

fan type MXE080-001430-00	BU serial no. 1	comm. no. -
your order no.	type of control valve	codeword 373563

fan type MXE080-001430-00	OP 1*	units acc. to customer's specification
type of connection	ducted	
operating condition	discharge operation	
handled gas	clean air	
designated volume flow	12,5 m ³ /min	12,5 m ³ /min
designated static pressure increase	800 daPa	80 mbar
humidity	0 g/kg	0 g/kg
gas constant	R 287 J/(kg K)	287 J/(kg K)
coefficient of adiabatic compressibility Kappa	K 1,4	1,4
inlet temperature	t1 40 °C	40 °C
discharge temperature	t2 53 °C	53 °C
altitude	h 0 m	0 m
abs. atmos. pressure	P0 101,33 kPa	101,33 kPa
athmos. density	ρ0 1,128 kg/m ³	1,128 kg/m ³
density at inlet	ρ1 1,128 kg/m ³	1,128 kg/m ³
volume flow	V1 12,5 m ³ /min	12,5 m ³ /min
total pressure increase	Δpt 754 daPa	75,42 mbar
dynamic pressure	pd2 15 daPa	1,52 mbar
dynamic pressure	pd1 6 daPa	0,61 mbar
static pressure increase	Δpst 745 daPa	74,51 mbar
shaft power	PW 3,1 kW	3,1 kW
impeller speed	nI 2900 rpm	2900 rpm
rec. motor power	PM 5,5 kW	5,5 kW
motor synchronous speed	nM 2950 rpm	2950 rpm
tip speed	u2 99 m/s	99 m/s
C-weighted meas.surf.sound pressure level at 1m distance with		
both sides ducted	LpCm 79 dB(C)	
free inlet	LpC5 93 dB(C)	
free discharge	LpC6 103 dB(C)	
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	ηtot 51,3 %	
efficiency at static pressure increase	ηstat 50,7 %	

* BP 1 : BP1

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

3.0.0.8

Tolerances dependent on class of accuracy in accordance to DIN 24166 in range of efficiency
 $\eta \geq 0,9 \times \eta_{max}$. Coordination for class of accuracy (G.KI.) see product specification.
 At any rate, please pay attention to the techn. indications made in our Handbook of fans.
 pressure units : 1 daPa = 10 Pa = 10 N/m² = 0,1 mbar = 1,0197 mmWC

class of accuracy	1	2	3
Δpt and V1 [%]	+/- 2,5	+/- 5	+/- 10
PW [%]	+ 3	+ 8	+ 16
Lw and Lp [dB]	+ 3	+ 4	+ 6



