



technical data page 1

Liste 17_1 80Grad

quotation item
KRV 202403449-00 - 1.02

designation

date
19.03.2024 / ssl

fan type MXE080-001430-00	BU serial no. 1	comm. no.
your order no.	type of control valve	codeword -

fan type MXE080-001430-00

OP 1*

type of connection		ducted
operating condition		discharge operation
handled gas		clean air
designated volume flow		12.5 m ³ /min
designated static pressure increase		800 daPa
humidity		0 g/kg
gas constant	R	287 J/(kg K)
coefficient of adiabatic compressibility Kappa	K	1.4 -
inlet temperature	t1	40 °C
discharge temperature	t2	53 °C
altitude	h	0 m
abs. atmos. pressure	P0	101.33 kPa
athmos. density	ρ0	1.128 kg/m ³
density at inlet	ρ1	1.128 kg/m ³
volume flow	V1	12.5 m ³ /min
total pressure increase	Δpt	754 daPa
dynamic pressure	pd2	15 daPa
dynamic pressure	pd1	6 daPa
static pressure increase	Δpst	745 daPa
shaft power	PW	3.1 kW
impeller speed	nI	2900 rpm
rec. motor power	PM	5.5 kW
motor synchronous speed	nM	2950 rpm
tip speed	u2	99.46 m/s

A-weighted total sound power level

inlet	LwAi1	97 dB(A)
discharge	LwAi2	107 dB(A)
correct.value A-weight.dB(A)	dLkA	6 dB(A)

A-weighted meas.surf.sound pressure level at 1m distance with

both sides ducted	LpAm	75 dB(A)
free inlet	LpA5	89 dB(A)
free discharge	LpA6	98 dB(A)
superficial dimension	Ls-k	15 dB

characteristic curve type

Δp/Pw 2/2 -

efficiency at total pressure increase

η_{tot} 51.3 %

efficiency at static pressure increase

η_{stat} 50.7 %

* BP 1 : BP1

DN1 SFV1.0 EV1.0 RE1.0 AKZ1.0 AKZ2.0 AKZ1.1 GNr1

3.0.7.21

Tolerances as per accuracy class according to ISO 13348:2007-01.
Allocation of accuracy classes according to ISO 13348:2007-01.
Terminology and classification according to DIN EN ISO 13349-2012-07.
pressure units : 1 daPa = 10 Pa = 10 N/m² = 0,1 mbar = 1,0197 mmWS

class of accuracy	AN2	AN3	AN4
Δpt und V1 [%]	+/- 2,5	+/- 5	+/- 10
PW [%]	+3	+8	+16
Lw und Lp [dB]	+3	+4	+6



