

## WD

**INTENDED USE**

Roof fans are used to remove air from workshops, storerooms, department stores etc. The used air that is removed may be contaminated with vapours, corroding gases and dusts within the limits allowed by regulations concerning environment protection.

**UNIT DESCRIPTION**

Series of types of roof fans includes 5 sizes.

The fans consist of:

- highly efficient centrifugal rotor made of steel
- electric motor
- Support panel, body and cover are made of polyester-glass laminate

The fans are fitted for mounting on the roof bases with possibility of application the acoustic dampers under fans.

**WORKING CONDITIONS**

The fans are offered with the following motors:

- WD-16: two gear, three-phase motors ~900/1400 rpm and single-phase 900 or 1400 rpm.
- WD-20: two gear, three-phase motors ~900/1400 rpm and single-phase 900 or 1400 rpm.
- WD-25: two gear, three-phase motors ~900/1400 rpm and single-phase 900 or 1400 rpm.
- WD-31,5: two gear, three-phase motors ~900/1400 rpm and single-phase 900 or 1400 rpm.
- WD-40: single gear, three-phase motors ~700 or 900 rpm and single-phase 700 or 900 rpm.

**The acceptable temperature of the removed air is 50°C.**

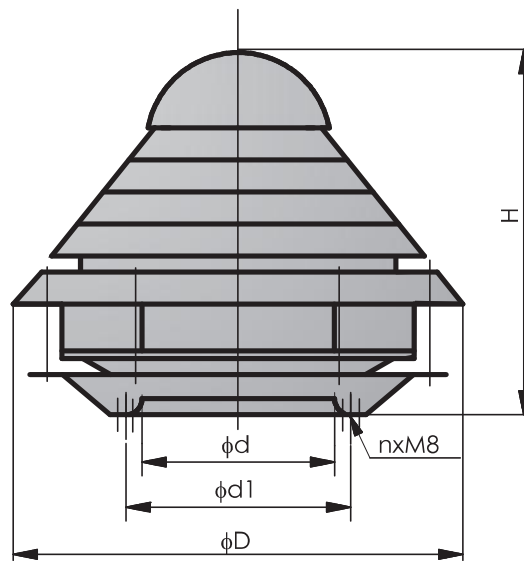
**DESIGNATIONS**

Roof fan WD - 31,5 - TD-900/1400

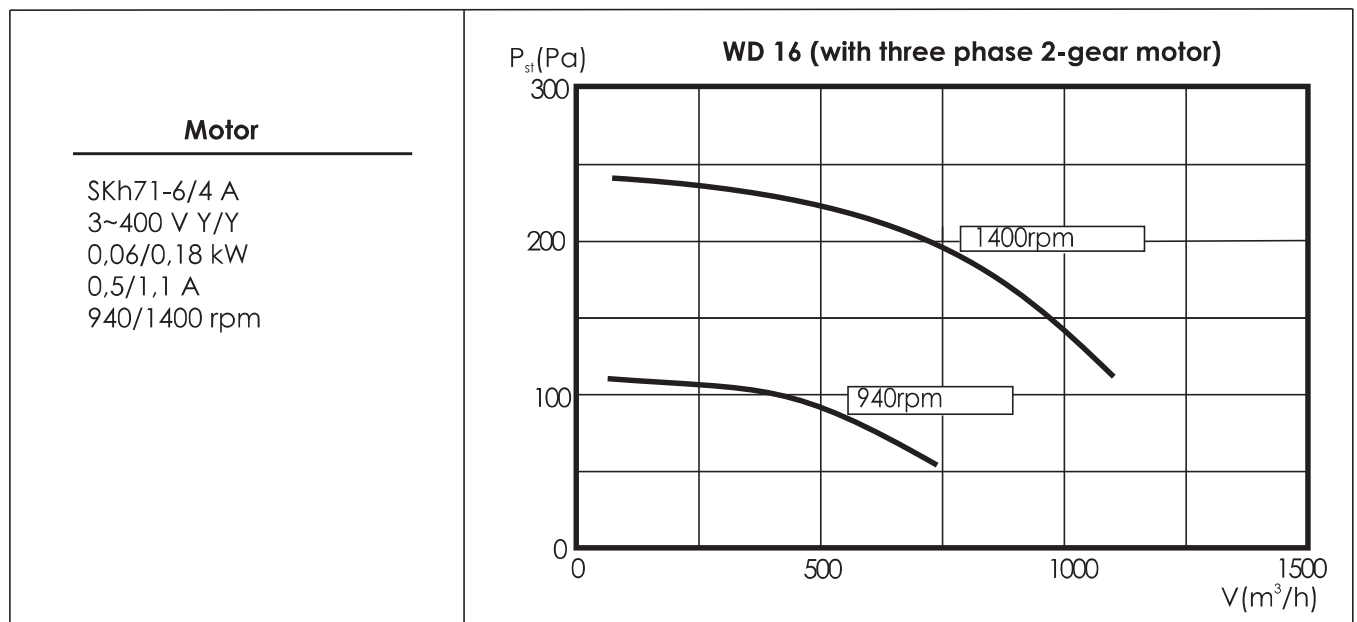
Type	16; 20; 25; 31,5; 40
Motor type	two-gear, three-phase (TD) single gear, three-phase (T) single-phase (J)

