technical data page 1

Liste 17_1 80Grad

quotation item	KRV 201907859-00 - 1.02
designation	
date	13.08.2019 / crb

fan type: MXE080-000930-00	BU serial no.: 1	comm. no.: -
your order no.:	type of control: valve	codeword: 373563

fan type MXE080-000930-00

		OP 1*		units acc. to customer's specification	
type of connection		ducted			
operating condition		discharge operation			
handled gas		clean air			
designated volume flow		4	m³/min	4	m³/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	62	°C	62	°C
altitude	h	0	m	0	m
abs. atmos. pressure	P0	101,33	kPa	101,33	kPa
athmos. density	ρ0	1,128	kg/m³	1,128	kg/m³
density at inlet	ρ1	1,128	kg/m³	1,128	kg/m³
volume flow	V1	4	m³/min	4	m³/min
total pressure increase	Δpt	709	daPa	70,92	mbar
dynamic pressure	pd2	2	daPa	0,16	mbar
dynamic pressure	pd1	1	daPa	0,11	mbar
static pressure increase	Δpst	709	daPa	70,87	mbar
shaft power	PW	1,6	kW	1,6	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	100	m/s	100	m/s

C-weighted meas.surf.sound pressure level at 1m distance with			
both sides ducted	LpCm	85	dB(C)
free inlet	LpC5	98	dB(C)
free discharge	LpC6	109	dB(C)
A-weighted total sound power level			
inlet	LwAi1	102	dB(A)
discharge	LwAi2	113	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	81	dB(A)
free inlet	LpA5	94	dB(A)
free discharge	LpA6	105	dB(A)
superficial dimension	Ls-k	15	dB
characteristic curve type	Δp/Pw	1/1	-
efficiency at total pressure increase	ηtot	28,7	%
efficiency at static pressure increase	ηstat	28,7	%

* 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 η >= 0,9 x ηmax.. Coordination for class of accuracy (G.Kl.) 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

