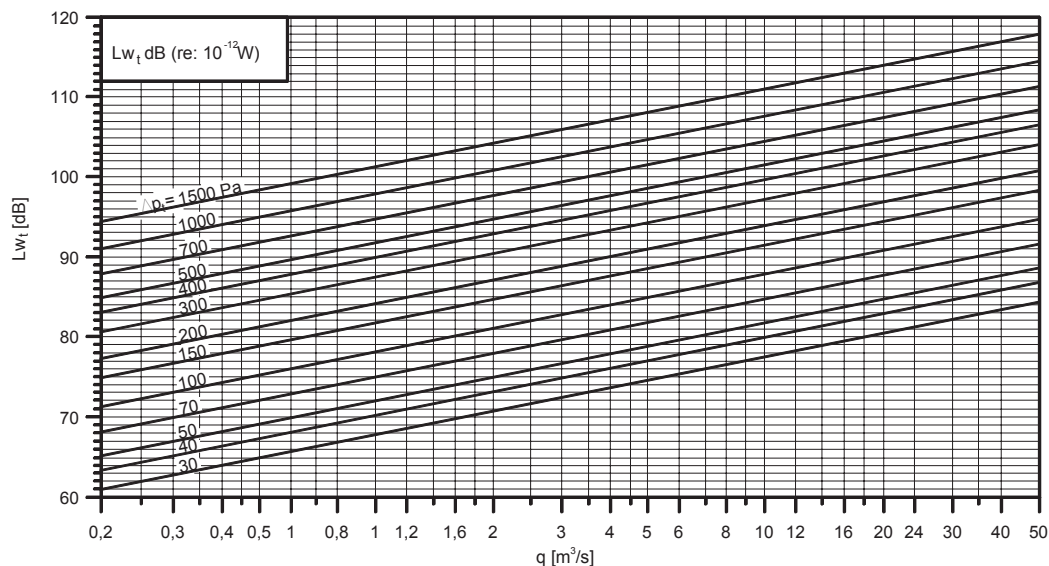
The sound power level is:

$$L_w = L_{Wt} + K_D + K_\alpha + K_L \text{ (dB)}$$

Sound power level in the individual octave bands are determined by equation:

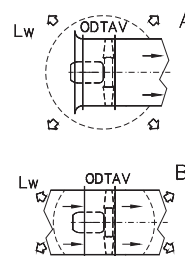
$$L_{W_{okt}} = L_w + K_{okt} \text{ (dB)}$$

L_{Wt}



Vgradnja Installation.	F_r (Hz)	K_{okt} (dB)							
		63	125	250	500	1k	2k	4k	8k
"A"	90 – 180	-8	-7	-6	-5	-8	-15	-22	-30
	181 – 355	-16	-8	-7	-6	-5	-8	-15	-22
	356 – 710	-22	-16	-8	-7	-6	-5	-8	-15
"B"	90 – 180	-7	-7	-7	-9	-10	-22	-35	-49
	181 – 355	-7	-7	-7	-7	-9	-10	-22	-35
	356 – 710	-8	-7	-7	-7	-7	-9	-10	-22

Vgradnja / Installation



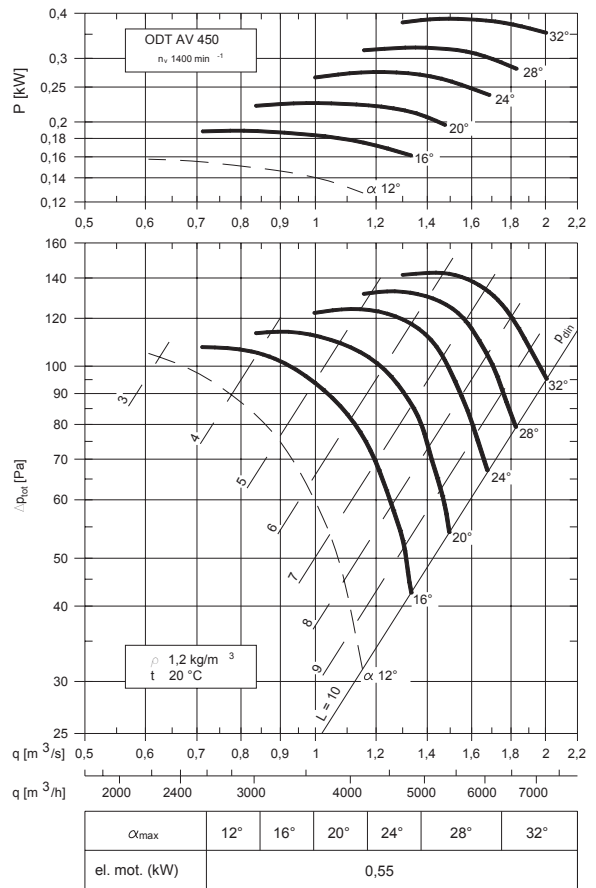
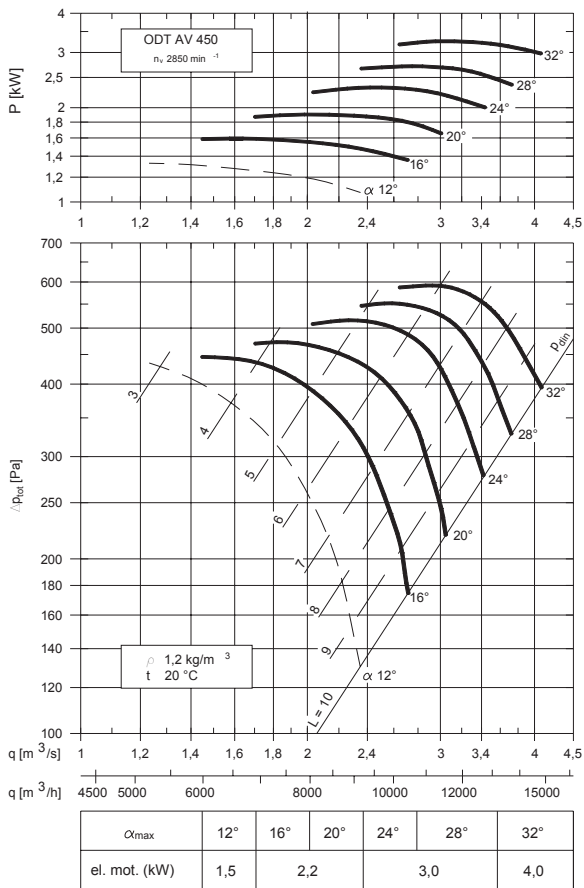
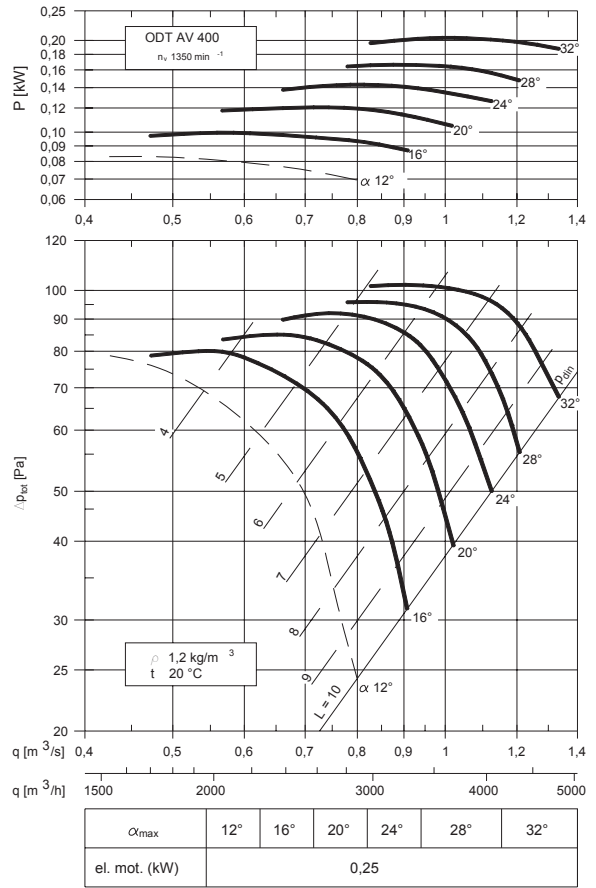
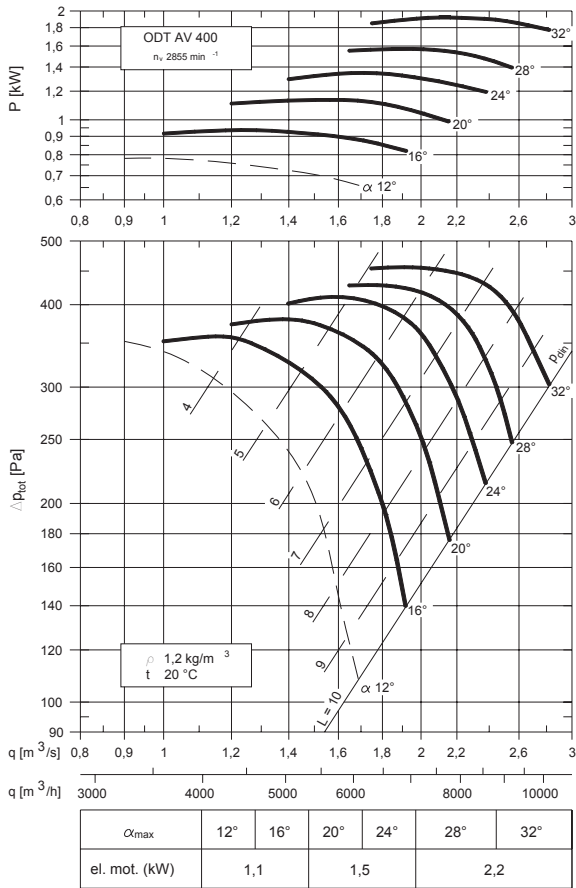
$$f_r = \frac{n}{60} \cdot z \text{ [Hz]} \quad \text{Lastna frekvenca lopatic (Hz)}$$

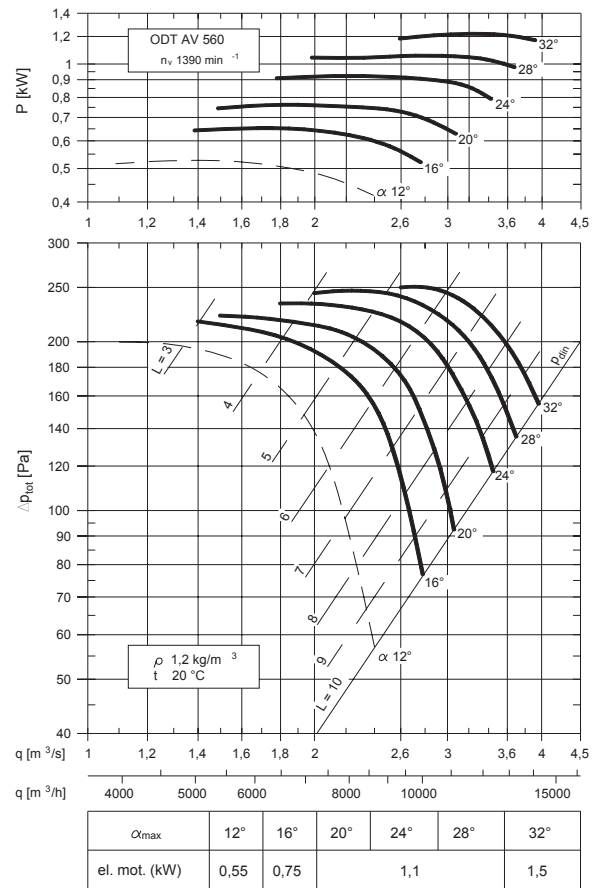
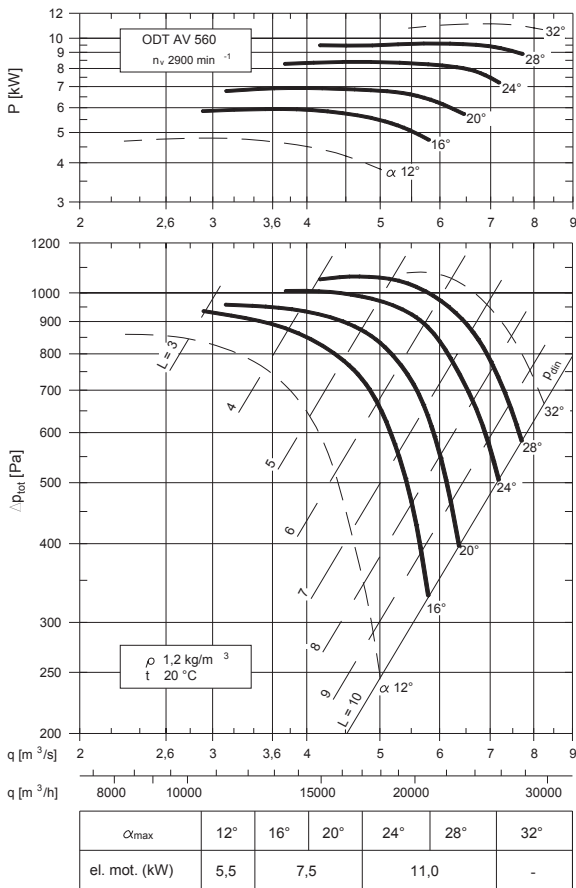
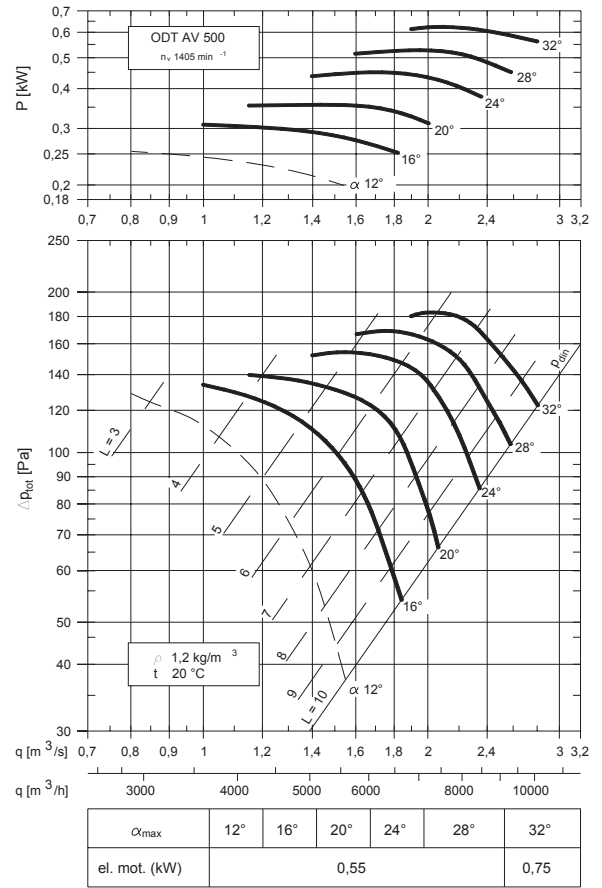
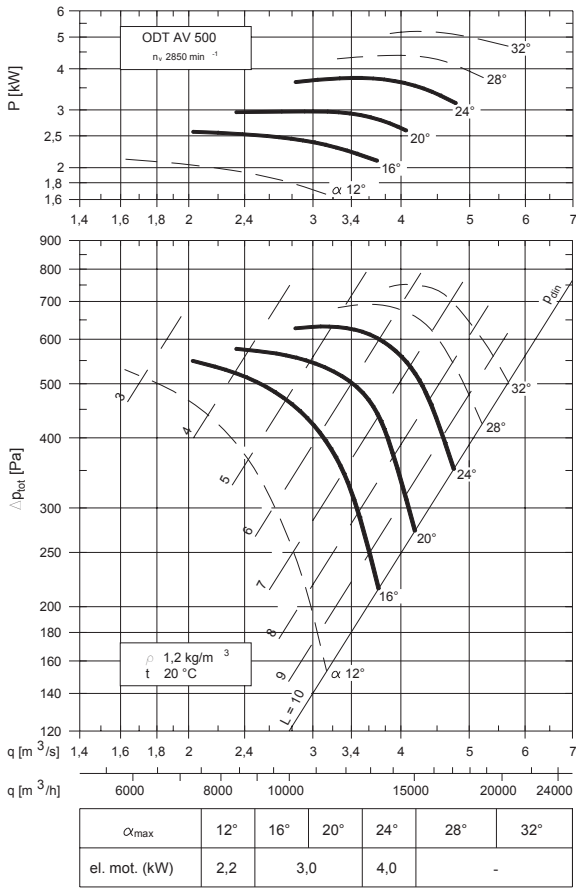
$$f_r = \frac{n}{60} \cdot z \text{ [Hz]} \quad \text{Blades frequency (Hz)}$$

z – število lopatic (glej str. 6)
 n – vrtljaji (min^{-1})

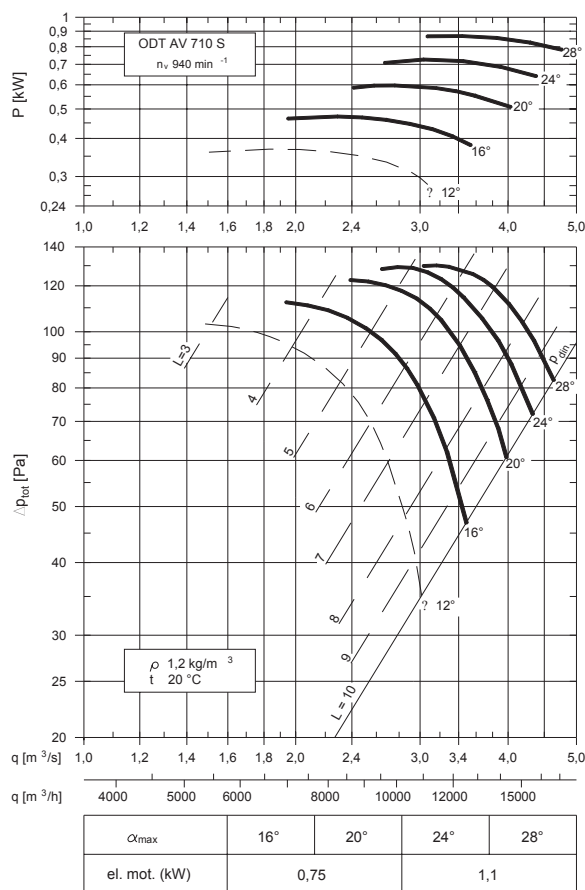
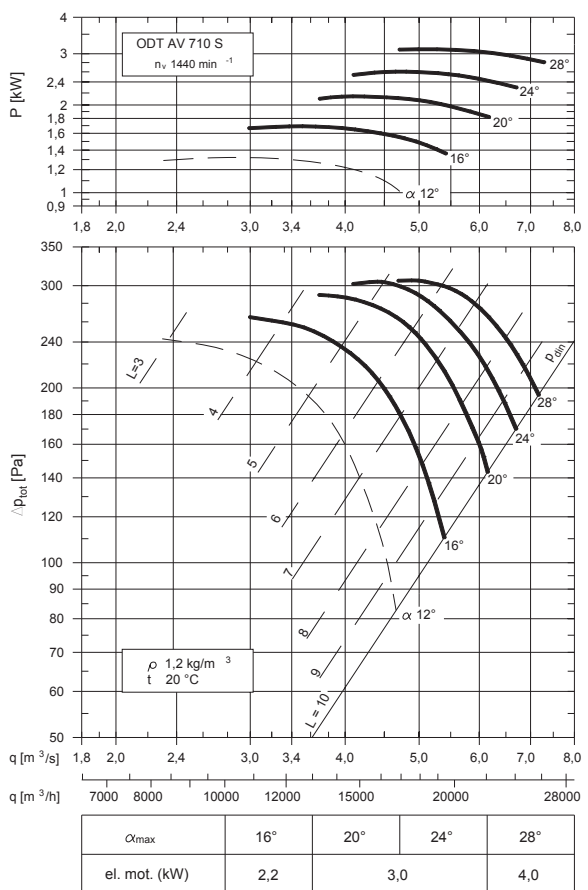
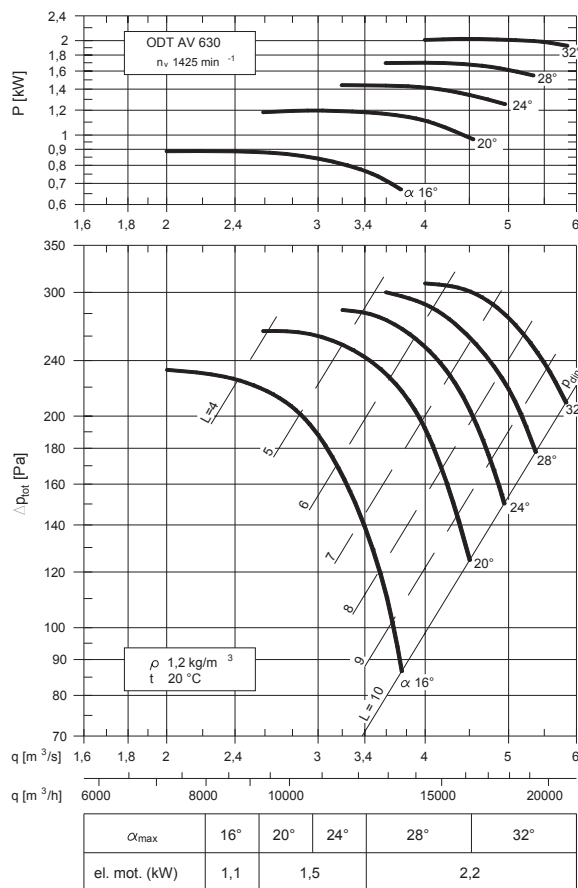
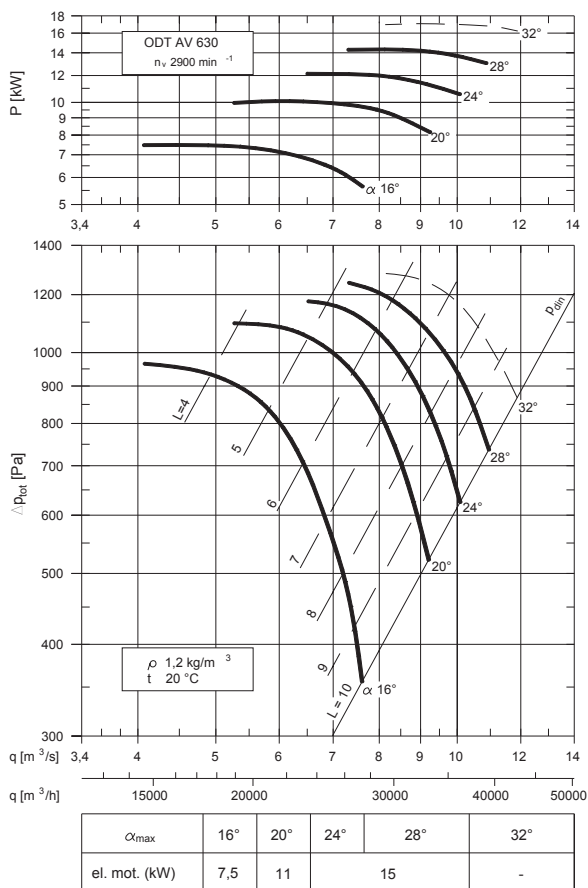
z – blades number (see page 6)
 n – RPM (min^{-1})