## TECHNICAL DATA

Basic dimensions



Fan size	$\phi d$ [mm]	$\phi d_1$ [mm]	$\phi D$ [mm]	H [mm]	n	Weight [kg]
WD-16	140	190	510	400	4	16,5
WD-20	180	230	510	400	4	17,5
WD-25	220	280	510	400	6	19,3
WD-31,5	268	345	610	500	6	27
WD-40	368	430	812	640	8	39

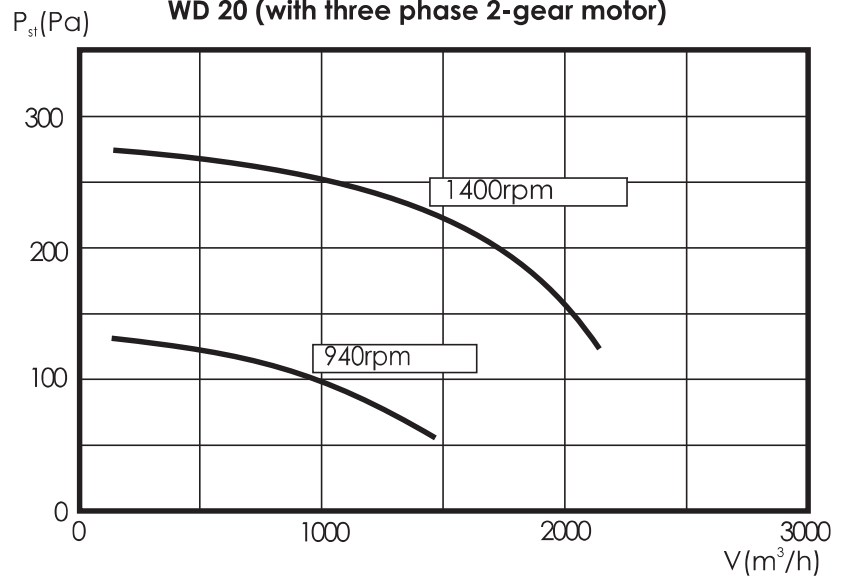


$P_{st}$  –static negative pressure in the fan inlet

