



Leybold WS/WSU-1001, 2001

Technical Specifications

		WS/WSU(H) 1001		WS/WSU(H) 2001	
		50 Hz	60 Hz	50 Hz	60 Hz
Nominal pumping speed ¹⁾	m ³ x h ⁻¹ (cfm)	1000 (589)	1200 (707)	2050 (1207.5)	2460 (1449)
Max. effective pumping speed with backing pump	m ³ x h ⁻¹ (cfm) SOGEVAC	800 (470) SV 300 B	1000 (588) SV 300 B	1850 (1089) SV 630 BF	2100 (1236) SV 630 BF
Ultimate total pressure ²⁾	mbar (Torr)	< 4 x 10 ⁻² (< 3 x 10 ⁻²)	< 4 x 10 ⁻² (< 3 x 10 ⁻²)	< 4 x 10 ⁻² (< 3 x 10 ⁻²)	< 4 x 10 ⁻² (< 3 x 10 ⁻²)
Max. permissible pressure difference during continuous operation ³⁾	mbar (Torr)	80.0 (60.0)	80.0 (60.0)	50.0 (37.5)	50.0 (37.5)
Leak rate, integral	mbar x l x s ⁻¹	< 1 x 10 ⁻⁴	< 1 x 10 ⁻⁴	< 1 x 10 ⁻⁴	< 1 x 10 ⁻⁴
Mains supply Δ / Y	V	200 / 230 / 400	200-208 / 265 / 460	200 / 230 / 400	200-208 / 265 / 460
Thermal class		F	F	F	F
Permissible ambient temperatures	°C (°F)	+5 to +40 (+ 41 to +104)	+5 to +40 (+ 41 to +104)	+5 to +40 (+ 41 to +104)	+5 to +40 (+ 41 to +104)
Motor power	kW (hp)	4.0 (5.4)	4.4 (6.0)	7.5 (10.0)	8.5 (11.6)
Nominal speed, approx.	rpm	3000	3600	3000	3600
Max. permissible speed	rpm	6000	6000	4200 ⁴⁾	4200 ⁴⁾
Type of protection	IP	20	20	20	20
Lubricant for the bearing chamber ⁵⁾ LVO 400					
vertical pumping action, approx.	l (qt)	1.75 (1.85)	1.75 (1.85)	2.7 (2.85)	2.7 (2.85)
horizontal pumping action, approx.	l (qt)	1.1 (1.16)	1.1 (1.16)	1.9 (2.00)	1.9 (2.00)
other oils					
vertical pumping action, approx.	l (qt)	1.8 (1.90)	1.8 (1.90)	3.6 (3.81)	3.6 (3.81)
horizontal pumping action, approx.	l (qt)	1.1 (1.16)	1.1 (1.16)	2.4 (2.54)	2.4 (2.54)
Connection flanges	DN	100 ISO-K	100 ISO-K	160 ISO-K	160 ISO-K
Weight WS / WSU	kg (lbs)	228.0 / 233.0 (502.7 / 513.8)	228.0 / 233.0 (502.7 / 513.8)	458.0 / 465.0 (1009.9 / 1025.3)	458.0 / 465.0 (1009.9 / 1025.3)
Noise level ⁶⁾	dB(A)	< 60	< 62	< 65	< 67

¹⁾ To DIN 28 400 and subsequent numbers

²⁾ With single-stage rotary vane vacuum pump SOGEVAC
(Type of backing pump look at max. pumping speed)

When using 2-stage backing pumps the ultimate pressures will be correspondingly lower

³⁾ Applicable for ratio up to 1 : 10 between backing pump and Roots vacuum pump at 3000 rpm

⁴⁾ Also 6000 rpm upon order

⁵⁾ Authoritative, however, is the oil level at the oil-level glass

⁶⁾ Valid under ultimate pressure conditions. Pressures over 10 mbar (7.5 Torr) produce a higher operating noise