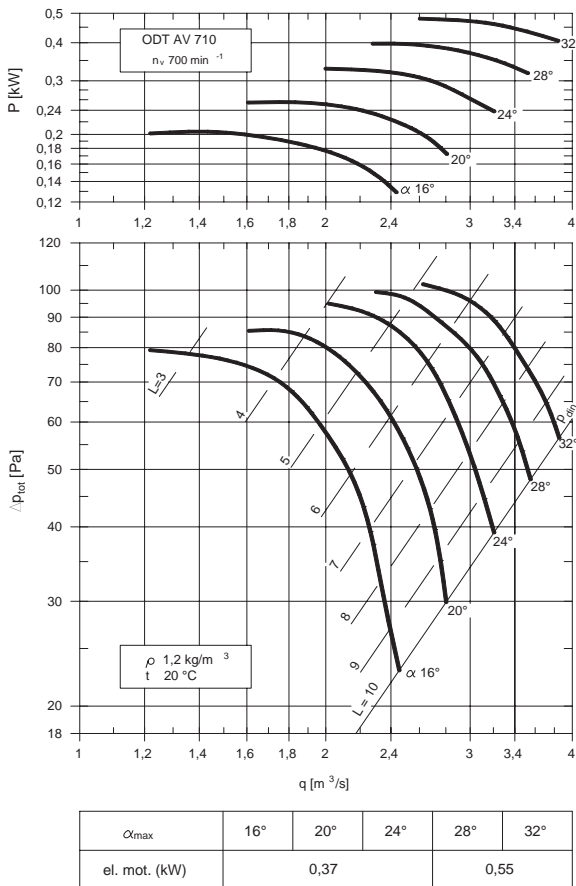
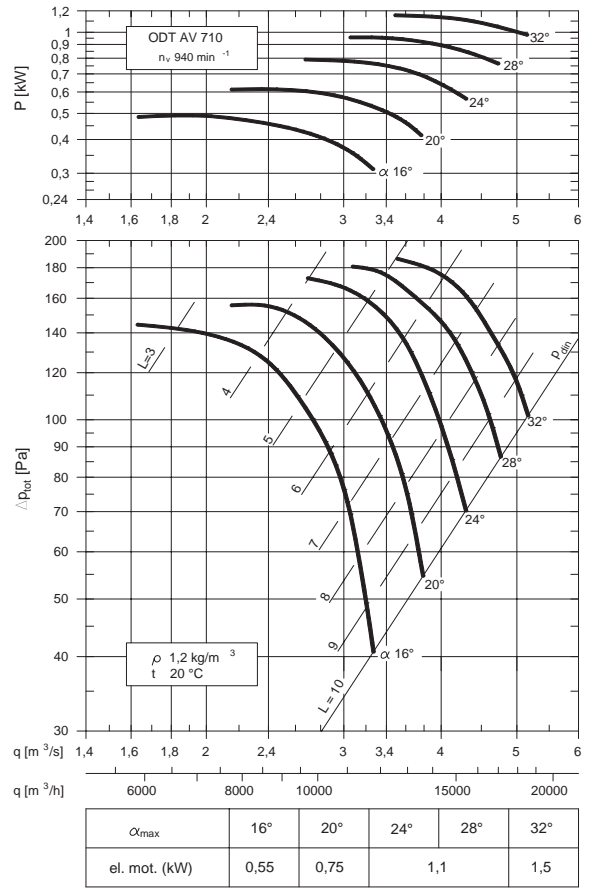
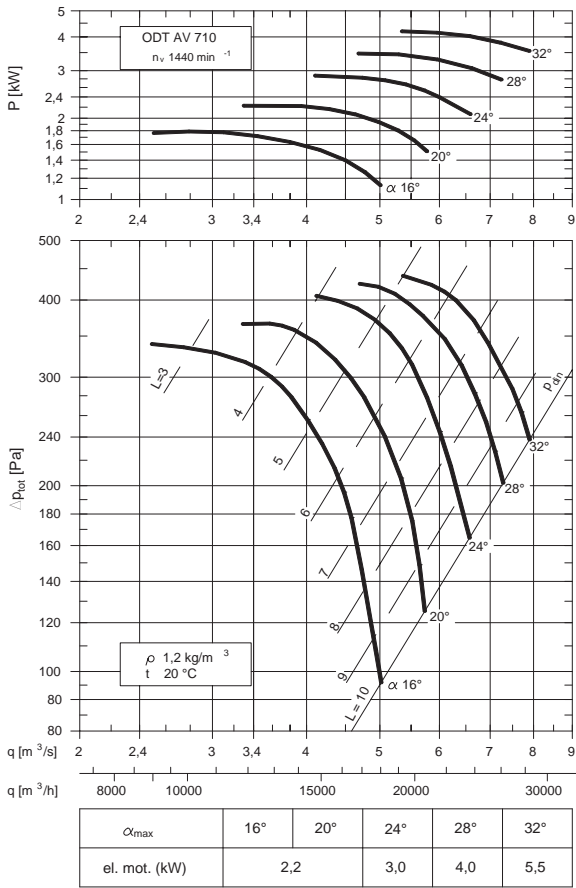
ODT AV 400, 450

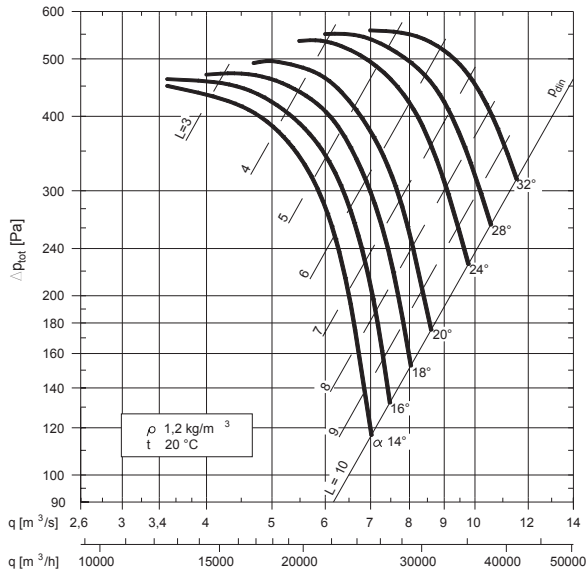
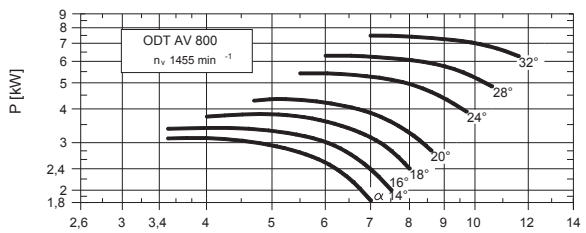




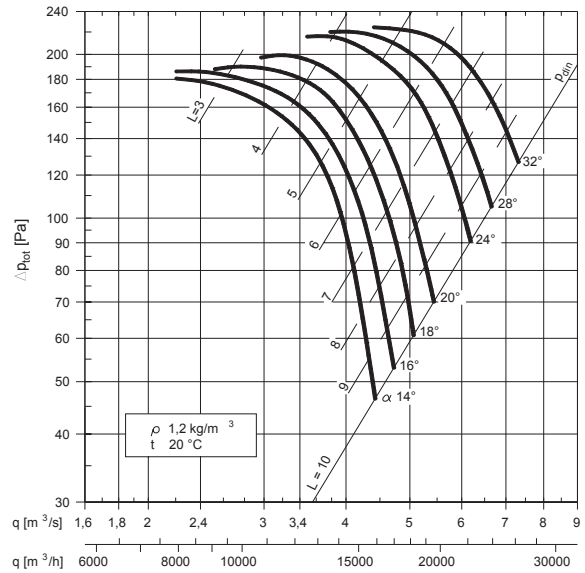
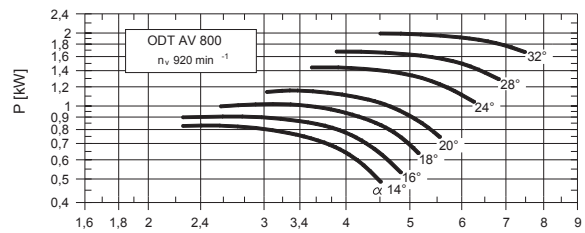
ODT AV 630, 710S



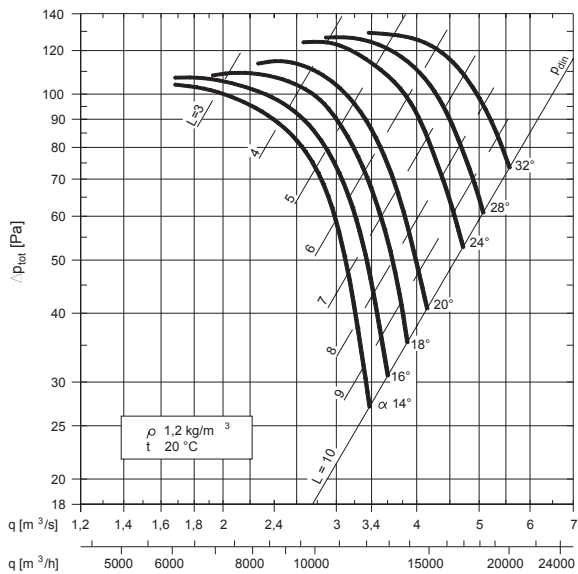
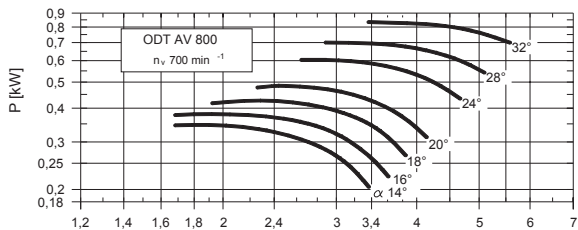




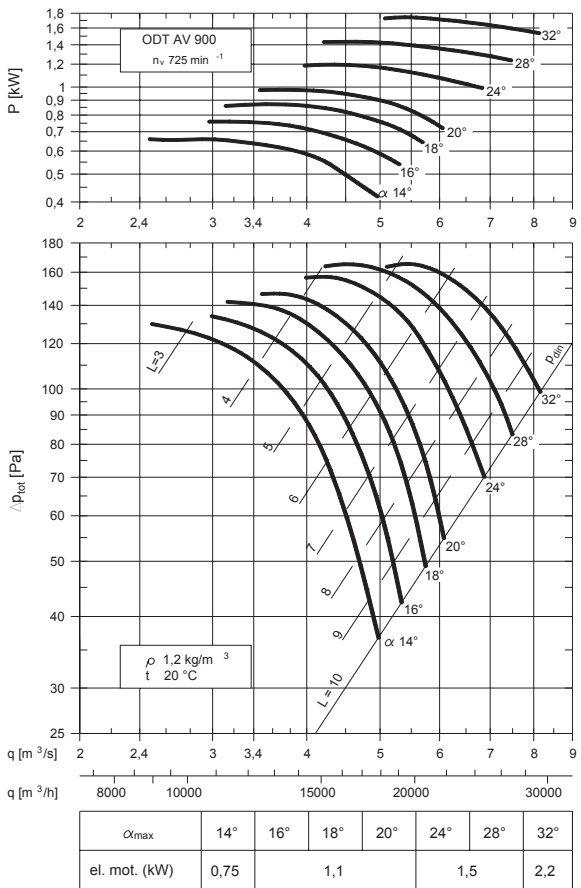
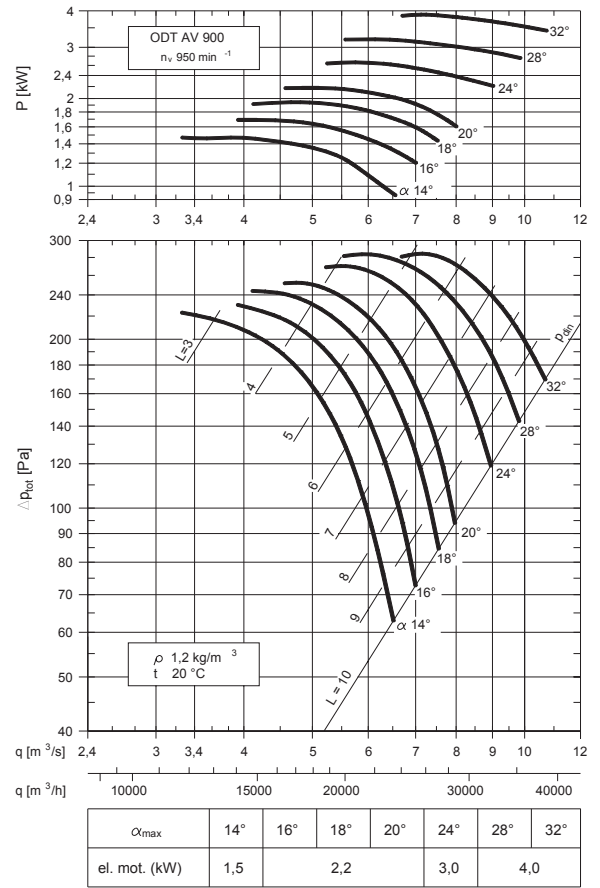
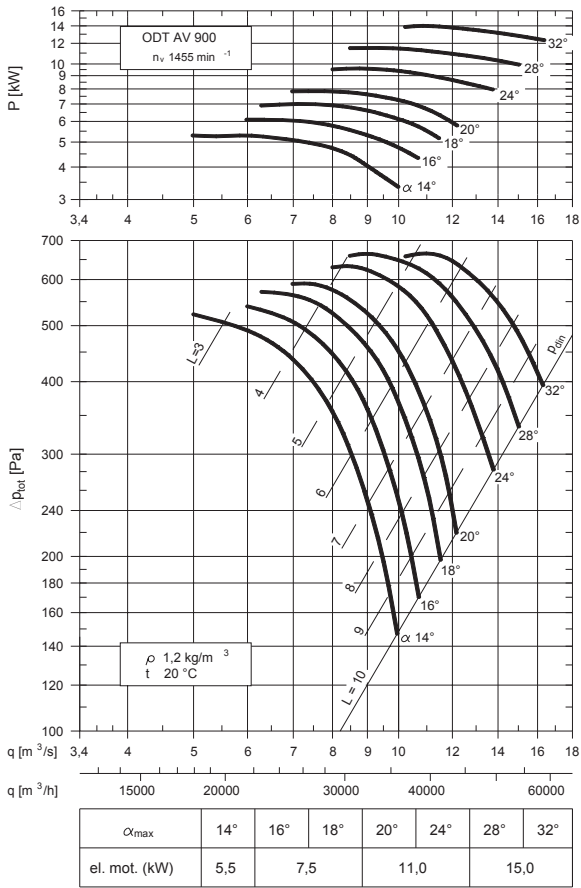
α_{max}	14°	16°	18°	20°	24°	28°	32°
el. mot. (kW)		4,0		5,5		7,5	



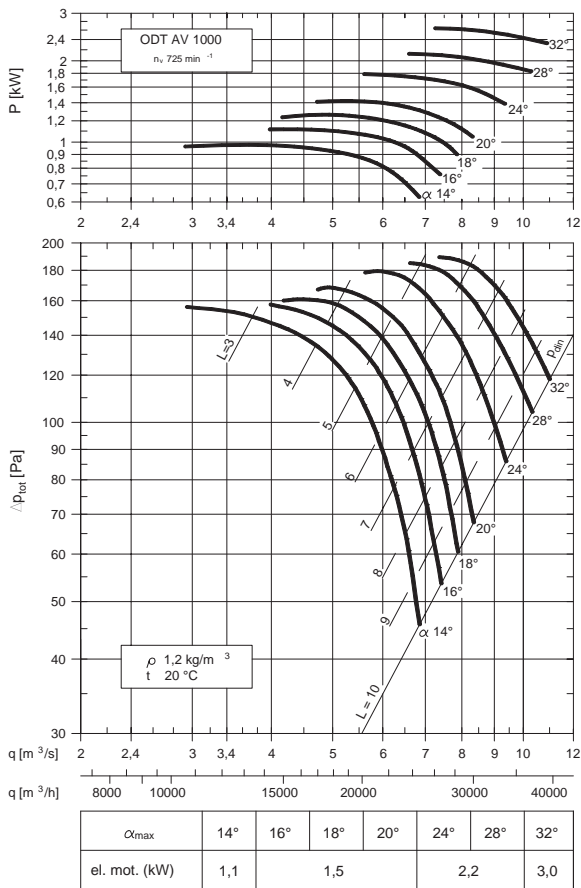
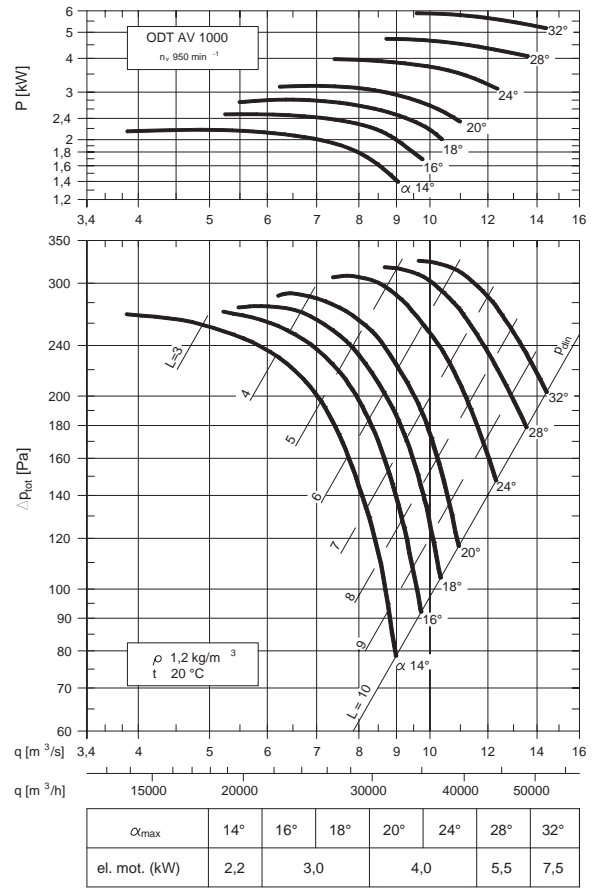
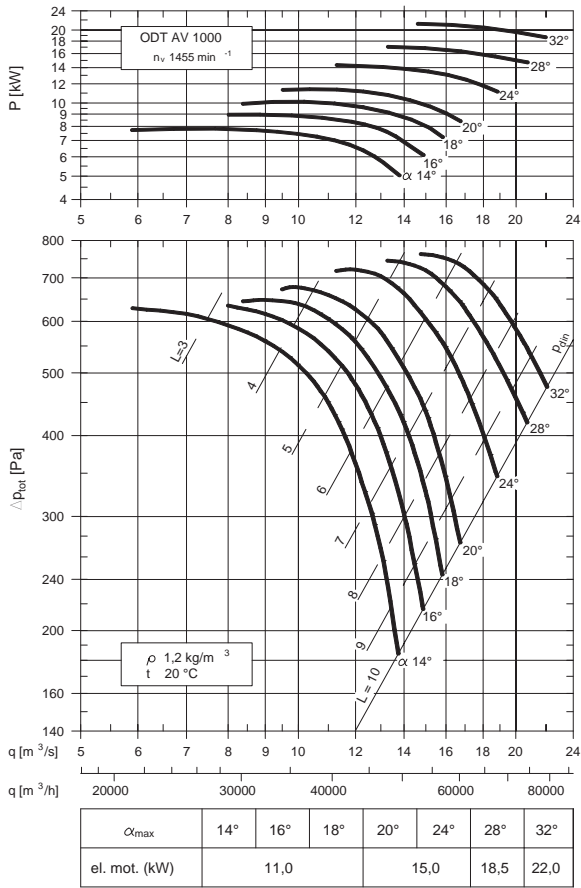
α_{max}	14°	16°	18°	20°	24°	28°	32°
el. mot. (kW)		1,1		1,5		2,2	