FAN CHARACTERISTIC CURVE

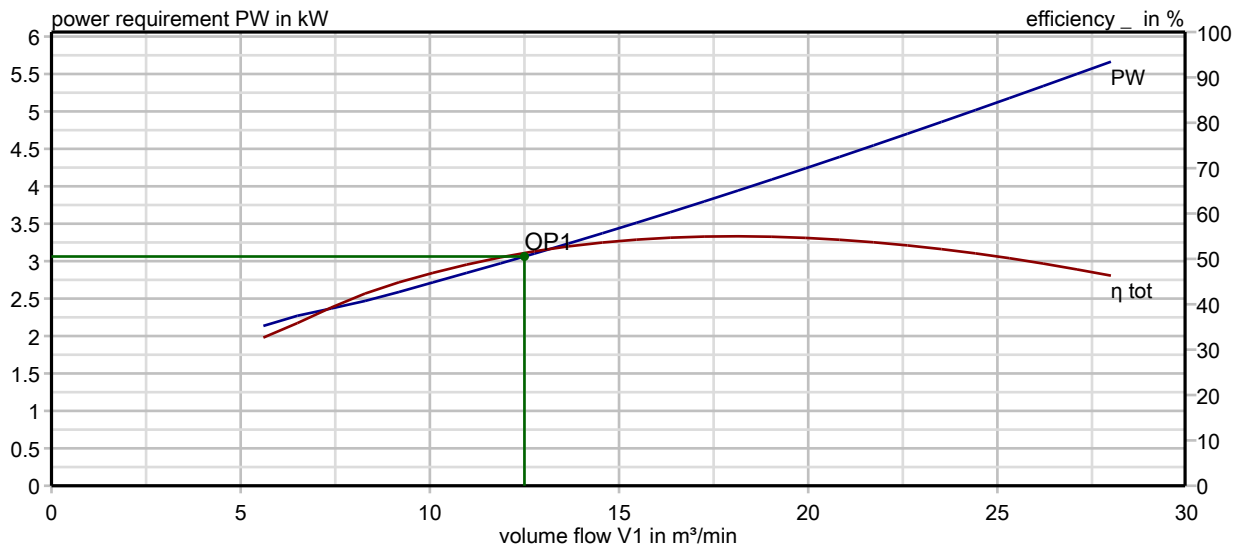
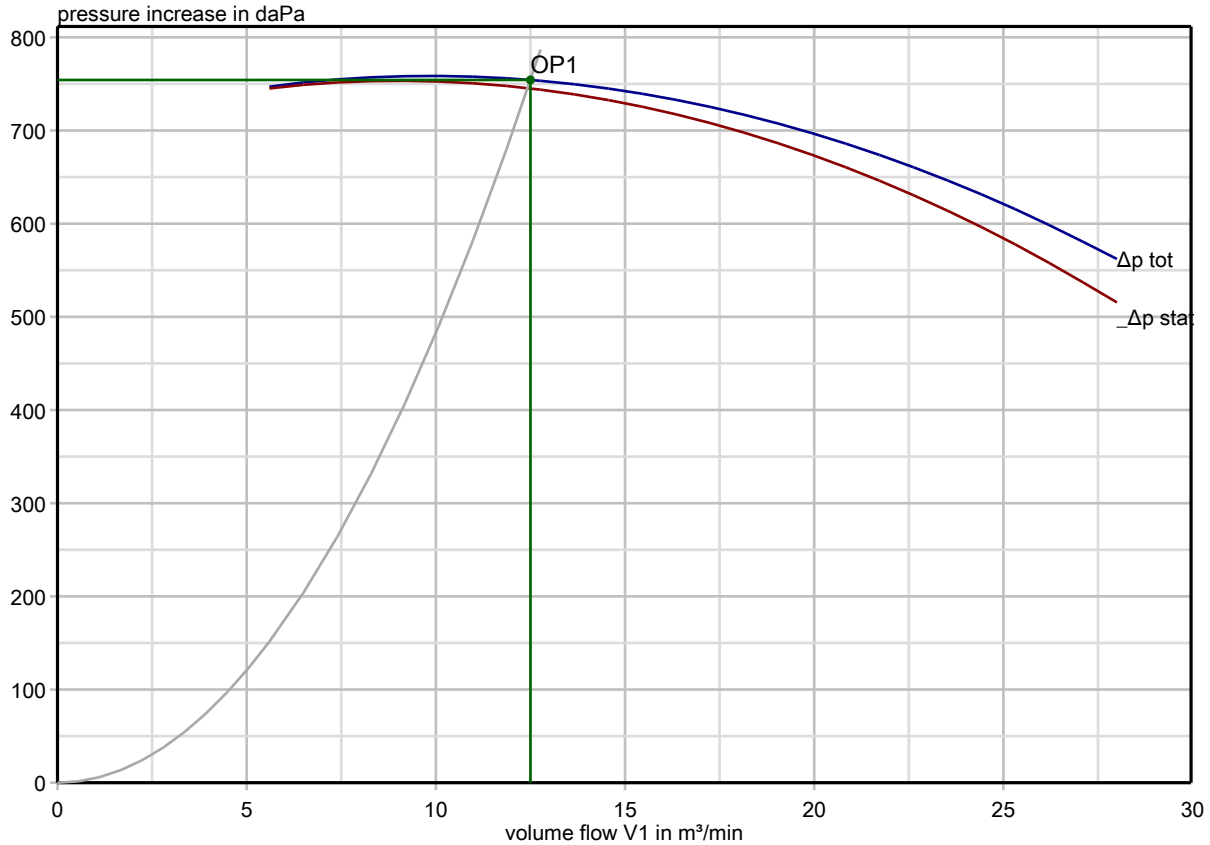
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	NP	OP 1	OP 2	OP 3	OP 4	OP 5	OP 6	OP 7	OP 8	OP 9	OP 10
volume flow V1		12.5									
total pressure increase Δpt		754									
density at inlet ρ1		1.128									
impeller speed n1		2900									
inletguidevane/damp.											