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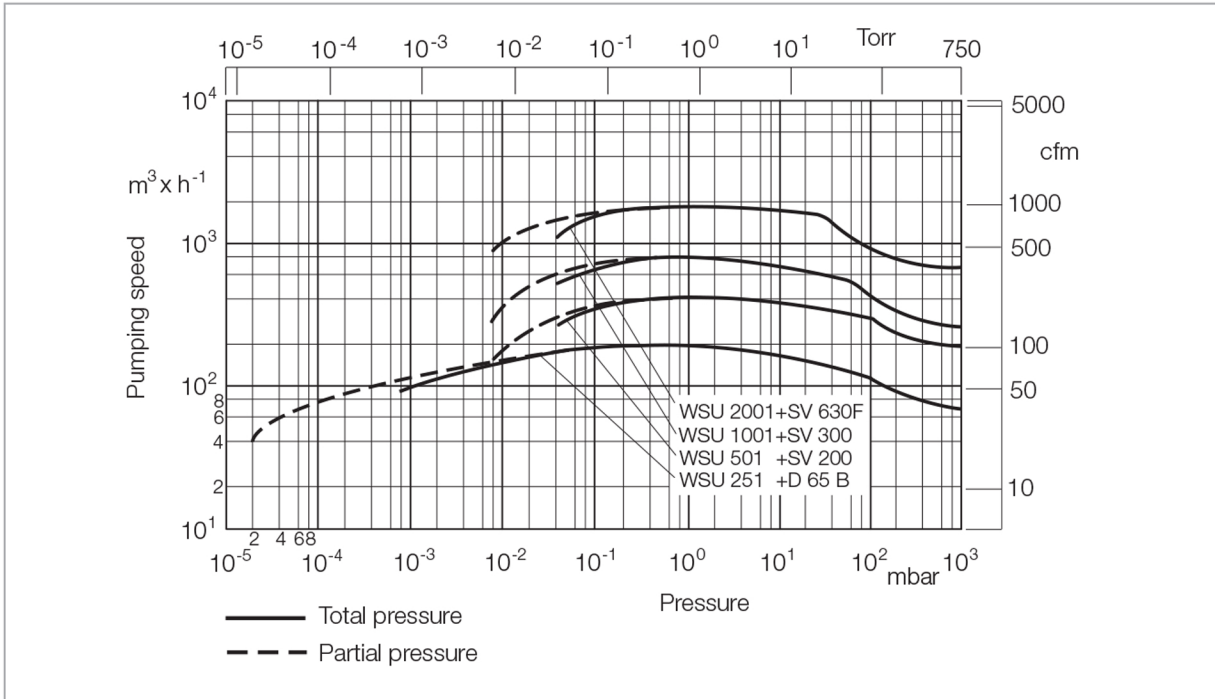
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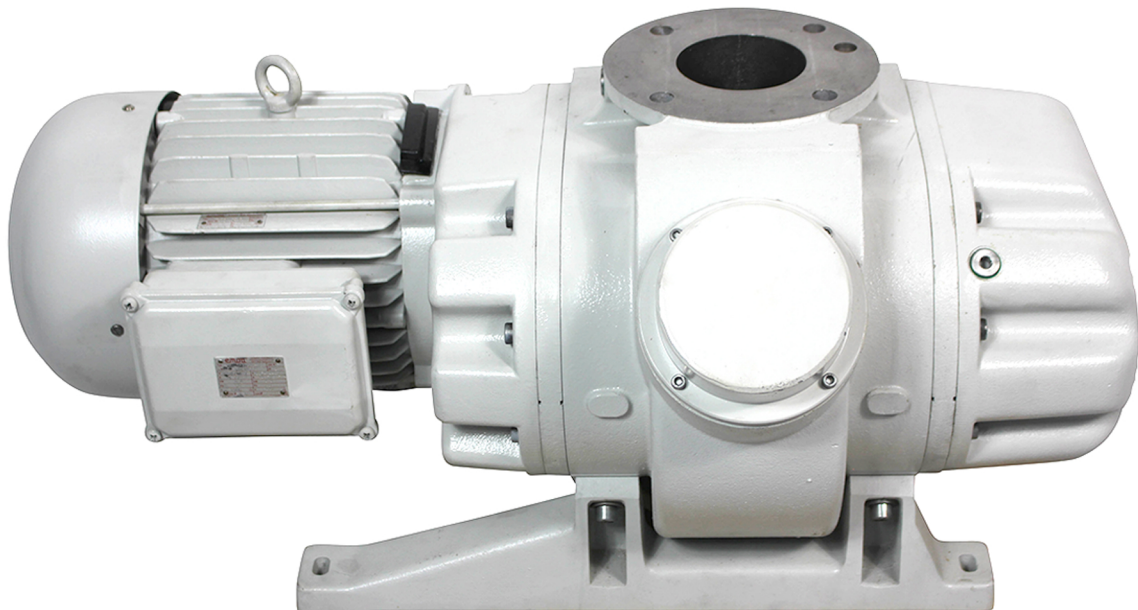
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Leybold WS/WSU-1001, 2001 Pumping Curves