FAN CHARACTERISTIC CURVE

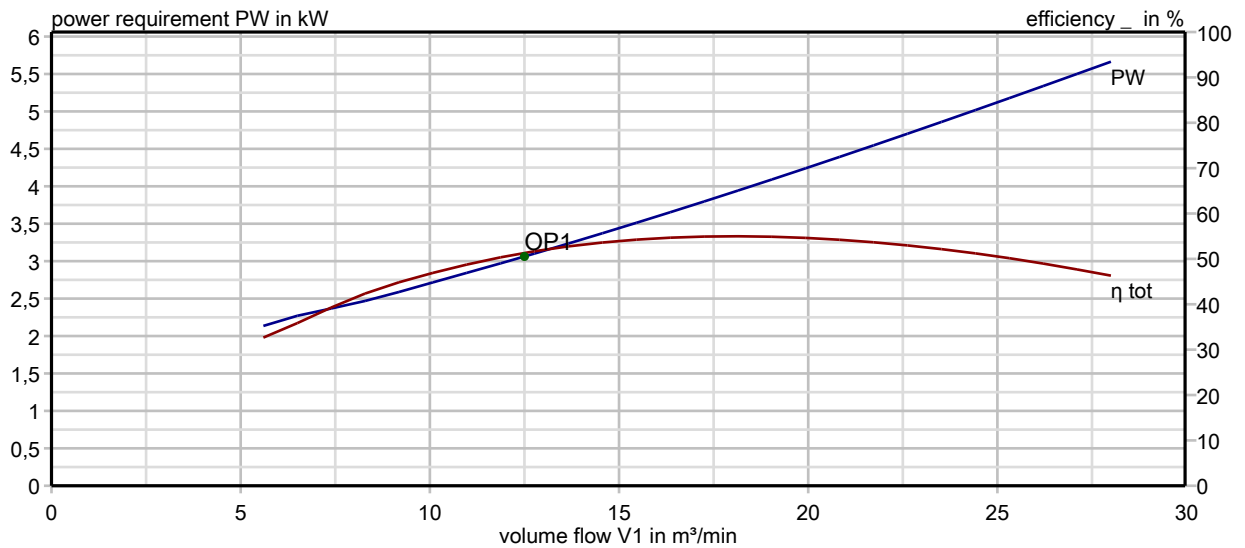
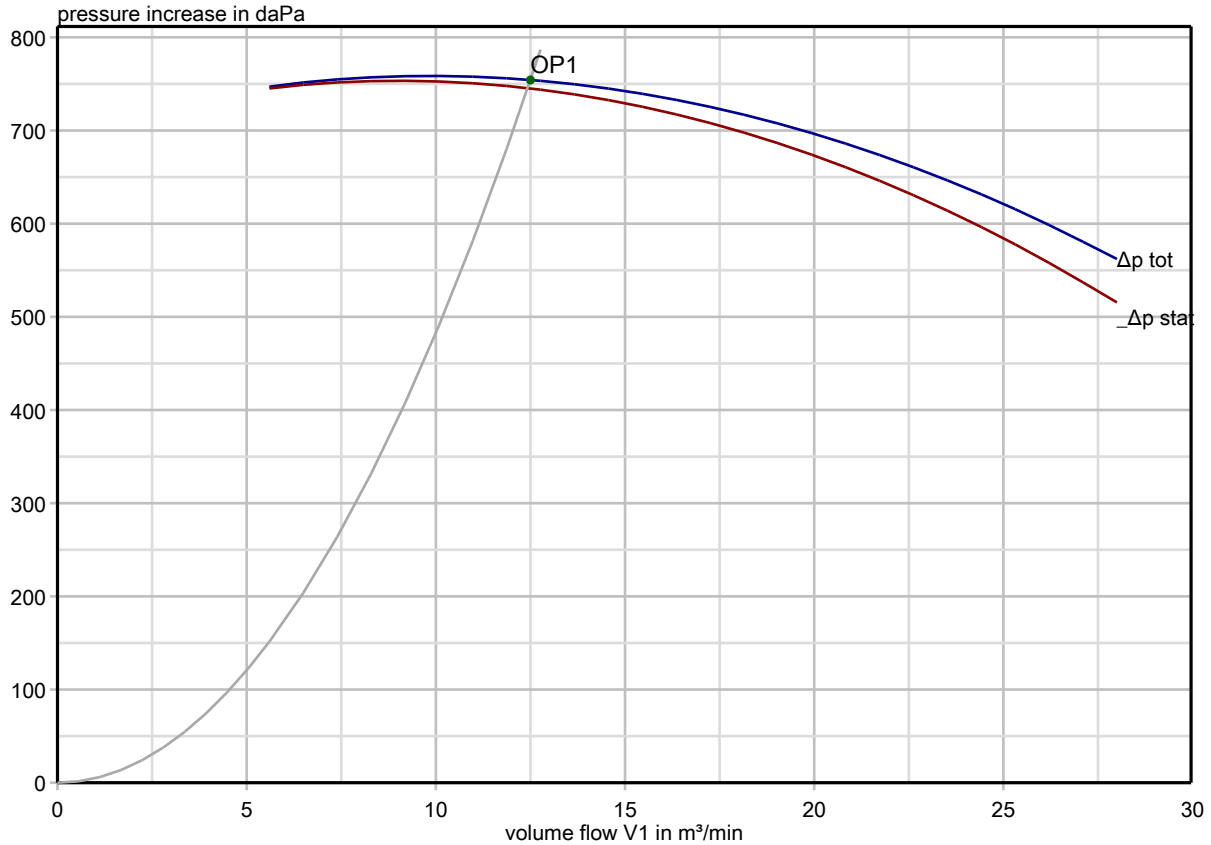
Liste 17_1 80Grad