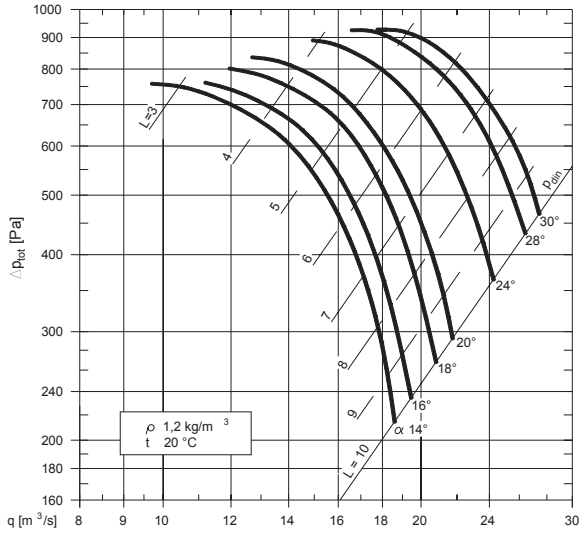
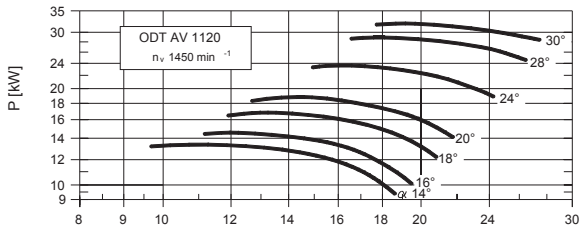


α_{max}	14°	16°	18°	20°	24°	28°	32°
el. mot. (kW)	0,37		0,55		0,75		1,1

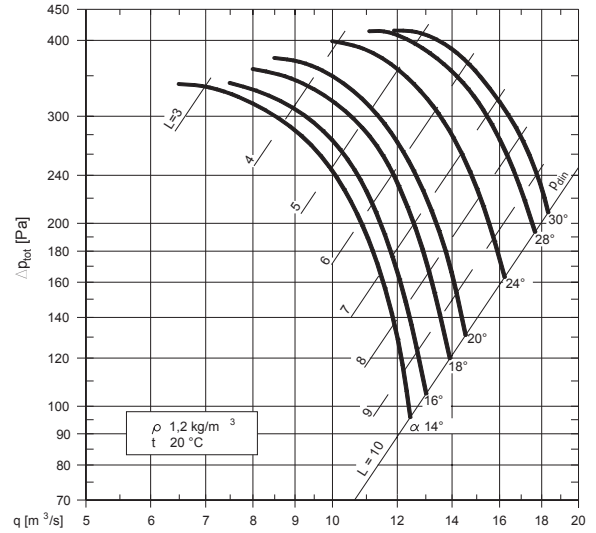
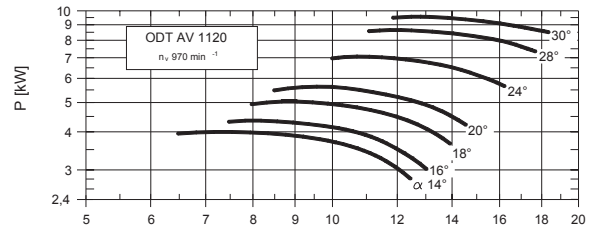


ODT AV 1000

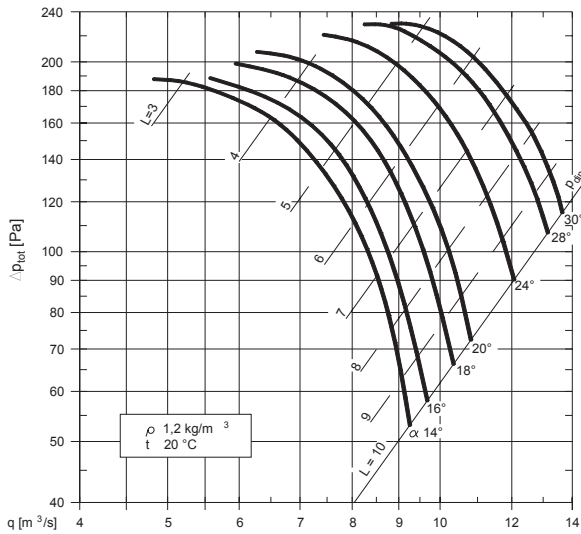
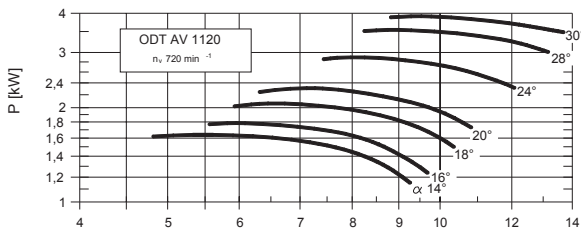




α_{max}	14°	16°	18°	20°	24°	28°	30°
el. mot. (kW)	15,0	18,5	22,0	30,0	37,0		

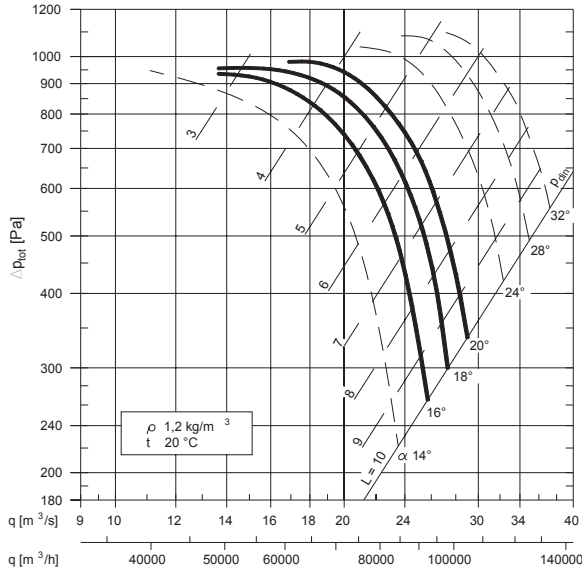
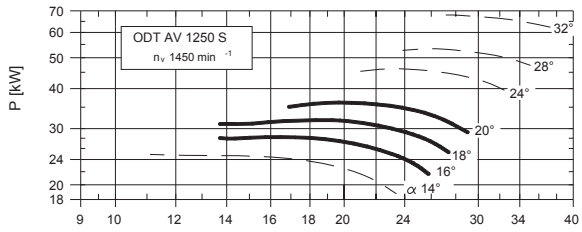


α_{max}	14°	16°	18°	20°	24°	28°	30°
el. mot. (kW)	4,0	5,5	7,5	11,0			

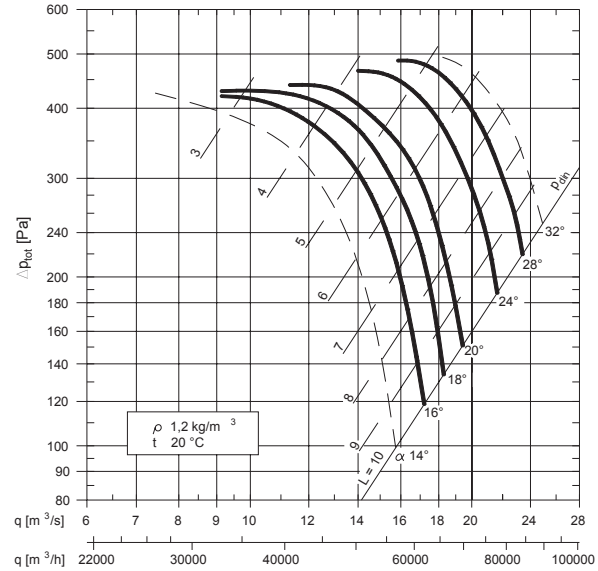
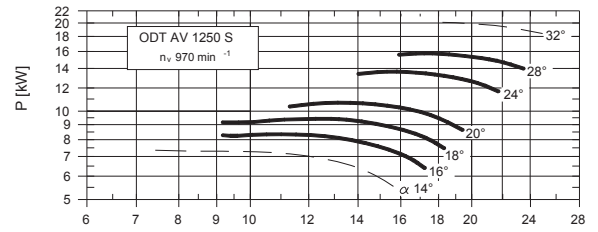


α_{max}	14°	16°	18°	20°	24°	28°	30°
el. mot. (kW)		2,2		3,0		4,0	

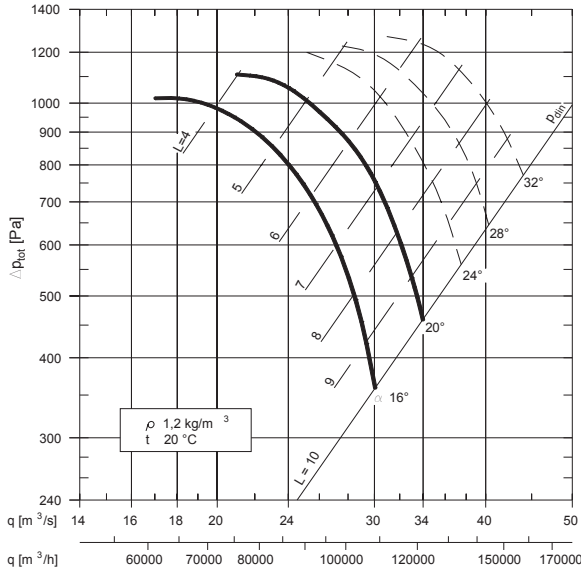
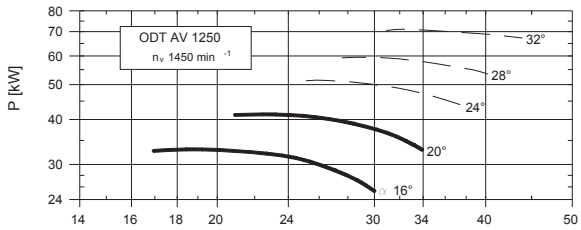
ODT AV 1250 S



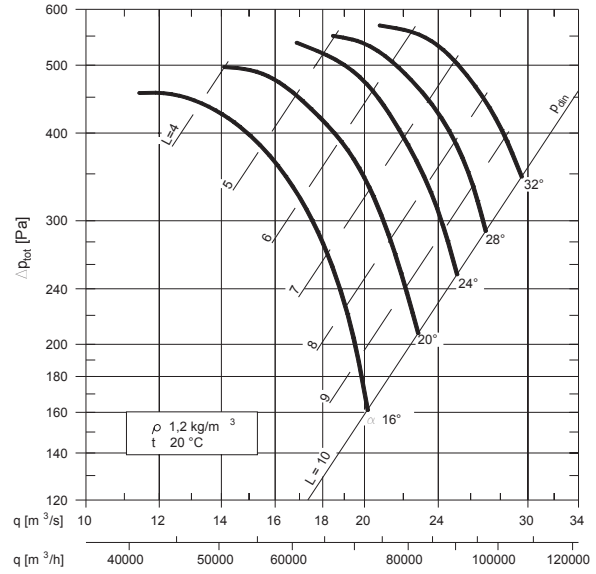
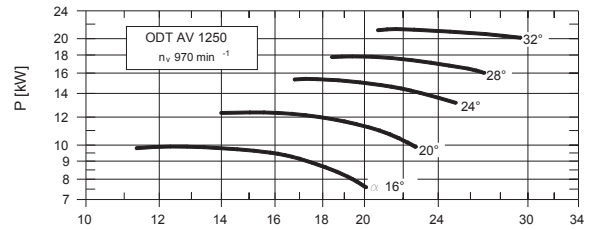
α_{max}	14°	16°	18°	20°	22°	24°	28°
el. mot. (kW)	30,0	37,0	45,0	-	-	-	-



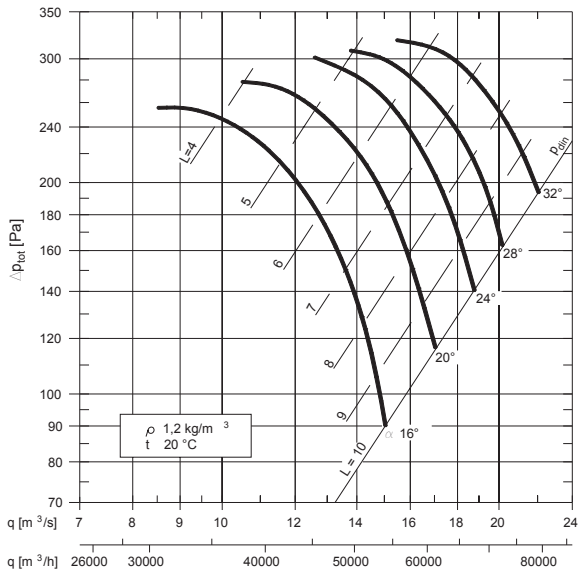
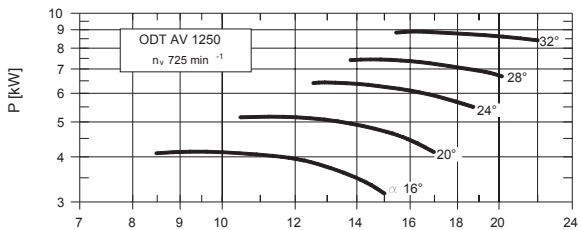
α_{max}	14°	16°	18°	20°	22°	24°	28°
el. mot. (kW)	7,5	11,0	15,0	18,5	-	-	-



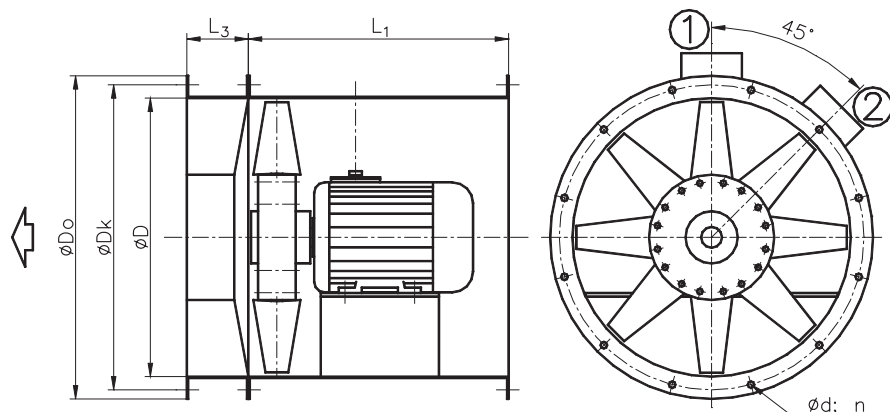
α_{max}	16°	20°	24°	28°	32°
el. mot. (kW)	37,0	45,0			



α_{max}	16°	20°	24°	28°	32°
el. mot. (kW)	11,0	15,0	18,5	22,0	



α_{max}	16°	20°	24°	28°	32°
el. mot. (kW)		5,5		7,5	11,0

AKSIALNI VENTILATORJI ODT AVV
Dimenzije
ODT AVV AXIAL FANS
Dimensions


Standardna vrsta vgradnje: **HORIZONTALNA**
 Standard mounting position: **HORIZONTAL**

AVS -	ØD [mm]	ØD _k [mm]	ØD _o [mm]	Ød [mm]	n	L ₁ [mm]	L ₁ [*] [mm]	L ₃ [mm]	Z Št. Lopatic Blades No.	Priklj. Doza Terminal box
400	400	438	464	Ø9,5	12	400		110	7	1
450	450	487	513	Ø9,5	12	450		110	7	1
500	500	541	567	Ø9,5	12	500		110	7	1
560	560	605	639	Ø11,5	16	550		110	8	1
630	630	674	708	Ø11,5	16	650	500	110	8	1
710 S	710	751	785	Ø11,5	16		550	140	9	2
710	710	751	785	Ø11,5	16		550	140	7	2
800	800	837	871	Ø11,5	24	650		140	8	2
900	900	958	1004	Ø14	24	800	700	140	8	2
1000	1000	1067	1107	Ø14	24	800	700	140	8	2
1120	1120	1200	1250	Ø18	32	850		140	9	2
1250 S	1250	1337	1387	Ø18	32	850		140	11	2
1250	1250	1337	1387	Ø18	32	**	**	250	8	2
1400	1400	1491	1552	Ø18	32	**	**	250	8	2
1600	1600	1663	1732	Ø18	40	**	**	250	8	2

L₁^{*} – za 4,6-polne elektromotorje (ODT AVV 630)
 – za 6,8-polne elektromotorje (ODT AVV 900 – 1250)

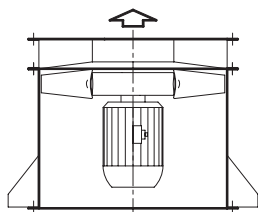
** Odvisno od velikosti elektromotorja

L₁^{*} – For 4,6-pole motors (ODT AVV 630)
 – For 6,8-pole motors (ODT AVV 900 – 1250)

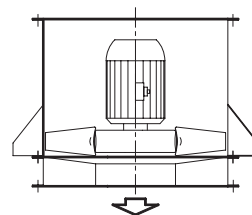
** Depends on electric motor's size

Vgradnja

Standardna vertikalna izvedba
 Standard vertical design


Mounting positions

Vertikalna izvedba: DOL
 Vertical design: DOWN



Nudimo tudi posebne izvedbe in vgradnje na zahtevo kupca.
 Special designs and mounting positions on customer request.

Določitev šumnosti ODT AVV

Zvočna moč je odvisna v glavnem od pretoka zraka in totalnega tlaka ventilatorja (diagram L_{W_t}).

Korekcija zvočne moči nastopa zaradi:

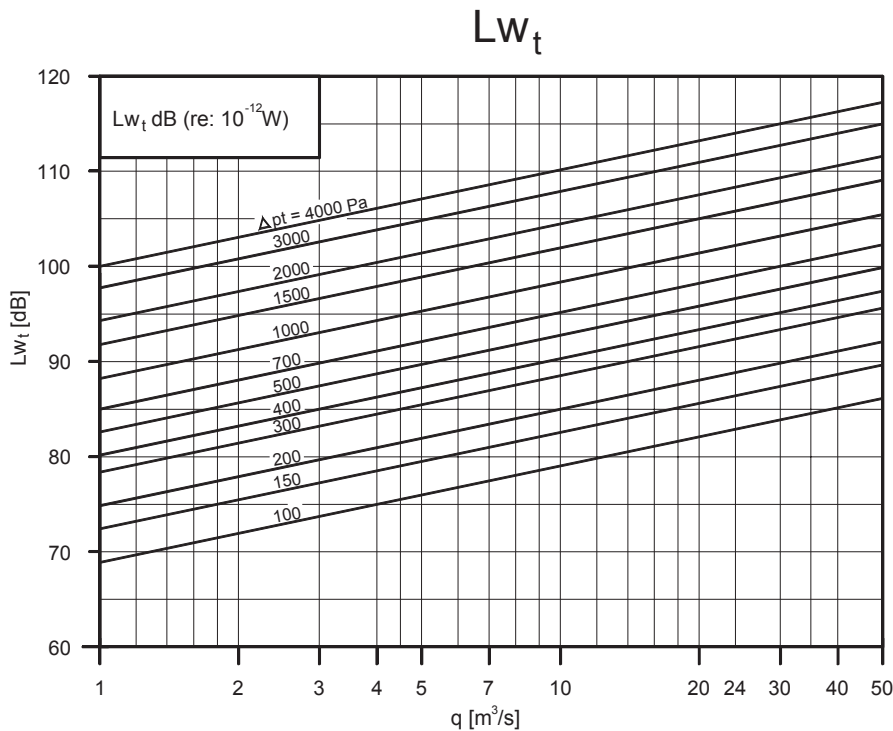
- premera ventilatorja (K_D);
- nastavnega kota lopatic (K_α);
- lege obratovalne točke v diagramu (K_L).

Nivo zvočne moči je:

$$L_w = L_{W_t} + K_D + K_\alpha + K_L \text{ (dB)}$$

Nivo zvočne moči po posameznih središčnih frekvencah oktavnega pasu določimo po enačbi:

$$L_{W_{okt}} = L_w + K_{okt} \text{ (dB)}$$



Sound level data ODT AVV

Sound power level depends on the quantity of supplied air and the total pressure of the fan.