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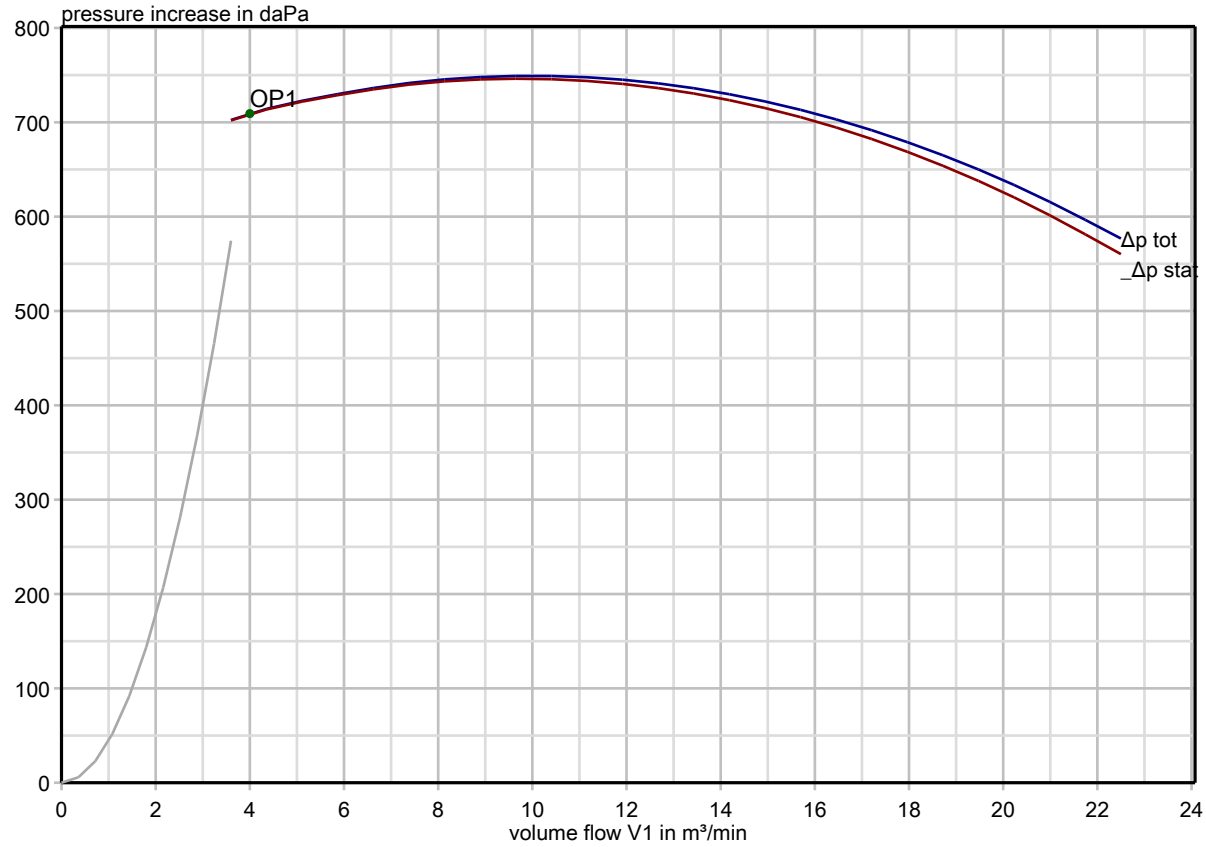
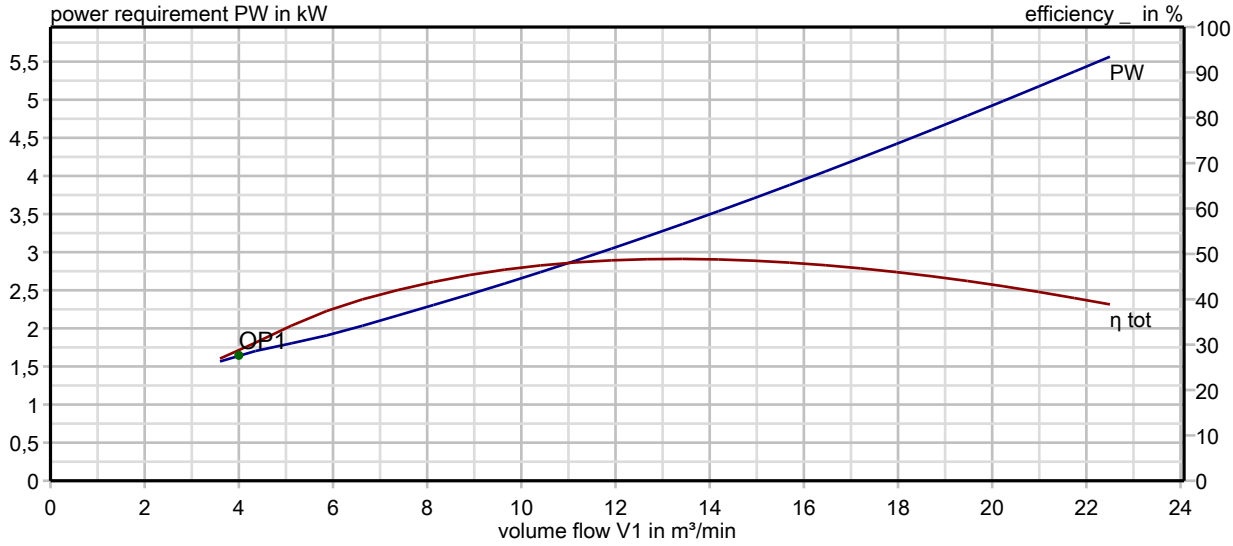
fan type: MXE080-000930-00	BU serial no.: 1	comm. no.: -
your order no.	type of control: valve	codeword: 373563





		NP	OP 1	OP 2	OP 3	OP 4	OP 5	OP 6
volume flow V1	m³/min		4					
total pressure increase Δpt	daPa		709					
density at inlet ρ1	kg/m³		1,128					
impeller speed nl	rpm		2900					
inletguidevane/damp.								