### Motor

SKh71-6/4A  
 3~400 V Y/Y  
 0,06/0,18 kW  
 0,5/1,1 A  
 940/1400 rpm

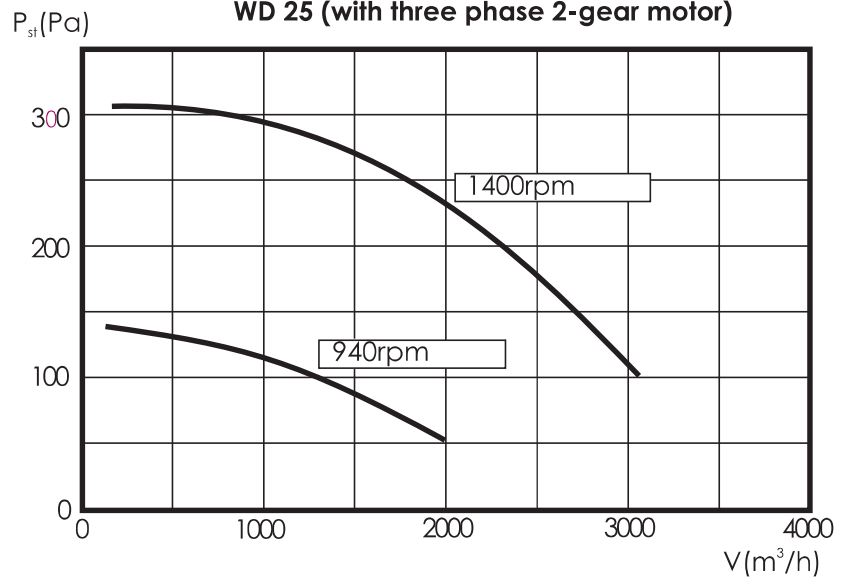
### WD 20 (with three phase 2-gear motor)



### Motor

SKh71-6/4A  
 3~400 V Y/Y  
 0,06/0,18 kW  
 0,5/1,1 A  
 940/1400 rpm

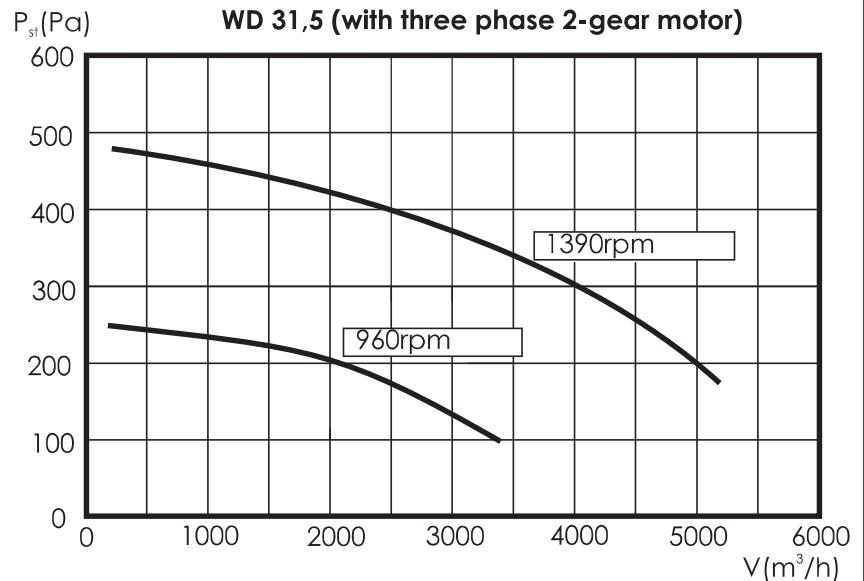
### WD 25 (with three phase 2-gear motor)