Correction values depend of:

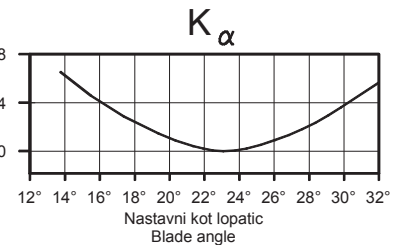
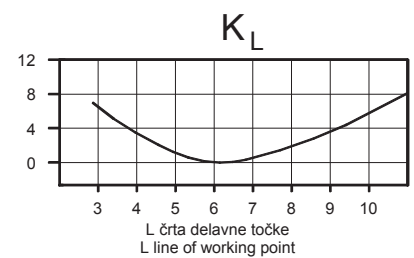
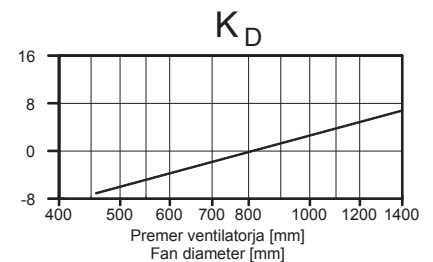
- fan diameter (K_D);
- blades angle (K_α);
- position of operating point in garph (K_L).

The sound power level is:

$$L_w = L_{W_t} + K_D + K_\alpha + K_L \text{ (dB)}$$

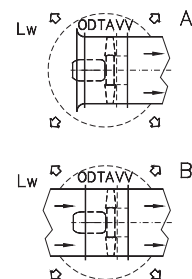
Sound power level in the individual octave bands are determined by equation:

$$L_{W_{okt}} = L_w + K_{okt} \text{ (dB)}$$



Vgradnja Installat.	F_r (Hz)	K_{okt} (dB)							
		63	125	250	500	1k	2k	4k	8k
"A"	90 – 180	-16	-8	-4	-6	-10	-16	-22	-28
	181 – 355	-18	-14	-7	-4	-7	-11	-17	-24
	356 – 710	-21	-16	-13	-6	-4	-8	-12	-20
"B"	90 – 180	-16	-11	-8	-13	-19	-27	-32	-40
	181 – 355	-18	-17	-11	-11	-16	-22	-29	-36
	356 – 710	-21	-19	-17	-13	-13	-19	-24	-32

Vgradnja / Installation



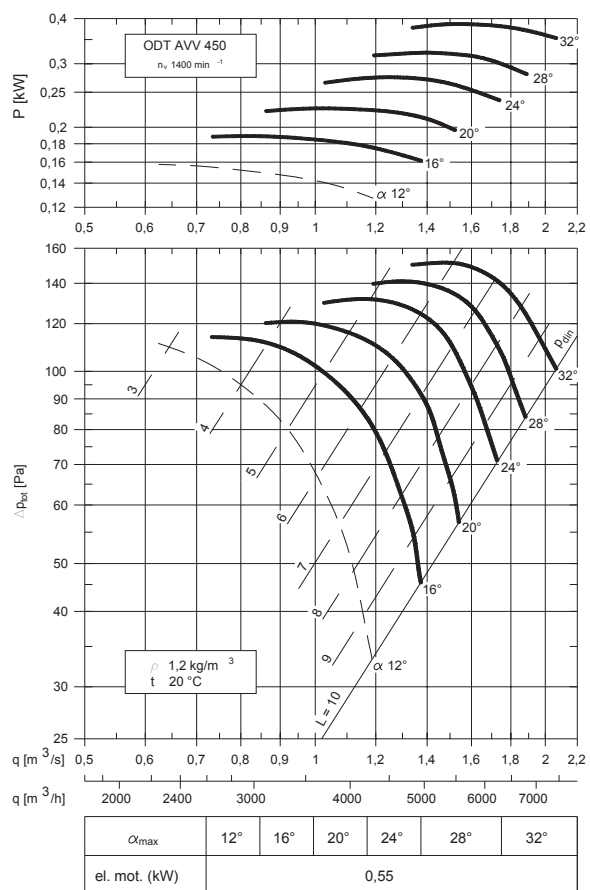
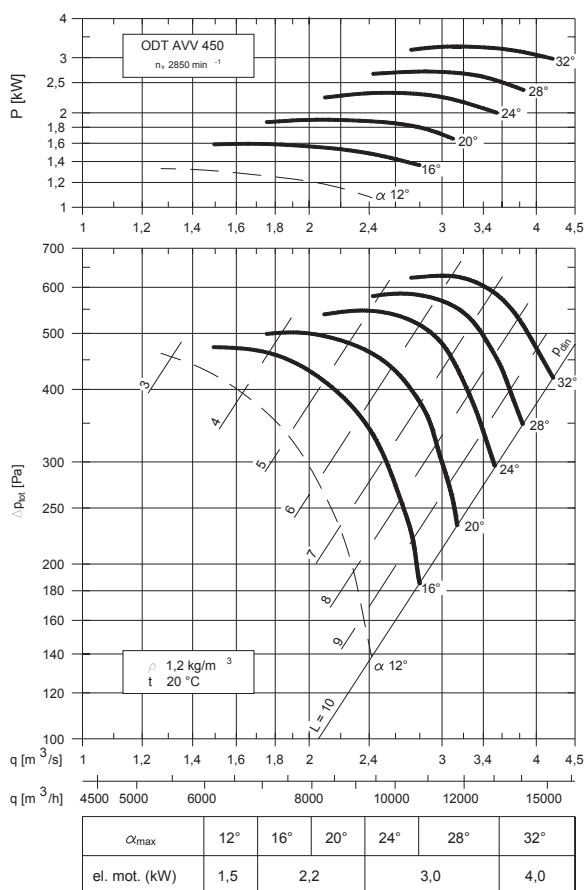
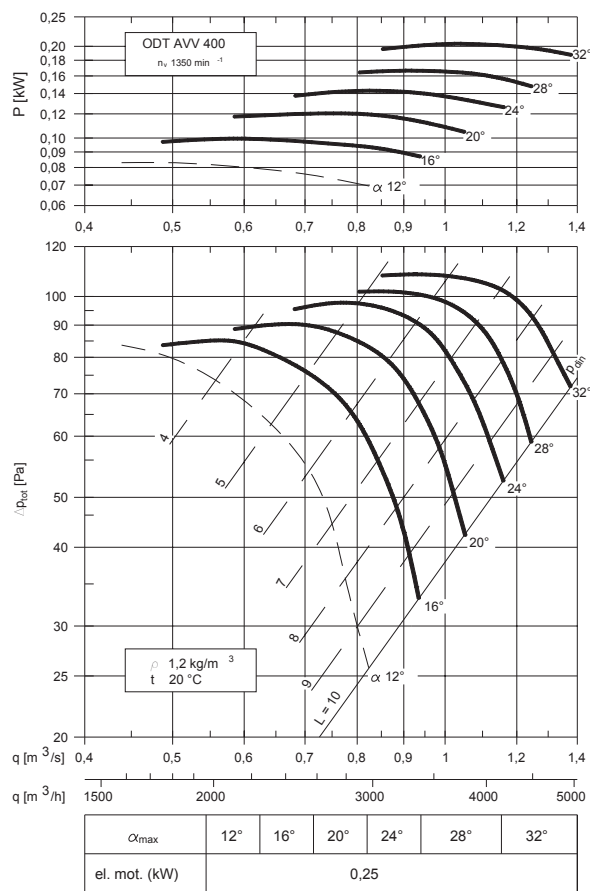
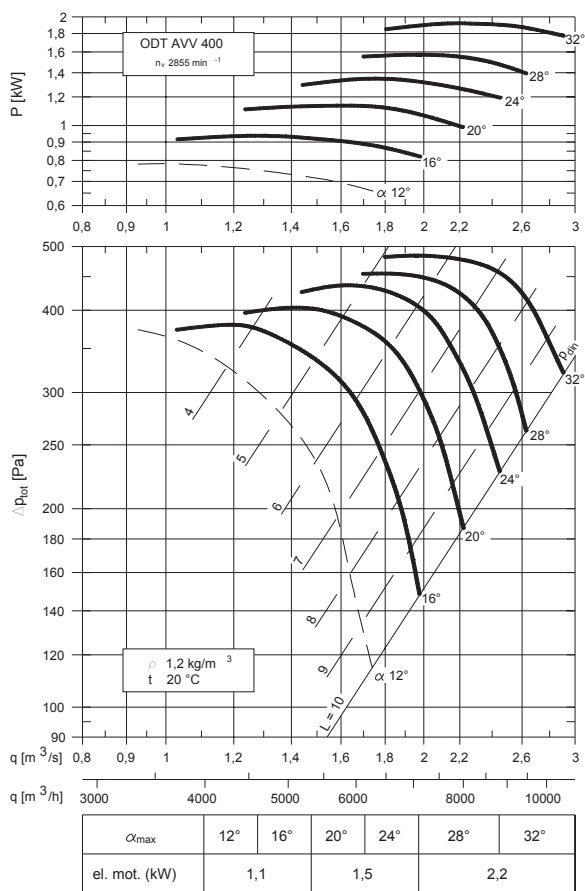
$$f_r = \frac{n}{60} \cdot z \text{ [Hz]} \quad \text{Lastna frekvenca lopatic (Hz)}$$

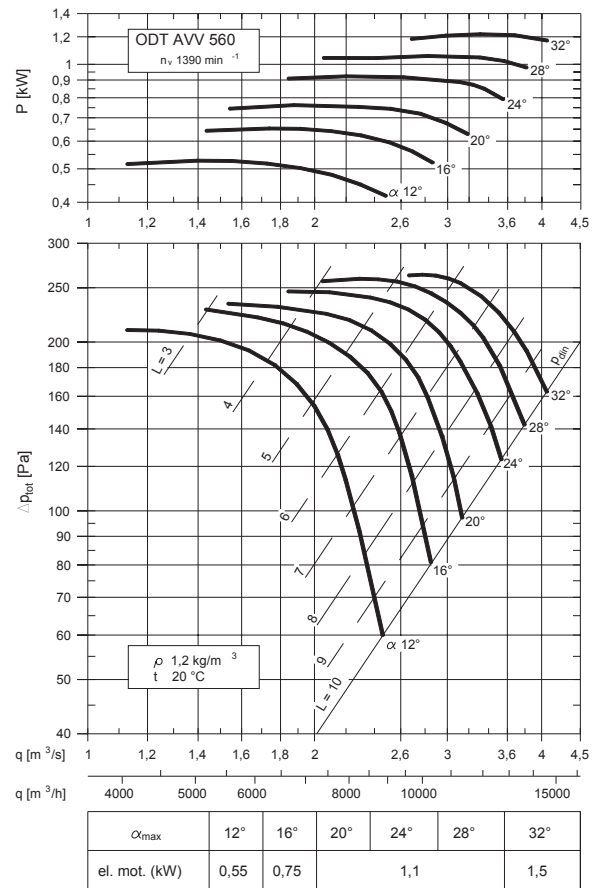
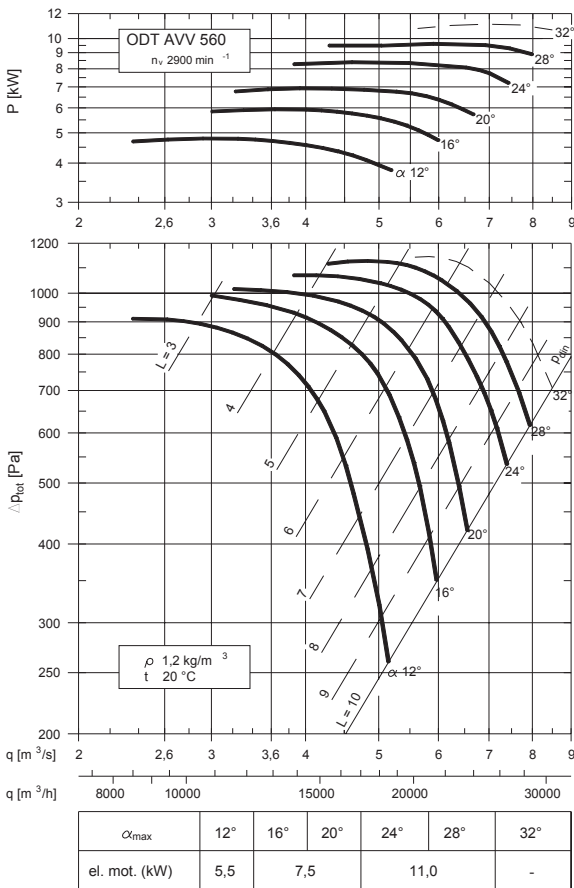
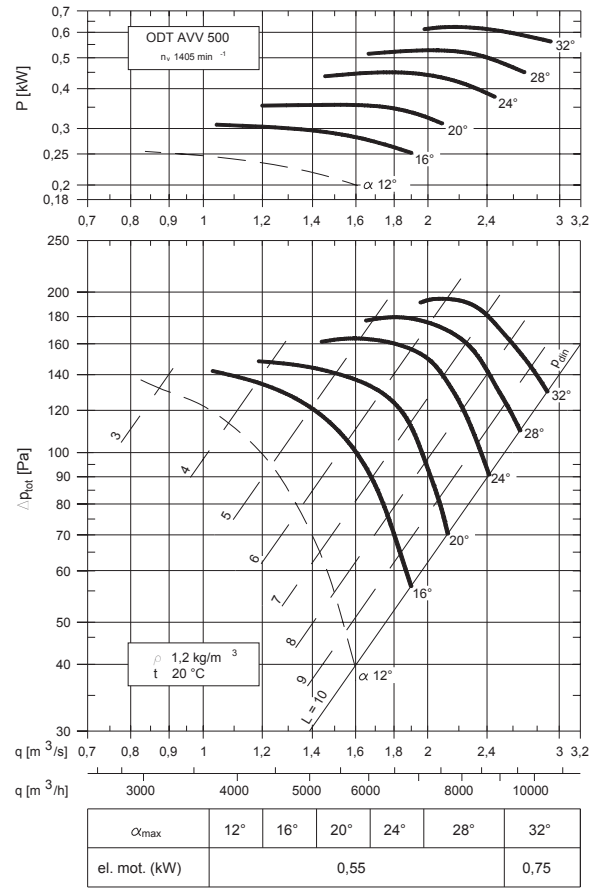
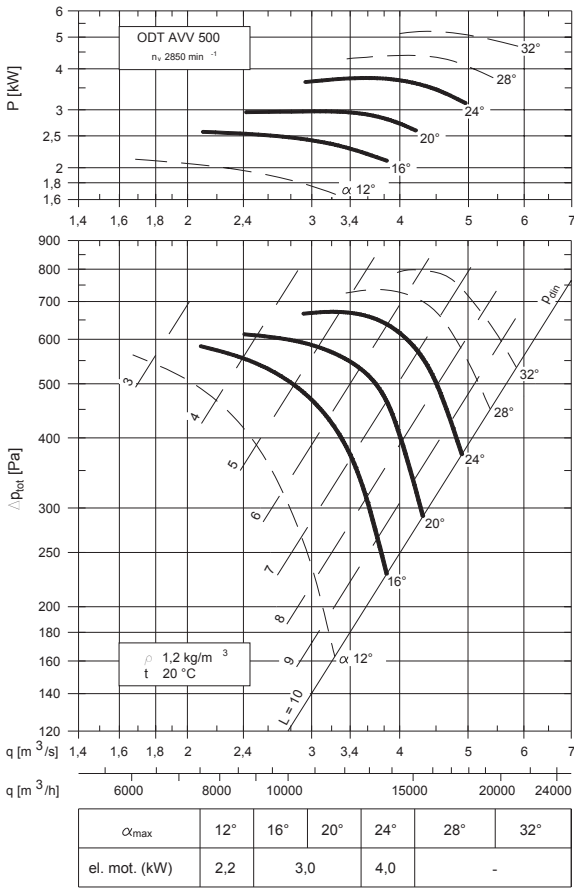
$$f_r = \frac{n}{60} \cdot z \text{ [Hz]} \quad \text{Blades frequency (Hz)}$$

z – število lopatic
n – vrtljaji (min^{-1})

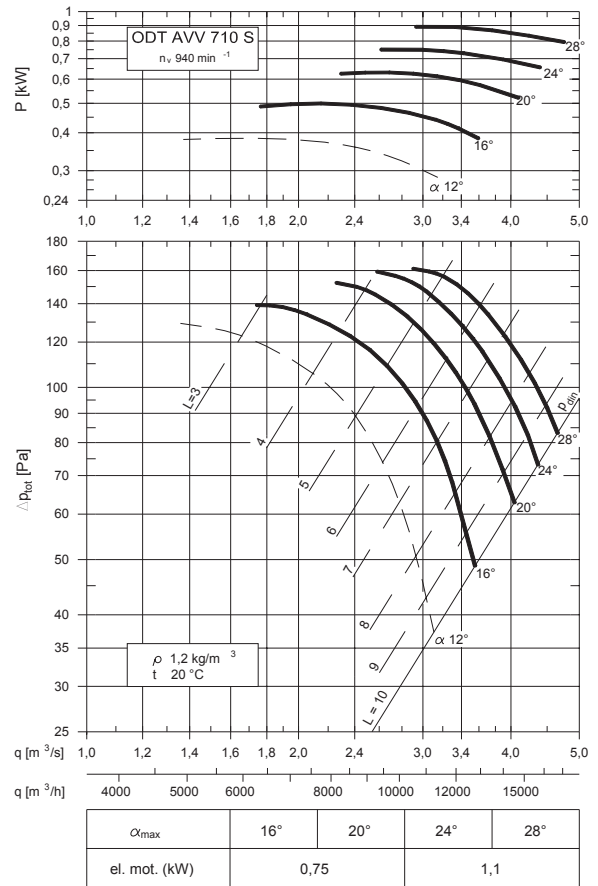
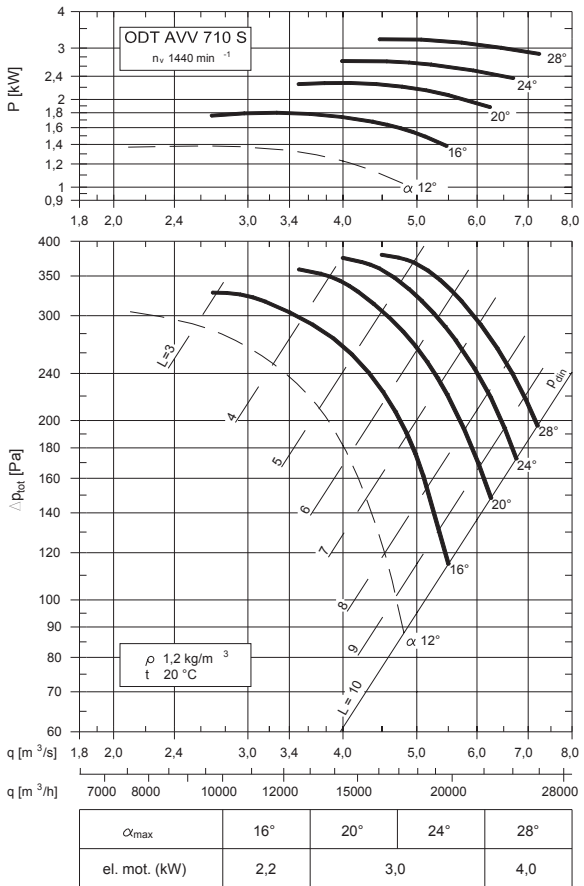
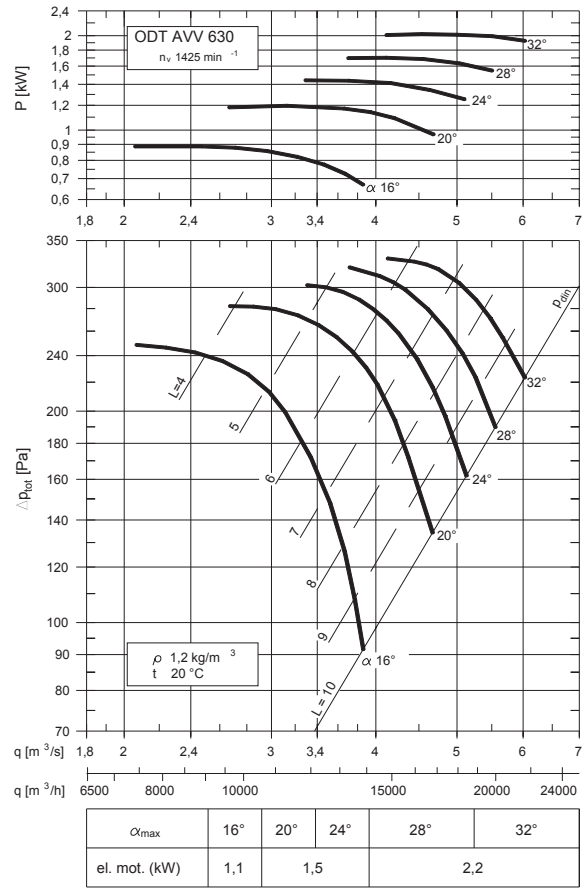
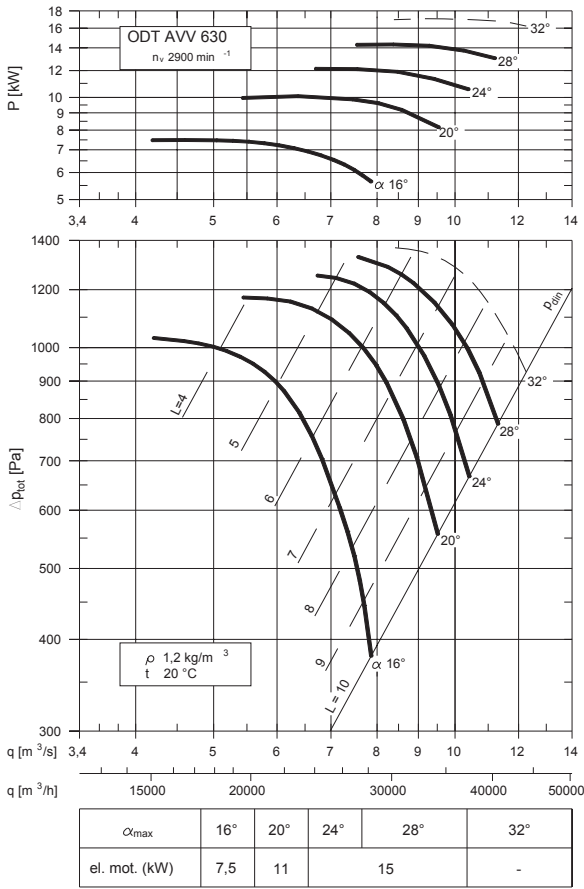
z – blades number
n – RPM (min^{-1})