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class of accuracy	AN2	AN3	AN4
Δpt und V1 [%]	+/- 2,5	+/- 5	+/- 10
PW [%]	+ 3	+ 8	+ 16
Lw und Lp [dB]	+ 3	+ 4	+ 6



SOUND DATA

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technical data of fan at $\rho=1.128 \text{ kg/m}^3$ (OP 1 BP1) :

total pressure increase Δp_t	754 daPa	volume flow V1	12.5 m ³ /min
impeller speed n1	2900 rpm	shaft power PW	3.1 kW
no. of blades z	13 -	main residual frequency f	628 Hz
drive motor PM	5.5 kW	motor speed nM	2950 rpm

sound data:

superficial dimension Ls-k	14.6 dB	corr. value A-weighting dIkA	5.7 dB(A)
A-weighted total sound power level at inlet: LwAi1	97.3 dB(A)	at discharge LwAi2	107.1 dB(A)
A-weighted free inlet resp. free discharge sound pressure level at 1m distance from hemisphere radius			
at inlet: LpA5	88.7 dB(A)	at discharge LpA6	98.5 dB(A)
A-weighted external sound power level LwAa			89.3 dB(A)
A-weighted meas. surf. sound pressure level LpA			74.8 dB(A)
A-weight. meas. surface sound pressure level of drive LpAMo			68.0 dB(A)
A-weight. meas. surface sound press.level fan and drive LpAMo+LpA			dB(A)

sound correction value

speed correction dLn	0 dB	deviation of nominal point dLbp	+1 dB
density correction dLt	0 dB	other corrections dLs	0 dB

octave spectrum

frequency	fm in Hz	63	125	250	500	1000	2000	4000	8000	Dim
main residual frequ. dLD-okt		0.0	0.0	0.0	1.3	0.3	0.0	0.0	0.0	dB
relative octave spectrum dLw-okt		-8.4	-5.8	-5.3	-7.1	-10.9	-17.0	-25.2	-35.7	dB
A-weighting dLA		-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1	dB
total sound power Lwi2-okt		104.1	106.7	107.1	106.8	101.8	95.5	87.3	76.8	dB
Lwi1-okt		94.3	96.9	97.3	97.0	92.0	85.7	77.4	67.0	dB
LwAi2-okt		77.9	90.6	98.5	103.6	101.8	96.7	88.3	75.7	dB(A)
LwAi1-okt		68.1	80.8	88.7	93.8	92.0	86.9	78.4	65.9	dB(A)
A-weighted external sound power level LwAa-okt		60.1	72.8	80.8	85.8	84.0	78.9	70.5	58.0	dB(A)
A-weighted meas. surf. sound pressure level LpA-okt		45.5	58.2	66.2	71.2	69.4	64.4	55.9	43.4	dB(A)

Remark : The rounding of the values to whole figures results necessarily in differences of further calculations.
 When calculating the measuring surface sound pressure level a reduction of 3 dB for self shielding of the fan housing is to be taken into account.
 $LpA = LwAa - Ls - 3 \text{ dB(A)}$ / The sound data refer to the fan without considering sound insulation and motor.