### Motor

SKh80-6/4A  
 3~400 V Y/Y  
 0,12/0,37 kW  
 0,9/1,4 A  
 960/1390 rpm

### WD 31,5 (with three phase 2-gear motor)

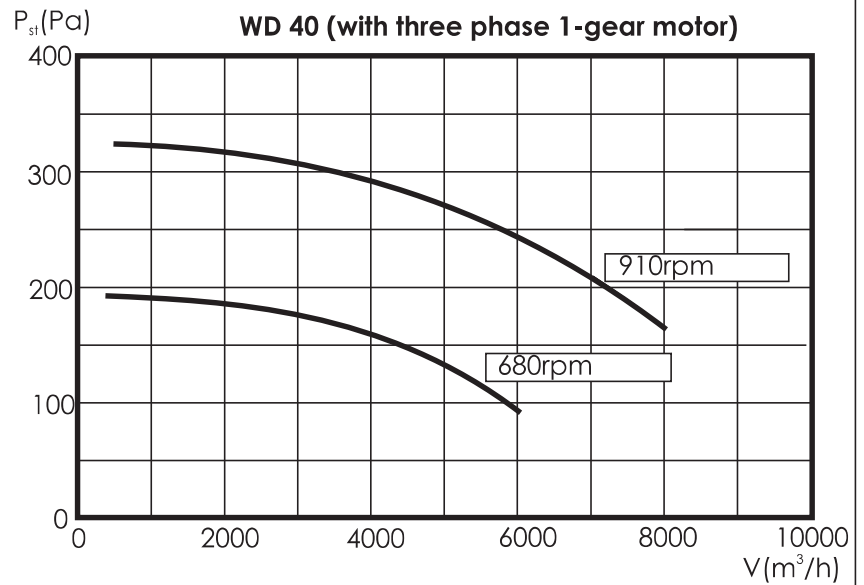


$P_{st}$  –static negative pressure in the fan inlet

## Motor

SKh80X-6C  
3~400 V Y  
0,75 kW  
2,3 A  
910 rpm

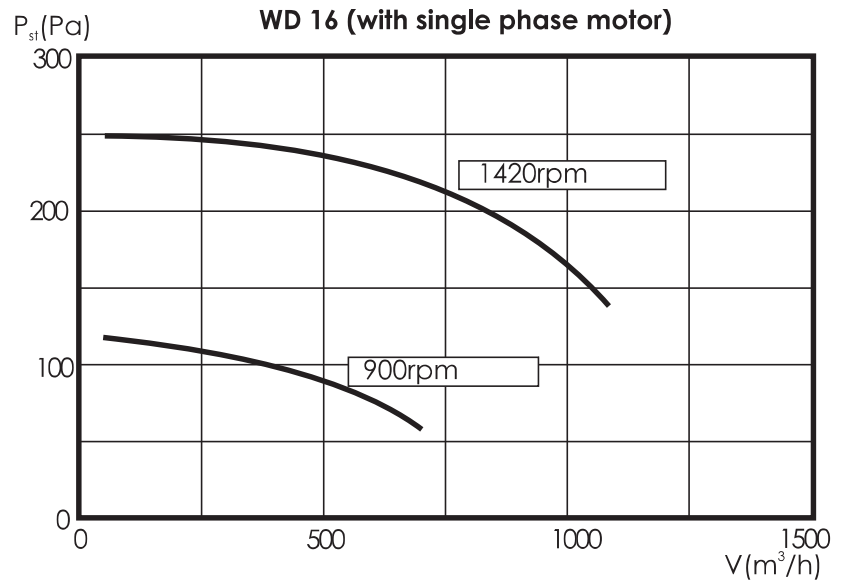
SKh80X-8C  
3~400 V Y  
0,55 kW  
2,4 A  
680 rpm



## Motor

SSKh71-4A  
1~230 V  
0,18 kW  
1,4 A  
1420 rpm

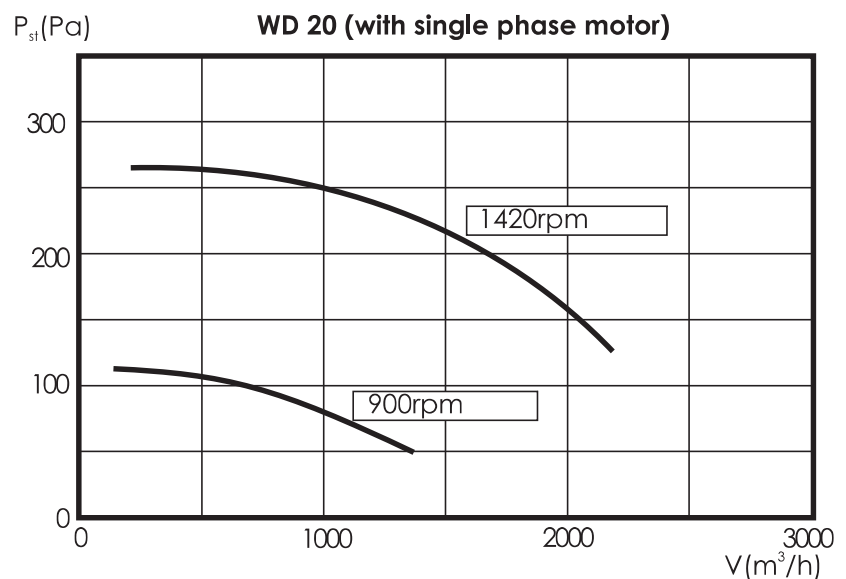
SSKh71-6A  
1~230 V  
0,12 kW  
1,2 A  
900 rpm