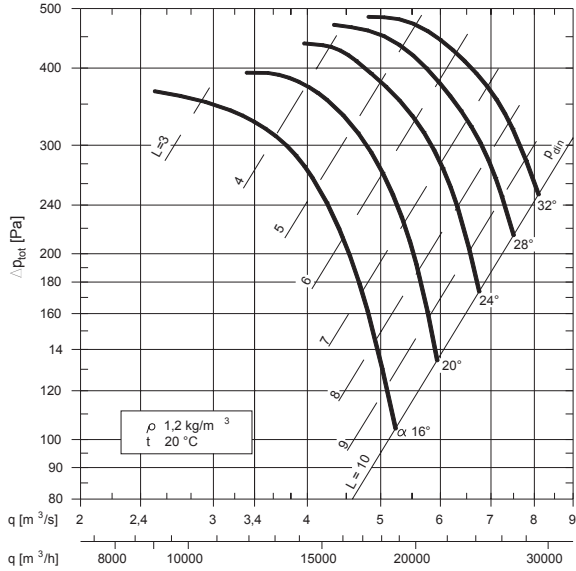
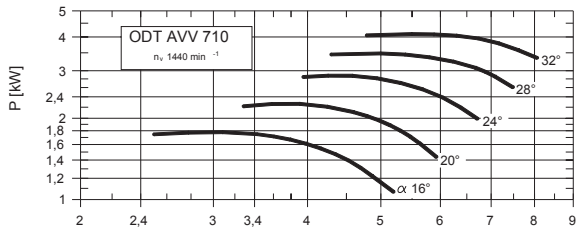
ODT AVV 400, 450



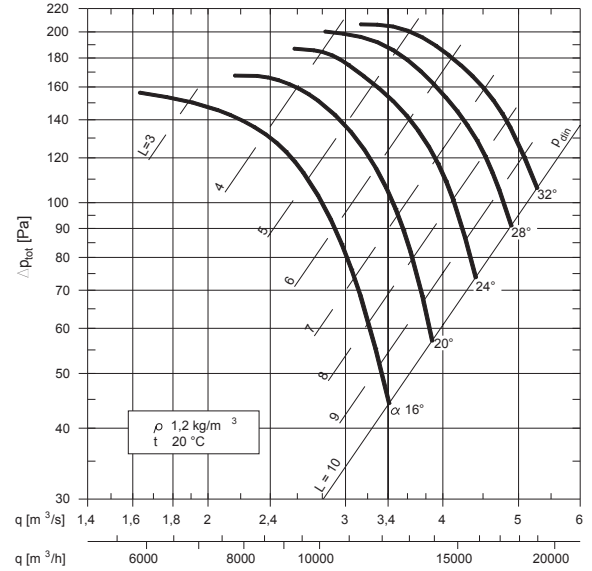
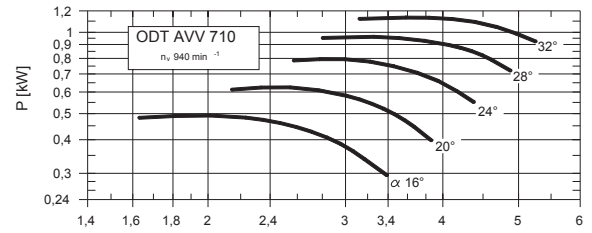


ODT AVV 630, 710S



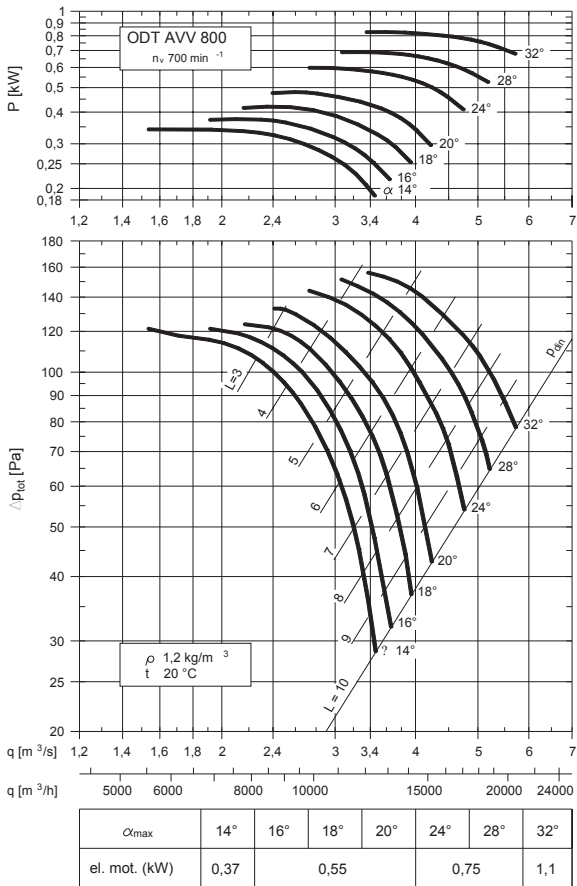
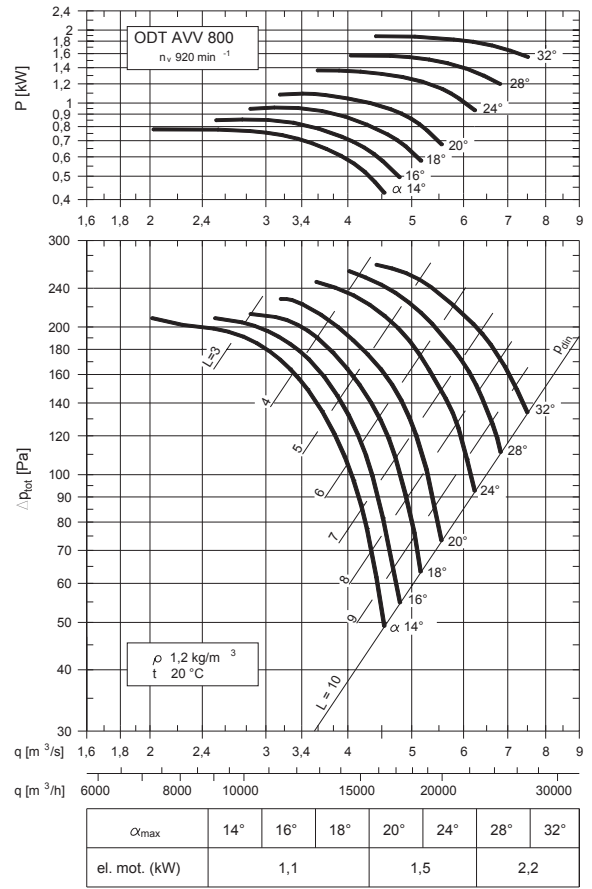
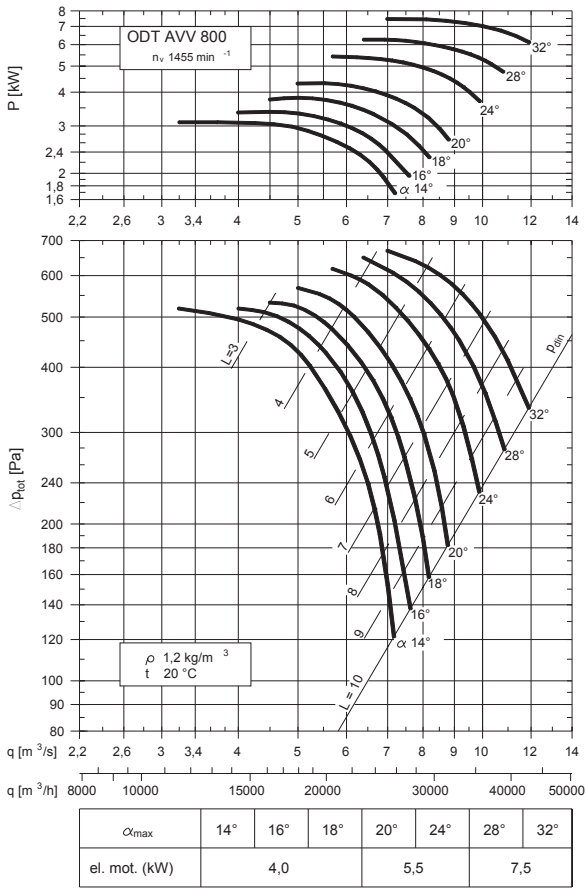


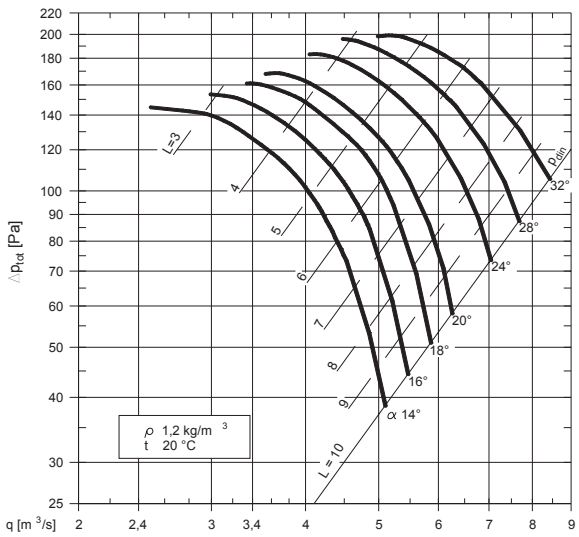
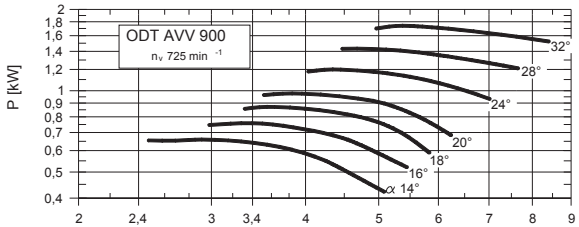
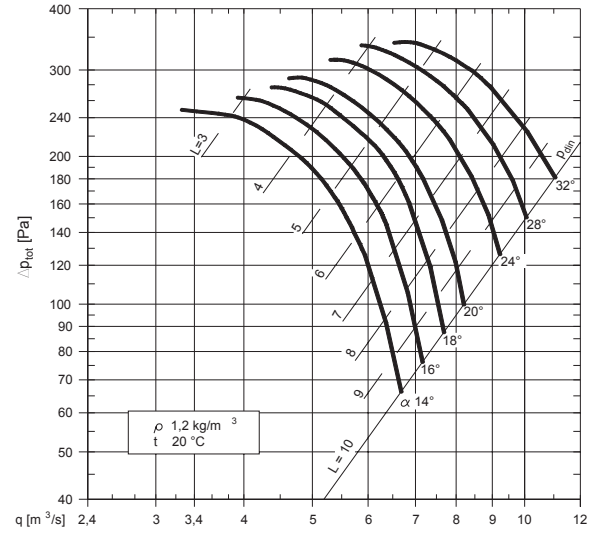
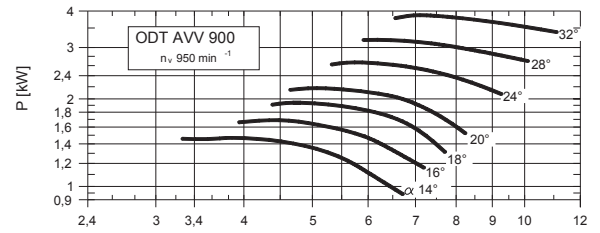
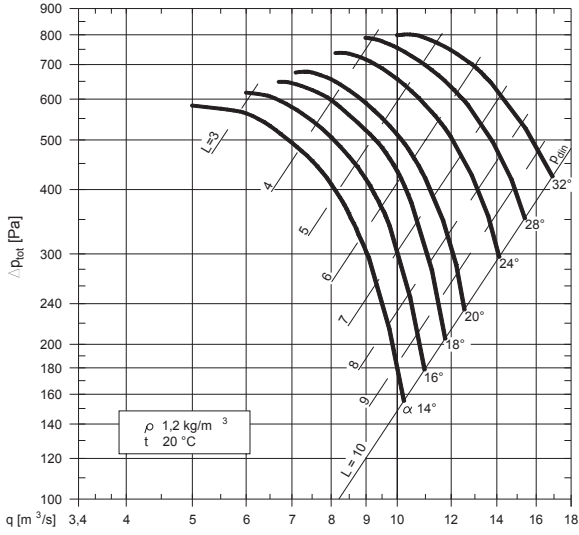
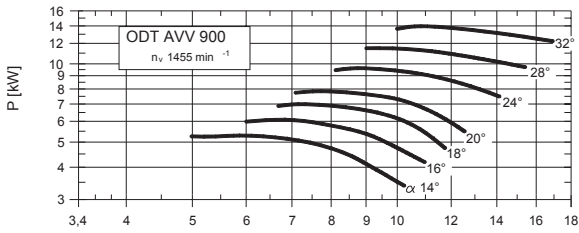
α_{max}	16°	20°	24°	28°	32°
el. mot. (kW)	2,2	3,0	4,0	5,5	

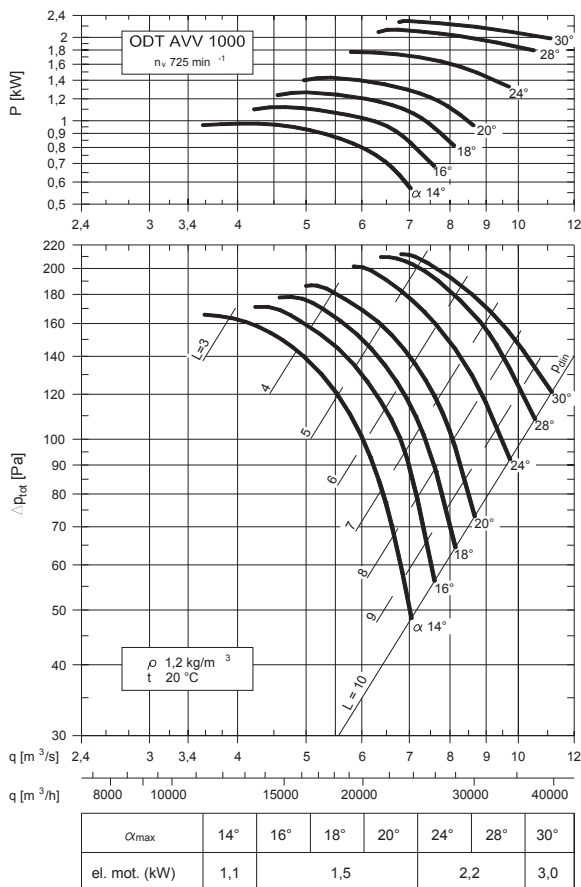
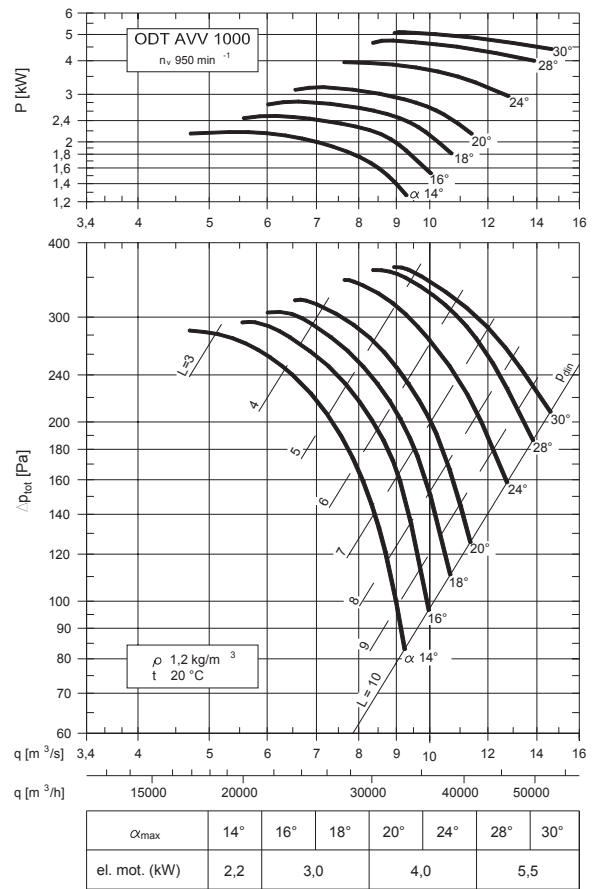
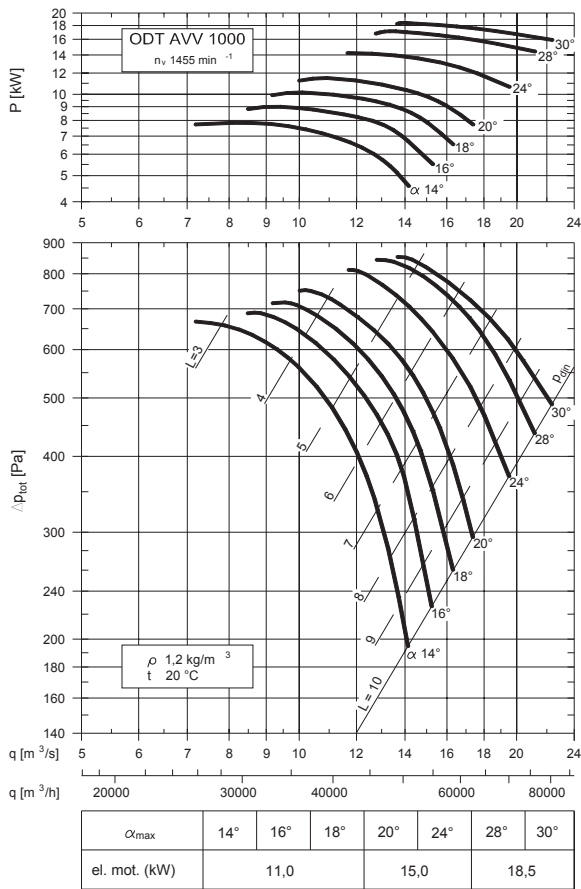


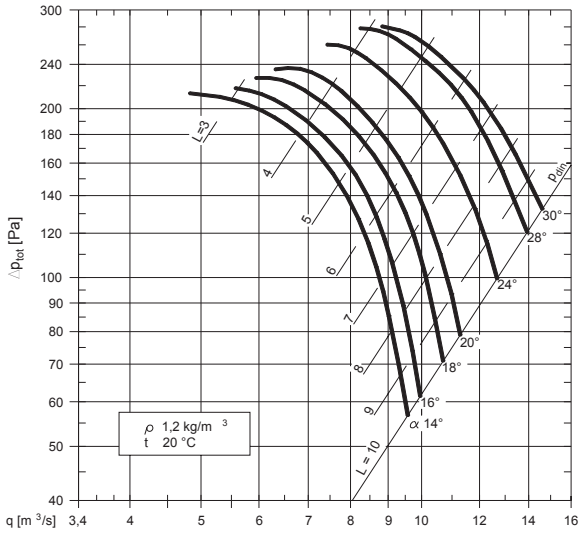
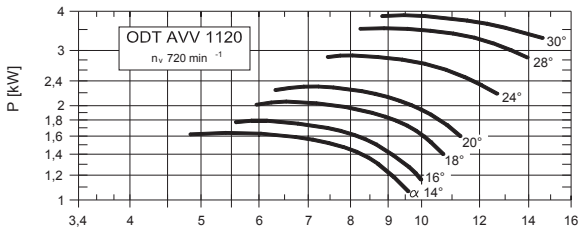
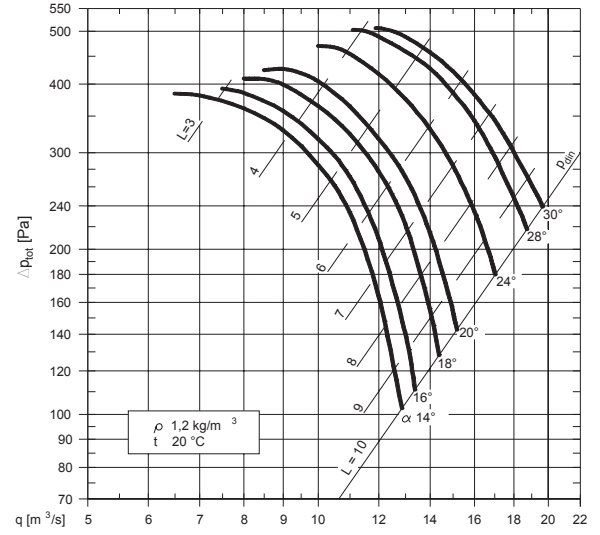
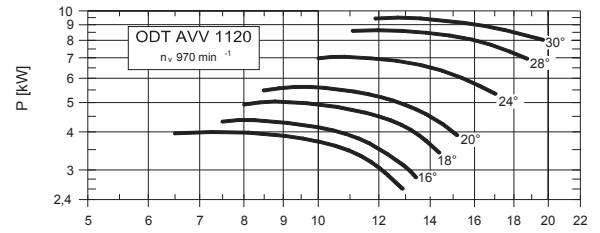
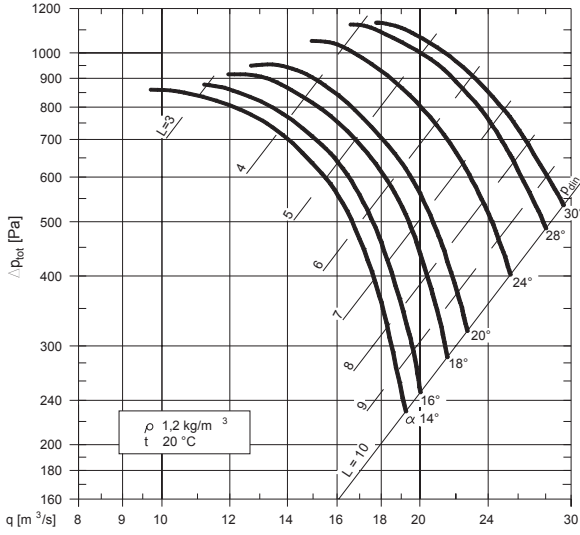
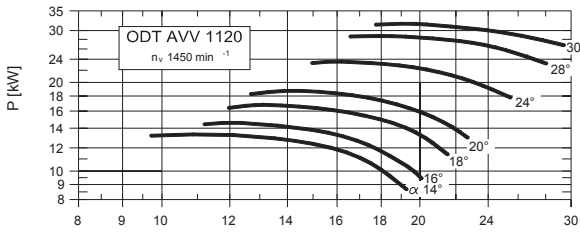
α_{max}	16°	20°	24°	28°	32°
el. mot. (kW)	0,55	0,75	1,1	1,5	