quotation item
KRV 201907859-00 - 2.02

designation

date
13.08.2019 / crb

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	NP	OP 1	OP 2	OP 3	OP 4	OP 5	OP 6
volume flow V1		12,5					
total pressure increase Δp_t		754					
density at inlet ρ_1		1,128					
impeller speed n1		2900					
inletguidevane/damp.							

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Δp_t and V1 [%]	+/- 2,5	+/- 5	+/- 10
PW [%]	+ 3	+ 8	+ 16
Lw and 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	12,50 m ³ /min
impeller speed	nl	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	dLkA	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	57,9	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.
At calculation of the 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 dB(A)
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class of accuracy	1	2	3
Δp_t and V1 [%]	+/- 2,5	+/- 5	+/- 10
PW [%]	+ 3	+ 8	+ 16
Lw and Lp [dB]	+ 3	+ 4	+ 6

TORQUE DIAGRAM

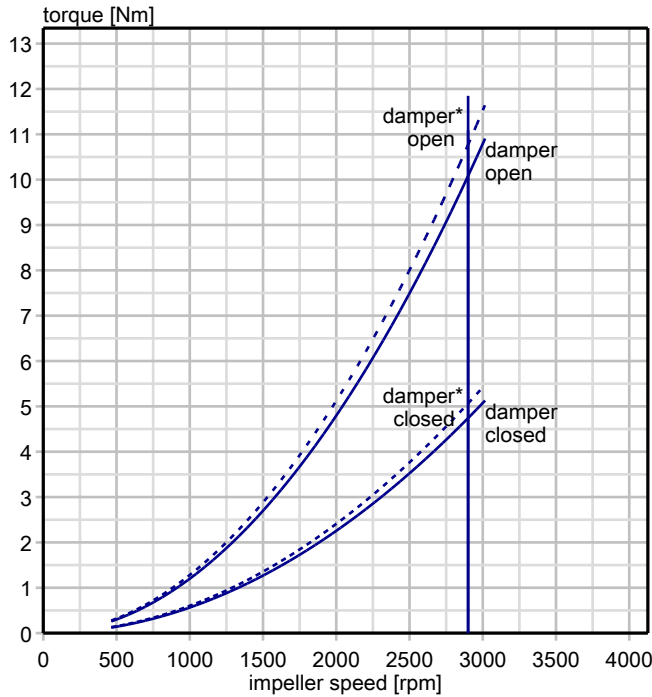
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design point : OP1 ———

V1 = 12,5 m³/min
 Δp_t = 754 daPa
 PW = 3,1 kW
 n1 = 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
 n1 = 2900 rpm
 ρ_1 = 1,205 kg/m³
 J (imp.) = 1,29 kgm²

class of accuracy	1	2	3
Δp_t and V1 [%]	+/- 2.5	+/- 5	+/- 10
PW [%]	+ 3	+ 8	+ 16
Lw and 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	18,0	Nm
torque Y	8,7	Nm
torque Δ	32,4	Nm
load torque in NP	11,6	Nm
load torque closed damper	5,8	Nm
moment of inertia relative to nM	1,3	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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	Δpt and V1 [%]	+/- 2,5	+/- 5	+/- 10
	PW [%]	+ 3	+ 8	+ 16
	Lw and Lp [dB]	+ 3	+ 4	+ 6