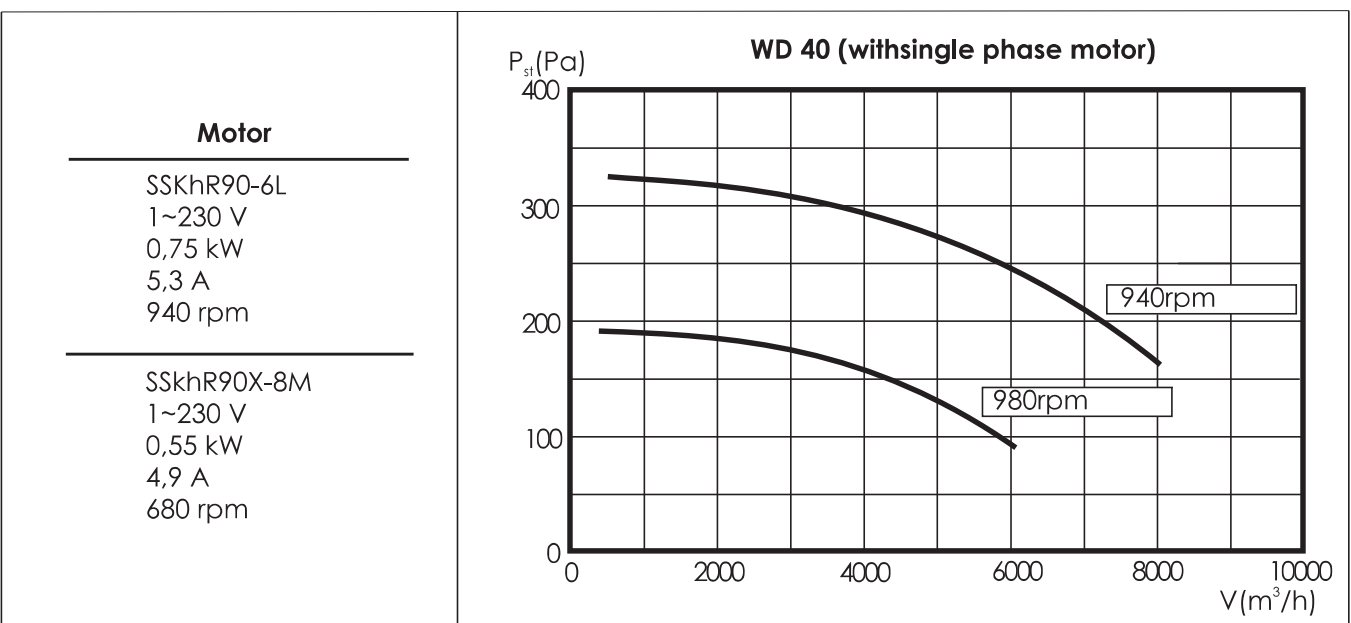
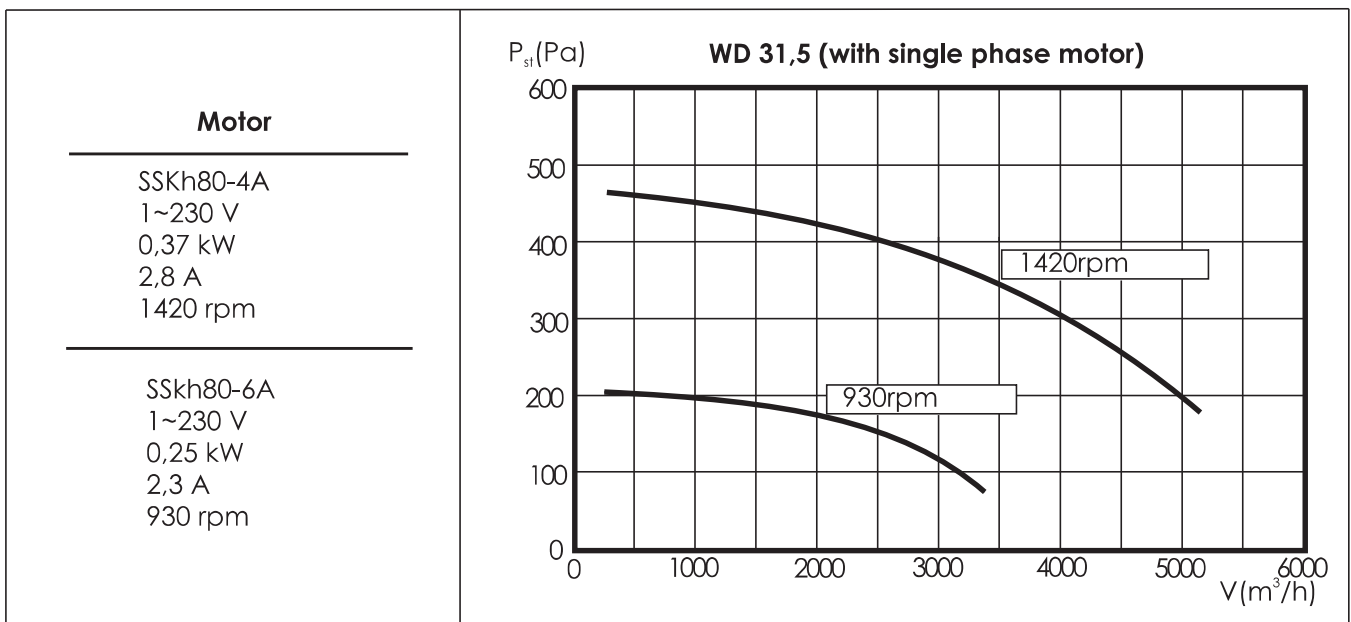