ODT AVV 800

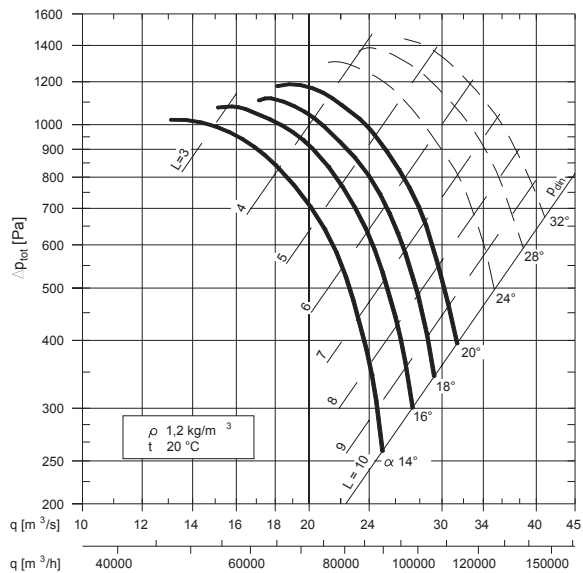
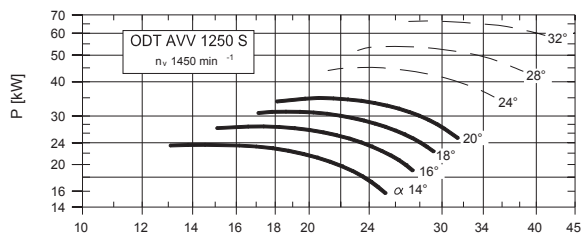




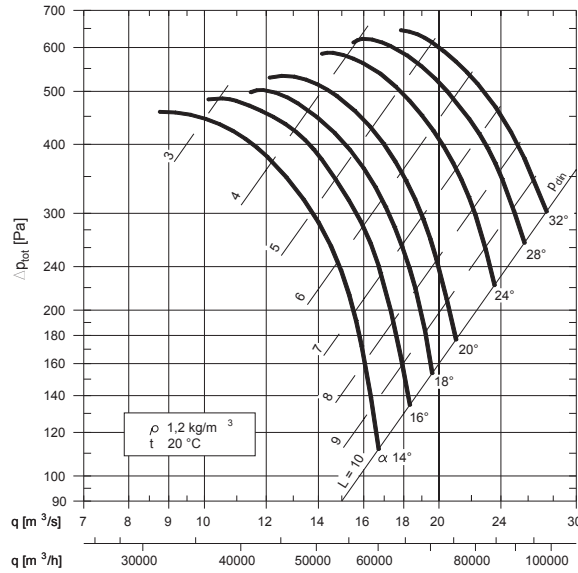
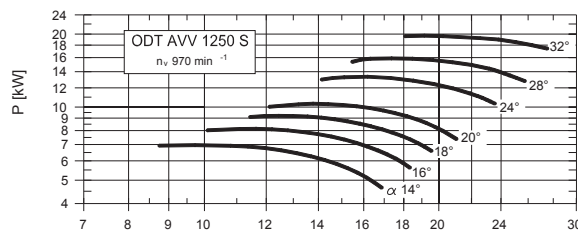
ODT AVV 1000




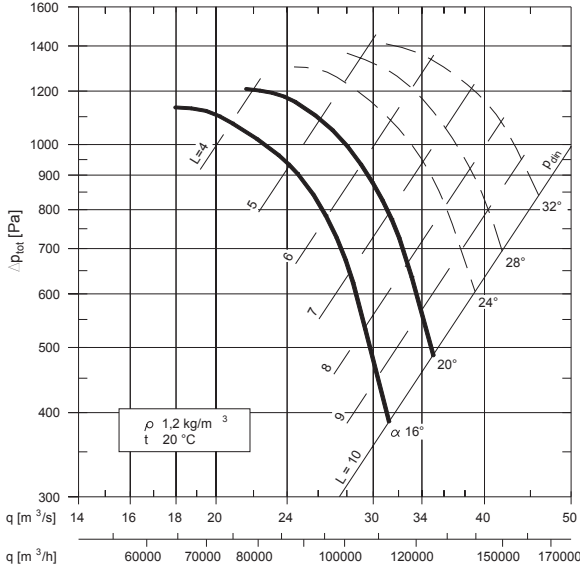
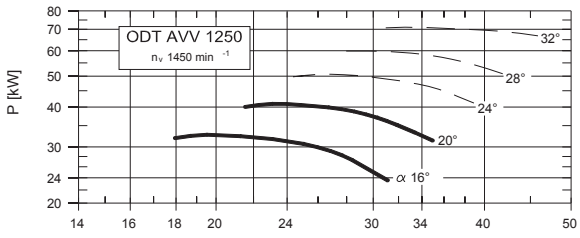
ODT AVV 1250 S



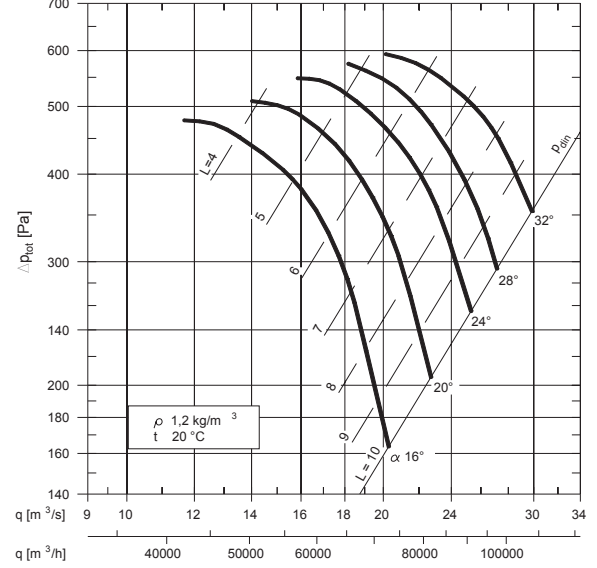
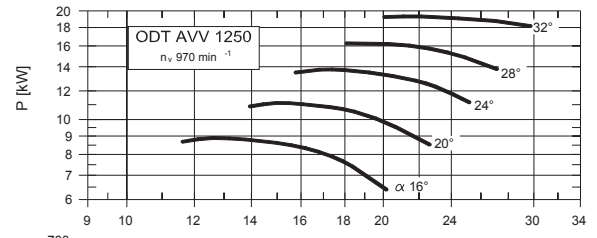
α_{max}	14°	16°	18°	20°	22°	24°	28°
el. mot. (kW)	30,0	37,0	45,0	-	-	-	-



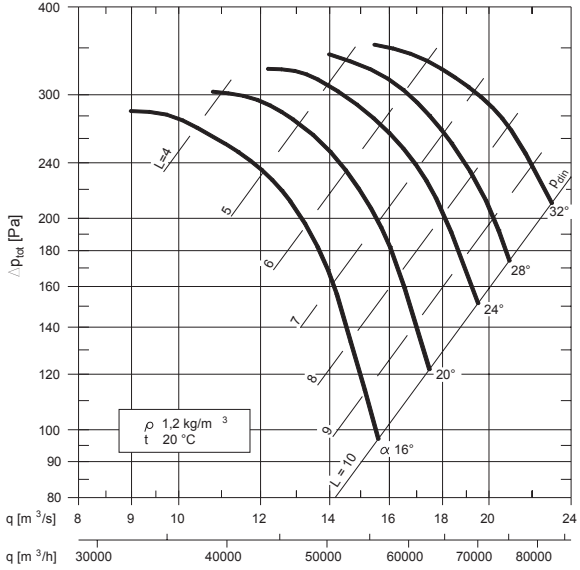
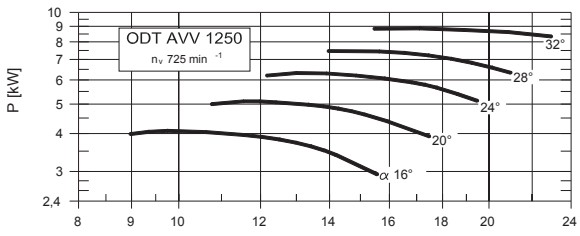
α_{max}	14°	16°	18°	20°	24°	28°	30°
el. mot. (kW)	7,5	11,0	15,0	18,5	-	-	-



α_{max}	16°	20°	22°	28°	32°
el. mot. (kW)	37,0	45,0	-	-	-

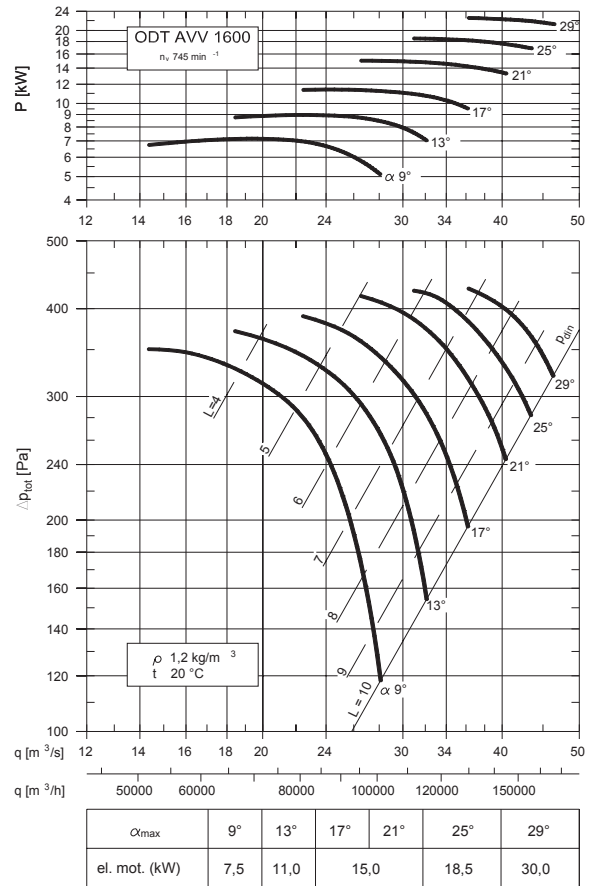
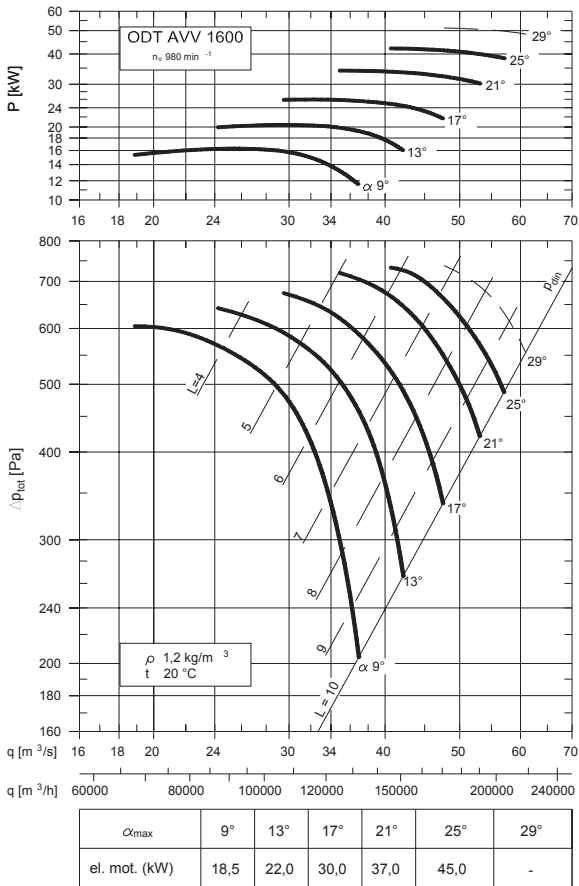
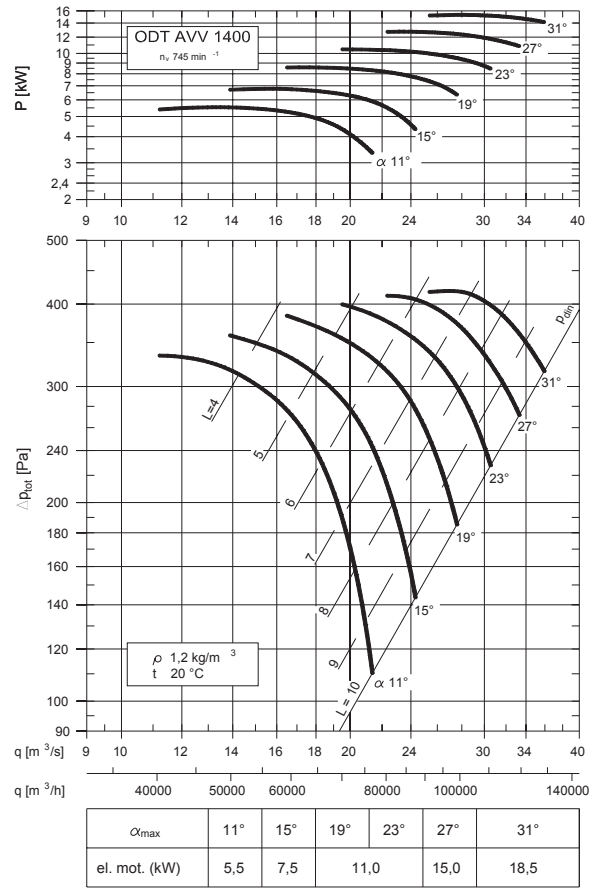
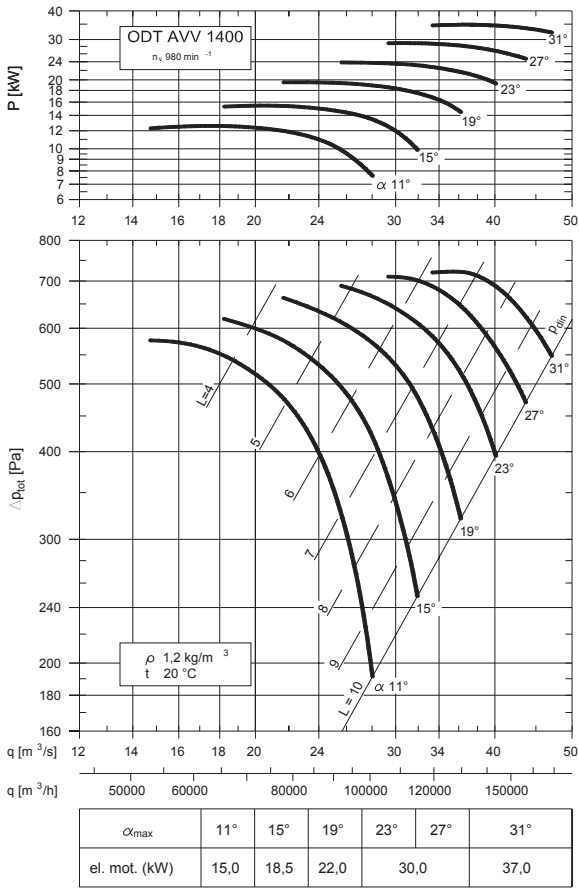


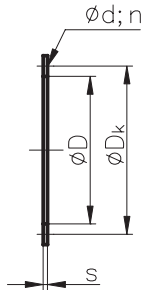
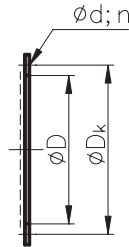
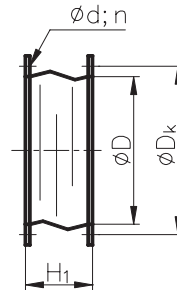
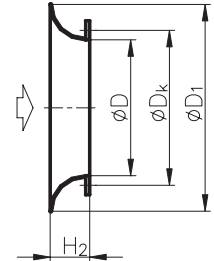
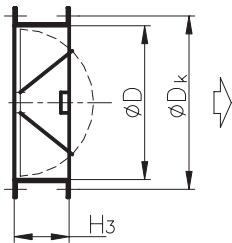
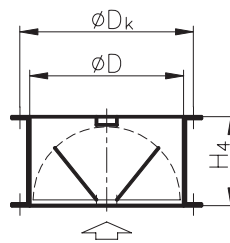
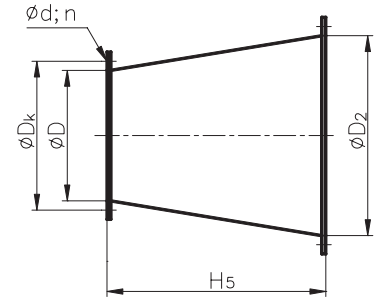
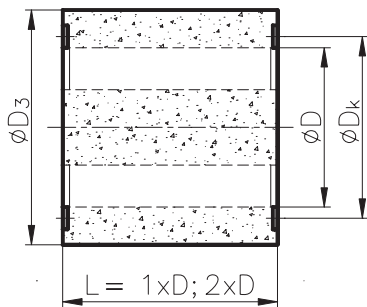
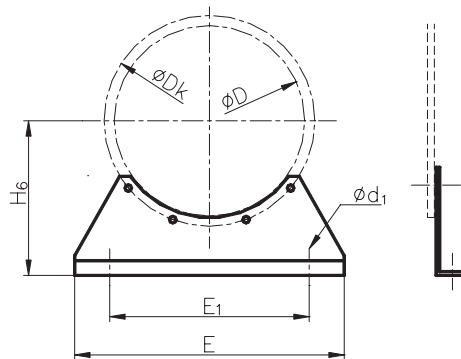
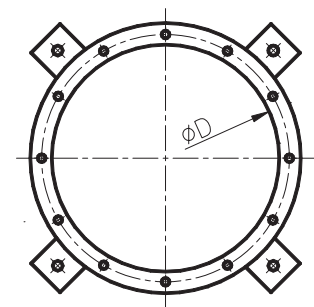
α_{max}	16°	20°	24°	28°	32°
el. mot. (kW)	11,0	15,0	18,5	22,0	-



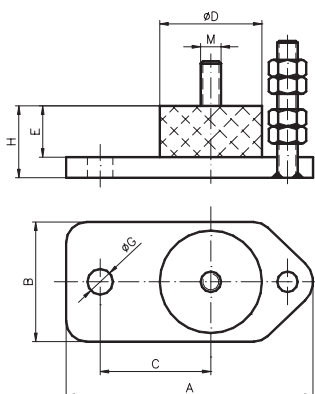
α_{max}	16°	20°	24°	28°	32°
el. mot. (kW)	5,5	7,5	11,0	-	-

ODT AVV 1400, 1600



DODATNA OPREMA
ACCESSORIES
Prirobnica D
Flange D

MZ D Zaščitna mreža
MZ D Protective grid

ODT EP D Elastični priključek
ODT EP D Flexible connection

LV D Sesalni lijak
LV D Inlet funnel
LVZ D Sesalni lijak z mrežo
LVZ D Inlet funnel with grid

ODT SLH D Horizontalna samodvižna loputa
ODT SLH D Horizontal back draft shutter

 $\xi = 0,2 - 0,24$
 $\xi = 0,9 - 1,6$
ODT AVV
ODT AV
ODT SL D Vertikalna samodvižna loputa
ODT SL D Vertical back draft shutter

 $\xi = 0,2 - 0,24$
 $\xi = 0,9 - 1,6$
ODT AVV
ODT AV
Difuzor D / D₂
Diffuser D / D₂

ODT DZ D x L Dušilec zvoka
ODT DZJ D x L Dušilec zvoka z jedrom
ODT DZ D x L Silencer
ODT DZJ D x L Silencer with core