Pumping speed of the RUVAC WS/WSU, 50 Hz





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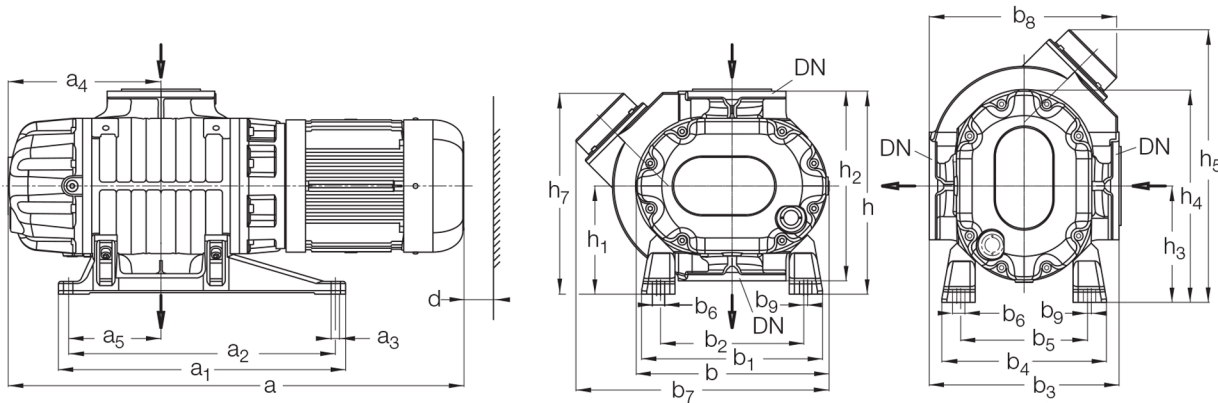
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Dimensions



Type		DN	a	a ₁	a ₂	a ₃	a ₄	a ₅		
WS/WSU 1001	mm	100	885	560	520	16,5	298	180		
	in.		34.84	22.05	20.47	0.65	11.73	7.09		
WS/WSU 1001H	mm	100	885	560	520	16,5	298	180		
	in.		34.84	22.05	20.47	0.65	11.73	7.09		
WS/WSU 2001	mm	160	1042	800	740	18	367	220		
	in.		41.02	31.50	29.13	0.71	14.45	8.66		
WS/WSU 2001H	mm	160	1042	800	740	18	367	220		
	in.		41.02	31.50	29.13	0.71	14.45	8.66		
WS/WSU 1001	mm	376	352	278	370	320	246	24	494	366
	in.	14.80	13.86	10.94	14.57	12.60	9.69	0.94	19.45	14.41
WS/WSU 1001H	mm	376	352	278	370	320	246	24	524	398
	in.	14.80	13.86	10.94	14.57	12.60	9.69	0.94	20.63	15.67
WS/WSU 2001	mm	463	518	388	460	422	292	24	638	456
	in.	18.23	20.39	15.28	18.11	16.61	11.50	0.94	25.12	17.95
WS/WSU 2001H	mm	463	518	388	460	422	292	24	642	460
	in.	18.23	20.39	15.28	18.11	16.61	11.50	0.94	25.28	18.11
WS/WSU 1001	mm	7.5	50	396	211	370	227	414	532	392
	in.	0.30	2.00	15.59	8.31	14.57	8.94	16.30	20.94	15.43
WS/WSU 1001H	mm	7.5	50	396	211	370	227	414	564	424
	in.	0.30	2.00	15.59	8.31	14.57	8.94	16.30	22.20	16.69
WS/WSU 2001	mm	7.5	50	530	300	460	351	578	760	523
	in.	0.30	2.00	20.87	11.81	18.11	13.82	22.76	29.92	20.59
WS/WSU 2001H	mm	7.5	50	530	300	460	351	578	753	530
	in.	0.30	2.00	20.87	11.81	18.11	13.82	22.76	29.65	20.87

¹⁾ For RUVAC WSU only
Outside dimensions ±3 mm (0.12 in.)

DN₁ = PN 6 pump flange in accordance with DIN 2501



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Features & Benefits

- 2 air-cooled lines WS/WSU, each with four pump sizes
- highly leak-tight air-cooled pumps driven by an air-cooled canned motor
- lubricated with mineral oil (alternatively with LVO 400)
- over-temperature switch in the stator coil of the motor
- all elastomer seals made of FPM (FKM)/Viton
- integrated pressure equalization line with differential pressure valve prevents overloading on WSU model (optional)
- a frequency converter can be used to operate the RUVAC WS 251 to 2001 pumps between 20 and 100 Hz
- no shaft feedthrough to the atmosphere, making it leak-tight

Applications

- for applications requiring a high pumping speed at pressures between 0.75×10^{-2} and 0.75×10^{-4} Torr
- suction or pumping of high-purity gases
- used in clean rooms where air can't be recirculated by the motor's fan
- large scale research • metallurgy / furnaces • lamps and tubes manufacturing • central vacuum supply systems • freeze drying • leak testing systems • electrical / mechanical engineering • automotive