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

3.0.0.8

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

SOUND DATA

Liste 17_1 80Grad

quotation item	KRV 201907859-00 - 1.02
designation	
date	13.08.2019 / crb

fan type	BU serial no.	comm. no.
MXE080-000930-00	1	-
your order no.	type of control	codeword
	valve	373563

technical data of fan at ρ-1 =1,128 kg/m³ (OP 1 BP1) :

total pressure increase	Δpt	709	daPa	volume flow	V1	4,00	m³/min
impeller speed	nl	2900	rpm	shaft power	PW	1,6	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	102,5	dB(A)	at discharge	LwAi2	113,5	dB(A)
A-weighted free inlet resp. free discharge sound pressure level at 1m distance from hemisphere radius at inlet:	LpA5	93,9	dB(A)	at discharge	LpA6	104,9	dB(A)
A-weighted external sound power level					LwAa	95,7	dB(A)
A-weighted meas. surf. sound pressure level					LpA	81,1	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	+6	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	110,4	113,0	113,5	113,1	108,2	101,9	93,6	83,2	dB
	Lwi1-okt	99,4	102,0	102,5	102,1	97,2	90,9	82,6	72,2	dB
	LwAi2-okt	84,2	96,9	104,9	109,9	108,2	103,1	94,6	82,1	dB(A)
	LwAi1-okt	73,2	85,9	93,9	98,9	97,2	92,1	83,6	71,1	dB(A)
A-weighted external sound power level	LwAa-okt	66,5	79,2	87,1	92,1	90,4	85,3	76,8	64,3	dB(A)
A-weighted meas. surf. sound pressure level	LpA-okt	51,9	64,6	72,5	77,6	75,8	70,7	62,2	49,7	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)
DN1 SFV1.0 EV1.0 RE1.0 AKZ1.0 AKZ2.0 AKZ1.1 3.0.0.8

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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

TORQUE DIAGRAM

Liste 17_1 80Grad

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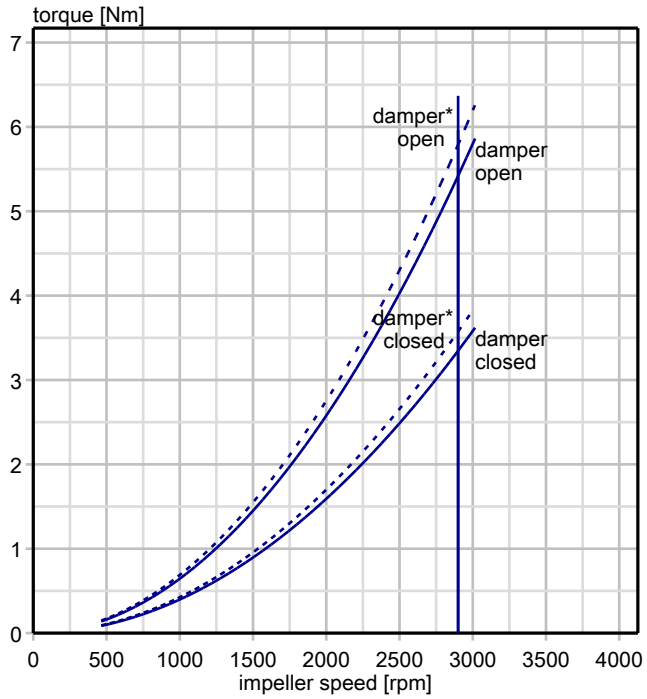
date	13.08.2019 / crb

fan type MXE080-000930-00	BU serial no. 1	comm. no. -
your order no.	type of control valve	codeword 373563



design point : OP1 ——

V1	=	4	m³/min
Δpt	=	709	daPa
PW	=	1,6	kW
nl	=	2900	rpm
ρ1	=	1,128	kg/m³
J (imp.)	=	1,28	kgm²

*OP1 - - - - - -

V1	=	4	m³/min
Δpt	=	758	daPa
PW	=	1,8	kW
nl	=	2900	rpm
ρ1	=	1,205	kg/m³
J (imp.)	=	1,28	kgm²

DN1 SFV1.0 EV1.0 RE1.0 AKZ1.0 AKZ2.0 AKZ1.1 3.0.0.8

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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

MOTOR DATA / START-UP

Liste 17_1 80Grad

quotation item	KRV 201907859-00 - 1.02
designation	
date	13.08.2019 / crb

fan type MXE080-000930-00	BU serial no. 1	comm. no. -
your order no.	type of control valve	codeword 373563

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	8,7	Nm
load torque closed damper	4,3	Nm
moment of inertia relative to nM	1,3	kgm²
start-up time in NP Y	76,3	s
start-up time closed damper Y	57,4	s
start-up time in NP Δ	13,9	s
start-up time closed damper Δ	13,1	s
theoretical starting time	13,4	s
mass inertia ratio Iv/Im	54,3	-

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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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