MF D Noge – horizontalne
MF D Mounting feet – horizontal

Noge – vertikalne D
Mounting feet – vertical D


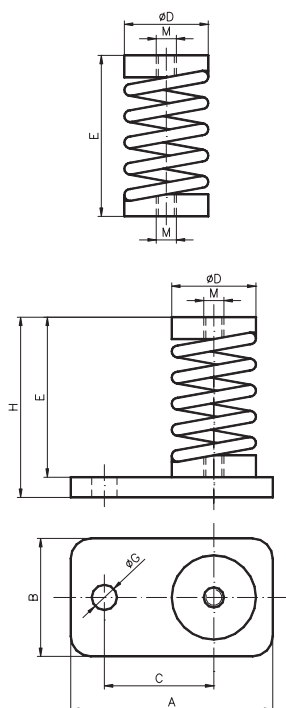
ØD	ØDk	Ød	n	s	H ₁	ØD ₁	H ₂	H ₃	H ₄	ØD ₂	ØD ₃	H ₅	H ₆	E	E ₁	Ød ₁
400	438	9,5	12	6	120	500	110	250	220	500	600	355	320	340	280	10
450	487	9,5	12	6	120	600	110	250	250	560	650	400	340	360	320	10
500	541	9,5	12	6	150	650	110	250	280	630	700	450	370	400	350	12
560	605	11,5	16	6	150	710	110	250	310	710	760	500	400	440	390	12
630	674	11,5	16	6	150	790	110	250	350	800	830	560	430	500	440	14
710	751	11,5	16	6	150	870	140	250	400	900	910	630	480	600	540	14
800	837	11,5	24	6	150	960	140	350	440	1000	1000	710	530	650	580	14
900	958	14	24	8	150	1100	140	350	500	1120	1100	800	580	700	630	16
1000	1067	14	24	8	200	1200	150	350	550	1250	1300	900	680	800	720	16
1120	1200	18	32	8	200	1360	250	400	620	1400	1420	1000	740	900	820	16
1250	1337	18	32	8	200	1490	250	400	700	1600	1550	1120	800	1000	920	16
1400	1491	18	32	10	200	1640	250	500	800	1800	1700	1250	880	1100	980	20
1600	1663	18	40	10	200	1860	250	500	900	2000	1900	1400	980	1260	1140	20

Gumijasti amortizerji s ploščo in vodilom
Rubber anti vibration mounts with bracket and guide


ODT AV ODT AVV	EM Poli / poles	ØD x E	M	A	B	C	H	ØG	Kos/vent. Pcs./fan
400	2, 4, 2/4	Ø30 x 25	M8	80	40	45	33	Ø12	4
450	2, 2/4	Ø40 x 30	M8	90	50	50	38	Ø12	4
	4	Ø30 x 25	M8	80	40	45	33	Ø12	4
500	2, 2/4	Ø50 x 30	M10	105	60	60	40	Ø14	4
	4	Ø40 x 30	M8	90	50	50	38	Ø12	4
560	2, 2/4	Ø50 x 30	M10	105	60	60	40	Ø14	4
	4	Ø40 x 30	M8	90	50	50	38	Ø12	4
630	2, 2/4	Ø60 x 30	M12	120	70	65	42	Ø15	4
	4	Ø50 x 30	M10	105	60	60	40	Ø14	4
710	4, 6, 4/8	Ø50 x 30	M10	105	60	60	40	Ø14	4
800	4, 6, 4/8	Ø60 x 30	M12	120	70	65	42	Ø15	4
900	4, 6, 4/8	Ø70 x 50	M12	130	80	70	62	Ø18	4
1000	4, 6, 4/8	Ø70 x 50	M12	130	80	70	62	Ø18	4
1120	4, 6	Ø70 x 50	M12	130	80	70	62	Ø18	4
1250	4, 6, 8	Ø70 x 50	M12	130	80	70	62	Ø18	4
1400	*	*	*	*	*	*	*	*	*
1600	*	*	*	*	*	*	*	*	*

* Glede na velikost el. motorja

* Depends of the motor size

Vzmetni amortizerji
Spring anti vibration mounts


ODT AV ODT AVV	Tip amort. Abs. Type	ØD x E	M	A	B	C	H	ØG	Kos/vent. Pcs./fan
400	IVLO 75	Ø40 x 80	M8	90	50	50	88	Ø12	4
450	IVLO 75	Ø40 x 80	M8	90	50	50	88	Ø12	4
500	IVLO 75	Ø40 x 80	M8	90	50	50	88	Ø12	4
560	IVLO 75	Ø40 x 80	M8	90	50	50	88	Ø12	4
630	IVLO 75	Ø40 x 80	M8	90	50	50	88	Ø12	4
710	IVLO 75	Ø40 x 80	M8	90	50	50	88	Ø12	4
800	IVLO 75	Ø40 x 80	M8	90	50	50	88	Ø12	4
900	IVLO 130	Ø50 x 95	M12	120	70	65	107	Ø15	4
1000	IVLO 130	Ø50 x 95	M12	120	70	65	107	Ø15	4
1120	IVLO 200	Ø50 x 95	M12	120	70	65	107	Ø15	4
1250	IVLO 200	Ø50 x 95	M12	120	70	65	107	Ø15	4
1400	*	*	*	*	*	*	*	*	*
1600	*	*	*	*	*	*	*	*	*

* Glede na velikost el. motorja

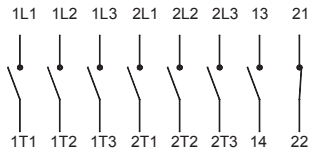
* Depends of the motor size

ELEKTRIČNA STIKALA REGULATORJI

STS6 Servisno stikalo

6 polno servisno stikalo z dvema krmilnima kontaktoma.
Možna je samo ločena dobava.

Vgradnja izven požarne cone.



Tip Type	P_N [kW]	I_N [kW]	L x B x H [mm]
STS6 – 5,5	5,5	20	120 x 85 x 107
STS6 – 7,5	7,5	25	190 x 100 x 110
STS6 – 11	11	32	190 x 100 x 110
STS6 – 15	15	40	250 x 145 x 124
STS6 – 22	22	63	250 x 145 x 124
STS6 – 30	30	80	300 x 200 x 222
STS6 – 37	37	100	300 x 200 x 222
STS6 – 45	45	125	400 x 300 x 245
STS6 – 55	55	160	400 x 300 x 245
STS6 – 132	132	275	560 x 380 x 367



SWITCHES AND SPEED CONTROLLERS

STS6 Service switch

6 pole service switch with 2 auxiliary contacts.
Only separate delivery is possible.

Mounting outside fire zone.

Frekvenčni pretvorniki z enofaznim vhodom in trifaznim izhodom

Enofazni frekvenčni pretvorniki se uporabljajo za regulacijo hitrosti vrtenja trifaznih motorjev vezanih v $\Delta 3 \times 230V$ do moči 1,5 kW. Omogočajo optimalno krmiljenje in zaščito motorjev ki imajo vgrajena PTC tipala ali termokontakte.

Trifazni frekvenčni pretvorniki

Trifazni frekvenčni pretvorniki se uporabljajo za regulacijo hitrosti vrtenja trifaznih motorjev z vezavo $\Delta 400V/Y690V$ in omogočajo optimalno krmiljenje in zaščito motorjev. Motorji morajo biti vezani v $\Delta 400V$ in opremljeni s PTC tipali ali TC.

Vgradnja

Vgradnja frekvenčnega pretvornika je obvezno izven požarne cone. Povezava mora izvedena z ustreznimi električnimi kablji.

Frequency converters with mono phase inlets and three phase outlets

One phase frequency converters are used for RPM regulation of three phase electromotors connected $\Delta 3 \times 230V$ with power up to 1,5 kW. They enable optimal control and protection of el. Motors with PTC or thermo contacts.

Three phase frequency converters

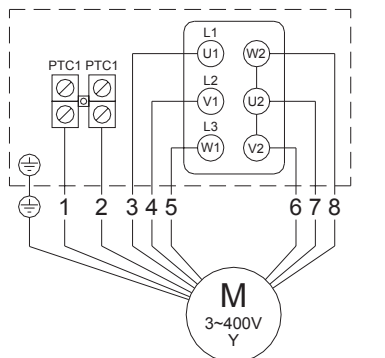
Three phase frequency converters are used for RPM regulation of three phase motors with connection $\Delta 400/Y690V$. Motors have to be connected in $\Delta 400V$ and equipped with PTC sensors or TC.

Installation

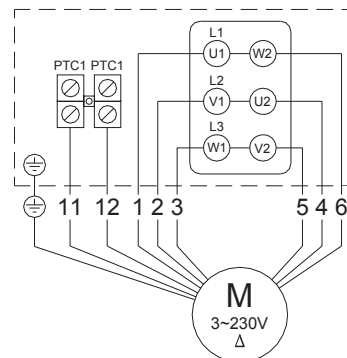
Installation of frequency converters outside fire zone is mandatory. For connection must be used the appropriate electrical cables.

VEZALNE SCHEME
Trifazni IEC elektromotorji
Motor Δ 3~230V / Y 3~400V do 2,2 kW, ena hitrost
Vezava Y 3~400V

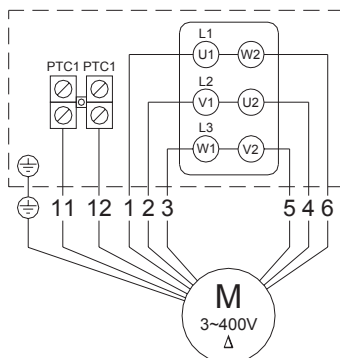
- direktni zagon
- FP 3~400V
- direct start up
- FC 3~400V


WIRING DIAGRAMS
Three phase IEC motors
Motor Δ 3~230V / Y 3~400V up to 2,2 kW; single speed
Vezava Δ 3~230V
Connection Δ 3~230V

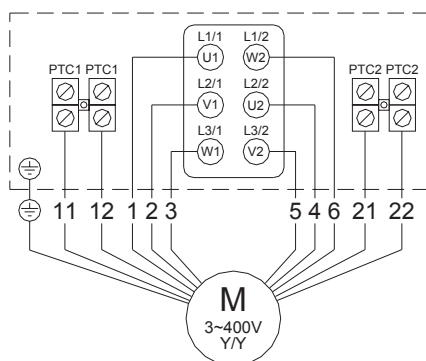
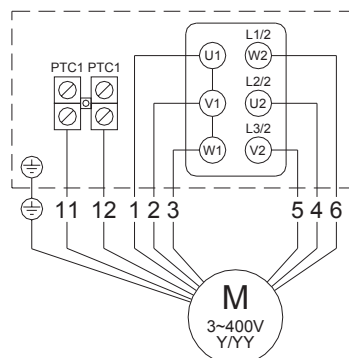
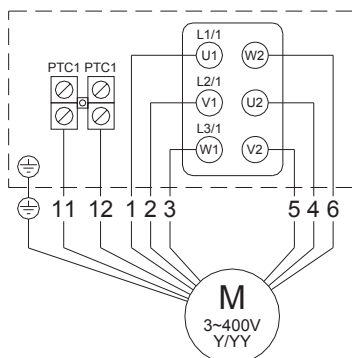
- za frekvenčni pretvornik 230V
- for frequency converter 230V


Motor Δ 3~400V / Y 3~690V nad 3,0 kW, ena hitrost
Motor 3~400V / Y 3~690V over 3,0 kW, single speed
Vezava Δ 3~400V

- direktni zagon
- frekvenčni pretvornik 3~400V
- nad 7,5 kW priporočamo zagon Y/ Δ , tistorški zagon ali frekvenčni pretvornik


Connection Δ 3~400V

- Direct start up.
- Frequency converter 3~400V.
- Over 7,5 kW it is recommended to start with Y/ Δ , electronic soft start or frequency converter.

Dve hitrosti – vezava Y/Y, ločeno navitje
Two speeds – Y/Y connection; separate winding
Mala hitrost
Low speed
Visoka hitrost
High speed

Dve hitrosti – vezava Y/YY, Dahlander navitje
Two speeds – Y/YY connection; Dahlander winding
Mala hitrost
Low speed
Visoka hitrost
High speed


ZAPOREDNA ALI VZPOREDNA MONTAŽA

Razlogi za izbiro dveh ali več ventilatorjev v sistemu so:

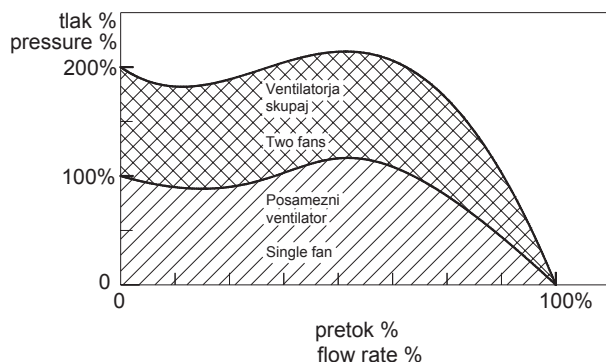
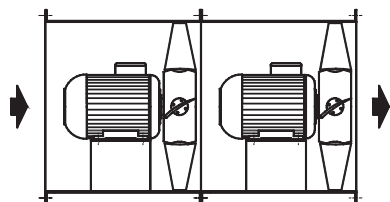
1. En ventilator je lahko prevelik in ga ni možno vgraditi v predviden prostor, ali pa je njegova teža prevelika.
2. Zahtevano področje obratovanja sistema je preširoko in zahteva namesto enega velikega, več manjših ventilatorjev. Več ventilatorjev je tudi lahko bolj ekonomično, še posebej, pri zelo nizkih pretokih, na daljše časovne intervale.
3. Kritični sistemi so ponavadi opremljeni z redundančnimi ventilatorji, ki v primeru požara ali kakšne druge nevarnosti, zahtevajo takojšnje povečanje pretoka prav tako pa tudi preprečujejo izpade prezračevanja med servisiranjem. V takšnih primerih sta dva ventilatorja postavljena vzporedno in vsak daje polovico celotnega pretoka.
4. Nekateri sistemi rabijo tlake, ki so večji od tlaka, ki ga lahko ustvari en sam ventilator, ali pa je hrup pomemben dejavnik. V takšnih primerih dva ventilatorja postavimo zaporedno in vsak daje približno polovico celotnega tlaka.

SERIAL OR PARALLEL INSTALLATION

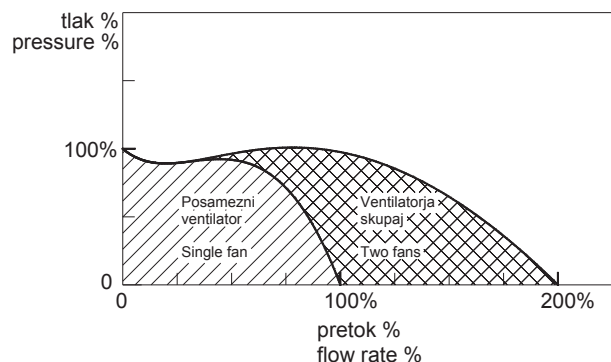
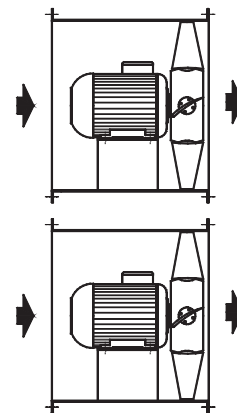
Reasons for selecting two or more fans in one system are:

1. One fan may be too large and not fit in required space, or it may weigh too much.
2. The required operating range of the system may be too wide and require multiple smaller fans, instead of one big fan. Multiple fans may also be more economical, especially at very low flow rates, over a longer time intervals.
3. Critical systems are often equipped with redundant fans, which in case of a fire, or some other emergency, require sudden increase in flow and also eliminate down-time during fan maintenance. In such cases the two fans are placed parallel, so that each one gives half of the total air flow.
4. Some systems require pressures that are greater than a single fan can produce, or when noise may be a special concern. In such cases the two fans are placed in series, so that each one gives about one-half of the required pressure.

Zaporedna montaža Serial installation



Vzporedna montaža Parallel installation



POPISNI TEKST ODT AV in ODT AVV
AKSIALNI VENTILATOR ZA ODVOD DIMA IN TOPLOTE ODT AV
AKSIALNI VENTILATOR Z VODILNIKOM ZA ODVOD DIMA IN TOPLOTE ODT AVV

Poz.	Kol.	Opis	Cena za enoto EUR	Skupna cena EUR
		<p>Aksialni ventilator (z vodilnikom) za odvod dima in toplote, temperaturna kategorija F300 (F400 F200), certifikat v skladu s standardom EN 12101-3. Namenjen je za odvod dima in toplote v primeru požara in za prezračevanje v normalnih razmerah za temperaturo medija do 40°C, (samo za odvod dima in toplote v primeru požara) ustrezen za horizontalno (vertikalno) vgradnjo v požarno cono.</p> <p>Ohišje s prirobnicami je iz jeklene pločevine je barvano z RAL 7040. Profilirane lopatice tekača iz aluminijeve zlitine imajo nastavljen kot v mirovanju. Tekoč je statično in dinamično uravnotežen v klasi G 6,3 po DIN ISO 1940-1. Trifazni elektromotor 3x400 V; 50 Hz; oblika IM B3; zaščita IP 55; min. klasa izolacije F; certifikat v skladu z EN 12101-3. Električna priključna omarica je na ohišju ventilatorja.</p> <p>Proizvod: KLIMA CELJE d.d. Tip: ODT AV (ODT AVV)..... Kategorija: F200 (200 °C/120min) F300 (300 °C/60min) 300 °C / 60 min F400 (400 °C/120min)</p> <p>Tehnični podatki pretok q m³/s totalni tlak Δp_t Pa temp. pri normalnem obrat. T °C vgradnja horizontalna (vertikalna) namen normalno prezračevanje in odvod dima in toplote v primeru požara (samo odvod dima in toplote v primeru požara)</p> <p>Elektromotor moč elektromotorja P kW vrtljaji elektromotorja n min⁻¹ napetost U V frekvenca f Hz nazivni tok I A zaščita IP 55 PTC ne (da)</p> <p>Dodatna oprema </p>		

SPECIFICATION ODT AV and ODT AVV
AXIAL SMOKE EXTRACT FAN ODT AV
AXIAL SMOKE EXTRACT FAN WITH GUIDE VANE ODT AVV

Pos.	Qty.	Subject	Unit price EUR	Total price EUR
		<p>Axial smoke extract fan (<i>with guide vane</i>), temperature / time class F300 (<i>F400, F200</i>) with certificate according EN 12101-3. Fan is designed for smoke and heat extraction and ventilation at normal conditions for air temperature up to 40°C (<i>only for emergency operation</i>). Horizontal (<i>vertical</i>) mounted inside of fire zone.</p> <p>Fan casing with flanges is welded from steel sheet and painted with RAL 7040. Aluminum alloy aerofoil profiled blades with adjustable angle at fan standstill. Impeller is statically and dynamically balanced in class Q 6.3 according DIN ISO 1940-1. Three-phase electromotor 3x400V; 50 Hz; form IM B3; IP 55 protection; min. insulation class F; certificate to the EN 12101-3. Motor is wired to the casing mounted terminal.</p> <p>Producer: KLIMA CELJE d.d. Type: ODT AV (ODT AVV)..... Category: F200 (200 °C/120min) F300 (300 °C/60min) 300 °C / 120 min F400 (400 °C/120min)</p> <p>Technical data</p> <p>Flow rate qm³/s Total pressure Δp_tPa Temp. at normal operating t°C Installation horizontal (<i>vertical</i>) Purpose everyday ventilation and emergency smoke and heat extraction (<i>only emergency smoke and heat extraction</i>)</p> <p>Electromotor</p> <p>Power PkW RPM nmin⁻¹ Voltage UV Frequency fHz Nominal current IA Protection class IP 55 PTC No (<i>Yes</i>)</p> <p>Accessories</p> <p>..... </p>		

AKSIALNI POTISNI VENTILATORJI

Potisni ventilatorji so namenjeni vgradnjo v podzemne in nadzemne objekte za parkiranje vozil. Namenjeni so za kontroliranje gibanja zraka in usmerjanje onesnaženega zraka in dima k odvodnim mestom v garažni hiši.

Tipi

AVJ Enosmerni potisni ventilator
 Namenjeni so za normalno prezračevanje in odvod CO za obratovalno temperaturo do 40°C.

AVJ-R Reverzibilni potisni ventilator
 Omogočajo 100% reverzibilno delovanje pri obratovalni temperaturi do 40°C.

ODT AVJ F200; F300; F400
Enosmerni potisni ventilator za odvod dima in toplote
 Namenjeni so za normalno prezračevanje in odvod dima v primeru požara. Pri prezračevanju temperatura medija ne sme presegati 40°C. V primeru požara, pa je ventilator namenjen enkratni uporabi v navedenem temperaturnem razredu.

ODT AVJ-R F200; F300; F400
Reverzibilni potisni ventilator za odvod dima in toplote
 Omogočajo 100% reverzibilno delovanje pri normalnem prezračevanju in odvodu dima pri požaru.

Potisni ventilatorji za odvod dima in toplote so namenjeni za vgradnjo v požarno cono.

Po prejeti projektni dokumentaciji lahko izdelamo tudi CFD analizo, za potrjevanje delovanja prezračevalnega sistema.