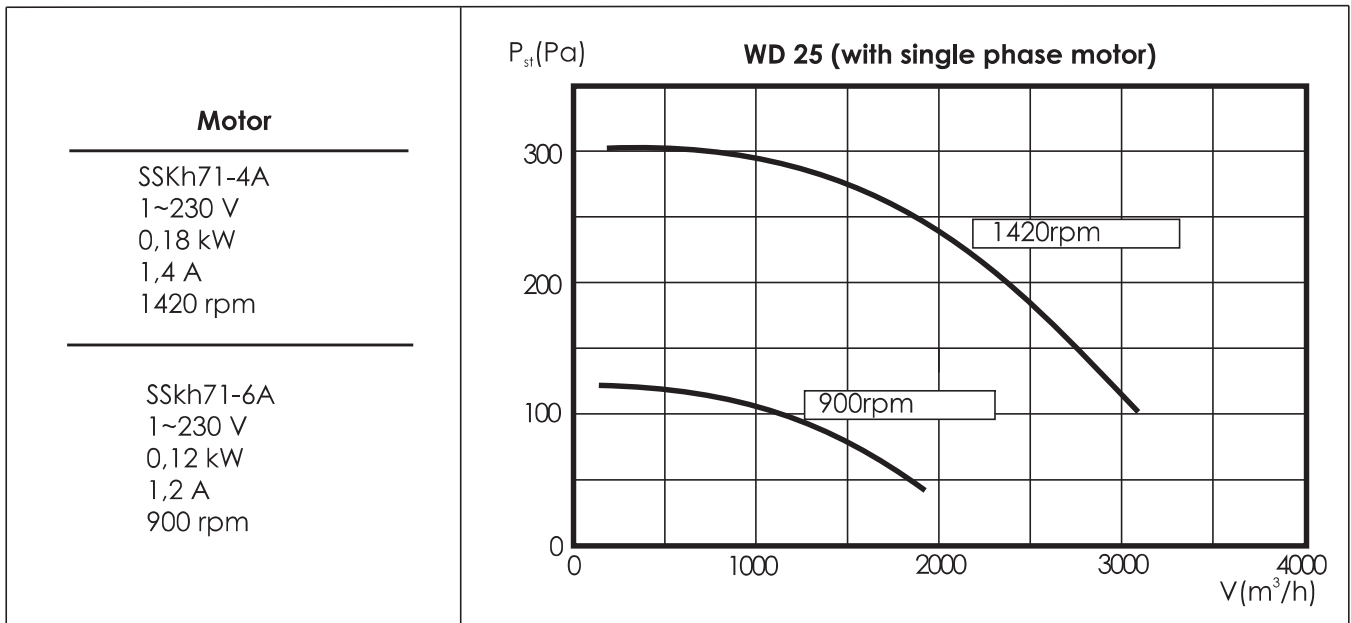
## Motor