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class of accuracy	AN2	AN3	AN4
Δp_t und V1 [%]	+/- 2,5	+/- 5	+/- 10
PW [%]	+3	+8	+16
Lw und Lp [dB]	+3	+4	+6

TORQUE DIAGRAM

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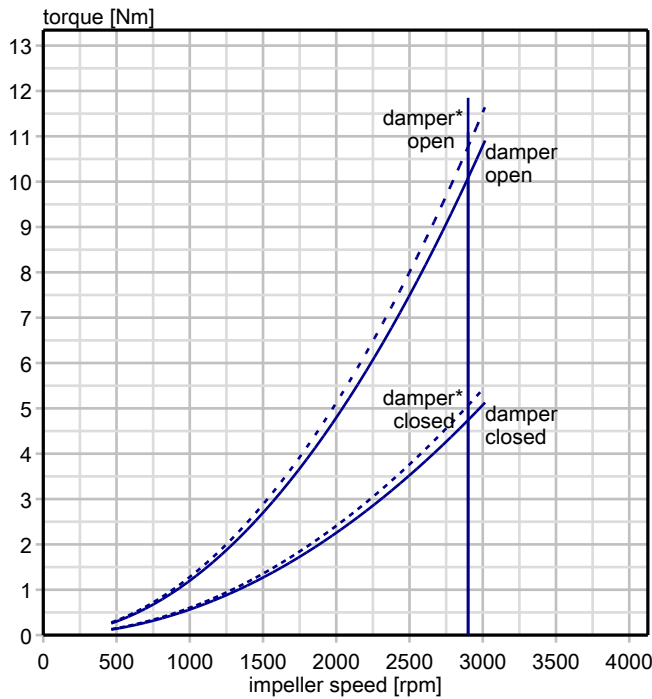
BU serial no.
1

comm. no.

your order no.

type of control
valve

codeword
-



design point : OP1 ———

V1 = 12.5 m³/min
 Δp_t = 754 daPa
 PW = 3.1 kW
 n_l = 2900 rpm
 ρ_1 = 1.128 kg/m³
 J (imp.) = 1.29 kgm²

*OP1 - - - - -

V1 = 12.5 m³/min
 Δp_t = 806 daPa
 PW = 3.3 kW
 n_l = 2900 rpm
 ρ_1 = 1.205 kg/m³
 J (imp.) = 1.29 kgm²

class of accuracy	AN2	AN3	AN4
Δp_t und V1 [%]	+/- 2,5	+/- 5	+/- 10
PW [%]	+ 3	+ 8	+ 16
Lw und Lp [dB]	+ 3	+ 4	+ 6



MOTOR DATA / START-UP

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The following data apply to the fan nominal point.

Start-up data

rated output motor torque	18	Nm
torque Y	8.75	Nm
torque Δ	32.4	Nm
load torque in NP	11.56	Nm
load torque damper closed	5.78	Nm
moment of inertia relative to nM	1.31	kgm ²
start-up time in NP Y	98.1	s
start-up time closed damper Y	62.8	s
start-up time in NP Δ	14.6	s
start-up time closed damper Δ	13.4	s
theoretical starting time	13.5	s
mass inertia ratio I _v /I _m	54.5	-

Please note the heavy-duty start for the Δ-start-up type. It is necessary to have the start-up behaviour checked by the motor producer.

Please note the heavy-duty start for the YΔ-start-up type. It is necessary to have the start-up behaviour checked by the motor producer.

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class of accuracy	AN2	AN3	AN4
Δpt und V1 [%]	+/- 2,5	+/- 5	+/- 10
PW [%]	+ 3	+ 8	+ 16
Lw und Lp [dB]	+ 3	+ 4	+ 6