Tehnični opis

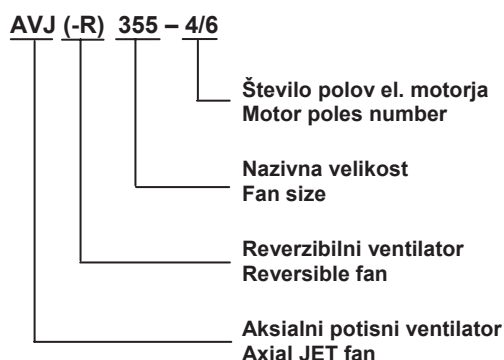
Ohišje ventilatorja je iz pločevine z vtisnjenimi prirobami. Tekoč ima kokilno lite, profilirane lopatice iz aluminijeve zlitine z nastavljivim kotom v mirovanju. Tekoč je statično in dinamično uravnotežen v razredu G6,3 po ISO 1940. Pri enosmernem vent. ima dušilec zvoka na vstopu prigrajeno zaščitno mrežo, dušilec na izstopu pa usmerjevalne loputke, ki usmerjajo zračni tok, pri reverzibilnem pa so usmerne loputke na obeh dušilcih. Električna priključna omarica, se nahaja na ohišju ventilatorja in omogoča enostaven priklop.

Ventilatorji **AVJ** imajo vgrajene standardne trifazne IEC elektromotorje 3x400V; 50 Hz; IP 55, IM B3.

Ventilatorji **ODT AVJ** imajo vgrajene trifazne temperaturno odporne elektromotorje 3x400V; 50 Hz; IP 55, IM B3 s certifikatom po EN 12101-3.

Za delovanje v primeru požara, je potrebno zagotoviti izklop vseh el. motornih zaščit.

Označevanje



AXIAL JET FANS

Axial jet fans are intended be installed into underground or above ground car parking structures. They are designed to control air movement and direct polluted air and smoke towards the extract positions in a car park.

Types

AVJ Unidirectional Jet fan
 Designed for normal ventilation and CO extraction, with temperature of medium up to 40°C.

AVJ-R Reversible Jet fan
 Fan enables 100% reversible operation at 40°C temperature of medium.

ODT AVJ F200; F300; F400
Unidirectional Jet fan for smoke and heat extraction
 Designed normal ventilation and (or) smoke extraction. In case of ventilation the temperature of the medium must not exceed 40°C. For smoke extraction in case of fire, the fan is intended for one time use in the declared temperature class.

ODT AVJ-R – F200; F300; F400
Reversible Jet fan for smoke and heat extraction
 Fan enables 100% reversible operation at normal ventilation and smoke extraction in case of fire.

Jet fans for smoke and heat extraction are designed for installation inside of a fire zone.

We can also make CFD analysis according to building design documentation, for validation of the ventilation system.

Technical description

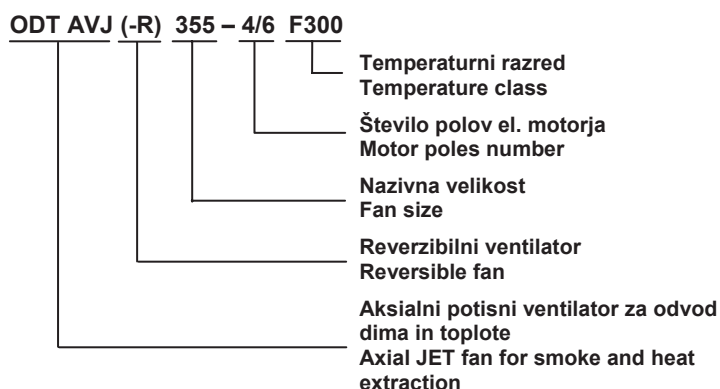
Fan housing is made from sheet metal with impressed flanges. Impeller has profiled, mould casted aluminium blades with adjustable angle at fan's standstill. Impeller is statically and dynamically balanced in class G6,3 by ISO 1940. Unidirectional fan has two sound silencers. Inlet sound silencer has guard mesh and outlet sound silencer has guide flaps to direct air stream, reversible fan has guide flaps on both silencers. Electrical connection box is mounted on fan's housing and enable simple electrical connection.

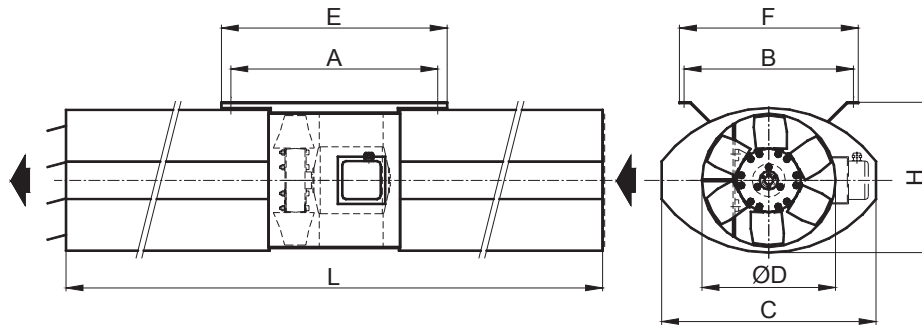
AVJ fans have integrated standard IEC three-phase motors 3x400V; 50 Hz; IP 55, IM B3.

ODT AVJ fans have integrated smoke extraction three-phase motors 3x400V; 50Hz, IP55, IM B3 with certificate according EN 12101-3.

In the case of fire all protections of the electromotor must be disabled.

Designation



Dimenzije
Dimensions


Velikost / Size	ØD	A	B	C	E	F	H	L
315	315	500	450	500	550	480	345	1350
355	355	550	500	560	600	530	385	1750
400	400	640	580	640	700	610	435	2000

Tehnični podatki
Technical data
Enosmerni / Unidirectional

Tip Type	Potis. sila Thrust N	Pretok Air flow m ³ /h	Moč motorja Motor power kW	η_{EM} min ⁻¹	Nazivni tok Nom. current A	Zagonski tok Start current A	L _{pA} ** dB(A)	Teža Weight kg
AVJ 315 – 2/4	28 / 6	4850 / 2250	0,75 / 0,19	2875 / 1410	1,95 / 0,68	11,3 / 2,70	58 / 43	50
AVJ 315 – 2	28	4850	0,75	2875	1,95	12,5	58	50
AVJ 355 – 2/4	45 / 11	7200 / 3600	1,50 / 0,37	2940 / 1460	4,40 / 1,40	30,5 / 7,00	65 / 47	80
AVJ 355 – 2	45	7200	1,50	2855	3,20	20,8	65	80
AVJ 400 – 2/4	55 / 14	8630 / 4430	1,50 / 0,37	2940 / 1460	4,40 / 1,40	30,5 / 7,00	66 / 41	94
AVJ 400 – 2	53	8630	1,50	2855	3,20	21,0	66	94
AVJ 400L – 2/4	65 / 16	10000 / 4650	2,20 / 0,60	2855 / 1445	5,0 / 1,6	33,00 / 7,20	69 / 52	100
AVJ 400L – 2	65	10000	2,20	2840	4,51	28,0	69	100

Tip Type	Potis. sila Thrust N	Pretok Air flow m ³ /h	Moč motorja Motor power kW	η_{EM} min ⁻¹	Nazivni tok Nom. current A	Zagonski tok Start current A	L _{pA} ** dB(A)	Teža Weight kg
ODT AVJ 315 – 2/4	28 / 6	4850 / 2250	0,75 / 0,19	2850 / 1460	1,95 / 0,68	11,3 / 2,70	58 / 43	50
ODT AVJ 315 – 2	28	4850	0,75	2875	1,95	12,5	58	50
ODT AVJ 355 – 2/4	45 / 11	7200 / 3600	1,50 / 0,37	2940 / 1460	4,40 / 1,40	30,5 / 7,00	65 / 47	80
ODT AVJ 355 – 2	45	7200	1,50	2855	3,20	20,8	65	80
ODT AVJ 400 – 2/4	55 / 14	8630 / 4430	1,50 / 0,37	2940 / 1460	4,40 / 1,40	30,5 / 7,00	66 / 41	94
ODT AVJ 400 – 2	53	8630	1,50	2875	3,05	25,5	66	94
ODT AVJ 400L – 2/4	65 / 16	10000 / 4650	2,20 / 0,6	2855 / 1445	5,00 / 1,60	33,00 / 7,20	69 / 52	100
ODT AVJ 400L – 2	65	10000	2,20	2875	4,40	40,0	69	100

 Temperaturni razred / Temperature class: **F200, F300, F400**
Dvosmerni / Reversible

Tip Type	Potis. sila Thrust N	Pretok Air flow m ³ /h	Moč motorja Motor power kW	η_{EM} min ⁻¹	Nazivni tok Nom. current A	Zagonski tok Start current A	L _{pA} ** dB(A)	Teža Weight kg
AVJ-R 355 – 2/4	38 / 9	6360 / 3180	1,50 / 0,37	2940 / 1460	4,40 / 1,40	30,5 / 7,00	61 / 43	82
AVJ-R 355 – 2	38	6360	1,50	2855	3,20	20,8	61	82
AVJ-R 400 – 2/4	50 / 13	8220 / 4230	1,50 / 0,37	2940 / 1460	4,40 / 1,40	30,5 / 7,00	67 / 51	102
AVJ-R 400 – 2	50	8220	1,50	2855	3,20	21,0	67	102

Tip Type	Potis. sila Thrust N	Pretok Air flow m ³ /h	Moč motorja Motor power kW	η_{EM} min ⁻¹	Nazivni tok Nom. current A	Zagonski tok Start current A	L _{pA} ** dB(A)	Teža Weight kg
ODT AVJ-R 355 – 2/4	38 / 9	6360 / 3180	1,50 / 0,37	2940 / 1460	4,40 / 1,40	30,5 / 7,00	61 / 43	82
ODT AVJ-R 355 – 2	38	6360	1,50	2855	3,20	20,8	61	82
ODT AVJ-R 400 – 2/4	50 / 13	8220 / 3850	1,50 / 0,37	2940 / 1460	4,40 / 1,40	30,5 / 7,00	67 / 51	102
ODT AVJ-R 400 – 2	50	8220	1,50	2875	3,05	25,5	67	102

 Temperaturni razred / Temperature class: **F200, F300, F400**

 ** - L_{pA} @ 3m, prosto polje

 ** - L_{pA} @ 3m, free field

POPISNI TEKST AKSIALNI POTISNI VENTILATOR
AKSIALNI POTISNI VENTILATOR AVJ(-R)

Poz.	Kol.	Opis	Cena za enoto EUR	Skupna cena EUR
		<p>Enosmerni (<i>Reverzibilni</i>) aksialni potisni ventilator za prezračevanje in odvod CO₂, za temperaturo medija do 40°C. Ustreza horizontalni vgradnji pod strop garaže.</p> <p>Ohišje ventilatorja s prirobnicami je iz jeklene pločevine in barvano z RAL 7040. Profilirane lopatice tekača iz aluminijeve zlitine imajo nastavljen kot v mirovanju. Tekoč je statično in dinamično uravnotežen v klasi G 6,3 po DIN ISO 1940-1. Dušilec zvoka na vstopu ima zaščitno mrežo, dušilec na izstopu pa usmerjevalne loputke. (<i>Dušilca zvoka na vstopu in izstopu imata vgrajene usmerjevalne loputke</i>). Električna priključna omarica, je na ohišju ventilatorja in omogoča enostaven priklop.</p> <p>Proizvod: KLIMA CELJE d.d. Tip: AVJ (AVJ-R).....</p> <p>Tehnični podatki potisna sila F N</p> <p>Elektromotor moč elektromotorja P kW vrtljaji elektromotorja n min⁻¹ napetost U V frekvenca f Hz nazivni tok I A zaščita IP 55 PTC ne (da) servisno stikalo ne (da)</p>		

AKSIALNI POTISNI VENTILATOR ZA ODVOD DIMA IN TOPLOTE ODT AVJ(-R)

Poz.	Kol.	Opis	Cena za enoto EUR	Skupna cena EUR
		<p>Enosmerni (<i>Reverzibilni</i>) aksialni potisni ventilator za odvod dima in toplote, temperaturna kategorija F300 (<i>F400 F200</i>), certifikat v skladu s standardom EN 12101-3. Namenjen je za uporabo v sistemu prisilnega odvoda dima in toplote v primeru požara ter za prezračevanje v normalnih razmerah, za temperaturo medija do 40°C. (<i>samo za odvod dima in toplote v primeru požara</i>). Ustreza horizontalni vgradnji pod strop garaže.</p> <p>Ohišje ventilatorja s prirobnicami je iz jeklene pločevine je barvano z RAL 7040. Profilirane lopatice tekača iz aluminijeve zlitine imajo nastavljen kot v mirovanju. Tekoč je statično in dinamično uravnotežen v klasi G 6,3 po DIN ISO 1940-1. Dušilec zvoka na vstopu ima zaščitno mrežo, dušilec na izstopu pa usmerjevalne loputke. (<i>Dušilca zvoka na vstopu in izstopu imata vgrajene usmerjevalne loputke</i>). Električna priključna omarica, je na ohišju ventilatorja in omogoča enostaven priklop.</p> <p>Proizvod: KLIMA CELJE d.d. Tip: ODT AVJ(-R).....F300 (<i>F400; F200</i>)</p> <p>Tehnični podatki potisna sila F N</p> <p>Elektromotor moč elektromotorja P kW vrtljaji elektromotorja n min⁻¹ napetost U V frekvenca f Hz nazivni tok I A zaščita IP 55 PTC ne (da) servisno stikalo ne (da)</p>		

SPECIFICATION AXIAL JET FAN
AXIAL JET FAN AVJ(-R)

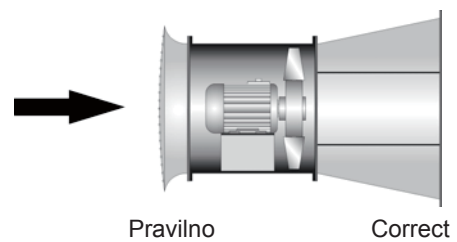
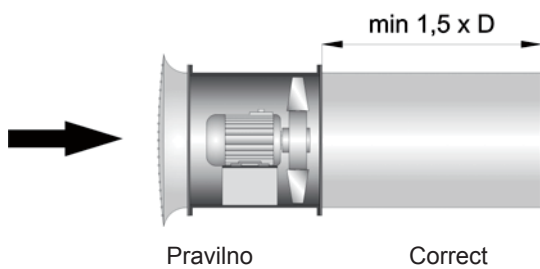
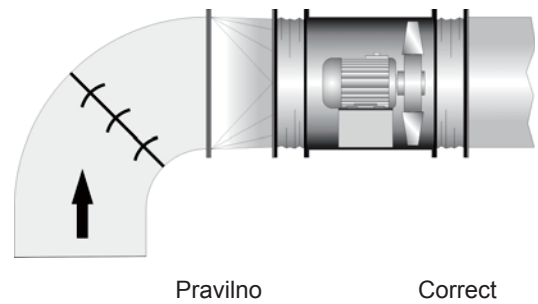
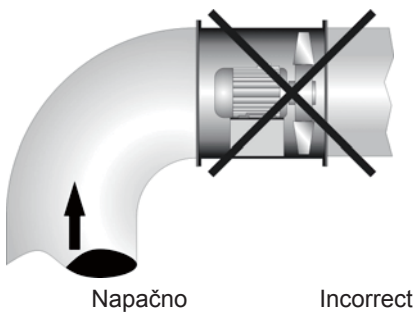
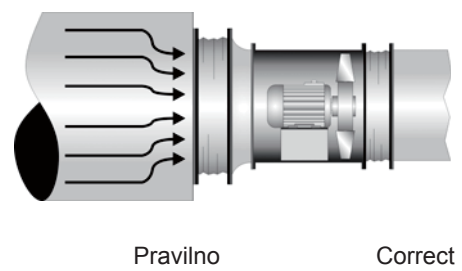
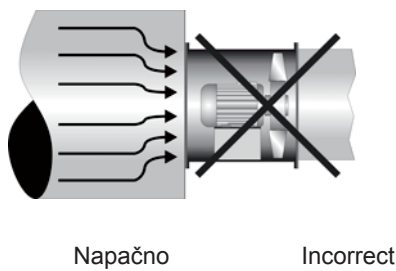
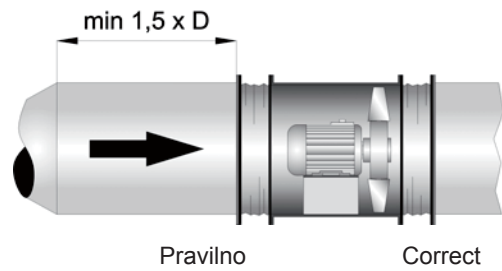
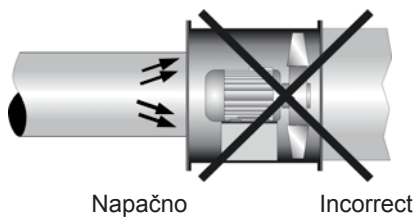
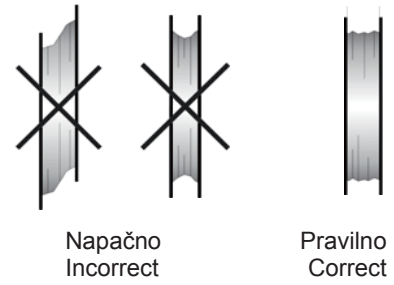
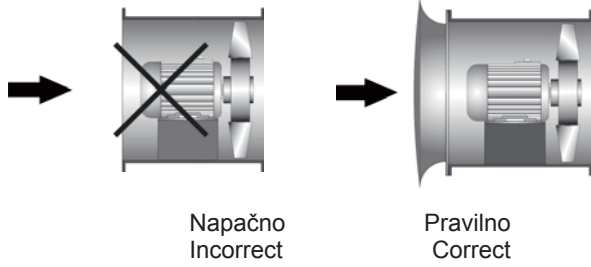
Pos.	Qty.	Subject	Unit price EUR	Total price EUR
		<p>Unidirectional (<i>Reversible</i>) axial jet fan designed for ventilation and CO extraction, for temperature of the medium up to 40°C. It is designed for horizontal installation under the ceiling of car parks.</p> <p>Fan housing is made from sheet metal with impressed flanges. Impeller has profiled, mould casted aluminium blades with adjustable angle at fan's standstill. Impeller is statically and dynamically balanced in class G6,3 by ISO 1940. Inlet sound silencer has guard mesh and outlet sound silencer has guide flaps to direct air stream. (<i>Inlet and outlet sound silencer have guide flaps</i>). Electrical connection box is mounted on fan's housing and enable simple electrical connection.</p> <p>Producer: KLIMA CELJE d.d. Type: AVJ (AVJ-R).....</p> <p>Technical data Force F.....N</p> <p>Electric motor Motor power P.....kW Motor RPM n.....min⁻¹ Voltage U.....V Frequency f.....Hz Rated current I.....A Protection IP 55 PTC no (yes) Service switch no (yes)</p>		

AXIAL JET FAN FOR SMOKE AND HEAT EXTRACTION ODT AVJ(-R)

Pos.	Qty.	Subject	Unit price EUR	Total price EUR
		<p>Unidirectional (<i>Reversible</i>) axial jet fan designed for heat and smoke extraction and (<i>or</i>) normal ventilation, category F300 (F400 F200), with certificate according to EN12101-3. Fan is designed for smoke and heat extraction and ventilation at normal conditions for air temperature up to 40°C (<i>only for emergency operation</i>). Horizontal installation inside of fire zone, under the ceiling of car parks.</p> <p>Fan housing is made from sheet metal with impressed flanges. Impeller has profiled, mould casted aluminium blades with adjustable angle at fan's standstill. Impeller is statically and dynamically balanced in class G6,3 by ISO 1940-1. Inlet sound silencer has guard mesh and outlet sound silencer has guide flaps to direct air stream. (<i>Inlet and outlet sound silencer have guide flaps</i>). Electrical connection box is mounted on fan's housing and enable simple electrical connection.</p> <p>Producer: KLIMA CELJE d.d. Type: ODT AVJ(-R).....F300 (F400; F200)</p> <p>Technical data Force F..... N</p> <p>Electric motor Motor power P..... kW Motor RPM n..... min⁻¹ Voltage U..... V Frequency f..... Hz Rated current I..... A Protection IP 55 PTC no (yes) Service switch no (yes)</p>		

PRIMERI VGRADNJE ODT AV in ODT AVV

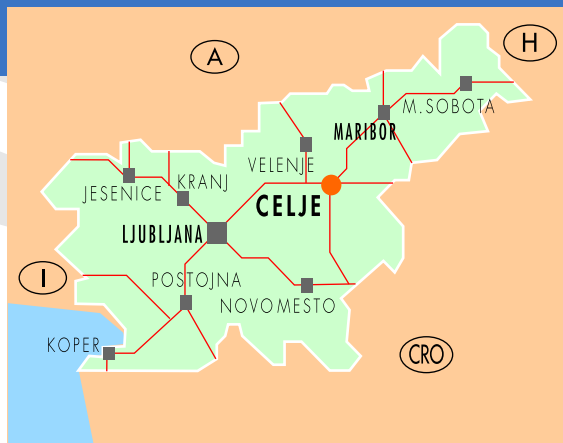
INSTALLATION EXAMPLES ODT AV and ODT AVV





klima celje

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