SSKh71-4A  
1~230 V  
0,18 kW  
0,18 A  
1420 rpm

SSKh71-6A  
1~230 V  
0,12 kW  
1,2 A  
900 rpm



P<sub>st</sub> –static negative pressure in the fan inlet



P<sub>st</sub> –static negative pressure in the fan inlet

## Operating noise level

Fan size	Revolutions [rpm]	Operating noise level [dB(A)]			
		at the air outlet side*		at the air inlet side**	
		at the distance of 1m	at the distance of 5m	at the distance of 1m	at the distance of 5m
<b>three phase 2-gear motor</b>					
WD-16	900	54	42	50	45
	1400	63	51	59	54
WD-20	940	56	44	52	47
	1400	65	53	61	56
WD-25	940	58	46	54	49
	1400	67	55	63	59
WD-31,5	960	62	50	58	53
	1390	70	58	66	61
<b>three phase 1-gear motor</b>					
WD-40	680	65	53	61	56
	910	70	58	66	61
<b>single phase motors</b>					
WD-16	900	54	42	50	45
	1420	64	52	60	55
WD-20	900	56	44	52	47
	1420	66	54	62	57
WD-25	900	58	46	54	49
	1420	68	56	64	59
WD-31,5	930	63	51	59	54
	1420	72	60	67	62
WD-40	680	66	54	62	57
	910	71	59	67	62

\* Operating noise level defined as the acoustic pressure at the side of the air discharge, in open air, taking the directivity factor Q=2.

\*\* Operating noise level is defined as the acoustic pressure at the side of the air inlet, taking into account the dispersion factor of room A=100m<sup>2</sup> and the directivity factor Q=2.

## ADDITIONAL INFORMATION

For the WD roof fans we can supply the universal bases and the additional elements.

### WD roof fan with PWD roof bases

Fan size	Roof base size	Additional elements		
		Damper	Throttle	Inlet diffuser
WD-16	PWD-16	TWD-16	SWD-16	DW-16
WD-20	PWD-20	TWD-20	SWD-20	DW-20
WD-25	PWD-25	TWD-25	SWD-25	DW-25
WD-31,5	PWD-31,5	TWD-31,5	SWD-31,5	DW-31,5
WD-40	PWD-40	TWD-40	SWD-40	DW-40

WD roof fan with **PU and PUT** roof bases

Fan size	Roof base size		Roof base	Additional elements			
				Assembly plate	Throttle	Inlet diffuser	Elastic spout
WD-16	PU-1	PUT-1	PWD†-16	PM-1	SWD-1	DW-1	KE-1
WD-20	PU-2	PUT-2	PWD†-20	PM-2	SWD-2	DW-2	KE-2
WD-25	PU-3	PUT-3	PWD†-25	PM-3	SWD-3	DW-3	KE-3
WD-31,5	PU-4	PUT-4	PWD†-31,5	PM-4	SWD-4	DW-4	KE-4
WD-40	PU-5	PUT-5	PWD†-40	PM-5	SWD-5	DW-5	KE-5

### Elements necessary for assembling the WD fans

- roof bases **PWD - B/I; B/II** or **B/III** type
- or **PU** universal bases with **PWD†** roof base
- or **PUT** universal damping bases with **PWD†** roof base

Additional elements supplied for the WD fans on PWD bases

- TWD dampers;
- SWD self-closing throttle or single-planed throttle operated manually or by the use of servo-motor
- DW inlet diffusers;

Additional elements supplied for the WD fans on PU and PUT universal roof bases

- PM assembly plates;
- SWD self-closing throttle or single-planed throttle operated manually or by the use of servo-motor
- DW inlet diffusers;
- KE elastic spouts.

Technical data of additional fans equipment are presented in the catalogue sheet of universal bases in this catalogue.

**All sizes of fans may be provided with rotors made of acid-proof steel. It should be specified in the order.**

### AUTOMATICS

Description of operation and fans automatics components selection are presented in the section: VENTILATORS CONTROL AND AUTOMATICS in this catalogue